

INSTALLATION MANUAL

vibro-meter®

Vibration measurement chains using CExxx piezoelectric accelerometers or PVxxx piezoelectric velocity sensors



This document contains important information about products that are intended for use in potentially explosive atmospheres.

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REVISION RECORD SHEET

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13	29.10.2018	Peter Ward	Changed all Vibro-Meter® product names to not use spaces in order to be consistent with the latest product naming convention. Added a statement that Meggitt SA product certifications and warranties are valid only for products purchased directly from Meggitt SA or an authorised distributor (see IMPORTANT NOTICES). Added important safety-related information (see Hot surfaces and the risk of burning and Replacement parts and accessories). Removed most ABA15x industrial housing information (as no longer available – replaced by ABA17x industrial housings). Removed most GSI124 galvanic separation unit information (as no longer available – replaced by the GSI127 galvanic separation unit). Updated 5 Installing galvanic separation units to clarify that a GS127 should be installed vertically but can be installed right-side-up or upside-down (inverted) (see 5.2.1 Mounting procedure). Updated 6 Electrical connections to use the latest electrical diagrams (see Figure 6-1, Figure 6-2 and Figure 6-3). Added information on cleaning a CExxx and PVxxx-based vibration measurement chain (see 7.3 Cleaning). Added end-of-life product disposal information (see 8 End-of-life product disposal). Updated the Energy product return procedure and form to be consistent with the Meggitt Vibro-Meter® website (see 9 Service and support). Updated Appendix B: ATEX certifications: Added BVS 15 ATEX E 112 U and Presafe 14 ATEX 5378 U (ABA17x). Added Baseefa 16 ATEX 0027 X (CE110I). Updated KEMA 04 ATEX 1055 (CA28x, CE28x and CE31x). Removed LCIE 02 ATEX 6093 X (GSI122). Removed LCIE 05 ATEX 6033 X (GSI124). Updated LCIE 13 ATEX 3037 X (GSI127). Removed PTB 02 ATEX 1125 (cable fitting/stuffing glands). Added LCIE 02 ATEX 0038 U, LCIE 03 ATEX 0033 U, PTB 98 ATEX 3130, PTB 11 ATEX 1007 X, SIRA 10 ATEX 1224 X, SIRA 10 ATEX 1225 X, SEV 15 ATEX 0151 and SEV 15 ATEX 0152 X (cable fitting/stuffing glands). ...	PW

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PREFACE

About this manual

This manual describes how to install vibration measurement chains using CExxx piezoelectric accelerometers with attached or integrated electronics or PVxxx piezoelectric velocity sensors with integrated electronics (that is, vibration sensors), from Meggitt's vibro-meter® product line.

It also introduces the general use of these CExxx-based and PVxxx-based vibration measurement chains.

NOTE: Refer to the *Vibration measurement chains using CAxxx piezoelectric accelerometers installation manual* for information on piezoelectric accelerometers that use external signal conditioners (IPC70x).

About Meggitt and vibro-meter®

Meggitt PLC is a global engineering group, headquartered in the UK, specialising in the design and manufacture of high-performance components and systems for aerospace and energy markets.

The Meggitt facility in Fribourg, Switzerland, operates as the legal entity Meggitt SA (formerly Vibro-Meter SA). vibro-meter® is a product line of Meggitt that applies our core sensing and monitoring technologies to power generation, oil & gas and other industrial markets.

Meggitt SA produces a wide range of vibration, dynamic pressure, proximity, air-gap and other sensors capable of operation in extreme environments, electronic monitoring and protection systems, and innovative software for aerospace and land-based turbomachinery.

vibro-meter® products and solutions have been at the forefront of sensing and monitoring for more than 65 years and help keep machinery and equipment working safely, reliably and efficiently. This includes the CExxx-based and PVxxx-based vibration measurement chains produced for the Meggitt vibro-meter® product line.

To learn more about Meggitt Switzerland, our proud tradition of innovation and excellence, and our solutions for energy markets and applications, visit the www.meggittsensing.com/energy website.

Who should use this manual?

The manual is intended for use by qualified personnel, such as mechanical and electrical fitters, and operators of monitoring/control systems.

NOTE: Personnel involved in the installation, operation and maintenance of Meggitt vibro-meter® equipment are assumed to have the necessary technical training in electronics and/or mechanical engineering (professional certificate/diploma or equivalent) to enable them to install, operate and/or maintain the equipment correctly and safely.

Adhere to the instructions!

The procedures described in this manual should be strictly adhered to in order to ensure that CExxx piezoelectric accelerometers and PVxxx piezoelectric velocity sensors, and their associated equipment are properly installed. This ensures that measurement signals are reliable and systems function as intended.

The user should adhere to general safety procedures as well as general and specific machine constructor guidelines and instructions.

Limitations of this document

Not all installation and connection possibilities are described in this manual. Nevertheless, several specific configurations are described in detail. These can often be adapted to specific applications (contact your local Meggitt representative or Meggitt SA for further information).

Related documentation and publications

Further information on products can be found in their corresponding data sheets, which are available from our website at www.meggittsensing.com/energy or can be obtained from your local Meggitt representative.

NOTE: To ensure that the latest version of documentation is being used, visit the Meggitt vibro-meter® Energy website at www.meggittsensing.com/energy and check for any updates. Alternatively, contact your local Meggitt representative.

SAFETY

Symbols and styles used in this manual

The following symbols are used in this manual where appropriate:



The WARNING safety symbol

THIS INTRODUCES DIRECTIVES, PROCEDURES OR PRECAUTIONARY MEASURES WHICH MUST BE EXECUTED OR FOLLOWED. FAILURE TO OBEY A WARNING MIGHT RESULT IN INJURY TO THE OPERATOR AND/OR THIRD PARTIES, AND/OR RESULT IN DAMAGE TO EQUIPMENT.



The CAUTION safety symbol

This draws the operator's attention to information, directives or procedures which must be executed or followed. Failure to obey a caution can result in damage to equipment.



The ELECTROSTATIC SENSITIVE DEVICE symbol

This indicates that the device or system being handled can be damaged by electrostatic discharges.

See **Handling precautions for electrostatic sensitive devices on page xiv** for further information.

NOTE: This is an example of the NOTE paragraph style. This draws the operator's attention to complementary information or advice relating to the subject being treated.

Important remarks on safety



FAILURE TO FOLLOW THE INSTRUCTIONS AND IMPLEMENT THE RECOMMENDATIONS IN THIS MANUAL MIGHT RESULT IN INJURY TO THE OPERATOR AND/OR THIRD PARTIES, AND/OR RESULT IN DAMAGE TO EQUIPMENT AND WILL INVALIDATE ANY WARRANTY.



Read this manual carefully and observe the safety instructions before installing and using the equipment described.

By doing this, you will be aware of the potential hazards and be able to work safely, ensuring your own protection and also that of the equipment.

Every effort has been made to include specific safety-related procedures in this manual using the symbols described above. However, operating personnel are expected to follow all generally accepted safety procedures.

All personnel who are liable to install, operate and/or maintain the equipment described in this manual should be trained in the correct safety procedures.

Meggitt does not accept any liability for injury or material damage caused by failure to obey any safety-related instructions or due to any modification, transformation or repair carried out on the equipment without written permission from Meggitt SA. Any modification, transformation or repair carried out on the equipment without written permission from Meggitt SA will invalidate any warranty.

Equipment installed in potentially explosive atmospheres



THIS MANUAL COVERS EQUIPMENT THAT CAN BE USED IN POTENTIALLY EXPLOSIVE ATMOSPHERES (HAZARDOUS AREAS), AS WELL AS EQUIPMENT THAT IS SUITABLE FOR ORDINARY APPLICATIONS (NON-EXPLOSIVE ATMOSPHERES) ONLY.

TO ENSURE THAT EQUIPMENT / SYSTEM COMPONENTS CAN BE USED SAFELY IN POTENTIALLY EXPLOSIVE ATMOSPHERES (EX ZONES), IT IS ESSENTIAL TO:

- **VERIFY THAT IT HAS THE SPECIAL MARKING DESCRIBED IN THE EX CERTIFICATES FOR THE PRODUCT.**
- **ADHERE TO THE CRITERIA DEFINED IN THE SAME EX CERTIFICATES.**

AN “X” OR A “U” PLACED AFTER AN EX CERTIFICATE NUMBER INDICATES THAT THE EQUIPMENT IS SUBJECT TO SPECIAL CONDITIONS FOR SAFE USE. THESE CONDITIONS ARE DEFINED IN THE APPROPRIATE SECTIONS OF THE CORRESPONDING EX CERTIFICATES.

FOR FURTHER INFORMATION, SEE THE EX CERTIFICATES IN THE APPENDICES OF THIS MANUAL. (EX CERTIFICATES ARE ALSO AVAILABLE FROM OUR WEBSITE AT WWW.MEGGITTSENSING.COM/ENERGY)

IF A CExxx PIEZOELECTRIC ACCELEROMETER OR A PVxxx PIEZOELECTRIC VELOCITY SENSOR WITH PROTECTION MODE “EX NA” OR “EX NC” IS LOCATED IN AN EX ZONE 2 (HAZARDOUS AREA), THE ELECTRICAL INSTALLATION MUST PROVIDE PROTECTION AGAINST VOLTAGE TRANSIENTS GREATER THAN 119 V.

A GSI127 WITH PROTECTION MODE “EX NA” LOCATED IN AN EX ZONE 2 (HAZARDOUS AREA) MUST BE INSTALLED INSIDE AN ENCLOSURE WITH A PROTECTION RATING OF AT LEAST IP54 (OR EQUIVALENT), WITH DUE CONSIDERATION FOR THE MAXIMUM THERMAL DISSIPATION STATED IN THE CORRESPONDING EX CERTIFICATES.

SEE ALSO 7 MAINTENANCE.



If a CExxx piezoelectric accelerometer or PVxxx piezoelectric velocity sensor is to be used in a potentially explosive atmosphere (hazardous area), then it is essential to use a version of the vibration measurement chain that is intrinsically safe.

Accordingly, all “sensor-side” components such as piezoelectric accelerometers or piezoelectric velocity sensors, transmission cables, galvanic separation units, power supplies, safety barriers and junction boxes are available in Ex versions.

Hot surfaces and the risk of burning



HOT SURFACES CAN EXIST WITHIN AND ON A CExxx-BASED OR PVxxx-BASED VIBRATION MEASUREMENT CHAIN.

DEPENDING ON THE AMBIENT OPERATING TEMPERATURE, AND THE INSTALLATION AND COOLING OF A CExxx-BASED OR PVxxx-BASED MEASUREMENT CHAIN, THE COMPONENTS CAN BECOME HOT TO TOUCH AND THERE IS THE RISK OF BURNING WHEN HANDLING.

REGARD THE COMPONENTS OF A CExxx-BASED OR PVxxx-BASED MEASUREMENT CHAIN AS HOT SURFACES AND DO NOT TOUCH UNLESS COOL.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY.

General handling precautions

Meggitt's vibro-meter[®] piezoelectric accelerometers and piezoelectric velocity sensors are rugged devices which can withstand a certain amount of careless handling. Nevertheless, certain precautions should be taken.



Read the following recommendations carefully before handling CExxx piezoelectric accelerometers or PVxxx piezoelectric velocity sensors.

- Do not drop the sensor onto a hard surface or subject it to violent shocks.
- Protect the body/head of the sensor with plastic protective netting when it is being handled, stored or transported. Remove this protection only when installing the sensor or when inspecting or testing it.
- Check for dents when inspecting the sensor as this is a sign that it could have suffered a physical shock by impact. This could have caused damage to components within the sensor.
- Do not excessively bend the sensor cable or associated cables. Adhere to the minimum bend radius quoted in the appropriate data sheet.
- When storing and using the equipment, adhere to the environmental specifications (temperature, humidity) quoted in the appropriate data sheet.
- See also Handling precautions for electrostatic sensitive devices on page xiv.

Handling precautions for electrostatic sensitive devices

Certain devices used in electronic equipment can be damaged by electrostatic discharges resulting from built-up static electricity. Because of this, special precautions must be taken to minimize or eliminate the possibility of these electrostatic discharges occurring.



Read the following recommendations carefully before handling electronic circuits, printed circuit boards or modules containing electronic components.

- Before handling electronic circuits, discharge the static electricity from your body by touching and momentarily holding a grounded metal object, such as a pipe or cabinet.
- Avoid the build-up of static electricity on your body by not wearing synthetic clothing materials, as these tend to generate and store static electric charges. Cotton or cotton blend materials are preferred because they do not store static electric charges.
- Do not handle electronic circuits unless it is absolutely necessary. Only hold modules by their front panel handles.
- Do not touch printed circuit boards, their connectors or their components with conductive devices or with your hands.
- Put the electronic circuit, printed circuit board or module containing electronic components into an antistatic protective bag immediately after removing it from the system rack.

Replacement parts and accessories



Use only approved replacement parts and accessories.

Do not connect with incompatible products or accessories.

Only use replacement parts and accessories intended for use with CExxx-based or PVxxx-based vibration measurement chains that have been approved by Meggitt SA.

Using incompatible replacement parts and accessories could be dangerous and may damage the equipment or result in injury.

For information on replacement parts and accessories:

- Visit the Meggitt vibro-meter[®] Energy website at www.meggittsensing.com/energy
- Contact your local Meggitt representative.

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1 INTRODUCTION TO CEXXX AND PVXXX-BASED VIBRATION MEASUREMENT CHAINS

1.1 Overview

This chapter provides an overview of vibration measurement chains using CExxx piezoelectric accelerometers with attached or integrated electronics, and PVxxx piezoelectric velocity sensors with integrated electronics (that is, vibration sensors), from Meggitt's vibro-meter® product line.

Piezoelectric sensors provide strong absolute acceleration signals over a very wide frequency range. They are extremely rugged, easy to install, and can provide a variety of outputs depending upon the application. With appropriate signal conditioning or processing, piezoelectric sensors can also produce outputs that are proportional to velocity or displacement.

Piezoelectric-based sensors are the preferred motion sensors for most machine monitoring applications as they are solid-state sensors with no internal moving parts to wear or fatigue. They are useful for measuring low to very high frequencies and are neither as fragile nor as orientation specific as other sensors, so they are ideally suited to vibration measurement in harsh industrial environments.

1.1.1 CExxx piezoelectric accelerometers

CExxx piezoelectric accelerometers measure acceleration and use either attached electronics or integrated electronics. The electronics (signal conditioning) transforms the charge-based signal from the piezoelectric sensing element into an output signal (current or voltage) suitable for transmission to an external monitoring and/or protection system, such as a VM600 or VibroSmart® system.

Accordingly, CExxx piezoelectric accelerometers are less expensive and simpler to integrate than the higher-temperature CAxxx piezoelectric accelerometers, which require external electronics (IPC70x signal conditioner) to provide a current or voltage output signal.

Reliable design dictates that the electronic circuitry required for signal conditioning should not be exposed to the high temperatures that piezoelectric materials can tolerate:

- For sensors with attached electronics, the signal conditioning circuitry is physically separate from the sensor (they are connected by a soft-line cable) and so the operating temperature range of the sensor is not limited by the electronics.

This allows the sensor head to be mounted in areas with higher temperatures, while the electronics can be installed in a cooler location.

- For sensors with integrated electronics, the signal conditioning circuitry is built-in to the sensor body and so the operating temperature range of the sensor is lower as it is limited by the electronics.

For applications with reduced temperature requirements, this facilitates an easier installation.

In general, it is the required operating temperature of an specific application that dictates whether a sensor with attached or integrated electronics is more suitable.

CExxx piezoelectric accelerometers are higher-temperature sensors than the more general-purpose PV6xx piezoelectric accelerometers and PVxxx piezoelectric velocity sensors (see 1.1.2 CE6xx piezoelectric accelerometers and PV6xx piezoelectric velocity sensors).

1.1.2 CE6xx piezoelectric accelerometers and PV6xx piezoelectric velocity sensors

CE6xx piezoelectric accelerometers measure acceleration (g) and the PV6xx piezoelectric velocity sensors measure velocity (mm/s) – both using integrated electronics. The electronics (signal conditioning) transforms the charge-based signal from the piezoelectric sensing element into an output signal (current or voltage) suitable for transmission to an external monitoring and/or protection system, such as a VM600 or VibroSmart® system, DCS or PLC.

Piezoelectric velocity sensors are actually specialised versions of piezoelectric accelerometers, so they are rugged and can be mounted at any angle (unlike moving-coil velocity sensors). Their integrated electronics (signal conditioning) consists of a low-noise amplifier and integrator in order to provide an output signal that is directly proportional to velocity. Accordingly, piezoelectric velocity sensors require an external power supply to operate (unlike moving-coil velocity sensors).

CE6xx piezoelectric accelerometers and PV6xx piezoelectric velocity sensors are more general-purpose vibration sensors than the higher-temperature CExxx piezoelectric accelerometers (see 1.1.1 CExxx piezoelectric accelerometers). They are ideally suited to the monitoring of auxiliary balance of plant (BOP) equipment such as compressors, gearboxes, motors, pumps and fans, as well as large machinery such as hydro turbines, in more cost-sensitive applications:

- The CE620, CE630 and PV660 are industry standard IEPE (integrated electronics piezo electric) vibration sensors that provide a dynamic voltage output signal that is suitable for spectral analysis. These sensors are powered by a constant current power supply and the output is typically connected to a machinery monitoring system for protection and/or condition monitoring applications.

NOTE: Because of its low output impedance, an IEPE sensor can transmit its voltage output signal over long distances.

- The CE687 and PV685 are industry standard 4 to 20 mA loop-powered vibration sensors, also known as vibration transmitters, that provide a quasi-static output signal which indicates “overall” vibration. These sensors are powered by the current loop and the current output is typically connected to a machinery monitoring system for protection applications and/or a control system such as a DCS or PLC for monitoring and/or control applications.

The range of CExxx-based and PVxxx-based vibration measurement chains available is summarised in Table 1-1.

Table 1-1: Examples of CExxx-based and PVxxx-based vibration measurement chains

CExxx-based and PVxxx-based vibration measurement chain components	Type				
CExxx piezoelectric accelerometer with attached electronics	CE1xx or CE2xx	✓			
CExxx piezoelectric accelerometer with integrated electronics	CE3xx		✓		
CE6xx piezoelectric accelerometer with integrated electronics	CE6xx			✓	
PV6xx piezoelectric velocity sensor with integrated electronics	PV6xx				✓
Cable assembly (armoured soft-line)	EC1xx	✓	✓		
Cable assembly (soft-line)	EE1xx	✓	✓		
Cable assembly	EC6xx or EC3xx			✓	✓
Junction box	JB105 or JB116	✓	✓	✓	✓
2-wire transmission cable (current)	K2xx	*	*	*	*
Galvanic separation unit	GSI127	**	**	***	***
Power supply	APFxxx or ASPS	**	**	**	**
Safety barrier	GSI127 or equivalent			***	***
Mechanical diagram (see Figure x)		1-1 (a)	1-1 (b)	1-1 (c)	1-1 (d)

Notes:

* A K2xx must be installed in the measurement chain.

** Optional.

*** A CE6xx or PV6xx with a current output signal can use an optional safety barrier (GSI127 or equivalent).
 A CE6xx or PV6xx with a voltage output signal can use an optional galvanic separation unit (GSI127).

1.2 Component descriptions

1.2.1 CExxx piezoelectric accelerometers with attached or integrated electronics

Meggitt vibro-meter® offers a full range of CExxx piezoelectric accelerometers including:

- CExxx piezoelectric accelerometers with attached electronics for higher to medium temperature applications.
- CExxx piezoelectric accelerometers with integrated electronics for lower temperature applications.

NOTE: Further information on a specific CExxx piezoelectric accelerometer can be found in the corresponding data sheet.



IF A CEXXX PIEZOELECTRIC ACCELEROMETER IS TO BE USED IN A POTENTIALLY EXPLOSIVE ATMOSPHERE, READ AND OBSERVE THE IMPORTANT SAFETY INFORMATION IN EQUIPMENT INSTALLED IN POTENTIALLY EXPLOSIVE ATMOSPHERES ON PAGE XII.



If a CExxx piezoelectric accelerometer is to be used in a potentially explosive atmosphere (hazardous area), then it is essential to use a version of the vibration measurement chain that is intrinsically safe.

Accordingly, all “sensor-side” components such as piezoelectric accelerometers, transmission cables, galvanic separation units, power supplies and safety barriers and junction boxes are available in Ex versions.

CExxx piezoelectric accelerometers do not require an external signal conditioner.

NOTE: Refer to the *Vibration measurement chains using CAXxx piezoelectric accelerometers installation manual* for information on piezoelectric accelerometers that use external signal conditioners (IPC70x).

1.2.2 CE6xx piezoelectric accelerometers and PV6xx piezoelectric velocity sensors with integrated electronics

Meggitt vibro-meter® offers a full range of CE6xx piezoelectric accelerometers and PV6xx piezoelectric velocity sensors including:

- CE6xx piezoelectric accelerometers with integrated electronics for general-purpose applications.
- PV6xx piezoelectric velocity sensors with integrated electronics for general-purpose applications.

The main features of the CE6xx piezoelectric accelerometers and PV6xx piezoelectric velocity sensors are summarised in Table 1-2.

NOTE: Further information on a specific CE6xx piezoelectric accelerometer or PV6xx piezoelectric velocity sensor can be found in the corresponding data sheet.

Table 1-2: Main features of the CE6xx piezoelectric accelerometers and PV6xx piezoelectric velocity sensors

Sensor	Type	Output		Comments / Notes
CE620	Piezoelectric accelerometer	Voltage	100 or 500 mV/g	The CE620 replaces the CE680s (CE680M511 and CE680M611) and the CE110I
CE630				The CE620 and CE630 have very similar specifications with the main difference being that the CE630 has a side connector
CE687		Current	4 to 20 mA proportional to measurement range	
PV660	Piezoelectric velocity sensor	Voltage	4 mV/mm/s	The PV660 replaces the PV102
PV685		Current	4 to 20 mA proportional to measurement range	



IF A CE6XX PIEZOELECTRIC ACCELEROMETER OR PV6XX PIEZOELECTRIC VELOCITY SENSOR IS TO BE USED IN A POTENTIALLY EXPLOSIVE ATMOSPHERE, READ AND OBSERVE THE IMPORTANT SAFETY INFORMATION IN EQUIPMENT INSTALLED IN POTENTIALLY EXPLOSIVE ATMOSPHERES ON PAGE XII.



If a CE6xx piezoelectric accelerometer or PV6xx piezoelectric velocity sensor is to be used in a potentially explosive atmosphere (hazardous area), then it is essential to use a version of the vibration measurement chain that is intrinsically safe.

Accordingly, all “sensor-side” components such as piezoelectric accelerometers or piezoelectric velocity sensors, transmission cables, galvanic separation units, power supplies and safety barriers and junction boxes are available in Ex versions.

CE6xx piezoelectric accelerometers and PV6xx piezoelectric velocity sensors do not require an external signal conditioner.

NOTE: Refer to the *Vibration measurement chains using CAxxx piezoelectric accelerometers installation manual* for information on piezoelectric accelerometers that use external signal conditioners (IPC70x).

1.2.3 EC1xx cable assemblies

An EC1xx cable assembly is a soft-line, screened, 2-wire cable assembly used to connect a CExxx piezoelectric accelerometer to a junction box. Some EC1xx cable assemblies have a flexible stainless-steel protection tube in order to provide additional mechanical protection.

1.2.4 EC6xx and EC3xx cable assemblies

EC6xx and EC3xx cable assemblies are soft-line, screened, 2-wire cable assemblies that are typically used to connect a CE6xx piezoelectric accelerometer or PV6xx piezoelectric velocity sensor to a junction box.

The EC6xx are 2-wire cable assemblies with a separate shield wire. The EC622 is the standard version using a polyurethane (PUR) cable, while EC632 are higher-temperature versions using Teflon[®] FEP cable. All EC6xx cable assemblies have an IP67 cable boot (overmold), while some EC632 cable assemblies have a flexible stainless steel (AISI 316L) overbraid, in order to provide additional mechanical protection.

The EC318 is a standard RADOX[®] 125 (halogen free) 2-wire cable assembly with a separate shield wire. Some EC318 cable assemblies have a flexible stainless-steel protection tube in order to provide additional mechanical protection.

The EC319 is a splashproof RADOX[®] 125 (halogen free) 2-wire cable assembly with a separate shield wire. Some EC319 cable assemblies have a flexible stainless-steel protection tube (leaktight) in order to provide additional environmental and mechanical protection.

The EC6xx and EC3xx cable assemblies are intended for use with the CE620, CE630, CE687, PV660 and PV685 sensors.

1.2.5 EE1xx cable assemblies

An EE1xx cable assembly is a soft-line, screened, 2-wire cable assembly used to connect a CExxx piezoelectric accelerometer to a junction box. An optional protection tube (for example, KS107) can be used to provide additional mechanical protection to the cable if required.

1.2.6 JB105 and JB116 junction boxes

JB105 and JB116 junction boxes provides a protection rating of IP65 to the connection between an integral cable and a transmission cable in measurement chains. Both JB105 (made of aluminium) and JB116 (made of polyester) junction boxes are available with a range of cable fittings (stuffing glands) for operation with cables of different diameters.



JB105 junction boxes can only be used in ordinary applications (that is, in non-explosive atmospheres).



JB116 junction boxes can be used in potentially explosive atmospheres, for example, when a GSI127 is installed in the measurement chain.

1.2.7 K209 and K210 cables

A K209 or K210 cable is used as a transmission cable to connect a junction box to the electronic monitoring system, either directly, or via a GSI127 galvanic separation unit when galvanic separation is required, or via a GSI127 acting as a safety barrier. The K209 and K210 are shielded 2-wire cables designed for use in harsh industrial environments. An optional protection tube (for example, KS107) can be used to provide additional mechanical protection to the cable if required.



K209 cables can only be used in ordinary applications (that is, in non-explosive atmospheres).



K210 cables can be used in potentially explosive atmospheres, for example, when a GSI127 (or other safety barrier – not available from Meggitt) is installed in the measurement chain.

A K209 or K210 cable can also be used to connect a GSI127 galvanic separation unit (or other safety barrier) to the electronic monitoring system.

1.2.8 GSI127 galvanic separation unit

A GSI127 galvanic separation unit is used by CExxx and PVxxx measurement chains to supply power to the sensor/signal conditioning circuitry, including those located in potentially explosive atmospheres, while providing galvanic isolation between the “sensor-side” circuitry and the power supply and between the “sensor-side” circuitry and the ground of the “monitor-side” circuitry. It also converts the measured current (2-wire transmission system) or voltage (3-wire transmission system) signal from the sensor/signal conditioner into a proportional voltage-based (floating) output signal, for subsequent use by “monitor-side” circuitry such as an electronic monitoring system.

For use in potentially explosive atmospheres, the GSI127 has a certification that allows installation in an Ex Zone 2, that is, it is an “Ex nA [ia]” safety barrier. As such, the GSI127 is an associated apparatus which can be connected to intrinsically safe apparatus that is located in potentially explosive atmospheres.



The GSI127 is permitted to be installed in an Ex Zone 2 (hazardous area). For further information, see 6.2 General wiring diagrams.

In ordinary applications (non-explosive atmospheres), the GSI127 can be used where galvanic isolation is not required but transmission distance or noise reduction is a concern, as it rejects the frame voltage that appears between the sensor ground and the electronic monitoring system ground (thereby helping to reduce noise in the measurement chain).

A GSI127 is usually installed on a DIN rail outside the rack, generally in a cubicle housing. The GSI127 galvanic separation unit requires an external power source such as an APFxxx power supply (see 1.2.9 APFxxx power supplies) or ASPS auxiliary sensor power supply (see 1.2.10 ASPS auxiliary sensor power supply).

NOTE: The GSI127 galvanic separation unit has replaced the GSI124.

1.2.9 APFxxx power supplies

An APF19x or APF20x power supply could be required to power external hardware requiring a 24 V_{DC} power supply, such as a GSI127 galvanic separation unit (see 1.2.8 GSI127 galvanic separation unit). An APFxxx requires uses a mains AC (or high-voltage DC) input and is usually installed on a DIN rail outside the rack, generally in a cubicle housing.

1.2.10 ASPS auxiliary sensor power supply

An ASPS auxiliary sensor power supply can be used to power external hardware requiring a 24 V_{DC} power supply, such as a GSI127 galvanic separation unit (see 1.2.8 GSI127 galvanic separation unit).

When a VM600 rack is used as the electronic monitoring system, an ASPS can be installed in the VM600 rack if an AC input version of the RPS6U rack power supply unit is used. It can replace an APFxxx power supply mounted externally, thereby reducing wiring and simplifying the installation.

1.2.11 Safety barrier

For systems in hazardous areas (potentially explosive atmospheres), an GSI127 can eliminate the need for an additional external Zener barrier.

1.3 Mechanical diagram

Figure 1-1 shows some examples of the CExxx-based and PVxxx-based vibration measurement chains available.

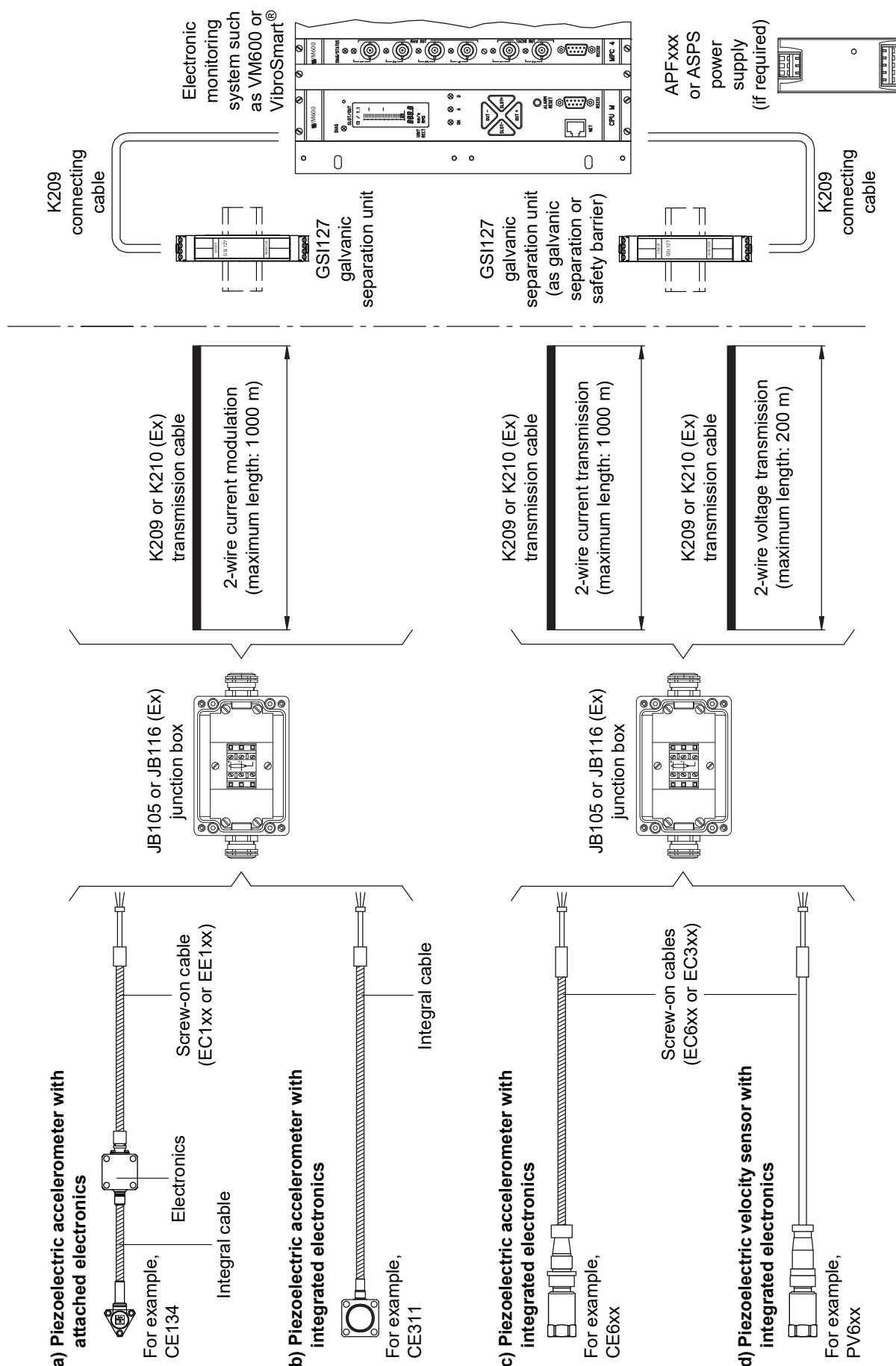


Figure 1-1: Example CExxx-based and PVxxx-based vibration measurement chains

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2 INSTALLING PIEZOELECTRIC SENSORS

This chapter provides general guidelines on mounting and installing CExxx piezoelectric accelerometers and PVxxx piezoelectric velocity sensors. In general, this information applies to all piezoelectric sensors in measurement chains.

NOTE: Further product specific information can be found in the corresponding CExxx piezoelectric accelerometer or PVxxx piezoelectric velocity sensor data sheet.

NOTE: Special precautions must be taken when mounting piezoelectric accelerometer with integral cables. See 3.2 Installing an integral or extension cable.

2.1 General precautions

2.1.1 Equipment installed in potentially explosive atmospheres



TO ENSURE THAT THE EQUIPMENT CAN BE USED SAFELY IN POTENTIALLY EXPLOSIVE ATMOSPHERES (EX ZONES), IT IS ESSENTIAL TO RESPECT THE CRITERIA OUTLINED IN THE EX CERTIFICATES FOR THE PRODUCT.

AN “X” OR A “U” PLACED AFTER AN EX CERTIFICATE NUMBER INDICATES THAT THE EQUIPMENT IS SUBJECT TO SPECIAL CONDITIONS FOR SAFE USE. THESE CONDITIONS ARE DEFINED IN THE APPROPRIATE SECTIONS OF THE CORRESPONDING EX CERTIFICATES.

FOR FURTHER INFORMATION, SEE THE EX CERTIFICATES IN THE APPENDICES OF THIS MANUAL. (EX CERTIFICATES ARE ALSO AVAILABLE FROM OUR WEBSITE AT WWW.MEGGITTSENSING.COM/ENERGY)

2.1.2 Recommended mounting points

Piezoelectric sensors and their associated hardware must be mounted very carefully in order to ensure the quality of data collected and increase product durability. Piezoelectric sensors can be mounted on various parts of a machine (see Figure 2-1).

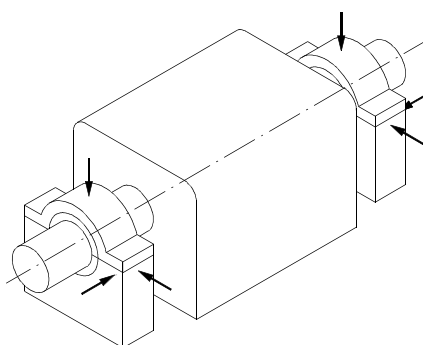


Figure 2-1: Recommended mounting points



Install piezoelectric sensors as close as possible to the bearings. A piezoelectric sensor installed on a surface with low mechanical stiffness could generate erroneous measurements.

Care should be taken to avoid placing the sensor at resonant locations on the structure if one wants to measure the motion of the entire structure. Typical mounting locations would be on motor end bells as close as possible to the bearing. Fan and pump pillow blocks are other acceptable locations that are commonly used.

NOTE: The procedures described should be strictly followed to ensure that equipment is properly installed.

NOTE: Adhere to general safety procedures, as well as general and specific machine constructor instructions and guidelines.

NOTE: Not all mounting and installation options are described in this manual. Nevertheless, several specific configurations are described in detail, which can often be adapted for specific applications. Contact your local Meggitt representative or Meggitt SA for further information.

NOTE: Always adhere to the machining tolerances to eliminate the possibility of vibration signals being contaminated by deformations in the base of the sensor.

2.1.2.1 Mass effects

Any sensor attached to a structure affects the motion of the structure. The mass of the structure should be at least 10 times that of the sensor, in order for this effect to have an error of less than 10%.

NOTE: Further information on the weight of a sensor can be found in the corresponding CExxx piezoelectric accelerometer or PVxxx piezoelectric velocity sensor data sheet.

2.1.3 Operating temperature range



The ambient temperature where a sensor is installed must be permanently within its operating temperature range.

NOTE: Further information on the operating temperature range of a sensor can be found in the corresponding CExxx piezoelectric accelerometer or PVxxx piezoelectric velocity sensor data sheet.

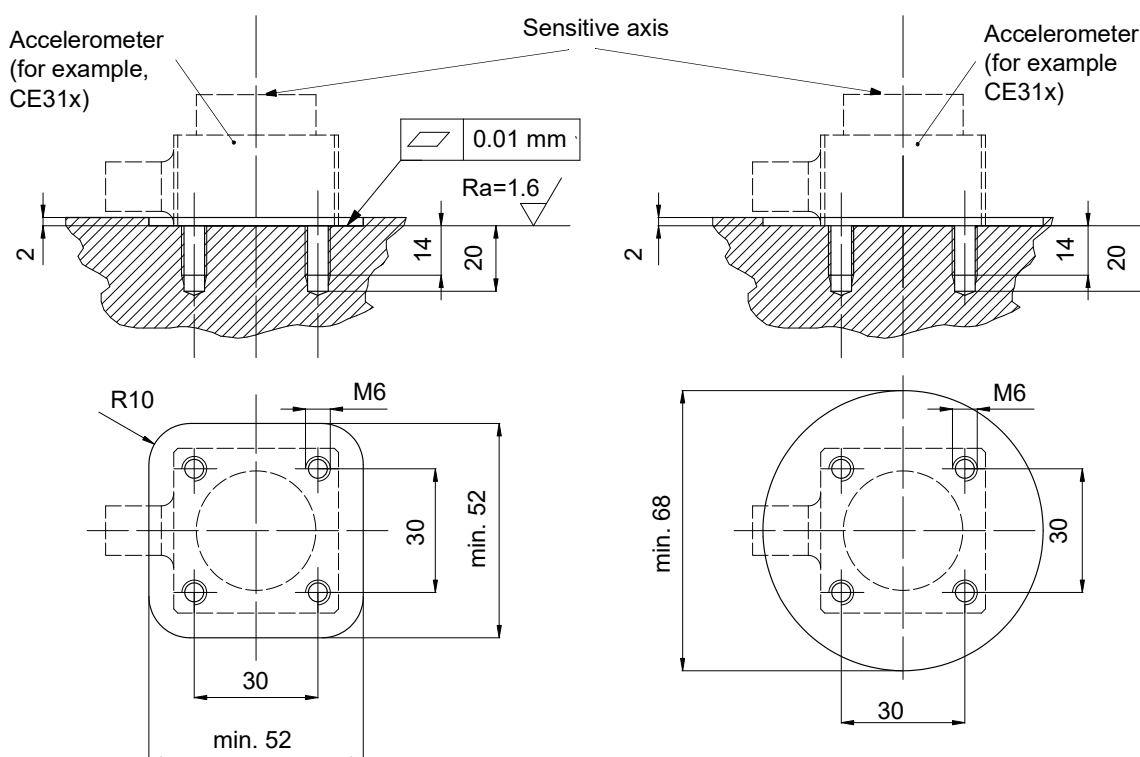
2.2 Mounting piezoelectric sensors

2.2.1 Preparing the machine surface

Accurate measurements, and especially the higher frequency components, are only possible when a piezoelectric sensor is properly mounted on the target machine. The base of the sensor and the mounting surface must maintain good contact during the measurement. Ideally, the sensor should be mounted as close as possible to the source of vibration, for example, the bearing housing.

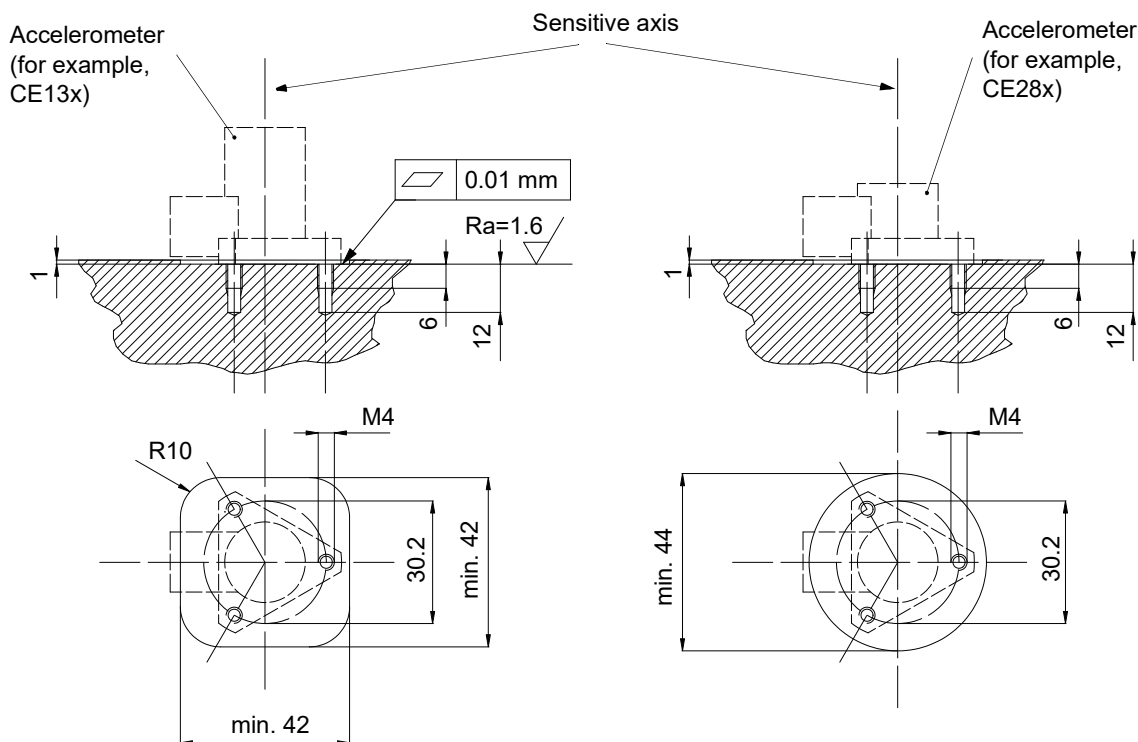
Before mounting a piezoelectric accelerometer or piezoelectric velocity sensor, the machine surface should be prepared at the mounting location. The surface should be even and perpendicular to the desired axis of sensitivity. In general, the machined surface should have a maximum surface waviness of 0.01 mm and a maximum surface roughness of Ra 1.6. Figure 2-2, Figure 2-3 and Figure 2-4 show examples of required mounting surfaces.

All mounting holes should be carefully drilled and tapped in accordance with the required mounting screws or adaptor stud.



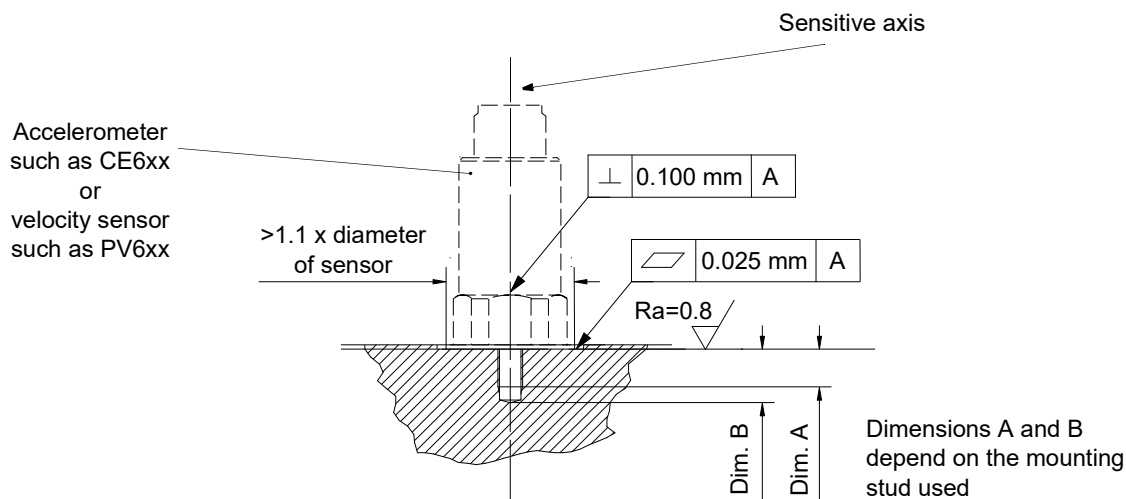
Note: all dimensions in mm unless otherwise stated.

Figure 2-2: Mounting surface for a CE31x piezoelectric accelerometer



Note: all dimensions in mm unless otherwise stated.

Figure 2-3: Mounting surface for a CE13x or CE28x piezoelectric accelerometer



Note: all dimensions in mm unless otherwise stated.

Figure 2-4: Mounting surface for a CE6xx piezoelectric accelerometer or PV6xx piezoelectric velocity sensor

Some piezoelectric sensors, such as the CE6xx and the PV6xx, are mounted with a threaded adaptor stud (see Figure 2-6).

2.2.2 Mounting procedure – using screws

This mounting procedure is similar, regardless of the type of piezoelectric sensor (see Figure 2-5 for an overview).

NOTE: Piezoelectric accelerometers and piezoelectric velocity sensors vary in dimensions. Further information can be found in the corresponding data sheet.

To mount a piezoelectric accelerometer:

- 1- Prepare the part of the machine surface where the piezoelectric accelerometer will be mounted (see 2.2.1 Preparing the machine surface).
- 2- Clean the mounting surface to remove any residual particles (metal shavings, dust).
- 3- Position the piezoelectric accelerometer on the mounting surface (see Figure 2-5).
- 4- Coat the fixing screws with a thread-locking adhesive that is suitable for the operating temperature of the application.

NOTE: Thread-locking adhesives, such as LOCTITE® 241 or equivalent, stop screws becoming loose due to vibration. Such thread-locks allow parts to be disassembled at a later time, if necessary.

- 5- Fix the piezoelectric accelerometer to the machine surface using a torque wrench (see Figure 2-5).

The screws, washers and tightening torque to use depends on the piezoelectric sensor, in accordance with the values defined in Table 2-1.

Table 2-1: Screws, washers and tightening torque values for CExxx piezoelectric sensors

Piezoelectric sensors	Screws	Washers	Torque (nominal)	
			Metric	Imperial
CE134 and CE281	M4 x 16	M4	4.5 N•m	3.3 lb-ft
CE311 and attached electronics	M6 x 35	M6	15 N•m	11.1 lb-ft

Notes:

Refer also to the corresponding CExxx piezoelectric accelerometer data sheet.

In order to optimise the contact surface and help ensure that the assembly does not become loose due to vibration, appropriately sized spring-lock washers should be used and the tightening torque should be maximized within the mechanical limits (strength grade) of the specific screws used.

Piezoelectric accelerometer with attached signal conditioner (for example, CE281)

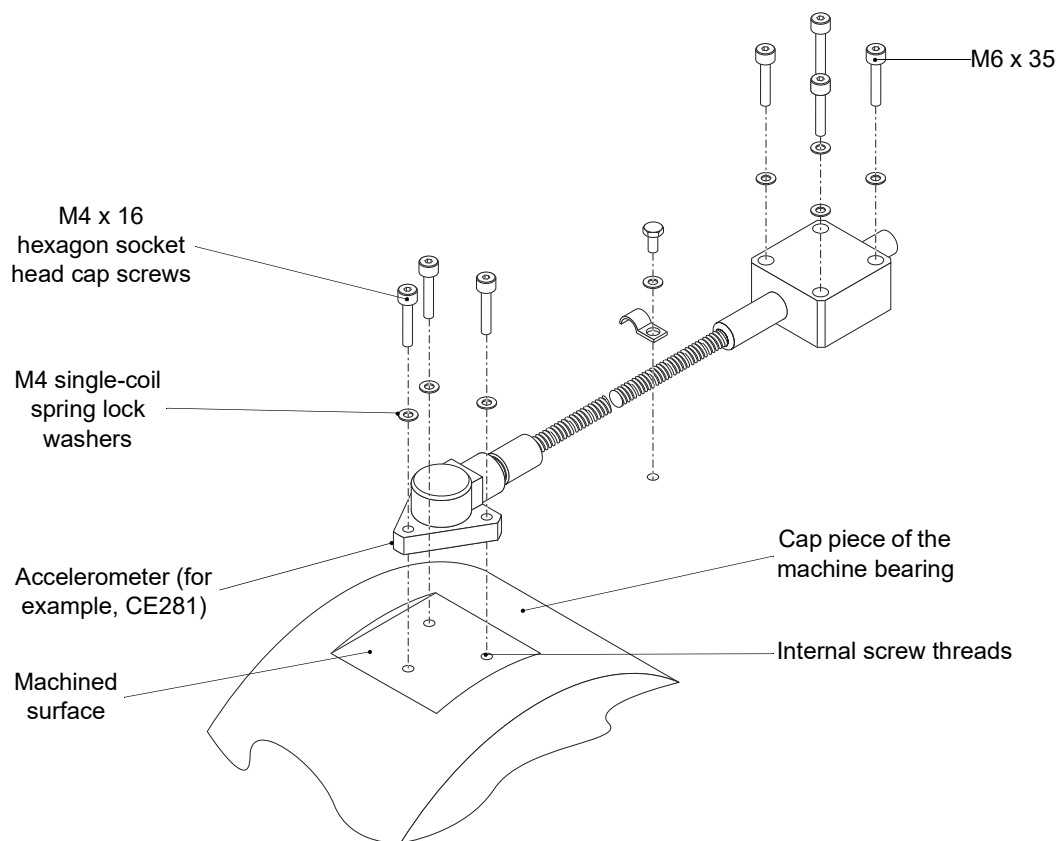


Figure 2-5: Mounting CExxx piezoelectric accelerometers on a machined surface

2.2.3 Mounting procedure – using adaptor studs

More general-purpose piezoelectric sensors, such as the CE6xx and the PV6xx, are mounted with a threaded adaptor stud (see Figure 2-6).

Such mounting studs are the preferred method and the most commonly used. However, sometimes it is not practical or it is prohibited to drill the machinery surface, in which case, a mounting pad may be glued to the machine surface. Contact your local Meggitt representative or Meggitt SA for further information.

This mounting procedure is similar regardless of the type of piezoelectric sensor (see Figure 2-6 for an overview).

To mount a piezoelectric sensor using an adaptor stud:

- 1- Prepare the part of the machine surface where the piezoelectric sensor will be mounted (see 2.2.1 Preparing the machine surface).
- 2- Clean the mounting surface to remove any residual particles (metal shavings, dust).
- 3- Coat the screw threads of the adaptor stud with a thread-locking adhesive that is suitable for the operating temperature of the application.

NOTE: Thread-locking adhesives, such as LOCTITE[®] 241 or equivalent, stop screws becoming loose due to vibration. Such thread-lockers allow parts to be disassembled at a later time, if necessary.

Also, a thin, uniform film of light machine oil on the mating surfaces will enhance the mechanical coupling between test object and accelerometer at frequencies above 2 kHz. Silicon grease may be used but it is more difficult to remove from surfaces.

- 4- Assemble the adaptor stud and sensor and fix the piezoelectric sensor to the machine surface using a torque wrench (see Figure 2-6).

The tightening torque to use depends on the piezoelectric sensor, in accordance with the values defined in Table 2-2.

Table 2-2: Tightening torque values for CE6xx and PV6xx piezoelectric sensors

Piezoelectric sensors	Torque (nominal)	
	Metric	Imperial
CE6xx and PV6xx	2.4 N•m	1.8 lb-ft
CE680 and PV102	2.7 N•m	2.0 lb-ft

Notes:

Refer also to the corresponding CE6xx piezoelectric accelerometer or PV6xx piezoelectric velocity sensor data sheet.

The nominal torque required for mounting CE6xx and PV6xx piezoelectric sensors also depends on the adaptor stud. Further information can be found in the corresponding data sheet or drawing.

Piezoelectric accelerometer (for example, CE6xx) or piezoelectric velocity sensor (for example, PV6xx) with integrated electronics

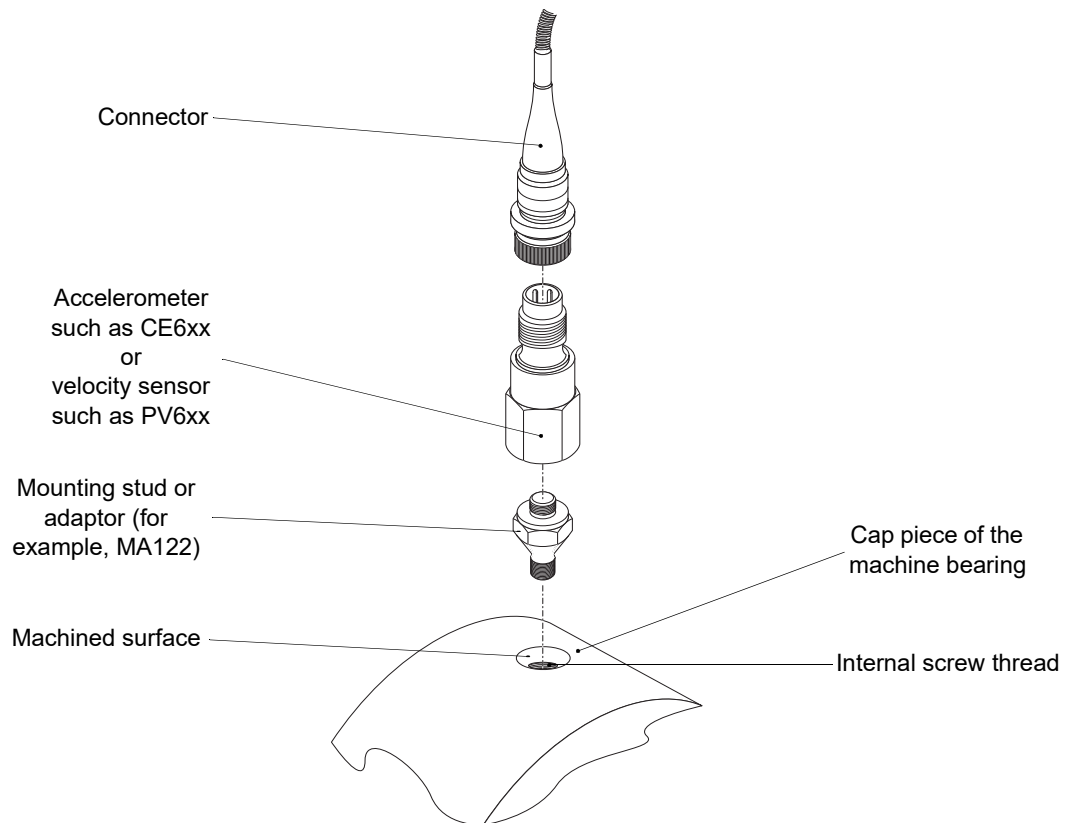
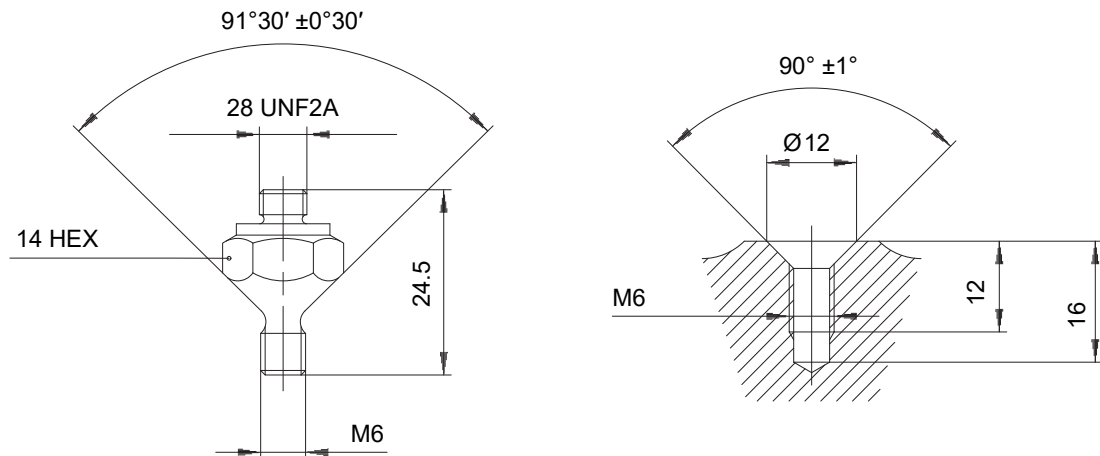


Figure 2-6: Mounting CE6xx and PV6xx piezoelectric sensors on a machined surface using a mounting stud or adaptor

2.2.4 Mounting accessories

NOTE: For further information on mounting accessories, contact your local Meggitt representative or Meggitt SA.

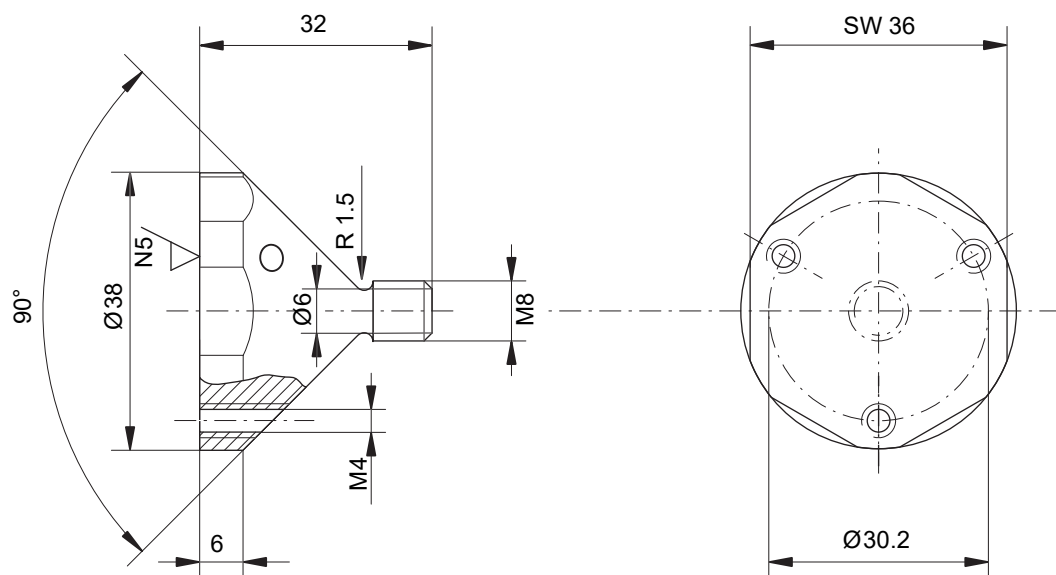
2.2.4.1 MA122 mounting adaptor



Note: all dimensions in mm unless otherwise stated.

Figure 2-7: MA122 mounting adaptor

2.2.4.2 TA104 mounting stud



Note: all dimensions in mm unless otherwise stated.

Figure 2-8: TA104 mounting stud

2.2.4.3 TA101 electrically isolating support

M6 x 35 hexagon socket
head cap screw

M6 single-coil spring
lock washer

Isolating bushing

Isolating plate

Mounting support

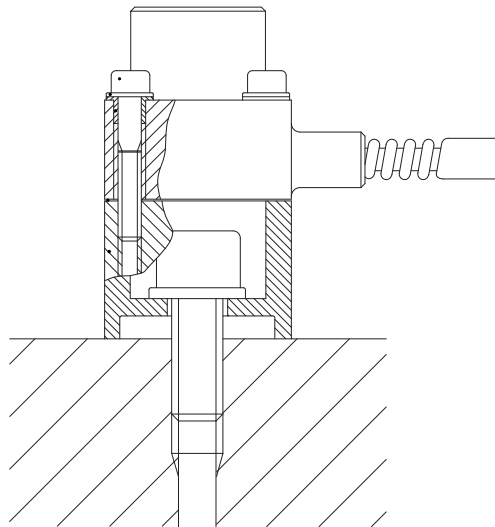


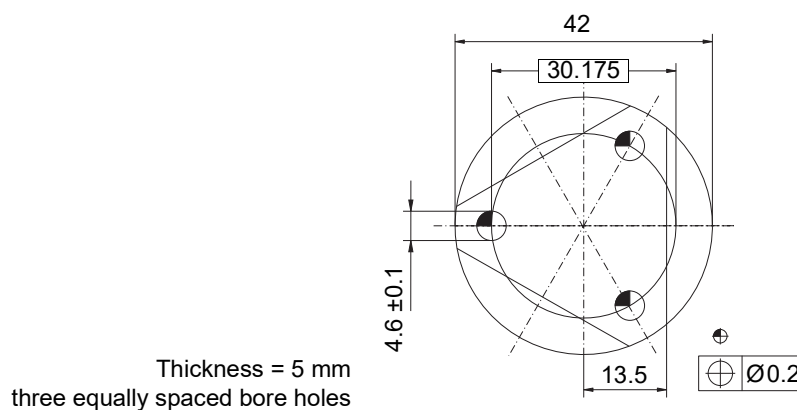
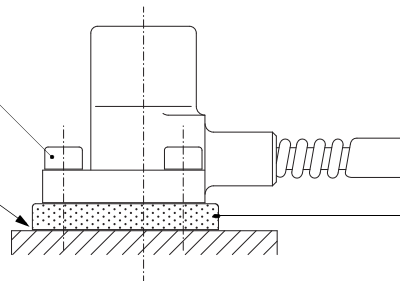
Figure 2-9: TA101 electrically isolating support

2.2.4.4 TA105 thermally isolating support

Three x M4 Inbus (hexagon
socket head cap) screw

$T_{\max} = 300^{\circ}\text{C}$

Thermally isolating plate



Note: all dimensions in mm unless otherwise stated.

Figure 2-10: TA105 thermally isolating support

3 INSTALLING CABLES

This chapter provides guidelines on installing cables in CExxx-based and PVxxx-based vibration measurement chains.

NOTE: Further product specific information can be found in the corresponding data sheet.

This information applies to any of the following cables in the chain:

- Cables connected directly or indirectly to the sensor. This includes integral cables, connecting cable assemblies (ECxxx or EExxx) and extension cables.
- Other transmission cables and connecting cables (K2xx).

NOTE: The requirements for soft-line cables are outlined in 3.2 Installing an integral or extension cable.

Further information on connecting transmission and connecting cables is described in 5 Installing galvanic separation units.

3.1 General precautions

3.1.1 Cables in potentially explosive atmospheres



ONLY CABLES APPROPRIATE FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES (EX ZONES) SHOULD BE INSTALLED IN SUCH ENVIRONMENTS.

THE LENGTHS OF ALL CABLES (INTEGRAL CABLES AND/OR CABLE ASSEMBLIES) INSTALLED IN POTENTIALLY EXPLOSIVE ATMOSPHERES MUST BE DETERMINED AS PER THE CRITERIA DEFINED IN THE APPROPRIATE SECTIONS OF THE CORRESPONDING EX CERTIFICATES.

FOR FURTHER INFORMATION, SEE THE EX CERTIFICATES IN THE APPENDICES OF THIS MANUAL. (EX CERTIFICATES ARE ALSO AVAILABLE FROM OUR WEBSITE AT WWW.MEGGITTSENSING.COM/ENERGY)

3.1.2 Operating temperature range



The ambient temperature where a cable is installed must remain permanently within its operating temperature range.

NOTE: Further information on the operating temperature range of a cable can be found in the corresponding data sheet.

3.1.3 Minimum bend radius

It is essential that the minimum bend radius is respected when connecting and fixing an integral cable, extension cable, transmission cable or connecting cable.

NOTE: Further specific information on the minimum bend radius of a specific cable can be found in the corresponding data sheet.



Failure to respect the minimum bend radius of a cable can lead to permanent cable damage.

3.1.4 Minimizing sources of electromagnetic interference

Signals in a measurement chain are sensitive to electromagnetic interference (EMI) at low frequencies and radio frequency interference (RFI). This is particularly true near a piezoelectric accelerometer or piezoelectric velocity sensor, where signal levels are low. Interference can come from a variety of sources including power cables, strong magnetic fields, motors, switching gear, portable phones and walkie-talkies.

The following precautions must be taken to reduce the effects of EMI:

- 1- Use appropriate grounding techniques. Always conform to the electrical wiring diagrams (see 6 Electrical connections).
- 2- Electrically isolate (shield) each measurement chain from all others.
- 3- When possible, place cables in a grounded steel protection tube to provide additional electrical and mechanical protection.
- 4- Do not run signal cables through conduits used for other purposes such as power cables or communication lines.

3.1.5 Using cable conduits

Cable conduits provide mechanical and electrical protection to cables. All signal wiring should be run through conduits that are reserved for only one type of cable. Do not mix signal wiring with power or communications cables.

Cable conduits must be well grounded according to industry standards in order to provide protection against EMI (see 3.1.4 Minimizing sources of electromagnetic interference). They should prevent water or other liquids entering. If there is a risk of this happening, or of condensation forming in the conduit, adequate drainage should be provided.

3.2 Installing an integral or extension cable

This section applies to all cables (with or without flexible protection tubes) carrying low-level signals.

An integral cable and an extension cable can be connected using their matching coaxial connectors.



SEE 3.1 GENERAL PRECAUTIONS BEFORE INSTALLING CABLES.

3.2.1 Cable handling

A cable is an important part of the measurement chain, since it transmits the signal to the conditioning electronics. Therefore, cables should be handled with care. They should not be unnecessarily bent or handled harshly (see 3.1.3 Minimum bend radius).

3.2.2 Cable clamping

Meggitt vibro-meter[®] piezoelectric accelerometers use attached or integrated electronics to produce current-based or voltage-based output signals. Similarly, Meggitt vibro-meter[®] piezoelectric velocity sensors use integrated electronics to produce voltage-based output signals. Therefore, the cable clamping requirements are not strict (in comparison with the Cxxx series, which have charge-based outputs and are much more prone to the triboelectric effect, that is, interference in the measured signal due to movement in the cabling).

However, it is still recommended that piezoelectric accelerometer and piezoelectric velocity sensor cables are clamped at regular intervals to limit their movement relative to the machine housing. The following intervals are recommended:

- 100 mm for a cable mounted on a vibrating structure (>10 g)
- 200 mm for a cable mounted on a non-vibrating structure.

Further away from the machine, it is possible to use a rigid metal cable duct rather than clamping the cable.

It is advisable to use heat-shrinkable sleeves to ensure that the connectors do not become loose. This could occur when the connectors are in close proximity to the machine being measured and are thus susceptible to vibrations produced by the machine.

NOTE: Transmission cables (K2xx) installed after junction boxes in the measurement chain also carry signals that are either current-based or voltage-based. So these are also not as sensitive to the triboelectric effect (as charge-based outputs) and again, clamping is not so vital. Precautions must nevertheless be taken to reduce EMI (see 3.1.4 Minimizing sources of electromagnetic interference).

3.2.3 Cable mounting procedure

- 1- As shown in Figure 3-1, ensure that the cable is straight to the first cable clamp at 2 to 3 cm from the piezoelectric-based sensor.

NOTE: LOCTITE® 241 adhesive can be used to stop screws becoming loose due to vibration. However, the screws can still be loosened at a later stage if necessary.

- 2- Do not bend the cable beyond its minimum bend radius.
- 3- Clamp the remainder of the cable at suitable intervals (see 3.2.2 Cable clamping).

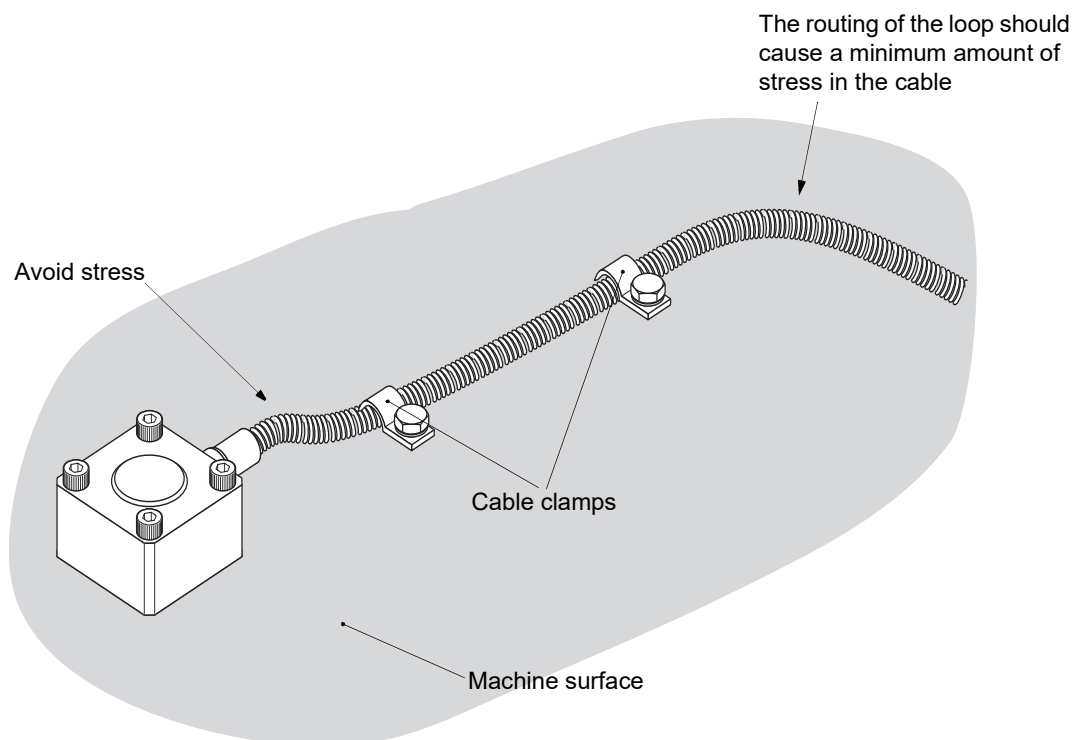


Figure 3-1: Installing a soft-line cable

NOTE: The design of piezoelectric accelerometers and piezoelectric velocity sensors varies with the type of sensor. Further information can be found in the corresponding data sheet.

3.3 Cable connectors

3.3.1 Connectors

The connectors fitted to CExxx piezoelectric accelerometer and PVxxx piezoelectric velocity sensor cables are generally one of the following types:

- Screw-thread
- Bayonet.

3.3.2 General precautions



The following precautions with regard to connectors must be adhered to at all times.

- Protect all types of connector against physical and environmental (such as humidity) damage by means of a protection cap when not in use. Damage to connector pins or to the connector thread could lead to erroneous measurements.
- Do not place an undue load on the connector when the mating halves are in position. Torque or stress loading on the two halves could damage the connector points or threads and cause invalid data transmission.
- Ensure that the screw threads are not cross-threaded or misaligned when connecting connectors with screw thread connections.

3.3.3 Checking procedure

Visually inspect the two connector halves for the following:

- Check the outer casing for damaged areas, scratches or dents.
- Check the connector pins to ensure that they are not bent or loose.
- Ensure that no dust, dirt or particles are present on the connector pins, threads or housing.

3.4 Installing transmission cables and connecting cables



SEE 3.1 GENERAL PRECAUTIONS BEFORE INSTALLING TRANSMISSION CABLES OR CONNECTING CABLES.

Transmission cables (located after a junction box) and connecting cables (located after a GS112x galvanic separation unit or safety barrier) can be mounted using the standard procedures for low-voltage installations.

However, care should be taken to minimize the effects of interference (3.1.4 Minimizing sources of electromagnetic interference).

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4 INSTALLING JUNCTION BOXES

This chapter provides general guidelines on mounting and installing junction boxes in CExxx-based and PVxxx-based vibration measurement chains.

NOTE: Further product specific information can be found in the corresponding data sheet.

The information applies to the following products in the chain:

- Junction boxes used to connect a piezoelectric accelerometer or piezoelectric velocity sensor cable to an extension cable (see 4.2 Installing a junction box).

4.1 General precautions

4.1.1 Junctions boxes in potentially explosive atmospheres



JB116 JUNCTION BOXES CAN BE INSTALLED IN POTENTIALLY EXPLOSIVE ATMOSPHERES.

FOR FURTHER INFORMATION, SEE THE EX CERTIFICATES IN THE APPENDICES OF THIS MANUAL. (EX CERTIFICATES ARE ALSO AVAILABLE FROM OUR WEBSITE AT WWW.MEGGITSSENSING.COM/ENERGY)

ALL OTHER JUNCTION BOXES THAT ARE NOT EX CERTIFIED MUST NOT BE INSTALLED IN EXPLOSIVE ATMOSPHERES.

NOTE: Refer to the corresponding data sheet to determine whether a junction box can be installed in potentially explosive atmospheres.

In potentially explosive atmospheres, live installation and replacement is not permitted because in these hazardous areas it is necessary to power down an electronic device before any electrical connection can be safely separated.



WARNING – DO NOT SEPARATE WHEN ENERGISED.

DO NOT SEPARATE (BREAK OR OPEN) ANY ELECTRICAL CONNECTIONS WHEN DEVICES OR CIRCUITS ARE ENERGISED.

4.1.2 Operating temperature range



The ambient temperature where a junction box is installed must be permanently within its operating temperature range.

NOTE: Further information on the operating temperature range of a junction box can be found in the corresponding data sheet.



Only install a junction box at a location where the temperature lies permanently within the temperature range of the cables connected within it.

NOTE: Further information on the operating temperature range of a cable can be found in the corresponding data sheet.

4.2 Installing a junction box



SEE 4.1 GENERAL PRECAUTIONS BEFORE INSTALLING A JUNCTION BOX.

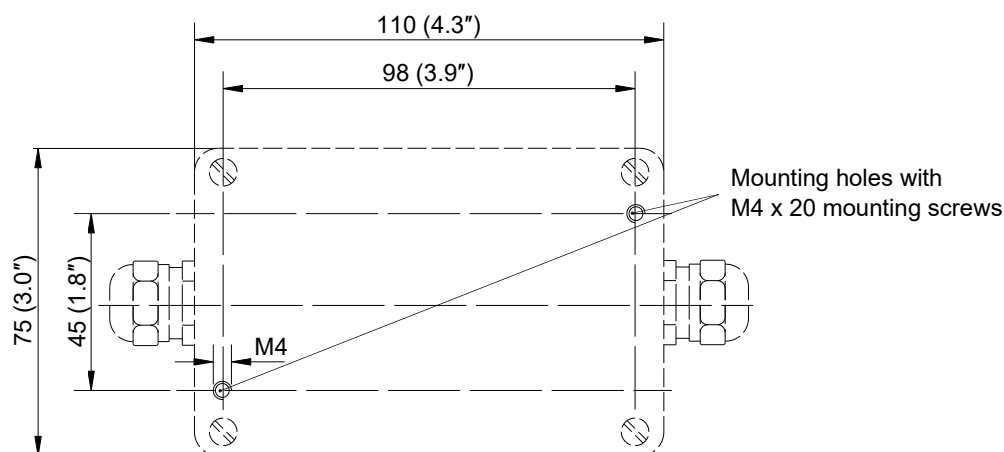
4.2.1 Mounting a junction box

The JB116 junction box has internal mounting holes for easy and safe installation on walls or other mounting surfaces.

- 1- Choose a vibration-free location to mount the junction box.
- 2- Check the distance between the mounting holes on the junction box, then drill and prepare appropriate holes in the mounting surface (see Figure 4-1 for dimensions of a JB116 junction box).

NOTE: For the dimensions of a different junction box, refer to the corresponding data sheet.

- 3- Remove the cover of the junction box (see Figure 4-2).
- 4- Mount the junction box on the mounting surface using the screws provided.
- 5- Connect the cables within the junction box (see 4.2.2 Connecting cables within a junction box).



Note: All dimensions are in mm (in) unless otherwise stated.

Figure 4-1: Dimensions of a JB116 junction box

4.2.2 Connecting cables within a junction box

- 1- Mount the junction box (see 4.2.1 Mounting a junction box).
- 2- Loosen the cable fittings (stuffing glands) on the junction box and feed the cables through.
- 3- Make the electrical connections within the junction box (see Figure 4-2).
- 4- Tighten the cable fittings (stuffing glands) and check that the cables are securely fastened by the fittings (stuffing glands). This helps ensure that the junction box is waterproof.
- 5- If the cable has a flexible stainless steel protection tube, place the Ø8 circlip into the groove in the cable bushing (see Figure 4-2). This prevents the cable from slipping out of the cable fitting (stuffing gland).
- 6- Screw the cover back on the junction box.

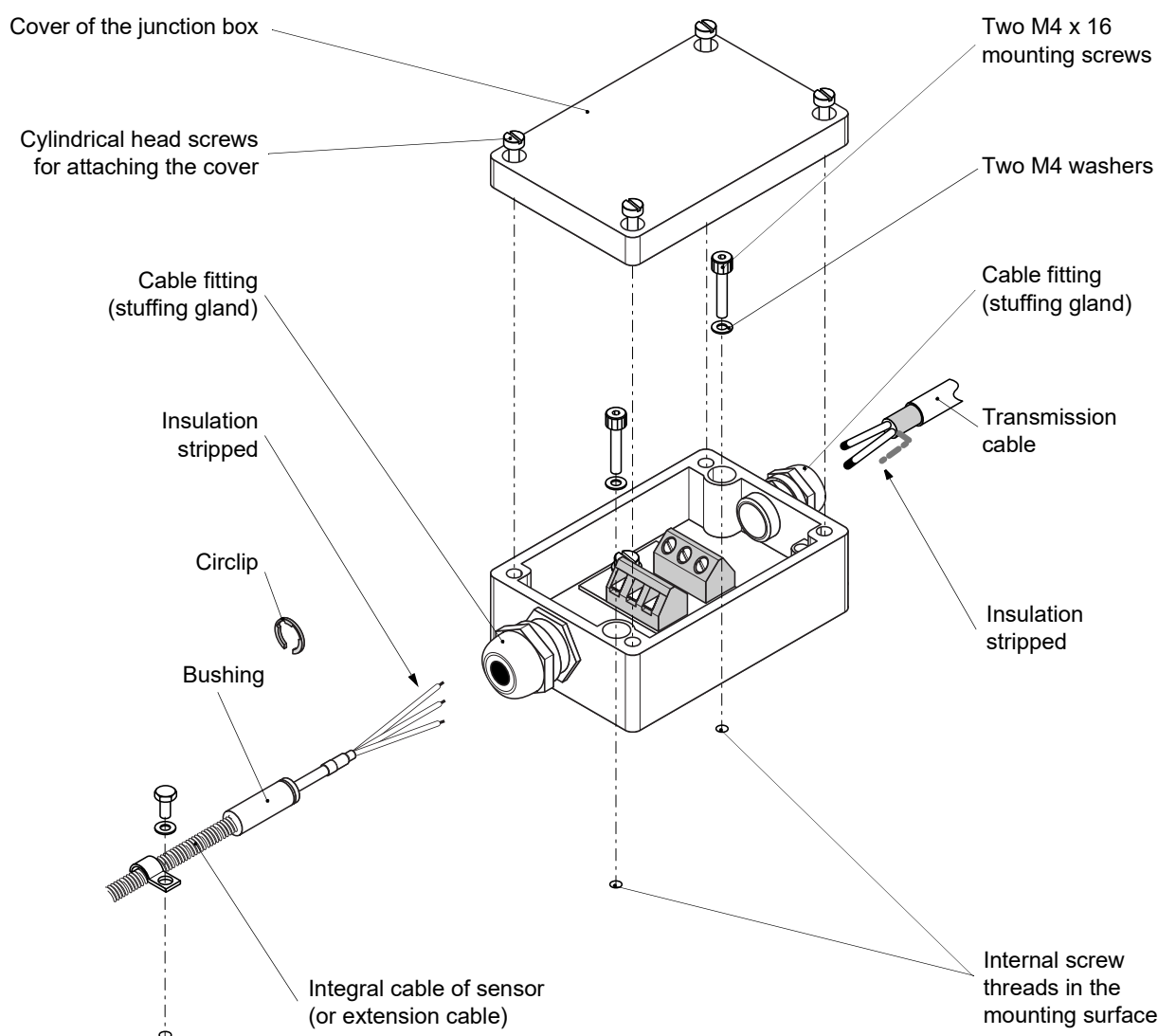


Figure 4-2: Mounting a JB116 junction box

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5 INSTALLING GALVANIC SEPARATION UNITS

This chapter provides guidelines on installing GSI127 galvanic separation units in CExxx-based and PVxxx-based vibration measurement chains.

The GSI127 is a drop-in replacement for the GSI122, GSI123, GSI124 and GSI130 galvanic separation units.

NOTE: A GSI127 with ordering options B01 (for CExxx sensors using current transmission (2-wire)) or B21 (for CE6xx and PV6xx constant-current voltage-output sensors (that is, industry standard IEPE (integrated electronics piezo electric))) can be used in CExxx-based and PVxxx-based vibration measurement chains.

NOTE: Further information on the GSI127 galvanic separation unit can be found in its data sheet.

5.1 General precautions

5.1.1 Galvanic separation units in potentially explosive atmospheres

GSI12X GALVANIC SEPARATION UNITS MUST BE INCLUDED IN CEXXX-BASED OR PVXXX-BASED VIBRATION MEASUREMENT CHAINS THAT ARE INSTALLED IN POTENTIALLY EXPLOSIVE ATMOSPHERES (EX ZONES) USING PROTECTION MODE “EX I” (INTRINSIC SAFETY).



THE GSI127 IS AN ASSOCIATED APPARATUS WITH AN ADDITIONAL PROTECTION MODE THAT PERMITS AN INSTALLATION IN AN EX ZONE 2 (HAZARDOUS AREA) WHEN IT IS INSTALLED INSIDE AN ENCLOSURE WITH A PROTECTION RATING OF AT LEAST IP54 (OR EQUIVALENT), WITH DUE CONSIDERATION FOR THE MAXIMUM THERMAL DISSIPATION STATED IN THE CORRESPONDING EX CERTIFICATES.

FOR FURTHER INFORMATION, SEE THE EX CERTIFICATES IN THE APPENDICES OF THIS MANUAL. (EX CERTIFICATES ARE ALSO AVAILABLE FROM OUR WEBSITE AT WWW.MEGGITTSENSING.COM/ENERGY)

OTHER ASSOCIATED APPARATUS WITHOUT SUCH AN ADDITIONAL PROTECTION MODE MUST NOT BE INSTALLED IN HAZARDOUS AREAS.

NOTE: Galvanic separation units can also be used in ordinary applications (non-explosive atmospheres), for example, in order to allow the transmission of signals over long distances (2-wire current transmission) *and/or* to reduce the noise in the measurement chain due to frame voltage.

5.1.2 Operating temperature range



The ambient temperature where a galvanic separation unit is installed must be permanently within its operating temperature range.

NOTE: Further information on the operating temperature range of a galvanic separation unit can be found in the corresponding data sheet.

5.2 Installing a GSI127 galvanic separation unit



SEE 5.1 GENERAL PRECAUTIONS BEFORE INSTALLING A GSI127 GALVANIC SEPARATION UNIT.

5.2.1 Mounting procedure

A GSI127 galvanic separation unit should be installed vertically on a 35 mm wide symmetrical DIN rail such as a TH 35-7.5 (see Figure 5-1) and is generally mounted in an industrial housing, rack or cabinet.

NOTE: A GSI127 galvanic separation unit should be installed vertically on the DIN rail, as this orientation maximises the air flow available to cool devices.
As shown in Figure 5-1, a GSI127 is typically installed right-side-up (with the mounting adaptor latch at the bottom of the unit), but it can equally be installed upside-down (inverted, with the mounting adaptor latch at the top of the unit) for ease of installation and wiring.

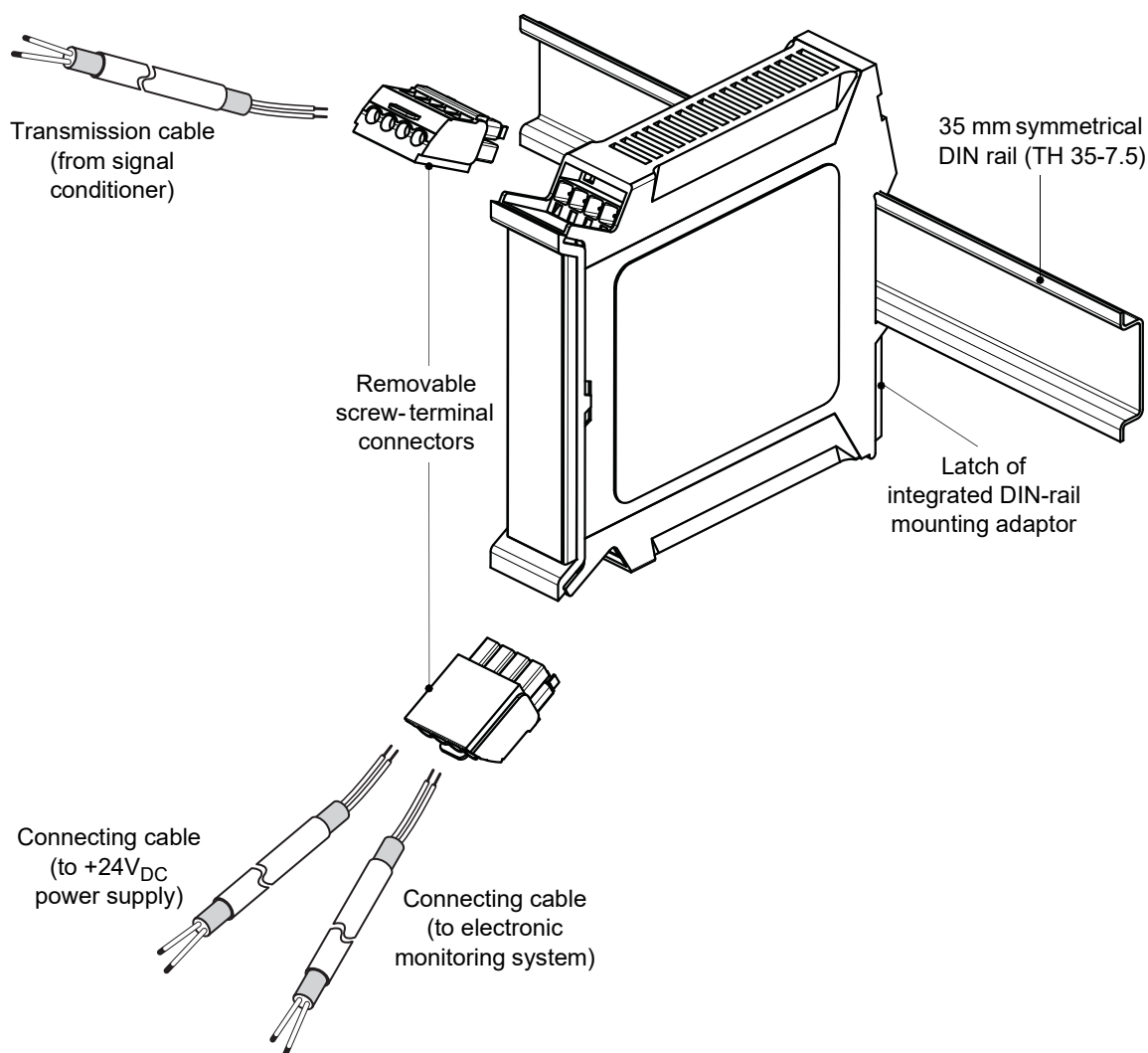


Figure 5-1: GSI127 galvanic separation unit on a DIN rail
(shown with connections for a 2-wire current transmission system)

The GSI127's housing features removable screw-terminal connectors that can be unplugged from the main body of the housing to simplify installation of the unit.

5.2.2 Removing and inserting screw-terminal connectors

To remove a screw-terminal connector from the main body of a GSI127 unit:

- 1- Push the raised tab on the front of the screw-terminal connector (which acts as a lever) away from the main body of the unit to overcome the retaining force and separate the screw-terminal connector and the unit (see Figure 5-2). Use enough force to separate the connector from the body of the unit by approximately 5 mm.
- 2- Pull the screw-terminal connector to remove it from the main body of the unit.

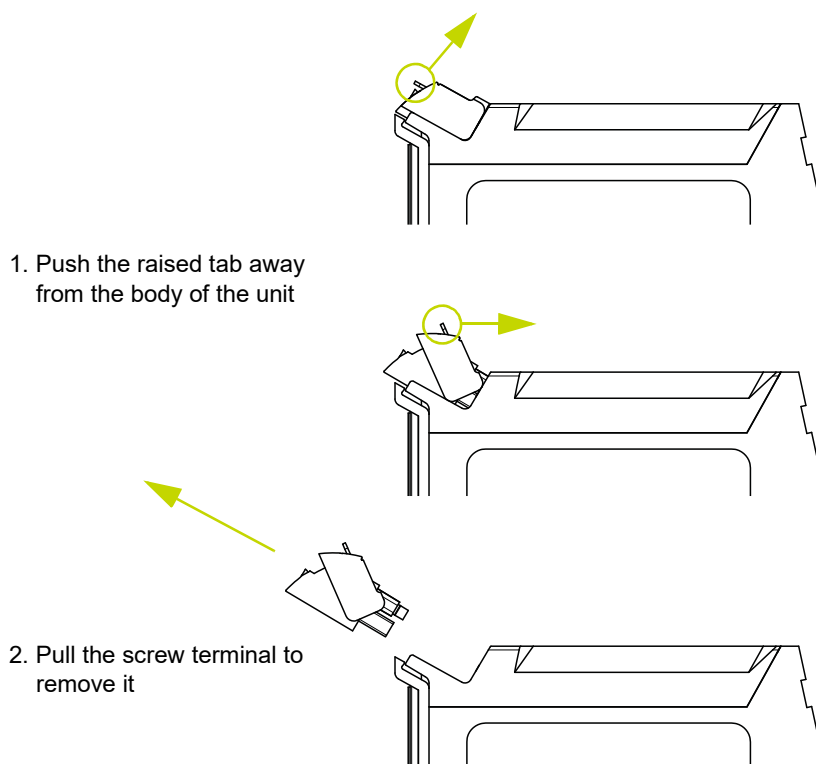


Figure 5-2: Removing a screw-terminal connector from the main body of a GSI127 unit

To reinsert a screw-terminal connector in the body of a GSI127 unit:

- 1- Ensure that the raised tab on the front of the screw-terminal connector is pushed down flat so that the rear of the connector is not obstructed.
- 2- Align the screw-terminal connector with the main body of the unit, ensuring that the guide-rails of both parts are aligned, and push the connector into the main body of the unit.
- 3- When the screw-terminal connector is approximately 1-2 mm from the main body of the unit, more force is required to overcome the mechanical locking mechanism and the friction of the connectors.

There should be an audible click when the connector is properly inserted.

5.2.3 Connecting cables

The transmission cable from the “sensor-side” circuitry (sensor) and the connecting cable to the “monitor-side” circuitry are connected to the GSI127 galvanic separation unit using removable screw-terminal connectors (see Figure 5-1 and Figure 5-2).

NOTE: The screw-terminal connector on the top of the GSI127, labelled “SENSOR”, is for connection to the transmission cable that connects to the “sensor-side” circuitry, that is, to front-end circuitry such as sensors or attached electronics (signal conditioning).

NOTE: The screw-terminal connector on the bottom of the GSI127, labelled “MONITOR”, is for connection to the connecting cable that connects to the “monitor-side” circuitry, such as a VM600 or VibroSmart® monitoring system.

There is a block of four screw terminals on the top front of the GSI127, labelled “SENSOR”, up to three of which are used for connection to the transmission cable that connects to the “sensor-side” circuitry:

- For operation with current signals from a CExxx accelerometer (2-wire current transmission system), a GSI127 with ordering option B01 should be used. This option uses two of the SENSOR screw terminals, labelled “+” and “-”. The other two SENSOR screw terminals, labelled “NC”, are not connected.
- For operation with voltage signals from CE620, CE630 and PV660 sensors (constant-current voltage-output (IEPE) system), a GSI127 with ordering option B21 should be used. This option uses two of the SENSOR screw terminals, labelled “+” and “-”. The other two SENSOR screw terminals, labelled “NC”, are not connected.

There is a block of four screw terminals on the bottom front of the GSI127, labelled “MONITOR”, all of which are used for connection to the connecting cable that connects to the “monitor-side” circuitry:

- The connection of the voltage output signal is the same for all GSI127s (ordering options B01 to B21) and uses all of the MONITOR screw terminals, labelled “24 VDC +”, “24 VDC -”, “SIGNAL 0V” and “SIGNAL O/P”.

See 6 Electrical connections for detailed wiring diagrams of CExxx-based and PVxxx-based vibration measurement chains using the GSI127.

NOTE: The shield of the transmission cable from the “sensor-side” circuitry should not be connected to the GSI127 galvanic separation unit (“open screening”). Instead, the transmission cable from the “sensor-side” circuitry must be connected to the mandatory grounding bracket at the entrance to the cubicle that contains the GSI127.

NOTE: The GSI127 galvanic separation unit does not require a ground connection and should not be grounded to its DIN rail.

If required, see 5.3 Replacing a GSI124 galvanic separation unit with a GSI127, 5.4 Replacing a GSI122 or GSI130 galvanic separation unit with a GSI127 or 5.5 Replacing a safety barrier with a GSI127.

5.3 Replacing a GSI124 galvanic separation unit with a GSI127

For a GSI124 galvanic separation unit:

- The connections at the top of the housing are for the connecting cable to the electronic monitoring system.
- The connections at the bottom of the housing are for the transmission cable from the front-end circuitry such as sensors and/or signal conditioning.

For a GSI127 galvanic separation unit:

- The connections at the top of the housing are for the transmission cable from the front-end circuitry such as sensors and/or signal conditioning.
- The connections at the bottom of the housing are the connecting cable to the electronic monitoring system.

NOTE: When replacing a GSI124 galvanic separation unit with a GSI127, the length of the cables to the unit might have to be adjusted in order to allow for this change of position.

5.3.1 Uninstalling the GSI124



SEE 5.1 GENERAL PRECAUTIONS BEFORE REPLACING A GSI124 GALVANIC SEPARATION UNIT WITH A GSI127.

A GSI124 galvanic separation unit is generally mounted in an industrial housing, rack or cabinet. The transmission cable from the “sensor-side” circuitry and the connecting cable to the “monitor-side” circuitry are connected to the GSI124 using screw terminals (see Figure 5-3).

To uninstall a GSI124:

- 1- Turn off the power supply to the equipment.
- 2- Identify each wire for both the transmission cable from the “sensor-side” and the connecting cable to the “monitor-side” that are connected to the GSI124. See Figure 5-3 and use Table 5-1 to record the number and/or colour for each wire.
- 3- On the GSI124, unscrew the screw terminals on the upper half of the unit in order to disconnect the connecting cable to the “monitor-side” circuitry (electronic monitoring system).
- 4- On the GSI124, unscrew the screw terminals on the lower half of the unit in order to disconnect the transmission cable from the “sensor-side” circuitry (sensors and/or signal conditioning).
- 5- Disconnect the grounding. That is, disconnect the black flying lead terminated with a crimp from the underside of the GSI124 and then remove this lead from the DIN rail, as it is not required by the GSI127 (see Figure 5-3).
- 6- Remove the GSI124 from the DIN rail.

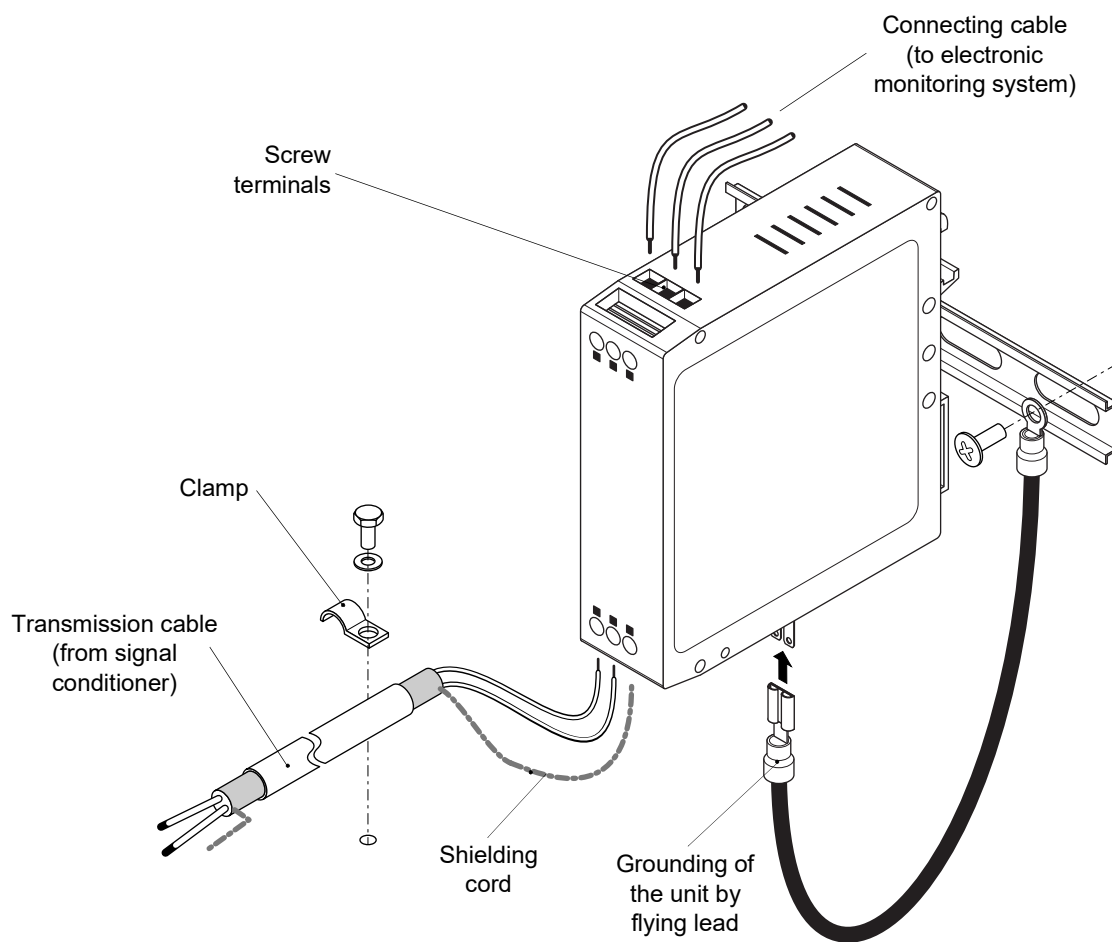


Figure 5-3: GSI124 galvanic separation unit

Table 5-1: GSI124 wire identification and mapping to a GSI127

Transmission cable ("sensor-side")				Connecting cable ("monitor-side")			
GSI124 terminal	Wire no.	Wire colour	GSI127 terminal	GSI124 terminal	Wire no.	Wire colour	GSI127 terminal
+			+	OUT			O/P
-			-	0V ²			0V
SHIELD ¹				+24V			+
				0V ²			-
							24 VDC

Notes

1. The shield of the transmission cable from the "sensor-side" circuitry must not be connected to the GSI127 galvanic separation unit ("open screening"). Instead, the shield must be connected to the mandatory grounding bracket at the entrance to the cubicle that contains the GSI127. See 6 Electrical connections.
2. For improved performance and interfacing flexibility, the GSI127 has a separate differential ("floating") output with two dedicated screw terminals (O/P and 0V) and a separate 24 V_{DC} power supply input with two dedicated screw terminals (+ and -), whereas the GSI124 has a single terminal (0V) that is used as a common reference for both the signal output and the power supply input. When replacing a GSI124 with a GSI127, separate wires are required for the connection between the GSI127's 0V (SIGNAL) terminal and the connecting cable to the electronic monitoring system and for the connection between the GSI127's - (24 VDC) terminal and the connecting cable to the power supply.

5.3.2 Installing and connecting the GSI127

To replace a GSI124 with a GSI127:

- 1- Ensure that the procedure outlined in 5.3.1 Uninstalling the GSI124 has been followed and that the power supply to the equipment is turned off.
- 2- Either reuse the existing DIN rail or install a new one.
- 3- Clip the GSI127 to the DIN rail.
- 4- If necessary:
 - Adapt the length of the transmission cable and connecting cable.
 - Strip the transmission cable from the “sensor-side” circuitry in order to get a sufficient length of shielding cord for connection to the mandatory grounding bracket at the entrance to the cubicle that contains the GSI127 (see 6 Electrical connections).
- 5- Strip the end of each wire to expose approximately 5 mm of conductor.
- 6- For each wire to be connected:
 - Determine which terminal each wire has to be connected to using the information recorded in Table 5-1.
 - Connect each wire by inserting the conductor into the corresponding screw terminal and tightening the fixing screw until tight.

NOTE: The GSI127's housing features removable screw-terminal connectors that can be unplugged from the main body of the housing to simplify installation of the unit.

5.4 Replacing a GSI122 or GSI130 galvanic separation unit with a GSI127

5.4.1 Uninstalling the GSI122 or GSI130



SEE 5.1 GENERAL PRECAUTIONS BEFORE REPLACING A GSI122 OR GSI130 GALVANIC SEPARATION UNIT WITH A GSI127.

A GSI122 or GSI130 galvanic separation unit is generally mounted in an industrial housing, rack or cabinet. These units are normally installed on a dedicated mounting plate using a locating pin and a fixing screw (see Figure 5-5). The transmission cable from the “sensor-side” circuitry and the connecting cable to the “monitor-side” circuitry are connected to a GSI122 or GSI130 using AMP Faston 6.3 lugs (see Figure 5-4) that are crimped to the wires.

To uninstall a GSI122 or GSI130:

- 1- Turn off the power supply to the equipment.
- 2- Identify each wire for both the transmission cable from the “sensor-side” and the connecting cable to the “monitor-side” that are connected to the GSI122 or GSI130. See Figure 5-4 and use Table 5-2 to record the number and/or colour for each wire.
- 3- On the GSI122 or GSI130, pull the three AMP Faston 6.3 lugs free from the upper half of the unit in order to disconnect the connecting cable to the “monitor-side” circuitry (electronic monitoring system).
- 4- On the GSI122 or GSI130, pull the two AMP Faston 6.3 lugs free from the lower half of the unit in order to disconnect the transmission cable from the “sensor-side” circuitry (signal conditioner).
- 5- Undo the M4 fixing screw until the GSI122 or GSI130 has been uninstalled and disassemble the mounting plate from the DIN rail (see Figure 5-5).

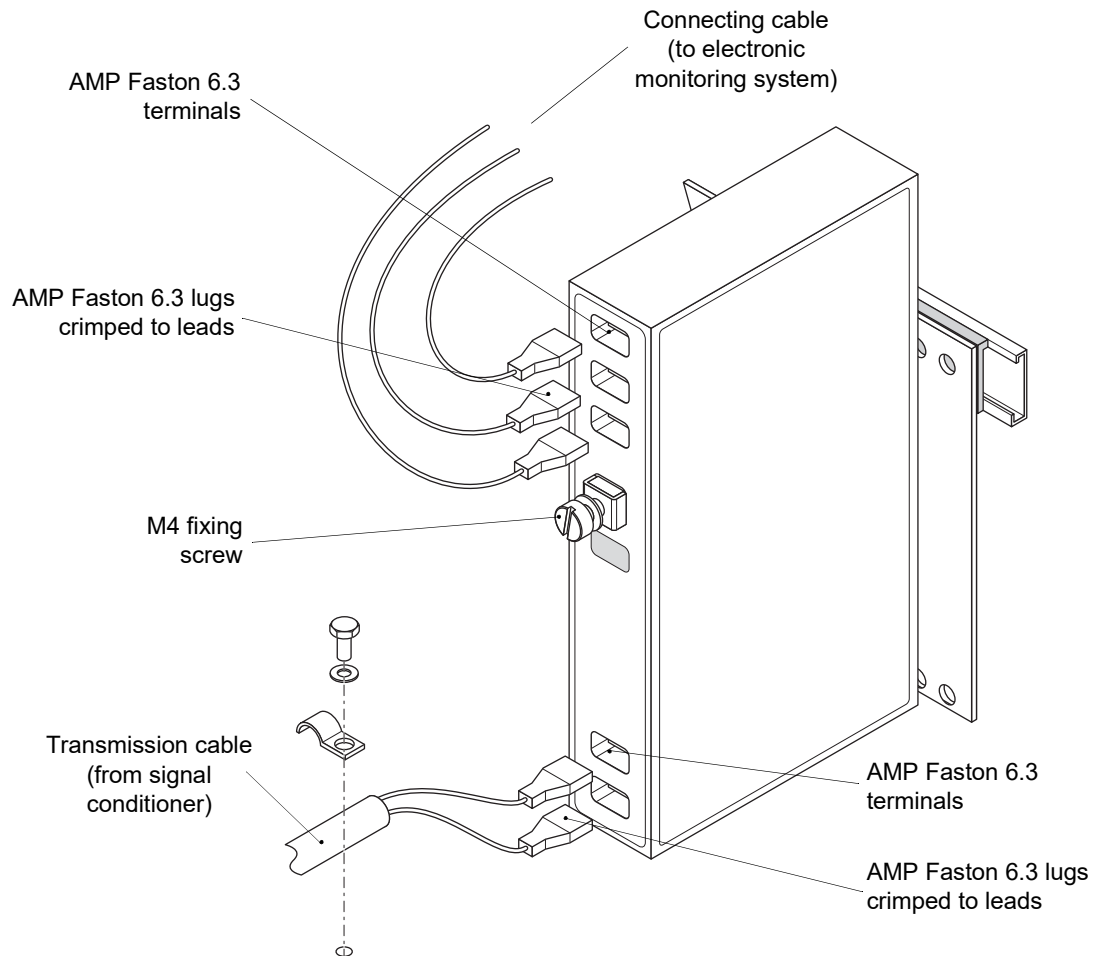


Figure 5-4: GSI122 or GSI130 galvanic separation unit

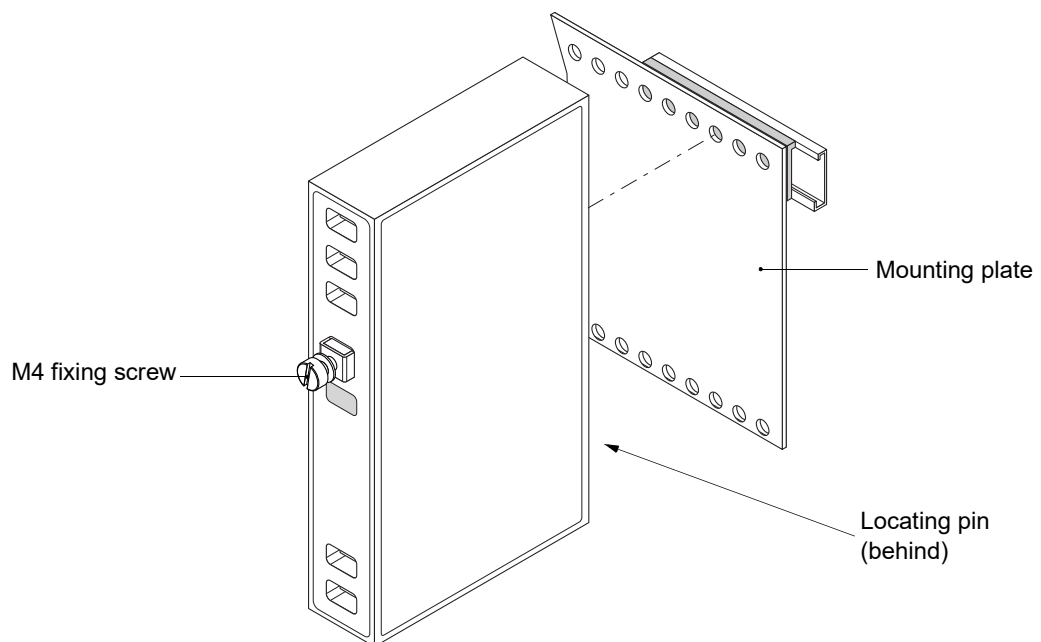


Figure 5-5: The mounting plate used by GSI122 and GSI130 galvanic separation units

Table 5-2: GSI122 or GSI130 wire identification and mapping to a GSI127

Transmission cable ("sensor-side")				Connecting cable ("monitor-side")			
GSI122 or GSI130 terminal	Wire no.	Wire colour	GSI127 terminal ¹	GSI122 or GSI130 terminal	Wire no.	Wire colour	GSI127 terminal
+			+	SIGNAL			O/P
-			-	0V ²			0V
				+24V			+
				0V ²			-
							SIGNAL
							24 VDC

Notes

1. The shield of the transmission cable from the "sensor-side" circuitry must not be connected to the GSI127 galvanic separation unit ("open screening"). Instead, the shield must be connected to the mandatory grounding bracket at the entrance to the cubicle that contains the GSI127. See 6 Electrical connections.
2. For improved performance and interfacing flexibility, the GSI127 has a separate differential ("floating") output with two dedicated screw terminals (O/P and 0V) and a separate 24 V_{DC} power supply input with two dedicated screw terminals (+ and -), whereas the GSI122 and GSI130 have a single terminal (0V) that is used as a common reference for both the signal output and the power supply input. When replacing a GSI122 or GSI130 with a GSI127, separate wires are required for the connection between the GSI127's 0V (SIGNAL) terminal and the connecting cable to the electronic monitoring system and for the connection between the GSI127's - (24 VDC) terminal and the connecting cable to the power supply.

5.4.2 Installing and connecting the GSI127

To replace a GSI122 or GSI130 with a GSI127:

- 1- Ensure that the procedure outlined in 5.4.1 Uninstalling the GSI122 or GSI130 has been followed and that the power supply to the equipment is turned off.
- 2- Either reuse the existing DIN rail or install a new one.
- 3- Clip the GSI127 to the DIN rail.
- 4- Cut each wire close to where they are crimped to the AMP Faston 6.3 lugs.
- 5- If necessary:
 - Adapt the length of the transmission cable and connecting cable.
 - Strip the transmission cable from the "sensor-side" circuitry in order to get a sufficient length of shielding cord for connection to the mandatory grounding bracket at the entrance to the cubicle that contains the GSI127 (see 6 Electrical connections).
- 6- Strip the end of each wire to expose approximately 5 mm of conductor.
- 7- For each wire to be connected:
 - Determine which terminal each wire has to be connected to using the information recorded in Table 5-2.
 - Connect each wire by inserting the conductor into the corresponding screw terminal and tightening the fixing screw until tight.

NOTE: The GSI127's housing features removable screw-terminal connectors that can be unplugged from the main body of the housing to simplify installation of the unit.

5.5 Replacing a safety barrier with a GSI127

A safety barrier such as a Zener barrier can be replaced with a GSI127.

Contact your local Meggitt representative or Meggitt SA for further information.

6 ELECTRICAL CONNECTIONS

6.1 General precautions



IN ORDINARY APPLICATIONS (NON-EXPLOSIVE ATMOSPHERES), NO CERTIFICATIONS ARE REQUIRED FOR THE USE OF CExxx-BASED AND PVxxx-BASED VIBRATION MEASUREMENT CHAINS.

HOWEVER, IN POTENTIALLY EXPLOSIVE ATMOSPHERES, Ex CERTIFICATIONS ARE REQUIRED FOR THE USE OF THESE MEASUREMENT CHAINS. THE ACTUAL EX CERTIFICATION REQUIRED FOR EACH PRODUCT IN THE MEASUREMENT CHAIN DEPENDS ON THE ATEX/IECEx ZONE IN WHICH THE PRODUCT IS INSTALLED.

THE “REQUESTED CERTIFICATIONS FOR EXPLOSIVE ZONES (ATEX/IECEx)” TABLE INCLUDED IN EACH WIRING DIAGRAM (FIGURE 6-1 AND FIGURE 6-2, FIGURE 6-4 AND FIGURE 6-5, AND FIGURE 6-7 AND FIGURE 6-8) OUTLINES THE EX CERTIFICATIONS REQUIRED FOR EACH PRODUCT IN THE MEASUREMENT CHAIN ACCORDING TO THE ATEX/IECEx ZONE IN WHICH IT IS INSTALLED. THAT IS, THE TABLES SPECIFY THE EX CERTIFICATION REQUIRED FOR A PRODUCT FROM AN AREA OF THE WIRING DIAGRAM (AREA A, AREA B OR AREA C) WHEN THAT AREA OF THE WIRING DIAGRAM CORRESPONDS TO THE DIFFERENT ATEX/IECEx ZONES IN WHICH THE PRODUCT CAN BE INSTALLED.

THE LENGTHS OF ALL CABLES (INTEGRAL CABLES AND/OR CABLE ASSEMBLIES) INSTALLED IN POTENTIALLY EXPLOSIVE ATMOSPHERES **MUST BE DETERMINED** AS PER THE CRITERIA DEFINED IN THE APPROPRIATE SECTIONS OF THE CORRESPONDING EX CERTIFICATES, WHICH ARE SUMMARISED IN FIGURE 6-3, FIGURE 6-6 AND FIGURE 6-9.

FOR FURTHER INFORMATION, SEE THE EX CERTIFICATES IN THE APPENDICES OF THIS MANUAL. (EX CERTIFICATES ARE ALSO AVAILABLE FROM OUR WEBSITE AT WWW.MEGGITTSENSING.COM/ENERGY)

6.2 General wiring diagrams

NOTE: Information on connecting equipment to the electronic monitoring system can be found in the project-specific wiring diagram delivered with a system.

For use in potentially explosive atmospheres, the GSI127 has a certification that allows installation in an Ex Zone 2 (hazardous area), that is, it is an “Ex nA [ia]” safety barrier.

Additional information is given in the wiring diagrams listed in Table 6-1.

Table 6-1: Index of wiring diagrams

CExxx-based and PVxxx-based vibration measurement chain details	Wiring diagram	Figure
CExxx piezoelectric accelerometer with attached or integrated electronics, cable assembly, junction box, transmission cabling, GSI127 galvanic separation unit and optional APFxxx power supply – using a single cubicle for industrial applications.  THESE MEASUREMENT CHAINS ARE SUITABLE FOR NON-EXPLOSIVE OR POTENTIALLY EXPLOSIVE ATMOSPHERES IN ACCORDANCE WITH THE INFORMATION GIVEN IN THE “REQUESTED CERTIFICATIONS FOR EXPLOSIVE ZONES (ATEX/IECEx)” TABLE INCLUDED IN THE WIRING DIAGRAM.	044-011-000E121 (sheet 1 of 3)	6-1
As above, but using two cubicles for industrial applications. The cubicles are separated by a maximum of 50 m of connecting cable.  THESE MEASUREMENT CHAINS ARE SUITABLE FOR NON-EXPLOSIVE OR POTENTIALLY EXPLOSIVE ATMOSPHERES IN ACCORDANCE WITH THE INFORMATION GIVEN IN THE “REQUESTED CERTIFICATIONS FOR EXPLOSIVE ZONES (ATEX/IECEx)” TABLE INCLUDED IN THE WIRING DIAGRAM.	044-011-000E121 (sheet 2 of 3)	6-2
As above, but summarising the Ex parameters for the measurement chain calculations.	044-011-000E121 (sheet 3 of 3)	6-3

Table 6-1: Index of wiring diagrams (continued)

CExxx-based and PVxxx-based vibration measurement chain details	Wiring diagram	Figure
PV102 piezoelectric velocity sensor with integrated electronics or CE620 piezoelectric accelerometer with integrated electronics, cable assembly, junction box, transmission cabling, GSI127 galvanic separation unit and optional APFxxx power supply – using a single cubicle for industrial applications.  THESE MEASUREMENT CHAINS ARE SUITABLE FOR NON-EXPLOSIVE OR POTENTIALLY EXPLOSIVE ATMOSPHERES IN ACCORDANCE WITH THE INFORMATION GIVEN IN THE “REQUESTED CERTIFICATIONS FOR EXPLOSIVE ZONES (ATEX/IECEX)” TABLE INCLUDED IN THE WIRING DIAGRAM.	040-102-000E121 (sheet 1 of 3)	6-4
As above, but using two cubicles for industrial applications. The cubicles are separated by a maximum of 50 m of connecting cable.  THESE MEASUREMENT CHAINS ARE SUITABLE FOR NON-EXPLOSIVE OR POTENTIALLY EXPLOSIVE ATMOSPHERES IN ACCORDANCE WITH THE INFORMATION GIVEN IN THE “REQUESTED CERTIFICATIONS FOR EXPLOSIVE ZONES (ATEX/IECEX)” TABLE INCLUDED IN THE WIRING DIAGRAM.	040-102-000E121 (sheet 2 of 3)	6-5
As above, but summarising the Ex parameters for the measurement chain calculations.	040-102-000E121 (sheet 3 of 3)	6-6

Table 6-1: Index of wiring diagrams (continued)

CExxx-based and PVxxx-based vibration measurement chain details	Wiring diagram	Figure
PV685 piezoelectric velocity sensor with integrated electronics or CE687 piezoelectric accelerometer with integrated electronics, cable assembly, junction box, transmission cabling and safety barrier – using a single cubicle for industrial applications.  THESE MEASUREMENT CHAINS ARE SUITABLE FOR NON-EXPLOSIVE OR POTENTIALLY EXPLOSIVE ATMOSPHERES IN ACCORDANCE WITH THE INFORMATION GIVEN IN THE “REQUESTED CERTIFICATIONS FOR EXPLOSIVE ZONES (ATEX/IECEx)” TABLE INCLUDED IN THE WIRING DIAGRAM.	040-685-000E121 (sheet 1 of 3)	6-7
As above, but using two cubicles for industrial applications. The cubicles are separated by a maximum of 50 m of connecting cable.  THESE MEASUREMENT CHAINS ARE SUITABLE FOR NON-EXPLOSIVE OR POTENTIALLY EXPLOSIVE ATMOSPHERES IN ACCORDANCE WITH THE INFORMATION GIVEN IN THE “REQUESTED CERTIFICATIONS FOR EXPLOSIVE ZONES (ATEX/IECEx)” TABLE INCLUDED IN THE WIRING DIAGRAM.	040-685-000E121 (sheet 2 of 3)	6-8
As above, but summarising the Ex parameters for the measurement chain calculations.	040-685-000E121 (sheet 3 of 3)	6-9

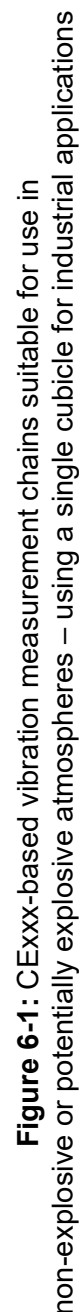


Figure 6-1: CExxx-based vibration measurement chains suitable for use in non-explosive or potentially explosive atmospheres – using a single cubicle for industrial applications



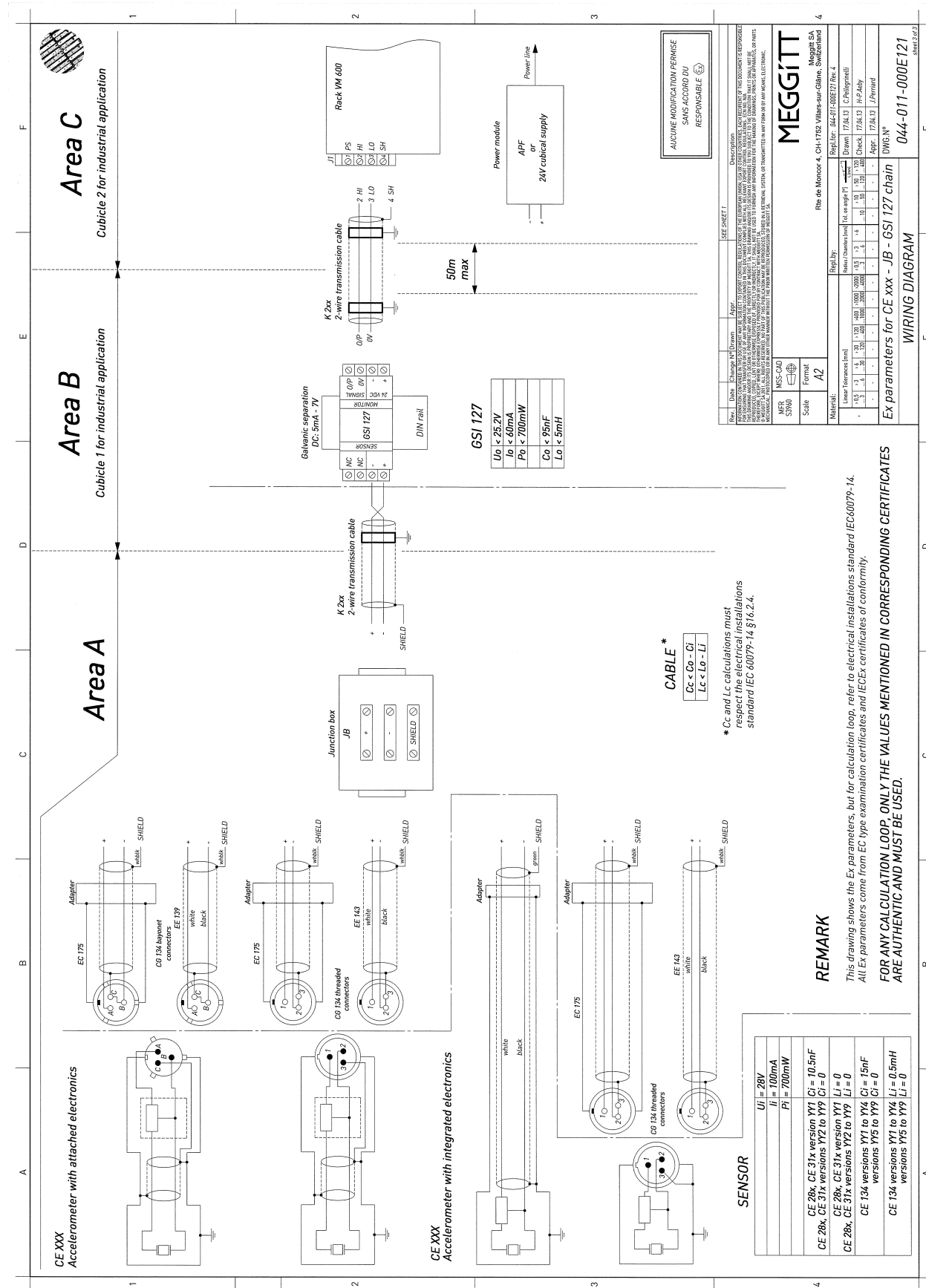


Figure 6-3: CExxx-based vibration measurement chains suitable for use in non-explosive or potentially explosive atmospheres – summarising the Ex parameters for the measurement chain calculations

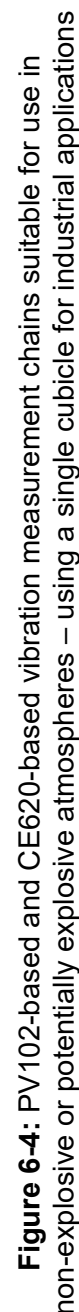
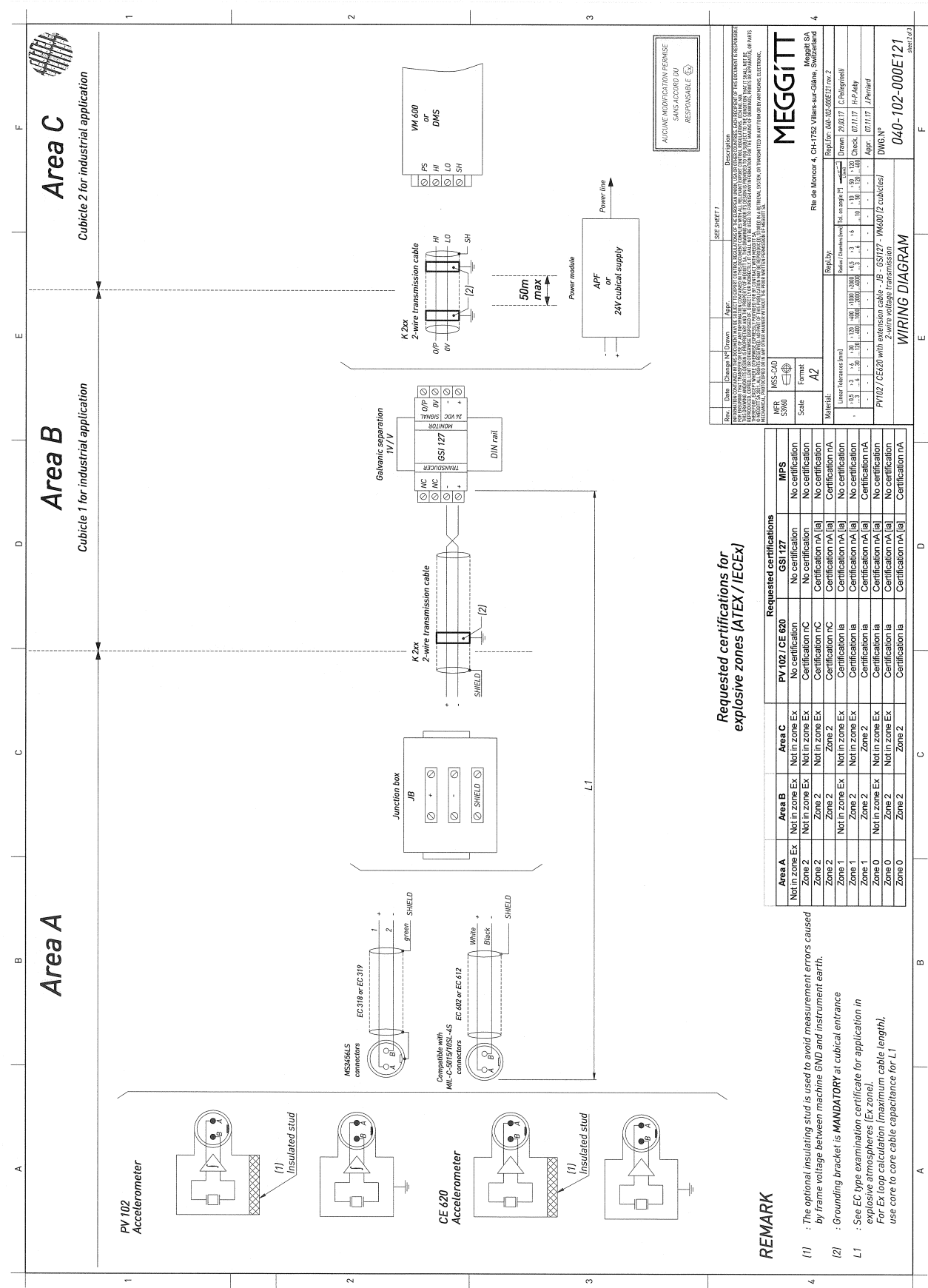
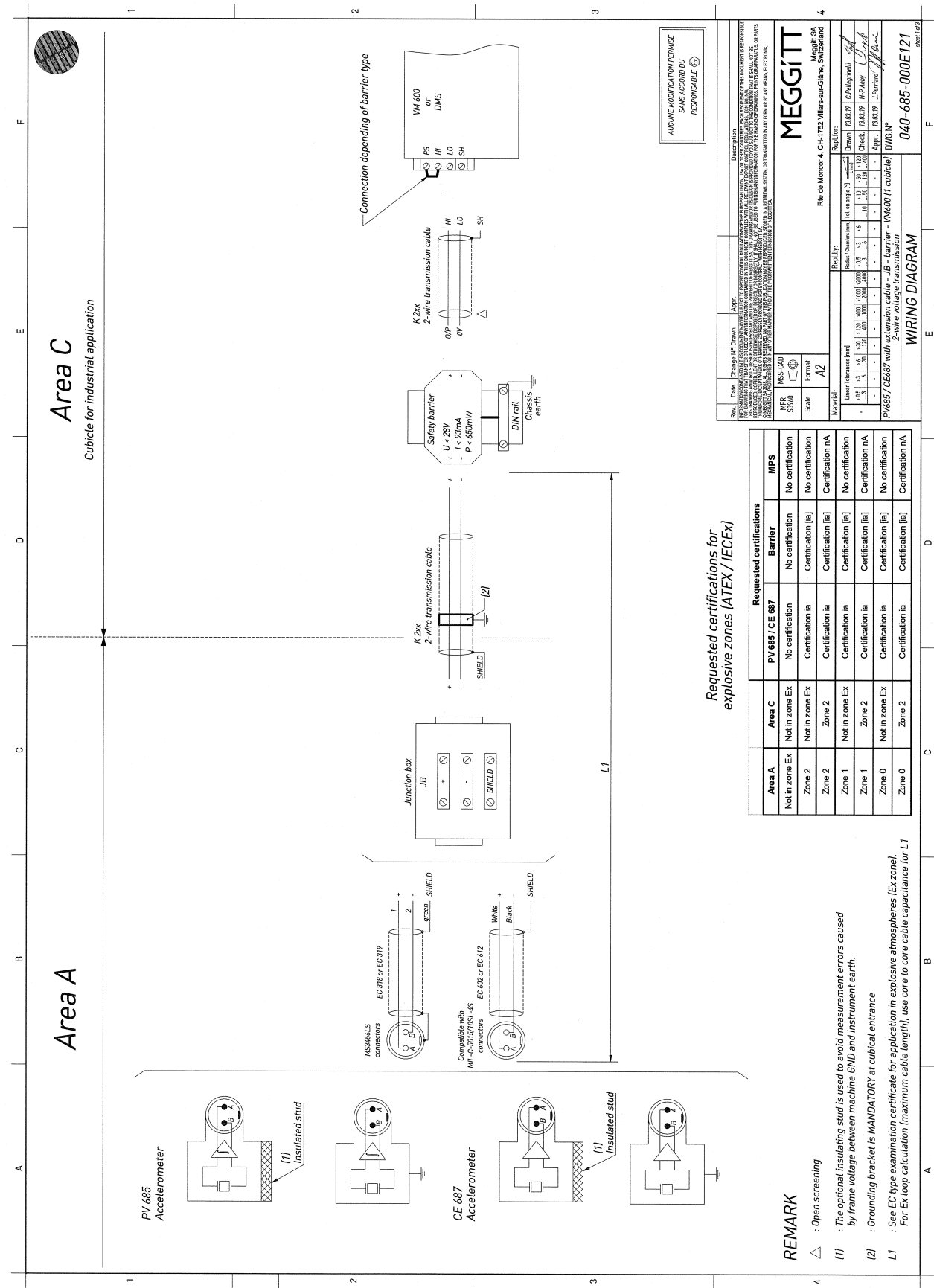


Figure 6-4: PV102-based and CE620-based vibration measurement chains suitable for use in non-explosive or potentially explosive atmospheres – using a single cubicle for industrial applications









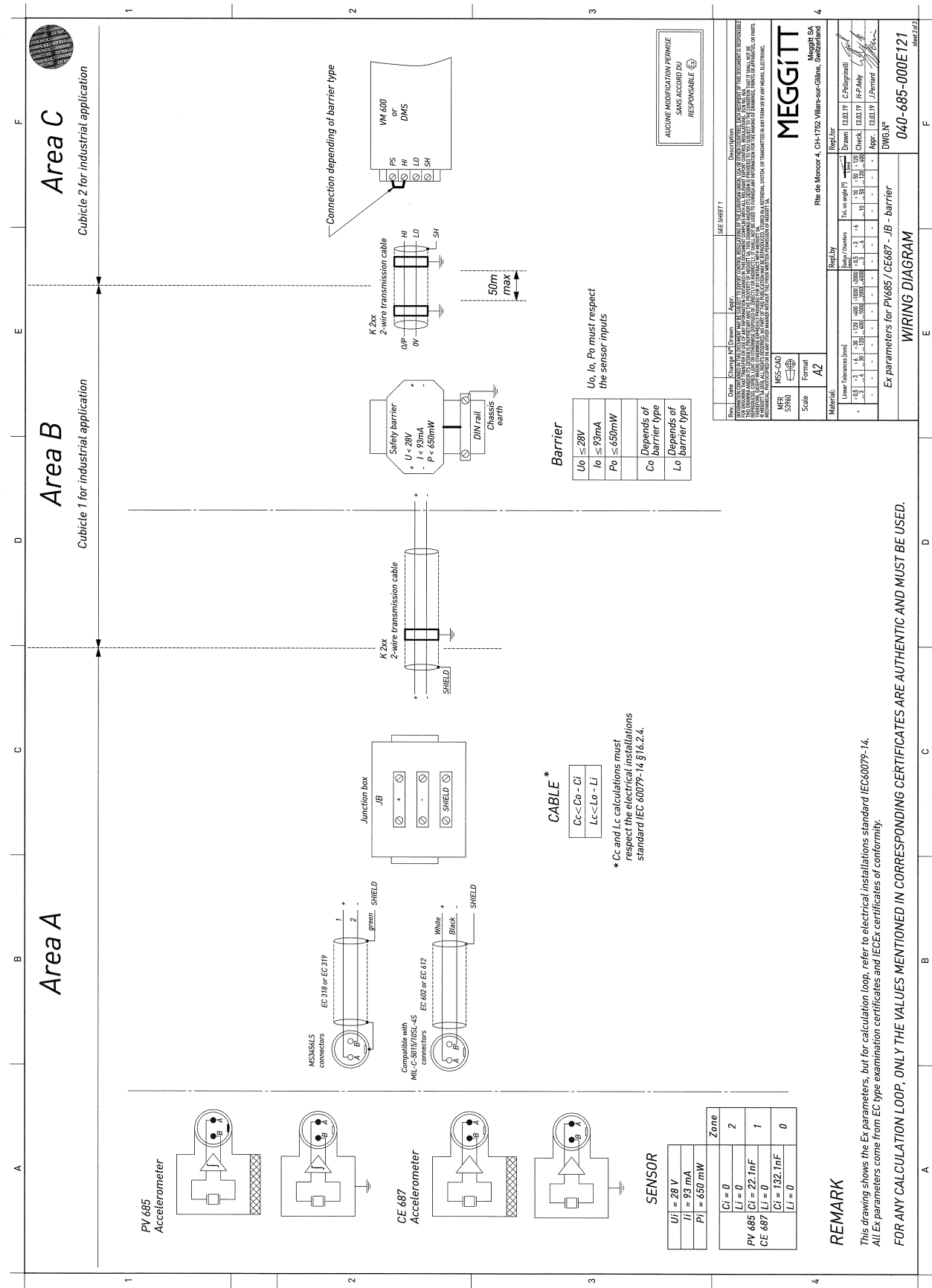


Figure 6-9: PV685-based and CE687-based vibration measurement chains suitable for use in non-explosive or potentially explosive atmospheres – summarising the Ex parameters for the measurement chain calculations

6.3 General wiring diagrams with a CE680 piezoelectric accelerometer

NOTE: The CE620 piezoelectric accelerometer has replaced the CE680s (CE680M511 and CE680M611), so the following wiring diagram is provided for reference only.

Additional information is given in the wiring diagrams listed in Table 6-2.

Table 6-2: Index of wiring diagrams with a CE680

CExxx-based vibration measurement chain details	Wiring diagram	Figure
CE680 piezoelectric accelerometer with integrated electronics, cable assembly, junction box and transmission cabling.  THIS MEASUREMENT CHAIN MUST NOT BE INSTALLED IN POTENTIALLY EXPLOSIVE ATMOSPHERES.	044-680-000E011	6-10

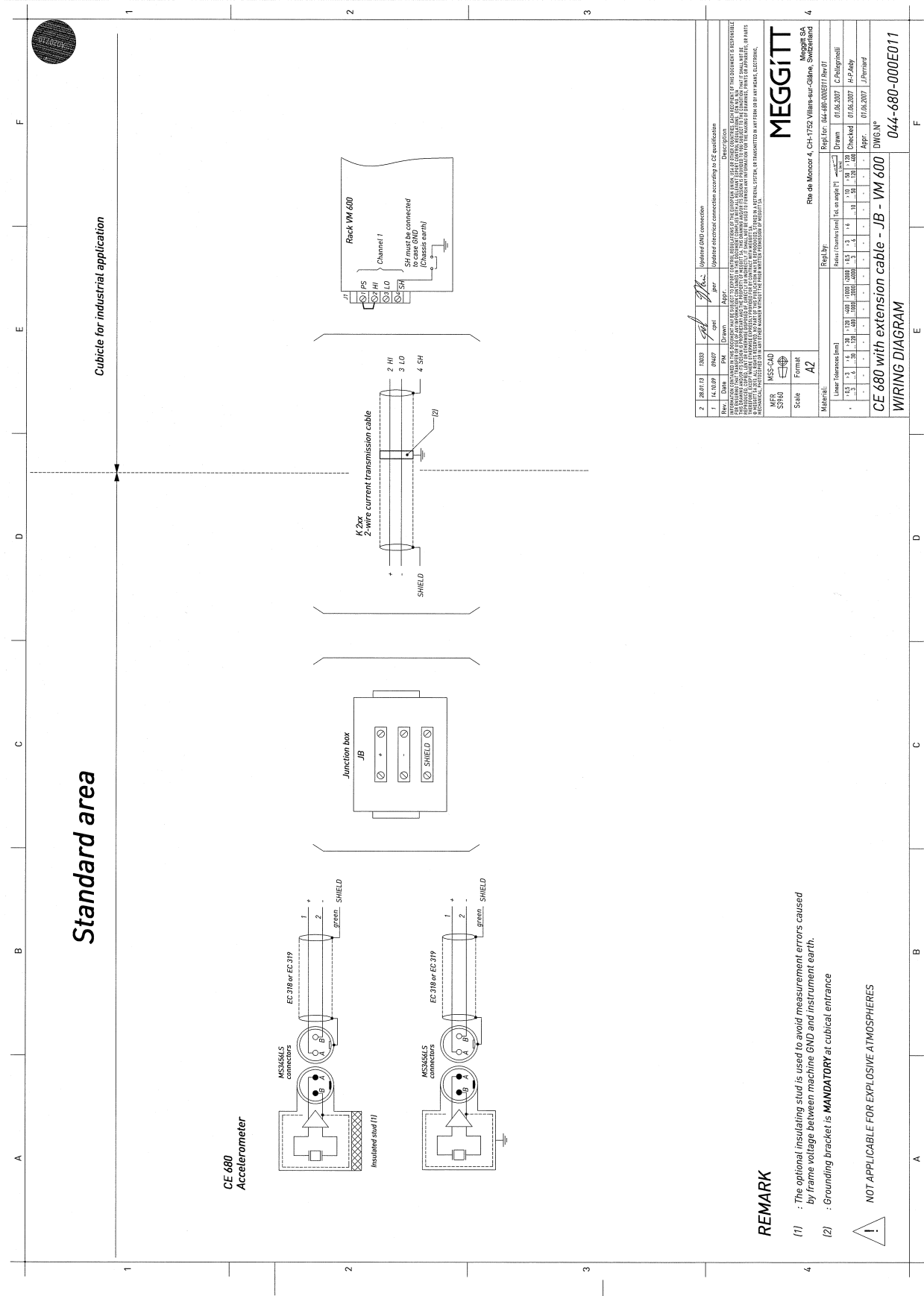


Figure 6-10: CE680-based vibration measurement chains suitable for use in non-explosive atmospheres

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7 MAINTENANCE

7.1 General

No specific maintenance is required for the CExxx-based and PVxxx-based vibration measurement chains described in this manual, that is, for CExxx piezoelectric accelerometers or PVxxx piezoelectric velocity sensors, cabling or associated equipment such as GSI12x galvanic separation units.

NOTE: Any attempt by unauthorised personnel to modify or repair equipment still under guarantee will invalidate the warranty.

See 9.1 Contacting us for the contact details relevant to repairing defective hardware.

7.2 Requirements for equipment used in potentially explosive atmospheres



WHERE MAINTENANCE IS REQUIRED, IT MUST BE PERFORMED ONLY BY EX QUALIFIED PERSONNEL WITH THE APPROPRIATE MATERIAL.

ANY MAINTENANCE WORK PERFORMED ON MEGGITT VIBRO-METER[®] EQUIPMENT THAT CAN BE USED IN POTENTIALLY EXPLOSIVE ATMOSPHERES MUST RESPECT THE CRITERIA DEFINED IN THE APPROPRIATE SECTIONS OF THE CORRESPONDING EX CERTIFICATES.

FOR FURTHER INFORMATION, SEE THE EX CERTIFICATES IN THE APPENDICES OF THIS MANUAL. (EX CERTIFICATES ARE ALSO AVAILABLE FROM OUR WEBSITE AT WWW.MEGGITTSENSING.COM/ENERGY)

DO NOT ATTEMPT TO MODIFY OR REPAIR EQUIPMENT FROM MEGGITT'S VIBRO-METER[®] PRODUCT LINE THAT IS USED IN POTENTIALLY EXPLOSIVE ATMOSPHERES.

7.3 Cleaning

It is not required to clean the components of CExxx-based and PVxxx-based vibration measurement chains.

However, if cleaning does become necessary:

- Clean with a damp cloth, then wipe with a dry cloth if required.
- Keep away from live electrical parts.
- Do not use any solvents or cleaning agents. Never pour or spray any cleaner or liquid on the components.



IF CLEANING BECOMES NECESSARY, USE A DAMP CLOTH ONLY AND KEEP AWAY FROM POWERED ("LIVE") ELECTRICAL PARTS.

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8 END-OF-LIFE PRODUCT DISPOSAL

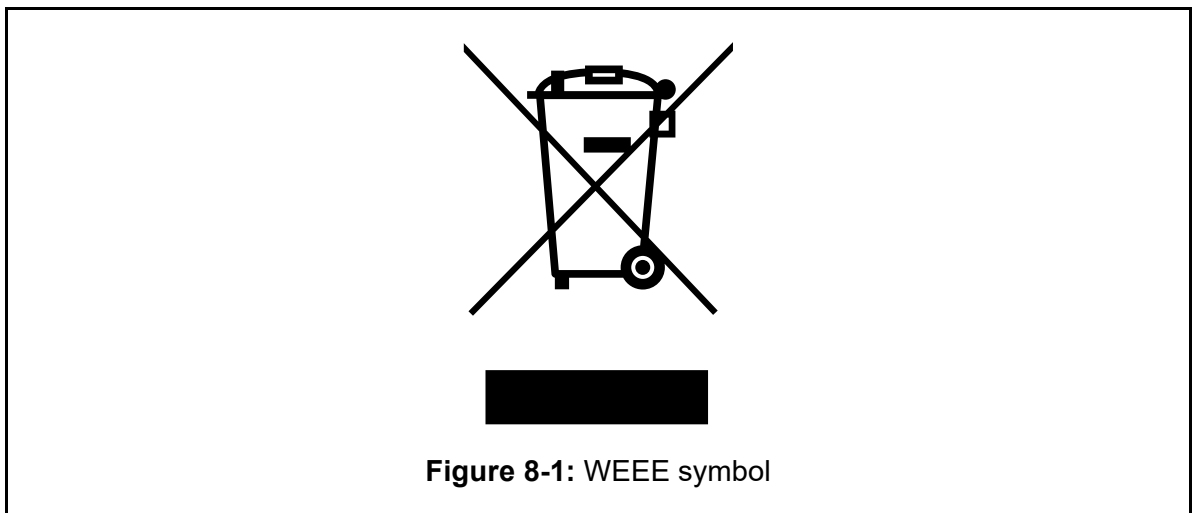
Some of the components used in CExxx-based and PVxxx-based vibration measurement chain such as the sensors themselves and GS12x galvanic separation units are electrical/electronic products, therefore, they must be disposed of in an acceptable manner at the end of their useful life. This is important in order to reduce pollution and improve resource efficiency.

NOTE: For environmental and economic reasons, end-of-life electrical and electronic equipment must be collected and treated separately from other waste: it must not go into landfill (or tip, dump, rubbish dump, garbage dump or dumping ground).

In Europe (the European Union), end-of-life electrical/electronic products are classed as waste electrical and electronic equipment (WEEE), and are subject to the requirements of the European Union (EU) directive 2012/19/EU on waste electrical and electronic equipment (commonly referred to as the WEEE directive).

According to the WEEE regulations, all waste electrical and electronic equipment should be collected separately and then treated and disposed of in accordance with the best available and environmentally friendly techniques. This is because electronic waste (or e-waste) may contain substances harmful to the environment and/or to human health. In addition, electronic waste is also a valuable source of raw materials that can contribute to a circular economy.

The WEEE symbol (a “crossed-out wheeled bin”) is used on product labelling to indicate equipment that must be properly treated and disposed of at the end of its life (see Figure 8-1).



Although a number of non-EU countries have enacted WEEE regulations, different end-of-life product disposal laws and regulations apply in other countries and regions of the world. Accordingly, please consult your local authorities to obtain the information and guidance relevant to your country and region.

NOTE: At the end of their useful life, electrical/electronic products must be disposed of in an environmentally friendly manner.
In European Union Member States, the WEEE directive is applicable.
In other countries and regions of the world, different laws and regulations may be applicable, so please consult your local authorities.

For additional end-of-life product disposal information and guidance, contact your local Meggitt representative. Alternatively, contact our main office:

Environment, health and safety department

Meggitt SA

Route de Moncor 4

Case postale

1701 Fribourg

Switzerland

Telephone: +41 26 407 11 11

Email: ehs@ch.meggitt.com

Website: www.meggittsensing.com/energy

9 SERVICE AND SUPPORT

9.1 Contacting us

Meggitt's worldwide customer support network offers a range of support, including 9.2 Technical support and 9.3 Sales and repairs support. For customer support, contact your local Meggitt representative. Alternatively, contact our main office:

Customer support department

Meggitt SA

Route de Moncor 4

Case postale

1701 Fribourg

Switzerland

Telephone: +41 26 407 11 11

Email: energysupport@ch.meggitt.com

Website: www.meggittsensing.com/energy

9.2 Technical support

Meggitt's technical support team provide both pre-sales and post-sales technical support, including:

- General advice
- Technical advice
- Troubleshooting
- Site visits.

NOTE: For further information, contact your local Meggitt representative or Meggitt SA (see 9.1 Contacting us).

9.3 Sales and repairs support

Meggitt's sales team provide both pre-sales and post-sales support, including advice on:

- New products
- Spare parts
- Repairs.

NOTE: If a product has to be returned for repairs, then it should be accompanied by a completed Energy product return form, included on page 9-4.

9.4 Customer feedback

As part of our continuing commitment to improving customer service, we warmly welcome your opinions. To provide feedback, complete the Energy customer feedback form on page 9-8 and return it to Meggitt SA's main office (see 9.1 Contacting us).

REPAIRS AND RETURNS

Energy product return procedure

If a Meggitt vibro-meter® Energy product needs to be returned to Meggitt Switzerland, please use the online product return procedure on the Meggitt vibro-meter® Energy website at www.meggittsensing.com/energy/service-and-support/repair

As described on the website, the product return procedure is as follows:

- 1- Complete and submit online the **Energy product return form** that is available on the website (note: * indicates a required field).

For each Energy product to be returned, a separate Energy product return form must be completed and submitted online. It is possible to return multiple items of the same product type with the same form (same part number (PNR), multiple serial numbers (SNRs) – separated with a coma “,”).

When an Energy product return form is submitted online, the website displays a message confirming that the form has been successfully sent.

- 2- When the Energy product return form has been processed by Meggitt Switzerland, a return merchandise authorisation (RMA) document with a unique RMA # reference number and containing a pre-filled end-user certificate (EUC) will be emailed by return. Received forms are typically processed and the RMA document sent within 2 working days.

NOTE: Please do not return any products to Meggitt Switzerland without a supporting return merchandise authorisation (RMA) document.
Please use the RMA # reference number in all future communications regarding a product return.

- 3- Review, complete and sign the RMA document and also review, complete and sign the EUC that the RMA contains (separate signatures are required for each).

For each Energy product to be returned, an associated single-use end-user certificate (EUC) is required, unless your company has an annual end-user certificate (EUC) in place. Either end-user certificate can be used to cover multiple products.

Multiple items of the same product type (same part number (PNR), multiple serial numbers (SNRs)) are allowed for a single RMA and EUC.

- 4- Optionally, to support your internal processes, you may want to issue one purchase order (PO) per product (may include multiple items / serial numbers) and send it to Meggitt Switzerland.
- 5- Send the Energy product(s) together with printed and signed copies of the return merchandise authorisation (RMA) document (or documents) and the end-user certificate (or certificates) to Meggitt Switzerland at:

Meggitt SA, Energy repairs department, Route de Moncor 4, Case postale, 1701 Fribourg, Switzerland.

NOTE: The **Energy product return form** reproduced below is included to support the gathering of information required for completion and submission online.

Energy product return form

Contact information

First name:*

Last name:*

Job title:

Company:*

Address:*

Country:*

Email:*

Telephone:*

Fax:

Product information

Product type:*

Part number (PNR):*

Serial number (SER):

Note: Enter "Unknown" if the serial number (SER) is not known.

Ex product:

☐ Yes☐ No

SIL product:*

☐ Yes☐ No

Meggitt SA purchase order number:

Date of purchase (dd.mm.yyyy):

Product under warranty:

☐ Yes☐ No☐ Don't know

Site where installed:

End user:

Return information

Reason for return:*

☐ Repair☐ Calibration / recertification☐ Out-of-box problem☐ Return

If the reason for return is "Repair", please answer the following questions:*

Type of problem:

☐ Continuous☐ Intermittent☐ Temperature dependent

How long was the operating time before the problem?

Description of problem:

Please provide a detailed description in order to help with problem diagnosis.

If the reason for return is "Out-of-box problem", please answer the following questions:*

Type of out-of-box problem:

☐ Product damaged☐ Incorrect product configuration☐ Incorrect product delivered☐ Problem with documentation / labelling☐ Product dead-on-arrival

Additional information:

Please provide as much information as possible in order to help with problem diagnosis.

Ex product information – additional information required for Ex products only

Is the product installed in a hazardous area (potentially explosive atmosphere)?:

☐ Yes

☐ No

If the product is installed in a hazardous area, please answer the following questions:

How long was the operating time before the problem?:

Additional information:

SIL product information – additional information required for SIL products only*

Note: For SIL products used in functional safety contexts/systems, this **SIL product information** section must be completed.

When was it installed and first operated (dd.mm.yyyy)?:

When was a proof test last executed (dd.mm.yyyy)?:

Is the product installed in a safety-related system?:*

☐ Yes

☐ No

If the product is installed in a safety-related system, please answer the following questions:*

Did the system fail** in a safe mode?:* (That is, the safety relay operated but the trip was spurious.)

☐ Yes

☐ No

☐ Not applicable

Did the system fail** in a dangerous state?:* (That is, the failure did not result in the safe state.)

☐ Yes

☐ No

☐ Not applicable

How long was the operating time before the failure (in hours)?.*

Additional information:

** A faulty indicator LED is considered as a cosmetic failure.

FEEDBACK

Energy customer feedback form

Manual information

Title of manual:

Vibration measurement chains using CExxx piezoelectric accelerometers or PVxxx piezoelectric velocity sensors installation manual

Reference: MACE/E

Version: Edition 15

Date of issue: April 2022

Customer contact information

First name:*

Last name:*

Job title:

Company:*

Address:*

Country:*

Email:*

Telephone:*

Fax:

Feedback – general

Please answer the following questions:

- | | | |
|--|------------------------------|-----------------------------|
| Is the document well organised? | ☐ Yes | ☐ No |
| Is the information technically accurate? | ☐ Yes | ☐ No |
| Is more technical detail required? | ☐ Yes | ☐ No |
| Are the instructions clear and complete? | ☐ Yes | ☐ No |
| Are the descriptions easy to understand? | ☐ Yes | ☐ No |
| Are the examples and diagrams/photos helpful? | ☐ Yes | ☐ No |
| Are there enough examples and diagrams/photos? | ☐ Yes | ☐ No |
| Is the style/wording easy to read? | ☐ Yes | ☐ No |
| Is any information not included? | ☐ Yes | ☐ No |

Please include any additional information in the "Feedback – additional" section below.

Feedback – additional

Additional information:

Please provide as much feedback as possible in order to help us improve our product documentation.
Continue on a separate sheet if necessary ...

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APPENDIX A: TIGHTENING TORQUE VALUES FOR CABLE FITTINGS

Figure A-1 outlines the recommended tightening torque values for the proper assembly of cable fittings (stuffing glands) on ABA17x industrial housings.

In Figure A-1, the maximum tightening torque values in N·m are specified for different cable fitting components such as cable glands, reduction flanges, nuts and covers (plugs for unused cable entries) which may form part of the configuration of ABA17x industrial housings.

NOTE: In order to ensure correct mounting, the tightening of components should be stopped if the sealing insert forms a bead that projects above the lock nut, even if the torque specified in Figure A-1 has not yet been reached.



Failure to respect the recommended tightening torques when mounting cable fittings (stuffing glands) can lead to permanent component damage.



APPENDIX B: ATEX CERTIFICATIONS

Table B-1: Related ATEX certificates

Product(s) covered	Certificate number
ABA17x	BVS 15 ATEX E 112 U
	Presafe 14 ATEX 5378 U
JB116 and JB118	PTB 01 ATEX 1061 U
CE134	LCIE 02 ATEX 6089 X
	LCIE 09 ATEX 1038 X
CE28x and CE31x	KEMA 04 ATEX 1055
	LCIE 09 ATEX 1047 X
CE620 and CE630	LCIE 20 ATEX 3039 X
GSI127	LCIE 13 ATEX 3037 X
Cable fittings (stuffing glands)	ITS 16 ATEX 101335 X
	ITS 16 ATEX 101336 X
	LCIE 02 ATEX 0038 U
	LCIE 03 ATEX 0033 U
	PTB 11 ATEX 1007 X
	PTB 98 ATEX 3130
	SEV 15 ATEX 0151
	SEV 15 ATEX 0152 X

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ATEX certificate:
BVS 15 ATEX E 112 U
for
ABA17x

Although the certificate is available in two languages (English and German), the liability of the notified body applies only on the text of the original copy of the certificate that it published.

EN

Obwohl das Zertifikat in zwei Sprachen (Englisch und Deutsch) übersetzt ist, können nur die bescheinigten Behörden, die den Text auf der Originalausgabe des Zertifikates herausgegeben haben, zur rechtlichen Verantwortung gezogen werden.

DE



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13 Anlage zur
EU-Baumusterprüfbescheinigung

14 BVS 15 ATEX E 112 U

15 Beschreibung des Produktes
Gegenstand und Typ

Leergehäuse Typ eCAM ** *) ** *)

Typ	Baugröße	
	Breite ¹⁾ [mm]	Höhe ²⁾ [mm]
Stahl oder Edelstahl		

Gehäuse mit verschraubtem Deckel (Abmaße Bereich)

eCAM 12 12 08	120	120	80
bis			
eCAM 40 40 20	400	400	200

Gehäuse mit Schalter und Regel (Abmaße Bereich)

eCAM 20 20 10	200	200	100
bis			
eCAM 100 120 50	1000	1200	500

15.2 Beschreibung

Das Leergehäuse Typ eCAM ** *) ist lt. der Zündschutzart Erhöhte Sicherheit „e“ für den Bereich mit EPL Gb oder Schutz durch Gehäuse „I“ für den Bereich mit EPL Dn ausgeführt. Das Leergehäuse ist für die Aufnahme von Energieverteilungs-, Schalt- und Steuerungskomponenten vorgesehen. Das Gehäuse besteht aus Stahl oder Edelstahl und kann mit einem verschraubten Deckel oder einem Deckel mit Verschlusscharnier ausgeführt werden.

15.3 Kenngrößen

Grenzen der Betriebstemperatur -55 °C bis +100 °C

IP-Schutzgrad IP65

16 Prüfprotokoll

BVS PP 16 2009 EU, Stand 22.04.2016

17 Verwendungshinweise

Keine

18 Wesentliche Gesundheits- und Sicherheitsanforderungen

Die wesentlichen Gesundheits- und Sicherheitsanforderungen sind durch die unter Abschnitt 9 gelisteten Normen abgedeckt.

19 Zeichnungen und Unterlagen

Die Zeichnungen und Unterlagen sind in dem vertraulichen Prüfprotokoll gelistet.

DEKRA

Seite 2 von 2 zu BVS 15 ATEX E 112 U
Dieses Zertifikat darf nur vollständig und unverschnitten weitervertrieben werden.
DEKRA EXAM GmbH, Dornenröhrenstraße 9, 44609 Bochum, Deutschland
Telefon +49 234 3999 100, Telefax +49 234 3999 110, ex.kontakt@dekra.com

1 EU-Baumusterprüfbescheinigung

2 Komponenten, die zum Einbau in Geräte und Schutzsysteme vorgesehen sind
Richtlinie 2014/54/EU

3 Nr. der EU-Baumusterprüfbescheinigung: BVS 15 ATEX E 112 U

4 Produkt: Leergehäuse Typ eCAM ** *)

5 Hersteller: thuba AG

6 Anschrift: Blauensteinstrasse 16, 4015 Basel, Schweiz

7 Die Bauart dieses Produktes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Baumusterprüfbescheinigung festgelegt.

8 Die Zertifizierungsstelle der DEKRA EXAM GmbH, benannte Stelle Nr. 0158 gemäß Artikel 17 der Richtlinie 2014/54/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014, bescheinigt, dass das Produkt die wesentlichen Gesundheits- und Sicherheitsanforderungen für die Konzeption und den Bau von Produkten zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie erfüllt.

9 Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfprotokoll BVS PP 16 2009 EU niedergelegt.

10 Das Zeichen „U“ hinter der Bescheinigungsnummer gibt an, dass dieses Zertifikat nicht mit einem für ein Gerät oder Schutzsystem vorgesehenen Zertifikat verwechselt werden darf. Dieses Zertifikat darf nur als Basis für die Beschreibung eines Gerätes oder Schutzsystems verwendet werden.

11 Diese EU-Baumusterprüfbescheinigung bezieht sich nur auf den Entwurf und Bau der beschriebenen Produkte.

12 Für den Herstellungsprozess und die Abgabe der Produkte sind weitere Anforderungen der Richtlinie zu erfüllen, die nicht durch diese Bescheinigung abgedeckt sind.

Die Kennzeichnung des Produktes muss die folgenden Angaben enthalten:

II 20 Ex eb IIC Gb
II 20 Ex tb IIC Db

DEKRA EXAM GmbH
Bochum, den 22.04.2016

Zertifizierer  **Fachzertifizierer** 

Seite 1 von 2 zu BVS 15 ATEX E 112 U
Dieses Zertifikat darf nur vollständig und unverschnitten weitervertrieben werden.
DEKRA EXAM GmbH, Dornenröhrenstraße 9, 44609 Bochum, Deutschland
Telefon +49 234 3999 100, Telefax +49 234 3999 110, ex.kontakt@dekra.com

13 Appendix

14 EU-Type Examination Certificate

BVS 15 ATEX E 112 U

15 Product description

15.1 Subject and type

Empty enclosure type eCAM *** is built in type of protection increased Safety "e" for use in areas with EPL Gb or I Protection by Enclosure "Y" for use in areas with EPL Db.

Type	width [mm]	height [mm]	depth [mm]
Steel or stainless steel			

Enclosure with screwed fixing covers (size range)

up to	400	400	200
eCAM 12 12 08			

Enclosure with hinges and latches (size range)

up to	200	200	100
eCAM 20 20 10			

15.2 Description

The empty enclosure type eCam *** is built in type of protection increased Safety "e" for use in areas with EPL Gb or I Protection by Enclosure "Y" for use in areas with EPL Db.

15.3 Parameters

Limits of service temperature -55 °C up to +100 °C

IP protection degree IP66

16 Report Number

BVS PP 16.2059 EU, as of 2016-04-22

17 Schedule of Limitations

None

18 Essential Health and Safety Requirements

The Essential Health and Safety Requirements covered by the standards listed under item 9.

19 Drawings and Documents

Drawings and documents are listed in the confidential report.

Page 2 of 3 of BVS 15 ATEX E 112 U

This certificate may only be reproduced in its entirety and without any change.

DEKRA EXAM GmbH, Dienstleistungs- & 4400 Bochum, Germany
Telephone +49 234 3050 100, Fax +49 234 3050 110, exam@deka.com

Translation

1 EU-Type Examination Certificate

2 Component intended for use on an Equipment or Protective System intended for use in potentially explosive atmospheres

3 EU-Type Examination Certificate Number: BVS 15 ATEX E 112 U

4 Product: Empty enclosure type eCAM ***

5 Manufacturer: thuba Ltd.

6 Address: Blausteinstrasse 16, 4016 Basel, Switzerland

7 This product and any acceptable variation thereto are specified in the appendix to this certificate and the documents therein referred to.

8 DEKRA EXAM GmbH. Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60799-2:2012 + A11:2013 General requirements

EN 60799-3:2015 Increased Safety "n"

EN 60799-4:2014 Protection by Enclosure "Y"

10 The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system respectively product.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

II 2D Ex eb IIC Gb

II 2D Ex tb IIC Db

DEKRA EXAM GmbH
Bochum, 2016-04-22

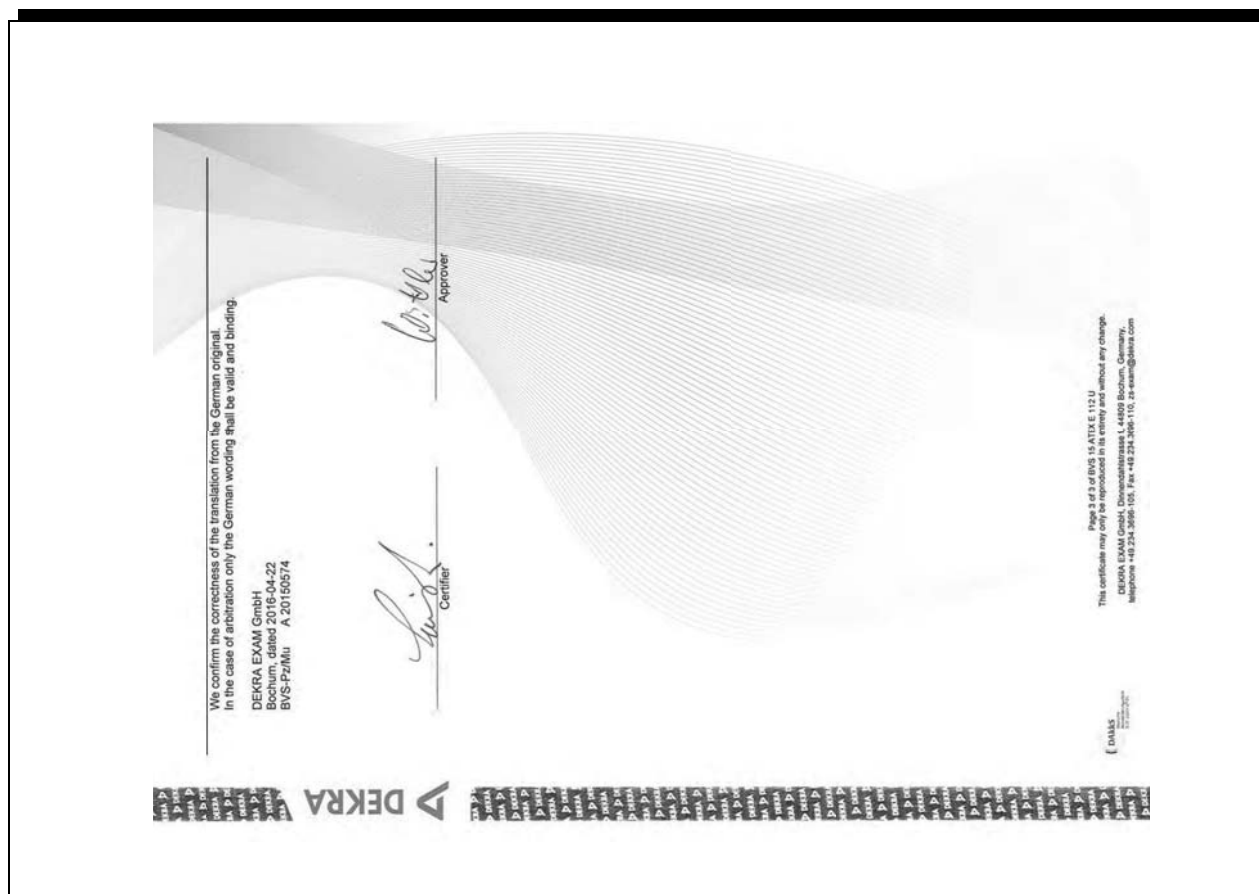
Signed: Simanski
Certifier

Signed: Dr. Witter
Approver

Page 1 of 3 of BVS 15 ATEX E 112 U

This certificate may only be reproduced in its entirety and without any change.

DEKRA EXAM GmbH, Dienstleistungs- & 4400 Bochum, Germany
Telephone +49 234 3050 100, Fax +49 234 3050 110, exam@deka.com



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ATEX certificate:

EN

Presafe 14 ATEX 5378 U

for

ABA 17x



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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Presafe

EC-Type Examination Certificate

[2] EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 94/9/EC

[3] EC-Type Examination Certificate Number: Presafe 14 ATEX 5378U Issue 1

[4] Equipment or Protective System: Empty box

[5] Applicant – Manufacturer or Authorized representative: Ensto Finland Oy

[6] Address: Ensio Miettisen katu 2
P.O.Box 77, 06101 Porvoo

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] DNV Nemko Presafe AS, notified body number 2460 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential reports listed in section 14.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: EN 60079-0: 2012, EN 60079-7:2007 & EN 60079-31:2014

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protected system. If applicable, further requirements of this Directive apply to the manufacturer and supply of this equipment or protective system.

[12] The marking of the equipment or protective system shall include the following:



Date of issue: 2014-12-10



This Certificate replaces previously certificate DNV 11 ATEX 98909U issued by DNV

Bjørn Spongsveen
For DNV Nemko Presafe AS
Information on electronic signature: www.dnv.com

DNV Nemko Presafe AS, Gaustadalaléen 30, 0373 Oslo, Norway

1 of 4

Presafe

EC-Type Examination Certificate

[13] Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE No.: Presafe 14 ATEX 5378U Issue 1

Certificate History

Issue	Description	Report no.	Issue date
0	Original issue	D0001550	2014-12-05
1	Corrected Type errors in the certificate	D0001550	2014-12-05

[15] Description of Equipment or Protective System

CuboX empty boxes made of stainless steel or painted steel in various sizes. Enclosures can be fitted with optional plastic window or gland plates, mounting accessories like DIN-rails, mounting plates, brackets & Metric or NPT thread coupler. Lid can be fixed by screws or combination of screws and loose hinges or quick locks. Several internal and external earthing options are provided. Sealing is ensured by high temperature silicone gasket (EPDM gasket can be used for gland plate or Combo assemblies). For information regarding tightening torques, refer to instructions for use. See attachment for more product details and rating. Refer Product Nomenclature for the possible variants/provisions. This replaces DNV 11 ATEX 98909U

Type Identification

Operating temperature limits for plain stainless steel enclosure (with or without gland plate): -55°C to +160°C

Operating temperature limits for stainless steel enclosure with Lexan plastic window, earthing option 3:

-55°C to +100°C

Operating temperature limits for painted steel enclosure (with or without plastic window and gland plate):

-55°C to +85°C

Operating temperature EPDM gasket/and or quick locks in enclosure: -55°C to +85°C

Operating temperature plastic switch handle in enclosure: -30°C to +45°C

Degrees of protection (IP Code):

Enclosure material	Optional accessories	IP rating
Stainless steel and painted steel enclosure	Plastic window	IP66/67
Stainless steel and painted steel enclosure	Standard gland plate with silicon gasket	IP66
Stainless steel or painted steel enclosure	AISI quick locks	IP66/67
Stainless steel or painted steel enclosure	Zink quick locks	IP66
Stainless steel or painted steel enclosure	Gland plate & Combo box with EPDM gasket	IP66/67
Stainless steel or painted steel enclosure	Plastic switch handle	IP64

DNV Nemko Presafe AS, Gaustadalaléen 30, 0373 Oslo, Norway

2 of 4

Presafe

EC-Type Examination Certificate

Product Nomenclature:

[X]	[Version]	[Material]	[Surface]	[Cut type]	[width] [height] [depth]	KOT8...	Customer specific features (Total No. Holes/Mounting Lugs) Max width: 1000 mm Max height: 2000 mm No restriction on depth [F]: Standard flange plate [FC]: Custom sized flange plate(s) [P]: Plain walls or cut-outs [N]: Natural surface [B]: Brushed surface [E]: Powder coated [S]: Stainless steel AISI304 [A]: Stainless steel AISI316L [F]: Mild steel mild steel galvanized [1]: Lid with screws [2]: Lid with screws and hinges [3]: Lid with quick locks [4]: Lid with screws and loose hinges [X]: Cubo X
-----	-----------	------------	-----------	------------	--------------------------	---------	---

NB: If with two doors, then end of code there will be letter 'D', if supplied with AISI-locks, then after the code there will be letter 'S', if Combo option with EPDM gasket end letter will be 'C'.

Examples:
X2ANP303015C –Box with Standard lock
X3ANP10010015D – Two doors with standard locks
X3ANP303015C –Combo with standard lock
X3ANP303015S –Box with AISI lock

DNV Nemko Presafe AS, Gaustadaléen 30, 0373 Oslo, Norway

Presafe

EC-Type Examination Certificate

[16] Project No.: D0001550

Descriptive Documents

Title:	Drawing No.:	Rev. Level:	Date:
800001	Types and general assembly	C	2013-03-03
800002	General sizing information	C	2013-03-03
800003	Earthing mounting and rivet ponding	D	2014-10-10
800004	Window and gland plates	B	2013-03-03
800005	General gasket information	B	2013-03-03
800006	Certification label and label fixing	C	2012-01-10
800009	Glanding areas	C	2014-10-31
800014	Combo enclosure and EPDM gland plate	A	2013-03-03
800015	Double door enclosure	A	2013-03-03

[17] Special Conditions for Safe Use

Potential risk of electrostatic discharge from plastic window, Refer to instructions for use.
When the plastic switch handle is installed in the electrical apparatus, care must be taken that the temperatures at the mounting place are within the temperature range of use.

[18] Essential Health and Safety Requirements

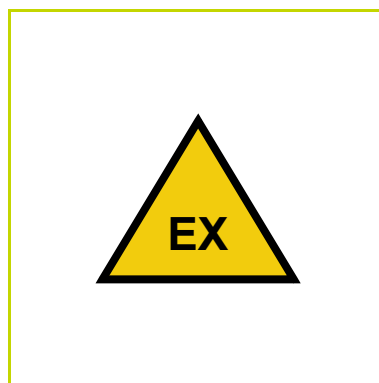
See part 9 of this certificate
END OF CERTIFICATE

DNV Nemko Presafe AS, Gaustadaléen 30, 0373 Oslo, Norway

EX CERTIFICATE – ATEX

vibro-meter®

**PTB 01 ATEX 1061 U
for
ABA15x, ABA160, JB116, JB118 and PA151
enclosures**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference PTB 01 ATEX 1061 U
Edition 6 – March 2022

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Anlage

- (13)
- (14) EU-Baumusterprüfbescheinigung PTB 01 ATEX 1061 U, Ausgabe: 1

Beschreibung des Produkts

Leergehäuse Typ 26 ***** aus Polyester, das mit Flanschen und einer Schauscheibe aus Glas oder Kunststoff ausgestattet sein kann. Es kann wahlweise mit einem Erdverbindungsbolzen in Verbindung mit / oder ohne einer Off-shore-Platte ausgestattet werden. Es können wahlweise geschraubte oder genietete Typenschilder aus Edelstahl angebracht werden.

Technische Daten

Baugrößen und Produktreihen			
Baugrößen Typ 26.08.08.06 bis 26.41.40.20 (Ex-Standard-Gehäuse)	Breite	Höhe	Tiefe
kleinste	80 mm	75 mm	56 mm
größte	400 mm	405 mm	201 mm
Baugrößen Typ 26.88.01.00 bis 26.88.04.00 (Ex-Okta Box-Gehäuse)			
kleinste	81 mm	81 mm	75 mm
größte	200 mm	200 mm	125 mm
Baugrößen Typ 26.14.01.00 bis 26.14.03.00 (Ex-Polyester Flansch-Gehäuse)			
kleinste	270 mm	170 mm	136 mm
größte	541 mm	270 mm	136 mm
Baugrößen Typ 26.12.20.00 bis 26.40.60.00 (Mini-Polyglas-Ex-Gehäuse und Polyglas-Ex-Gehäuse)			
kleinste	200 mm	120 mm	100 mm
größte	405 mm	605 mm	252 mm
Baugrößen Typ 26.01.22.15 bis 26.01.44.15 (Ex-Combi Box-Gehäuse)			
kleinste	177 mm	177 mm	145 mm
größte	360 mm	360 mm	145 mm



EU-Baumusterprüfbescheinigung

- (1)
- (2) Komponente zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen
Richtlinie 2014/34/EU
- (3) EU-Baumusterprüfbescheinigungsnummer

Ausgabe: 1

PTB 01 ATEX 1061 U

Leergehäuse Typ 26 *****

Hersteller: ROSE Systemtechnik GmbH

Anschrift: Erbeweg 13 - 15, 32457 Porta Westfalica, Deutschland

- (7) Die Bauart dieses Produkts sowie die verschiedenen zulässigen Ausführungen sind in der Anlage und den darin aufgeführten Unterlagen zu dieser Baumusterprüfbescheinigung festgelegt.

- (8) Die Physikalisch-Technische Bundesanstalt, notifizierte Stelle Nr. 0102 gemäß Artikel 17 der Richtlinie 2014/34/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014, bescheinigt, dass dieses Produkt die grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Produkten zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie erfüllt.

Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfbericht PTB Ex 16-16032 festgehalten.

- (9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit

EN 60079-0:2012 + A11:2013, EN 60079-7:2015, EN 60079-31:2014

- (10) Das Zeichen "U" hinter der Zertifikatsnummer gibt an, dass dieses Zertifikat nicht mit einem für ein Gerät oder Schutzsystem vorgesehenen Zertifikat verwechselt werden darf. Diese Komponenten-Bescheinigung darf als Basis für die Bescheinigung eines Gerätes oder Schutzsystems verwendet werden.

- (11) Diese EU-Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Produkts gemäß Richtlinie 2014/34/EU. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Bereitstellen auf dem Markt. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.

- (12) Die Kennzeichnung des Produkts muss die folgenden Angaben enthalten:

Ex II 2 G Ex eb IIC Gb
Ex II 2 D Ex tb IIC Db

Konformitätsbewertungsstelle, Sektor Explosionsschutz Braunschweig, 7. September 2016
Im Auftrag





Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

Anlage zur EU-Baumusterprüfbescheinigung PTB 01 ATEX 1061 U, Ausgabe: 1

Umgebungstemperaturbereich

- 55 °C bis +127 °C mit Silikonichtung
- 40 °C bis +100 °C mit HF Dichtung
- 40 °C bis +100 °C mit PU Schaum
- 20 °C bis + 85 °C mit CR Dichtung
- 20 °C bis +100 °C mit Glasscheibe
- 50 °C bis +100 °C mit PC-Scheibe mono duro clear 8099 leitfähig
bis +105 °C Ex-PF-Gehäuse, Mini-Polyglas-Ex-Gehäuse and Polyglas-Ex-Gehäuse
(minimale Temperatur ist abhängig von der verwendeten Dichtung)

Schutzgrad: IP 66 nach EN 60529

Gewindestift des Erdverbindungsbolzens: M6x60, M8x50, M10x60, M12x80

Typschlüssel

26.	**	**	**
1	2	3	4

- 1: Typ, Material Polyester
- 2: Höhe oder Produktreihe (siehe oben)
- 3: Breite oder Nummer, die von der Produktreihe abhängt
- 4: Tiefe oder Nummer, die von der Produktreihe abhängt

Änderungen

Neue Prüfung nach den Normen EN 60079-0:2012 + A11:2013, EN 60079-7:2015 und EN 60079-31:2014.

Dadurch ändert sich das Kennzeichen in :

II 2 G Ex eb IIC Gb

II 2 D Ex tb IIIC Db

(16) Prüfbericht PTB Ex 16-16032

(17) Einschränkungen für Herstellung, Einbau und Inbetriebnahme

Die Installation von elektrischen Bauteilen erfordert eine neue Bewertung durch eine benannte Prüfstelle.

Seite 3/4

EG-Baumusterprüfbescheinigungen ohne Unterschrift und ohne Siegel haben keine Gültigkeit.
Diese EG-Baumusterprüfbescheinigung darf nur unverändert weiterverbreitet werden.
Auszüge oder Änderungen bedürfen der Genehmigung der Physikalisch-Technischen Bundesanstalt.
Physikalisch-Technische Bundesanstalt • Bundesallee 100 • 38116 Braunschweig • DEUTSCHLAND



Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

Anlage zur EU-Baumusterprüfbescheinigung PTB 01 ATEX 1061 U, Ausgabe: 1

- (18) Grundlegende Sicherheits- und Gesundheitsanforderungen
Erfüllt durch Übereinstimmung mit den vorgenannten Normen.

Nach Artikel 41 der Richtlinie 2014/34/EU dürfen EG-Baumusterprüfbescheinigungen nach Richtlinie 94/9/EG, die bereits vor dem Datum der Anwendung von Richtlinie 2014/34/EU (20. April 2016) bestanden, so betrachtet werden, als wenn sie bereits in Übereinstimmung mit der Richtlinie 2014/34/EU ausgestellt wurden. Mit Genehmigung der Europäischen Kommission dürfen Ergänzungen zu solchen EG-Baumusterprüfbescheinigungen und neue Ausgaben solcher Zertifikate weiterhin die vor dem 20. April 2016 ausgestellte originale Zertifikatsnummer tragen.

Konformitätsbewertungsstelle, Sektor Explosionsschutz
Im Auftrag

Braunschweig, 7. September 2016



Dr.-Ing. D. Waptsch
Oberregierungsrat

Seite 4/4

EG-Baumusterprüfbescheinigungen ohne Unterschrift und ohne Siegel haben keine Gültigkeit.
Diese EG-Baumusterprüfbescheinigung darf nur unverändert weiterverbreitet werden.
Auszüge oder Änderungen bedürfen der Genehmigung der Physikalisch-Technischen Bundesanstalt.
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EU-TYPE-EXAMINATION CERTIFICATE

(Translation)

(1)

(2) Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres - Directive 2014/34/EU

(3) EU-Type Examination Certificate Number:

PTB 01 ATEX 1061 U

Issue: 1

(4) Product: Empty enclosure type 26.*****

(5) Manufacturer: ROSE Systemtechnik GmbH

(6) Address: Erbeweg 13, 32457 Porta Westfalica, Germany

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 16-16032.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012 + A11:2013, EN 60079-7:2015, EN 60079-31:2014

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

Konformitätsbewertungsstelle, Sektor Explosionsschutz Braunschweig, September 7, 2016
On behalf of PTB:Dr.-Ing. D. Markau
Oberregierungsrat

sheet 1/4

EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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SCHEDULE

(13)

(14) EU-Type Examination Certificate Number PTB 01 ATEX 1061 U, Issue:1

(15) Description of Product

Empty enclosure of type 26.*****, made of polyester, which may be provided with flanges and a glass or plastic inspection window.

It can optionally be fitted with an earth bolt compl. with / or without off-shore plate and screwed or riveted type plates made of stainless steel.

Technical data

Sizes and Product lines			
Type 26.08 08 06 to 26.41 40 20 (Ex-standard-enclosure)	Width	Height	Depth
min.	80 mm	75 mm	56 mm
max.	400 mm	405 mm	201 mm
Type 26.88 01 00 to 26.88 04 00 (Ex-Okta Box-enclosure)	Width	Height	Depth
min.	81 mm	81 mm	75 mm
max.	200 mm	200 mm	125 mm
Type 26.14 01 00 to 26.14 03 00 (Ex-PF-enclosure)	Width	Height	Depth
min.	270 mm	170 mm	136 mm
max.	541 mm	270 mm	136 mm
Type 26.12 20 00 to 26.40 60 00 (Mini-Polyglas-Ex-enclosure and Polyglas-Ex-enclosure)	Width	Height	Depth
min.	200 mm	120 mm	100 mm
max.	405 mm	605 mm	252 mm
Type 26.01 22 15 to 26.01 44 15 (Ex-Combi Box-enclosure)	Width	Height	Depth
min.	177 mm	177 mm	145 mm
max.	360 mm	360 mm	145 mm

sheet 2/4

EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 01 ATEX 1061 U Issue: 1
Ambient temperature

- 55 °C to +127 °C with Silicon gasket
- 40 °C to +100 °C with HF gasket
- 40 °C to +100 °C with PU foam
- 20 °C to + 85 °C with CR gasket
- 20 °C to +100 °C with window out of glas
- 50 °C to +100 °C with PC-window mono duro clear 8099,conductive to +105 °C Ex-PF-enclosure, Mini-Polyglas-Ex-enclosure and Polyglas-Ex-enclosure (minimum temperature depends on the gasket used)

Ingress protection IP 66 acc. to IEC 60529

Thread stud of the earth bolt compl. ... M6x60, M8x50, M10x80, M12x80

Nomenclature

26.	**	**	**
1	2	3	4

- 1: Type, material polyester
- 2: Height or product line (see above)
- 3: Width or number depending on product line
- 4: Depth or number depending on product line

Modifications

New testing according to standard EN 60079-0:2012 + A11:2013, EN 60079-7:2015 and EN 60079-31:2014.

Therefore the marking changes to:

 II 2 G Ex eb IIC Gb

 II 2 D Ex tb IIIC Db

 (16) Test Report PTB Ex 16-16032

 (17) Specific conditions of use

Installation of electrical components requires a further assessment by an ExCB.

 (18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

sheet 3/4

EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 01 ATEX 1061 U Issue: 1

According to Article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they were issued already in compliance with Directive 2014/34/EU. By permission of the European Commission supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.

 Konformitätsbewertungsstelle, Sektor Explosionsschutz
 On behalf of PTB: Braunschweig, September 7, 2016


Dr.-Ing. D. M. Oberregierungsrat

sheet 4/4

EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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ATEX certificate:
LCIE 02 ATEX 6089 X
for CE 134

Although the certificate is available in the three languages (English, French and German), the liability of the notified body applies only on the text of the original copy of the certificate that it published.

EN

Bien que le certificat soit traduit dans les 3 langues (Anglais, Français et Allemand), seul le texte de la copie originale du certificat peut engager la responsabilité de l'organisme notifié qui l'a publié.

FR

Obwohl das Zertifikat in drei Sprachen (Englisch, Französisch und Deutsch) übersetzt ist, können nur die bescheinigten Behörden, die den Text auf der Originalausgabe des Zertifikates herausgegeben haben, zur rechtlichen Verantwortung gezogen werden.

DE



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ATTESTATION D'EXAMEN CE DE TYPE

Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles

Directive 94/9/CE

Nom du titulaire de l'attestation CE de type

LCIE 02 ATEX 6089 X

Appareil ou système de protection :

Capteur d'accélération

Type : CE 134

Demandeur : VIBRO-METER S.A.

Adresse : BP 1071

1701 FRIBOURG - SUISSE

Cet appareil ou système de protection et ses variantes «ventuelles acceptées» est décrit dans l'annexe de la «présente attestation et dans les documents descriptifs cités en annexe.

Le LCIE, organisme notifié sous la référence 0081 conformément à l'article 9 de la directive 94/9/CE du Parlement européen et du Conseil du 23 mars 1994, certifie que cet appareil ou système de protection est conforme aux exigences essentielles en ce qui concerne la sécurité et la santé pour la conception et la construction d'appareils et de systèmes de protection destinés à être utilisés en atmosphères explosibles, domies dans l'annexe II de la directive. Les vérifications et épreuves figurent dans notre rapport confidentiel N° 41 310 10 L.

Le respect des exigences essentielles en ce qui concerne la sécurité et la santé est assuré par la conformité aux documents suivants :

-EN 50014 (1997) + amendements 1 et 2

-EN 50020 (1994)

Le signe X lorsqu'il est placé à la suite du numéro de l'attestation, indique que ce matériel ou système de protection est soumis aux conditions spéciales pour une utilisation sûre, mentionnées dans l'annexe de la présente attestation.

Cette attestation d'examen CE de type concerne uniquement la conception et la construction de l'appareil ou du système de protection spécifié, conformément à la directive 94/9/CE. Des exigences supplémentaires de cette directive sont applicables pour la fabrication et la fourniture de l'appareil ou du système de protection.

Le marquage de l'appareil ou du système de protection devra comporter, entre autres indications utiles, les mentions suivantes :

EX ib IIC T6 à T1

Le 19 août 2002

Par délégation
Michel BRENON
Directeur adjoint
à la Certification

Page 1/3

Le texte en français peut engager la responsabilité du LCIE. Ce document ne peut être reproduit que dans son intégralité, sans aucune modification.

LCIE est une marque déposée de la Meggitt Limited, une société enregistrée au Royaume-Uni.

LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES

Société anonyme à Directeur et Conseil de surveillance au capital de 15 745 964 euros - RCS Nanterre B 408 383 74

33, avenue du Général Leclerc - BP n° 8 - F 92266 FONTENAY-AUX-ROSES CEDEX - Tél. : +33 1 40 95 60 60



(A1) ANNEXE

(A2) ATTESTATION D'EXAMEN CE DE TYPE

LCIE 02 ATEX 6089 X

(A3) Description de l'équipement ou du système de protection :

Capteur d'accélération

Type : CE 134

Le matériel se compose d'un transducteur électromécanique qui fournit à ses bornes une charge électrique convertie en un courant proportionnel à l'accélération à laquelle il est soumis. Le convertisseur de charge/courant est alimenté par une source de tension en technique 2 fils.

This equipment is composed of an electromechanical transducer which supplies at its terminals an electrical load. This load is converted into a current which is proportional to submitted acceleration. Load/current converter is supplied by a 2-wires voltage supply.

Le marquage est le suivant :

VIBRO-METER

Adresse

Type : CE 134

N° de fabrication

Année de construction

EX ib IIC T6 à T1 (*)

LCIE 02 ATEX 6089 X

Le marquage est le suivant :

VIBRO-METER

Adresse

Type : CE 134

Série number

Year of construction

EX ib IIC T6 to T1 (*)

LCIE 02 ATEX 6089 X

Le marquage CE est accompagné du numéro d'identification de l'organisme notifié responsable de la surveillance du système approuvé de qualité (0081) pour le LCIE.

Le matériel devra également comporter le marquage électrique concerné.

(*) Le classement en température des différents sous-ensembles de l'appareil dépend de la température maximale d'utilisation, comme indiquée en (A5).

Paramètres spécifiques du ou des modes de protection concernés :

U ≤ 28 V, I ≤ 100 mA, P ≤ 2 W
C ≤ 15 nF, L ≤ 0,5 mH.

U ≤ 28 V, I ≤ 100 mA, P ≤ 2 W
C ≤ 15 nF, L ≤ 0,5 mH.

(A4) Documents descriptifs :

Dossier technique N° DT 1002 Rev 1 du 14 mars 2002.
Ce document comprend 12 rubriques (14 pages).

(A4) Descriptive documents :

Technical file N° DT 1002 Rev 1 dated March 14th, 2002.
This file includes 12 items (14 pages).



LCIE



- (A1) **ATTESTATION D'EXAMEN CE DE TYPE**
02 ATEX 6089 X
du 19 août 2002
- (A1) **EC TYPE EXAMINATION CERTIFICATE**
02 ATEX 6089 X
dated August 19, 2002
- AVENANT 02 ATEX 6089 X / 01**
- (A2) **DESIGNATION DE L'EQUIPEMENT OU DU SYSTEME DE PROTECTION :**
Capteur d'accélération
Type : CE 134
Construit par : VIBRO METER
- (A2) **NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :**
Capteur d'accélération
Type : CE 134
Manufactured by : VIBRO METER
- (A3) **OBJET DE L'AVENANT, DESCRIPTION DE L'APPAREIL OU DU SYSTEME DE PROTECTION :**
Remplacement du compound RTV-428 par Q-SIL 550
- (A3) **SUBJECT OF THE VARIATION, DESCRIPTION OF EQUIPMENT OR PROTECTIVE SYSTEM :**
Replacement of compound RTV-428 by Q-SIL 550
- Marquage :**
Inchangé
- Marking :**
Unchanged
- (A4) **DOCUMENTS DESCRIPTIFS :**
Lettre du constructeur du 16/02/2005 comportant 4 pages.
- (A4) **DESCRIPTIVE DOCUMENTS :**
Letter of the manufacturer dated 16/02/2005 containing 4 pages.
- (A5) **CONDITIONS SPECIALES POUR UNE UTILISATION SURE :**
Inchangées.
- (A5) **SPECIAL CONDITIONS FOR SAFE USE :**
Unchanged.
- (A6) **VERIFICATIONS ET EPREUVES INDIVIDUELLES :**
Inchangées.
- (A6) **INDIVIDUAL EXAMINATIONS AND TESTS :**
Unchanged.
- (A7) **EXIGENCES ESSENTIELLES EN CE QUI CONCERNE LA SECURITE ET LA SANTE :**
Inchangées.
- (A7) **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS :**
Unchanged.

Fontenay-aux-Roses, le 10 mars 2005

Le Directeur de l'organisme certificateur
Manager of the certification body

Timbre-secDry seal

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Société anonyme à direction
et conseil de surveillance
au capital de 15 745 981 €
RCS Nanterre B 08 463 174

Page 1/1



(A1) ANNEXE

- (A2) **ATTESTATION D'EXAMEN CE DE TYPE**
LCIE 02 ATEX 6089 X (suite)
- (A2) **EC TYPE EXAMINATION CERTIFICATE**
LCIE 02 ATEX 6089 X (continued)

- (A5) Conditions spéciales pour une utilisation sûre :
- Le matériel défini ci-dessus est un matériel de sécurité intrinsèque : il peut être placé en atmosphères explosibles.
- Le matériel ci-dessus ne doit être associé qu'à un matériel de sécurité intrinsèque d'un type certifié et cette association doit être compatible du point de vue de la sécurité intrinsèque.
- (A5) Special conditions for safe use:
This equipment is intrinsically safe and can be used in potentially explosive atmospheres.
The above mentioned equipment must only be associated to a IS certified apparatus, and this combination must be compatible as regards intrinsic safety.

Classement en température :

- Electronique :

T6 à Ta=+60°C
T5 à Ta=+80°C
T4 à Ta=+100°C

- Electronic elements :

T6 à Ta=+60°C
T5 à Ta=+80°C
T4 à Ta=+100°C

Câble de liaison :

T6 à Ta=+85°C
T5 à Ta=+100°C
T4 à Ta=+135°C
T3 à Ta=+200°C
T2 à Ta=+260°C

Connexion wire :

T6 à Ta=+85°C
T5 à Ta=+100°C
T4 à Ta=+135°C
T3 à Ta=+200°C
T2 à Ta=+260°C

Capteur :

T6 à Ta=+85°C
T5 à Ta=+100°C
T4 à Ta=+135°C
T3 à Ta=+200°C
T2 à Ta=+300°C
T1 à Ta=+350°C

Sensor :

T6 à Ta=+85°C
T5 à Ta=+100°C
T4 à Ta=+135°C
T3 à Ta=+200°C
T2 à Ta=+300°C
T1 à Ta=+350°C

- (A6) Exigences essentielles en ce qui concerne la sécurité et la santé :
- (A6) Essential Health and Safety Requirements:
- Conformité aux normes européennes EN 50014 (1997 + amendements 1 et 2) et EN 50020 (1994).
- Conformity to the European standards EN 50014 (1997 + amendments 1 and 2) and EN 50020 (1994).

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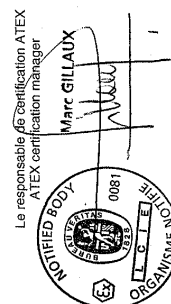
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LCIE

- 1 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE**
- 1 SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE**
- 2 Appareil ou système de protection destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)**
- 2 Equipment or protective system intended for use in potentially explosive atmospheres (Directive 94/9/CE)**
- 3 Numéro de l'avenant :**
- 3 Supplementary certificate number :**
- LCIE 02 ATEX 6089 X / 03**
- 4 Appareil ou système de protection :**
- 4 Equipment or protective system :**
- Capteur d'accélération**
- Type : CE134**
- 5 Demandeur : VIBRO-METER S.A.**
- 5 Applicant : VIBRO-METER S.A.**
- 15 DESCRIPTION DE L'AVENANT**
- 15 CERTIFICATE**
- Changement d'électronique : composants discrets remplacés par composants SMD
- Change of electronics: discrete components replaced by components SMD
- Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 60056381-557031/22
- The examination and test results are recorded in confidential report N° 60056381-557031/22
- Paramètres spécifiques du ou des modes de protection concernés(9) :
- Specific parameters of the mode(s) of protection concerned:
- Inchangés
- Unchanged
- Le marquage doit être : Inchangés
- The marking shall be: Unchanged
- 16 DOCUMENTS DESCRIPTIFS**
- 16 DESCRIPTIVE DOCUMENTS**
- Dossier de certification N° DT 1002 / 02 du 13.07.07.
- Certification file N° DT 1002 / 02 dated 07.07.13
- Ce dossier comprend 4 rubriques (10 pages).
- This file includes 4 items (10 pages).
- 17 CONDITIONS SPECIALES POUR UNE UTILISATION SURE**
- 17 SPECIAL CONDITIONS FOR SAFE USE**
- Inchangées
- Unchanged
- 18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
- 18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS**
- Inchangées
- Unchanged
- 19 VERIFICATIONS ET ESSAIS INDIVIDUELS**
- 19 ROUTINE VERIFICATIONS AND TESTS**
- Inchangés
- Unchanged

Fontenay-aux-Roses, le 17 mars 2007



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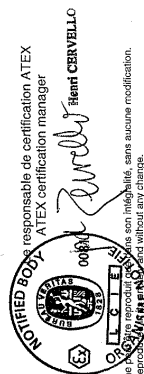
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01A-Avenant III_CExp_app_av - rev1.000



LCIE

- 1 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE**
- 1 SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE**
- 2 Appareil ou système de protection destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)**
- 2 Equipment or protective system intended for use in potentially explosive atmospheres (Directive 94/9/CE)**
- 3 Numéro de l'avenant :**
- 3 Supplementary certificate number :**
- LCIE 02 ATEX 6089 X / 02**
- 4 Appareil ou système de protection :**
- 4 Equipment or protective system :**
- Capteur d'accélération**
- Type : CE 134**
- 5 Demandeur : VIBRO-METER S.A.**
- 5 Applicant : VIBRO-METER S.A.**
- 15 DESCRIPTION DE L'AVENANT**
- 15 CERTIFICATE**
- Mise à jour normative selon les normes EN 60079-0 (2006) et EN 60079-11 (2007)
- Ajout de la distinction des températures d'utilisation de l'électronique, du câblage et du capteur
- Ajout de la distinction des températures d'utilisation de l'électronique, of wiring and of the sensor
- Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 60056381-557031/05
- The examination and test results are recorded in confidential report N° 60056381-557031/05
- Paramètres spécifiques du ou des modes de protection concernés(9) :
- Specific parameters of the mode(s) of protection concerned:
- Inchangés
- Unchanged
- Le marquage doit être : Inchangés
- The marking shall be: Unchanged
- Modifié comme suit :
- Modified as follows :
- EEEx devient Ex
- EEEx becomes Ex
- UI : 28V
- UI : 28V
- II : 100mA
- II : 100mA
- LI : 0.5mH
- LI : 0.5mH
- 16 DOCUMENTS DESCRIPTIFS**
- 16 DESCRIPTIVE DOCUMENTS**
- Dossier de certification N° DT 1030 du 05/03/2007.
- Certification file N° DT 1030 dated 2007/03/05
- Ce dossier comprend 2 rubriques (7 pages).
- This file includes 2 items (7 pages).
- 17 CONDITIONS SPECIALES POUR UNE UTILISATION SURE**
- 17 SPECIAL CONDITIONS FOR SAFE USE**
- Inchangées
- Unchanged
- 18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
- 18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS**
- Covered by standards:
- EN 60079-0 (2006) and EN 60079-11 (2007)
- EN 60079-0 (2006) and EN 60079-11 (2007)
- 19 VERIFICATIONS ET ESSAIS INDIVIDUELS**
- 19 ROUTINE VERIFICATIONS AND TESTS**
- Inchangés
- Unchanged

Fontenay-aux-Roses, le 22 octobre 2007



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LCIE

- 1 **AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE**
 - 1 **SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE**
 - 2 **Appareil ou système de protection** destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)
 - 3 Numéro de l'avenant : **LCIE 02 ATEX 6089 X / 05**
 - 4 **Appareil ou système de protection :** Capteur d'accélération
 - 5 **Demandeur :** Meggitt SA
- 15 **DESCRIPTION DE L'AVENANT**

Mise à jour normative selon la norme EN 60079-0 (2009)

Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 110055-619675 / 18

Paramètres spécifiques du ou des modes de protection concernés(s) :

Inchangés

Le marquage doit être :

Modifié :

Vibro-Meter ou MEGGITT ou MFR S3960

Adresse :

Type : PNR 444-134-000-XXX

N° de série : ... ; Date de fabrication : ...

Ex lib IC T6 à T1 Gb

LCIE 02 ATEX 6089 X

UI = ... ; PI = ... ; II = ... ; CI = ... ; U = ... (1)

(1) complété avec les paramètres électriques
- 16 **DOCUMENTS DESCRIPTIFS**

Lettre du demandeur du 20/10/2011 (2 pages)
- 17 **CONDITIONS SPECIALES POUR UNE UTILISATION SURE**

Inchangées
- 18 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**

Couvertes par les normes EN 60079-0 (2009) et EN 60079-11 (2007)
- 19 **VERIFICATIONS ET ESSAIS INDIVIDUELS**

Néant

Fontenay-aux-Roses, le 21/12/2011



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LCIE

- 1 **AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE**
 - 1 **SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE**
 - 2 **Appareil ou système de protection** destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)
 - 3 Numéro de l'avenant : **LCIE 02 ATEX 6089 X / 04**
 - 4 **Appareil ou système de protection :** Capteur d'accélération
 - 5 **Demandeur :** Meggitt SA
- 15 **DESCRIPTION DE L'AVENANT**

- Changement de nom et d'adresse du fabricant

- Modifications des marques commerciales déposées

Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 102105-602924 / 29.

Paramètres spécifiques du ou des modes de protection concernés(s) :

Inchangés.

Le marquage doit être :

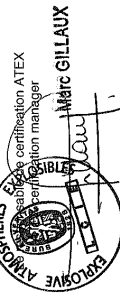
Inchangé, excepté la marque commerciale vibro-mètre qui devient vibro-meter ou MEGGITT ou MFR S3960 et l'adresse.
- 16 **DOCUMENTS DESCRIPTIFS**

Courrier du demandeur du 07/09/2010.
- 17 **CONDITIONS SPECIALES POUR UNE UTILISATION SURE**

Inchangées.
- 18 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**

Inchangées.
- 19 **VERIFICATIONS ET ESSAIS INDIVIDUELS**

Inchangés.



Fontenay-aux-Roses, le 25 octobre 2010.

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- 13 ANNEXE
14 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE
LCIE 02 ATEX 6089 X / 06
- 13 SCHEDULE
14 SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE
LCIE 02 ATEX 6089 X / 06

- 17 CONDITIONS SPECIALES POUR UNE UTILISATION SURE
Inchangées, excepté pour le classement en température du câble et du capteur qui est modifié comme suit :
Classement en température :
- électronique : T8 à Ta = +60°C, T5 à Ta = +80°C, T4 à Ta = +100°C
- câble de liaison : T8 à Ta = +80°C, T5 à Ta = +95°C, T4 à Ta = +130°C, T3 à Ta = +185°C, T2 up to Ta = +250°C
- capteur : T8 à Ta = +80°C, T5 à Ta = +95°C, T4 à Ta = +130°C, T3 à Ta = +185°C, T2 up to Ta = +250°C
T1 à Ta = +230°C, T1 up to Ta = +350°C
- 17 SPECIAL CONDITIONS FOR SAFE USE
Unchanged, excepted for the temperature classification of the cable and the sensor which is modified as follows :
Temperature classification :
- electronic element : T8 up to Ta = +60°C, T5 up to Ta = +80°C, T4 up to Ta = +100°C
- cable between T8 up to Ta = +80°C, T5 up to Ta = +95°C, T4 up to Ta = +130°C, T3 up to Ta = +185°C, T2 up to Ta = +250°C
- sensor : T8 up to Ta = +80°C, T5 up to Ta = +95°C, T4 up to Ta = +130°C, T3 up to Ta = +185°C, T2 up to Ta = +250°C
T1 up to Ta = +230°C, T1 up to Ta = +350°C

- 18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE
Covrtes par les normes EN 60079-0:2012 et EN 60079-11:2012 standards.
- 18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS
Covered by EN 60079-0:2012 and EN 60079-11:2012 standards.

- 19 VERIFICATIONS ET ESSAIS INDIVIDUELS
Néant.
- 19 ROUTINE VERIFICATIONS AND TESTS
None.

Désignation du type :
PNR 444-134-000-xxx
xxx : dépend du type du connecteur et de la longueur du câble (x = 0 à 9).

Type designation :
PNR 444-134-000-xxx
xxx : depend of the connector type and cable length (x = 0 to 9)

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014-Avenant LCIE typ_app_av-1001002
Page 1 sur 2



- 1 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE
2 Appareil ou système de protection destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)
- 1 SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE
2 Equipment or protective system intended for use in potentially explosive atmospheres (Directive 94/9/CE)

- 3 Numéro de l'avenant :
LCIE 02 ATEX 6089 X / 06
- 3 Supplementary certificate number :
LCIE 02 ATEX 6089 X / 06

- 4 Appareil ou système de protection :
Capteur d'accélération
Type : PNR 444-134-000-xxx
- 4 Equipment or protective system :
Acceleration transducer
Type : PNR 444-134-000-xxx

- 5 Demandeur : Meggitt SA
- 5 Applicant : Meggitt SA

- 15 DESCRIPTION DE L'AVENANT
Mise à jour normative selon les normes EN 60079-0:2012 et EN 60079-11:2012.
Modification du classement en température pour le câble et le capteur.
Mise à jour du dossier technique.
- 15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE
Normative update according to EN 60079-0:2012 and EN 60079-11:2012 standards.
Modification of the temperature classification for the cable and the sensor.
Update of the technical file.

- Les résultats des vérifications et essais figurent dans le rapport confidentiel N°127142-654878.
- The examination and test results are recorded in confidential report N°127142-654878.

- Paramètres spécifiques du ou des modes de protection concernés :
- Specific parameters of the concerned protection mode :

- Inchangées :
U_i ≤ 28V, I_i ≤ 100mA, P_i ≤ 2W, C_i ≤ 15 nF ; L_i ≤ 0,5mH
- Unchanged :
U_i ≤ 28V, I_i ≤ 100mA, P_i ≤ 2W, C_i ≤ 15 nF ; L_i ≤ 0,5mH

- Le marquage doit être : Inchangé
- The marking shall be : Unchanged

- Adresse :
Vieux-Meur ou MEGGITT ou MFR S3960
- Address :
Vieux-Meur or MEGGITT or MFR S3960

- Type : PNR 444-134-000-xxx
- Type : PNR 444-134-000-xxx

- N° de fabrication : ...
- Serial Number : ...

- Année de fabrication : ...
- Date of construction : ...

- Ex lib IIC T8 à T1 Gb
- Ex lib IIC T8 to T1 Gb

- LCIE 02 ATEX 6089 X
- LCIE 02 ATEX 6089 X

- U_i = ..., I_i = ..., L_i = ..., C_i = ..., P_i = ... (complété avec les paramètres électriques)
- U_i = ..., I_i = ..., L_i = ..., C_i = ..., P_i = ... (completed with the electrical parameters)

- 16 DOCUMENTS DESCRIPTIFS
Dossier de certification N° DT 1062 Rev.00 du 29/07/2014
Ce dossier comprend 2 rubriques (5 pages).
- 16 DESCRIPTIVE DOCUMENTS
Certification file N° DT 1062 Rev.00 dated 2014/07/29.
This file includes 2 items (5 pages).

Fontenay-aux-Roses, le 29 juillet 2014

Le Responsable de Certification ATEX
ATEX Certification Officer
Philippe GAUTHIER



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Société par Actions Simplifiée
au capital de 15 515 961 €
RCS Nanterre B 408 963 174



LCIE

- 1 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE
- 2 Appareil ou système de protection destiné à être utilisé en atmosphères explosives (Directive 94/9/CE)
- 3 Numéro de l'avenant :
LCIE 02 ATEX 6089 X / 07
- 4 Appareil ou système de protection : Accéléromètre CE 134
Type : PNR 444-134-000-YY1 à YY9
- 5 Demandeur : Meggitt SA
- 15 DESCRIPTION DE L'AVENANT
- Modification des types pour le design électronique initial Ex Ib, les types deviennent: PNR 444-134-000-YY1 à YY4.
- Nouvelle conception de l'électronique du conditionneur en Ex Ia, nouveaux types : PNR 444-134-000-YY5 à YY9
Les résultats des vérifications et essais figurent dans le rapport confidentiel N°129425-600046
Paramètres spécifiques du ou des modes de protection concernés:
PNR 444-134-000-YY1 à YY4 : U: 28V, I: 100mA, Pt: 2W; Ci: 15nF; Lt: 0.5mH
PNR 444-134-000-YY5 à YY9: U: 28V, Pt: 700mW; Ci: 0, Lt: 0
Le marquage doit être:
VIBRO-METER ou MEGGITT SA ou MFR S3960
Adresse:
Type: PNR 444-134-000-YY1 à YY9
Numéro de série : ... Année de fabrication : ...
Types PNR 444-134-000-YY1 à YY4
Ex Ib IIC T8, T1 Gb (voir conditions spéciales)
U: 28V, I: 100mA, Pt: 2W; Ci: 15nF; Lt: 0.5mH
Types PNR 444-134-000-YY5 à YY9
Ex Ia IIC T8, T1 Ga (voir conditions spéciales)
U: 28V, Pt: 700mW; Ci: 0, Lt: 0
LCIE 02 ATEX 6089 X
- 16 DOCUMENTS DESCRIPTIFS
Dossier de certification n° DT 1002, Rev. 03 du 17-11-2014.
Ce document comprend 13 rubriques (22 pages).



Responsable de Certification ATEX
ATEX Certification Officer
Julien GAUCHER

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LCIE

- 13 ANNEXE
- 14 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE
LCIE 02 ATEX 6089 X / 07
- 17 CONDITIONS SPECIALES POUR UNE UTILISATION SURE
- L'équipement doit être connecté uniquement à des équipements de sécurité certifiés. Ces équipements doivent être compatibles avec les règles de sécurité intrinsèque (voir paramètres électriques, paragraphe 15).
- Plages de températures de fonctionnement (To):
Capteur : -70°C ≤To ≤+350°C
Câble : -54°C ≤To ≤+260°C
Conditionneur :
PNR 444-134-000-YY1 à YY4: -54°C ≤To ≤+100°C
PNR 444-134-000-YY5 à YY9: -54°C ≤To ≤+125°C
- Classement en température en fonction des températures de fonctionnement du conditionneur, du câble et du capteur, voir tableau ci-dessous :

	T6	T5	T4	T3	T2	T1
Capteur / sensor	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C
Câble / cable	+80°C	+80°C	+130°C	+195°C	+260°C	--
Conditionneur / conditioner	+60°C	+85°C	+100°C	--	--	--
PNR 444-134-000-YY1 à/à YY4						
Conditionneur / conditioner	+45°C	+60°C	+95°C	+125°C	--	--
PNR 444-134-000-YY5 à/à YY9						

- 18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE
Couvertes par les normes EN 60079-0:2012/A11 :2013 et EN 60079-11:2012
- 19 VERIFICATIONS ET ESSAIS INDIVIDUELS
Neant
- 18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS
Covered by standards EN 60079-0:2012/A11:2013 and EN 60079-11:2012
- 19 ROUTINE VERIFICATIONS AND TESTS
None

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Deutsche Übersetzung der originalen französischen Kopie der Seite 1

- 1 **EGPRÜFZERTIFIKAT**
- 2 Geräte und Schutzsysteme zur Verwendung in explosionsgefährdeten Bereichen **Richtlinie 94/9/EG**
- 3 EGZertifikatnummer:
LCIE 02 ATEX 6089 X
- 4 Gerät oder Schutzsystem
Beschleunigungsgeber
Typ: CE 134
- 5 Hersteller: VIBROMETER SA
- 6 Anschrift: BP 1071, CH1701 FRIBOURG, SCHWEIZ
- 7 Dieses Gerät oder Schutzsystem und die möglichen, zulässigen Varianten sind im Anhang dieses Zertifikats und den darin aufgeführten Unterlagen beschrieben.
- 8 LCIE, eingetragen unter der Nummer 0081 gemäß Artikel 9 der Richtlinie 94/9/EG des Europaparlamentes und des Rates vom 23. März 1994, bestätigt, dass dieses Gerät oder Schutzsystem die wesentlichen Gesundheits und Sicherheitsanforderungen in Bezug auf die Auslegung und die Bauart von Geräten und Schutzsystemen zur Verwendung in explosionsgefährdeten Bereichen nach Anhang II der Richtlinie erfüllt. Die Prüf und Testergebnisse sind im vertraulichen Bericht Nr. 41 310 10 L aufgezeichnet.
- 9 Die Einhaltung der wesentlichen Gesundheits und Sicherheitsanforderungen wird durch die Übereinstimmung mit den den folgenden Dokumenten sichergestellt:
EN 50014 (1997) + Änderungen 1 und 2
EN 50020 (1994)
- 10 Ein "X" nach der Zertifikatnummer gibt an, dass für die sichere Verwendung des Gerätes oder Schutzsystemes besondere Bedingungen gemäß dem Anhang dieses Zertifikates gelten.
- 11 Dieses EGPrüfzertifikat betrifft nur die Bauart und die Prüfungen und Tests des betreffenden Gerätes oder Schutzsystemes nach der Richtlinie 94/9/EG. Zusätzliche Anforderungen dieser Richtlinie gelten für die Fertigung und Lieferung des Gerätes oder Schutzsystemes.
- 12 Die Kennzeichnung des Gerätes oder Schutzsystems muss unter anderem die folgenden Angaben enthalten:
 II 2 G
EEx ib IIC T6 bis T1

FontenayauxRoses, 19. August 2002

Leiter Zertifizierung

Trockenstempel

Seite 1/3

LCIE haftet nur für den französischen Text.

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Deutsche Übersetzung der originalen französischen Kopie der Seite 1

- (A1) **ANHANG**
- (A2) **EGPRÜFZERTIFIKAT**
LCIE 02 ATEX 6089 X
- (A3) Beschreibung des Gerätes oder Schutzsystems:
Beschleunigungsgeber
Typ: CE 134
Das Gerät besteht aus einem elektromechanischen Messwandler, der seine Klemmen mit einer elektrischen Ladung versorgt, die in einen Strom proportional zur Beschleunigung, der er ausgesetzt ist, umgewandelt wird. Der Ladungs/Stromwandler wird von einer Spannungsquelle in Zweidrahttechnik versorgt.
Die Kennzeichnung ist wie folgt:
VIBROMETER
Adresse
Typ: CE 134
Herstellungsnummer
Herstellungsjahr
 II 2 G
EEx ib IIC T6 bis T1 (*)
LCIE 02 ATEX 6089 X
Die EGKennzeichnung wird von der Kennnummer der Stelle begleitet, die für die Überwachung des genehmigten Qualitätssystems verantwortlich ist (0081 für LCIE).
Die Geräte müssen ebenfalls mit der Kennzeichnung versehen sein, die in den Herstellungsnormen der betreffenden elektrischen Geräte normalerweise vorgesehen ist.
(*) Die Temperatureinteilung der einzelnen Baugruppen des Gerätes hängt von der maximalen Verwendungstemperatur ab, wie in (A5) angegeben.
Spezielle Parameter der betreffenden Schutzart(en):
 $U_i \leq 28 \text{ V}$, $I_i \leq 100 \text{ mA}$, $P_i \leq 2 \text{ W}$.
 $C_i = 15 \text{ nF}$, $L_i = 0.5 \text{ mH}$
- (A4) Beschreibende Unterlagen:
Technische Unterlagen Nr. DT 1002 Änd 1 vom 14. März 2002. Dieses Dokument umfasst 12 Teile (14 Seiten).

Seite 2/3

Obwohl das Zertifikat in drei Sprachen (Englisch, Französisch und Deutsch) übersetzt ist, können nur die bescheinigten Behörden, die den Text auf der Originalausgabe des Zertifikates herausgegeben haben, zur rechtlichen Verantwortung gezogen werden.

Deutsche Übersetzung der originalen französischen Kopie der Seite 2

- (A1) **ANHANG**
- (A2) **EGPRÜFZERTIFIKAT**
LCIE 02 ATEX 6089 X (Fortsetzung)
- (A5) Spezielle Bedingungen für eine sichere Verwendung:
Das Gerät inkl. dem in seinem Gehäuse ABA eingebauten Wandler IQS 603 ist ein eigensicheres Gerät: Es kann in explosionsgefährdeten Bereichen eingebaut werden.
Das Gerät darf nur an ein zertifiziertes, eigensicheres Gerät angeschlossen werden und diese Verbindung muss in Bezug auf die Eigensicherheit kompatibel sein.
Temperatureinteilung:
Elektronik:
T6 bis Ta = +60°C
T5 bis Ta = +80°C
T4 bis Ta = +100°C
Verbindungskabel:
T6 bis Ta = +85°C
T5 bis Ta = +100°C
T4 bis Ta = +135°C
T3 bis Ta = +200°C
T2 bis Ta = +260°C
Geber:
T6 bis Ta = +85°C
T5 bis Ta = +100°C
T4 bis Ta = +135°C
T3 bis Ta = +200°C
T2 bis Ta = +300°C
T1 bis Ta = +350°C
- (A6) Wesentliche Anforderungen in Bezug auf Sicherheit und Gesundheit:
Übereinstimmung mit den europäischen Normen EN 50014 (1997 + Änderungen 1 und 2) und EN 50020 (1994).

Seite 3/3

Deutsche Übersetzung der originalen französischen Kopie der Seite 2

- (A1) **EGPRÜFZERTIFIKAT**
02 ATEX 6089 X vom 19. August 2002
NACHTRAG 02 ATEX 6089X/01
- (A2) **BESCHREIBUNG DES GERÄTES ODER SCHUTZSYSTEMS:**
Beschleunigungsgeber
Typ: CE 134
Hergestellt von: VIBROMETER S.A.
- (A3) **ZIEL DES NACHTRAGS, BESCHREIBUNG DES GERÄTES ODER SCHUTZSYSTEMS:**
Ersetzen der RTV428 Vergussmasse durch QSIL 550
Kennzeichnung:
unverändert
- (A4) **BESCHREIBENDE UNTERLAGEN:**
Vierseitiges Schreiben vom Hersteller vom 16.02.2005.
- (A5) **SPEZIELLE BEDINGUNGEN FÜR EINE SICHERE VERWENDUNG:**
Unverändert
- (A6) **EINZELKONTROLLEN UND –PRÜFUNGEN:**
Unverändert
- (A7) **WESENTLICHE ANFORDERUNGEN IN BEZUG AUF SICHERHEIT UND GESUNDHEIT:**
unverändert

FontenayauxRoses, 10 März 2005

Leiter Zertifizierung

Trockenstempel

Seite 1/1

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Deutsche Übersetzung der original französisch/englischen Kopie der Seite 3

- 1 **ERGÄNZUNG ZUR EGBAUMUSTERPRÜFBESCHEINIGUNG**
- 2 **Betriebsmittel oder Schutzsystem** zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen – **Richtlinie 94/9/EG**
- 3 Nummer der Ergänzungsbescheinigung:
LCIE 02 ATEX 6089 X / 02
- 4 Betriebsmittel oder Schutzsystem:
Accelerometer
Typ: CE134
- 5 Hersteller: VIBROMETER S.A.
- 15 **BESCHREIBUNG DER ERGÄNZUNGSBESCHEINIGUNG**
– Normgerechte Überarbeitung entsprechend den Normen:
EN 600790 (2006) und EN 6007911 (2007)
– Unterschiedliche Betriebstemperaturen für Elektronik, Verkabelung und Sensor hinzugefügt
Die Ergebnisse der Prüfung sind im vertraulichen Prüfbericht Nr. 60056381557031 / 05 festgehalten.
Spezifische Kenndaten der betroffenen Schutzarten:
Unverändert
Kennzeichnung:
Änderung wie folgt:
EEx wird zu Ex
Ui: 28 V Pi: 2 W
Ii: 100 mA Ci: 15 nF
Li: 0,5 mH
- 16 **BESCHREIBENDE DOKUMENTE**
Bescheinigung Nr. DT 1003 vom 05. März 2007.
Dieses Dokument besteht aus 2 Elementen (7 Seiten).
- 17 **BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG**
Zusätze:
Betriebstemperaturbereich Elektronik: –54 °C bis +100 °C
Betriebstemperaturbereich Kabel: –54 °C bis +260 °C
Betriebstemperaturbereich Sensor: –70 °C bis +350 °C
- 18 **GRUNDLEGENDE GESUNDHEITS UND SICHERHEITSANFORDERUNGEN**
Abgedeckt durch die Normen:
EN 600790 (2006) und EN 6007911 (2007)
- 19 **ROUTINEMÄßIGE PRÜFUNGEN UND TESTS**
Unverändert
ATEXBescheinigungsbevollmächtigter
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FontenayauxRoses, 22. Oktober 2007

Leiter Zertifizierung

Trockenstempel

Seite 1/1

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Deutsche Übersetzung der original französisch/englischen Kopie der Seite 3

- 1 **ERGÄNZUNG ZUR EGBAUMUSTERPRÜFBESCHEINIGUNG**
- 2 **Betriebsmittel oder Schutzsystem** zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen – **Richtlinie 94/9/EG**
- 3 Nummer der Ergänzungsbescheinigung:
LCIE 02 ATEX 6089 X / 03
- 4 Betriebsmittel oder Schutzsystem:
Accelerometer
Typ: CE134
- 5 Hersteller: VIBROMETER S.A.
- 15 **BESCHREIBUNG DER ERGÄNZUNGSBESCHEINIGUNG**
Änderung an der Elektronik: Die diskreten Bauelemente wurden durch SMDBauelemente ersetzt.
Die Ergebnisse der Prüfung sind im vertraulichen Prüfbericht Nr. 60056381557031 / 22 festgehalten.
Spezifische Kenndaten der betroffenen Schutzarten:
Unverändert
Kennzeichnung:
Unverändert
- 16 **BESCHREIBENDE DOKUMENTE**
Bescheinigung Nr. DT 1002 / 02 vom 13. Juli 2007.
Dieses Dokument besteht aus 4 Elementen (10 Seiten).
- 17 **BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG**
Unverändert
- 18 **GRUNDLEGENDE GESUNDHEITS UND SICHERHEITSANFORDERUNGEN**
Unverändert
- 19 **ROUTINEMÄßIGE PRÜFUNGEN UND TESTS**
Unverändert
ATEXBescheinigungsbevollmächtigter
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FontenayauxRoses, 17. März 2007

Leiter Zertifizierung

Trockenstempel

Seite 1/1

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Deutsche Übersetzung der originalen französischen Kopie der Seite 4

1 **ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT**2 Geräte zur Verwendung in explosionsgefährdeten Bereichen (**Richtlinie 94/9/EG**)3 Zusätzliche Zertifikatnummer:
LCIE 02 ATEX 6089 X / 044 Gerät
Beschleunigungsgeber
CE1345 Hersteller: MEGGITT SA
Adresse: Route de Moncor 4, 1752 Villars-sur-Glâne, Schweiz15 **BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS**

- Änderung der juristischen Person und Adresse des Antragstellers
- Modifikation des eingetragenen Markenzeichens

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 102105-602924/29 aufgezeichnet.

Spezifische Kenndaten der betroffenen Schutzarten:
Unverändert.

Die Kennzeichnung soll lauten:
Unverändert, bis auf Markenzeichen vibro-meter wird zu vibro-meter oder MEGGITT oder MFR S3960 sowie die Adressänderung.

16 **BESCHREIBENDE UNTERLAGEN**

Brief des Antragsstellers vom 07.09.2010.

17 **BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG**

Unverändert.

18 **WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT**

Unverändert.

19 **ROUTINEPRÜFUNGEN UND TESTS**

Unverändert.

Fontenay-aux-Roses,
am 25. Oktober 2010

Leiter Zertifizierung

Trockenstempel

Seite 1/1

Deutsche Übersetzung der originalen französischen Kopie der Seite 4

1 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT

2 Geräte zur Verwendung in explosionsgefährdeten Bereichen (Richtlinie 94/9/EG)

3 Zusätzliche Zertifikatnummer:
LCIE 02 ATEX 6089 X / 054 Gerät
Beschleunigungsgeber
CE134

5 Hersteller: MEGGITT SA

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS

Standardaktualisierungen gemäß folgender Richtlinien: EN 60079-0 (2009)
Typ der Gerät update

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 110055-619675 / 18 aufgezeichnet.

Spezifische Kenndaten der betroffenen Schutzarten:
Unverändert.Die Kennzeichnung lautet wie folgt:

Wie folgt modifiziert:

Vibro-Meter oder MEGGITT oder MFR S3960

Adresse: ...

Typ: PNR: 444-134-000-XXX

Herstellungsnummer: ... Herstellungsjahr: ...

 II 2 G

Ex ib IIC T6 bis T1 Gb

LCIE 02 ATEX 6089 X

Ui = ... ; Pi = ... ; li = ... ; Ci = ... ; Li = ... (1)

(1) Abhängig von der Typ der Gerät

16 BESCHREIBENDE UNTERLAGEN

Brief des Antragsstellers vom 20.10.2011 (2 Seiten)

17 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG

Unverändert.

18 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Werden von folgenden Richtlinien abgedeckt:
EN 60079-0 (2009) und EN 60079-11 (2007)

19 ROUTINEPRÜFUNGEN UND TESTS

Keine.

Fontenay-aux-Roses,
am 21. Dezember 2011

Leiter Zertifizierung

Trockenstempel

Seite 1/1

Deutsche Übersetzung der originalen französischen Kopie der Seite 5

1 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNG SZERTIFIKAT

2 Betriebsmittel oder Schutzsystem zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen -
Richtlinie 94/9/EG

3 Zusätzliche Zertifikatnummer:

LCIE 02 ATEX 6089 X / 06

4 Gerät oder Schutzsystem

Beschleunigungsgeber

Typ: PNR 444-134-000-xxx

5 Hersteller: Meggitt SA

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS

Standardaktualisierungen gemäß folgender Richtlinien: EN 60079-0:2012 und EN 60079-11:2012.

Änderungen der Temperaturklassifizierung für das Kabel und für den Sensor.

Update der technischen Unterlagen.

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 127142-654878 aufgezeichnet.

Spezifische Kenndaten der betroffenen Schutzarten:

Unverändert:

 $U_i \leq 28 \text{ V}$, $I_i \leq 100 \text{ mA}$, $P_i \leq 2 \text{ W}$, $C_i \leq 15 \text{ nF}$, $L_i \leq 0,5 \text{ mH}$ Die Kennzeichnung lautet wie folgt:

Unverändert:

Vibro-Meter oder MEGGITT oder MFR S3960

Adresse: ...

Typ: PNR: 444-134-000-xxx

Herstellungsnummer: ... Herstellungsjahr: ...

 II 2 G

Ex ib IIC T6 bis T1 Gb

LCIE 02 ATEX 6089 X

 $U_i = \dots$; $I_i = \dots$; $L_i = \dots$; $C_i = \dots$; $P_i = \dots$

(vervollständigt mit den elektrischen Werten)

16 BESCHREIBENDE UNTERLAGEN

Zertifizierungs-Datei-Nr. DT 1062 Ausgabe 00 vom 22. Januar 2014.

Diese Datei enthält 2 Punkte (5 Seiten).

13 **ANHANG**

14 **ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT**

LCIE 02 ATEX 6089 X / 06

17 **BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG**

Unverändert, mit Ausnahme der Temperaturklasse für das Kabel und für den Sensor, das wie folgt modifiziert ist:

- Elektronik:

T6 bis Ta = +60°C, T5 bis Ta = +80°C, T4 bis Ta = +100°C

- Verbindungskabel:

T6 bis Ta = +80°C, T5 bis Ta = +95°C, T4 bis Ta = +130°C, T3 bis Ta = +195°C, T2 bis Ta = +250°C

- Geber:

T6 bis Ta = +80°C, T5 bis Ta = +95°C, T4 bis Ta = +130°C, T3 bis Ta = +195°C, T2 bis Ta = +290°C, T1 bis Ta = +350°C

18 **WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT**

Werden von folgenden Richtlinien abgedeckt: EN 60079-0:2012 und EN 60079-11:2012.

19 **ROUTINEPRÜFUNGEN UND TESTS**

Keine.

Typenbezeichnung:

PNR 444-134-000-xxx:

xxx: abhängig von der Steckertyp und Kabellänge (x = 0 bis 9)

Deutsche Übersetzung der originalen französischen Kopie der Seite 6

1 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNG SZERTIFIKAT

2 Betriebsmittel oder Schutzsystem zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen -
Richtlinie 94/9/EG

3 Zusätzliche Zertifikatnummer:

LCIE 02 ATEX 6089 X / 07

4 Gerät oder Schutzsystem

CE 134 Beschleunigungsgeber
Typ: PNR 444-134-000-YY1 bis YY9

5 Hersteller: Meggitt SA

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS

- Änderung der Ex ib Elektronik für bestehende typen, wie: PNR 444-134-000-YY1 bis YY4.
- Neue Ex ia Elektronik für neue typen, wie: PNR 444-134-000-YY5 bis YY9.

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 129425-660046 aufgezeichnet.

Spezifische Kenndaten der betroffenen Schutzarten:

PNR 444-134-000-YY1 bis YY4:

Ui: 28 V, li: 100 mA, Pi: 2 W, Ci: 15 nF, Li: 0,5 mH

PNR 444-134-000-YY5 bis YY9:

Ui: 28 V, Pi: 700 mW, Ci: 0, Li: 0

Die Kennzeichnung lautet wie folgt:

Vibro-Meter oder MEGGITT SA oder MFR S3960

Adresse: ...

Typ: PNR 444-134-000-YY1 bis YY9

Herstellungsnummer: ... Herstellungsjahr: ...

PNR 444-134-000-YY1 bis YY4: II 2 G

Ex ib IIC T6 ...T1 Gb (siehe besondere Bedingungen für die sichere Anwendung (unter Punkt 17))

Ui: 28 V, li: 100 mA, Pi: 2 W, Ci: 15 nF, Li: 0,5 mH

PNR 444-134-000-YY5 bis YY9: II 1 G

Ex ia IIC T6 ...T1 Ga (siehe besondere Bedingungen für die sichere Anwendung (unter Punkt 17))

Ui: 28 V, Pi: 700 mW, Ci: 0, Li: 0

LCIE 02 ATEX 6089 X

16 BESCHREIBENDE UNTERLAGEN

Zertifizierungs-Datei-Nr. DT 1002 Ausgabe 03 vom 2014/11/17.

Diese Datei enthält 13 Punkte (22 Seiten).

13 ANHANG

14 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGZERTIFIKAT

LCIE 02 ATEX 6089 X / 07

17 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG

– Das Gerät darf nur an zertifizierte eigensichere Komponenten angeschlossen werden. Diese Kombination muss bezüglich der Regeln der Eigensicherheit kompatibel sein (siehe elektrische Parameter in Punkt 15).

– Die Umgebungstemperatur (To) im Betrieb:

Sensor: $-70^{\circ}\text{C} \leq T_o \leq +350^{\circ}\text{C}$.

Kabel: $-54^{\circ}\text{C} \leq T_o \leq +260^{\circ}\text{C}$

Signalaufbereiter:

PNR 444-134-000-YY1 bis YY4: $-54^{\circ}\text{C} \leq T_o \leq +100^{\circ}\text{C}$

PNR 444-134-000-YY5 bis YY9: $-54^{\circ}\text{C} \leq T_o \leq +125^{\circ}\text{C}$

– Temperaturklassifizierung entsprechend der Umgebungstemperatur von Sensor, Kabel und Signalaufbereiter im Betrieb:

	T6	T5	T4	T3	T2	T1
Sensor	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C
Kabel	+80°C	+95°C	+130°C	+195°C	+260°C	
Signalaufbereiter PNR 444-134-000-YY1 bis YY4	+60°C	+80°C	+100°C			
Signalaufbereiter PNR 444-134-000-YY5 bis YY9	+45°C	+60°C	+95°C	+125°C		

18 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Werden von folgenden Richtlinien abgedeckt:

EN 60079-0:2012 + Änderung A11:2013 und EN 60079-11:2012.

19 ROUTINEPRÜFUNGEN UND TESTS

Keine.



ATEX certificate:
LCIE 09 ATEX 1038 X
for CE 134

Although the certificate is available in the three languages (English, French and German), the liability of the notified body applies only on the text of the original copy of the certificate that it published.

EN

Bien que le certificat soit traduit dans les 3 langues (Anglais, Français et Allemand), seul le texte de la copie originale du certificat peut engager la responsabilité de l'organisme notifié qui l'a publié.

FR

Obwohl das Zertifikat in drei Sprachen (Englisch, Französisch und Deutsch) übersetzt ist, können nur die bescheinigten Behörden, die den Text auf der Originalausgabe des Zertifikates herausgegeben haben, zur rechtlichen Verantwortung gezogen werden.

DE



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CETTE PAGE EST LAISSÉE INTENTIONNELLEMENT VIDE
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- 13 SCHEDULE
- 14 VOLUNTARY TYPE EXAMINATION CERTIFICATE
- LCIE 09 ATEX 1038 X
- 15 DESCRIPTION OF EQUIPMENT OR PROTECTIVE SYSTEM
- Accelerometer
- Type : PNR : 444-134-000-XXX

This equipment is composed of an electromechanical transducer which supplies, at its terminals, an electrical load.

Specific parameters of the model(s) of protection concerned :

$U \leq 30V$, $I \leq 130mA$, $P \leq 0.8W$

The marking shall be :

VIBRO-METER

Address : ... Type : PNR : 444-134-000-XXX

Serial number : ... Year of construction : ...

II 3G Ex nA II T6 to T1

LCIE 09 ATEX 1038 X

The marking can be reduced at :

VIBRO-METER

PNR : 444-134-000-XXX

II 3G LCIE 09 ATEX 1038 X

The equipment shall also bear the usual marking required by the manufacturing standards applying to such equipment.

16 DESCRIPTIVE DOCUMENTS

Certification file N°DT 1038 rev.00 dated 09/07/20.

This file includes 8 items (15 pages).

17 SPECIAL CONDITIONS FOR SAFE USE

Conditioner operating temperature : -30°C to +100°C

Cable operating temperature : -54°C to +260°C

Sensor operating temperature : -70°C to +350°C

Temperature classification in function of the operating temperature :

	T6	T5	T4	T3	T2	T1
Conditionneur/conditionner	+80°C	+80°C	+100°C			
Cable/cable	+80°C	+95°C	+195°C	+195°C	+260°C	
Capteur/sensor	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C

18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

19 ROUTINE VERIFICATIONS AND TESTS

Covered by standards listed at 9.

None.

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Rev.A

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03-Anneexe III, pp. app - 04/2005

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- 1 VOLUNTARY TYPE EXAMINATION CERTIFICATE
- 2 Equipment intended for use in potentially explosive atmospheres (Directive 94/9/EC)
- 3 Type Examination Certificate number
- LCIE 09 ATEX 1038 X
- 4 Equipment
- Dynamic pressure sensor
- Type : PNR : 444-134-000-XXX
- 5 Applicant : VIBRO-METER SA
- Address : Route de Moncor 4
- 1701 FRIBOURG SUISSE

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 LCIE certifies that this equipment or protective system has been found to comply with the essential Health and Safety Requirements that relate to the design of equipment or protective system, of category 3 electrical or categories 2 and 3 non electrical, which is intended for use in potentially explosive atmospheres, given in Annex II of the Directive 94/9/EC of the European Parliament and Council of 23 March 1994.

The examination and test results are recorded in confidential report N°94576 - 58901471.

9 Compliance with the Essential Health and Safety Requirements has been assured by reference to : - EN 60079-0 (2006) - EN 60079-15 (2005)

10 If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This type examination certificate relates only to the design, examination and tests of this specified equipment or protective system in accordance with the directive 94/9/EC.

Further requirements of the Directive may apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include informations as detailed at 15.

Fontenay-aux-Roses, le 10 octobre 2009



Marc GILLAUD

Rev.A

Page 1 sur 2

03-Anneexe III, pp. app - 04/2005

Soussigné par Acteurs Signifiés :

au capital de 15 75 981 €

RCS Nanterre B 08 368 174

contact@lcie.fr

www.lcie.fr

10/1



LCIE

- 1 **AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE**
- 2 **Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)**
- 3 **Numéro de l'avenant : LCIE 09 ATEX 1038 X / 02**
- 4 **Appareil**
- 5 **demandeur :**
- 6 **Appareil**
- 7 **Type :**
- 8 **Applicant :**
- 9 **Accelerometer transducer**
- 10 **Type :**
- 11 **Applicant :**
- 12 **Accelerometer transducer**
- 13 **Type :**
- 14 **Applicant :**
- 15 **Accelerometer transducer**

- 16 **DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE**
- 17 **Normative update according to EN 60079-0 (2009) and EN 60079-15 (2010)**
- 18 **Modification of the lower limit of the ambient temperature range of the conditioner**
- 19 **The examination and test results are recorded in confidential report N° 110055-619675 / 18**
- 20 **Specific parameters of the concerned protection mode :**
- 21 **Unchanged**
- 22 **The marking shall be :**
- 23 **Modified as follows :**
- 24 **Vibro-Meter or MEGGITT or MFR S3960**
- 25 **Address :**
- 26 **Type :**
- 27 **Serial Number :**
- 28 **Year of Construction :**
- 29 **Ex nA IIC T6 to T1 Gc**
- 30 **Ex nA IIC T6 to T1 Gc**
- 31 **Ex nA IIC T6 to T1 Gc**
- 32 **Ex nA IIC T6 to T1 Gc**
- 33 **Ex nA IIC T6 to T1 Gc**
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- 35 **Ex nA IIC T6 to T1 Gc**
- 36 **Ex nA IIC T6 to T1 Gc**
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- 39 **Ex nA IIC T6 to T1 Gc**
- 40 **Ex nA IIC T6 to T1 Gc**
- 41 **Ex nA IIC T6 to T1 Gc**
- 42 **Ex nA IIC T6 to T1 Gc**
- 43 **Ex nA IIC T6 to T1 Gc**
- 44 **Ex nA IIC T6 to T1 Gc**
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- 97 **Ex nA IIC T6 to T1 Gc**
- 98 **Ex nA IIC T6 to T1 Gc**
- 99 **Ex nA IIC T6 to T1 Gc**
- 100 **Ex nA IIC T6 to T1 Gc**

- 101 **DOCUMENTS DEScriptifs**
- 102 **Lettre du demandeur du 20/10/2011 (2 pages)**
- 103 **CONDITIONS SPECIALES POUR UNE UTILISATION SURE**
- 104 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
- 105 **ROUTINE VERIFICATIONS AND TESTS**
- 106 **None**
- 107 **Essential health and safety requirements**
- 108 **Covered by standards EN 60079-0 (2009) and EN 60079-15 (2010)**
- 109 **ROUTINE VERIFICATIONS AND TESTS**
- 110 **None**



Fontenay-aux-Roses, le 21/12/2011

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Société par Actions Simplifiée
au capital de 15 745 984 €
RCS Nanterre B 408 303 174

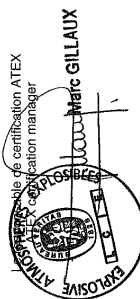


LCIE

- 1 **AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE**
- 2 **Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)**
- 3 **Numéro de l'avenant : LCIE 09 ATEX 1038 X / 01**
- 4 **Appareil**
- 5 **demandeur :**
- 6 **Appareil**
- 7 **Type :**
- 8 **Applicant :**
- 9 **Accelerometer transducer**
- 10 **Type :**
- 11 **Applicant :**
- 12 **Accelerometer transducer**
- 13 **Type :**
- 14 **Applicant :**
- 15 **Accelerometer transducer**

- 16 **DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE**
- 17 **Change of legal entity name and address of applicant**
- 18 **Modifications of registered trade mark**
- 19 **The examination and test results are recorded in confidential report N° 102105 - 602924 / 30.**
- 20 **Specific parameters of the mode(s) of protection concerned :**
- 21 **Unchanged.**
- 22 **The marking shall be :**
- 23 **Unchanged, except registered trade mark vibro-meter becomes vibro-meter or MEGGITT or MFR S3960 and the address.**
- 24 **Document Descriptions**
- 25 **Letter of applicant from 20/10/2011.**
- 26 **Special conditions for safe use**
- 27 **Essential health and safety requirements**
- 28 **Unchanged.**
- 29 **Routine verifications and tests**
- 30 **None.**

- 31 **DOCUMENTS DEScriptifs**
- 32 **Lettre du demandeur du 20/10/2011.**
- 33 **CONDITIONS SPECIALES POUR UNE UTILISATION SURE**
- 34 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
- 35 **ROUTINE VERIFICATIONS AND TESTS**
- 36 **None.**
- 37 **Essential health and safety requirements**
- 38 **Covered by standards EN 60079-0 (2009) and EN 60079-15 (2010)**
- 39 **ROUTINE VERIFICATIONS AND TESTS**
- 40 **None.**



Fontenay-aux-Roses, le 25 octobre 2010.

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LCIE

13 ANNEXE
14 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE
 LCIE 09 ATEX 1038 X / 03

15 DESCRIPTION DE L'AVENANT (suite)
 L'appareil doit également comporter le marquage normalement prévu par les normes de construction qui le concerne.

16 DOCUMENTS DESCRIPTIFS
 Dossier technique n° DT 1069 rév. 00 du 25/09/2014.
 Ce dossier comprend 2 rubriques (6 pages).

17 CONDITIONS SPECIALES POUR UNE UTILISATION SURE

1. Température ambiante d'utilisation :
 - Conditionneur : -54°C à +100°C
 - Câble : -54°C à +260°C
 - Capteur : -70°C à +350°C
2. Classement en température en fonction de la température ambiante d'utilisation :

	T6	T5	T4	T3	T2	T1
Température ambiante d'utilisation du conditionneur <i>Ambient temperature in service of conditioner</i>	≤+60°C	≤+80°C	≤+100°C	≤+100°C	≤+260°C	≤+350°C
Température ambiante d'utilisation du câble <i>Ambient temperature in service of cable</i>	≤+80°C	≤+95°C	≤+130°C	≤+195°C	≤+260°C	≤+350°C
Température ambiante d'utilisation du capteur <i>Ambient temperature in service of sensor</i>	≤+80°C	≤+95°C	≤+130°C	≤+195°C	≤+260°C	≤+350°C

3. Des mesures doivent être prises afin d'éviter que la tension nominale ne soit pas dépassée par des perturbations transitoires de plus de 119 V.

18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE

- Conformité aux normes européennes EN 60079-0:2012 + Amendement A11:2013 et EN 60079-15:2010.

19 VERIFICATIONS ET ESSAIS INDIVIDUELS

- Chaque appareil doit être soumis à un essai de rigidité diélectrique sous une tension d'essai de 500 V efficace, appliquée entre les conducteurs et le châssis durant 60 s, conformément au paragraphe 6.5.1 de la norme EN 60079-15:2010.
 Autrement, l'essai doit être exécuté à 600 V efficace pendant au moins 100 ms.
- Alternativement, a test shall be carried out at 600 V r.m.s. during at least 100 ms.

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 03A-Avenant III typ. app. rev. 02-10-2002

10/07



LCIE

1 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE
EXAMINATION CERTIFICATE
 2 Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant :
 LCIE 09 ATEX 1038 X / 03

4 Appareil ou système de protection :
 Type : PNR 444-134-000-XXY
 Demandeur : Meggitt SA

15 DESCRIPTION DE L'AVENANT
 - Mise à jour normative selon la norme EN 60079-0:2012 + Amendement A11:2013.
 - Ajout d'un essai individuel de rigidité diélectrique.

Définition du type/ Type definition:
 X = 0...9 : dépend du type de connecteur et de la longueur du câble / depends on the type of connector and cable length.
 Y = 1...4 : définit la conception de l'électronique / defines the design of the electronic.

Les résultats des vérifications et essais de type sont consignés dans le rapport confidentiel n°130454-662462-02.

Specific parameters of the concerned protection mode:

U ≤30 V, I ≤130 mA, P ≤0.8 W

The marking shall be:
 Meggitt SA ou Vibro-meter or MFR S3960
 Address : ...
 Type : PNR 444-134-000-XXY (Y = 1 à 4)
 Serial number : ... Year of construction : ...
 Ex nA IIC T6...T1 Gc (*)
 LCIE 09 ATEX 1038 X

The marking can be reduced as follows:
 Meggitt SA ou Vibro-meter or MFR S3960
 PNR 444-134-000-XXY
 Ex nA IIC T6...T1 Gc (*)
 LCIE 09 ATEX 1038 X
 (*): see special conditions for safe use.

Le Responsable de Certification ATEX
 MICHAEL VERDIER
 ATEX Certification Officer

Fontenay-aux-Roses, le 02 décembre 2014



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10/07

Deutsche Übersetzung der originalen französischen Kopie der Seite 1

1 **FREIWILLIGES TYPENPRÜFZERTIFIKAT**2 Geräte zur Verwendung in explosionsgefährdeten Bereichen **Richtlinie 94/9/EG**3 Zertifikatnummer
LCIE 09 ATEX 1038 X4 Gerät
Beschleunigungsgeber
Type : PNR: 444134000XXX5 Hersteller: VIBRO METER
Adresse: Route de Moncor 4, 1701 FRIBOURG, SCHWEIZ

7 Dieses Gerät oder Schutzsystem und die möglichen, zulässigen Varianten sind im Anhang dieses Zertifikats und den darin aufgeführten Unterlagen beschrieben.

8 LCIE bestätigt, dass dieses Gerät oder Schutzsystem die wesentlichen Gesundheits und Sicherheitsanforderungen in Bezug auf die Auslegung und die Bauart von Geräten und Schutzsystemen der Kategorie 3 (elektrisch) oder Kategorien 2 und 3 (nicht elektrisch) zur Verwendung in explosionsgefährdeten Bereichen nach Anhang II der Richtlinie 94/9EG des Europaparlaments und des Rats vom 23. März 1994 erfüllt.

Die Prüf und Testergebnisse sind im vertraulichen Bericht Nr. 94576 589014/1 aufgezeichnet.

9 Die Einhaltung der wesentlichen Gesundheits und Sicherheitsanforderungen wird durch die Übereinstimmung mit den folgenden Dokumenten sichergestellt:
EN 600790 (2006)
EN 6007915 (2005)

10 Ein "X" nach der Zertifikatnummer gibt an, dass für die sichere Verwendung des Gerätes oder Schutzsystemes besondere Bedingungen gemäß dem Anhang dieses Zertifikates gelten.

11 Dieses Typenprüfzertifikat betrifft nur die Bauart und die Prüfungen und Tests des betreffenden Geräts oder Schutzsystems gemäß Richtlinie 94/9/EG.
Zusätzliche Anforderungen dieser Richtlinie gelten für die Fertigung und Lieferung des Geräts oder Schutzsystems. Diese werden durch dieses Zertifikat nicht abgedeckt.

12 Die Kennzeichnung des Gerätes oder Schutzsystems muss die unter Punkt 15 erläuterten Angaben enthalten.

FontenayauxRoses,
am 10. Oktober 2009

Leiter Zertifizierung

Trockenstempel

Rev.A
Seite 1/2

LCIE haftet nur für den französischen Text.

Dieses Zertifikat darf nur vollständig und ohne Änderungen vervielfältigt werden.

Deutsche Übersetzung der originalen französischen Kopie der Seite 1

13 ANHANG

14 FREIWILLIGES TYPENPRÜFZERTIFIKAT

LCIE 09 ATEX 1038 X

15 BESCHREIBUNG DES GERÄTES ODER SCHUTZSYSTEMS

Beschleunigungsgeber

Typ : PNR : 444134000XXX

Das Gerät verwandelt elektrische Eingangsladung in elektrisches Ausgangssignal welches proportional zur Beschleunigung oder dem Druck ist.

Spezifische Kenndaten der betroffenen Schutzarten:

$U \leq 30 \text{ V}$, $I \leq 130 \text{ mA}$, $P \leq 0,8 \text{ W}$

Kennzeichnung:

VIBROMETER Adresse: ..

Typ: PNR: 444134000XXX

Herstellungsnummer: ... Herstellungsjahr: ...

II 3G Ex nA II T6 bis T1

LCIE 09 ATEX 1038 X

Die Kennzeichnung kann wie folgt vereinfacht werden:

VIBROMETER PNR: 444134000XXX

II 3G LCIE 09 ATEX 1038 X

Die Geräte müssen ebenfalls mit der Kennzeichnung versehen sein, die in den Herstellungsnormen der betreffenden Geräte normalerweise vorgesehen sind.

16 BESCHREIBENDE UNTERLAGEN

ZertifizierungsDateiNr. DT 1038 Ausgabe 0 vom 20. Juli 2009.

Diese Datei enthält 8 Punkte (15 Seiten).

17 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG

Signalaufbereiter Betriebstemperatur: -30 °C bis $+100 \text{ °C}$

Kabel Betriebstemperatur: -54 °C bis $+260 \text{ °C}$

Sensor Betriebstemperatur: -70 °C bis $+350 \text{ °C}$

Temperaturklassifizierung:

	T6	T5	T4	T3	T2	T1
Signalaufbereiter	+60 °C	+80 °C	+100 °C			
Kabel	+80 °C	+95 °C	+130 °C	+195 °C	+260 °C	
Sensor	+80 °C	+95 °C	+130 °C	+195 °C	+290 °C	+350 °C

18 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Siehe unter Punkt 9 aufgelistete Bestimmungen.

19 ROUTINEPRÜFUNGEN UND TESTS

Keine.

Rev.A
Seite 2/2

Obwohl das Zertifikat in drei Sprachen (Englisch, Französisch und Deutsch) übersetzt ist, können nur die bescheinigten Behörden, die den Text auf der Originalausgabe des Zertifikates herausgegeben haben, zur rechtlichen Verantwortung gezogen werden.

Deutsche Übersetzung der originalen französischen Kopie der Seite 2

1 **ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT**2 Geräte zur Verwendung in explosionsgefährdeten Bereichen (**Richtlinie 94/9/EG**)3 Zusätzliche Zertifikatnummer:
LCIE 09 ATEX 1038 X / 014 Gerät
Beschleunigungsgeber
PNR: 444-134-000-XXX5 Hersteller: Meggitt SA
Adresse: Route de Moncor 4, 1752 Villars-sur-Glâne, Schweiz15 **BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS**

- Änderung der juristischen Person und Adresse des Antragstellers
- Modifikation des eingetragenen Markenzeichens

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 102105-602924/30 aufgezeichnet.

Spezifische Kenndaten der betroffenen Schutzarten:
Unverändert.

Die Kennzeichnung soll lauten:
Unverändert, bis auf Markenzeichen vibro-meter wird zu vibro-meter oder MEGGITT oder MFR S3960 sowie die Adressänderung.

16 **BESCHREIBENDE UNTERLAGEN**

Brief des Antragstellers vom 07.09.2010.

17 **BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG**

Unverändert.

18 **WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT**

Unverändert.

19 **ROUTINEPRÜFUNGEN UND TESTS**

Keine.

Fontenay-aux-Roses,
am 25. Oktober 2010

Leiter Zertifizierung

Trockenstempel

Seite 1/1

Deutsche Übersetzung der originalen französischen Kopie der Seite 2

1 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT

2 Geräte zur Verwendung in explosionsgefährdeten Bereichen (Richtlinie 94/9/EG)

3 Zusätzliche Zertifikatnummer:
LCIE 09 ATEX 1038 X / 024 Gerät
Beschleunigungsgeber
PNR: 444-134-000-XXX5 Hersteller: Meggitt SA
Adresse: Route de Moncor 4, 1752 Villars-sur-Glâne, Schweiz

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS

- Standardaktualisierungen gemäß folgender Richtlinien: EN 60079-0 (2009) und EN 60079-15 (2010)
- Änderung der unteren Grenze der Umgebungstemperatur für den Signalaufbereiter

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 110055-619675 / 18 aufgezeichnet.

Spezifische Kenndaten der betroffenen Schutzarten:
Unverändert.

Die Kennzeichnung lautet wie folgt:

Wie folgt modifiziert:

Vibro-Meter oder MEGGITT oder MFR S3960

Adresse: ...

Typ: PNR: 444-134-000-XXX

Herstellungsnummer: ... Herstellungsjahr: ...

 II 3 G

Ex nA IIC T6 bis T1 Gc

LCIE 09 ATEX 1038 X

16 BESCHREIBENDE UNTERLAGEN

Brief des Antragsstellers vom 20.10.2011 (2 Seiten)

17 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG

Unverändert.

18 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Werden von folgenden Richtlinien abgedeckt:
EN 60079-0 (2009) und EN 60079-15 (2010)

19 ROUTINEPRÜFUNGEN UND TESTS

Keine.

Fontenay-aux-Roses,
am 21. Dezember 2011

Leiter Zertifizierung

Trockenstempel

Seite 1/1

Deutsche Übersetzung der originalen französischen Kopie der Seite 3

1 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNG SZERTIFIKAT

2 Geräte zur Verwendung in explosionsgefährdeten Bereichen (Richtlinie 94/9/EG)

3 Zusätzliche Zertifikatnummer:

LCIE 09 ATEX 1038 X / 03

4 Gerät

Beschleunigungsgeber

Typ: PNR 444-134-000-XXY

5 Antragsteller: Meggitt SA

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS

– Standardaktualisierungen gemäß folgender Richtlinien:

EN 60079-0:2012 + Änderung A11:2013.

– Hinzufügen einer Stückprüfung von Durchschlagfestigkeit.

Definition von Gerät:

PNR 444-134-000-XXY

X = 0 ... 9: Abhängig von der Steckertyp und Kabellänge

Y = 1 ... 4: Definiert Elektronik-Design.

Die Testergebnisse sind im vertraulichen Bericht Nr. 130454-662462-02.

Spezifische Kenndaten der betroffenen Schutzarten: $U \leq 30 \text{ V}$, $I \leq 130 \text{ mA}$, $P \leq 0,8 \text{ W}$ Die Kennzeichnung wird wie folgt festgesetzt:

Meggitt SA oder Vibro-Meter oder MFR S3960

Adresse: ...

Typ: PNR 444-134-000-XXY (Y = 1 bis 4)

Herstellungsnummer: ... Herstellungsjahr: ...

 II 3 G

Ex nA IIC T6...T1 Gc(*)

LCIE 09 ATEX 1038 X

Die Kennzeichnung kann wie folgt reduziert werden:

Meggitt SA oder Vibro-Meter oder MFR S3960

PNR 444-134-000-XXY

 II 3 G

Ex nA IIC T6...T1 Gc(*)

LCIE 09 ATEX 1038 X

(*): Siehe besondere Bedingungen für die sichere Anwendung (unter Punkt 17)

Fontenay-aux-Roses,
am 02. Dezember 2014

Leiter Zertifizierung

Trockenstempel

Seite 1/2

Deutsche Übersetzung der originalen französischen Kopie der Seite 3

13 ANHANG

14 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT

LCIE 09 ATEX 1038 X / 03

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS (FORTSETZUNG)

Die Geräte müssen ebenfalls mit der Kennzeichnung versehen sein, die in den Herstellungsnormen der betreffenden elektrischen Geräte normalerweise vorgesehen sind.

16 BESCHREIBENDE UNTERLAGEN

Zertifizierungs-Datei-Nr. DT 1069 Ausgabe 00 vom 2014/09/25.
Diese Datei enthält 2 Punkte (6 Seiten).

17 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG

1. Umgebungstemperatur im Betrieb:
- Signalaufbereiter: -54°C bis $+100^{\circ}\text{C}$
 - Kabel: -54°C bis $+260^{\circ}\text{C}$
 - Sensor: -70°C bis $+350^{\circ}\text{C}$.

2. Temperaturklassifizierung entsprechend der Umgebungstemperatur im Betrieb:

	T6	T5	T4	T3	T2	T1
Signalaufbereiter	$\leq +60^{\circ}\text{C}$	$\leq +80^{\circ}\text{C}$	$\leq +100^{\circ}\text{C}$			
Kabel	$\leq +80^{\circ}\text{C}$	$\leq +95^{\circ}\text{C}$	$\leq +130^{\circ}\text{C}$	$\leq +195^{\circ}\text{C}$	$\leq +260^{\circ}\text{C}$	
Sensor	$\leq +80^{\circ}\text{C}$	$\leq +95^{\circ}\text{C}$	$\leq +130^{\circ}\text{C}$	$\leq +195^{\circ}\text{C}$	$\leq +290^{\circ}\text{C}$	$\leq +350^{\circ}\text{C}$

3. Es müssen Vorkehrungen getroffen werden dass kurzzeitige Störungen die Nominalspannungen nicht mehr als 119 V überschreiten können.

18 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Werden von folgenden Richtlinien abgedeckt:
EN 60079-0:2012 + Änderung A11:2013 und EN 60079-15:2010.

19 ROUTINEPRÜFUNGEN UND TESTS

Jedes Gerät muss einem Durchlagsfestigkeitstest unterzogen werden. Spannung von 500 V (RMS) wahren 60 Sekunden zwischen den Leitern und dem Gehäuse gemäss Norm EN 60079-15:2010.
Andernfalls muss ein Test mit 600 V (RMS) während mindestens 100 ms durchgeführt werden

Deutsche Übersetzung der originalen französischen Kopie der Seite 4

1 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT

2 Geräte zur Verwendung in explosionsgefährdeten Bereichen (Richtlinie 94/9/EG)

3 Zusätzliche Zertifikatnummer:

LCIE 09 ATEX 1038 X / 04

4 Gerät

CE 134 Beschleunigungsgeber

Typ: PNR 444-134-000-YY1 bis YY9

5 Antragsteller: Meggitt SA

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS

– Neue Beschleunigungsgeber Elektronik für neue typen, wie: PNR 444-134-000-YY5 bis YY9.

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 129425-660046 aufgezeichnet.

Spezifische Kenndaten der betroffenen Schutzarten:

PNR 444-134-000-YY1 bis YY4:

 $U \leq 30 \text{ V}$, $I \leq 130 \text{ mA}$, $P \leq 800 \text{ mW}$

PNR 444-134-000-YY5 bis YY9:

 $U \leq 28 \text{ V}$, $P \leq 224 \text{ mW}$ Die Kennzeichnung wird wie folgt festgesetzt:

Vibro-Meter oder MEGGITT SA oder MFR S3960

Adresse: ...

Typ: PNR 444-134-000-YY1 bis YY9

Herstellungsnummer: ... Herstellungsjahr: ...

 II 3 G

Ex nA IIC T6 ... T1 Gc (siehe besondere Bedingungen für die sichere Anwendung (unter Punkt 17))

LCIE 09 ATEX 1038 X

16 BESCHREIBENDE UNTERLAGEN

Zertifizierungs-Datei-Nr. DT 1038 Ausgabe 01 vom 2014/05/02.

Diese Datei enthält 5 Punkte (9 Seiten).

13 ANHANG

14 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNG SZERTIFIKAT

LCIE 09 ATEX 1038 X / 04

17 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG

– Es müssen Vorkehrungen getroffen werden dass kurzzeitige Störungen die Nominalspannungen nicht mehr als 119 V überschreiten können.

– Gefahr der elektrostatischen Aufladung: muss das Kabel gegen dieses Risiko durch die Installation oder durch einen Warnhinweis auf der endgültigen Installation geschützt werden.

– Die Umgebungstemperatur (To) im Betrieb:

Sensor: -70°C bis +350°C.

Kabel: -54°C bis +260°C

Signalaufbereiter:

PNR 444-134-000-YY1 bis YY4: $-54^{\circ}\text{C} \leq T_o \leq +100^{\circ}\text{C}$

PNR 444-134-000-YY5 bis YY9: $-54^{\circ}\text{C} \leq T_o \leq +125^{\circ}\text{C}$

– Temperaturklassifizierung entsprechend der Umgebungstemperatur von Sensor, Kabel und Signalaufbereiter im Betrieb:

	T6	T5	T4	T3	T2	T1
Sensor	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C
Kabel	+80°C	+95°C	+130°C	+195°C	+260°C	
Signalaufbereiter PNR 444-134-000-YY1 bis YY4	+60°C	+80°C	+100°C			
Signalaufbereiter PNR 444-134-000-YY5 bis YY9	+65°C	+80°C	+115°C	+125°C		

18 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Werden von folgenden Richtlinien abgedeckt:

EN 60079-0:2012 + Änderung A11:2013 und EN 60079-15:2010.

19 ROUTINEPRÜFUNGEN UND TESTS

Jedes Gerät muss einem Durchschlagsfestigkeitstest unterzogen werden. Spannung von 500 V (RMS) wahren 60 Sekunden zwischen den Leitern und dem Gehäuse (äußeren Metallteile) gemäss Norm EN 60079-15:2010.

Andernfalls muss ein Test mit 600 V (RMS) während mindestens 100 ms durchgeführt werden.



ATEX certificate:

KEMA 04 ATEX 1055

**for CA 28x, CE 28x
and CE 31x**

Although the certificate is available in the three languages (English, French and German), the liability of the notified body applies only on the text of the original copy of the certificate that it published.

EN

Bien que le certificat soit traduit dans les 3 langues (Anglais, Français et Allemand), seul le texte de la copie originale du certificat peut engager la responsabilité de l'organisme notifié qui l'a publié.

FR

Obwohl das Zertifikat in drei Sprachen (Englisch, Französisch und Deutsch) übersetzt ist, können nur die bescheinigten Behörden, die den Text auf der Originalausgabe des Zertifikates herausgegeben haben, zur rechtlichen Verantwortung gezogen werden.

DE



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- (13)

SCHEDULE
- (14)

to EU-Type Examination Certificate KEMA 04ATEX1055

Issue No. 7
- (15)

Description

Piezoelectric Accelerometers sensor only Type 144-28-000-... sensor with remote Conditioner (Electronic box) Type 444-28-000-... and sensor with integral Conditioner Type 444-31-000-... are used for vibration monitoring.

The sensor converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal, that is processed externally. When a conversion module is integrated, the sensor signal is converted into a modulated current output signal.

Ambient temperature range, depending on type and application:

Type 444-28-000-...-1
Conditioner: -55 °C to +100 °C,
Sensor and Cable: -55 °C to +260 °C

Type 444-28-000-...-2 to 444-28-000-...-9
Conditioner: -55 °C to +125 °C,
Sensor and Cable: -55 °C to +260 °C

Type 444-31-000-...-1
Sensor and Integral Conditioner: -55 °C to +100 °C

Type 444-31-000-...-2 to 444-31-000-...-9
Sensor and Integral Conditioner: -55 °C to +125 °C

Type 144-28-000-...
Sensor only: -60 °C to +260 °C

The relation between maximum ambient temperature and temperature class is as follows for all devices, taking into account the above mentioned temperature ranges:

Type	T6	T5	T4	T3	T2
444-28-000-...-1 Conditioner	+80 °C	+95 °C	+100 °C	-	-
444-28-000-...-2 to 444-28-000-...-9 Conditioner	+65 °C	+80 °C	+115 °C	+125 °C	-
444-31-000-...-1 to 444-31-000-...-9 Conditioner	+80 °C	+95 °C	+100 °C	-	-
144-28-000-...	+80 °C	+95 °C	+130 °C	+195 °C	+260 °C

CERTIFICATE
EU-Type Examination

- (1)

Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU
- (2)

EU-Type Examination Certificate Number: KEMA 04ATEX1055

Issue Number: 7
- (3)

Product: Piezoelectric Accelerometer Type 144-28-000-...,
Type 444-28-000-... and Type 444-31-000-...
- (4)

Manufacturer: Meggitt SA
- (5)

Rte de Moncor 4, 1752 Villars-sur-Glâne, Switzerland
- (6)

This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (7)

DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex I to the Directive.
- (8)

The examination and test results are recorded in confidential test report number 2106924007, issue 7.
- (9)

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0 : 2012 + A11 EN 60079-11: 2012
- (10)

except in respect of those requirements listed at item 16 of the Schedule.
- (11)

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.
- (12)

This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- (13)

The marking of the product shall include the following:
- II 1 G Ex ia IIC T6 ... T2 Ga
- Ex
- Date of certification: 24 June 2016

DEKRA Certification B.V.

R. Schuller
Certification Manager
- Page 1/3



(13) **SCHEDULE**
(14) to EU-Type Examination Certificate KEMA 04ATEX1055 Issue No. 7

Electrical data

Supply and output signal:
in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:

Type	U _i	I _i	P _i	L _i	C _i sensor	C _i cable
444-28-000-..1	28 V	100 mA	0,7 W	0mH	10,5 nF	-
444-28-000-..2 to 444-28-000-..9	28 V	100 mA	0,7 W	0mH	0 nF	-
444-31-000-..1	28 V	100 mA	0,7 W	0mH	10,5 nF	0,25 nF/m
444-31-000-..2 to 444-31-000-..9	28 V	100 mA	0,7 W	0mH	0 nF	0,25 nF/m
144-28-000-...	28 V	100 mA	0,7 W	0mH	8 nF	0,25 nF/m

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

- (16) **Report Number**
210692400/1, issue 7.
- (17) **Specific conditions of use**
None.
- (18) **Essential Health and Safety Requirements**
Covered by the standards listed at item (9).
- (19) **Test documentation**
As listed in Report No. 210692400/1, issue 7.
- (20) **Certificate history**
Issue 1 - 203798600 initial certificate
Issue 2 - 210692400 update of standards
Issue 3 - 212412300 Ci of the sensor changed from 6 nF to 8 nF.
Issue 4 - 213900900 Change of manufacturer name and address
Issue 5 - 214838400: Assessment according to EN 60079-0 : 2009
Issue 6 - 217022200 Assessment according to EN 60079-0 : 2012 and EN 60079-11 : 2012
Issue 7 - 203798600 Minor technical changes

Traduction française de la copie originale anglaise publiée à la page 1

- 1 **D'EXAMEN EU de type**
- 2 Appareils et systèmes de protection prévus pour une utilisation dans des atmosphères potentiellement explosives – **Directive 2014/34/EU**
- 3 Numéro d'attestation d'examen EU de type : **KEMA 04ATEX1055 Numéro d'émission : 7**
Appareil : **Accéléromètre piézoélectrique Type 144-28.000..., Type 444-28.000... et Type 444-31.000...**
- 5 Fabricant : **Meggitt SA**
- 6 Adresse : **Rte de Moncor 4, 1752 Villars-sur-Glâne, Switzerland**
- 7 Cet appareil et toute variante acceptable de celui-ci sont spécifiés dans l'annexe de cette attestation et les documents auxquels il est fait référence.
- 8 Suivant l'Article 17 de la Directive du Conseil 2014/34/EU du 26 février 2014, DEKRA Certification B.V., numéro d'Organisme notifié 0344, certifie que cet appareil est conforme aux Exigences essentielles en ce qui concerne la sécurité et la santé relatives à la conception et la fabrication d'appareils et de systèmes de protection conçus pour une utilisation dans des atmosphères potentiellement explosives, suivant l'Annexe II de cette directive.
Les résultats des vérifications et des tests figurent dans le rapport confidentiel N° 210692400/1 édition 7.
- 9 Le respect des Exigences essentielles en ce qui concerne la sécurité et la santé est assuré par la conformité aux normes suivantes :
EN 60079-0 : 2012 + A11 EN 60079-11 : 2012

sauf en ce qui concerne les conditions indiquées au point 18 de l'annexe.
- 10 Le signe X, lorsque placé à la suite du numéro de l'attestation, indique que l'appareil est soumis aux Conditions spéciales pour une utilisation, mentionnées dans l'annexe de la présente attestation.
- 11 La présente Attestation d'examen EU de type porte uniquement sur la conception, la vérification et les tests de l'appareil spécifié. D'autres exigences de la Directive sont applicables au procédé de fabrication et à la livraison de l'appareil. Ces dernières ne sont pas couvertes par la présente attestation.
- 12 Le marquage de l'appareil devra comporter, entre autres indications utiles, les mentions suivantes :
 **II 1 G Ex ia IIC T6 ... T2 Ga**

Date de certification : le 24 juin 2016

DEKRA Certification B.V.
R. Schuller
Responsable de la certification

13 ANNEXE

14 Attestation d'examen EU de type KEMA 04ATEX1055 Numéro d'émission : 7

15 Description

Accéléromètres piézoélectriques Type 144-28.-000-... (capteur uniquement),
capteur avec module de conversion à distance) Type 444-28.-000-... ,
et capteur avec module de conversion intégral Type 444-31.-000-... ,
utilisés pour la mesure des vibrations.

Le capteur convertit les forces mécaniques (par exemple, les vibrations) de l'appareil sur lequel il est monté en signal électrique, traité en externe. Lorsqu'un module de conversion est intégré, le signal du capteur est converti en signal de sortie sous la forme de courant modulé.

Fourchette de températures ambiantes, suivant le type et l'application :

Type 444-28.-000-...1

Module de conversion : De -55°C à +100°C

Capteur et câble : De -55°C à +260°C.

Type 444-28.-000-...2 à 444-28.-000-...9

Module de conversion : De -55°C à +125°C

Capteur et câble : De -55°C à +260°C.

Type 444-31.-000-...1

Capteur et module de conversion intégral : De -55°C à +100°C.

Type 444-31.-000-...2 à 444-31.-000-...9

Capteur et module de conversion intégral : De -55°C à +125°C.

Type 144-28.-000-...

Capteur uniquement : De -60°C à +260°C.

Pour tous les appareils et en prenant en compte les fourchettes de température mentionnées cidessus, la relation entre la température ambiante maximum et la classe de température est la suivante :

Type	T6	T5	T4	T3	T2
444-28.-000-001 Module de conversion	+80°C	+95°C	+100°C	-	-
444-28.-000-002 à 444-28.-000-009 Module de conversion	+65°C	+80°C	+115°C	+125°C	-
444-31.-000-001	+80°C	+95°C	+100°C	-	-
444-31.-000-002 à 444-31.-000-009 Module de conversion	+65°C	+80°C	+115°C	+125°C	-
144-28.-000-...	+80°C	+95°C	+130°C	+195°C	+260°C

Traduction française de la copie originale anglaise publiée à la page 2

13 ANNEXE

14 Attestation d'examen EU de type KEMA 04ATEX1055 Numéro d'émission : 7

Données électriques

Signal d'alimentation et de sortie :

Dans le type de protection par sécurité intrinsèque Ex ia IIC, uniquement pour une connexion à un circuit sécurisé intrinsèquement, avec les valeurs maximum suivantes :

Type	Ui	Ii	Pi	Li	Ci capteur	Ci câble
444-28.-000-001	28 V	100 mA	0,7 W	0 mH	10,5 nF	-
444-28.-000-002 à 444-28.-000-009	28 V	100 mA	0,7 W	0 mH	0 nF	-
444-31.-000-001	28 V	100 mA	0,7 W	0 mH	10,5 nF	0,25 nF/m
444-31.-000-002 à 444-31.-000-009	28 V	100 mA	0,7 W	0 mH	0 nF	0,25 nF/m
144-28.-000-...	28 V	100 mA	0,7 W	0 mH	8 nF	0,25 nF/m

Instructions d'installation

Les instructions du manuel fourni avec l'appareil devront être suivies précisément pour une utilisation sûre.

16 Numéro de rapport

No. 210692400/1 édition 7.

17 Conditions spéciales pour une utilisation

Néant

18 Exigences essentielles en ce qui concerne la sécurité et la santé

Couvertes par les normes répertoriées en (9)

19 Documentation de test

Comme répertoriée dans le Rapport de test N° 210692400/1 édition 7.

20 Historique de certificat

Edition 1 – 203798600 Certificat initial
 Edition 2 – 210692400 Mise à jour des normes
 Edition 3 – 212412300 Ci (capacitance) du capteur passe de 6 nF à 8 nF
 Edition 4 – 213900800 Changement de nom et adresse du fabricant
 Edition 5 – 214938400 Évaluation selon la norme EN 60079-0 : 2009
 Edition 6 – 217022200 Évaluation selon les normes EN 60079-0 : 2012 et EN 60079-11 : 2012
 Edition 7 – 203798600 Modifications techniques mineures

Deutsche Übersetzung der original englischen Kopie der Seite 1

- 1 **EGBAUMUSTERPRÜFBESCHEINIGUNG**
 - 2 Betriebsmittel und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen –
Richtlinie 2014/34/EU
 - 3 EGBaumusterprüfbescheinigung Nummer: **KEMA 04ATEX1055** Versionsnummer: **7**
 - 4 Betriebsmittel oder Schutzsystem: **Piezoelektrisches Accelerometer, Typ 144-28.000..., Typ 444-28.000... und Typ
444-31.000...**
 - 5 Hersteller: **Meggitt SA**
 - 6 Adresse: **Rte de Moncor 4, 1752 Villars-sur-Glâne, Schweiz**
 - 7 Die Bauart dieses Geräts oder Schutzsystems sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu
dieser EGBaumusterprüfbescheinigung und in den zugehörigen Unterlagen festgelegt.
 - 8 DEKRA Certification B.V. bescheinigt als benannte Stelle Nr. 0344 nach Artikel 17 der Richtlinie 2014/34/EU des Rates der
Europäischen Gemeinschaft vom 26. Februar 2014 die Erfüllung der grundlegenden Sicherheits und
Gesundheitsanforderungen für die Konzeption und die Herstellung von Betriebsmitteln und Schutzsystemen zur
bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.
Die Ergebnisse der Prüfung sind im vertraulichen Prüfbericht Nr. 210692400/1 Ausgabe 7 festgehalten.
 - 9 Die grundlegenden Sicherheits und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit:
EN 60079-0: 2012 + A11 EN 60079-11: 2012
- außer in Bezug auf diese Anforderungen unter Punkt 18 aufgeführten der Zeitplan.
- 10 Falls das Zeichen „X“ hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung
dieses Betriebsmittels oder Schutzsystems in der Anlage zu dieser Bescheinigung hingewiesen.
 - 11 Diese EGBaumusterprüfbescheinigung bezieht sich nur auf Konzeption, Bau und Prüfung des bezeichneten Betriebsmittels
oder Schutzsystems gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für den Herstellungsprozess
und das Inverkehrbringen dieses Betriebsmittels oder Schutzsystems. Diese Anforderungen werden von dieser
Bescheinigung nicht abgedeckt.
 - 12 Die Kennzeichnung des Betriebsmittels oder Schutzsystems muss die folgenden Angaben enthalten:
 **II 1 G Ex ia IIC T6 ... T2 Ga**

Zeit der Zertifizierung: 24. Juni 2016

DEKRA Certification B.V.
R. Schuller
Certification Manager

Seite 1/3

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Deutsche Übersetzung der original englischen Kopie der Seite 1

13 **ANLAGE**14 **zur EGBaumusterprüfbescheinigung KEMA 04ATEX1055 Version 7**15 **Beschreibung**

Piezelektrische Accelerometer der Typen 144-28.-000-... (nur Sensor) ,
Sensor mit externem Konvertierungsmodul der Typen 444-28.-000-... ,
und Sensor mit integriertem Konvertierungsmodul der Typen 444-31.-000-... ,
werden für die Schwingungsüberwachung verwendet.

Der Sensor wandelt mechanische Kräfte (z. B. Schwingungen), die auf das Betriebsmittel wirken, an dem der Sensor befestigt ist, in ein elektrisches Signal, das extern weiterverarbeitet wird. Wenn ein Konvertierungsmodul integriert ist, wird das Sensorsignal in ein strommoduliertes Ausgangssignal umgewandelt.

Umgebungstemperaturbereiche nach Typ und Anwendung:

Typ 444-28.-000-..1

Konvertierungsmodul: -55°C bis +100°C

Sensor und Kabel: -55°C bis +260°C.

Typ 444-28.-000-..2 bis Typ 444-28.-000-..9

Konvertierungsmodul: -55°C bis +125°C

Sensor und Kabel: -55°C bis +260°C.

Typ 444-31.-000-..1

Sensor und integriertes Konvertierungsmodul: -55°C bis +100°C.

Typ 444-31.-000-..2 bis Typ 444-31.-000-..9

Sensor und integriertes Konvertierungsmodul: -55°C bis +125°C.

Typ 444-28.-000-...

Nur Sensor: -60°C bis +260°C.

Der Zusammenhang zwischen maximaler Umgebungstemperatur und Temperaturklasse gilt für alle Geräte gemäß der nachstehenden Tabelle. Dabei sind die oben genannten Temperaturbereiche zu berücksichtigen:

Typ	T6	T5	T4	T3	T2
444-28.-000-001 Konvertierungsmodul	+80°C	+95°C	+100°C	-	-
444-28.-000-002 à 444-28.-000-009 Konvertierungsmodul	+65°C	+80°C	+115°C	+125°C	-
444-31.-000-001	+80°C	+95°C	+100°C	-	-
444-31.-000-002 à 444-31.-000-009 Konvertierungsmodul	+65°C	+80°C	+115°C	+125°C	-
144-28.-000-...	+80°C	+95°C	+130°C	+195°C	+260°C

Deutsche Übersetzung der original englischen Kopie der Seite 2

13 **ANLAGE**14 **zur EGBaumusterprüfbescheinigung KEMA 04ATEX1055 Version 7****Elektrische Daten**

Versorgungsspannung und Ausgangssignal:

In Zündschutzart Eigensicherheit Ex ia IIC, nur zum Anschluss an einen bescheinigten eigensicheren Stromkreis mit folgenden Höchstwerten:

Typ	Ui	Ii	Pi	Li	Ci sensor	Ci kabel
444-28.-000-001	28 V	100 mA	0,7 W	0 mH	10,5 nF	-
444-28.-000-002 à 444-28.-000-009	28 V	100 mA	0,7 W	0 mH	0 nF	-
444-31.-000-001	28 V	100 mA	0,7 W	0 mH	10,5 nF	0,25 nF/m
444-31.-000-002 à 444-31.-000-009	28 V	100 mA	0,7 W	0 mH	0 nF	0,25 nF/m
144-28.-000-...	28 V	100 mA	0,7 W	0 mH	8 nF	0,25 nF/m

Installationsanweisungen

Zur sicheren Bedienung sind die Anweisungen im mitgelieferten Handbuch zur beachten.

16 **Berichtsnummer**

Nr. 210692400/1 Ausgabe 7.

17 **Besondere Bedingungen für die sichere Anwendung**

Keine

18 **GRUNDLEGENDE GESUNDHEITS UND SICHERHEITSANFORDERUNGEN**

Abgedeckt durch die unter 9 aufgeführten Normen.

19 **Prüfungsunterlagen**

Gemäß Aufstellung in Prüfbericht Nr. 210692400/1 Ausgabe 7.

20 **Zertifikat Geschichte**

Ausgabe 1 – 203798600 Ursprüngliche

Ausgabe 2 – 210692400 Aktualisierung von Standards

Ausgabe 3 – 212412300 Kapazität (Ci) des Sensors 6 nF bis 8 nF geändert

Ausgabe 4 – 213900800 Änderung des Namens und Anschrift des Herstellers

Ausgabe 5 – 214938400 Beurteilung selon Standard EN 60079-0 : 2009

Ausgabe 6 – 217022200 Beurteilung selon den Standards EN 60079-0 : 2012 und EN 60079-11 : 2012

Ausgabe 7 – 203798600 Geringfügige technische Austausch



ATEX certificate:
LCIE 09 ATEX 1047 X
for CA 28x, CE 28x
and CE 31x

Although the certificate is available in the three languages (English, French and German), the liability of the notified body applies only on the text of the original copy of the certificate that it published.

EN

Bien que le certificat soit traduit dans les 3 langues (Anglais, Français et Allemand), seul le texte de la copie originale du certificat peut engager la responsabilité de l'organisme notifié qui l'a publié.

FR

Obwohl das Zertifikat in drei Sprachen (Englisch, Französisch und Deutsch) übersetzt ist, können nur die bescheinigten Behörden, die den Text auf der Originalausgabe des Zertifikates herausgegeben haben, zur rechtlichen Verantwortung gezogen werden.

DE



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LCIE

1 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE

2 Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant :

LCIE 09 ATEX 1047 X / 01

4 Appareil

Capteur d'accélération

Type : PNR : 444-28X-000-YYY

444-31X-000-YYY

144-28X-000-YYY

5 demandeur :

Meggit SA

Rue de Moncor 4

1752 Villars-sur-Glâne

Suisse

15 DESCRIPTION DE L'AVENANT

- Changement de nom et d'adresse du fabricant

- Modifications des marques commerciales déposées

Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 102105 - 602924 / 19.

Paramètres spécifiques du ou des modes de protection concernés(s) :
Inchangés.

Le marquage doit être :

Inchangé, excepté la marque commerciale vibro-mètre qui devient vibro-mètre ou MEGGITT ou MFR S3960 et l'adresse.

16 DOCUMENTS DESCRIPTIFS

Courrier du demandeur du 07/09/2010.

17 CONDITIONS SPECIALES POUR UNE UTILISATION SÛRE

Inchangés.

18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE

Inchangés.

19 VERIFICATIONS ET ESSAIS INDIVIDUELS

Neant.

Fontenay-aux-Roses, le 25 octobre 2010.

1 VOLUNTARY SUPPLEMENTARY TYPE EXAMINATION CERTIFICATE

2 Equipment intended for use in potentially explosive atmospheres (Directive 94/9/EC)

3 Supplementary certificate number :

LCIE 09 ATEX 1047 X / 01

4 Equipment

Accelerometer

Type : PNR : 444-28X-000-YYY

444-31X-000-YYY

144-28X-000-YYY

5 Applicant : Meggit SA

Rue de Moncor 4

1752 Villars-sur-Glâne

Switzerland

15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE

- Change of legal entity name and address of applicant

- Modifications of registered trade mark

The examination and test results are recorded in confidential report N° 102105 - 602924 / 19.

Specific parameters of the mode(s) of protection concerned:
Unchanged.

The marking shall be :

Unchanged, except registered trade mark vibro-meter becomes vibro-meter or MEGGITT or MFR S3960 and the address.

16 DESCRIPTIVE DOCUMENTS

Letter of applicant from 2010/09/07.

17 SPECIAL CONDITIONS FOR SAFE USE

Unchanged.

18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

Unchanged.

19 ROUTINE VERIFICATIONS AND TESTS

None.

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Scellé par Actis - Schéma II, pp. app. et mod. IEC
au capital de 14 749 804 €
RCS Nanterre B 498 584 174

Page : sur 1
09/10/2010

LCIE

1 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE

2 Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant : LCIE 09 ATEX 1047 X / 03

4 Appareil ou système de protection : Capteurs d'accélération PNR 444-28X-000-YYY, PNR 144-28X-000-YYY

5 Demandeur : Meggitt SA

15 DESCRIPTION DE L'AVENANT

Mise à jour normative selon la norme EN 60079-0:2012 + Amendement A11:2013.

- Types PNR 444-XXX-000-YYY deviennent PNR 444-XXX-000-YYY.

- Ajout d'un essai individuel de rigidité diélectrique.

Définition du type / Type definition:

PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

X = 0...9 : définit l'application de la tête du capteur / defines the application of the sensor head

Y = 0...9 : dépend du type de connecteur et de la longueur du câble / depends on the type of connector and cable length.

Les résultats des vérifications et essais de type sont enregistrés dans le rapport confidentiel n°130454-862462-11.

Paramètres spécifiques du ou des modes de protection concernés :

U ≤ 28 V, I ≤ 100 mA, P ≤ 0.7 W

Le marquage doit être :

Meggitt SA ou Vibro-meter ou MFR S3960

Adresse : ...

PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

N° de fabrication : ...

Année de fabrication : ...

Ex nA IIC T6...T4 ou T6...T2 Gc (*)

LCIE 09 ATEX 1047 X

(*) : voir conditions spéciales pour une utilisation sûre.

Fontenay-aux-Roses, le 02 décembre 2014

Le Responsable de Certification ATEX
ATEX Certification Officer

LCIE

1 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE

2 Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant : LCIE 09 ATEX 1047 X / 03

4 Appareil ou système de protection : Accéléromètres PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

5 Demandeur : Meggitt SA

15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE

- Normative update according to standard EN 60079-0:2012 + Amendment A11:2013.

- Types PNR 444-XXX-000-YYY become PNR 444-XXX-000-YYY.

- Add of routine dielectric strength test.

Specific parameters of the concerned protection mode:

U ≤ 28 V, I ≤ 100 mA, P ≤ 0.7 W

The marking shall be:

Meggitt SA or Vibro-meter or MFR S3960

Address: ...

PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

Serial number: ...

Year of construction: ...

Ex nA IIC T6...T4 or T6...T2 Gc (*)

LCIE 09 ATEX 1047 X

(*) : see special conditions for safe use.

Fontenay-aux-Roses, le 02 décembre 2014

Le Responsable de Certification ATEX
ATEX Certification Officer

LCIE

1 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE

2 Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant : LCIE 09 ATEX 1047 X / 03

4 Appareil ou système de protection : Capteurs d'accélération PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

5 Demandeur : Meggitt SA

15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE

- Normative update according to standard EN 60079-0:2012 + Amendment A11:2013.

- Types PNR 444-XXX-000-YYY become PNR 444-XXX-000-YYY.

- Add of routine dielectric strength test.

Specific parameters of the concerned protection mode:

U ≤ 28 V, I ≤ 100 mA, P ≤ 0.7 W

The marking shall be:

Meggitt SA or Vibro-meter or MFR S3960

Address: ...

PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

Serial number: ...

Year of construction: ...

Ex nA IIC T6...T4 or T6...T2 Gc (*)

LCIE 09 ATEX 1047 X

(*) : see special conditions for safe use.

Fontenay-aux-Roses, le 02 décembre 2014

Le Responsable de Certification ATEX
ATEX Certification Officer

LCIE

1 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE

2 Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant : LCIE 09 ATEX 1047 X / 03

4 Appareil ou système de protection : Accéléromètres PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

5 Demandeur : Meggitt SA

15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE

- Normative update according to standard EN 60079-0:2012 + Amendment A11:2013.

- Types PNR 444-XXX-000-YYY become PNR 444-XXX-000-YYY.

- Add of routine dielectric strength test.

Specific parameters of the concerned protection mode:

U ≤ 28 V, I ≤ 100 mA, P ≤ 0.7 W

The marking shall be:

Meggitt SA or Vibro-meter or MFR S3960

Address: ...

PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

Serial number: ...

Year of construction: ...

Ex nA IIC T6...T4 or T6...T2 Gc (*)

LCIE 09 ATEX 1047 X

(*) : see special conditions for safe use.

Fontenay-aux-Roses, le 02 décembre 2014

Le Responsable de Certification ATEX
ATEX Certification Officer

LCIE

1 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE

2 Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant : LCIE 09 ATEX 1047 X / 02

4 Appareil : Accéléromètre PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

5 Demandeur : Meggitt SA

15 DESCRIPTION DE L'AVENANT

Mise à jour des normes EN 60079-0 (2009) et EN 60079-15 (2010)

Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 110055-619675 / 10

Paramètres spécifiques du ou des modes de protection concernés :

Non changés

Le marquage doit être :

Modifié comme suit

Vibro-Meter ou MEGGITT ou MFR S3960

Adresse : ...

Type : PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

N° de série : ...

Ex nA IIC T6 T4 ou T2 Gc (1)

LCIE 09 ATEX 1047 X

(1) dépend du type

DOCUMENTS DESCRIPTIFS

Lettre du demandeur du 20/10/2011 (2 pages).

CONDITIONS SPECIALES POUR UNE UTILISATION SURE

Inchangées

EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE

Couvertes par les normes EN 60079-0 (2009) et EN 60079-15 (2010)

VERIFICATIONS ET ESSAIS INDIVIDUELS

Non

Fontenay-aux-Roses, le 21/12/2011

Le Responsable de Certification ATEX
ATEX certification manager

LCIE

1 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE

2 Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant : LCIE 09 ATEX 1047 X / 02

4 Appareil : Accéléromètre PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

5 Demandeur : Meggitt SA

15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE

Normative update according to EN 60079-0 (2009) and EN 60079-15 (2010)

The examination and test results are recorded in confidential report N° 110055-619675 / 10

Specific parameters of the concerned protection mode :

Unchanged

The marking shall be :

Modified as follows

Vibro-Meter or MEGGITT or MFR S3960

Address : ...

Type : PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

Serial Number: ...

Ex nA IIC T6 T4 or T2 Gc (1)

LCIE 09 ATEX 1047 X

(1) depending on type

DESCRIPTIVE DOCUMENTS

Applicant's letter dated 2011/10/20 (2 pages).

SPECIAL CONDITIONS FOR SAFE USE

Unchanged

ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

Covered by standards EN 60079-0 (2009) and EN 60079-15 (2010)

ROUTINE VERIFICATIONS AND TESTS

None

Fontenay-aux-Roses, le 21/12/2011

Le Responsable de Certification ATEX
ATEX certification manager

LCIE

1 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE

2 Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant : LCIE 09 ATEX 1047 X / 02

4 Appareil : Accéléromètre PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

5 Demandeur : Meggitt SA

15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE

Normative update according to EN 60079-0 (2009) and EN 60079-15 (2010)

The examination and test results are recorded in confidential report N° 110055-619675 / 10

Specific parameters of the concerned protection mode :

Unchanged

The marking shall be :

Modified as follows

Vibro-Meter or MEGGITT or MFR S3960

Address : ...

Type : PNR 444-28X-000-YYY, PNR 444-31X-000-YYY, PNR 144-28X-000-YYY

Serial Number: ...

Ex nA IIC T6 T4 or T2 Gc (1)

LCIE 09 ATEX 1047 X

(1) depending on type

DESCRIPTIVE DOCUMENTS

Applicant's letter dated 2011/10/20 (2 pages).

SPECIAL CONDITIONS FOR SAFE USE

Unchanged

ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

Covered by standards EN 60079-0 (2009) and EN 60079-15 (2010)

ROUTINE VERIFICATIONS AND TESTS

None

Fontenay-aux-Roses, le 21/12/2011

Le Responsable de Certification ATEX
ATEX certification manager



- 13 ANNEXE (suite)

14 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE

LCIE 09 ATEX 1047 X / 03
- 13 SCHEDULE (continued)

14 VOLUNTARY SUPPLEMENTARY TYPE EXAMINATION CERTIFICATE

LCIE 09 ATEX 1047 X / 03
- 19 VERIFICATIONS ET ESSAIS INDIVIDUELS

19 ROUTINE VERIFICATIONS AND TESTS

Chaque appareil doit être soumis à un essai de rigidité diélectrique sous une tension d'essai de 500 V efficace, appliquée entre les conducteurs et le châssis durant 60 s, conformément au paragraphe 6.5.1 de la norme EN 60079-15:2010.

Autrement, l'essai doit être exécuté à 600 V efficace pendant au moins 100 ms.

Each equipment shall be submitted to a dielectric strength test with test voltage of 500 V r.m.s. applied between wires and body during 60 s, carried out in accordance with clause 6.5.1 of standard EN 60079-15:2010.

Alternatively, a test shall be carried out at 600 V r.m.s. during at least 100 ms.



- 13 ANNEXE

14 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE

LCIE 09 ATEX 1047 X / 03
- 13 SCHEDULE

14 VOLUNTARY SUPPLEMENTARY TYPE EXAMINATION CERTIFICATE

LCIE 09 ATEX 1047 X / 03
- 15 DESCRIPTION DE L'AVENANT (suite)

15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE (continued)

Le marquage peut être réduit comme suit :
Meggit SA et Vibro-mètre ou MFR S3960
PNR 444-28X-000-YY1, PNR 444-31X-000-YY1, PNR 144-28X-000-YYY
② II 3 G
Ex nA IIC T6...T4 ou T6...T2 Gc (*)
LCIE 09 ATEX 1047 X
(*) : voir conditions spéciales pour une utilisation sûre.

The marking can be reduced as follows:
Meggit SA et Vibro-mètre ou MFR S3960
PNR 444-28X-000-YY1, PNR 444-31X-000-YY1, PNR 144-28X-000-YYY
② II 3 G
Ex nA IIC T6...T4 or T6...T2 Gc (*)
LCIE 09 ATEX 1047 X
(*) : see special conditions for safe use.

The equipment shall also bear the usual marking required by the manufacturing standards applying to such equipment.

- 16 DOCUMENTS DESCRIPTIFS

16 DESCRIPTIVE DOCUMENTS
- 17 CONDITIONS SPECIALES POUR UNE UTILISATION SURE

17 SPECIAL CONDITIONS FOR SAFE USE

1. Température ambiante d'utilisation / Ambient temperature in service:

Type	Câble / Cable	Captteur / Sensor	Conditionneur / Conditioner
PNR 444-28X-000-YY1	-55°C à/to +260°C	-55°C à/to +200°C	-55°C à/to +100°C
PNR 444-31X-000-YY1	-55°C à/to +125°C	-55°C à/to +125°C	
PNR 144-28X-000-YYY	-55°C à/to +260°C		

2. Classement en température / Temperature classification:

Classe de température / Temperature class	T6	T5	T4	T3	T2
Température ambiante d'utilisation / Ambient temperature in service					
PNR 444-28X-000-YY1	≤+80°C	≤+195°C	≤+130°C	≤+195°C	≤+260°C
PNR 444-31X-000-YY1	≤+80°C	≤+195°C	≤+125°C		
PNR 144-28X-000-YYY	≤+80°C	≤+195°C	≤+130°C	≤+195°C	≤+260°C

3. Des mesures doivent être prises afin d'éviter que la tension nominale ne soit pas dépassée par des perturbations transitoires de plus de 119 V.

3. Provisions shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 119 V.

- 18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE

18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS
- 18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE

18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

Conformité aux normes européennes EN 60079-0:2012 + Amendement A11:2013 et EN 60079-15:2010.

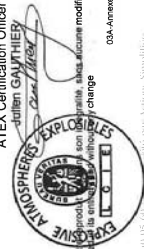
Compliance with European standards EN 60079-0:2012 + Amendment A11:2013 and EN 60079-15:2010.



- 13 ANNEXE 13 SCHEDULE
- 14 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE 14 VOLUNTARY SUPPLEMENTARY TYPE EXAMINATION CERTIFICATE
- LCIE 09 ATEX 1047 X / 04
- 17 CONDITIONS SPECIALES POUR UNE UTILISATION SURE 17 SPECIAL CONDITIONS FOR SAFE USE
- L'installation électrique doit fournir une protection contre les transitions de tensions supérieures à 119V.
 - PNR 444-28X-000-YY1 à YY9, plages de températures de fonctionnement (Ta) :
 - Capteur et câble :
 - -55°C ≤ Ta ≤ +260°C
 - Conditionneur PNR 444-28X-000-YY1 :
 - -55°C ≤ Ta ≤ +100°C
 - Conditionneur PNR 444-28X-000-YY2 à YY9 :
 - -55°C ≤ Ta ≤ +125°C
 - PNR 444-31X-000-YY1, -55°C ≤ Ta ≤ +125°C.
 - PNR 444-31X-000-YY2 à YY9, -55°C ≤ Ta ≤ +125°C.
 - Classement en température en fonction des températures de fonctionnement maximum du conditionneur, du câble et du capteur, voir tableau ci-dessous :
- | T6 | T5 | T4 | T3 | T2 |
|---|-------|-------|--------|--------|
| PNR 444-28X-000-YY1 ... YY9
Capteur et câble / Sensor and cable. | +80°C | +95°C | +130°C | +260°C |
| PNR 444-28X-000-YY1
Conditionneur / Conditioner | +80°C | +95°C | +100°C | --- |
| PNR 444-28X-000-YY2 ... YY9
Conditionneur / Conditioner | +65°C | +80°C | +115°C | +125°C |
| PNR 444-31X-000-YY1 | +80°C | +95°C | +125°C | --- |
| PNR 444-31X-000-YY2 ... YY9 | +65°C | +80°C | +115°C | +125°C |
| PNR 144-28X-000-YYY | +80°C | +95°C | +130°C | +260°C |
- 18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE 18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS
- Couvertes par les normes EN 60079-0:2012/A11:2013 et EN 60079-15:2010.
- 19 VERIFICATIONS ET ESSAIS INDIVIDUELS 19 ROUTINE VERIFICATIONS AND TESTS
- Chaque produit devra être soumis à une épreuve de rigidité diélectrique de 500VAC pendant une minute, comme définie dans le paragraphe § 9.5 de la norme EN 60079-15:2010.
 - Les connexions d'entrée et les câbles, réalisés en conformité avec les normes, doivent être réalisés à 600VAC pendant au moins 100ms.
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- 03A-Annee II_yp_app_fr - rev3 DOC Page 2 sur 2



- 1 AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE 1 VOLUNTARY SUPPLEMENTARY TYPE EXAMINATION CERTIFICATE
- 2 Appareil destiné à être utilisé en atmosphères explosibles 2 Equipment intended for use in potentially explosive atmospheres (Directive 94/9/EC)
- 3 Numéro de l'avenant : LCIE 09 ATEX 1047 X / 04 3 Supplementary certificate number : LCIE 09 ATEX 1047 X / 04
- 4 Appareil : Accéléromètres CE28X et CE31X 4 Equipment : Accelerometers CE28X and CE31X
- Type : - PNR 444-28X-000-YY1 à YY9, - PNR 444-31X-000-YY1 à YY9, - PNR 144-28X-000-YYY.
- 5 Demandeur : Meggitt SA 5 Applicant : Meggitt SA
- 15 DESCRIPTION DE L'AVENANT 15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE
- Nouveau développement de l'électronique du conditionneur, les nouveaux types sont :
- PNR 444-28X-000-YY2 à YY9,
 - PNR 444-31X-000-YY2 à YY9,
 - PNR 144-28X-000-YYY.
- Les résultats des vérifications et essais figurent dans le rapport confidentiel N°129425-660044.
- Paramètres spécifiques du ou des modes de protection concernés :
- PNR 444-28X-000-YY1 :
U ≤ 28V, I ≤ 100mA, P ≤ 0,7W
 - PNR 444-28X-000-YY2 à YY9 :
U ≤ 28V, I ≤ 8mA, P ≤ 224mW
 - PNR 444-31X-000-YY1 :
U ≤ 28V, I ≤ 100mA, P ≤ 0,7W
 - PNR 444-31X-000-YY2 à YY9 :
U ≤ 28V, I ≤ 8mA, P ≤ 224mW
 - PNR 144-28X-000-YYY :
U ≤ 28V, I ≤ 100mA, P ≤ 0,7W
- Le marquage doit être : Modifié comme suit
- VIBRO-METER ou MEGGITT SA ou MFR S3960
- Type : PNR 444-28X-000-YY1 à YY9 ou PNR 444-31X-000-YY1 à YY9 ou PNR 144-28X-000-YYY
- Numéro de série : ...
- Année de fabrication : ...
- © ILS G
- EXAMIG T6, T2 Gc (voir conditions spéciales)
- LCIE 09 ATEX 1047 X
- 16 DOCUMENTS DESCRIPTIFS 16 DESCRIPTIVE DOCUMENTS
- Dossier de certification n° DT 1039 Rev.01 du 05-05-2014. Ce document comprend 5 rubriques (10 pages).
- Dossier de certification n° DT 1040 Rev.01 du 05-05-2014. Ce document comprend 5 rubriques (10 pages).
- Fontenay-aux-Roses, le 27 janvier 2015
- Le Responsable de Certification ATEX
- Julien GAUTHIER
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- 03A-Annee II_yp_app_fr - rev3 DOC Page 1 sur 2



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Deutsche Übersetzung der originalen französischen Kopie der Seite 1**1 FREIWILLIGES TYPENPRÜFZERTIFIKAT**

2 Geräte zur Verwendung in explosionsgefährdeten Bereichen - **Richtlinie 94/9/EG**

3 Zertifikatnummer

LCIE 09 ATEX 1047X

4 Gerät

Beschleunigungsgeber

PNR: 444-28X-000-YYY

PNR: 444-31X-000-YYY

PNR: 144-28X-000-YYY

5 Hersteller: VIBRO METER

Adresse: Route de Moncor 4, 1701 FRIBOURG, SCHWEIZ

7 Dieses Gerät oder Schutzsystem und die möglichen, zulässigen Varianten sind im Anhang dieses Zertifikats und den darin aufgeführten Unterlagen beschrieben.

8 LCIE bestätigt, dass dieses Gerät oder Schutzsystem die wesentlichen Gesundheits- und Sicherheitsanforderungen in Bezug auf die Auslegung und die Bauart von Geräten und Schutzsystemen der Kategorie 3 (elektrisch) oder Kategorien 2 und 3 (nicht elektrisch) zur Verwendung in explosionsgefährdeten Bereichen nach Anhang II der Richtlinie 94/9EG des Europaparlaments und des Rats vom 23. März 1994 erfüllt.

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 94576/589014/10 aufgezeichnet.

9 Die Einhaltung der wesentlichen Gesundheits- und Sicherheitsanforderungen wird durch die Übereinstimmung mit den folgenden Dokumenten sichergestellt:

- EN 60079-0 (2006)

- EN 60079-15 (2005)

10 Ein "X" nach der Zertifikatnummer gibt an, dass für die sichere Verwendung des Gerätes oder Schutzsystems besondere Bedingungen gemäß dem Anhang dieses Zertifikates gelten.

11 Dieses Typenprüfzertifikat betrifft nur die Bauart und die Prüfungen und Tests des betreffenden Geräts oder Schutzsystems gemäß Richtlinie 94/9/EG.

Zusätzliche Anforderungen dieser Richtlinie gelten für die Fertigung und Lieferung des Geräts oder Schutzsystems. Diese werden durch dieses Zertifikat nicht abgedeckt.

12 Die Kennzeichnung des Gerätes oder Schutzsystems muss die unter Punkt 15 erläuterten Angaben enthalten.

Fontenay-aux-Roses,
am 10. Oktober 2009

Leiter Zertifizierung

Trockenstempel

Seite 1/3

LCIE haftet nur für den französischen Text.

Dieses Zertifikat darf nur vollständig und ohne Änderungen vervielfältigt werden.

Deutsche Übersetzung der originalen französischen Kopie der Seite 1

13 ANHANG

14 FREIWILLIGES TYPENPRÜFZERTIFIKAT

LCIE 09 ATEX 1047 X

15 BESCHREIBUNG DES GERÄTES ODER SCHUTZSYSTEMS

Beschleunigungsgeber

Typ : PNR : 444-28X-000-YYY

PNR : 444-31X-000-YYY

PNR : 144-28X-000-YYY

Das Gerät verwandelt elektrische Eingangsladung in elektrisches Ausgangssignal welches proportional zur Beschleunigung oder dem Druck ist.

Spezifische Kenndaten der betroffenen Schutzarten:

$U \leq 28 \text{ V}$, $I \leq 100 \text{ mA}$, $P \leq 0,7 \text{ W}$

Kennzeichnung:

VIBRO-METER Adresse: ..

Typ: PNR: 444-28X-000-YYY, 444-31X-000-YYY,
144-28X-000-YYY

Herstellungsnummer: ... Herstellungsjahr: ...

 3G Ex nA II T6 bis T4 oder T2

LCIE 09 ATEX 1047 X

Die Kennzeichnung kann wie folgt vereinfacht werden:

VIBRO-METER

444-28X-000-YYY, 444-31X-000-YYY, 144-28X-000-YYY

 II 3G LCIE 09 ATEX 1047 X

Die Geräte müssen ebenfalls mit der Kennzeichnung versehen sein, die in den Herstellungsnormen der betreffenden Geräte normalerweise vorgesehen sind.

16 BESCHREIBENDE UNTERLAGEN

Zertifizierungs-Datei-Nr. DT 1039 Ausgabe 0 vom 20. Juli 2009.

Diese Datei enthält 7 Punkte (12 Seiten).

Zertifizierungs-Datei-Nr. DT 1040 Ausgabe 0 vom 20. Juli 2009.

Diese Datei enthält 7 Punkte (11 Seiten).

Zertifizierungs-Datei-Nr. DT 1048 Ausgabe 0 vom 20. Juli 2009.

Diese Datei enthält 3 Punkte (5 Seiten).

Seite 2/3

13 ANHANG**14 FREIWILLIGES TYPENPRÜFZERTIFIKAT****LCIE 09 ATEX 1047 X****17 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG**Sensor 444-28X-000-YYY :

Umgebungstemperatur:

- Sensor: -55 °C bis +260 °C
- Kabel: -55 °C bis +260 °C
- Signalaufbereiter: -55 °C bis +100 °C

Temperaturklassifizierung:

- T6 bis Ta = +80 °C
- T5 bis Ta = +95 °C
- T4 bis Ta = +130 °C
- T3 bis Ta = +195 °C
- T2 bis Ta = +260 °C

Sensor 444-31X-000-YYY :

Umgebungstemperatur:

- Sensor: -55 °C bis +125 °C
- Kabel: -55 °C bis +125 °C

Temperaturklassifizierung:

- T6 bis Ta = +80 °C
- T5 bis Ta = +95 °C
- T4 bis Ta = +125 °C

Sensor 144-28X-000-YYY :

Umgebungstemperatur:

- Sensor und Kabel: -55 °C bis +260 °C

Temperaturklassifizierung:

- T6 bis Ta = +80 °C
- T5 bis Ta = +95 °C
- T4 bis Ta = +130 °C
- T3 bis Ta = +195 °C
- T2 bis Ta = +260 °C

18 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Siehe unter Punkt 9 aufgelistete Bestimmungen.

19 ROUTINEPRÜFUNGEN UND TESTS

Keine.

Deutsche Übersetzung der originalen französischen Kopie der Seite 2

1 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT

2 Geräte zur Verwendung in explosionsgefährdeten Bereichen (**Richtlinie 94/9/EG**)3 Zusätzliche Zertifikatnummer:
LCIE 09 ATEX 1047 X / 014 Gerät
Beschleunigungsgeber
PNR: 444-28X-000-YYY
PNR: 444-31X-000-YYY
PNR: 144-28X-000-YYY5 Hersteller: Meggitt SA
Adresse: Route de Moncor 4, 1752 Villars-sur-Glâne, Schweiz

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS

- Änderung der juristischen Person und Adresse des Antragstellers
- Modifikation des eingetragenen Markenzeichens

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 102105-602924/19 aufgezeichnet.

Spezifische Kenndaten der betroffenen Schutzarten:
Unverändert.

Die Kennzeichnung soll lauten:
Unverändert, bis auf Markenzeichen vibro-meter wird zu vibro-meter oder MEGGITT oder MFR S3960 sowie die Adressänderung.

16 BESCHREIBENDE UNTERLAGEN

Brief des Antragsstellers vom 07.09.2010.

17 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG

Unverändert.

18 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Unverändert.

19 ROUTINEPRÜFUNGEN UND TESTS

Keine.

Fontenay-aux-Roses,
am 25. Oktober 2010

Leiter Zertifizierung

Trockenstempel

Seite 1/1

Deutsche Übersetzung der originalen französischen Kopie der Seite 3

1 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT

2 Geräte zur Verwendung in explosionsgefährdeten Bereichen (**Richtlinie 94/9/EG**)

3 Zusätzliche Zertifikatnummer:
LCIE 09 ATEX 1047 X / 02

4 Gerät
Beschleunigungsgeber
PNR: 444-28X-000-YYY
PNR: 444-31X-000-YYY
PNR: 144-28X-000-YYY

5 Hersteller: Meggitt SA

15 **BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS**

Standardaktualisierungen gemäß folgender Richtlinien:
EN 60079-0 (2009) und EN 60079-15 (2010)

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 110055-619675 / 10 aufgezeichnet.

Spezifische Kenndaten der betroffenen Schutzarten:
Unverändert.

Die Kennzeichnung lautet wie folgt:

Wie folgt modifiziert:

Vibro-Meter oder MEGGITT oder MFR S3960

Adresse: ...

Typ: PNR: 444-28X-000-YYY

PNR: 444-31X-000-YYY

PNR: 144-28X-000-YYY

Herstellungsnummer: ... Herstellungsjahr: ...

 II 3 G

Ex nA IIC T6 bis T4 oder T2 Gc (1)

LCIE 09 ATEX 1047 X

(1) Abhängig von der Typ der Gerät

16 **BESCHREIBENDE UNTERLAGEN**

Brief des Antragsstellers vom 20.10.2011 (2 Seiten)

17 **BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG**

Unverändert.

18 **WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT**

Werden von folgenden Richtlinien abgedeckt:
EN 60079-0 (2009) und EN 60079-15 (2010)

19 **ROUTINEPRÜFUNGEN UND TESTS**

Keine.

Fontenay-aux-Roses,
am 21. Dezember 2011

Leiter Zertifizierung

Trockenstempel

Seite 1/1

Obwohl das Zertifikat in drei Sprachen (Englisch, Französisch und Deutsch) übersetzt ist, können nur die bescheinigten Behörden, die den Text auf der Originalausgabe des Zertifikates herausgegeben haben, zur rechtlichen Verantwortung gezogen werden.

Deutsche Übersetzung der originalen französischen Kopie der Seite 3

1 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT

2 Geräte zur Verwendung in explosionsgefährdeten Bereichen (Richtlinie 94/9/EG)

3 Zusätzliche Zertifikatnummer:

LCIE 09 ATEX 1047 X / 03

4 Gerät

Beschleunigungsgeber

Typ: PNR 444-28X-000-YY1, PNR 444-31X-000-YY1, PNR 144-28X-000-YYY

5 Antragsteller: Meggitt SA

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS

- Standardaktualisierungen gemäß folgender Richtlinien:
EN 60079-0:2012 + Änderung A11:2013.
- PNR 444-XXX-000-YYY wird PNR 444-XXX-000-YY1.
- Hinzufügen einer Stückprüfung von Durchschlagfestigkeit.

Definition von Gerät:

PNR 444-28X-000-YY1, PNR 444-31X-000-YY1, PNR 144-28X-000-YYY

X = 0 ... 9: Definiert das Design des Sensorkopfes

Y = 0 ... 9: Abhängig von der Steckertyp und Kabellänge.

Die Testergebnisse sind im vertraulichen Bericht Nr. 130454-662462-11.

Spezifische Kenndaten der betroffenen Schutzarten: $U \leq 28 \text{ V}$, $I \leq 100 \text{ mA}$, $P \leq 0,7 \text{ W}$ Die Kennzeichnung wird wie folgt festgesetzt:

Meggitt SA oder Vibro-Meter oder MFR S3960

Adresse: ...

Typ: PNR 444-28X-000-YY1, PNR 444-31X-000-YY1, PNR 144-28X-000-YYY

Herstellungsnummer: ... Herstellungsjahr: ...

 II 3 G

Ex nA IIC T6...T4 oder T6...T2 Gc(*)

LCIE 09 ATEX 1047 X

(*): Siehe besondere Bedingungen für die sichere Anwendung (unter Punkt 17)

Fontenay-aux-Roses,
am 02. Dezember 2014

Leiter Zertifizierung

Trockenstempel

Seite 1/3

Deutsche Übersetzung der originalen französischen Kopie der Seite 4

13 ANHANG

14 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT

LCIE 09 ATEX 1047 X / 03

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS (FORTSETZUNG)

Die Kennzeichnung kann wie folgt reduziert werden:

Meggit SA oder Vibro-Meter oder MFR S3960

PNR 444-28X-000-YY1, PNR 444-31X-000-YY1, PNR 144-28X-000-YYY

 II 3 G

Ex nA IIC T6...T4 oder T6...T2 Gc(*)

LCIE 09 ATEX 1047 X

(*): Siehe besondere Bedingungen für die sichere Anwendung (unter Punkt 17)

Die Geräte müssen ebenfalls mit der Kennzeichnung versehen sein, die in den Herstellungsnormen der betreffenden elektrischen Geräte normalerweise vorgesehen sind.

16 BESCHREIBENDE UNTERLAGEN

Zertifizierungs-Datei-Nr. DT 1069 Ausgabe 00 vom 2014/09/25.

Diese Datei enthält 2 Punkte (6 Seiten).

17 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG

1. Umgebungstemperatur im Betrieb:

PNR 444-28X-000-YY1:

– Sensor und Kabel: –55°C bis +260°C

– Signalaufbereiter: –55°C bis +100°C

PNR 444-31X-000-YY1:

– Sensor und Kabel: –55°C bis +125°C

PNR 144-28X-000-YYY:

– Sensor und Kabel: –55°C bis +260°C

2. Temperaturklassifizierung entsprechend der Umgebungstemperatur im Betrieb:

	T6	T5	T4	T3	T2
PNR 444-28X-000-YY1	≤ +80°C	≤ +95°C	≤ +130°C	≤ +195°C	≤ +260°C
PNR 444-31X-000-YY1	≤ +80°C	≤ +95°C	≤ +125°C		
PNR 144-28X-000-YYY	≤ +80°C	≤ +95°C	≤ +130°C	≤ +195°C	≤ +260°C

3. Es müssen Vorkehrungen getroffen werden dass kurzzeitige Störungen die Nominalspannungen nicht mehr als 119 V überschreiten können.

18 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Werden von folgenden Richtlinien abgedeckt:

EN 60079-0:2012 + Änderung A11:2013 und EN 60079-15:2010.

Deutsche Übersetzung der originalen französischen Kopie der Seite 4

13 ANHANG

14 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT

LCIE 09 ATEX 1047 X / 03

19 ROUTINEPRÜFUNGEN UND TESTS

Jedes Gerät muss einem Durchlagsfestigkeitstest unterzogen werden. Spannung von 500 V (RMS) wahren 60 Sekunden zwischen den Leitern und dem Gehäuse gemäss Norm EN 60079-15:2010.

Andernfalls muss ein Test mit 600 V (RMS) während mindestens 100 ms durchgeführt werden

Seite 3/3

Deutsche Übersetzung der originalen französischen Kopie der Seite 5

1 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNG SZERTIFIKAT

2 Geräte zur Verwendung in explosionsgefährdeten Bereichen (**Richtlinie 94/9/EG**)3 Zusätzliche Zertifikatnummer:
LCIE 09 ATEX 1047 X / 044 Gerät: CE 28X und CE 31X Beschleunigungsgeber
Typ: – PNR 444-28X-000-YY1 bis YY9,
– PNR 444-31X-000-YY1 bis YY9,
– PNR 144-28X-000-YYY.

5 Antragsteller: Meggitt SA

15 BESCHREIBUNG DES ZUSÄTZLICHEN ZERTIFIKATS

Neue Beschleunigungsgeber Elektronik für neue Typen, wie:
– PNR 444-28X-000-YY2 bis YY9,
– PNR 444-31X-000-YY2 bis YY9.

Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 129425-660044.

Spezifische Kenndaten der betroffenen Schutzarten:

- PNR 444-28X-000-YY1:
U ≤ 28 V, I ≤ 100 mA, P ≤ 0,7 W
- PNR 444-28X-000-YY2 bis YY9:
U ≤ 28 V, I ≤ 8 mA, P ≤ 224 mW
- PNR 444-31X-000-YY1:
U ≤ 28 V, I ≤ 100 mA, P ≤ 0,7 W
- PNR 444-31X-000-YY2 bis YY9:
U ≤ 28 V, I ≤ 8 mA, P ≤ 224 mW
- PNR 144-28X-000-YYY:
U ≤ 28 V, I ≤ 100 mA, P ≤ 0,7 W

Die Kennzeichnung wird wie folgt festgesetzt: Wie folgt modifiziert:
VIBRO-METER oder MEGGITT SA oder MFR S3960

Adresse: ...

Typ: PNR 444-28X-000-YY1 bis YY9 oder
PNR 444-31X-000-YY1 bis YY9 oder
PNR 144-28X-000-YYY

Herstellungsnummer: ...

Herstellungsjahr: ...

 II 3 G

Ex nA IIC T6 ... T2 Gc (siehe besondere Bedingungen für die sichere Anwendung (unter Punkt 17))

LCIE 09 ATEX 1047 X

16 BESCHREIBENDE UNTERLAGEN

Zertifizierungs-Datei-Nr. DT 1039 Ausgabe 01 vom 2014/05/05.

Diese Datei enthält 5 Punkte (10 Seiten).

Zertifizierungs-Datei-Nr. DT 1040 Ausgabe 01 vom 2014/05/05.

Diese Datei enthält 5 Punkte (10 Seiten).

13 ANHANG

14 ZUSÄTZLICHES FREIWILLIGES TYPENPRÜFUNGSZERTIFIKAT

LCIE 09 ATEX 1047 X / 04

17 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG

– Es müssen Vorkehrungen getroffen werden dass kurzzeitige Störungen die Nominalspannungen nicht mehr als 119 V überschreiten können.

– PNR 444-28X-000-YY1 bis YY9 Umgebungstemperatur (Ta) im Betrieb:

– Sensor und Kabel:

–55°C ≤ Ta ≤ +260°C

– PNR 444-28X-000-YY1 Signalaufbereiter:

–55°C ≤ Ta ≤ +100°C

– PNR 444-28X-000-YY2 bis YY9 Signalaufbereiter:

–55°C ≤ Ta ≤ +125°C

PNR 444-31X-000-YY1: –55°C ≤ Ta ≤ +125°C

PNR 444-31X-000-YY2 bis YY9: –55°C ≤ Ta ≤ +125°C

PNR 144-28X-000-YYY: –55°C ≤ Ta ≤ +260°C

– Temperaturklassifizierung entsprechend der Umgebungstemperatur von Signalaufbereiter, Kabel und Sensor im Betrieb:

	T6	T5	T4	T3	T2
PNR 444-28X-000-YY1 bis YY9 Sensor und Kabel	+80°C	+95°C	+130°C	+195°C	+260°C
PNR 444-28X-000-YY1 Signalaufbereiter	+80°C	+95°C	+100°C		
PNR 444-28X-000-YY2 bis YY9 Signalaufbereiter	+65°C	+80°C	+115°C	+125°C	
PNR 444-31X-000-YY1	+80°C	+95°C	+125°C		
PNR 444-31X-000-YY2 bis YY9	+65°C	+80°C	+115°C	+125°C	
PNR 144-28X-000-YYY	+80°C	+95°C	+130°C	+195°C	+260°C

18 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Werden von folgenden Richtlinien abgedeckt:

EN 60079-0:2012 + Änderung A11:2013 und EN 60079-15:2010.

19 ROUTINEPRÜFUNGEN UND TESTS

– Jedes Gerät muss einem Durchschlagsfestigkeitstest unterzogen werden. Spannung von 500 V (RMS) wähen 60 Sekunden zwischen den Leitern und dem Gehäuse (äußeren Metallteile) gemäss Norm EN 60079-15:2010.

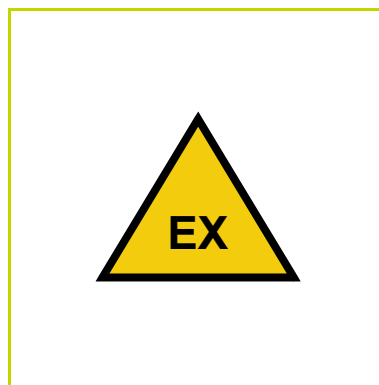
– Andernfalls muss ein Test mit 600 V (RMS) während mindestens 100 ms durchgeführt werden.

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CETTE PAGE EST LAISSÉE INTENTIONNELLEMENT VIDE
DIESE SEITE WURDE ABSICHTLICH LEER GELASSEN

EX CERTIFICATE – ATEX

vibro-meter®

LCIE 20 ATEX 3039 X
for
CE620 and CE630 piezoelectric accelerometers



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference LCIE 20 ATEX 3039 X
Edition 2 – February 2022

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ATTESTATION D'EXAMEN UE DE TYPE - ANNEXE EU TYPE EXAMINATION CERTIFICATE - SCHEDULE

LCIE

1 Version : 00 LCIE 20 ATEX 3039 X Issue : 00

2 Directive 2014/34/EU
Appareil ou Système de Protection destiné à être utilisé en
Atmosphères Explosibles

3 Produit :
Transmetteur de vibration ou accéléromètre

Type : CE620 et CE630

4 Fabricant :
Meggit SA

5 Adresse :
Route de Menor 4
1752 VILLARS-SUR-GLANE
Switzerland

6 Ce produit et ses variantes éventuelles acceptées sont décrits dans l'annexe de la présente attestation et dans les documents descriptifs cités en référence.

7 Le LCIE, Organisme Notifié sous la référence 0081 conformément à l'article 17 de la directive 2014/34/UE du Parlement européen et du Conseil du 26 février 2014, certifie que ce produit est conforme aux Exigences Essentielles de Sécurité et de Santé pour la conception et la construction de produits destinés à être utilisés en atmosphères explosibles, données dans l'annexe II de la Directive.

Accréditation Cofrac Certification de Produits et Services, N°5-0014, Portée disponible sur www.cofrac.fr.

Les résultats des vérifications et essais figurent dans le(s) rapport confidentiel N° : 168841-755540

8 Le respect des Exigences Essentielles de Sécurité et de Santé est assuré par la conformité à :

EN 60079-0:2012 + A1:2013 ; EN 60079-11:2012

9 Le signe « X » lorsqu'il est placé à la suite du numéro de l'attestation, indique que cet appareil est soumis aux conditions particulières d'utilisation, mentionnées dans l'annexe de cette attestation.

10 Cette Attestation d'Examen UE de Type concerne uniquement la conception et la construction du produit spécifié. Des exigences supplémentaires de la directive sont applicables pour la fabrication et la fourniture du produit. Ces dernières ne sont pas couvertes par la présente attestation.

11 Le marquage du produit est mentionné dans l'annexe de cette attestation.

Fontenay-aux-Roses, le 1er décembre 2020

Responsable de Certification



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CERT-ATEX-FORM 04 Rev. 06

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LCIE
Laboratoire Central des Industries Electriques
Une société de Bureau Veritas

WWW.LCIE.FR
33 Avenue du Général Leclerc
92260 Fontenay-aux-Roses
FRANCE

1 Version : 00 LCIE 20 ATEX 3039 X Issue : 00

DESCRIPTION DU PRODUIT

Les appareils, type CE620 et CE630 sont des accéléromètres. Ils sont conçus pour mesurer une accélération ou une vibration en convertissant le signal généré par le cisaillement d'un cristallin piézoélectrique d'une masse sismique donnée et en émettant un signal électrique de sortie.

L'accéléromètre comprend un cristallin piézoélectrique connecté à une carte de conditionnement du signal, le tout contenu dans une enveloppe en acier inoxydable présentant des formes différentes d'un volume approximatif de 25cm³.

L'enveloppe est complètement soudée, par construction.

Les connexions électriques de l'équipement sont assurées soit par un connecteur au minimum IP64 soit par un câble intégral (simple, avec gaine de protection ou conduit).

DESCRIPTION OF PRODUCT

The equipment, type CE620 and CE630, are accelerometers which are designed to measure acceleration or vibration by converting the signal generated by the shear of a piezoelectric crystal from a given seismic mass and outputting an electric signal.

The accelerometer comprises a piezo electric crystal connected to a signal conditioning board, all contained within a stainless steel enclosure of various shapes measuring approximately 25cm³.

Enclosure is a fully welded construction.

Electrical connections are made to the apparatus either via an IP64 at minimum rated connector or via an integral cable (simple, overbraided or with conduit).

DETAIL DE LA GAMME

RANGE DETAILS

Modèle / Model	Type	CE620 444-620-000-XXX-Ax- Bxxxx-Cxx-Lxx	CE630 444-630-000-XXX-Ax-Bxxxx- Cxx-Hxxx-Lxx
Sensibilité de mesure / Measurement sensitivity		=Bxxxx	=Bxxxx
10mV/g		=B10	=B10
50mV/g		=B50	=B50
100mV/g		=B100	=B100
250mV/g		=B250	=B250
500mV/g		=B500	=B500
1000mV/g		=B1000	=B1000
Connecteur / Connector		=XXX =Cxx =C01	=XXX =Cxx =C01
MIL-C-5015 glass seal		=C01	=C01
M12 glass seal		=C02	=C02
Câble intégral / Integral Cable		=XXX =Cxx =Lxx	=XXX =Cxx =Lxx
Câble Radox sans halogène 120°C / 120°C Radox Halogen free cable		=211	=211
Câble FEP Teflon 200°C avec gaine de protection en acier inoxydable / 200°C Teflon FEP cable with stainless steel overbraid protection		=211	=211
Câble Radox sans halogène 120°C avec gaine de protection en acier inoxydable / 120°C Radox Halogen free cable with stainless steel overbraid protection		=211	=211
Câble Radox sans halogène 120°C avec gaine de protection en acier inoxydable / 200°C Teflon FEP cable with stainless steel protection conduit		=211	=211
Câble Radox sans halogène 120°C avec conduit de protection en acier inoxydable / 120°C Radox Halogen free cable with stainless steel protection conduit		=211	=211
Longueur du câble / Cable length (m)		=Lxx	=Lxx
Filetage du boîtier / Housing thread		N/A	=Hxx
1/2-28 UNF 2B		=sans / omitted	=H16
M8x1.25			=H08
Approbation / Agency approval		=AX	=AX
Standard		A1	A1
ATEX / IECEx certifié / certified		A2	A2

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ATTESTATION D'EXAMEN UE DE TYPE - ANNEXE EU TYPE EXAMINATION CERTIFICATE - SCHEDULE

LCIE 20 ATEX 3039 X

Version : 00

Issue : 00

CARACTERISTIQUES

Paramètres électriques de sécurité intrinsèque :

Ut: 28V; Ii: 93mA; Pi: 0.65W

Electrical intrinsic safety parameters:

Longueur des câbles / Cable lengths	Jusqu'à / Until 99 m
Version connecteur / Connector version	Ci: 41nF; Li: 0.
Version câble / Cable version	Ci: 56nF; Li: 51 µH

MARQUAGE

Le marquage du produit doit comprendre :

Pour le type CE620 :
MEGGITT SA ou Vibro-Meter ou MFR S3960
Adresse : ...
Modèle : 444-620-000-XXX-Ax-Bxxxx-Cxx-Hxxx-Lxx
N° de fabrication : ...
Année de fabrication : ...

Ex ia I Ma
Ex ia I G D
Ex ia IIC T4 Ga
Ex ia IIC T135°C Da
LCIE 20 ATEX 3039 X
-54°C ≤ T_{amb} ≤ +121°C
U_i : ... V ; I_i : ... mA ; P_i : ... W ; Q_i : ... nF ; L_i : ... µH
(complète suivant les paramètres électriques de sécurité intrinsèque)

Pour le type CE630 :
MEGGITT SA ou Vibro-Meter ou MFR S3960
Adresse : ...
Modèle : 444-630-000-XXX-Ax-Bxxxx-Cxx-Hxxx-Lxx
N° de fabrication : ...
Année de fabrication : ...

Ex ia I Ma
Ex ia I G D
Ex ia IIC T4 Ga
Ex ia IIC T135°C Da
LCIE 20 ATEX 3039 X
-54°C ≤ T_{amb} ≤ +121°C
U_i : ... V ; I_i : ... mA ; P_i : ... W ; Q_i : ... nF ; L_i : ... µH
(complète suivant les paramètres électriques de sécurité intrinsèque)

L'appareil doit également comporter le marquage normalement prévu par les normes de construction qui le concernent sous la responsabilité du fabricant.

13 CONDITIONS PARTICULIERES D'UTILISATION

- a Plage de température ambiante : -54°C à +121°C.
- b Les matériels de sécurité intrinsèque ne doivent être raccordés qu'à des matériels associés de sécurité intrinsèque certifiés pour l'usage considéré. Cette association doit répondre aux exigences de la norme EN 60079-25.

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CERT-ATEX-FORM 04 Rev. 06

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ATTESTATION D'EXAMEN UE DE TYPE - ANNEXE EU TYPE EXAMINATION CERTIFICATE - SCHEDULE

LCIE 20 ATEX 3039 X

Version : 00

Issue : 00

CARACTERISTIQUES

Paramètres électriques de sécurité intrinsèque :

Ut: 28V; Ii: 93mA; Pi: 0.65W

Electrical intrinsic safety parameters:

Longueur des câbles / Cable lengths	Jusqu'à / Until 99 m
Version connecteur / Connector version	Ci: 41nF; Li: 0.
Version câble / Cable version	Ci: 56nF; Li: 51 µH

MARQUAGE

Le marquage du produit doit inclure le suivant:

Pour le type CE620 :
MEGGITT SA ou Vibro-Meter ou MFR S3960
Adresse : ...
Modèle : 444-620-000-XXX-Ax-Bxxxx-Cxx-Hxxx-Lxx
N° de fabrication : ...
Année de fabrication : ...

Ex ia I Ma
Ex ia I G D
Ex ia IIC T4 Ga
Ex ia IIC T135°C Da
LCIE 20 ATEX 3039 X
-54°C ≤ T_{amb} ≤ +121°C
U_i : ... V ; I_i : ... mA ; P_i : ... W ; Q_i : ... nF ; L_i : ... µH
(complète selon les paramètres de sécurité intrinsèque)

Pour le type CE630 :
MEGGITT SA ou Vibro-Meter ou MFR S3960
Adresse : ...
Modèle : 444-630-000-XXX-Ax-Bxxxx-Cxx-Hxxx-Lxx
N° de fabrication : ...
Année de fabrication : ...

Ex ia I Ma
Ex ia I G D
Ex ia IIC T4 Ga
Ex ia IIC T135°C Da
LCIE 20 ATEX 3039 X
-54°C ≤ T_{amb} ≤ +121°C
U_i : ... V ; I_i : ... mA ; P_i : ... W ; Q_i : ... nF ; L_i : ... µH
(complète selon les paramètres de sécurité intrinsèque)

L'appareil doit également comporter le marquage normalement prévu par les normes de construction qui le concernent sous la responsabilité du fabricant.

13 SPECIFIC CONDITIONS OF USE

- a Ambient temperature range: -54°C to +121°C.
- b The intrinsically safe apparatus shall only be connected to associated intrinsically safe apparatus certified for the intended use. This association shall comply with the requirements of the standard EN 60079-25.

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FRANCE

DOCUMENTS DESCRIPTIFS

N°	Description	Reference	Rev.	Date	Page(s)
1.	Dossier technique Technical file	DT-1080	00	2020/10/15	9
2.	Manuel d'utilisation type CE620 - CE630 User manual type CE620 - CE630	PZ 9169	-	-	-

16 INFORMATIONS COMPLEMENTAIRES

Essais individuels

Néant.

Conditions de certification

Les détenteurs d'attestations d'examen UE de type doivent également satisfaire les exigences de contrôle de production telles que définies à l'article 13 de la Directive 2014/34/UE.

Routine tests

None.

Conditions of certification

Holders of EU type examination certificates are also required to comply with the production control requirements defined in article 13 of Directive 2014/34/UE.

17 DETAILS DES MODIFICATIONS DE L'ATTESTATION

Version 00 : Evaluation initiale selon les exigences des normes EN 60079-0:2012 + A11:2013 et EN 60079-11:2012.

DETAILS OF CERTIFICATE CHANGES

Issue 00: Initial assessment according to standards EN 60079-0:2012 + A11:2013 and EN 60079-11:2012 requirements.

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FRANCE



ATEX certificate:
LCIE 13 ATEX 3037 X
for
GSI 127

Although the certificate is available in the three languages (English, French and German), the liability of the notified body applies only on the text of the original copy of the certificate that it published.

EN

Bien que le certificat soit traduit dans les 3 langues (Anglais, Français et Allemand), seul le texte de la copie originale du certificat peut engager la responsabilité de l'organisme notifié qui l'a publié.

FR

Obwohl das Zertifikat in drei Sprachen (Englisch, Französisch und Deutsch) übersetzt ist, können nur die bescheinigten Behörden, die den Text auf der Originalausgabe des Zertifikates herausgegeben haben, zur rechtlichen Verantwortung gezogen werden.

DE



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ATTESTATION D'EXAMEN UE DE TYPE - ANNEXE EU TYPE EXAMINATION CERTIFICATE - SCHEDULE		
1 Version : 01	LCIE 13 ATEX 3037 X	Issue : 01
12 DESCRIPTION DU PRODUIT L'interface GSI 127 fournit une isolation galvanique entre le circuit d'alimentation ou le circuit de traitement de signal (Ex nA) et un capteur ou un conditionneur (Ex Ia). L'appareil se compose d'une carte électronique et des bornes à vis montées dans un boîtier plastique. Un revêtement conforme est appliqué sur deux faces de la carte.		
DETAIL DE LA GAMME 244-127-000-XXX-A2-BYY XXX définit la version du produit (X = 0 à 9). YY définit le mode de transfert (YY = 01 à 19 pour la spécification actuelle; YY = 20 à 39 pour la spécification alternative).		
DESCRIPTION OF PRODUCT The GSI 127 interface provides galvanic insulation between power supply circuit or signal treatment circuit (Ex nA) and a sensor or a conditioner (Ex Ia). The equipment consists of electronic board and screwed terminals blocks mounted inside a plastic enclosure. Conformal coating is applied on both sides of the electronic board.		
RANGE DETAILS 244-127-000-XXX-A2-BYY XXX defines the version of the product (X = 0 to 9). YY defines the transfer mode (YY = 01 to 19 for actual specification; YY = 20 to 39 for alternate specification).		
MARQUAGE Le marquage du produit doit comprendre : MEGGITT SA ou VIBRO-METER ou MFR S3960 Adresse : Type : 244-127-000-XXX-A2-BYY N° de fabrication : Année de fabrication : © I13 (1) G Ex nA [la Gaj] IC T4 Gc LCIE 13 ATEX 3037 X Alimentation : U ≤ 30 V, I ≤ 150 mA Capteur ou conditionneur : Pour 244-127-000-XXX-A2-B01 à B19 : U _i : 25.2 V; I _i : 60 mA; P _i : 0.7 W; C _i : 95 nF; L _i : 5 mH Pour 244-127-000-XXX-A2-B20 à B39 : U _i : 25.2 V; I _i : 45 mA; P _i : 0.5 W; C _i : 95 nF; L _i : 10 mH		
MARKING The marking of the product shall include the following : MEGGITT SA or VIBRO-METER or MFR S3960 Address: Type: 244-127-000-XXX-A2-BYY Serial number: Year of construction: © I13 (1) G Ex nA [la Gaj] IC T4 Gc LCIE 13 ATEX 3037 X Power supply : U ≤ 30 V, I ≤ 150 mA Sensor or conditioner : For 244-127-000-XXX-A2-B01 to B19: U _i : 25.2 V; I _i : 60 mA; P _i : 0.7 W; C _i : 95 nF; L _i : 5 mH For 244-127-000-XXX-A2-B20 to B39: U _i : 25.2 V; I _i : 45 mA; P _i : 0.5 W; C _i : 95 nF; L _i : 10 mH		
CONDITIONS PARTICULIERES D'UTILISATION L'appareil doit également comporter le marquage normalement prévu par les normes de construction qui le concernent sous la responsabilité du fabricant.		
SPECIFIC CONDITIONS OF USE The equipment shall only be connected to associated intrinsically safe certified equipment or simple apparatus. This combination must be compatible as regard the intrinsic safety rules. The apparatus shall be installed in an enclosure conform to the requirements of standard EN 60079-0 and with ingress protection at least IP54. Operating ambient temperature: -40°C to +70°C.		
EXIGENCES ESSENTIELLES DE SANTE ET DE SECURITE Couvertes par les normes listées au point 8.		
ESSENTIAL HEALTH AND SAFETY REQUIREMENTS Covered by standards listed at 8.		

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CERT-ATEX-100104 Rev. 02

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ATTESTATION D'EXAMEN UE DE TYPE EU TYPE EXAMINATION CERTIFICATE		
1 Version : 01	LCIE 13 ATEX 3037 X	Issue : 01
Directive 2014/34/UE Appareil ou Système de Protection destiné à être utilisé en Atmosphères Explosibles		
Product : GSI 127 Interface Type: 244-127-000-XXX-A2-BYY		
Fabricant : MEGGITT SA Adresse : Route de Moncor 4 1752 Villars-sur-Glâne SUISSE		
6 Ce produit et ses variantes éventuelles acceptées sont décrits dans l'annexe de la présente attestation et dans les documents descriptifs cités en référence.		
7 Le LCIE, Organisme Notifié sous la référence 0081 conformément à l'article 17 de la directive 2014/34/UE du Parlement européen et du Conseil du 26 février 2014, certifie que ce produit est conforme aux Exigences Essentielles de Sécurité et de Santé pour la conception et la construction de produits destinés à être utilisés en atmosphères explosibles, données dans l'annexe II de la Directive.		
Les résultats des vérifications et essais figurent dans le(s) rapport(s) confidentiel(s) N° : 108046-614947; 141529-686013		
8 Le respect des Exigences Essentielles de Sécurité et de Santé est assuré par la conformité à : EN 60079-0:2012 + A11:2013 EN 60079-11:2012 EN 60079-15:2010		
9 Le signe « X » lorsqu'il est placé à la suite du numéro de l'attestation, indique que cet appareil est soumis aux conditions particulières d'utilisation, mentionnées dans l'annexe de cette attestation.		
10 Cette Attestation d'Examen UE de Type concerne uniquement la conception et la construction du produit spécifié. Des exigences supplémentaires de la directive sont applicables pour la fabrication et la maintenance du produit. Ces dernières ne sont pas couvertes par la présente attestation.		
11 Le marquage du produit est mentionné dans l'annexe de cette attestation.		
Fontenay-aux-Roses, le 30 novembre 2016		
 Responsible of Certification Certification Officer LABORATOIRE CENTRAL des Industries Electriques S.A.S au capital de 15 135 000 € 13 Avenue du Général Leclerc F - 92260 FONTENAY-AUX-ROSES		
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ATTESTATION D'EXAMEN UE DE TYPE - ANNEXE EU TYPE EXAMINATION CERTIFICATE - SCHEDULE

1 Version : 01

LCIE 13 ATEX 3037 X

Issue : 01

15 DOCUMENTS DESCRIPTIFS

DESCRIPTIVE DOCUMENTS

N°	Description	Reference	Rev.	Date	Page(s)
1.	Technical file	DT 1052	01	2016-10-24	36
2.	User manual (extract)	PZ 8763	00	2016-09-06	1

16 INFORMATIONS COMPLEMENTAIRES

ADDITIONAL INFORMATIONS

Essais individuels

Chaque transformateur T1 devra être soumis à un essai diélectrique sous tension d'essai de 1500 V ; 50/60 Hz appliquée entre l'enroulement primaire et les enroulements secondaires pendant au moins 60 s conformément au paragraphe 11.2 de la norme EN 60079-11:2012.

Routine tests

Each transformer T1 shall be submitted to dielectric strength test under test voltage of 1500 V; 50/60 Hz applied between the primary winding and the secondary windings during at least 60 s in accordance with clause 11.2 of EN 60079-11:2012 standard.

Conditions de certification

Les détenteurs d'attestations d'examen UE de type doivent également satisfaire les exigences de contrôle de production telles que définies à l'article 13 de la Directive 2014/34/UE.

Conditions of certification

Holders of EU type examination certificates are also required to comply with the production control requirements defined in article 13 of Directive 2014/34/UE.

En accord avec l'article 41 de la Directive 2014/34/UE, les attestations d'examen CE de type mentionnant la Directive 94/9/CE émises avant la date d'application de la Directive 2014/34/UE (20 avril 2016) peuvent être considérées comme émises en accord avec la Directive 2014/34/UE. Les nouvelles versions de ces attestations peuvent conserver le numéro de l'attestation d'origine émise avant le 20 avril 2016.

In accordance with Article 41 of Directive 2014/34/UE, EC-Type Examination Certificates referring to Directive 94/9/EC that were in existence prior to the date of application of Directive 2014/34/UE (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/UE. New issues of such certificates may continue to bear the original certificate number issued prior to 20 April 2016.

17 DETAILS DES MODIFICATIONS

DETAILS OF CHANGES

Version 00 : Evaluation de la conformité selon les normes (31/05/2013)
EN 60079-0:2012, EN 60079-11:2012 et
EN 60079-15:2010.

Issue 00 : Conformity assessment according to
(2013/05/31)
EN 60079-0:2012, EN 60079-11:2012 and
EN 60079-15:2010 standards.

Version 01 :

- Mise à jour normative selon la norme EN 60079-0:2012 + A11:2013.
- Nouvelle plage de température ambiante d'utilisation : -40°C à +70°C
- Mise à jour de la désignation du type pour différencier deux spécifications.

Issue 01 :

- Normative update according to EN 60079-0:2012 + A11:2013 standard.
- New operating ambient temperature range: -40°C to +70°C.
- Update of type designation to differentiate two specifications.

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Deutsche Übersetzung der originalen französischen Kopie der Seite 1

EG-PRÜFZERTIFIKAT

- 1 **Version: 01** **LCIE 13 ATEX 3037 X** **Ausgabe: 01**
- 2 **Richtlinie 2014/34/EU**
Geräte und Schutzsysteme zur Verwendung in explosionsgefährdeten Bereichen
- 3 Produkt:
GSI 127 Galvanisches Trennmodul
Typ: 244-127-000-XXX-A2-BYY
- 4 Hersteller: Meggitt SA
- 5 Adresse: Route de Moncor 4, BP 1752 Villars-sur-Glâne, Schweiz
- 6 Dieses Gerät und die möglichen, zulässigen Varianten sind im Anhang dieses Zertifikats und den darin aufgeführten Unterlagen beschrieben.
- 7 LCIE, eingetragen unter der Nummer 0081 gemäß Artikel 17 der Richtlinie 2014/34/EU des Europaparlamentes und des Rates vom 26. Februar 2014, bestätigt, dass dieses Gerät oder Schutzsystem die wesentlichen Gesundheits- und Sicherheitsanforderungen in Bezug auf die Auslegung und die Bauart von Geräten und Schutzsystemen zur Verwendung in explosionsgefährdeten Bereichen nach Anhang II der Richtlinie erfüllt.
Die Prüf- und Testergebnisse sind im vertraulichen Bericht Nr. 108046/614947 ; 141529-685013 aufgezeichnet.
- 8 Die Einhaltung der wesentlichen Gesundheits- und Sicherheitsanforderungen wird durch die Übereinstimmung mit den folgenden Dokumenten sichergestellt:
EN 60079-0:2012 + A11:2013
EN 60079-11:2012
EN 60079-15:2010
- 9 Ein "X" nach der Zertifikatnummer gibt an, dass für die sichere Verwendung des Gerätes besondere Bedingungen gemäß dem Anhang dieses Zertifikates gelten.
- 10 Dieses Typenprüfzertifikat betrifft nur die Bauart und die Prüfungen und Tests des betreffenden Geräts gemäß Richtlinie 2014/34/EU.
Zusätzliche Anforderungen dieser Richtlinie gelten für die Fertigung und Lieferung des Geräts oder Schutzsystems. Diese werden durch dieses Zertifikat nicht abgedeckt.
- 11 Die Kennzeichnung des Gerätes muss die in der Anlage zu dieser Bescheinigung enthaltenen Angaben enthalten.

Fontenay-aux-Roses,
am 30. November 2016

Leiter Zertifizierung

Trockenstempel

Seite 1/3

LCIE haftet nur für den französischen Text.
Dieses Zertifikat darf nur vollständig und ohne Änderungen vervielfältigt werden.

Obwohl das Zertifikat in drei Sprachen (Englisch, Französisch und Deutsch) übersetzt ist, können nur die bescheinigten Behörden, die den Text auf der Originalausgabe des Zertifikates herausgegeben haben, zur rechtlichen Verantwortung gezogen werden.

1 Version: 01

LCIE 13 ATEX 3037 X

Ausgabe: 01

12 BESCHREIBUNG DES PRODUKTS

Die GSI 127 Galvanisches Trennmodul bietet eine galvanische Trennung (isolation) zwischen dem Stromversorgungskreis oder dem Signalbehandlungskreis (Ex nA) und einem Sensor- oder Signalaufbereiter (Ex iA).
Das Gerät besteht aus einer elektronischen Platine und Schraubklemmen, die in einem Kunststoffgehäuse montiert sind.
Eine konforme Beschichtung erfolgt auf beiden Seiten der elektronischen Leiterplatte.

PRODUKTÜBERSICHT

244-127-000-XXX-A2-BYY

XXX definiert die Version des Produkts (X = 0 bis 9).

YY definiert die Übertragungsfunktion (Konfiguration) des Produkts (YY = 01 bis 19 für die Ist-Spezifikation, YY = 20 bis 39 für eine alternative Spezifikation).

KENNZEICHNUNG

Die Kennzeichnung des Erzeugnisses muss die folgenden Angaben enthalten:

MEGGITT SA oder VIBRO-METER oder MFR S3960

Adresse: ...

Typ: 244-127-000-XXX-A2-BYY

Herstellungsnummer: ... Herstellungsjahr: ...

 II 3 (1) G

Ex nA [ia Ga] IIC T4 Gc

LCIE 13 ATEX 3037 X

Stromversorgung: $U \leq 30 \text{ V}$, $I \leq 150 \text{ mA}$

Sensor oder Signalconditioner Ausgang:

Für 244-127-000-XXX-A2-B01 to B19:

U_o : 25,2 V, I_o : 60 mA, P_o : 0,7 W, C_o : 95 nF, L_o : 5mH

Für 244-127-000-XXX-A2-B20 to B39:

U_o : 25,2 V, I_o : 45 mA, P_o : 0,5 W, C_o : 95 nF, L_o : 10mH

Die Geräte müssen ebenfalls mit der Kennzeichnung versehen sein, die in den Herstellungsnormen der betreffenden Geräte normalerweise vorgesehen sind.

13 BESONDERE BEDINGUNGEN FÜR DIE SICHERE ANWENDUNG

- a. Das Gerät darf nur mit zugehörigen eigensicheren zertifizierten Geräten oder einem einfachen Gerät verbunden sein. Diese Kombination muss mit den Regeln der Eigensicherheit vereinbar sein.
- b. Der Benutzer muss sicherstellen, die Lage des Modul entspricht den Anforderungen der Norm EN 60079-0 und der Schutzklasse IP54 oder gleichwertig.
- c. Umgebungstemperatur betreiben: -40 bis $+70 \text{ °C}$

14 WESENTLICHE ANFORDERUNGEN IM BEZUG AUF SICHERHEIT UND GESUNDHEIT

Abgedeckt nach den Normen aufgeführt unter Punkt 8.

Deutsche Übersetzung der originalen französischen Kopie der Seite 2

EG-PRÜFZERTIFIKAT

1 Version: 01

LCIE 13 ATEX 3037 X

Ausgabe: 01

15 BESCHREIBENDE UNTERLAGEN

Nummer (Nr.)	Beschreibung	Referenz	Revision	Datum	Seiten
1.	Technische Datei	DT 1052	01	2016-10-24	36
2.	Benutzerhandbuch (Auszug)	PZ 8763	00	2016-09-06	1

16 ZUSÄTZLICHE INFORMATION

RoutinePrüfungen und Tests

Jeder Transformator T1 muss einer Spannungsfestigkeit Test dauert 60 Sekunden eingereicht werden, mit einer 50/60 Hz Sinus von 1500 VRMS zwischen der Primärwicklung und der secondard Wicklungen, gemäß Abschnitt 11.2 der Norm EN 60079-11:2012.

Zertifizierungsbedingungen

Inhaber von Typenprüfzertifikaten (EG-Prüfzertifikaten) müssen die Anforderungen an die Produktionssteuerung nach Artikel 13 der Richtlinie 2014/34/EU erfüllen.

Gemäß Artikel 41 der Richtlinie 2014/34/EU können Typenprüfzertifikaten, die sich auf 94/9/EU beziehen, die vor dem Tag der Anwendung der Richtlinie 2014/34/EU (20. April 2016) vorliegen, referenziert werden Als ob sie gemäß der Richtlinie 2014/34/EU ausgestellt würden. Neue Emissionen dieser Zertifikate können weiterhin die ursprüngliche Zertifikatsnummer tragen, die vor dem 20. April 2016 ausgestellt wurde.

Details der Änderungen

Ausgabe 00:

Konformitätsbewertung nach den Normen EN 60079-0:2012, EN 60079-11:2012 und EN 60079-15:2010.

Ausgabe 01:

Normative Aktualisierung nach der Norm EN 60079-0:2012 + A11:2013.

Neuer Umgebungstemperatur betreiben: -40 bis +70 °C.

Aktualisierung der Typbezeichnung zur Unterscheidung von zwei Spezifikationen.

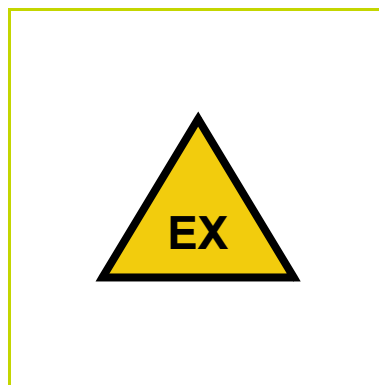
Seite 3/3

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DIESE SEITE WURDE ABSICHTLICH LEER GELASSEN

EX CERTIFICATE – ATEX

vibro-meter®

**ITS 16 ATEX 101335 X
for
cable fittings (stuffing glands)**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference ITS 16 ATEX 101335 X
Edition 2 – January 2022

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SCHEDULE

EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS 16 ATEX 101335 X

- Metric to BS 3643;
- ET Conduit to BS 31;
- PG to DIN 40430;
- BSP to BS 2779
- BSPT to BS 21
- NPT to ANSI/ASME B1.20.1

Design options

- * The materials of construction may be brass, stainless steel or mild steel.
- * Entry threads may be Metric to ISO 965, Pg to DIN 40430, BSPP to BS 31, ET (British Conduit) to ET 31, NPS to ANSI/ASME B1.20.1 or thread forms complying with Table 3 of IEC 60079-1.
- Material options O-ring and options Entry thread options
- Brass C2121/CZ122 EPDM (standard) Metric to ISO PT 173
- Stainless steel 316 Nitrile PG to DIN 40430:1971
- Aluminium BS 1474, 6082T6 Neoprene BSPP to BS 2779
- Aluminium bronze BS 1400B2 (JM-03 or LM7-16) Viton BSPT to BS21
- Silicone ET Conduit to BS 31

Conditions of manufacture

The Manufacturer shall comply with the following for the stopping plugs:

1. The DP-E stopping plugs manufactured from Nylon shall not be marked with any information that indicates that they are suitable for Group I use.
2. The manufacturer shall take all reasonable steps to ensure that the user can comply with the special conditions for safe use and shall advise the user in respect of the materials that are used in the construction of the devices.
3. These products shall be marked in accordance with the information as specified in this certificate and related reports.
4. When these entry devices are manufactured in Type BKV 30 or 140 material, they shall be to be marked with BKV 30 or 140 as applicable.
5. These products shall be marked in accordance with the information as specified in this certificate and related reports.
6. Aluminium variants, where applicable, are not permitted for Group I applications. The manufacturer shall ensure that the equipment is marked appropriately
7. In accordance with IEC 60079-1, the coating on joint surfaces of metallic devices that are electroplated shall be no more than 0.008mm thick.

CE Marking shall be accompanied by the identification number of the Notified Body responsible for surveillance of production.

14. DRAWINGS AND DOCUMENTS

TITLE	DOCUMENT Nr	LEVEL	DATE
Stopping Plugs (CB& CF Tapered)	CB-CF	1	05/04/16
Stopping Plugs (CQ, CK & CY)	CQ-CK-CY	1	18/04/11

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Page 3 of 5

SCHEDULE

EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS 16 ATEX 101335 X

TITLE	DOCUMENT Nr	LEVEL	DATE
Exe Glass Filled Nylon Stopping Plugs	CO-M	1	05/04/16
EExe II Dome Head Stopping Plugs	PD-E	1	28/03/16
Exd I&IIC & Exe IIC Domehead Stopping Plugs	PD-U	1	28/03/16
Exe II Hex Head Stopping Plugs	PH-E	1	04/04/16
Marking Drawing	IECEXITS16.0012X, ITS16ATEX101335X	1	15/11/16
* Exd I & IIC Certified Parallel Stopping Plugs	80-B-6	1	08/03/16
* Exd I&IIC Certified NPT Stopping Plugs	PA-D PB-D	1	08/03/16

Copies of the above listed documents are kept at Intertek Italia S.p.A. archive.

15. SPECIAL CONDITIONS FOR SAFE USE

1. If a stopping plug is machined with an undercut and is used for an Ex d application, then the wall of the enclosure into which it is fitted shall be such as to maintain five full threads engagement.
2. When used for increased safety or Ex e or protection by enclosure Ex tb applications, a suitable method of sealing to the associated enclosure shall be fitted
3. The stopping plugs shall not be used with any form of adaptors or reducers.
4. The interfaces between these devices and the associated enclosure cannot be defined; therefore, it is the user's responsibility to ensure that the appropriate ingress protection level is maintained at these interfaces.
5. The stopping plugs, when manufactured from non-metallic material, are only suitable for installation in areas considered to be a low risk from mechanical impact
6. The stopping plugs, when manufactured from non-metallic material, shall be adequately protected from direct exposure to sunlight
7. The stopping plugs, when construction from non-metallic material, shall only be cleaned with a damp cloth.
8. The stopping plugs are suitable for use at -50°C to +200°C at their point of mounting (Note: this is reduced when the stopping plugs are fitted with 'O' rings, see below).

O'-ring Material

Limiting temperature
None
-50°C to +200°C
Nitrile
-20°C to +80°C
EPDM
-30°C to +125°C
Neoprene
-20°C to +100°C
Viton
-5°C to +180°C
Silicone
-30°C to +180°C
Fluorosilicone
-50°C to +150°C

Note: The maximum temperature is limited to 150°C in Group I application (Coal dust, Mining)

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SCHEDULE

EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS 16 ATEX 101335 X

PD-E-4 Nylon Stopping Plugs

- 9. When manufactured in BKV 30 NI type material, the entry devices are suitable for a service temperature range of -20°C to +65°C. Items made from this material are marked with 'BKV 30'.
- 10. When manufactured in BKV 140 type material, the entry devices are suitable for a service temperature range of -20°C to +45°C; items made from this material are marked with 'BKV 140'.
- 11. At their point of mounting, these devices are suitable for use at either -20°C to +65°C or 5°C to +65°C when using Viton seals. The clearance holes for metric male threaded products, suitable for clearance hole applications of increased safety enclosures are to have a diameter of 0.3 to 0.5mm larger than the major diameter of the male thread. PD-E-4 stopping plugs employing parallel threads without seals shall have at least eight full threads of engagement, with a minimum tolerance according to ISO 965-1 and ISO 965-3.

PD-U Stopping Plugs

- 12. When installed in Group I applications, adaptors manufactured in brass shall be installed where the risk of impact is low

PA-D and PB-D Stopping Plugs

- 13. At their point of mounting, these devices are suitable for use at -50°C to +180°C for Group II applications and -50°C to +150°C for Group I applications

16. ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

The relevant essential Health and Safety Requirements have been identified and assessed in Intertek Report Nr. G102174344A Issue: 1 Dated: December 2016 and G103326724 Issue 1 dated April 2018

17. ROUTINE (FACTORY) TESTS

None

18. DETAIL OF CERTIFICATE CHANGES

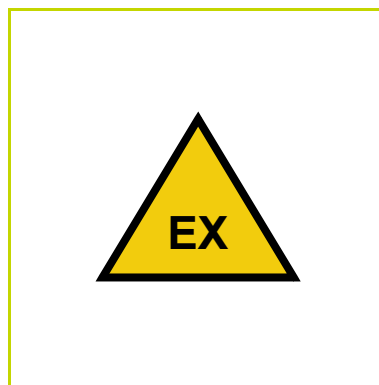
None

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EX CERTIFICATE – ATEX

vibro-meter®

**ITS 16 ATEX 101336 X
for
cable fittings (stuffing glands)**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference ITS 16 ATEX 101336 X
Edition 2 – January 2022

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EU TYPE-EXAMINATION CERTIFICATE



1. EU type-examination Certificate (Module B)
2. Equipment or Protective System intended for use in potentially explosive atmospheres (Directive 2014/34/EU)

3. EU type examination certificate Nr. ITS16ATEX101336X

4. Product: Type AR Male/Male and types AU / AX Female/ Female Union Adaptors. Types AB and AU Gland Adaptors, Types BB and BJ Gland Reducers and DG / DN Earthead Adaptors and Reducers

5. Manufacturer: EATON ELECTRICAL SYSTEMS Ltd Trading as Redapt or Raxton

6. Address: Kingsway South
Westgate, Aldridge
West Midlands
WS9 8FS

7. This product and any acceptable variation thereto are specified in the schedule to this certificate and therein referred to.

8. INTERTEK ITALIA S.p.A., Notified Body n° 2575 in accordance with article 17 of the Directive 2014/34/EU of the European Parliament and Council of the 26 February 2014, certifies that the equipment or protective system has been found to comply with the essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmosphere, given in Annex II of the Directive.

The examination and tests results are recorded in confidential technical evaluation Intertek Report Nr. G102174344B Issue 1 dated September 2016 and Report I04393371LD-00.1b dated August 2019.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-7:2015+A1:2018 and EN 60079-31:2014 except in respect of those requirements referred to at item 16 of the Schedule.

10. If the sign X is placed after the certificate number, it indicates that the product is subject to Special Conditions for Safe Use specified in the schedule to this certificate.

11. This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12. The marking of the product shall include the following:

Types AB and BJ Male/Male and type AU and AX Female/Female Union Adaptors, Types AB and AU Gland Adaptors, Types BB and BJ Gland Reducers and DG and DN Earthead Adaptors and Reducers



I 2D Ex db I Mb
I 2G Ex db I Cb
I 2G Ex db I Mb
I 2D Ex db I Cb I Mb
I 2D Ex db I Cb I Mb I P6X Ta = see schedule
Types AB & AU Adaptors, Types BB & BJ Reducers
I 2G Ex db I Cb
I 2D Ex db I Cb I P66 Ta = see schedule



PDR n° 277B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Mutual Recognition Agreements

Alessandro Savio
Certification Officer
Intertek Italia S.p.A. (NB 2575)

September 1, 2020
Certificate issue date

This certificate has been issued by Intertek Italia S.p.A. NB 2575 on transfer from Intertek Italia S.p.A. (NB 0359) using the same issued original certificate number.

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

Intertek Italia S.p.A. Via Miglioli, 2/A - 20093 Cernusco sul Naviglio, Milano - Italy

LFT-EMEA-ATEX-OP-23a (11 June 2019)

Page 1 of 4

SCHEDULE

EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS16ATEX101336X

13. DESCRIPTION OF THE EQUIPMENT OR PROTECTIVE SYSTEM

The Types AR, BJ, AB, AU, AX, AJ Adaptors, Types BB & BJ Reducers and Types DG and DN Earthead Adaptors are designed to convert an existing cable entry aperture, in the associated apparatus, to a different thread form and/or size. Each device comprises a hollow body with a male thread at one end and a female thread at the other. Entry threads are between M12 and M120 (M16 to M75 for Glass Filled Nylon and M20 to M32 for DG/DN).

The Type AR and BJ Male/Male Adaptor and Types AU and AX Female/Female Adaptors have thread forms of between M12 and M120. Thread combinations are such that a maximum of two 'standard' size differences is maintained for increase in thread and no restriction on reduction. Type designations determine thread combinations and body profiles.

Material Options

Brass to BS 2874
Brass BS 2872
Stainless Steel
Mild Steel
Aluminium
Bronze
30 % Glass Filled Nylon
40% Glass Filled Nylon
Surface Coating: Nickel, Zinc, Electroless Nickel

Thread Options

Metric to BS 3643
ET Conduit to BS 31
PG to DIN 40430
BSPP to BS 2779
BSPT to BS 21

NPT to ANSI/ASME B1.20.1

In addition any other thread form that also complies with the requirements of IEC 60079-1 tables 3 or 4 and clause C2.2 (as applicable) are also permitted.

CE Marking shall be accompanied by the identification number of the Notified Body responsible for surveillance of production.

14. DRAWINGS AND DOCUMENTS

TITLE	DOCUMENT Nr	LEVEL	DATE
AB & AJ SERIES ADAPTORS	AB-AJ	1	05-04-2016
AB-AJ & BB-BJ SERIES ADAPTORS & REDUCERS	AB-AJ- BB-BJ	2	08-07-2018
AR-AU-AX SERIES ADAPTORS	AR-AU-AX	1	05-04-2016
BB-BJ SERIES REDUCERS	BB-BJ	1	05-04-2016
DG SERIES	DG	2	01-02-2012
MARKING DRAWING	IECEX/TS16.0011X ITS16ATEX101336X	1	15-11-2016

Copies of the above listed documents are kept at Intertek Italia S.p.A. archive.

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SCHEDULE

EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS16ATEX101336X

15. SPECIAL CONDITIONS FOR SAFE USE

1. When used for Increased Safety ('Ex e') or Protection by enclosure (Ex tb) applications, a suitable method of sealing to the associated enclosure shall be provided.
2. Products constructed from Aluminium are to be positioned where they are subject to low risk of mechanical impact only and shall not be marked as suitable for Group I.

Type AB & AJ Adapters, Type BB & BJ Reducers

- 1 All entry devices shall only be installed where there is a low risk from mechanical impact.
- 2 Only one adaptor or reducer is to be used with any single cable entry on the associated equipment.
- 3 The interfaces between these devices and the associated enclosure cannot be defined; therefore, it is the user's responsibility to ensure that the appropriate ingress protection level is maintained at these interfaces.
- 4 When manufactured in 30% Glass Filled Nylon material, the entry devices are suitable for a service temperature range of -30°C to +90°C.
- 5 When manufactured in 40% Glass Filled Nylon material, the entry devices are suitable for a service temperature range of -20°C to +45°C.
- 6 When the entry devices are manufactured in 40% Glass Filled Nylon material, they shall be protected from exposure to light; items made from this material are marked with '40% Glass Filled Nylon'.
- 7 Service temperature ranges have been applied as follows:

O-ring Service temperature

Material	Service Temperature
None fitted	-60°C to 200°C*
EPDM	-50°C to +100°C
Nitrile	-20°C to +80°C
Neoprene	-40°C to +80°C
Viton	-20°C to +180°C*
Silicone	-60°C to +180°C*
Fluorosilicone	-60°C to +130°C

Note: The limiting temperatures specified above are de-rated by 20K according to Clause 7.2.2 'Material Selection' of EN 60079-0.
Note: The maximum temperature is limited to 150°C in Group I application (Coal dust, Mining) O-ring materials affect marked with "w" above.
Note: Unless fitted with an interface sealing O-ring with lower properties, temperatures shall then be limited as per the manufacturer's instructions.

16. ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

The relevant essential Health and Safety Requirements have been identified and assessed in Intertek Report Nr. G102174344B Issue 1 dated September 2016 and Report 10439337LHD-001b dated August 2019.

SCHEDULE

EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS16ATEX101336X

17. ROUTINE (FACTORY) TESTS

None.

18. DETAIL OF CERTIFICATE CHANGES

None.



ATEX certificate:

LCIE 02 ATEX 0038 U

for

Cable stuffing glands

Although the certificate is available in two languages (English and French), the liability of the notified body applies only on the text of the original copy of the certificate that it published.

EN

Bien que le certificat soit traduit dans les 2 langues (Anglais et Français), seul le texte de la copie originale du certificat peut engager la responsabilité de l'organisme notifié qui l'a publié.

FR



Meggitt SA
Route de Moncor 4
PO Box 1616
1701 Fribourg
Switzerland

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LCIE **Team ATEX**

13 ANNEXE **13 SCHEDULE**

14 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE **14 SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE**

LCIE 02 ATEX 0038 U / 01

17 CONDITIONS SPECIALES POUR UNE UTILISATION SURE **17 SPECIAL CONDITIONS FOR SAFE USE**

For the assembly of the caps, reducers or amplifiers on "e" increased safety enclosures (for Gas atmosphere) or on IPXX protected enclosures (for Dust atmosphere), the filling up and the assembling realized shall must be in accordance with the descriptive documents on the manufacture.

Using ambient temperature range between :
- 20 °C et + 80 °C.

18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE **18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS**

Le respect des exigences essentielles de sécurité et de santé est attesté par les normes ci-dessous :

- EN 60079-0 (2004)
- EN 60079-7 (2003)
- EN 61241-0 (2004)
- EN 61241-1 (2004)

19 VERIFICATIONS ET ESSAIS INDIVIDUELS **19 ROUTINE VERIFICATIONS AND TESTS**

Nilant

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Page 2 sur 2

LCIE **Team ATEX**

1 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE **1 SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE**

2 Appareil ou système de protection destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE) **2 Equipment or protective system intended for use in potentially explosive atmospheres (Directive 94/9/CE)**

3 Numéro de l'avenant : LCIE 02 ATEX 0038 U / 01 **3 Supplementary certificate number : LCIE 02 ATEX 0038 U / 01**

4 Appareil ou système de protection : Composants Amplificateur **4 Equipment or protective system : Components Amplifier**

Type : EEEx ; Cap, Reducer or Amplifier models

5 Demandeur : SIB ADR **5 Applicant : SIB ADR**

15 DESCRIPTION DE L'AVENANT **15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE**

Mise à jour des normes

Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 00055106-555530 / 04

Le marquage doit être :

SIB ADR (ou logo SIB)
Ex II
Ex II A21
LCIE 02 ATEX 0038 U
Type et pas de filetage

L'appareil doit également comporter le marquage normalement prévu par les normes de construction qui le concerne.

16 DOCUMENTS DESCRIPTIFS **16 DESCRIPTIVE DOCUMENTS**

Dossier de certification N° DA00704 rev 0 du 12 février 2007. Ce dossier comprend 15 rubriques (17 pages).

Certification file N° DA00704 rev 0 dated February 12th 2007. This file includes 15 items (17 pages).

Fortenay-aux-Roses, le 4 mai 2007

Le responsable de certification ATEX
ATEX certification manager

LCIE
Laboratoire Central
des Industries Electriques
42260 Fontenay-aux-Roses cedex
France

NOTIFIED BODY
0001
LCIE
ORGANISME

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LCIE

1 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE

2 Composant destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant : LCIE 02 ATEX 0038 U / 02

4 Composant :

Type : EEX e
Modèles : Bouclon, réducteur, amplificateur et adaptateur en métal

5 Demandeur : S.I.B. (Schliemmer Industry & Building Paris)
25 Rue Théophile Somborn
57 220 BOULAY – MOSELLE France

15 DESCRIPTION DE L'AVENANT
Mise à jour normative suivant les normes : EN 60079-0:2012 + A11:2013, EN 60079-7:2007, EN 60079-31:2009
Mise à jour de la raison sociale
Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 133536-668141-05
Paramètres spécifiques du ou des modes de protection concernés :

Le marquage doit être :
SIB
Type : EEX e
N° de fabrication :
Année de fabrication :
II 2 GD
Ex eb IIC
Ex eb IIC
IP54
LCIE 02 ATEX 0038 U

Le Responsable de Certification ATEX
ATEX Certification Officer
Jean Giffard

Fontenay-aux-Roses, le 6 mai 2015

LCIE
Laboratoire Central
des Industries Électriques
Une société de Bureau Veritas

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1018
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02266 Fontenay-aux-Roses cedex
France
www.lcie.fr

LCIE
Société par Actions Simplifiée
au capital de 15 758 984 €
RCS Nanterre B 108 561 174
www.lcie.fr

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LCIE

13 ANNEXE

14 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE
LCIE 02 ATEX 0038 U / 02

15 DESCRIPTION DE L'AVENANT
Mise à jour normative suivant les normes : EN 60079-0:2012 + A11:2013, EN 60079-7:2007, EN 60079-31:2009
Mise à jour de la raison sociale
Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 133536-668141-05
Paramètres spécifiques du ou des modes de protection concernés :

Le marquage doit être :
SIB
Type : EEX e
N° de fabrication :
Année de fabrication :
II 2 GD
Ex eb IIC
Ex eb IIC
IP54
LCIE 02 ATEX 0038 U

Le Responsable de Certification ATEX
ATEX Certification Officer
Jean Giffard

Fontenay-aux-Roses, le 6 mai 2015

LCIE
Laboratoire Central
des Industries Électriques
Une société de Bureau Veritas

LCIE
55, av du Général Lyssac
1018
Tél : +33 1 40 95 60 60
Fax : +33 1 40 95 86 56
02266 Fontenay-aux-Roses cedex
France
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ATEX certificate:
LCIE 03 ATEX 0033 U
for
Stuffing gland

Although the certificate is available in two languages (English and French), the liability of the notified body applies only on the text of the original copy of the certificate that it published.

EN

Bien que le certificat soit traduit dans les 2 langues (Anglais et Français), seul le texte de la copie originale du certificat peut engager la responsabilité de l'organisme notifié qui l'a publié.

FR



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LCIE	
(A1) ANNEXE	(A1) SCHEDULE
(A2) ATTESTATION D'EXAMEN CE DE TYPE LCIE 03 ATEX 0033 U	(A2) EC TYPE EXAMINATION CERTIFICATE LCIE 03 ATEX 0033 U
(A3) DESCRIPTION DU COMPOSANT	(A3) DESCRIPTION OF COMPONENT
Les bouchons permettent d'obtenir une enveloppe non équipée d'entrée de câble. Les réducteurs et amplificateurs permettent le montage d'entrée de câble d'un diamètre inférieur ou supérieur au diamètre du trou de passage de l'enveloppe. Toutes positions de fonctionnement. Les composants comprennent les éléments suivants : - le bouchon à file, le réducteur ou l'amplificateur, fileté PG ou ISO en matière plastique PC ou PA6, - un joint plat en néoprène, - un contre écrou hexagonal fileté PG ou ISO en laiton. Le marquage réduit est le suivant :	The caps allow to seal an enclosure no equipped of cable gland. The reducers and the amplifiers allow the assembling of cable gland of less or higher diameter of the enclosure crossing hole diameter. All positions of functioning The components including the following elements : - the groove cap, the reducer or the amplifier, threaded PG or ISO made of PC or PA6 plastic, - a flat gasket made of neoprene, - an hexagon PG or ISO threaded conenut made of brass. The reduced marking is the following:
S.I.B.-A.D.R. Type : EExe II 2 G/D EEx e II IP6X LCIE 03 ATEX 0033U	S.I.B.-A.D.R. Type : EExe II 2 G/D EEx e II IP6X LCIE 03 ATEX 0033U
Le marquage devra être accompagné du numéro d'identification de l'organisme notifié responsable de la surveillance du système approuvé de qualité (0081 pour le LCIE). Le matériel devra également comporter le marquage normalement prévu par les normes de construction du matériel électrique concerné.	The marking shall be accompanied by the identification number of the notified body responsible for surveillance of the approved quality system (0081 for the LCIE). The equipment must also carry the usual marking required by the manufacturing standards applying to such equipments concerned.
(A4) DOCUMENTS DESCRIPTIFS	(A4) DESCRIPTIVE DOCUMENTS
Dossier technique N° DT/001/03 rev. 0 du 25 novembre 2003. Ce document comprend 8 rubriques (13 pages).	Technical file N° DT/001/03 rev.0 dated November 25, 2003. This file includes 8 items (13 pages).
(A5) CONDITIONS SPECIALES POUR UTILISATION SURE	(A5) SPECIAL CONDITIONS FOR SAFE USE
Lors du montage des bouchons, des réducteurs ou des amplificateurs sur des enveloppes de sécurité augmentées « e » (pour les atmosphères Cbz) ou sur des enveloppes protégées (IP6X) (pour les atmosphères Po ou autres), l'implantation et les assemblages réalisés devront être conformes aux documents descriptifs du constructeur. Gamme de température ambiante d'utilisation comprise entre : - 20 °C et + 55 °C.	For the assembling of the caps, reducers or amplifiers on « e » protected safety enclosures (for Gas atmospheres) or on IP6X enclosures (for Dust atmospheres), the fitting up and the assembling realized shall must be in accordance with the descriptive documents on the manufacturer. Using ambient temperature range between : - 20 °C and + 55 °C.

LCIE	
1 ATTESTATION D'EXAMEN CE DE TYPE	1 EC TYPE EXAMINATION CERTIFICATE
2 Composants destinés à être utilisés en atmosphères explosibles Directive 94/9/CE	2 Components Intended for use in Potentially explosive atmospheres Directive 94/9/CE
3 Numéro de l'attestation CE de type LCIE 03 ATEX 0033 U	3 EC type Examination Certificate number LCIE 03 ATEX 0033 U
4 Composant	4 Component
Type : EExe, modèles Bouchon, Réducteur ou Amplificateur	Type : EExe, Cap, Reducer or Amplifier models
Demandeur : S.I.B.-A.D.R.	Applicant : S.I.B.-A.D.R.
Adresse : 50, Rue du Capitaine Maillard 57220 BOULAY FRANCE	Address : 50, Rue du Capitaine Maillard 57220 BOULAY FRANCE
5 Ce composant ou système de protection et ses variantes éventuelles acceptées est décrit dans l'annexe de la présente attestation et dans les documents descriptifs cités en annexe.	5 This component and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
6 Le LCIE, organisme notifié sous la référence 0081 conformément à l'article 9 de la directive 94/9/CE du Parlement européen et du Conseil du 23 mars 1994, certifie que ce composant est conforme aux exigences essentielles en ce qui concerne la sécurité et la santé pour la conception et la construction de composants destinés à être utilisés en atmosphères explosives, qu'ils soient dans l'annexe II de la directive. Les vérifications, les documents figurent dans notre rapport confidentiel N° 6000460671.	6 LCIE, notified body number 0081 in accordance with article 9 of the directive 94/9/CE of the European Parliament and the Council of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of component intended for use in potentially explosive atmospheres, given in Annex II to the directive. The verification and test results are recorded in confidential report N° 6000460671.
7 Le respect des exigences essentielles en ce qui concerne la sécurité et la santé est assuré par la conformité aux documents suivants :	7 Compliance with the Essential Health and Safety Requirements has been assured by compliance with :
- EN 50014 (1997) + amendements 1 et 2 (1999)	- EN 50014 (1997) + Amendments 1 and 2 (1999)
- EN 50019 (2000)	- EN 50019 (2000)
- EN 50281-1-1 (1998) + amendement 1 (2002)	- EN 50281-1-1 (1998) + Amendment 1 (2002)
8 Le signe U lorsqu'il est placé à la suite du numéro de l'attestation, indique que cette attestation ne doit pas être confondu avec celle destinée à un appareil ou un système de protection. Cette attestation partielle peut être utilisée comme base pour l'attestation d'un appareil ou d'un système de protection.	8 If the sign U is placed after the certificate number it indicates that this certificate must not be mistaken with a certificate intended for an Equipment or Protective system. This partial certification may be used as a basis for certification of an Equipment or Protective system.
9 La présente attestation d'examen CE de type porte uniquement sur la conception, l'examen et l'essai du composant spécifié conformément à la directive 94/9/CE. D'autres exigences de la Directive sont applicables au procédé de fabrication et de brasure du composant. Ces dernières ne sont pas couvertes par la présente attestation.	9 This EC Type examination certificate relates only to the design, examination and tests of the specified component in accordance to the directive 94/9/CE. Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.
10 Le marquage du composant devra comporter, entre autres indications utiles, les mentions suivantes :	10 The marking of the equipment or protective system shall include the following :
EEx e II - IP6X	EEx e II - IP6X
Fontenay-aux-Roses, le 09 janvier 2004	Fontenay-aux-Roses, le 09 janvier 2004
Le Directeur de l'organisme certificateur Manager of the certification body	Le Directeur de l'organisme certificateur Manager of the certification body
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L C I E

1 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE

2 Appareil ou système de protection destiné à être utilisé
en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant :

LCIE 03 ATEX 0033 U / 01

4 Appareil ou système de protection :

Composants

Type : EEXe ; modèles Bouchon, Réducteur,
Amplificateur

5 Demandeur : SIB ADR

15 DESCRIPTION DE L'AVENANT

Mise à jour des normes

Les résultats des vérifications et essais figurent dans le
rapport confidentiel N° 60055106-555530 / 03

Le marquage doit être :

SIB ADR (ou logo SIB)

Ex II 2 G / D

Ex e II

Ex ID A21

LCIE 03 ATEX 0033 U

Type et pas du filetage

L'appareil doit également comporter le marquage
notamment prévu par les normes de construction qui le
concerne.

16 DOCUMENTS DESRIPTIFS

Dossier de certification N° DA/007/05 rev 0 du 12 février
2007. Ce dossier comprend 9 rubriques (13 pages).

1 SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE

2 Equipment or protective system intended for use in
potentially explosive atmospheres (Directive 94/9/EC)

3 Supplementary certificate number :

LCIE 03 ATEX 0033 U / 01

4 Equipment or protective system :

Components

Type : EEXe ; Cap, Reducer or Amplifier models

5 Applicant : SIB ADR

15 DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE

Update standards

The examination and test results are recorded in
confidential report N° 60055106-555530 / 03

The marking shall be :

SIB ADR (or SIB logo)

Ex II 2 G / D

Ex e II

Ex ID A21

LCIE 03 ATEX 0033 U

Type and size of thread

The equipment shall also bear the usual marking required
by the manufacturing standards applying to such
equipment.

16 DESCRIPTIVE DOCUMENTS

Certification file N° DA/007/05 rev 0 dated February 12th,
2007. This file includes 9 items (13 pages).

Fontenay-aux-Roses, le 26 juin 2007

Le responsable de certification ATEX
ATEX certification manager

LCIE

Laboratoire Central

des Industries Electriques

Une société de Bureau Veritas

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91180

92260 Fontenay-aux-Roses cedex

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Société Anonyme

au capital de 715 984 €

RCS Nanterre B 408 363 178

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09/1

I C I E

(A1) ANNEXE (suite)

(A2) ATTESTATION D'EXAMEN CE DE TYPE

LCIE 03 ATEX 0033 U

(A1) SCHEDULE (continued)

(A2) EC TYPE EXAMINATION CERTIFICATE

LCIE 03 ATEX 0033 U

(A6) EXIGENCES ESSENTIELLES EN CE QUI CONCERNE LA
SECURITE ET LA SANTE

Conformité aux normes européennes EN 50014 (1997) +
amendements 1 et 2 (1999), EN 50019 (2000) et
EN 50281-1-1 (1998) + amendement 1 (2002).

Le matériel est dispensé d'épreuve individuelle.

(A6) ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

Conformity to the European standards EN 50014 (1997) +
Amendments 1 and 2 (1999), EN 50019 (2000) and
EN 50281-1-1 (1998) + Amendment 1 (2002).

The equipment is exempted of individual test.

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09/01



LCIE

1 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE

2 Composant destiné à être utilisé en atmosphères explosives (Directive 94/9/CE)

3 Numéro de l'avenant : LCIE 03 ATEX 0033 U / 02

4 Composant : EEEx

5 Demandeur : S.I.B.-A.D.R.

6 Modèles : Bouchon, réducteur et amplificateur

7 Applicable : S.I.B.-A.D.R.

8 Description de l'avenant

9 Mise à jour selon les normes EN 60079-0 (2006), EN 60079-7 (2007), EN 61241-0 (2004), EN 61241-1 (2004)

10 Extension de la température ambiante d'utilisation. Voir détails au point 17.

11 Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 91814-583624.

12 Paramètres spécifiques du ou des modes de protection concernés :

13 Inchangé.

14 Le marquage doit être :

15 Inchangé.

16 DOCUMENTS DESCRIPTIFS

17 CONDITIONS SPECIALES POUR UNE UTILISATION SURE

18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE

19 VERIFICATIONS ET ESSAIS INDIVIDUELS

20 ROUTINE VERIFICATIONS AND TESTS

21 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

22 COVERED BY STANDARDS LISTED AT 15.

23 ROUTINE VERIFICATIONS AND TESTS

24 None.

25 Le responsable de certification ATEX

26 ATEX certification manager

27 Michel EQUI

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32 Société par Actions Simplifiée

33 au capital de 15 75 000 €

34 RCS Nanterre B 000 303 171

13 ANNEXE

14 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE

LCIE 03 ATEX 0033 U / 01

17 SPECIAL CONDITIONS FOR SAFE USE

For the assembling of the caps, reducers or amplifiers on "e" protected safety enclosures (for Gas atmospheres) or on IP6X protected enclosures (for Dust atmospheres) the filling up and the assembling realized shall must be in accordance with the descriptive documents on the manufacturer.

Using ambient temperature range between :
- 20 °C and + 55 °C.

18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

Compliance with the Essential Health and Safety Requirements has been assured by compliance with :
- EN 60079-0 (2004)
- EN 60079-7 (2003)
- EN 61241-0 (2004)
- EN 61241-1 (2004)

19 ROUTINE VERIFICATIONS AND TESTS

None

20 VERIFICATIONS ET ESSAIS INDIVIDUELS

Néant

21 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

Covered by standards listed at 15.

22 ROUTINE VERIFICATIONS AND TESTS

None.

23 Le responsable de certification ATEX

24 ATEX certification manager

25 Michel EQUI

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30 Société par Actions Simplifiée

31 au capital de 15 75 000 €

32 RCS Nanterre B 000 303 171



LCIE

1 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE

2 Composant destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)

3 Numéro de l'avenant : LCIE 03 ATEX 0033 U / 03

4 Composant : Type : EEx e Modèles : Bouchon, réducteur et amplificateur

5 Demandeur : S.I.B (Schiemmer Industrie & Building Parts) 25 Rue Théophile Somborn 57 220 BOULAY - MOSELLE France

15 DESCRIPTION DE L'AVENANT

Mise à jour normative suivant les normes : EN 60079-0:2012 + A11:2013, EN 60079-7:2007, EN 60079-31:2009

Mise à jour du marquage

Mise à jour de la raison sociale

Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 133536-668141-03

Paramètres spécifiques du ou des modes de protection concerné(s) : Néant

Le marquage doit être : S.I.B

Adresse : ...

Type : EEx e

N° de fabrication : ...

Année de fabrication : ...

Ex II 2 GD

Ex eb IIC

Ex tb IIIC

IP6X

LCIE 03 ATEX 0033 U

Fontenay-aux-Roses, le 7 mai 2015

Le Responsable de Certification ATEX

ATEX Certification Officer

Julien Gauthier



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10/ET



ATEX certificate:
PTB 11 ATEX 1007 X
for
Stuffing gland

DE



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

Anlage

(13) (14) EG-Baumusterprüfbescheinigung PTB 11 ATEX 1007 X

(15) Beschreibung des Gerätes

Die Kabel- und Leitungseinführung Typ blueglobe HT, blueglobe HT AC und blueglobe HT TRI Kabelverschraubung aus Messing vernickelt, blank und Edelstahl dient zur Einführung von fest verlegten Kabeln und Leitungen in elektrische Betriebsmittel der Zündschutzart Erhöhte Sicherheit "e".

Die Kabel- und Leitungseinführung besteht aus Druckschraube, Doppelnippel mit metrischem Anschlussgewinde in unterschiedlichen Längen und einem Dichtsatz aus Silikon.

Der Einbau erfolgt in Gehäuse mit Durchgangs- oder Gewindebohrungen. Bei Durchgangsbohrungen werden Gegenmutter verwendet.

Zubehör ist die Baugruppe AC für stahlarmierte Kabel und Leitungen, die TRI-Feder für geschirmte Kabel und Leitungen sowie ein Kunststoffbolzen zum Verschließen von nicht benutzten Kabelverschraubungen.

Technische Daten

Nenngröße Anschlussgewinde M 12 bis M 40

verwendbar für Kabel- und Leitungsdurchmesser je nach Nenngröße von 4 mm bis 32 mm

geeignet für Geräte der Gerätegruppe II hoch

Mindestwandstärken

Einbau in Geräte mit Gewindebohrungen 5,0 mm (Kunststoff)

..... 3,0 mm (Metall)

Einbau in Geräte mit Durchgangsbohrungen 2,0 mm (Kunststoff)

..... 1,0 mm (Metall)

Einsatztemperaturbereich

Dichtsatz und Dichttring Silikon -55 °C bis +160 °C

Bolzen -55 °C bis +90 °C

Berührungs-, Fremdkörper- und Wasserschutz IP 68 und IP 66 nach EN 60529

Gewindegröße	maximale Anzugsdrehmomente
Metrisch	Doppelnippel Druckschraube
M 12	5 Nm 8 Nm
M 16	8 Nm 10 Nm
M 20	10 Nm 15 Nm
M 25	15 Nm 15 Nm
M 32	15 Nm 20 Nm
M 40	20 Nm

Seite 2/3

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Physikalisch-Technische Bundesanstalt • Bundesallee 100 • 38116 Braunschweig • DEUTSCHLAND

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



EG-Baumusterprüfbescheinigung

(1) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung

(2) in explosionsgefährdeten Bereichen - Richtlinie 94/9/EG

(3) EG-Baumusterprüfbescheinigungsnummer

PTB 11 ATEX 1007 X

(4) Gerät: Kabel- und Leitungseinführung Typ blueglobe HT

(5) Kabelverschraubung aus Messing vernickelt und Edelstahl

(6) Hersteller: Pflitsch GmbH & Co. KG

(7) Anschrift: Ernst-Pflitsch-Str. 1, 42499 Hückeswagen, Deutschland

(8) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage und den darin aufgeführten Unterlagen zu dieser Baumusterprüfbescheinigung festgelegt.

(9) Die Physikalisch-Technische Bundesanstalt bescheinigt als benannte Stelle Nr. 0102 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 (94/9/EG) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.

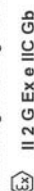
(10) Die Ergebnisse der Prüfung sind in dem vertraulichen Bewertungs- und Prüfbericht PTB Ex 11-11042 festgehalten.

(11) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit EN 60079-0:2009, EN 60079-7:2007, EN 60079-31:2009

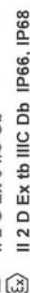
(12) Falls das Zeichen „X“ hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.

(13) Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Gerätes gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.

(14) Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:



II 2 G Ex e IIC Gb



II 2 D Ex tb IIIC Db IP66, IP68

Zertifizierungssektor Explosionsschutz

Im Auftrag

Dr.-Ing. U. Klausmeyer

Direktor und Professor

Braunschweig, 8. Juni 2011

Seite 1/3

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ZSEK101004.de



Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

Anlage zur EG-Baumusterprüfbescheinigung PTB 11 ATEX 1007 X

(16) Bewertungs- und Prüfbericht PTB Ex 11-11042

(17) Besondere Bedingungen

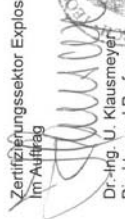
Es dürfen nur festverlegte Kabel und Leitungen eingeführt werden. Der Betreiber muss eine entsprechende Zugentlastung gewährleisten.

(18) Grundlegende Sicherheits- und Gesundheitsanforderungen

Erfüllt durch Übereinstimmung mit den vorgenannten Normen.

Zertifizierungssektor Explosionsschutz
Im Auftrag

Braunschweig, 8. Juni 2011


Dr.-Ing. U. Klausmeyer
Direktor und Professor



Seite 3/3

EG-Baumusterprüfbescheinigungen ohne Unterschrift und ohne Siegel haben keine Gültigkeit.
Diese EG-Baumusterprüfbescheinigung darf nur unverändert weiterverbreitet werden.
Auszüge oder Änderungen bedürfen der Genehmigung der Physikalisch-Technischen Bundesanstalt.
Physikalisch-Technische Bundesanstalt • Bundesallee 100 • 38116 Braunschweig • DEUTSCHLAND



ATEX certificate:

PTB 98 ATEX 3130

for

Cable stuffing glands

EN



PTB

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

SCHEDULE

(14) EC-TYPE-EXAMINATION CERTIFICATE PTB 98 ATEX 3130

(15) Description of equipment

The type GHG 960 663 P... dummy plugs made of polyamide serve to close threaded holes for cable entries in enclosures of the type of protection increased safety "e". Installation in clearance holes is with lock nuts made of brass or polyamide.

Technical data

Nominal size	Installation in enclosures of wall thickness
M 16 x 1,5	≥ 3,5 mm
M 20 x 1,5	≥ 3,5 mm
M 25 x 1,5	≥ 3,5 mm
M 32 x 1,5	≥ 3,5 mm
M 40 x 1,5	≥ 3,5 mm
M 50 x 1,5	≥ 3,5 mm
range of temperature of use:	-55 °C to +95 °C
range of temperature of ambient:	-55 °C to +55 °C
Suitability for equipment of group II	high
with a degree of mechanical hazard:	high
Protection against contact, foreign matter and water:	at least IP 54 acc. to EN 60 529:1991

(16) Test report PTB Ex 98-30021 (comprising 3 pages, description and drawing)

(17) Special conditions for safe use

not applicable

(18) Essential health and safety requirements

The degree of protection - at least IP 54 according to EN 60529:1991 - is guaranteed only by appropriate selection of the dummy plugs and proper installation in the equipment.

Zertifizierungsstelle Explosionsschutz

By order:



Braunschweig, November 12, 1998

sheet 2/2

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • D-38116 Braunschweig

PTB

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - Directive 94/9/EC

(3) EC-type-examination Certificate Number:

PTB 98 ATEX 3130

(4) Equipment: Dummy plugs type GHG 960 663 P...

(5) Manufacturer: CEAG Sicherheitstechnik GmbH

(6) Address: Neuer Weg Nord 49, D-69412 Eberbach

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 98-30021.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1992 EN 50019:1994

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:



Braunschweig, November 12, 1998

Zertifizierungsstelle Explosionsschutz

By order:



sheet 1/2

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • D-38116 Braunschweig



Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

Physikalisch-Technische Bundesanstalt • Postfach 33 45 • 38023 Braunschweig

Cooper-Crouse Hinds GmbH
z. Hd. Frau Frankhauser

Neuer Weg Nord 49
69412 Eberbach

Ihr Zeichen:
Ihre Nachricht vom: 29.11.2007
Unser Zeichen:
Unsere Nachricht vom:
Bearbeitet von:
Telefondurchwahl:
Telefaxdurchwahl:
E-Mail:
Datum: 14. Januar 2008

Normengenerationsänderung nach EN 60079-0 ff, EN 6124-0 ff
Blindstopfen Typ / dummy plug type GHG 960 663. P....
PTB 98 ATEX 3130

Sehr geehrte Frau Frankhauser,
es bestehen keine sicherheitstechnischen Bedenken,
den Blindstopfen Typ GHG 960 663. P.... mit folgenden Kennzeichnungen zu versehen:

- Ex II 2 G Ex e II
- Ex II 2 D Ex ID A21 IP66

Wir bitten Sie, diese Änderungen bei zukünftigen Ergänzungen mit aufzunehmen.

Translation
there are no safety-related objections from PTB to mark
the dummy plug type GHG 960 663. P... as follows

- Ex II 2 G Ex e II
- Ex II 2 D Ex ID A21 IP66

We would like to ask you to include this change into the next supplement.

Mit freundlichen Grüßen
Im Auftrag

Dr. Schumann
Regierungsrat

Hausadresse, Lieferanschrift:
Bismarckstraße 22
38116 Braunschweig
Deutschland
Telefon (Zentrale): 0531 552-0
Telefax (Zentrale): 0531 552-292
E-Mail (Zentrale): poststelle@ptb.de
Internet: http://www.ptb.de
Achtung/ Neue Bankverbindung:
Bundeskasse Halle
Postfach 10 15 51
Konto: 800 010 00
BLZ: 800 000 00
PTB Berlin-Charlottenburg
Postfach 12 12
10557 Berlin
Deutschland

00 000



Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

1. SUPPLEMENT
according to Directive 94/9/EC Annex III.6
to EC-TYPE-EXAMINATION CERTIFICATE PTB 98 ATEX 3130
(Translation)

Equipment: Dummy plugs, type GHG 960 663. P.

Marking: Ex II 2 G EEx e II

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

According to EN 50281-1-1:1998 the type GHG 960 663. P... dummy plugs may also be used in areas
in which explosive atmospheres with dust/air mixtures have to be expected to occur occasionally.
The marking is therefore changed to read:

- Ex II 2 G/D EEx e II IP66

Test report: PTB Ex 03-13301

Braunschweig, September 18, 2003

Zertifizierungsstelle Explosionsschutz

By order:



Dipl.-Phys. U. Volker

Sheet 1/1

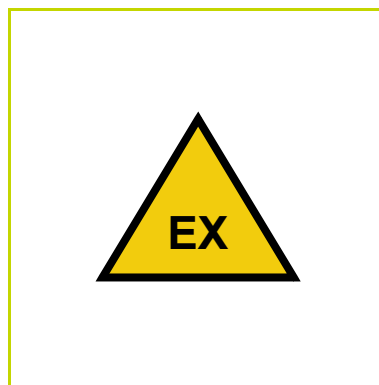
EC-type-examination. Certificates without signature and official stamp shall not be valid. The certificates may be circulated
only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt.
In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • 38116 Braunschweig, Germany

EX CERTIFICATE – ATEX

vibro-meter®

**SEV 15 ATEX 0151
for
cable fittings (stuffing glands)**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference SEV 15 ATEX 0151
Edition 2 – October 2020

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Attestation d'Examen UE de Type

- (1) (2) Matériel et systèmes de protection destinés à être utilisés en atmosphères explosibles - Directive 2014/34/UE
- (3) Numéro de l'attestation d'examen: SEV 15 ATEX 0151
- (4) Produit: Presse-étoupe et accessoires
Type Progress *** ***** KB EX
- (5) Fabricant: Agro AG
- (6) Adresse: Korbackerweg 7, 150, 5502 Hunzenschwil, SWITZERLAND
- (7) Le type de ce produit ainsi que toute autre variante acceptable de celui-ci sont spécifiés dans l'annexe de cette attestation d'examen.
- (8) Eurofins, comme organisme notifié n° 1258, conformément à l'article 17 de la Directive 2014/34/UE du Parlement des Communautés européennes et du Conseil du 26 février 2014, certifie que les Exigences Essentielles de Santé et de Sécurité relatives à la conception et à la construction de produits destinés à être utilisés en atmosphères explosibles, telles qu'énoncées à l'Annexe II de la directive, sont remplies.
- (9) Les résultats de l'examen sont consignés dans le rapport d'essai confidentiel. 18-Ex-0130.01
- (10) Les Exigences Essentielles de Santé et de Sécurité sont remplies par la conformité à:
- EN 60079-0:12 + A11:13 EN 60079-31:14 EN 60079-7:15
- (11) Les conditions spécifiées au point 18 constituent une exception. Lorsque le numéro de l'attestation est suivi du signe « X », celui-ci renvoie aux conditions spéciales de sécurité d'utilisation du produit, telles que spécifiées dans l'annexe de cette attestation.
- (12) La présente attestation d'examen UE de type porte exclusivement sur la conception et la construction du produit spécifié. D'autres exigences de cette directive s'appliquent à la fabrication et à la mise sur le marché du produit, celles-ci ne font cependant pas l'objet de cette attestation.
- (13) Le produit portera un marquage incluant les éléments suivants:
- II 2 G Ex eb IIC Gb
II 2 D Ex tb IIC Db

Eurofins Electrosuisse Product Testing AG
Notified Body ATEXMartin Plüss
Product Certification



www.eurofins.ch

Fehraltorf, 15.11.2018

édition: 000

page 1 de 2

Annexe

Attestation d'Examen UE de Type no. SEV 15 ATEX 0151

- (13) (14) (15) **Description du produit**
- Les presse-étoupe Progress *** KB Ex laiton ou acier servent à monter des câbles et conduites dans du matériel électrique présentant une enveloppe à sécurité augmentée «eb» et protection par enveloppe «tb». Le montage se fait dans le boîtier par des trous filetés ou des trous de passage. Les presse-étoupe se composent essentiellement de l'écrou de pression, du manchon et du joint d'étanchéité. La décharge de traction se fait par le joint d'étanchéité ou par un système supplémentaire de décharge.
- Les accessoires comprennent des réductions, des extensions, des pièces de verrouillage et des contre-écrous.
- Désignations des types
- Progress MS ***** KB EX (M16...M63; Pg9...Pg48; NPT3/8"...NPT2")
- Progress S2 ***** KB EX (M12...M63; Pg7...Pg48; NPT1/4"...NPT2")
- Progress S4 ***** KB EX (M12...M63; Pg7...Pg48; NPT1/4"...NPT2")
- Adaptateurs filetés (réductions, extensions) MS EX (M16...M63; Pg9...Pg48)
- Adaptateurs filetés (réductions, extensions) S2 EX (M12...M63; Pg7...Pg48)
- Adaptateurs filetés (réductions, extensions) S4 EX (M12...M63; Pg7...Pg48)
- Lamelles de blocage MS EX; S2 EX; S4 EX (M8...M63; Pg7...Pg48)
- Contre-écrous MS EX; S2 EX; S4 EX (M8...M63; Pg7...Pg48)
- Progress MS EMV easyCONNECT KB EX (Laiton nickelée avec mâchoires de serrage, M16...M63; Pg9...Pg48; NPT3/8"...NPT2")
- Progress S2 EMV easyCONNECT KB EX (Laiton nickelée avec mâchoires de serrage, M12...M63; Pg7...Pg48; NPT1/4"...NPT2")
- Progress S4 EMV easyCONNECT KB EX (Laiton nickelée avec mâchoires de serrage, M12...M63; Pg7...Pg48; NPT1/4"...NPT2")
- Classification de l'installation et utilisation: fixe
IP 66 / IP68
Indice de protection: -60 °C ... +100 °C pour types de métal
Plage de température ambiante nominale: -60 °C ... +100 °C pour types de métal
- (16) **Rapport d'essai** 18-Ex-0130.01
- (17) **Conditions spéciales** Aucune
- (18) **Exigences Essentielles de Santé et de Sécurité**
Outre les Exigences Essentielles de Santé et de Sécurité remplies par les normes spécifiées au point 9, les conditions suivantes, prises en compte dans le rapport d'essai, sont également importantes:
- Paragraphe** Thème
Aucune
- (19) **Dessins et documents**
Voir rapport d'essai « Documents du fabricant »



www.eurofins.ch

Fehraltorf, 15.11.2018

édition: 000

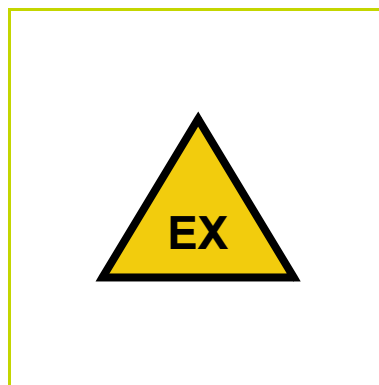
page 2 de 2

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EX CERTIFICATE – ATEX

vibro-meter®

**SEV 15 ATEX 0152 X
for
cable fittings (stuffing glands)**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference SEV 15 ATEX 0152 X
Edition 3 – October 2020

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Attestation d'Examen UE de Type

- (1) (2) Matériel et systèmes de protection destinés à être utilisés en atmosphères explosibles - Directive 2014/34/UE
- (3) Numéro de l'attestation d'examen: SEV 15 ATEX 0152 X
- (4) Produit: Presse-étoupe et accessoires Type Progress *** ***** EX
- (5) Fabricant: Agro AG
- (6) Adresse: Korbacherweg 7, 5502 Hunzenschwil, SWITZERLAND
- (7) Le type de ce produit ainsi que toute autre variante acceptable de celui-ci sont spécifiés dans l'annexe de cette attestation d'examen.
- (8) Eurofins, comme organisme notifié n° 1258, conformément à l'article 17 de la Directive 2014/34/UE du Parlement des Communautés européennes et du Conseil du 26 février 2014, certifie que les Exigences Essentielles de Santé et de Sécurité relatives à la conception et à la construction de produits destinés à être utilisés en atmosphères explosibles, telles qu'énoncées à l'Annexe II de la directive, sont remplies.
- Les résultats de l'examen sont consignés dans le rapport d'essai confidentiel.
- (9) Les Exigences Essentielles de Santé et de Sécurité sont remplies par la conformité à:
- EN 60079-0:2012+A11:13 EN 60079-31:14 EN 60079-7:15
- Les conditions spécifiées au point 18 constituent une exception.
- (10) Lorsque le numéro de l'attestation est suivi du signe « X », celui-ci renvoie aux conditions spéciales de sécurité d'utilisation du produit, telles que spécifiées dans l'annexe de cette attestation.
- (11) La présente attestation d'examen UE de type porte exclusivement sur la conception et la construction du produit spécifié. D'autres exigences de cette directive s'appliquent à la fabrication et à la mise sur le marché du produit, celles-ci ne font cependant pas l'objet de cette attestation.
- (12) Le produit portera un marquage incluant les éléments suivants:

EX II 2 G Ex eb IIC Gb
II 2 D Ex tb IIC Db

Eurofins Electro Suisse Product Testing AG
Notified Body ATEX

Martin Plüss
Product Certification



page 1 de 3

www.eurofins.ch Fehraltorf, 18.12.2018 édition: 003

Annexe

Attestation d'Examen UE de Type no. SEV 15 ATEX 0152 X

- (13) (14) (15) Description du produit
- Les presse-étoupe Progress *** KB Ex en plastique, laiton ou acier servent à monter des câbles et conduites dans du matériel électrique présentant une enveloppe à sécurité augmentée «eb» et protection par enveloppe «tb». Le montage se fait dans le boîtier par des trous filetés ou des trous de passage.
- Les presse-étoupe se composent essentiellement de l'écrou de pression, du manchon et du joint d'étanchéité. La décharge de traction se fait par le joint d'étanchéité ou par un système supplémentaire de décharge. Les accessoires comprennent des réductions, des extensions, des pièces de verrouillage et des contre-écrous.
- Désignations des types
- | | |
|---|--------------------------------|
| Progress MS *** KB EX (M12; Pg7; NPT1/4") | [résistance aux chocs réduite] |
| Progress MS *** EX (M8...M12; Pg7; NPT1/8"...NPT1/4") | [résistance aux chocs réduite] |
| Progress S2 *** EX (M8...M10; NPT1/8") | [résistance aux chocs réduite] |
| Progress S4 *** EX (M8...M10; NPT1/8") | [résistance aux chocs réduite] |
| Progress MS *** EX (M16...M63; Pg9...Pg48; NPT3/8"...NPT2") | [résistance aux chocs réduite] |
| Progress S2 *** EX (M12...M63; Pg7...Pg48; NPT1/4"...NPT2") | [résistance aux chocs réduite] |
| Progress S4 *** EX (M16...M63; Pg9...Pg48) | [résistance aux chocs réduite] |
| Adaptateurs filetés (réductions, extensions) MS EX (M8...M12; Pg7) | [résistance aux chocs réduite] |
| Adaptateurs filetés (réductions, extensions) S2 EX (M8...M10) | [résistance aux chocs réduite] |
| Adaptateurs filetés (réductions, extensions) S4 EX (M8...M10) | [résistance aux chocs réduite] |
| En supplément, les variantes client suivantes sont incluses: | |
| EX1000, 12.91.900; EX1100, 12.91.900; EX1700, 12.86.903.91; EX1700, 12.86.903.91; | |
| EX1700, 17.86.900.91; EX1710, 12.86.901.91; EX1710, 12.86.903.91; EX1710, 17.86.900.91; | |
| Progress MS FK EX, A2 FK EX, A4 FK EX, no d'article EX130*75*620.140 | |
| Progress MS EMV easyCONNECT KB EX | |
| (Laiton nickelé avec mâchoires de serrage, M12; Pg7; NPT1/4") | [résistance aux chocs réduite] |

Classification de l'installation et utilisation: mobile / fixe / portatif
IP 66 / IP68
Indice de protection: -60 °C ... +100 °C pour types de métal
-20 °C ... +85 °C pour types GFK
Plage de température ambiante nominale: -50 °C ... +60 °C pour MS FK EX, A2 FK EX, A4 FK EX



page 2 de 3

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- (16) **Rapport d'essai** 18-Ex-0130.02 + .02 E1 + .02 E2
- (17) **Conditions spéciales**
- Les types à faible force de traction sont destinés uniquement aux conduites et câbles fixes. L'utilisateur doit garantir une décharge de traction appropriée.
(Non valable pour Progress MS ***** KB EX (M12, PG7, NPT1/4"))
 - Les types à faible énergie de choc sont à monter dans le boîtier de sorte à assurer leur protection mécanique contre l'énergie de choc conformément au paragraphe 26.4.2 de la norme européenne EN 60079-0.
- (18) **Exigences Essentielles de Santé et de Sécurité**
Outre les Exigences Essentielles de Santé et de Sécurité remplies par les normes spécifiées au point 9, les conditions suivantes, prises en compte dans le rapport d'essai, sont également importantes:
- Paragraphe**
Aucune
- Thème**
- (19) **Dessins et documents**
Voir rapport d'essai « Documents du fabricant »



page 3 de 3

édition: 003

Fehraltorf, 18.12.2018

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APPENDIX C: cCSAUs CERTIFICATIONS

Table C-1: Related cCSAUs certificates

Product(s) covered	Certificate number
CE134	cCSAUs 70034691
CE28x and CE31x	cCSAUs 1514310
GSI127	cCSAUs 70001999

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cCSAus certificate:

EN

70034691

for

CE 134



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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**cCSAus instructions specific to hazardous area installations
444-134-000-YY5 to YY9**

The following instructions relevant to safe use in a hazardous area apply to equipment covered by the cCSAus 70034691 certificate.

1	The certification marking is as follows:  70034691 Class I, Division 1, Groups A, B, C, D Ex ia IIC T6...T1 Ga Class 1, Zone 0 AEx ia IIC T6...T1 Ga Reference drawing PZ 8584. Class I, Division 2, Groups A, B, C, D Ex nA IIC T6...T1 Gc Class 1, Zone 2 AEx nA IIC T6...T1 Gc Reference drawing PZ 8585.																												
2	The equipment may be used in Zones 0, 1 and 2 with flammable gases and vapours, with apparatus groups IIA, IIB and IIC, and with temperature classes T1 to T6. Temperature classes depend on the operating temperatures of the sensor, cable and signal conditioner (see §4).																												
3	The equipment may also be used in Division 1 and Division 2 with Groups A, B, C, D.																												
4	The equipment is only certified for use in ambient temperatures in the range as specified below and should not be used outside this range. Sensor operating temperature: -70 to +350°C. Cable operating temperature: -54 to +260°C. Conditioner operating temperature: -54 to +125°C. Temperature classes depend on the operating temperatures of the sensor, cable and signal conditioner: <table><tr><th>Part</th><th>T6</th><th>T5</th><th>T4</th><th>T3</th><th>T2</th><th>T1</th></tr><tr><td>Sensor</td><td>+80°C</td><td>+95°C</td><td>+130°C</td><td>+195°C</td><td>+290°C</td><td>+350°C</td></tr><tr><td>Cable</td><td>+80°C</td><td>+95°C</td><td>+130°C</td><td>+195°C</td><td>+260°C</td><td>---</td></tr><tr><td>Conditioner</td><td>+65°C</td><td>+80°C</td><td>+115°C</td><td>+125°C</td><td>---</td><td>---</td></tr></table>	Part	T6	T5	T4	T3	T2	T1	Sensor	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C	Cable	+80°C	+95°C	+130°C	+195°C	+260°C	---	Conditioner	+65°C	+80°C	+115°C	+125°C	---	---
Part	T6	T5	T4	T3	T2	T1																							
Sensor	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C																							
Cable	+80°C	+95°C	+130°C	+195°C	+260°C	---																							
Conditioner	+65°C	+80°C	+115°C	+125°C	---	---																							
5	Installation shall be carried out in accordance with the applicable code of practice by suitably trained personnel.																												
6	There are no special checking or maintenance conditions.																												
7	With regard to explosion safety, it is not necessary to check for correct operation.																												
8	The equipment contains no user-replaceable parts and is not intended to be repaired by the user. Repair of the equipment is to be carried out by the manufacturer, or their approved agents, in accordance with the applicable code of practice.																												
9	Repair of this equipment shall be carried out in accordance with the applicable code of practice.																												
10	If the equipment is likely to come into contact with aggressive substances, such as acidic liquids or gases that may attack metals or solvents that may affect polymeric materials, then it is the responsibility of the user to take suitable precautions that prevent it from being adversely affected, thus ensuring that the type of protection is not compromised.																												
11	“WARNING – EXPLOSION HAZARD – DO NOT DISCONNECT WHILE CIRCUIT IS LIVE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS.”																												

Certificate: 70034691

Project: 70034691

Master Contract: 175074

Date Issued: September 22, 2015

Part	T6	T5	T4	T3	T2	T1
Sensor	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C
Cable	+80°C	+95°C	+130°C	+195°C	+260°C	--
Conditioner	+45°C	+60°C	+95°C	+125°C	--	--

CLASS 2258 02 – PROCESS CONTROL EQUIPMENT – For Hazardous Locations

Class 1, Division 2, Groups A, B, C and D
Ex nA IIC T6..T1 Gc

CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations, Certified to US standards.

Class 1, Division 2, Groups A, B, C and D
Class 1, Zone 2, AEx nA IIC T6..T1 Gc

CEI 34 Accelerometer– PNR 444-134-000-YY5 to YY9, YY depends on the connector type and cable length (YY = 00 to 99)

Entity parameters: U ≤ 28V, P ≤ 224 mW

Note

Sensor Operating Temperature: -70°C to +350°C

Cable Operating Temperature: -54°C to +260°C

Conditioner Operating Temperature: -54°C to +125°C

Temperature classes depend on operating temperature of conditioner, cable and sensor:

Part	T6	T5	T4	T3	T2	T1
Sensor	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C
Cable	+80°C	+95°C	+130°C	+195°C	+260°C	--
Conditioner	+65°C	+80°C	+115°C	+125°C	--	--

DOD-507 Rev. 2012-05-22

Page 2

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DOD 507 Rev. 2012-05-22

Certificate of Compliance

Certificate: 70034691

Master Contract: 175074

Project: 70034691

Date Issued: September 22, 2015

Issued to: Meggitt SA
Rte de Moncor 4
Villars-sur-Glane, 1752
Switzerland

Attention: Carlo Pellegrinelli

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Issued by:

Sripriya
Kalyanasundaram

PRODUCTS

CLASS 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non- Incendive Systems - For Hazardous Locations.

Class 1, Division 1, Groups A, B, C and D
Ex ia IIC T6..T1 Ga

CLASS 2258 83 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non Incendive Systems - For Hazardous Locations, Certified to US standards.

Class 1, Division 1 Groups A, B, C and D
Class 1, Zone 0, AEx ia IIC T6..T1 Ga

CEI34 Accelerometer - PNR 444-134-000-YY5 to YY9, YY depends on the connector type and cable length (YY = 00 to 99)

Entity parameters: Ui : 28V; Ii : 100mA; Pi : 700mW; Ci : 0; Li : 0

DOD-507 Rev. 2012-05-22

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Page 1

DOD 507 Rev. 2012-05-22

Certificate: 70034691
Project: 70034691

Master Contract: 175074
Date Issued: September 22, 2015



Marking is engraved on product metallic body.

- Manufacturer's name : 'MEGGITT SA'
- Model Number: As specified in the products section.
- Marking as specified in the products section.
- Note to say 'Refer dwg PZ8584' : Refer drawing PZ8585' (for Electrical Entity parameters: As specified in the products section.)
- Serial Number and Manufacturing date in MMYYY format.
- COC number : CSA 700034691
- The CSA Mark with "C" and "US" indicators as shown on the Certificate of Conformity.

Note: See Instructions for ambient temperature range and warnings.

DDO 507 Rev. 2012-05-22
Page 4

Certificate: 70034691
Project: 70034691

Master Contract: 175074
Date Issued: September 22, 2015



APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 0-10 <i>August 2011</i> CAN/CSA-C22.2 No. 61010-1-12 <i>(May 2012)</i> CAN/CSA-C22.2 No. 60079-0-11 <i>(December 2011)</i> CAN/CSA-C22.2 No. 60079-11-14 <i>(February 2014)</i> CAN/CSA-C22.2 No. 60079-15-12 <i>Third Edition</i> CAN/CSA-C22.2 No. 157-92 – 2012 CAN/CSA-C22.2 No.213-M1987-2013 <i>Sixth Edition (July 26, 2013)</i> ANSI/UL 60079-15-2013 ANSI/UL 60079-11 – 2013 <i>Sixth Edition (September 6, 2013)</i> ANSI/UL 61010-1-2012 <i>Third Edition (May 11, 2012)</i> ANSI/UL 913 – 2013 <i>Eighth Edition</i> ANSI/ISA-12.12.01-2013	General requirements — Canadian Electrical Code, Part II Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use — Part I: General Requirements Explosive atmospheres — Part 0: Equipment — General requirements Explosive atmospheres — Part 11: Equipment protection by intrinsic safety "i" Electrical apparatus for explosive gas atmospheres — Part 15 Intrinsically Safe and Non-Incendive Equipment for use in Hazardous location Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations Explosive atmospheres — Part 0: Equipment — General requirements Explosive Atmospheres — Part 15: Type of protection "n" Explosive Atmospheres — Part 11: Equipment Protection by Intrinsic Safety "i" Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use — Part I: General Requirements Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II and III, Division 1, Hazardous Locations Non-Incendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous Locations
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MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

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Supplement to Certificate of Compliance

Certificate: 70034691

Master Contract: 175074

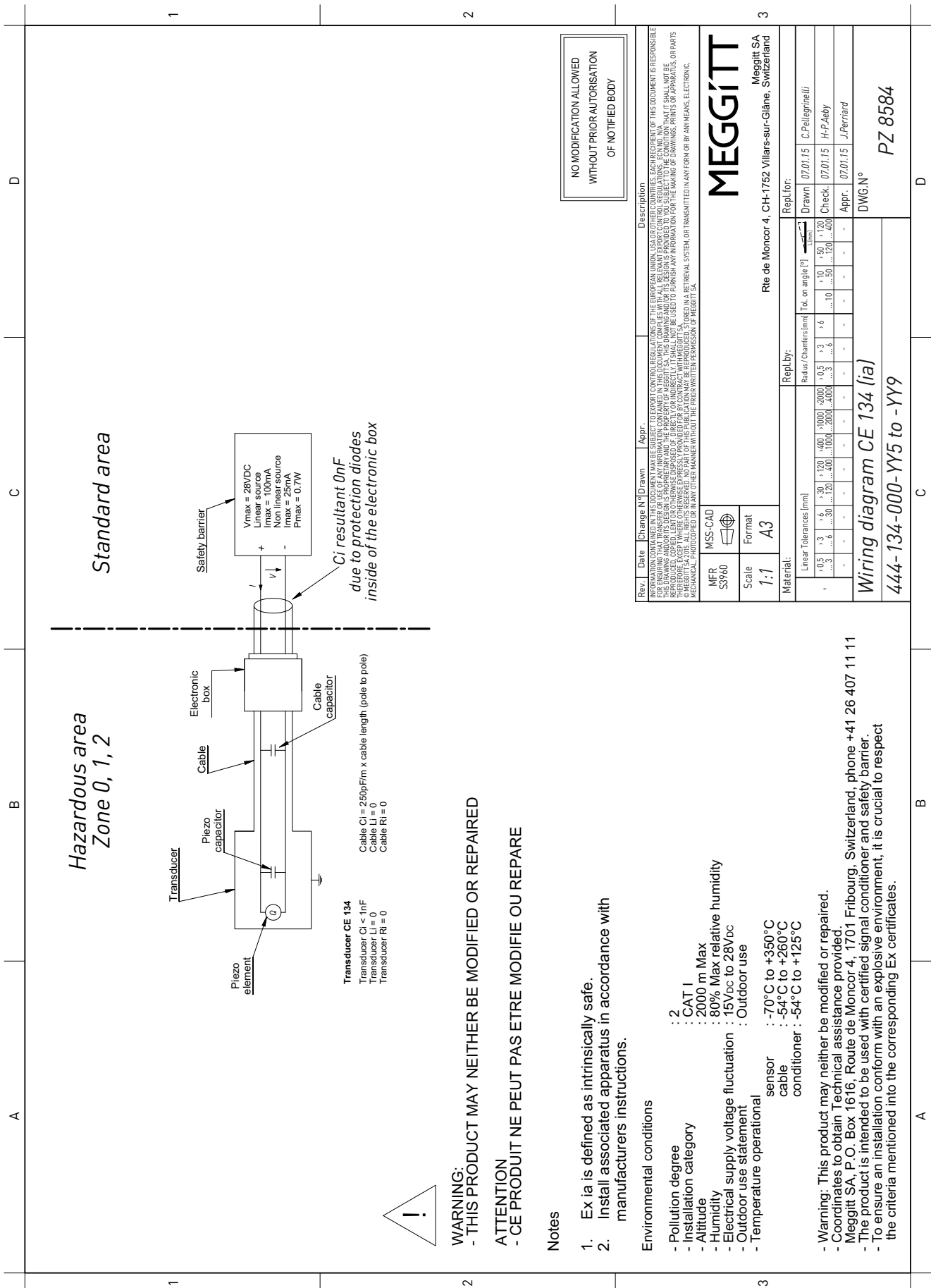
The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.

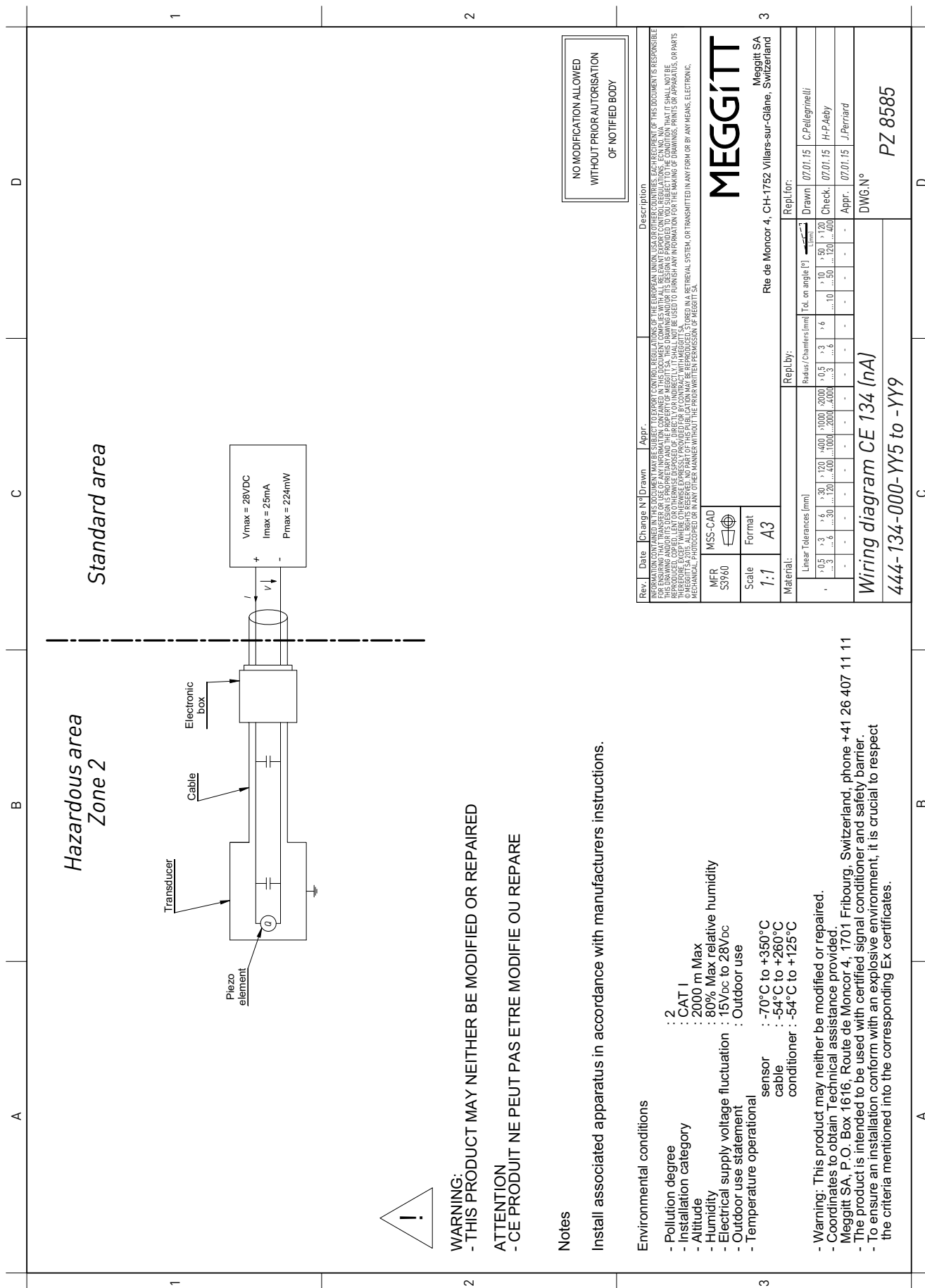
Product Certification History	
Project	Date
70034691	September 22, 2015

Original Certification of PNR 444-134-000-YY5 to YY9

DOD 507 Rev. 2012-05-22

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cCSAus certificate:

EN

1514310

**for CA 28x, CE 28x
and CE 31x**



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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Certificate: 1514310 **Master Contract:** 175074
Project: 70097496 **Date Issued:** 2016-12-12

Part Number	Power Source Type	Vmax	Imax	Li	Ci
444-28X-000-YY1	Linear	28 V	100 mA	0 mH	10.45 nF
444-31X-000-YY1	Linear	28 V	100 mA	0 mH	10.45 nF

Ambient Temperature Range:

Type Description	Part Number	Ambient Temperature Conditioner	Sensor and cable
Sensor and remote electronic	444-28X-000-YY1	-55 °C to +100 °C	-55 °C to +260 °C
Sensor and integrated electronic	444-31X-000-YY1	-55 °C to +125 °C	

Temperature Code:

Part Number	T6	T5	T4
444-28X-000-YY1	+80°C	+95°C	+100°C
444-31X-000-YY1	+80°C	+95°C	+125°C

Class I, Division 1, Groups A, B, C and D
Ex ia IIC T6...T2 Ga
Class I, Zone 0, AEx ia IIC T6...T2 Ga

Accelerometer Type CA 28X (sensor only) P/N 144-28X-000-YYY

The sensor converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal that is processed externally. Intrinsically safe with entity parameters when connected per drawing PZ 8721.

Nomenclature:

X defines the design of the sensor head (X = 0...9)

YYY depends on the connector type and the cable length (Y = 0...9)

Ratings:

In type of protection intrinsic safety A/Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following entity parameters:

Part Number	Vmax, Ui	Imax, Ii	Pi	Li	Ci sensor	Ci cable
144-28X-000-YYY	28 V	100 mA	0.7 W	0 mH	8 nF	250 pF/m

Ambient Temperature Range:

Type Description	Part Number	Ambient Temperature
Sensor only	144-28X-000-YYY	-55 °C to +260 °C

DOD-507 Rev. 2016-02-18

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Certificate of Compliance

Certificate: 1514310 **Master Contract:** 175074
Project: 70097496 **Date Issued:** 2016-12-12

Issued to: Meggitt SA
 Rue de Moncor 4
 Villars-sur-Glane, Fribourg 1752
 SWITZERLAND
 Attention: Carlo Pellegrielli

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: Hossein Saleh
 Hossein Saleh

PRODUCTS

CLASS – 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations
 CLASS – 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups A, B, C and D

Accelerometers Type CE 28X (sensor with remote electronic) P/N 444-28X-000-YY1, and Type CE 31X (sensor with integrated electronic) P/N 444-28X-000-YY1

The sensor converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal sent to a conditioner (remote, or integrated, respectively) that sends out a modulated current output signal. Intrinsically safe with entity parameters when connected per drawing PZ6684, and PZ6692, respectively.

Ratings:

In type of protection intrinsic safety Ex ia, only for connection to a certified intrinsically safe circuit, with the following entity parameters:

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Certificate: 1514310 Master Contract: 175074
Project: 70097496 Date Issued: 2016-12-12

out a modulated current output signal. Intrinsically safe with entity parameters when connected per drawing PZ 8735.

Nomenclature:

X defines the design of the sensor head (X = 0...9)
YY depends on the connector type and the cable length (Y = 0...9)

Ratings:

In type of protection intrinsic safety A/Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following entity parameters.

Part Number	Vmax, Ui	Imax, Ii	Pi	Li	Ci sensor	Ci cable
444-31X-000-YY2 to 444-31X-000-YY9	28 V	100 mA	0.7 W	0 mH	0 nF	250 pF/m

Ambient Temperature Range:

Type Description	Part Number	Ambient Temperature
Sensor with integrated conditioner	444-31X-000-YY2 to 444-31X-000-YY9	-55 °C to +125 °C

Temperature Code:

Part Number	T6	T5	T4	T3
444-31X-000-YY2 to 444-31X-000-YY9	+65 °C	+80 °C	+115 °C	+125 °C

CLASS - C225802 - PROCESS CONTROL EQUIPMENT- For Hazardous Locations -
CLASS - C225882 - PROCESS CONTROL EQUIPMENT- For Hazardous Locations - Certified to US Standards

Class 1, Division 2, Groups A, B, C and D
Ex na IIC T6...T2 Gc
Class 1, Zone 2, AEx na IIC T6...T2 Gc

Accelerometers Type CA 28X (sensor only) P/N 144-28X-000-YYY

The sensor converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal that is processed externally. Installation shall be in accordance with drawing PZ 8723.

Nomenclature:

X defines the design of the sensor head (X = 0...9)
YYY depends on the connector type and the cable length (Y = 0...9)



Certificate: 1514310 Master Contract: 175074
Project: 70097496 Date Issued: 2016-12-12

Temperature Code:

Part Number	T6	T5	T4	T3	T2
144-28X-000-YYY	+80 °C	+95 °C	+130 °C	+195 °C	+260 °C

Accelerometers Type CE 28X (sensor with remote electronic) P/N 444-28X-000-YY2 to 444-28X-000-YY9

The sensor converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal through a permanently attached cable to a conditioner (electronic box) that sends out a modulated current output signal. Intrinsically safe with entity parameters when connected per drawing PZ 8726.

Nomenclature:

X defines the design of the sensor head (X = 0...9)
YY depends on the connector type and the cable length (Y = 0...9)

Ratings:

In type of protection intrinsic safety A/Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following entity parameters:

Part Number	Vmax, Ui	Imax, Ii	Pi	Li	Ci sensor
444-28X-000-YY2 to 444-28X-000-YY9	28 V	100 mA	0.7 W	0 mH	0 nF

Ambient Temperature Range:

Type Description	Part Number	Ambient Temperature
Sensor and remote electronic	444-28X-000-YY2 to 444-28X-000-YY9	Conditioner -55 °C to +125 °C Sensor and cable -55 °C to +260 °C

Temperature Code:

Type Part Number	T6	T5	T4	T3	T2
444-28X-000-YY2 to 444-28X-000-YY9	+80 °C	+95 °C	+130 °C	+195 °C	+260 °C
444-28X-000-YYY	+65 °C	+80 °C	+115 °C	+125 °C	+125 °C

Class 1, Division 1, Groups A, B, C and D
Ex ia IIC T6...T3 Ga
Class 1, Zone 0, AEx ia IIC T6... T3 Ga

Accelerometers Type CE 31X (sensor with integrated electronic) P/N 444-31X-000-YY2 to 444-31X-000-YY9

The sensor is used for vibration monitoring and converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal that is processed within the integrated signal conditioner and sends



Certificate: 1514310 **Master Contract:** 175074
Project: 70097496 **Date Issued:** 2016-12-12

Temperature Code:

Type Part Number	T6	T5	T4	T3	T2
444-28X-000-YY2 to 444-28X-000-YY9	Sensor and cable Conditioner	+80°C +65°C	+95°C +80°C	+130°C +115°C	+195°C +125°C

Conditions of Acceptability

1. To be supplied by a Class 2 or Limited Energy Source in accordance with CSA/UL 61010-1.
2. Transient protection shall be provided that is set at a level not exceeding 140 % of the peak rated voltage value at the supply terminals to the equipment.
3. The final installation shall ensure that there is no risk of mechanical impact to the cable of the device.
4. The final installation of the device shall meet the requirements of CEC (for Canada) and NEC (for USA) for wiring method in Zone 2 and Division 2 and is subjected to acceptance of local authority having jurisdiction.

Class 1, Division 2, Groups A, B, C and D

Ex nA IIC T6...T3 Gc

Class 1, Zone 2, AEx nA IIC T6...T3 Gc

Accelerometers Type CE 31X (sensor with integrated electronic) P/N 444-31X-000-YY2 to 444-31X-000-YY9

The sensor is used for vibration monitoring and converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal that is processed within the integrated signal conditioner and sends out a modulated current output signal. Installation shall be in accordance with drawing PZ 8739.

Nomenclature:

X defines the design of the sensor head (X = 0...9)

YY depends on the connector type and the cable length (Y = 0...9)

Ratings:

In type of protection non-sparking A/Ex nA IIC with the following maximum values:

Part Number	Maximum Voltage	Maximum Current	Maximum Power
444-31X-000-YY2 to 444-31X-000-YY9	28 V	25 mA	224 mW

Ambient Temperature Range:

Type Description	Part Number	Ambient Temperature
Sensor with integral conditioner	444-31X-000-YY2 to 444-31X-000-YY9	-55 °C to +125 °C



Certificate: 1514310 **Master Contract:** 175074
Project: 70097496 **Date Issued:** 2016-12-12

Ambient Temperature Range:

Type Description	Part Number	Ambient Temperature
Sensor and cable only	144-28X-000-YYY	-55 °C to +260 °C

Temperature Code:

Part Number	T6	T5	T4	T3	T2
144-28X-000-YYY	+80°C	+95°C	+130°C	+195°C	+260°C

Conditions of Acceptability

1. To be supplied by a Class 2 or Limited Energy Source in accordance with CSA/UL 61010-1.
2. Transient protection shall be provided that is set at a level not exceeding 140 % of the peak rated voltage value at the supply terminals to the equipment.
3. The final installation shall ensure that there is no risk of mechanical impact to the cable of the device.
4. The final installation of the device shall meet the requirements of CEC (for Canada) and NEC (for USA) for wiring method in Zone 2 and Division 2 and is subjected to acceptance of local authority having jurisdiction.

Accelerometers Type CE 28X (sensor with remote electronic) P/N 444-28X-000-YY2 to 444-28X-000-YY9

The sensor converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal sent through an integrated cable to a conditioner (electronic box) that sends out a modulated current output signal. Installation shall be in accordance with drawing PZ 8732.

Nomenclature:

X defines the design of the sensor head (X = 0...9)

YY depends on the connector type and the cable length (Y = 0...9)

Ratings:

In type of protection non-sparking Ex nA IIC with the following maximum values:

Part Number	Maximum Voltage	Maximum Current	Maximum Power
444-28X-000-YY2 to 444-28X-000-YY9	28 V	25 mA	224 mW

Ambient Temperature Range:

Type Description	Part Number	Ambient Temperature
Sensor with remote electronic	444-28X-000-YY2 to 444-28X-000-YY9	Electronic -55 °C to +125 °C Sensor and cable -55 °C to +260 °C



Supplement to Certificate of Compliance

Certificate: 1514310

Master Contract: 175074

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
70097496	2016-12-12	Update to report 1514310 to include the following changes: New design of electronic conditioner; Introduction of new nomenclature for old and new models; Addition of alternative RT 426 casting compound; Evaluation of intrinsic safe version of product for Division 1 and Zone 0; Evaluation of non-sparking version of product for Division 2 and Zone 2; Update of several control drawings; Update to applicable standards.
2421979	2011-05-05	Update Report 1514310 to include the change of legal entity name
2188588	2009-07-22	Update to report 1514310 to change Ci value from 6mF to 8mF. Evaluation done against following standards: CSA Standard 1010.1, CSA C22.2No. 157-92, UL 61010C-1, and UL 913.
1648970	2005-04-12	Update to report 1514310 to add a new compound reference Q-Sil 550.
1514310	2004-01-09	Original cCSAus certification for Accelerometer Type 444-31X-000-YYY, 444-28X-000-YYY, and 144-28X-000-YYY.

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Master Contract: 175074

Date Issued: 2016-12-12

Temperature Code:

Part Number	T6	T5	T4	T3
444-31X-000-YY2 to 444-31X-000-YY9	+65°C	+80°C	+115°C	+125°C

Conditions of Acceptability

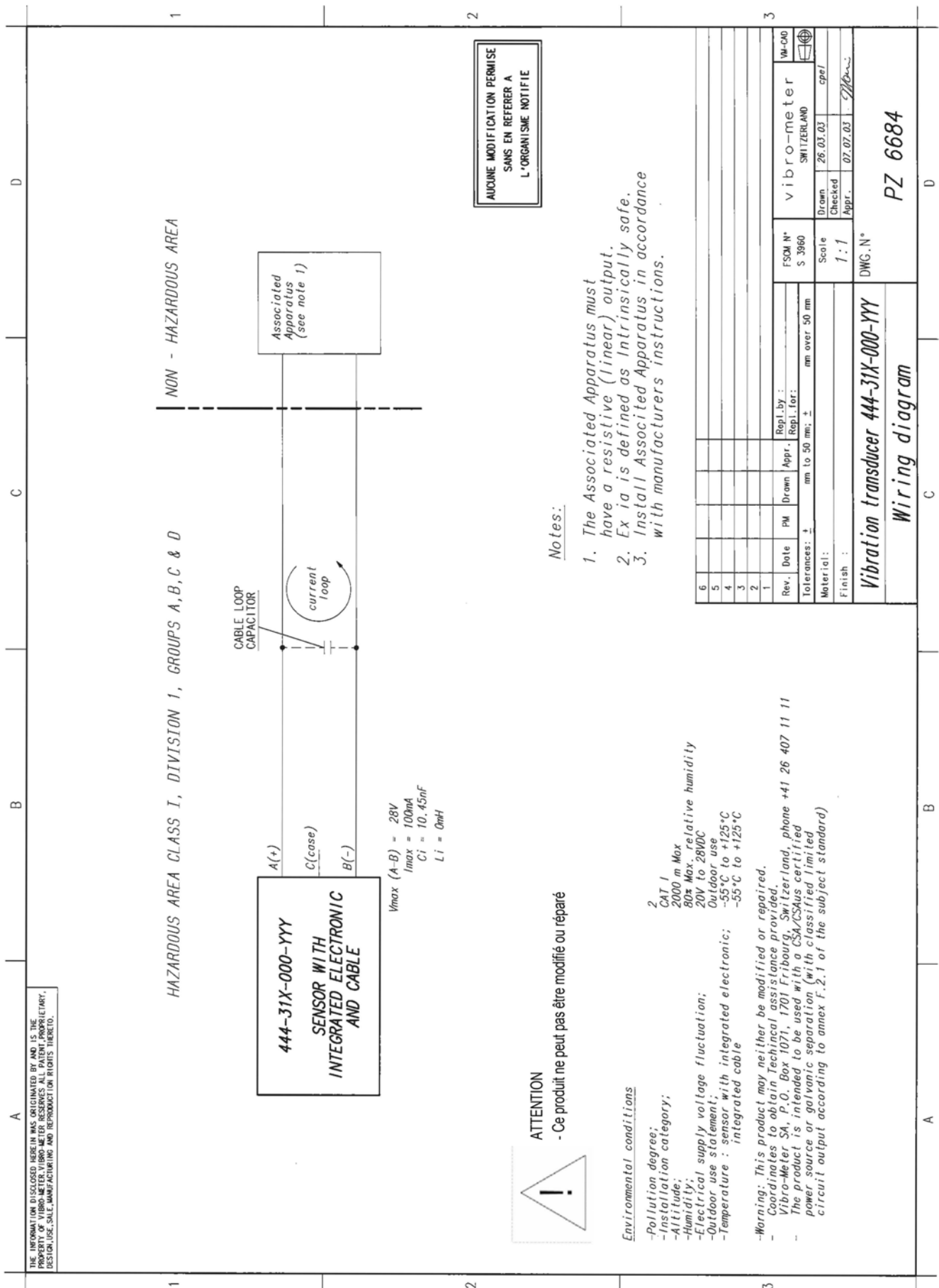
- To be supplied by a Class 2 or Limited Energy Source in accordance with CSA/UL 61010-1.
- Transient protection shall be provided that is set at a level not exceeding 140 % of the peak rated voltage value at the supply terminals to the equipment.
- The final installation shall ensure that there is no risk of mechanical impact to the cable of the device.
- The final installation of the device shall meet the requirements of CEC (for Canada) and NEC (for USA) for wiring method in Zone 2 and Division 2 and is subjected to acceptance of local authority having jurisdiction.

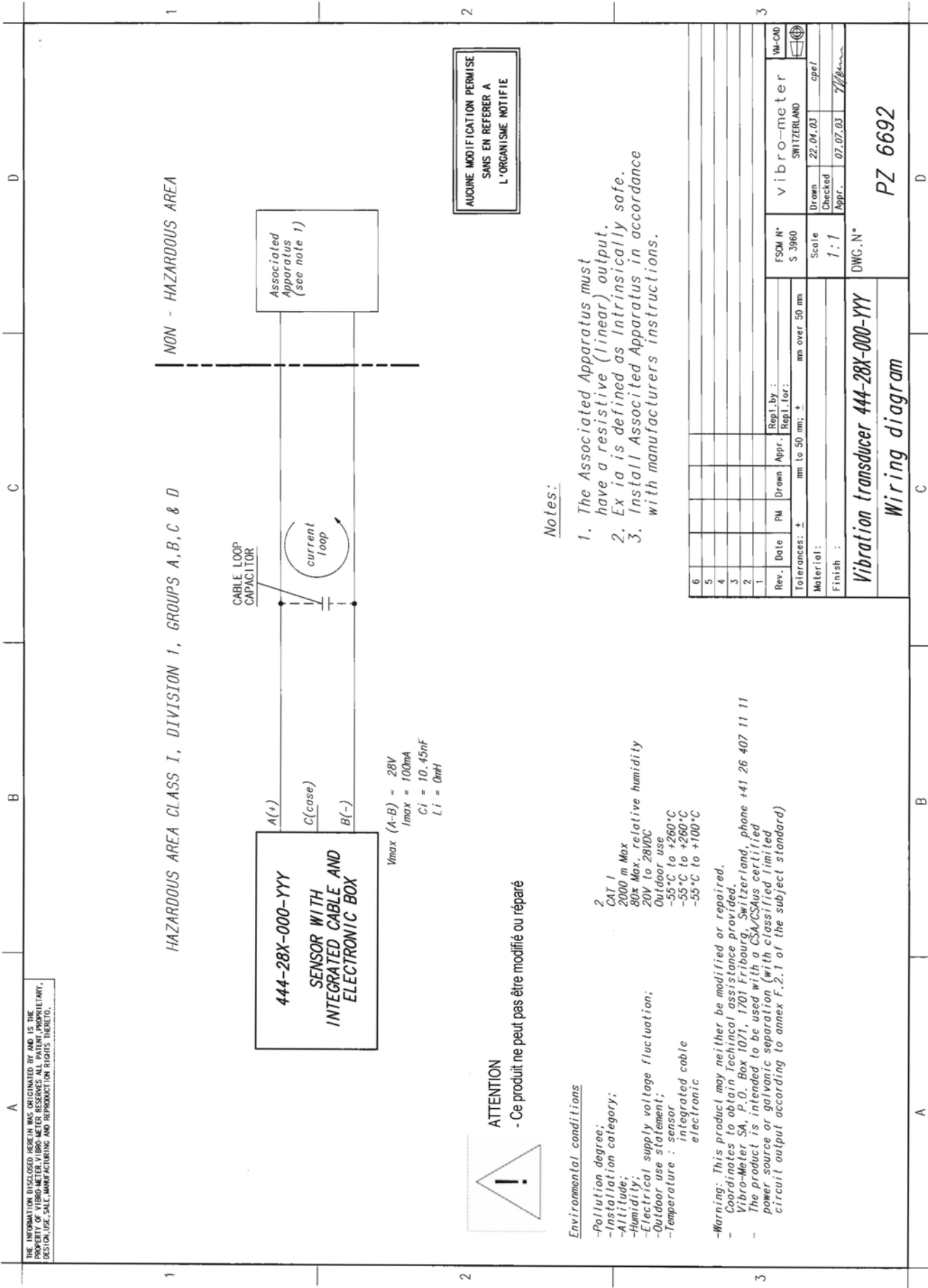
APPLICABLE REQUIREMENTS

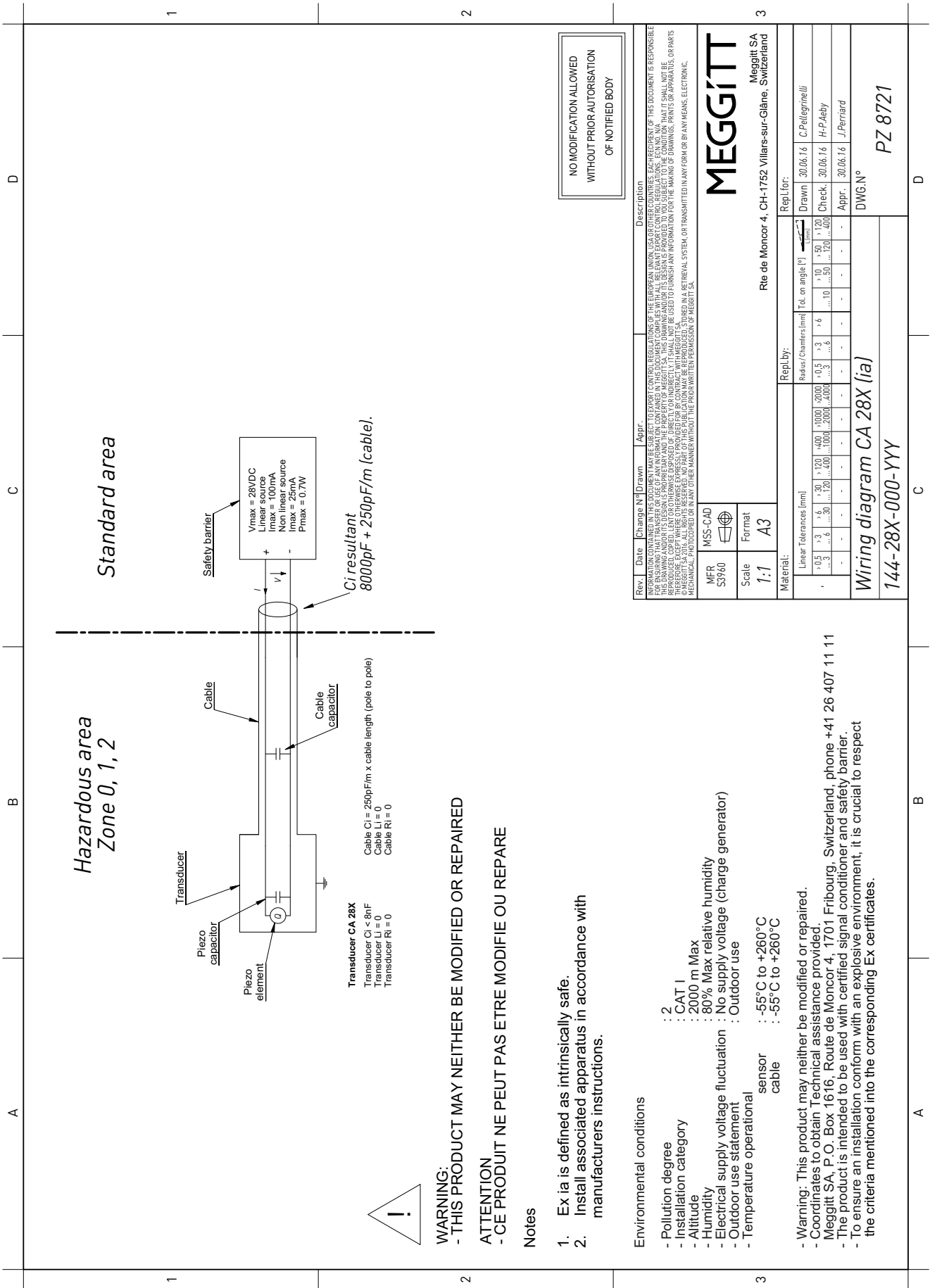
CAN/CSA-C22.2 No. 0-10 (R2011)	General Requirements – Canadian Electrical Code, Part II
CSA Standard 1010.1	Safety Requirements for Electrical Equipment for Measurement, Control & Laboratory Use - Part I: General Requirements
CSA Std. C22.2 No. 213-16	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CAN/CSA-C22.2 No. 60079-0:15	Explosive Atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No. 60079-11:14	Explosive Atmospheres - Part 11: Equipment protection by intrinsic safety "i"
CAN/CSA-C22.2 No. 60079-15:16	Explosive Atmospheres - Part 15: Construction, test and marking of type of protection "n" electrical apparatus
UL 61010C-1, 1 st Ed	Standard for Process Control Equipment
ANSI/ISA-12.12.01-2015	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
ANSI/UL 60079-0:13	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
ANSI/UL 60079-1:13	Electrical apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety "i"
ANSI/UL 60079-15:13	Electrical apparatus for Explosive Gas Atmospheres - Part 15: Type of Protection "n"

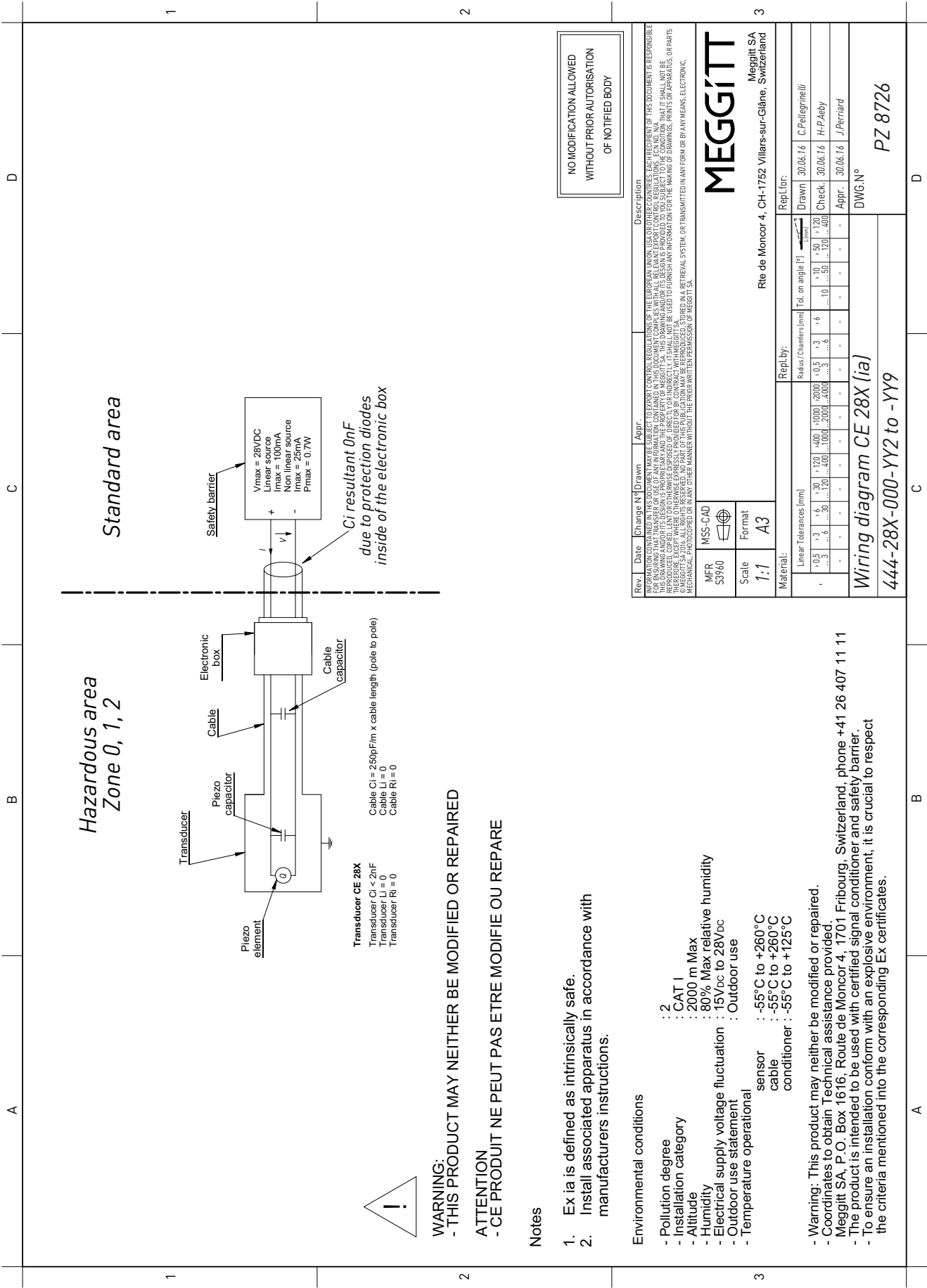
DDO-507 Rev. 2016-02-18

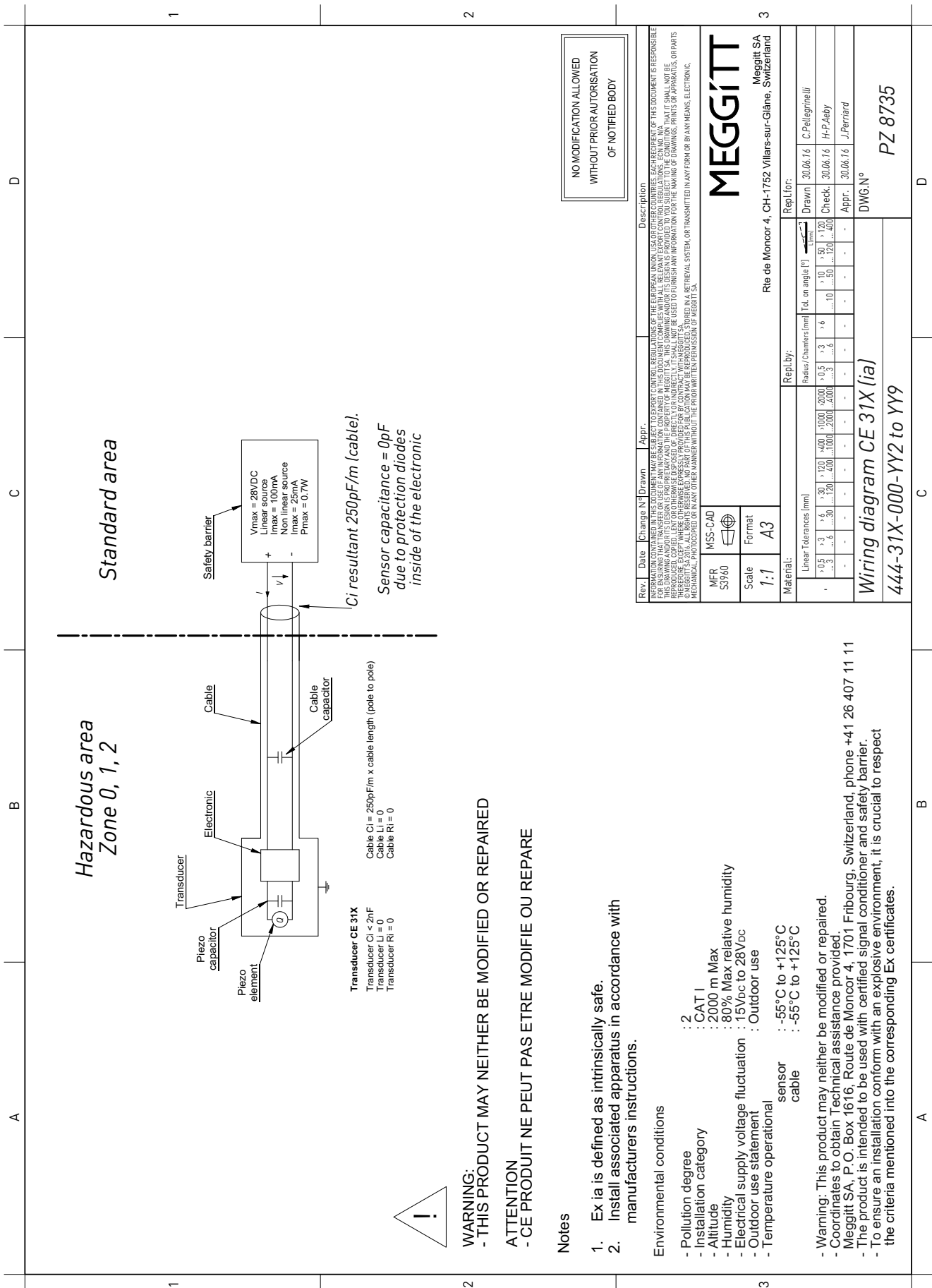
Page 7

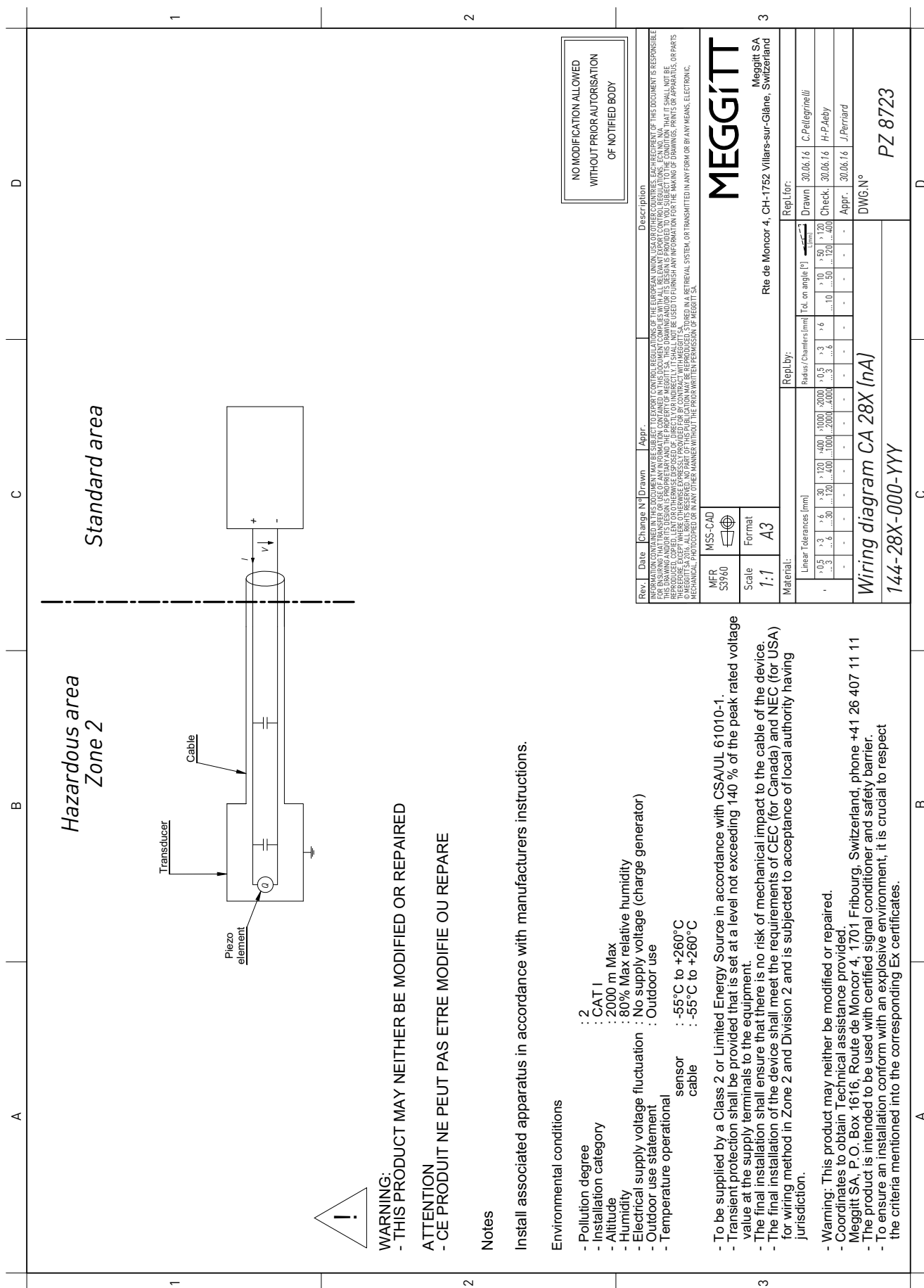


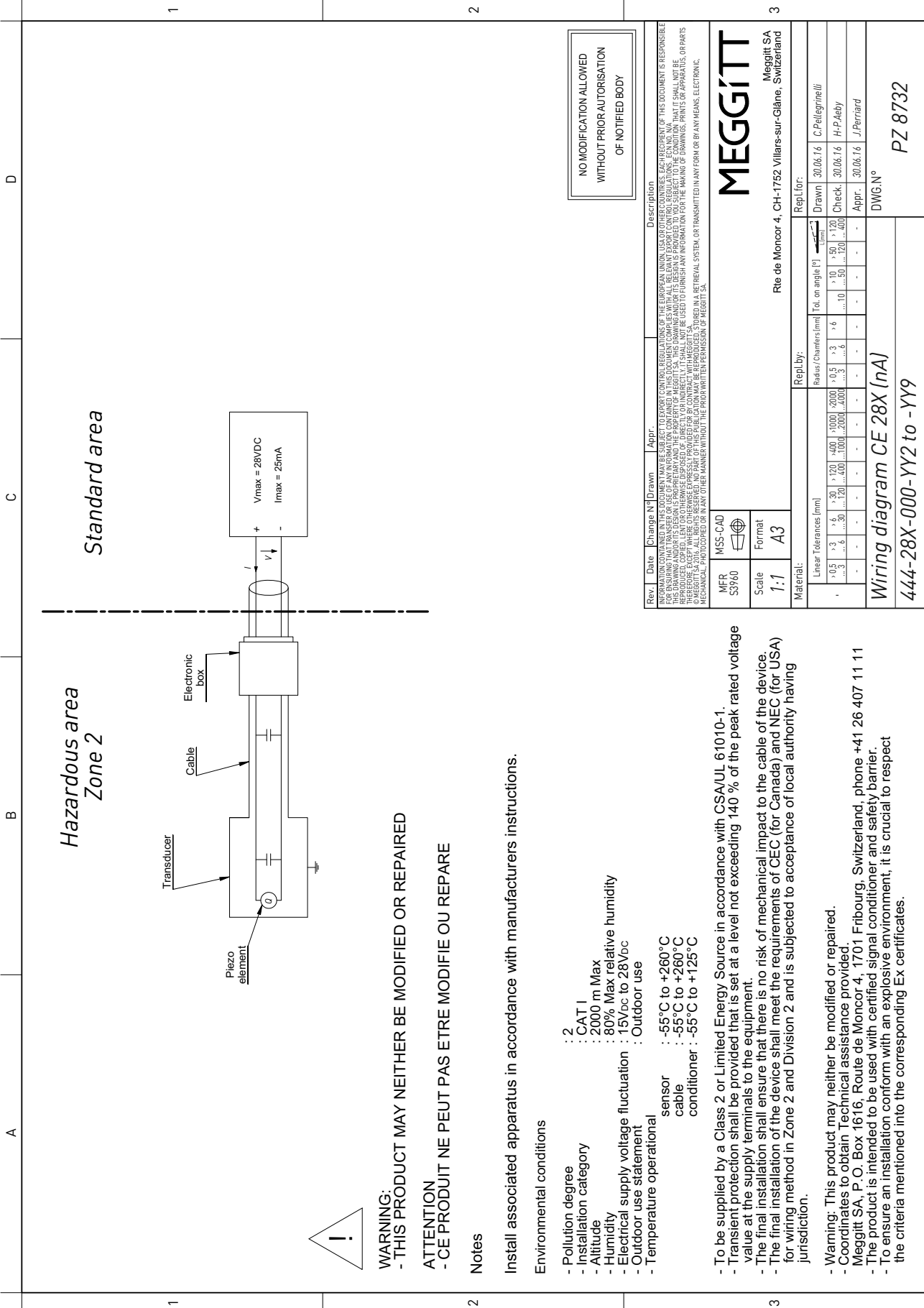


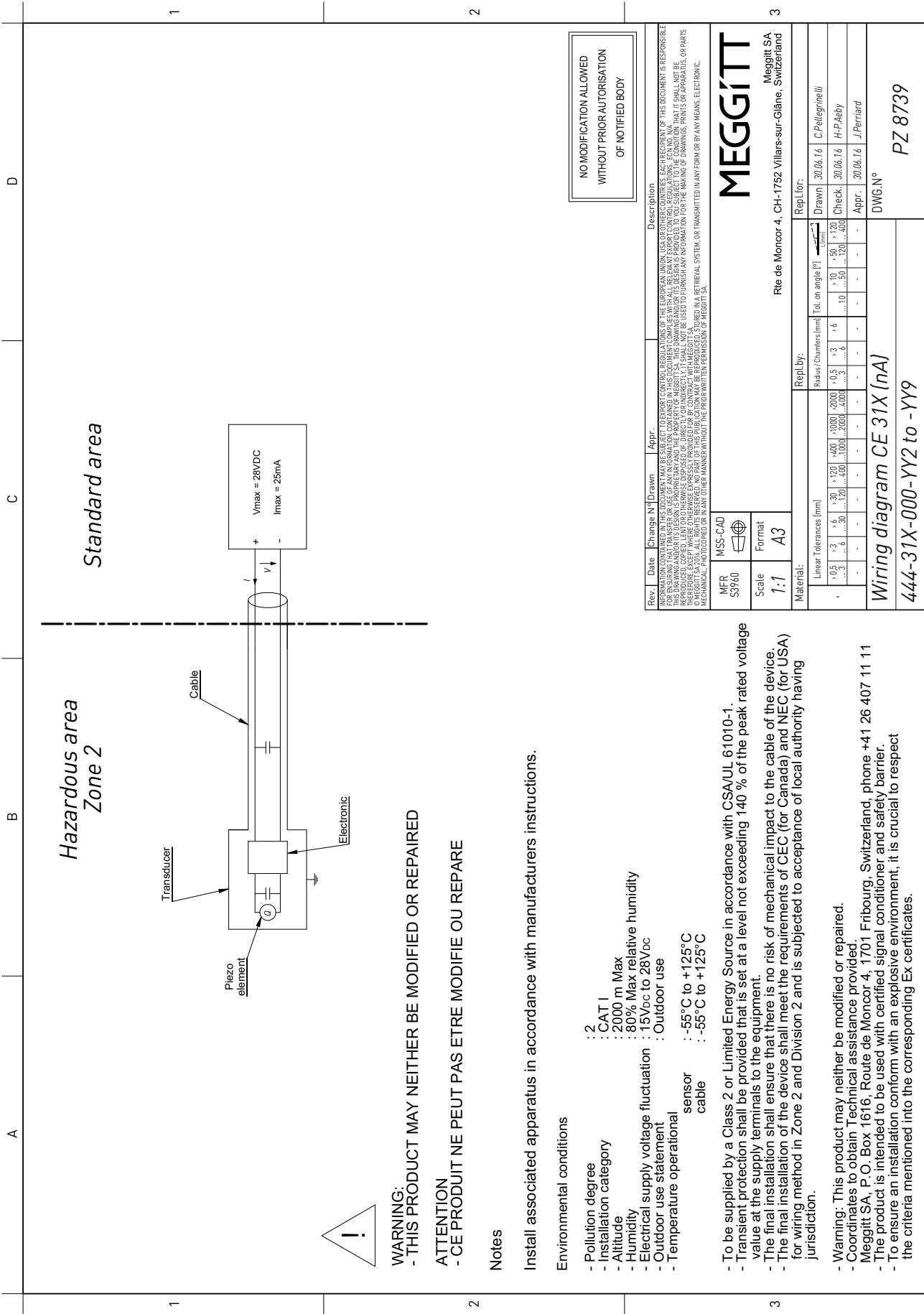














cCSAus certificate:

EN

70001999

for

GSI 127



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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Certificate: 70001999 **Master Contract:** 175074
Project: 70112845 **Date Issued:** 2017-01-19

Rating:

Power supply: 30 V, 150 mA

Sensor or conditioner:

- For 244-127-000-XXX-A2-B01 to B19:
 $U_o, V_o = 25.2 \text{ V}; I_o, I_{sc} = 60 \text{ mA}; P_o = 0.7 \text{ W}; C_o, C_a = 95 \text{ nF}; L_o, L_a = 5 \text{ mH}$
- For 244-127-000-XXX-A2-B20 to B39:
 $U_o, V_o = 25.2 \text{ V}; I_o, I_{sc} = 45 \text{ mA}; P_o = 0.5 \text{ W}; C_o, C_a = 95 \text{ nF}; L_o, L_a = 10 \text{ mH}$

Conditions of Acceptability:

- The power to the Monitoring Side of the equipment shall be supplied by an SELV or PELV system with a maximum voltage of 30 Vdc.
- The Transducer Side of the equipment shall only be connected to intrinsically safe certified associated apparatus or simple apparatus.
- This device is an OPEN type equipment that shall be installed within a fixed end-use enclosure that is rated for IP54 (according to CSA/UL 60079-0) or Type 4. The suitability of the enclosure is subject to investigation by the local authorities having jurisdiction at the time of installation.

APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 0-10 (R2011)	General Requirements - Canadian Electrical Code, Part II
CAN/CSA C22.2 No. 142-2009	Process control equipment
CSA Std. C22.2 No. 213-16	Non-incendive electrical equipment for use in class I, Division 2 hazardous locations
CAN/CSA-C22.2 No. 60079-0:15	Explosive Atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No. 60079-1:14	Explosive Atmospheres - Part 1: Equipment protection by intrinsic safety "i"
CAN/CSA-C22.2 No. 60079-15:16	Explosive Atmospheres - Part 15: Construction, test and marking of type of protection "n" electrical apparatus
ANSI/UL 916: October 2015 (Fifth Edition)	Energy management equipment
ANSI/UL 60079-0:13	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
ANSI/UL 60079-1:13	Electrical apparatus for Explosive Gas Atmospheres - Part 1: Intrinsic Safety "i"
ANSI/UL 60079-15:13	Electrical apparatus for Explosive Gas Atmospheres - Part 15: Type of Protection "n"
ANSI/ISA-12.12.01-2015	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

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Page 2



Certificate of Compliance

Certificate: 70001999 **Master Contract:** 175074
Project: 70112845 **Date Issued:** 2017-01-19

Issued to: Meggitt SA
 Rte de Moncor 4
 Villars-sur-Glane, Fribourg 1752
 SWITZERLAND
 Attention: Carlo Pellegrinelli

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: Hossein Saleh
 Hossein Saleh

PRODUCTS

CLASS - 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations
 CLASS - 2258 83 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive-Systems - For Hazardous Locations - Certified to U.S. Standards

Class I, Division 2, Groups A, B, C and D
Ex nA [Iia Ga] IIC T4 Gc
Class I, Zone 2, AEx nA [Iia Ga] IIC T4 Gc

Monitoring system consisting of galvanic separation unit Model 244-127-000-XXX (GSI 127) providing I.S. outputs for Division 1/Zone 0 when connected per Installation Drawing PZ 6924. Operating temperature: -40° to +70°C

Nomenclature:

244-127-000-XXX-A2-BYY

XXX defines the version of the product (X = 0 to 9)
 YY defines the transfer mode (YY = 01 to 19 for actual specification; YY = 20 to 39 for alternate specification)

DOD-507 Rev. 2016/02-18

Page 1



Supplement to Certificate of Compliance

Certificate: 70001999 Master Contract: 175074

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

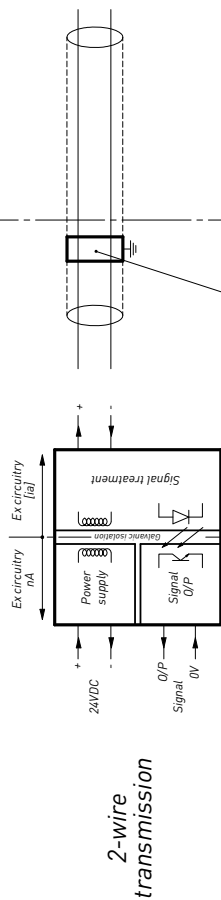
Product Certification History		
Project	Date	Description
70112845	2017-01-19	Update to CSA C-US Certificate and Report 70001999 for GSI 127 Interface with IS Output, to add new models with Alternate specification, and an update to the Type designation of 2444-127-000-XXX-A2-BYY to differentiate between the two specifications. A new operating temperature of -40°C to + 70°C for all models is introduced.
70001999	2014-03-24	cCSAus certification for GSI127 for Class I, Division 2, with intrinsically safe outputs

DOD-507 Rev. 2016-02-18

Page 1

Standard area (Cubicle for industrial application)
or hazardous area Zone 2

Hazardous area Zones 0, 1, 2
Class I, division 1, groups A,B,C,D



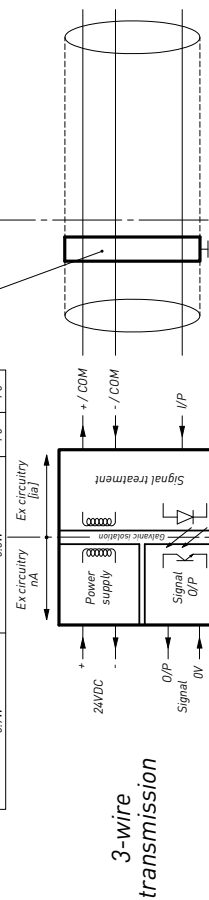
2-wire
transmission

Grounding bracket
is recommended at
cubical entrance

244-127-000-XXX-A2-B01 to B19	244-127-000-XXX-A2-B20 to B39	IEC
95pF	95pF	Ca
5nH	10nH	La
25.2V	25.2V	Voc
60mA	40mA	Isc
0.7W	0.3W	Po

GSI 127

CABLE
Ccable
Lcable



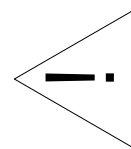
3-wire
transmission

WARNING

- This product may neither be modified or repaired
- Separate only in non-hazardous area
- Do not connect or disconnect when energized

ATTENTION

- Ce produit ne peut être modifié ou réparé
- Séparer uniquement dans une zone non dangereuse
- Ne pas connecter ou déconnecter lorsqu'il est sous tension



Environmental conditions

- Pollution degree : 2
- Installation category : Cat I
- Altitude : 2000m max
- Humidity : 80% max relative humidity
- Power supply : 30V, 150mA
- Outdoor use statement : Indoor use only
- Temperature range : -40°C to +70°C
- Storage temperature : -40°C to +85°C

- Coordinates to obtain technical assistance provided:

Meggitt SA / re de Moncor 4 / PO box / 1701 Frbourg / Switzerland

"Conditions of Acceptability":

1. The power to the Monitoring Side of the device shall be supplied by an SELV or PELV system with a maximum voltage of 30 Vdc.
2. The Transducer Side of the device shall only be connected to intrinsically safe certified associated apparatus or simple apparatus.
3. This device is an OPEN type equipment that shall be installed within a fixed end-use enclosure that is rated for IP54 (according to CSA/UL 60079-0) or Type 4. The suitability of the enclosure is subject to investigation by the local authorities having jurisdiction at the time of installation.

CSA	IEC
Ca ≥ Ci + Ccable	Co ≥ Ci + Ccable
La ≥ Li + Lcable	Lo ≥ Li + Lcable
Va ≤ Vmax	Vo ≤ Vi
Isc ≤ Imax	Io ≤ Ii
Po ≤ Pi	Po ≤ Pi

CSA	IEC
Ca	Co
La	Lo
Vmax	Vi
Imax	Ii
Pi	Pi

DEVICE

Notes

1. Choose associated apparatus and intrinsically safe devices such that the above conditions are met.
2. Ex i is defined as intrinsically safe.
3. Install associated apparatus in accordance with manufacturer's instructions.
4. Installation shall be carried out in compliance with NEC and CEC.

THESE NOTES ARE NOT APPLICABLE FOR n PROTECTION MODE

1	01.12.16	-----	cpel	jper	Lower operational temperature of -40°C was 0°C Lower storage temperature of -40°C was -20°C				
Rev. Date PM Drawn Appr. Description					INFORMATION CONTAINED IN THIS DOCUMENT MAY BE SUBJECT TO EXPORT CONTROL REGULATIONS OF THE EUROPEAN UNION, USA OR OTHER COUNTRIES. EACH RECIPIENT OF THIS DOCUMENT IS RESPONSIBLE FOR OBTAINING ANY NECESSARY EXPORT PERMITS. THIS DOCUMENT IS THE PROPERTY OF MEGGITT SA. THIS DRAWING AND ITS DESIGN IS PROVIDED TO YOU SUBJECT TO THE CONDITION THAT IT SHALL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY. IT SHALL NOT BE USED TO FURNISH ANY INFORMATION FOR THE MAKING OF DRAWINGS, PRINTS OR APPARATUS, OR PARTS THEREOF. MEGGITT SA 2017. ALL RIGHTS RESERVED. NO PART OF THIS PUBLICATION MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPIED OR IN ANY OTHER MANNER WITHOUT THE PRIOR WRITTEN PERMISSION OF MEGGITT SA.				
MFR S3960				MSS-CAD		Rte de Moncor 4, CH-1752 Villars-sur-Glâne, Switzerland			
Scale		Format		A3		Meggitt SA			
Material:					Repl by		Repl for		
Linear Tolerances (mm)					Radius / Chamfers		Tot. on angle [°]		
+0.5 ... +3					+6 ... +30		+10 ... +200		
-0.3 ... -6					-30 ... -120		-400 ... -2000		

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APPENDIX D: IECEX CERTIFICATIONS

Table D-1: Related IECEX certificates

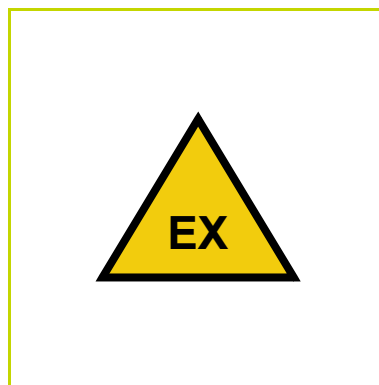
Product(s) covered	Certificate number
ABA17x	IECEX BVS 16.0026U
	IECEX PRE 14.0042U
JB116 and JB118	IECEX PTB 08.0003U
CE134	IECEX LCI 10.0002X
	IECEX LCIE 14.0058X
CE28x and CE31x	IECEX LCI 10.0021X
	IECEX DEK 15.0029
CE620 and CE630	IECEX LCIE 20.0026X
GSI127	IECEX LCIE 13.0026X
Cable fittings (stuffing glands)	IECEX ITS 16.0011X
	IECEX ITS 16.0012X
	IECEX LCI 10.0009U
	IECEX PTB 03.0000
	IECEX PTB 11.0019X
	IECEX SEV 15.0018
	IECEX SEV 15.0019X

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EX CERTIFICATE – IECEx

vibro-meter®

**IECEx BVS 16.0026U
for
ABA17x industrial housings**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference IECEx BVS 16.0026U
Edition 2 – January 2022

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IECEX Certificate of Conformity

Certificate No.: IECEx BVS 16.0026U

Date of issue: 2019-02-20

Manufacturer: thuba Ltd.
Blauensteinerstrasse 16
4002 Basel
Switzerland

Additional manufacturing locations:

Page 2 of 5

Issue No: 1

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS:
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres – Part 0: General requirements
Edition:6.0

IEC 60079-31:2013 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2015 Explosive atmospheres – Part 7: Equipment protection by increased safety "g"
Edition:5.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report: DE/BVS/ExTR16.0029/01

Quality Assessment Report: DE/BVS/QAR13.001005



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Ex COMPONENT CERTIFICATE

Certificate No.: IECEx BVS 16.0026U

Status: Current

Date of Issue: 2019-02-20

Applicant: thuba Ltd.
Blauensteinerstrasse 16
4002 Basel
Switzerland

Ex Component: Empty enclosure type eCAM ** ** *

Page 1 of 5

Issue No: 1

Certificate history:
[Issue 0 \(2016-05-10\)](#)

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Equipment dust ignition protection by enclosure "t"; Equipment protection by increased safety "e"**

Marking: Ex eb IIC Gb
Ex tb IIC Db

Approved for issue on behalf of the IECEx Certification Body:

Position: Jörg Koch
Head of Certification Body

Signature: (for printed version)

Date:



Certificate issued by:

DEKRA Testing and Certification GmbH

Certification Body

Dinnendahlstrasse 9

44809 Bochum

Germany

On the safe side.

1. This certificate and schedule may only be reproduced in full.

2. This certificate is not transferable and remains the property of the issuing body.

3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Document reference IECEx BVS 16.0026U
Edition 2 - January 2022

EX CERTIFICATE – IECEx
IECEx BVS 16.0026U for ABA17x industrial housings
3 / 6

Page 4 of 5
Issue No: 1

Certificate No.: **IECEx BVS 16.0026U**

Date of issue: **2019-02-20**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Update for the new Ex component certificate layout.

Page 3 of 5
Issue No: 1

Certificate No.: **IECEx BVS 16.0026U**

Date of issue: **2019-02-20**

Ex Component(s) covered by this certificate is described below:

Subject and Type

Empty enclosure type eCAM^{**1)} **2) **3)

Steel or stainless steel	size	
Type	width ¹⁾ [mm]	height ²⁾ [mm] depth ³⁾ [mm]

Enclosure with screwed fixing covers (size range)

eCAM 12 12 08	120	120	80
up to			
eCAM 40 40 20	400	400	200

Enclosure with hinges and latches (size range)

eCAM: 20 20 10	200	200	100
up to			
eCAM: 100 120 50	1000	1200	500

Description

The empty enclosure type eCam *** is built in type of protection Increased Safety "e" for use in areas with EPL Gb or Protection by Enclosure "n" for use in areas with EPL Db.

SCHEDULE OF LIMITATIONS:

N/A

				IECEx Certificate of Conformity	
Certificate No.:	IECEx BVS 16.0026U	Page 5 of 5			
Date of issue:	2019-02-20	Issue No: 1			
Additional information: Parameters					
Limits of service temperature	-55 °C up to +100 °C				
IP protection degree	IP66				

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IECEX certificate:
IECEX PRE 14.0042U
for
ABA 17x

EN



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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IECEx Certificate
of Conformity

Certificate No: IECEx PRE 14.0042U Issue No: 0
 Date of Issue: 2014-10-31 Page 2 of 3
 Manufacturer: Ensto Finland Oy
 Enso Miettisen katu 2
 06101 Porvoo
 Finland

Additional Manufacturing location(s):
 Ensto Finland Oy
 Insinöörinkatu 1
 FI-50100 Mikkeli
 Finland

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
 The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

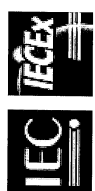
IEC 60079-0 : 2011	Explosive atmospheres - Part 0: General requirements
Edition: 3.0	
IEC 60079-31 : 2013	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition: 2	
IEC 60079-7 : 2006-07	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition: 4	

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
 NOPREXTR14.0046/00

Quality Assessment Report:
 FIVTTQAR11.0003/02

IECEx Certificate
of ConformityINTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheresfor rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx PRE 14.0042U Issue No: 0 Certificate history:
 Issue No. 0 (2014-10-31)
 Status: Current Page 1 of 3
 Date of Issue: 2014-10-31
 Applicant: Ensto Finland Oy
 Enso Miettisen katu 2
 P.O.Box 77, 06101 Porvoo
 Finland

Electrical Apparatus: Empty Junction box, Cubo X
 Optional accessory:
 Type of Protection: Ex e/Ex t

Marking: Ex e IIC Gb
 Ex t IIC D20 IP 64 or IP66 or IP66/67
 Tamb: -35°C/-30°C to +45°C/+65°C/+100°C/+160°C

Approved for issue on behalf of the IECEx Certification Body: Bjørn Spongsveen
 Position: Certification Manager

Signature: (for printed version)
 Date:

1. This certificate and schedule may only be reproduced in full.
 2. This certificate is not transferable and remains the property of the issuing body.
 3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DNV Nemo Presafe AS
 Gaustadalleen 30
 P.O.Box 73 Blindern
 0314 Oslo
 Norway



Gaustadalleen 30
P.O.Box 73 Blindern
0314 Oslo



Annex to IECEx PRE 14.0042U Issue No.00

Product Nomenclature:

[X]	[Version]	[Material]	[Surface]	[Cut type]	[width]	[height]	[depth]	KOT8...	Examples:
								Customer specific features (Total No. Holes/Mounting Lugs)	X2ANP303015C –Combo
								Max width: 1000 mm	X3ANP303015C –Combo with standard lock
								Max height: 2000 mm	X3ANP303015S –Box with AISI lock
								No restriction on depth	X3ANP303015 –Box with Standard lock
								[F]: Standard flange plate	X3ANP10010015D – Two doors with standard locks
								[FC]: Custom sized flange plate(s)	
								[P]: Plain walls or cut-outs	
								[N]: Natural surface	X3ANP10010015DS – Two doors with AISI locks
								[B]: Brushed surface	
								[E]: Powder coated	
								[S]: Stainless steel AISI304	
								[A]: Stainless steel AISI316L	
								[F]: Mild steel mild steel galvanized	
								[1]: Lid with screws	
								[2]: Lid with screws and hinges	
								[3]: Lid with quick locks	
								[4]: Lid with screws and loose hinges	

[X]: Cubo X

NB. If with two doors, then end of code there will be letter 'D', if supplied with AISI-locks, then after the code there will be letter 'S', if Combo option with EPDM gasket end letter will be 'C'.

IECEx Certificate
of Conformity

Certificate No: IECEx PRE 14.0042U Issue No: 0
Date of issue: 2014-10-31 Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

CuboX empty boxes are made of stainless steel or painted steel in various sizes. Enclosures can be fitted with optional plastic window or gland plates, mounting accessories like DIN-rails, mounting plates, brackets Metric & NPT thread coupler. Lid can be fixed by screws or combination of screws and loose hinges or quick locks. Several internal and external earthing options are provided. Sealing is ensured by high temperature silicone gasket (EPDM) gasket can be used for gland plate or Combo assemblies. For information regarding tightening torques, refer to instructions for use. See attachment for more product details and rating.

This replaces IECEx DNV 11.0006U

Schedule of Limitations

- Potential risk of electrostatic discharge from plastic window. Refer to instructions for use.
- When the plastic switch handle is installed in the electrical apparatus, care must be taken that the temperatures at the mounting place are within the temperature range of use.

CONDITIONS OF CERTIFICATION: NO

Annex:

Annex to the certificate IECEx PRE 14.0042U.pdf

Gaustadalleen 30
P.O.Box 73 Blindern
0314 Oslo

**Service temperature:**

Operating temperature limits for plain stainless steel enclosure (with or without gland plate): -55°C to +160°C

Operating temperature limits for stainless steel enclosure with Lexan plastic window, earthing option 3: -55°C to +100°C

Operating temperature limits for painted steel enclosure (with or without plastic window and gland plate): -55°C to +85°C

Operating temperature EPDM gasket/and or quick locks in enclosure: -55°C to +85°C

Operating temperature plastic switch handle in enclosure: -30°C to +45°C

Degrees of Protection (IP Code)

Enclosure material	Optional accessories	IP rating
Stainless steel and painted steel	Plastic window	IP66/67
Stainless steel and painted steel	Standard gland plate with silicon gasket	IP66
Stainless steel or painted steel enclosure	AISI quick locks	IP66/67
Stainless steel or painted steel enclosure	ZINK quick locks	IP66
Stainless steel or painted steel enclosure	Gland plate & Combo box with EPDM gasket	IP66/67
Stainless steel or painted steel enclosure	Plastic switch handle	IP64

Example KOT8...

Enclosure standard type: X3ABP304016S

Example description: Standard enclosure generated according to code key shown in certificate. Version 3 with stainless steel quick locks size 300x400x160mm, material AISI 316L brushed.

Enclosure custom type: X3ABP304016SKOT80001

Example description: Enclosure as X3ABP304016S with customer design features eg. d=16mm hole in bottom side. KOT8... Code by end of type refers to customer specific engineering drawing. Numbers (and letters) after KOT8 will specify general assembly drawing code. Number is sequential and cannot be used to specify other design. KOT8-design is always unique.

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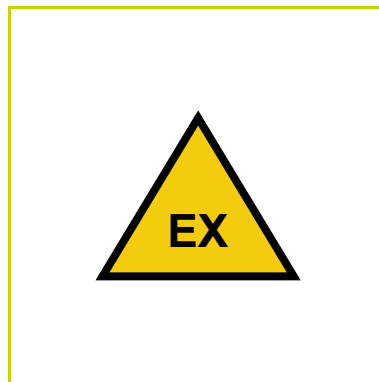
EX CERTIFICATE – IECEx

vibro-meter®

IECEx PTB 08.0003U

for

**ABA15x, ABA160, JB116, JB118 and PA151
enclosures**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference IECEx PTB 08.0003U
Edition 2 – March 2022

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 		IECEX Certificate of Conformity	
Certificate No.:	IECEX PTB 08.0003U	Page 2 of 4	
Date of issue:	2016-09-12	Issue No: 4	
Manufacturer:	ROSE Systemtechnik GmbH Erbenweg 13 32457 Porta Westfalica Germany		
Additional manufacturing locations:			
This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended			
STANDARDS : The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards			
IEC 60079-0:2011	Explosive atmospheres - Part 0: General requirements		
Edition:3.0			
IEC 60079-31:2013	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "q"		
Edition:2			
IEC 60079-7:2015	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"		
Edition:3.0			
This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.			
TEST & ASSESSMENT REPORTS: A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:			
Test Report:	DE/PTB/EXTR08.000704		
Quality Assessment Report:	DE/TUR/QAR08.000906		

 		IECEX Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com			
Certificate No.:	IECEX PTB 08.0003U	Page 1 of 4	
Status:	Current	Issue No: 4	
Date of issue:	2016-09-12		
Applicant:	ROSE Systemtechnik GmbH Erbenweg 13 32457 Porta Westfalica Germany		
Equipment:	Empty Enclosure Type 26:*****		
Optional accessory:			
Type of Protection:	Increased Safety "eb", Protection by enclosures "tb"		
Marking:	Ex eb IIC Gb Ex tb IIC Db		
Approved for issue on behalf of the IECEx Certification Body:	Dr.-Ing. Detlev Markus		
Position:	Head of Working Group "Flame Transmission Processes"		
Signature:	(for printed version)		
Date:			
1. The certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.			
Certificate issued by: Physikalisch-Technische Bundesanstalt (PTB) Bundesallee 100 38116 Braunschweig Germany		 	



IECEX Certificate of Conformity

Certificate No.: IECEx PTB 08.0003U
Date of issue: 2016-09-12

Page 4 of 4
Issue No: 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

1) New test according to the standards IEC 60079-7:2015 and IEC 60079-31:2013.
2) New marking.
3) The maximum ambient temperature is decreased to +127 °C.

Annex:

[COCA-08.0003U-Issue 4.pdf](#)



IECEX Certificate of Conformity

Certificate No.: IECEx PTB 08.0003U
Date of issue: 2016-09-12

Page 3 of 4
Issue No: 4

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Description of equipment

Empty enclosure of type 2G, made of polyester, which may be provided with flanges and a glass or plastic inspection window. It can optionally be fitted with an earth bolt compl. with / or without off-shore plate and screwed or riveted typeplates made of stainless steel.

Technical Data, Nomenclature and Schedule of Limitations see Annex.

SPECIFIC CONDITIONS OF USE: NO



Attachment to Certificate
IECEX PTB 08.0003U, Issue No. 4



Applicant:

ROSE Systemtechnik GmbH
Erbeweg 13
32457 Porta Westfalica
Germany

Electrical Apparatus:

Empty Enclosure Type 26, *****

Description of equipment

Empty enclosure of type 26, ***** , made of polyester, which may be provided with flanges and a glass or plastic inspection window.
It can optionally be fitted with an earth bolt compl. with / or without off-shore plate and screwed or riveted type plates made of stainless steel.

Technical data

Sizes and Product lines			
Type 26.08 08 06 to 26.41 40 20 (Ex-standard-enclosure)	Width	Height	Depth
	min.	80 mm	75 mm
	max.	400 mm	405 mm
Type 26.88 01 00 to 26.88 04 00 (Ex-Okta Box-enclosure)	Width	Height	Depth
	min.	81 mm	81 mm
	max.	200 mm	200 mm
Type 26.14 01 00 to 26.14 03 00 (Ex-PF-enclosure)	Width	Height	Depth
	min.	270 mm	170 mm
	max.	541 mm	270 mm
Type 26.12 20 00 to 26.40 60 00 (Mini-Polyglas-Ex-enclosure and Polyglas-Ex-enclosure)	Width	Height	Depth
	min.	200 mm	120 mm
	max.	405 mm	605 mm
Type 26.01 22 15 to 26.01 44 15 (Ex-Combi Box-enclosure)	Width	Height	Depth
	min.	177 mm	177 mm
	max.	360 mm	360 mm

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100, 38116 Braunschweig, Germany
Postfach 33 45, 38023 Braunschweig, Germany
Telephone +49 531 592-0, Telefax +49 531 592-3605



Attachment to Certificate
IECEX PTB 08.0003U, Issue No. 4



Ambient temperature

-55 °C to +127 °C with Silicon gasket
-40 °C to +100 °C with HF gasket
-40 °C to +100 °C with PU foam
-20 °C to + 85 °C with CR gasket
-20 °C to +100 °C with window out of glas
-50 °C to +100 °C with PC-window mono duro clear 8099,conductive
to +105 °C Ex-PF-enclosure, Mini-Polyglas-Ex-enclosure and Polyglas-Ex-enclosure
(minimum temperature depends on the gasket used)

Ingress protection IP 66 acc. to IEC 60529

Thread stud of the earth bolt compl..... M6x60, M8x50, M10x60, M12x80

Nomenclature

26.	**	**	**
1.	2.	3.	4.

- 1: Type, material polyester
- 2: Height or product line (see above)
- 3: Width or number depending on product line
- 4: Depth or number depending on product line

Schedule of limitations

Installation of electrical components requires a further assessment by an ExCB.

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100, 38116 Braunschweig, Germany
Postfach 33 45, 38023 Braunschweig, Germany
Telephone +49 531 592-0, Telefax +49 531 592-3605

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IECEx certificate:

EN

IECEx LCI 10.0002X

for CE 134



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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IECEx Certificate of Conformity	
Certificate No.: IECEx LCI 10.0002X	Issue No.: 3
Date of Issue: 2014-12-08	Page 2 of 4
Manufacturer: Meggitt SA Route de Moncor 4 1752 Villars-sur-Glâne Switzerland	
Additional Manufacturing location (s): Meggitt SA Route de Moncor 4 1752 Villars-sur-Glâne Switzerland	
This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended. STANDARDS: The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards: IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements Edition: 6.0 IEC 60079-15 : 2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n" Edition: 4 <i>This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.</i> TEST & ASSESSMENT REPORTS: A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in Test Report: FR/LC/IE/EXTR10.0002/00 FR/LC/IE/EXTR10.0002/01 FR/LC/IE/EXTR10.0002/03 Quality Assessment Report: FR/LC/IO/AR06.0006/07	

IECEx Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com	
Certificate No.: IECEx LCI 10.0002X	Issue No.: 3
Status: Current	Page 1 of 4
Date of Issue: 2014-12-08	
Applicant: Meggitt SA Route de Moncor 4 1752 Villars-sur-Glâne Switzerland	
Electrical Apparatus: Accelerometer	
Optional accessory:	
Type of Protection: nA	
Marking: Vibro-meter or MEGGITT SA or MFR S3960 Type : 444-134-000-YY1 to YY9 Serial number : ... Ex nA IIC T6 ..T1 Gc (see special conditions) IECEx LCI 10.0002X	Address : ...
Approved for issue on behalf of the IECEx Certification Body:	Julien GAUTHIER
Position:	Certification Officer
Signature: (for printed version)	
Date:	2014-12-08
1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the Issuing body. 3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.	
Certificate issued by: Laboratoire Central des Industries Electriques (LCIE) 33 Avenue du General Leclerc FR-92260 Fontenay-aux-Roses France Documents relative to LCIE certification activities (Certificates, OARs, EXTRs) can be registered under the references "LCI" or "LCIE".	

IECEx Certificate of Conformity

IECEx LCI 10.0002X

Issue No.: 3

Page 4 of 4

Certificate No.:

Date of Issue:

2014-12-08

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1:

- Change of legal entity name and address of applicant (VIBRO-METER SA becomes Meggit SA)
- Modifications of registered trade mark

Issue 2:

- Normative update according to standards IEC 60079-0, Ed5 and IEC 60079-15, Ed4
- Modification of the lower limit of the temperature range of the conditioner.

Issue 3:

- Normative update according to IEC 60079-0:2012 Ed.6.0
- New types PNR 444-134-000-YY5 to YY9 with new design of conditioner's electronic.
- Modification of types for conditioner's initial electronic design, types become: PNR 444-134-000-YY1 to YY4.

IECEx Certificate of Conformity



Certificate No.:

IECEX LCI 10.0002X

Date of Issue:

2014-12-08

Issue No.: 3

Page 3 of 4

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

This equipment is composed of an electromechanical transducer which supplies, at its terminals, an electrical load. This load is proportional to submitted acceleration. Load/current converter is supplied by a 2 wires voltage supply.

Product types:

PNR 444-134-000-YY1 to YY4: initial design of electronic part, $P \leq 800\text{mW}$.
PNR 444-134-000-YY5 to YY9: new design of electronic part, $P \leq 224\text{mW}$.

Specific parameters:

PNR 444-134-000-YY1 to YY4: $U \leq 30\text{V}$, $I \leq 130\text{mA}$, $P \leq 0.8\text{W}$.

PNR 444-134-000-YY5 to YY9: $U \leq 28\text{V}$, $P \leq 224\text{mW}$.

CONDITIONS OF CERTIFICATION: YES as shown below:

- Temperature ranges

Sensor operating temperature : -70°C to +350°C

Cable operating temperature : -64°C to +260°C

Conditioner operating temperatures :

PNR 444-134-000-YY1 to YY4, -54°C to +100°C

PNR 444-134-000-YY5 to YY9, -54°C to +125°C

- Temperature classes depending on the operating temperature :

PNR 444-134-000-YY1 to YY4, initial design:

	T6	T5	T4	T3	T2	T1
conditioner	+60°C	+80°C	+100°C	+195°C	+260°C	+350°C
cable	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C
sensor	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C

PNR 444-134-000-YY5 to YY9, new design:

	T6	T5	T4	T3	T2	T1
conditioner	+65°C	+80°C	+115°C	+125°C	+195°C	+260°C
cable	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C
sensor	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C

- The electrical installation must provide a protection against voltage transients greater than 119V.



IECEx certificate:

EN

IECEx LCIE 14.0058X

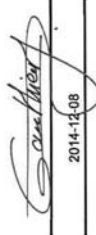
for CE 134



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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 IECEx Certificate of Conformity	
Certificate No.: IECEx LCIE 14.0058X	Issue No.: 0
Date of issue: 2014-12-08	Page 2 of 3
Manufacturer: Meggitt SA Route de Moncor 4 CH - 1752 Villars-Sur-Glâne Switzerland	
Additional Manufacturing location (s):	
This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended. STANDARDS: The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards: IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements Edition: 6.0 IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" Edition: 6.0 <i>This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.</i> TEST & ASSESSMENT REPORTS: A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in Test Report: FRALCIE/EXTR14.0065/00 Quality Assessment Report: FRALCIE/QR06.0006/07	

 IECEx Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com	
Certificate No.: IECEx LCIE 14.0058X	Issue No.: 0
Status: Current	Page 1 of 3
Date of issue: 2014-12-08	
Applicant: Meggitt SA Route de Moncor 4 CH - 1752 Villars-Sur-Glâne Switzerland	
Electrical Apparatus: Optional accessory: Accelerometer CE 134, PNR 444-134-000-YY5 to YY9	
Type of Protection: Ex Ia	
Marking: VIBRO-METER or MEGGITT SA or MFR S3960 Address: ... Type: PNR 444-134-000-YY5 to YY9 Serial number: ... Year of construction: ... Ex Ia IC T6...T1 Ga (see conditions of certification) Ui: 28V; Ii: 100mA; Pt: 700mW; Ct: 0; Lt: 0 IECEx LCIE 14.0058X	
Approved for issue on behalf of the IECEx Certification Body: Julien GAUTHIER	
Position: Certification Officer	
Signature: (for printed version) 	
Date: 2014-12-08	
1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.	
Certificate issued by: Laboratoire Central des Industries Electriques (LCIE) 33 Avenue du General Leclerc FR-92260 Fontenay-aux-Roses France Documents relative to LCIE certification activities (Certificates, OARs, EXTRs) can be registered under the references "LCI" or "LCIE". 	

IECEx Certificate of Conformity



Certificate No.: IECEx LCIE 14.0058X

Certificate No.:	IECEX LCIE 1
Date of Issue:	2014-12-08

Issue No.: 0

Page 3 of 3

Schedule

EQUIPMENT:

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

This accelerometer is a piezo-electrical transducer that supplies to its terminal an electrical charge proportional to the acceleration which is submitted. It is constituted of a sensor head, a cable and a conditioner. The sensor head can have a square or triangular basis and the electronic box a bayonet or threaded connector. The electronic box is filled in with a casting compound.

Types: PNR 444-134-000-YY5 to YY9, YY depends on the connector type and cable length (YY = 00 to 99)
 Ratings: UI: 28V; II: 100mA; PI: 700mW; CI: 0; LI: 0

CONDITIONS OF CERTIFICATION: YES as shown below:

The apparatus shall only be connected to intrinsically safe certified equipment. This combination must be compatible as regard intrinsic safety rules (see ratings).

compatible as regard intrinsic safety rules (see ratings).

compatible as regard intrinsic safety rules (see ratings).

• Cable operating temperature (To): $-70^{\circ}\text{C} \leq \text{To} \leq +350^{\circ}\text{C}$
 • Cable operating temperature (To): $-54^{\circ}\text{C} \leq \text{To} \leq +260^{\circ}\text{C}$

Cable operating temperature (To): $-54^{\circ}\text{C} \leq \text{To} \leq +260^{\circ}\text{C}$
 Conditioner operating temperature (To): $-54^{\circ}\text{C} \leq \text{To} \leq +125^{\circ}\text{C}$

Conditioner operating temperature (T₀): -54°C ≤ T₀ ≤ +125°C

Part	T6	T5	T4	T3	T2	T1
Sensor:	+80°C	+95°C	+130°C	+195°C	+290°C	+350°C
Cable:	+80°C	+95°C	+130°C	+195°C	+260°C	--
Conditioner	+45°C	+60°C	+95°C	+125°C	--	--



IECEX certificate:

EN

IECEX LCI 10.0021X

**for CA 28x, CE 28x
and CE 31x**



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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IECEx Certificate of Conformity													
Certificate No.: IECEx LCI 10.0021X	Issue No.: 3												
Date of Issue: 2015-01-27	Page 2 of 4												
Manufacturer: Meggitt SA Route de Moncor 4 1752 Villars-sur-Glâne Switzerland													
Additional Manufacturing location (s): Meggitt SA Route de Moncor 4 1752 Villars-sur-Glâne Switzerland													
This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended. STANDARDS: The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards: <table><tr><td>IEC 60079-0 : 2011</td><td>Explosive atmospheres - Part 0: General requirements</td></tr><tr><td>Edition: 6.0</td><td></td></tr><tr><td>IEC 60079-15 : 2010</td><td>Explosive atmospheres - Part 15: Equipment protection by type of protection "n"</td></tr><tr><td>Edition: 4</td><td></td></tr></table> <i>This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.</i> TEST & ASSESSMENT REPORTS: <i>A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in</i> <table><tr><td><u>Test Report:</u> FR/LCI/EXTR10.0023/00 FR/LCI/EXTR10.0023/03</td><td>FR/LCI/EXTR10.0023/01 FR/LCI/EXTR10.0023/02</td></tr><tr><td><u>Quality Assessment Report:</u> FR/LCI/QAR06.0006/08</td><td></td></tr></table>		IEC 60079-0 : 2011	Explosive atmospheres - Part 0: General requirements	Edition: 6.0		IEC 60079-15 : 2010	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"	Edition: 4		<u>Test Report:</u> FR/LCI/EXTR10.0023/00 FR/LCI/EXTR10.0023/03	FR/LCI/EXTR10.0023/01 FR/LCI/EXTR10.0023/02	<u>Quality Assessment Report:</u> FR/LCI/QAR06.0006/08	
IEC 60079-0 : 2011	Explosive atmospheres - Part 0: General requirements												
Edition: 6.0													
IEC 60079-15 : 2010	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"												
Edition: 4													
<u>Test Report:</u> FR/LCI/EXTR10.0023/00 FR/LCI/EXTR10.0023/03	FR/LCI/EXTR10.0023/01 FR/LCI/EXTR10.0023/02												
<u>Quality Assessment Report:</u> FR/LCI/QAR06.0006/08													

IECEx Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com	
Certificate No.: IECEx LCI 10.0021X	Issue No.: 3
Status: Current	Page 1 of 4
Date of Issue: 2015-01-27	
Applicant: Meggitt SA Route de Moncor 4 1752 Villars-sur-Glâne Switzerland	
Electrical Apparatus: Accelerometers - CE28X and CE31X	
Optional accessory:	
Type of Protection: nA	
Marking: Vibro-meter or MEGGITT or MFR S3960 Address : ... Types : PNR : 444-28X-000-YYZ or PNR 444-31X-000-YYZ or PNR 144-28X-000-YYZ Serial number : ... Year of construction : ... Ex nA IIC T6..T2 Gc (see special conditions) IECEx LCI 10.0021X	
Approved for issue on behalf of the IECEx Certification Body: Julien GAUTHIER	
Position: Certification Officer	
Signature: (for printed version)	
Date: 2015-01-27	
1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.	
Certificate issued by: Laboratoire Central des Industries Electriques (LCIE) 33 Avenue du General Leclerc FR-92260 Fontenay-aux-Roses France Documents relative to LCIE certification activities (Certificates, QARs, EXTRs) can be registered under the references "LCI" or "LCIE". 	

IECEx Certificate
of Conformity



Certificate No.: IECEx LCI 10.0021X
Date of Issue: 2015-01-27
Issue No.: 3
Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

- Issue 1:**
Legal entity of the applicant changes from Vibrometer to Meggitt SA, modification of trademarks.
- Issue 2:**
Normative update according to IEC 60079-0:2007-10 Ed.5 and IEC 6079-15:2010 Ed.4 standards.
- Issue 3:**
Normative update according to IEC 60079-0:2012 Ed.6.0 - Modification of types for initial electronic design, types become: PNR 444-28X-000-YY1 and PNR 444-31X-000-YY1 - New design of conditioner electronic, new types are: PNR 444-28X-000-YY2 to YY9 and PNR 444-31X-000-YY2 to YY9

IECEx Certificate
of Conformity



Certificate No.: IECEx LCI 10.0021X
Date of Issue: 2015-01-27
Issue No.: 3
Page 3 of 4

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

CE28X and CE31X accelerometers are piezo-electrical transducers that supplies to its terminal an electrical charge proportional to the acceleration which is submitted. The charge generated by the piezo element is provided to the conditioner which delivers a modulated current.

CE28X accelerometer is constituted of sensor head, a cable or a connector and a conditioner for PNR 444-.... types. Types are:
PNR 144-28X-000-YYY; X: depends on sensor head (X = 0 to 9); YYY depends on connector type and cable length, YYY = 000 to 999
PNR 444-28X-000-YYY; X: depends on sensor head (X = 0 to 9); YY depends on connector type and cable length, YY = 00 to 99 and Z depends on conditioner electronic design:
PNR 444-28X-000-YY1 for initial electronic design, maximum power 700mW.
PNR 444-28X-000-YY2 to YY9 for new electronic design, maximum power 224mW.

CE31X accelerometer is constituted of sensor head, a cable or a connector and a conditioner. Type is PNR 444-31X-000-YYZ; X: depends on sensor head (X = 0 to 9); YY depends on connector type or cable length, YY = 00 to 99 and Z depends on conditioner electronic design:
PNR 444-31X-000-YY1 for initial electronic design, maximum power 700mW.
PNR 444-31X-000-YY2 to YY9 for new electronic design, maximum power 224mW.

CONDITIONS OF CERTIFICATION: YES as shown below:

- Temperature ranges:
PNR 444-28X-000-YY0 to YY9, operating temperature ranges (Ta):
Sensor and cable: -55°C ≤ Ta ≤ +260°C
Conditioner, PNR 444-28X-000-YY1: -55°C ≤ Ta ≤ +100°C
Conditioner, PNR 444-28X-000-YY2 to YY9: -55°C ≤ Ta ≤ +125°C
PNR 444-31X-000-YY1, operating temperature range: -55°C ≤ Ta ≤ +100°C.
PNR 444-31X-000-YY2 to YY9, operating temperature range: -55°C ≤ Ta ≤ +125°C.
- Temperature classes depending on operating temperatures :
- | | T6 | T5 | T4 | T3 | T2 |
|--|--------|--------|---------|---------|---------|
| PNR 444-28X-000-YY1 to YY9 Sensor and cable: | + 80°C | + 95°C | + 130°C | + 195°C | + 260°C |
| PNR 444-28X-000-YY1 Conditioner: | + 80°C | + 95°C | + 100°C | -- | -- |
| PNR 444-28X-000-YY2 to YY9 Conditioner: | + 65°C | + 80°C | + 115°C | +125°C | -- |
| PNR 444-31X-000-YY1 | + 80°C | + 95°C | + 125°C | -- | -- |
| PNR 444-31X-000-YY2 to YY9 | + 65°C | + 80°C | + 115°C | +125°C | -- |
| PNR 144-28X-000-YYY | + 80°C | + 95°C | + 130°C | + 195°C | + 260°C |
- The electrical installation must provide a protection against voltage transients greater than 119V.



IECEx certificate:

EN

IECEx DEK 15.0029

**for CA 28x, CE 28x
and CE 31x**



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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IECEx Certificate of Conformity	
Certificate No:	IECEx DEK 15.0029
Date of Issue:	2016-06-24
Manufacturer:	Meggitt SA Rte de Moncor 4, 1752 Villars-sur-Glâne Switzerland
Additional Manufacturing location(s):	
This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.	
STANDARDS: The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:	
IEC 60079-0 : 2011 Edition 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"
This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.	
TEST & ASSESSMENT REPORTS: A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in	
Test Report:	NL/DEK/IEC-TR15.0037/00
Quality Assessment Report:	FR/LC/IOA/008.0006/09

IECEx Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com	
Certificate No.:	IECEx DEK 15.0029
Status:	Current
Date of Issue:	2016-06-24
Applicant:	Meggitt SA Rte de Moncor 4, 1752 Villars-sur-Glâne Switzerland
Equipment:	Piezoelectric Accelerometer Type 144-28-000-..., Type 444-28-000-... and Type 444-31-000-...
Optional accessory:	
Type of Protection:	Ex ia
Marking:	Ex ia IIC T6 ... T2 Ga
Approved for issue on behalf of the IECEx Certification Body:	R. Schuller Certification manager
Position:	
Signature: (for printed version)	
Date:	2016-06-24
1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.	
Certificate issued by:	
DEKRA Certification B.V. Meinder 1051, 6825 MJ Arnhem The Netherlands	



Annex 1 to Certificate of Conformity IECEx DEK 15.0029, Issue 0
Annex 1 to NL/DEK/ExTR15.0037/00

Description

Piezoelectric Accelerometers sensor only Type 144-28-000-... sensor with remote Conditioner (Electronic box) Type 444-28-000-... and sensor with integral conditioner Type 444-31-000-... are used for vibration monitoring.
The sensor converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal, that is processed externally. When a conversion module is integrated, the sensor signals are converted into a modulated current output signal.

Amplitude temperature range, depending on type and application:

Type 144-28-000-...
Sensor only: -60 °C to +260 °C

Type 444-28-000-2 to 444-28-000-9
Conditioner: -55 °C to +125 °C
Sensor and Cable: -55 °C to +260 °C

Type 444-31-000-2 to 444-31-000-9
Sensor and Integral
Conditioner: -55 °C to +125 °C

The relation between maximum ambient temperature and temperature class is as follows for all devices, taking into account the above mentioned temperature ranges:

Type	T6	T5	T4	T3	T2
444-28-000-2 to 444-28-000-9 Conditioner	+65 °C	+80 °C	+115 °C	+125 °C	-
444-31-000-2 to 444-31-000-9 Sensor and Integral Conditioner	+65 °C	+80 °C	+115 °C	+125 °C	-
144-28-000-...	+80 °C	+95 °C	+130 °C	+195 °C	+260 °C

IECEx Certificate
of Conformity



Certificate No: IECEx DEK 15.0029
Date of Issue: 2016-06-24
Issue No: 0
Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Piezoelectric Accelerometers Type 144-28-000-... (sensor only), Type 444-28-000-... (sensor with remote conversion module) and Type 444-31-000-... (sensor with integral conversion module) are used for vibration monitoring.

The sensor converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal, that is processed externally. When a conversion module is integrated, the sensor signal is converted into a modulated current output signal.

Refer to Annex 1 for details

CONDITIONS OF CERTIFICATION: NO

Annex:

Annex 1 to IECEx DEK15.0029 Iss0 & IECExTR15.0037_00.pdf



Annex 1 to Certificate of Conformity IECEx DEK 15.0029, Issue 0
Annex 1 to NL/DEK/ExTR 15.0037/00

Electrical data

Supply and output signal:
in type of protection intrinsic safety Ex ia II, only for connection to a certified intrinsically safe circuit, with
following maximum values:

Type	U _i	I _i	P _i	L _i	C _i sensor	C _i cable
444-28-000-.2 to	28 V	100 mA	0.7 W	0 mH	0 nF	-
444-28-000-.9						
444-31-000-.2 to	28 V	100 mA	0.7 W	0 mH	0 nF	0.25 nF/m
444-31-000-.9						
144-28-000-...	28 V	100 mA	0.7 W	0 mH	8 nF	0.25 nF/m

Installation instructions

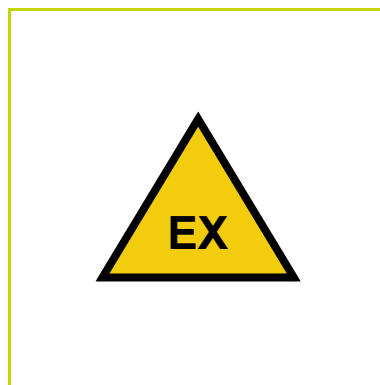
The instructions provided with the product shall be followed in detail to assure safe operation.

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EX CERTIFICATE – IECEx

vibro-meter®

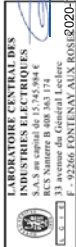
**IECEx LCIE 20.0026X
for
CE620 and CE630 piezoelectric accelerometers**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference IECEx LCIE 20.0026X
Edition 2 – February 2022

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 		IECEX Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com			
Certificate No.:	IECEX LCIE 20.0026X	Page 1 of 3	Certificate history:
Status:	Current	Issue No: 0	
Date of Issue:	2020-12-01		
Applicant:	MEGGITT SA Route de Moncor 4 1752 VILLARS-SUR-GLANE Switzerland		
Equipment:	Vibration transmitter or accelerometer, type: CE620 and CE630		
Optional accessory:			
Type of Protection:	Ex ia		
Marking:	Type CE620: Ex ia I Ma Ex ia IIC T4 Ga Ex ia IIC T135°C Da Type CE630: Ex ia IIC T4 Ga Ex ia IIC T135°C Da		
	See attachment for full marking.		
Approved for issue on behalf of the IECEx Certification Body:		Julien Gauthier Certification Officer	
Position:			
Signature:	(for printed version)		
Date:		33 avenue du Général Leclerc F - 92266 FONTENAY-AUX-ROSES 92020-12-01	
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Certificate issued by: Laboratoire Central des Industries Electriques (LCIE) 35 Avenue du General Leclerc FR-92260 Fontenay-aux-Roses France		 	

IECEX Certificate of Conformity



Certificate No.: **IECEX LCIE 20.0026X**
 Date of issue: 2020-12-01
 Page 2 of 3
 Issue No: 0

Manufacturer: **MEGGITT SA**
 Route de Moncor 4
 1752 VILLARS-SUR-GLANE
 Switzerland

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
 The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres - Part 0: General requirements Edition 6.0
 IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" Edition 6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
 A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:
[FR/LCIE/EXTR20.0093.00](#)

Quality Assessment Report:
[FR/LC/QAR06.0006/14](#)



Annex 01 to Certificate

IECEx LCIE 20.0026X issue 0



MARKING

For type CE620:

MEGGITT SA or Vibro-Meter or MFR S3960

Address: ...

Model: 444-620-000-XXX-Ax-Bxxxx-Cxx-Lxx

Serial number: ...

Year of construction: ...

Ex ia I Ma

Ex ia IIC T4 Ga

Ex ia IIC T135°C Da

IECEx LCIE20.0026 X

-54°C ≤ Tamb ≤ +121°C

U i : ... V ; I i : ... mA ; P i : ... W ; C i : ... nF ; L i : ... μH

(completed according to intrinsic safe electrical parameters)

For type CE630:

MEGGITT SA or Vibro-Meter or MFR S3960

Address: ...

Model: 444-630-000-XXX-Ax-Bxxxx-Cxx-Hxxx-Lxx

Serial number: ...

Year of construction: ...

Ex ia IIC T4 Ga

Ex ia IIC T135°C Da

IECEx LCIE20.0026 X

-54°C ≤ Tamb ≤ +121°C

U i : ... V ; I i : ... mA ; P i : ... W ; C i : ... nF ; L i : ... μH

(completed according to intrinsic safe electrical parameters)

RATINGS

Intrinsic safety parameters depending on the type: U i : 28 V ; I i : 93 mA ; P i : 0.65 W

Cable lengths	---	Until 99 m
Connector version	C i : 41 nF ; L i : 0.	---
Cable version	---	C i : 56 nF ; L i : 51 μH



IECEx Certificate

of Conformity

Certificate No.: IECEx LCIE 20.0026X

Date of issue: 2020-12-01

Page 3 of 3

Issue No: 0

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Functional description:
The equipment, type CE620 and CE630, are accelerometers which are designed to measure acceleration or vibration by converting the signal generated by the shear of a piezo-electric crystal from a given seismic mass and outputting an electric signal.
Mechanical description:
The accelerometer comprises a piezo electric crystal connected to a signal conditioning board, all contained within a stainless steel enclosure of various shapes measuring approximately 25cm.
Enclosure is a fully welded construction.
Electrical connections are made to the apparatus either via an IP64 at minimum rated connector or via an integral cable (simple, overbraided or with conduit).
Range details is given in the attachment.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Ambient temperature range: -54°C to +121°C.
- The intrinsically safe apparatus shall only be connected to associated intrinsically safe apparatus certified for the intended use. This association shall comply with the requirements of the IEC 60079-25 standard.
- Type CE630 equipment shall be submitted to low mechanical impact only.
- The apparatus must be connected according to instruction manual.
- For connector version, cable used shall have an operating temperature greater than 121°C.

Annex:

Annex 01 to certificate IECEx LCIE 20.0026X issue 0.pdf



Annex 01 to Certificate
IECEx LCIE 20.0026X issue 0



RANGE DETAILS

Type	CE620	CE630
Model	444-620-000-XXX-Ax-Bxxxx- Cx-Lxx	444-630-000-XXX-Ax-Bxxxx- Cx-Hxxx-Lxx
Measurement sensitivity	=Bxxxx	=Bxxxx
10mV/g	=B10	=B10
50mV/g	=B50	=B50
100mV/g	=B100	=B100
250mV/g	=B250	=B250
500mV/g	=B500	=B500
1000mV/g	=B1000	=B1000
Connector	=XXX =Cxx	=XXX =Cxx =Hxx
MIL-C-5015 glass seal	=111 =C01	=111 =C01
MT2 glass seal	=111 =C02	=111 =C02
Integral Cable	=XXX =Cxx =Lxx	=XXX =Cxx =Hxx =Lxx
120°C Radox Halogen free cable	=211 =C53	=211 =C53
200°C Teflon FEP cable with stainless steel overbraid protection	=211 =C72	=211 =C72
120°C Radox Halogen free cable with stainless steel overbraid protection	=211 =C73	=211 =C73
200°C Teflon FEP cable with stainless steel protection conduit	=211 =C82	=211 =C82
120°C Radox Halogen free cable with stainless steel protection conduit	=211 =C83	=211 =C83
Length in m	=Lxx	=Lxx
Housing thread	N/A	=Hxx
1/4"-28 UNF 2B	=omitted	=H16
M8x1.25		=H08
Agency approval	=Ax	=Ax
Standard	A1	=A1
ATEX / IECEx certified	A2	=A2

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IECEEx certificate:
IECEEx LCIE 13.0026X
for
GSI 127

EN



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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IECEx Certificate
of ConformityIssue No: 1
Page 2 of 4

IECEx LCIE 13.0026X

2016-11-30

MEGGITT SA

Route de Moncor 4
1752 VILLARS SUR GLANE
Switzerland

Certificate No:

Date of Issue:

Manufacturer:

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011
Edition:6.0
Explosive atmospheres - Part 0: General requirementsIEC 60079-11 : 2011
Edition:6.0
Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"IEC 60079-15 : 2010
Edition:4
Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

FRLCIE/EXTR13.0024/00 FRLCIE/EXTR16.0048/00

Quality Assessment Report:

FRLCICAR05.0005/09

IECEx Certificate
of ConformityINTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheresfor rules and details of the IECEx Scheme visit www.iecex.comIssue No: 1
Page 1 of 4
Certificate history:
Issue No. 1 (2016-11-30)
Issue No. 0 (2013-05-31)

Certificate No.: IECEx LCIE 13.0026X

Status: Current

Date of Issue: 2016-11-30

Applicant: MEGGITT SA

Route de Moncor 4
1752 VILLARS SUR GLANE
Switzerland

Equipment: GSI 127 Interface - Type: 244-127-000-XXX-A2-B7Y

Optional accessory:

Type of Protection: Ex nA [ia]

Marking: Ex nA [ia] Ga IIC T4 Gc
(refer to attachment for full marking)Approved for issue on behalf of the IECEx
Certification Body:

Julien Gauthier

Position: Certification Officer

Signature:

(for printed version)

Date:

2016-11-30

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Certificate issued by:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92280 Fontenay-aux-Roses
France



IECEX Certificate
of Conformity

Certificate No:IECEX LCIE 13.0026X

Issue No: 1

Date of Issue:2016-11-30

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue No. 0:
Conformity assessment according to IEC 60079-0:2011 Ed. 6, IEC 60079-11:2011 Ed. 6 and IEC 60079-15:2010 Ed. 4 standards.

Issue No. 1:
- New operating ambient temperature range: -40°C to +70°C.
- Update of type designation to differentiate two specifications.

Annex:
IECEX LCIE 13.0026X Issue 01 - Annex 01 - GSI127.pdf



IECEX Certificate
of Conformity

Certificate No:IECEX LCIE 13.0026X

Issue No: 1

Date of Issue:2016-11-30

Page 3 of 4

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The GSI 127 interface provides galvanic insulation between power supply circuit or signal treatment circuit (ExnA) and a sensor or a conditioner (Exia).
The equipment consists of electronic board and screwed terminals blocks mounted inside a plastic enclosure. Conformal coating is applied on both sides of the electronic board.

CONDITIONS OF CERTIFICATION: YES as shown below:

a) The equipment shall only be connected to associated intrinsically safe certified equipment or simple apparatus. This combination must be compatible as regard the intrinsic safety rules.
b) The apparatus shall be installed in an enclosure conform to the requirements of standard IEC 60079-0 and with ingress protection of at least IP54.
c) Operating ambient temperature: -40°C to +70°C.



Annex 01 to Certificate
IECEx LCIE 13.0026X issue 01



ADDITIONAL EQUIPMENT DESCRIPTION

Type designation:

244-127-000-XXX-A2-BYY

XXX defines the version of the product (X = 0 to 9).

YY defines the transfer mode (YY = 01 to 19 for actual specification; YY = 20 to 39 for alternate specification).

In order to differentiate the two specifications, the type of product is modified as follows:

- Actual specification: 244-127-000-XXX-A2-B01 to B19
- Alternate specification: 244-127-000-XXX-A2-B20 to B39

The difference between these specifications is only on electronic component values without modification of critical components part list and printed circuit board.

User manual (extract), ref. PZ 8763 rev. 00 dated 2016-09-06.

MARKING

MEGGITT SA or VIBRO-METER or MFR S3960

Address: ...

Type: 244-127-000-XXX-A2-BYY

Serial number: ...

Year of construction: ...

Ex nA [Ia Ga] IIC T4 Gc

IECEx LCIE 13.0026X

Power supply : U ≤ 30 V, I ≤ 150 mA

Sensor or conditioner :

For 244-127-000-XXX-A2-B01 to B19: U_b: 25.2 V; I_b: 60 mA; P_b: 0.7 W; C_b: 95 nF; L_b: 5 mH

For 244-127-000-XXX-A2-B20 to B39: U_b: 25.2 V; I_b: 45 mA; P_b: 0.5 W; C_b: 95 nF; L_b: 10 mH

RATINGS

Power supply: U ≤ 30 V, I ≤ 150 mA

Sensor or conditioner:

- For 244-127-000-XXX-A2-B01 to B19: U_b: 25.2 V; I_b: 60 mA; P_b: 0.7 W; C_b: 95 nF; L_b: 5 mH

- For 244-127-000-XXX-A2-B20 to B39: U_b: 25.2 V; I_b: 45 mA; P_b: 0.5 W; C_b: 95 nF; L_b: 10 mH

ROUTINE TEST

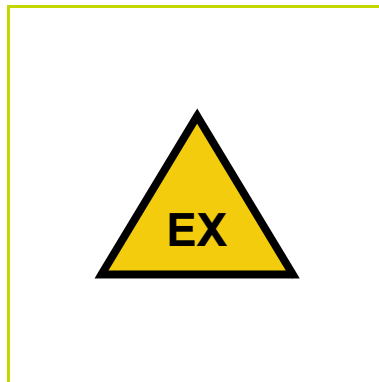
Each transformer T1 shall be submitted to dielectric strength test under test voltage of 1500 V; 50/60 Hz applied between the primary winding and the secondary windings during at least 60 s in accordance with clause 11.2 of IEC 60079-11:2011 Ed. 6 standard.

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EX CERTIFICATE – IECEx

vibro-meter®

**IECEx ITS 16.0011X
for
cable fittings (stuffing glands)**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference IECEx ITS 16.0011X
Edition 2 – January 2022

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IECEX Certificate of Conformity

Certificate No.:IECEX ITS 16.0011X

Date of Issue:2019-08-06

Page 2 of 6

Issue No: 2



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:IECEX ITS 16.0011X

Status:Current

Date of Issue:2019-08-06

Applicant:Eaton Electrical Systems Ltd Trading as Raxton or Redapt
Kingsway South
Westgate
Aldridge
West Midlands
WS9 8FS
United Kingdom

Equipment:Gland Adaptors, Reducers and Earthlead Adaptors

Optional accessory:

Type of Protection:Ex db Ex eb and Ex tb

Marking:IECEX ITS 16.0011X

Types AR and BJ Male/Male and type AU and AX Female/Female Union Adaptors, Types AB and AJ Gland Adaptors, Types BB and BJ Gland Reducers and DG and DN Earthlead Adaptors and Reducers

Ex db I/II C Mb/Gb
Ex eb I/II C Mb/Gb
Ex tb III C Db IP 6X
Ta = see schedule

Type AB & AJ Adaptors, Type BB & BJ Reducers
Ex eb I/II C Gb, Ex tb I/II C Db IP 66
Ta = see schedule

Approved for issue on behalf of the IECEx
Certification Body:

Position:V K Varma
Certification Officer

Signature:
(for printed version)

Date:

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Certificate issued by:

Intertek Testing & Certification Limited
175 House, Cleeve Road
Leatherhead
Surrey, KT22 7SA
United Kingdom



Certificate No.: **IECEx ITS 16.0011X**

Date of issue: **2019-08-06**

EQUIPMENT: Equipment and systems covered by this Certificate are as follows:

The Types AR, BR, AB, AU, AX, AJ Adaptors, Types BB & BJ Reducers and Types DG and DN Earthead Adaptors are designed to convert an existing cable entry aperture, in the associated apparatus, to a different thread form and/or size. Each device comprises a hollow body with a male thread at one end and a female thread at the other. Entry threads are between M12 and M120 (M16 to M75 for Glass Filled Nylon and M20 to M32 for DG/DN).

The Type AR and BJ Male/Male Adaptors and Types AU and AX Female/Female Adaptors have thread forms of between M12 and M120. Thread combinations are such that a maximum of two 'standard' size differences is maintained for increase in thread and no restriction on reduction. Type designations determine thread combinations and body profiles.

Material Options
Grass to BS 2874
Grass BS 2872

Stainless Steel

Wild Steel

Bronze

30 % Glass Filled Nylon

Surface Coating: Nickel, Zinc, Electroless Nickel

Thread Options

Metric to BS 3643
ET Conduit to BS 31

PG to DIN 40430

© 1999 DIN 45400
990016 PS 3770

BSPT to BS 21

NPT to ANSI/ASME B1.20.1

In addition, any other thread f

Conditions of manufacture

The Manufacturer shall comply with the following:

1. The female threads of adaptors shall be restricted to one size larger than the male thread size.
2. When these entry devices are manufactured in 40% Glass Filled Nylon material, they shall be to be marked with '40% Glass Filled Nylon'.
3. These products shall be marked with the information as specified in this certificate and related reports.
4. An increase of up to two step thread sizes is permitted on the AB & AJ Series; in addition, equal sizes are also allowed.
5. These products shall be marked in accordance with the information as specified in this certificate and related reports.
6. Products constructed from Aluminum shall not be marked for Group I applications.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. When used for Increased Safety ('Ex e') or Protection by enclosure (Ex tb) applications, a suitable method of sealing to the associated enclosure shall be provided.



IECEx Certificate of Conformity

Certificate No.: IECEx ITS 16.0011X

Date of issue: 2019-08-06

Page 6 of 6

Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1: Update of QAR to reflect the certificate holder's new entity and address. Model Designation AR-U re-introduced which is recognised as a universal type certified to Ex db, Ex eb and Ex b

Issue 2: Nylon material references revised Drawing AB-AJ-BB-BJ revised to Issue 2.



IECEx Certificate of Conformity

Certificate No.: IECEx ITS 16.0011X

Date of issue: 2019-08-06

Page 5 of 6

Issue No: 2

2. Products constructed from Aluminium are to be positioned where they are subject to low risk of mechanical impact only and shall not be marked as suitable for Group I

Type AB & AJ Adapters, Type BB & BJ Reducers

1 All entry devices shall only be installed where there is a low risk from mechanical impact.

2 Only one adaptor or reducer is to be used with any single cable entry on the associated equipment.

3 The interfaces between these devices and the associated enclosure cannot be defined; therefore, it is the user's responsibility to ensure that the appropriate ingress protection level is maintained at these interfaces.

4 When manufactured in 30% Glass Filled Nylon material, the entry devices are suitable for a service temperature range of -30°C to +90°C.

5 When manufactured in 40% Glass Filled Nylon material, the entry devices are suitable for a service temperature range of -20°C to +45°C

6 When the entry devices are manufactured in 40% Glass Filled Nylon material, they shall be protected from exposure to light; items made from this material are marked with '40% Glass Filled Nylon'.

7 Service temperature ranges have been applied as follows:

O-ring Service temperature

None fitted -60°C to 200°C *

EPDM -50°C to +100°C

Nitrile -20°C to +80°C

Neoprene -40°C to +80°C

Viton -20°C to +180°C *

Silicone -60°C to +180°C *

Fluorosilicone -60°C to +130°C

Note: The limiting temperatures specified above are de-rated by 20K according to Clause 7.2.2 'Material Selection' of IEC 60079-0

Note: The maximum temperature is limited to 150°C in Group I application (Coal dust, Mining) O-ring materials affect marked with '*' above

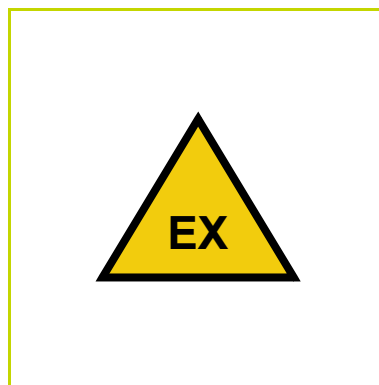
Note: Unless fitted with an interface sealing O-ring with lower properties, temperatures shall then be limited as per the manufacturer's instructions

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EX CERTIFICATE – IECEx

vibro-meter®

**IECEx ITS 16.0012X
for
cable fittings (stuffing glands)**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference IECEx ITS 16.0012X
Edition 2 – January 2022

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 		IECEx Certificate of Conformity	
Certificate No.:	IECEx ITS 16.0012X	Page 2 of 5	
Date of Issue:	2019-10-23	Issue No: 3	
Manufacturer:	Eaton Electrical Systems trading as Raxton, Redapt or Capri Kingsway South Westgate Aldridge West Midlands WS9 8FS United Kingdom		
Additional manufacturing locations:			
This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended			
STANDARDS : The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards			
IEC 60079-0:2011	Explosive atmospheres - Part 0: General requirements	Edition: 6.0	
IEC 60079-1:2014-06	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"	Edition: 7.0	
IEC 60079-31:2013	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"	Edition: 2	
IEC 60079-7:2015	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"	Edition: 5.0	
This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.			
TEST & ASSESSMENT REPORTS: A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:			
Test Reports:	GB/ITS/EXTR16.0014/01	GB/ITS/EXTR16.0014/02	
GB/ITS/EXTR16.0014/00			
GB/ITS/EXTR16.0014/03			
Quality Assessment Report:	GB/SIR/QAR06.0014/08		

 		IECEx Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com			
Certificate No.:	IECEx ITS 16.0012X	Page 1 of 5	
Status:	Current	Issue No: 3	
Date of Issue:	2019-10-23		
Applicant:	Eaton Electrical Systems trading as Raxton, Redapt or Capri Kingsway South Westgate Aldridge West Midlands WS9 8FS United Kingdom		
Equipment:	Types CB, CF, CK, CQ, CY, PD-U, PH-E, PA-D, PA-U, PB-U/PB-D and PD-E4 Stopping plugs		
Optional accessory:			
Type of Protection:	Ex db , eb, tb		
Marking:	IECEx ITS 16.0012X Ex db IIIC Mb/Gb Ex eb IIIC Mb/Gb Ex tb IIIC Db (Group I marking does not apply to CY or PD-E4 Stopping Plugs) (Ex d marking does not apply to PD-E4 or PH-E). Ta from -60°C to 200°C (Dependant on construction material and O-ring fitted). See specific conditions of use for particular model.		
Approved for issue on behalf of the IECEx Certification Body:	V K Varma Certification Officer		
Position:			
Signature: (for printed version)			
Date:			
1. This certificate and schedule may only be reproduced in full. 2. The status and validity of this certificate may be verified by visiting www.iecex.com or use of this QR Code. 3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.			
Certificate issued by: Intertek Testing & Certification Limited IT'S House, Cleeve Road Leatherhead Surrey, KT22 7SA United Kingdom			



intertek

IECEx Certificate
of Conformity

Certificate No.: IECEx ITS 16.0012X Page 4 of 5
Date of Issue: 2019-10-23 Issue No: 3

Equipment (continued):

At their point of mounting, these devices are suitable for use at the following temperatures dependent on the type of O-ring:

O-ring Service Temperature

None fitted -60°C to 200°C *

EPDM -50°C to +100°C

Nitrile -30°C to +80°C

Neoprene -40°C to +80°C

Viton -20°C to +180°C *

Silicone -60°C to +180°C *

Fluorosilicone -60°C to +130°C

Note: The limiting temperatures specified above are de-rated by 20K according to Clause 7.2.2 'Material Selection' of IEC 60079-0

Note: The maximum temperature is limited to 150°C in Group I application (Coal dust, Mining) O-ring materials affect marked with " " above

Conditions of manufacture

The Manufacturer shall comply with the following for the stopping plugs:

1. The PD-E4 stopping plugs manufactured from Nylon shall not be marked with any information that indicates that they are suitable for Group I use.
2. The manufacturer shall take all reasonable steps to ensure that the user can comply with the special conditions for safe use and shall advise the user in respect of the materials that are used in the construction of the devices.
3. These products shall be marked in accordance with the information as specified in this certificate and related reports.
4. When these entry devices are manufactured in 40% Glass Filled Nylon material, they shall be marked with 40% Glass Filled Nylon.
5. These products shall be marked in accordance with the information as specified in this certificate and related reports.
6. Aluminium variants, where applicable, are not permitted for Group I applications. The manufacturer shall ensure that the equipment is marked appropriately
7. In accordance with IEC 60079-1, the coating on joint surfaces of metallic devices that are electroplated shall be no more than 0.008mm thick.

IECEx Certificate
of Conformity

Certificate No.: IECEx ITS 16.0012X Page 3 of 5
Date of Issue: 2019-10-23 Issue No: 3

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The stopping plugs are threaded and are used to fill unused entries in associated apparatus. They have thread forms between M12 and M120 and are fully described as follows:

Type CK: Roundhexagon socket/external mounting, Type CB: Roundhexagon socket/external mounting, Type CK: Hexagon head, Type CK: Roundhexagon socket/external mounting, Type CK: Similar to Type CK with a hollow threaded section

The PD-U series stopping plugs comprise of metallic round bodies with a dome head having a hexagonal key-way recess for tightening. They may optionally be machined with a groove to fit an O-ring seal. Coded: Ex db IIC Mb/Gb, Ex db IIC Mb/Gb, Ex db IIC Db IP6X

The PA-DJ/PB-DJ/PB-DJ Series stopping plugs comprise of metallic round bodies with a thread run out to shoulder having a hexagonal key way recess for internal or external tightening. Coded: Ex db IIC Mb/Gb, Ex db IIC Mb/Gb, Ex db IIC Db IP6X

The PHE Series are ranges of Ex e threaded stopping plugs each comprising a threaded body with either a hexagonal head or socket for tightening.

PD-E4 Stopping Plugs: these are a range of threaded stopping plugs that are used to fill unused entries in the associated apparatus. The PD-E4 has a 'mushroom' head, there is also a version made from 30% Glass Filled Nylon which are intended for Ex eb and to only.

Material options:
BSP BS 2392 (CZ121) • Mild Steel to BS970 (EN1A) • Stainless Steel to BS970 (316) • Aluminium BS1474, 6062T6 • 30% Glass Filled Nylon • 40% Glass Filled Nylon

Surface Coating: Nickel, Zinc, Electroless Nickel

Entry threads options:

• Metric to BS 3643: • ET Conduit to BS 31: • PG to DIN 40430: • BSP to BS 2779 • BSPT to BS 21 • NPT to ANSI/ASME B1.20.1

Or any thread complying with IEC 60079-1. At their point of mounting, these devices are suitable for use at the following temperatures dependent on the type of O-ring: O-ring Service temperature:

None fitted -60°C to 200°C * EPDM -50°C to +100°C Nitrile -30°C to +80°C Neoprene -40°C to +80°C Viton -20°C to +180°C * Silicone -60°C to +180°C * Fluorosilicone -60°C to +130°C

Note: The limiting temperatures specified above are de-rated by 20K according to Clause 7.2.2 'Material Selection' of IEC 60079-0

Note: The maximum temperature is limited to 150°C in Group I application (Coal dust, Mining) O-ring materials affect marked with " " above

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. If a stopping plug is machined with an undercut and is used for an Ex db application, then the wall of the enclosure into which it is fitted shall be such as to maintain five full threads of engagement.
2. When used for increased safety or Ex eb or protection by enclosure Ex tb applications, a suitable method of sealing to the associated enclosure shall be fitted
3. The stopping plugs shall not be used with any form of adaptors or reducers.
4. The interfaces between these devices and the associated enclosure cannot be defined; therefore, it is the user's responsibility to ensure that the appropriate ingress protection level is maintained at these interfaces
5. The stopping plugs, when manufactured from non-metallic material, are only suitable for installation in areas considered to be a low risk from mechanical impact
6. The stopping plugs, when manufactured from non-metallic material 40% Glass Filled Nylon, shall be adequately protected from direct exposure to sunlight
7. The stopping plugs, when constructed from non-metallic material, shall only be cleaned with a damp cloth.

PD-E4 Nylon Stopping Plugs

8. When manufactured in 30% Glass Filled Nylon material, the entry devices are suitable for a service temperature range of -30°C to +90°C.
9. When manufactured in 40% Glass Filled Nylon material, the entry devices are suitable for a service temperature range of -20°C to +45°C. Items made from this material are marked with '40% Glass Filled Nylon'.

10. At their point of mounting, these devices are suitable for use at either -30°C to +90°C or -5°C to +45°C when using Viton seals. The clearance holes for metric male threaded products, suitable for clearance hole applications of increased safety enclosures are to have a diameter of 0.3 to 0.5mm larger than the major diameter of the male thread.

11. When installed in Group I applications, adaptors manufactured in brass shall be installed where the risk of impact is low

12. At their point of mounting, metallic stopping plugs are suitable for use at -60°C to +200°C for Group II applications and -50°C to +150°C for Group I applications

13. 'Ex db' Stopping plugs are not to be used with any form of adaptors or reducers



IECEx Certificate
of Conformity

Certificate No.: IECEx ITS 16.0012X
Date of Issue: 2019-10-23

Page 5 of 5
Issue No. 3

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1: PA-U, PB-U as stated to be changed to PA-D, PB-D stopping plugs and addition of M12 & equivalent threadforms Intertek Project G10326724

Issue 2: Update of QAR to reflect Certificate holder's new entity and address. PA-U and PB-U re introduced as a universal option that is both Ex d and Ex e certified

Issue 3: (This certificate) Nylon material reference revised. Drawings CQ-M and PD-E revised to Issue 2. Intertek Project No G104039337

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MEGGITT

IECEx certificate:

EN

LCI 10.0009U

for

Cable stuffing glands



Meggitt SA
Route de Moncor 4
PO Box 1616
1701 Fribourg
Switzerland

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IECEx Certificate of Conformity	
Certificate No.: IECEx LCI 10.0009U	Issue No.: 1
Date of Issue: 2015-05-07	Page 2 of 4
Manufacturer: S.I.B (Schlemmer Industry & Building Parts) 25 Rue Théophile Somborn 57220 BOULAY - MOSELLE France	
Additional Manufacturing location (s):	
This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended. STANDARDS: The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards: IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements Edition: 6.0 IEC 60079-31 : 2008 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure 't' Edition: 1 IEC 60079-7 : 2008-07 Explosive atmospheres - Part 7: Equipment protection by increased safety 'e' Edition: 4 <i>This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.</i> TEST & ASSESSMENT REPORTS: A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in Test Report: FRLCIEXR10.0012/00 FRLCIEXR10.0012/01 Quality Assessment Report: FRLC/QAR10.0003/06	

IECEx Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com	
Certificate No.: IECEx LCI 10.0009U	Issue No.: 1
Status: Current	Page 1 of 4
Date of Issue: 2015-05-07	
Applicant: S.I.B (Schlemmer Industry & Building Parts) 25 Rue Théophile Somborn 57220 BOULAY - MOSELLE France	
Electrical Apparatus: Optional accessory:	Cap, reducer and amplifier. Type EEx e
Type of Protection:	Ex e, Ex tb
Marking:	Ex eb IIC Ex tb IIC IP6X IECEx LCI 10.0009U (Full marking is available in annex)
Approved for issue on behalf of the IECEx Certification Body:	Julien Gauthier Certification Officer
Signature: (for printed version)	
Date:	2015-05-07
1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.	
Certificate issued by: Laboratoire Central des Industries Electriques (LCIE) 33 Avenue du General Leclerc FR-92260 Fontenay-aux-Roses France Documents relative to LCIE certification activities (Certificates, QARs, ExTRs) can be registered under the references "LCI" or "LCIE".	



IECEx Certificate of Conformity

IECEx LCI 10.0009U

Certificate No.:

Issue No.: 1

Date of Issue:

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 00 (2010-05-11)
Initial assessment according to IEC 60079-0: Ed4 ; IEC 60079-7 Ed4 ; IEC 61241-0 Ed1 ; IEC 61241-1 Ed1 standards

Issue 01

Update of company name



IECEx Certificate of Conformity

IECEX LCI 10.0009U

Certificate No.:

Issue No.: 1

Date of Issue:

Page 3 of 4

Schedule

EQUIPMENT: Equipment and systems covered by this certificate are as follows:

Description of the components :

Three different components :

- Caps type Ex "e" in plastic used to be fitted on entry (clearance hole or threaded hole) on wall of enclosure.
- Reducers and amplifiers type Ex "e" in plastic used in order to adapt a cable entry with a lower or higher diameter (clearance hole or threaded hole) than the cable entry hole.

All these components are in plastic material. The plastics materials used in the construction are : Polycarbonate (Ref A9541016) or Polyamide 6 (Ref A9380300 and A9380301) and neoprene. For each size and component, there is the possibility of an ISO metric thread pitch 1,5 mm (ISO 965 (1998)) or PG thread (UTE 68311 (2000) : UTE 68312 (2000)).

Schedule of limitation :

For the assembling of the caps, reducers or amplifiers on increased safety enclosures (for Gas atmospheres) or on "Ex t" protected enclosures (for Dust atmospheres), the fitting up and the assembling realized shall be in accordance with the descriptive documents of the manufacturer.

Operating service temperature :

$-20^{\circ}\text{C} \leq T_{\text{service}} \leq +55^{\circ}\text{C}$ (For all the range)
 $-35^{\circ}\text{C} \leq T_{\text{service}} \leq +95^{\circ}\text{C}$ (Polycarbonate referenced A9541016)
 $-35^{\circ}\text{C} \leq T_{\text{service}} \leq +90^{\circ}\text{C}$ (Polyamide 6 referenced A9380300 and A9380301)

CONDITIONS OF CERTIFICATION: NO

Annex: LCI 10.0009 U - Issue 01-Annex 01 - SIB.pdf



IECEX LCI 10.0009U issue 01
Annex n°01



Marking :

SJB
Address
Type : IECEx o
Serial number
Year of construction
Ex eb IIC
Ex tb IIIC
IP6X
IECEX LCI 10.0009U

The Annex is valid only in combination with certificate IECEX LCI 10.0009UX issue 01 and may only be reproduced in its entirety and without any change.
Page 1 sur 1
75 - IECEX CoC Attachment - rev0.DOC

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MEGGITT

IECEx certificate:

EN

PTB 03.0000

for

Cable stuffing glands



Meggitt SA
Route de Moncor 4
PO Box 1616
1701 Fribourg
Switzerland

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IEC		IECEx		IECEx Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com					
Certificate No.:	IECEx PTB 03.0000	Issue No.:	2	Certificate history:	Issue No. 2 (2011-09-12) Issue No. 1 (2011-02-04) Issue No. 0 (2003-09-15)
Status:	Current				Page 1 of 4
Date of Issue:	2011-09-12				
Applicant:	Cooper Crouse-Hinds GmbH Neuer Weg Nord 49 D-69412 Eberbach Germany				
Equipment:	Blanking Element Type GHG 960 ****				
Optional accessory:					
Type of Protection:	Increased Safety				
Marking:	Ex e IIC Gb Ex tb III C Db IP66/IP65 alternativ Ex eb IIC Ex tb III C IP66/IP65				
Approved for issue on behalf of the IECEx Certification Body:	Dr.-Ing. Ulrich Johannsmeyer				
Position:	Head of Department "Intrinsic Safety and Safety of Systems"				
Signature: (for printed version)					
Date:					
1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.					
Certificate issued by: Physikalisch-Technische Bundesanstalt (PTB) Bundesallee 100 38116 Braunschweig Germany					
 Physikalisch-Technische Bundesanstalt Bundesallee 100 38116 Braunschweig Germany					

IEC		IECEx		IECEx Certificate of Conformity	
Certificate No.:	IECEx PTB 03.0000	Issue No.:	2		
Date of Issue:	2011-09-12			Page 2 of 4	
Manufacturer:	Cooper Crouse-Hinds GmbH Neuer Weg Nord 47 D-69412 Eberbach Germany				
Additional Manufacturing location(s):					
This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.					
STANDARDS: The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:					
IEC 60079-0 : 2007-10	Explosive atmospheres - Part 0: Equipment - General requirements				
Edition: 5					
IEC 60079-31 : 2008	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure 't'				
Edition: 1					
IEC 60079-7 : 2006-07	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'				
Edition: 4					
This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.					
TEST & ASSESSMENT REPORTS: A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in					
Test Report: DE/PTB/EXTR11.0013/00					
Quality Assessment Report: DE/BVSIQAR11.0009/00					



IECEx Certificate
of Conformity

Certificate No: IECEx PTB 03.0000

Issue No: 2

Date of Issue: 2011-08-12

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

New QAR

Annex:
Attachment-IECEx PTB 03_0000_Rev1.pdf



IECEx Certificate
of Conformity

Certificate No: IECEx PTB 03.0000

Issue No: 2

Date of Issue: 2011-09-12

Page 3 of 4

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Description
The blanking element type GHG 960 **** made of polyamide serves to close threaded holes for cable entries in enclosures.
Dependent on the size they can be used for enclosures in the type of protection Increased safety "e" and Protection by enclosure "ip".
Installation in clearance holes is with lock nuts made of brass or polyamide.

Size M16 x 1,5 to M50 x 1,5: type of protection Increased safety "e" and
Protection by enclosure "ip"

Size M63 x 1,5: type of protection Increased safety "e"

Technical data and Nomenclature: see attachment.

SPECIFIC CONDITIONS OF USE: NO



Attachment to Certificate
IECEX PTB 03.0000, Revision 1



Applicant:

Cooper Crouse-Hinds GmbH
Neuer Weg Nord 49
69412 Eberbach
Germany

Electrical Apparatus:

Blanking element type GHG 960 **** *

Description

The type GHG 960 **** * blanking element made of polyamide serves to close threaded holes for cable entries in enclosures. Dependend on the size they can be used for enclosures in the type of protection Increased safety "e" and Protection by enclosure "lb". Installation in clearance holes is with lock nuts made of brass or polyamide.

Size M16 x 1,5 to M50 x 1,5: type of protection Increased safety "e" and Protection by enclosure "lb"

Size M63 x 1,5: type of protection Increased safety "e"

Technical data

Designation M16x1,5 – M50x1,5	Unique specimen	Package
Blanking element M16 x 1,5	GHG 960 6633 P ...	without O-Ring
Blanking element M20 x 1,5	GHG 960 6634 P ...	GHG 960 1952 R ...
Blanking element M25 x 1,5	GHG 960 6635 P ...	GHG 960 1952 R ...
Blanking element M32 x 1,5	GHG 960 6636 P ...	GHG 960 1952 R ...
Blanking element M40 x 1,5	GHG 960 6637 P ...	GHG 960 1952 R ...
Blanking element M50 x 1,5	GHG 960 6638 P ...	GHG 960 1952 R ...

Designation M63 x 1,5	Unique specimen	Package
Blanking element M63 x 1,5	GHG 960 1924 R0068	GHG 960 1952R ...

Service temperature range M16 x 1,5 to M50 x 1,5	-55 °C to +95 °C
M63 x 1,5	-20 °C to +80 °C
Degree of mechanical hazard	high
Wallthickness	≥ 3,5 mm
Ingress protection	
M16x1,5 –M50x1,5	IP66
M63 x 1,5	IP65

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 55, 38116 Braunschweig, Germany
Postfach 33 45, 38023 Braunschweig, Germany
Telephone +49 531 592-0, Telefax +49 531 592-3605



Attachment to Certificate
IECEX PTB 03.0000, Revision 1



Nomenclature

GHG 960	****	*	****
1	2	3	4

- 1: Type designation of the blanking element
- 2: Designation of size and equipment (see list above)
- 3: P = Unique specimen
- 4: Without influence on the type of protection

R = Package

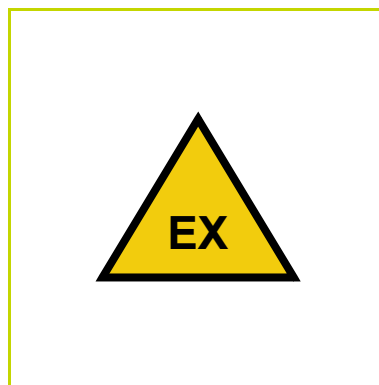
Physikalisch-Technische Bundesanstalt (PTB)
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Postfach 33 45, 38023 Braunschweig, Germany
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EX CERTIFICATE – IECEx

vibro-meter®

**IECEx PTB 11.0019X
for
cable fittings (stuffing glands)**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference IECEx PTB 11.0019X
Edition 3 – October 2020

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IECEX Certificate of Conformity

Certificate No.: IECEx PTB 11.0019X

Date of issue: 2020-04-22

Manufacturer: Pfiltsch GmbH & Co. KG
Ernst-Piltsch-Straße 1
42499 Hückeswagen
Germany

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition: 7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition: 2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition: 5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report: DE/PTB/ExTR11.0032/02

Quality Assessment Report: DE/PTB/QAR10.0003/04



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx PTB 11.0019X

Status: Current

Date of issue: 2020-04-22

Applicant: Pfiltsch GmbH & Co. KG
Ernst-Piltsch-Straße 1
42499 Hückeswagen
Germany

Equipment: Cable gland type blueglobe HT xx x xx xxxx xx, blueglobe HT AC xxx xx x xx xxxx xxxx xx and blueglobe HT TRI xx x xx xxxx xx

Optional accessory:

Type of Protection: Increased Safety "eb", Protection by Enclosure "tp"

Marking: Ex eb IIC Gb
Ex tb IIC Db

Approved for issue on behalf of the IECEx Certification Body:

Position: Dr. Ing. Detlev Markus

Signature: (for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.

2. This certificate is not transferable and remains the property of the issuing body.

3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:
Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany



Document reference IECEx PTB 11.0019X
Edition 3 - October 2020

EX CERTIFICATE – IECEx
IECEx PTB 11.0019X for cable fittings (stuffing glands)

3 / 6



IECEX Certificate of Conformity

Certificate No.: IECEx PTB 11.0019X

Date of issue: 2020-04-22

Page 4 of 4

Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

1) The pressure screw can be optionally equipped with a silicone coating.
2) Two different sealing components can be used: sealing component with moulded inlet and two-part sealing component.
3) New test according to IEC 60079-0:2017 (Ed. 7), IEC 60079-7:2015+AL:2017 (Ed. 5.1) and IEC 60079-31:2013 (Ed. 2).

Annex:

[COCA-11.0019X Issue 2.pdf](#)



IECEX Certificate of Conformity

Certificate No.: IECEx PTB 11.0019X

Date of issue: 2020-04-22

Page 3 of 4

Issue No: 2

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The cable gland type blueglobe HT xx x xx xxxx xx, blueglobe HT AC xxx xx x xx xxxx xx and blueglobe HT TRI xx x xx xxxx xx made of brass blank or nickel-plated and stainless steel, serves to introduce fixed cables into electrical apparatus of the type of protection increased safety "eb" and protection by enclosure "tb". The cable gland consists of:

- pressure screw without clamping device
- sealing component with moulded inlet or two-part sealing component
- double nipple with metric connection thread in different length and an O-ring.

For mounting enclosures with through bore-holes or threaded holes are used. Lock nuts are used with through bore-holes. Accessory is an AC group for steel armoured cables, a TRI-spring for shielded cables as well as a plastic bolt for sealing of cable glands which are not used.

Technical data and Nomenclature see Annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Only permanently wired cables may be entered. The user shall provide the required strain relief.

When the tested sealing components are selected, the maximum thermal load of the cables introduced must be taken into account.



Attachment to Certificate
IECEx PTB 11.0019X, Issue No. 2



Applicant:

Pflitsch GmbH & Co. KG
Ernst-Pflitsch-Straße 1
42499 Hückeswagen
Germany

Electrical Apparatus:

Cable gland type blueglobe HT xx x xx xxxx xx,
blueglobe HT AC xxx xx x xx xxxx xx and
blueglobe HT TRI xx x xx xxxx xx

Description

The cable gland type blueglobe HT xx x xx xxxx xx, blueglobe HT AC xxx xx x xx xxxx xx and blueglobe HT TRI xx x xx xxxx xx made of brass blank or nickel-plated and stainless steel, serves to introduce fixed cables into electrical apparatus of the type of protection increased safety "eb" and protection by enclosure "tb". The cable gland consists of:

- pressure screw without clamping device
 - sealing component with moulded inlet or two-part sealing component
 - double nipple with metric connection thread in different length and an O-ring
- For mounting enclosures with through bore-holes or threaded holes are used. Lock nuts are used with through bore-holes.

Accessory is an AC group for steel armoured cables, a TRI-spring for shielded cables as well as a plastic bolt for sealing of cable glands which are not used.

Technical data

Size of thread	M12 to M40
Suited for devices of equipment group II with mechanical risk level	High
Mounted in enclosures with clearance holes	≥ 2 mm ≥ 1 mm
Plastic, wall thickness	
Metal, wall thickness	
Mounted in enclosures with threaded holes	≥ 5 mm ≥ 3 mm
Plastic, wall thickness	
Metal, wall thickness	
Torque	Depending on the nominal size, see list below metric: 5 Nm to 20 Nm
Ambient temperatures	-55 °C to +160 °C
Insert and connecting O-ring Silicon Bolt	-55 °C to +90 °C
Protection against solid foreign objects, water and contact	IP66 and IP 68 in accordance with IEC 60529

Physikalisch-Technische Bundesanstalt (PTB)

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Page 1 of 3



Attachment to Certificate
IECEx PTB 11.0019X, Issue No. 2



max. Torque blueglobe and blueglobe TRI

blueglobe HT and blueglobe TRI HT					
Thread	Molded inlet	Torque Pressure screw / double nipple	Cable diameter with inlet	Cable diameter without inlet	Mechanical strength
M12	X	5 Nm	---	8,0 – 5,0	7 J
M16	X	8 Nm	7,0 – 4,0	11,0 – 7,0	7 J
M20	X	10 Nm	9,0 – 5,0	14,0 – 9,0	7 J
M25	X	15 Nm	16,0 – 11,0	20,0 – 16,0	7 J
M32		15 Nm	20,0 – 15,0	25,0 – 20,0	7 J
M40		20 Nm	26,0 – 20,0	32,0 – 26,0	7 J
Connection thread: metric, acc. to IEC 60 423					
Note: The torque depends on the cable used and the insert seal but should not exceed the value given in the table.					

max. Torque blueglobe AC

blueglobe HT AC for armoured cable					
Thread	Molded inlet	Torque Pressure screw / double nipple	Cable diameter with inlet	Cable diameter without inlet	Mechanical strength
M20	X	15 Nm	14,0 – 9,0	13,0 – 9,0	7 J
M25	X	15 Nm	20,0 – 16,0	16,0 – 11,0	7 J
M32		15 Nm	20,0 – 16,0	17,0 – 14,0	7 J
M32		15 Nm	25,0 – 20,0	23,0 – 19,0	7 J
M32		15 Nm	32,0 – 26,0	27,0 – 23,0	7 J
M40		20 Nm	32,0 – 26,0	31,0 – 28,0	7 J
Connection thread: metric, acc. to IEC 60 423					
Note: The torque depends on the cable used and the insert seal but should not exceed the value given in the table.					

Nomenclature

blueglobe HT	xx	x	xx	xxxx	xx
1	2	3	4	5	6

- 1: Type
- 2: bg
- 3: Type of thread, 2 = series metric, 8 = series metric long
- 4: Connecting thread
- 5: Material
- 6: Ex

Physikalisch-Technische Bundesanstalt (PTB)

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Page 2 of 3



Attachment to Certificate
IECEx PTB 11.0019X, Issue No. 2



blueglobe HT AC	xxx	xx	x	xx	xxxx	xxxx	xx
1	2	3	4	5	6	7	8

- 1: Type
- 2: Metric adapter
- 3: bg
- 4: Type of thread, 2 = serie metric
- 5: Connecting thread
- 6: Material
- 7: AC for armoured cable, clamping range
- 8: Ex

blueglobe HT TRI	xx	x	xx	xxxx	xx
1	2	3	4	5	6

- 1: Type
- 2: bg
- 3: Type of thread, 2 = serie metric
- 4: Connecting thread
- 5: Material
- 6: Ex

Conditions of Certification

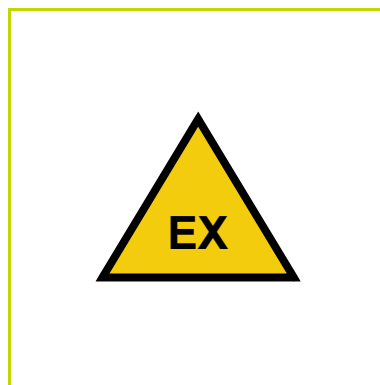
Only permanently wired cables may be entered. The user shall provide the required strain relief.
The maximum thermal load of the cables and conduits entered is to be taken into account.

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100, 38116 Braunschweig, Germany
Postfach 33 45, 38023 Braunschweig, Germany
Telephone +49 531 592-0, Telefax +49 531 592-3605

EX CERTIFICATE – IECEx

vibro-meter®

**IECEx SEV 15.0018
for
cable fittings (stuffing glands)**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference IECEx SEV 15.0018
Edition 2 – October 2020

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IECEx Certificate of Conformity



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx SEV 15.0018	Issue No.:	1	Certificate history: Issue No. 1 (2018-11-15) Issue No. 0 (2016-01-13)
Status:	Current	Page 1 of 4		
Date of Issue:	2018-11-15			
Applicant:	AGRO AG Korbackerweg 7 5502 Hunzenschwil Switzerland			
Equipment: Optional accessory:	Cable glands and accessories Type Progress ... ***** KB EX <i>Thread adapters; Blanking elements; Counter nuts</i>			
Type of Protection:	Increased safety "eb" and protection by enclosure "1b"			
Marking:	Ex eb IIC Gb Ex 1b III C Db			
Approved for issue on behalf of the IECEx Certification Body:	Martin Pilüss Manager Product Certification			
Position:				
Signature: (for printed version)				
Date:				

1. This certificate and schedule may only be reproduced in full.

2. This certificate is not transferable and remains the property of the issuing body.

3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Eurolife Electrosuisse Product Testing AG
 Luppenstrasse 3
 CH-8320 Fehraltorf
 Switzerland

eurofins

Electrosuisse
Product Testing



IECEX Certificate of Conformity

Certificate No:
Date of Issue:
DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):
The product group was supplemented. The supplemented products are cable glands.
This certificate replaces the former certificate IECEx SEV 15.0018 Issue 0

IECEX SEV 15.0018
2018-11-15
Issue No: 1
Page 4 of 4



IECEX Certificate of Conformity

Certificate No:
Date of Issue:
EQUIPMENT:
Equipment and systems covered by this certificate are as follows:
The cable gland type Progress ***KB EX made of brass or steel for installation of cables in equipment with type of protection increased safety "eb" and protection by enclosure "tb". Installation takes place into the enclosure with threaded holes and through holes. The cable gland consists essentially of the compression nut, intermediate support and seal insert. The strain relief takes place by the use of seal insert or by an additional strain relief device.
Accessories are reductions, extensions, blanking elements and counter nuts.

IECEX SEV 15.0018
2018-11-15
Issue No: 1
Page 3 of 4

Type References:

Progress MS *** KB EX (M16...M63; Pg9...Pg48; NPT3/8" ...NPT2")

Progress S2 *** KB EX (M12...M63; Pg7...Pg48; NPT1/4" ...NPT2")

Progress S4 *** KB EX (M12...M63; Pg7...Pg48; NPT1/4" ...NPT2")

Thread adapters (Reductions, Extensions) MS EX (M16...M63; Pg9...Pg48)

Thread adapters (Reductions, Extensions) S2 EX (M12...M63; Pg7...Pg48)

Blanking elements MS EX, S2 EX, S4 EX (M6...M63; Pg7...Pg48)

Counter nuts MS EX, S2 EX, S4 EX (M6...M63; Pg7...Pg48)

Progress MS EHV easyCONNECT KB EX

Progress NI with clamping jaws, M16...M63; Pg9...Pg48; NPT3/8" ...NPT2")

Progress S2 EHV easyCONNECT KB EX

Progress S4 EHV easyCONNECT KB EX

(stainless steel A2 with clamping jaws, M12...M63; Pg7...Pg48; NPT1/4" ...NPT2")

Progress S4 EHV easyCONNECT KB EX

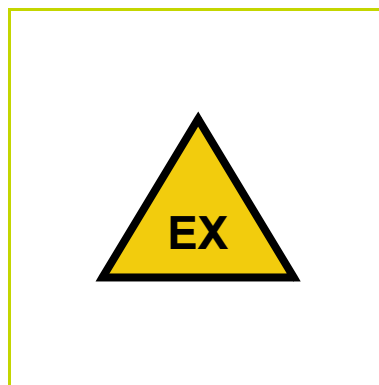
(stainless steel A4 with clamping jaws, M12...M63; Pg7...Pg48; NPT1/4" ...NPT2")

SPECIFIC CONDITIONS OF USE: NO

EX CERTIFICATE – IECEx

vibro-meter®

**IECEx SEV 15.0019X
for
cable fittings (stuffing glands)**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference IECEx SEV 15.0019X
Edition 4 – January 2022

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IECEx Certificate of Conformity

Certificate No.: IECEx SEV 15.0019X

Date of Issue: 2020-12-03

Page 2 of 4
Issue No: 4

Manufacturer: AGRO AG
Korbackenweg 7
5502 Hunzenschwil
Switzerland

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS:
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011
Edition:6.0

Explosive atmospheres - Part 0: General requirements

IEC 60079-31:2013
Edition:2

Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

IEC 60079-7:2015
Edition:5.0

Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report: CH/SEV/EXTR15.0021/04

Quality Assessment Report: CH/SEV/QAR12.0001/06



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx SEV 15.0019X

Status: Current

Date of Issue: 2020-12-03

Applicant: AGRO AG
Korbackenweg 7
5502 Hunzenschwil
Switzerland

Equipment: Cable glands and accessories, Type: Progress *** ***** EX

Optional accessory: Thread adapters; Counter nuts; Blanking bolts

Type of Protection: eb, tb

Marking: Ex eb IIC Gb
Ex tb III C Db

Certificate history:
Issue 3 (2018-12-18)
Issue 2 (2018-10-01)
Issue 1 (2018-07-16)
Issue 0 (2016-01-13)

Page 1 of 4
Issue No: 4

Approved for issue on behalf of the IECEx
Certification Body:

Position: Martin Plüss
Manager Product Certification

Signature: (for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.

2. This certificate is the property of the IECEx and must be returned to the Issuing body.

3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:
Eurofins Electric & Electronic Product Testing AG
Luppenstrasse 3
CH-8320 Fehraltorf
Switzerland



Document reference IECEx SEV 15.0019X
Edition 4 - January 2022

EX CERTIFICATE – IECEx
IECEx SEV 15.0019X for cable fittings (stuffing glands)

3 / 4



IECEx Certificate of Conformity

Certificate No.:	IECEX SEV 15.0019X	Page 4 of 4
Date of issue:	2020-12-03	Issue No: 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
New types of cable glands Progress made in stainless steel were added



IECEx Certificate of Conformity

Certificate No.:	IECEX SEV 15.0019X	Page 3 of 4
Date of issue:	2020-12-03	Issue No: 4

EQUIPMENT:

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The cable gland type Progress *** EX made of brass steel or reinforced plastics for installation of cables in equipment with type of protection increased safety "eb" and protection by enclosure "tb". Installation takes place into the enclosure with threaded holes and through holes. The cable gland consists essentially of the compression nut, intermediate support and seal insert. The strain relief takes place by the use of seal insert or by an additional strain relief device.

Accessories are reductions, extensions, blanking elements and counter nut and blanking bolts.

Type

Progress MS **** KB EX (M12; Pg7; NPT1/4")
 Progress MS **** EX (M8...M12; Pg7; NPT1/8"...NPT1/4")
 Progress S2 **** EX (M8...M10; NPT1/8")
 Progress S4 **** EX (M8...M10; NPT1/8")
 Progress MS **** EX (M16...M63; Pg9...Pg48; NPT3/8"...NPT7/2")
 Progress S2 **** EX (M12...M63; Pg7...Pg48; NPT1/4"...NPT7/2")
 Progress S4 **** EX (M12...M63; Pg9...Pg48; NPT1/4"...NPT7/2")
 Progress GFK**** EX (M16...M63; Pg9...Pg48)

Thread adapters (Reductions, Extensions) MS EX (M8...M12; Pg7)

Thread adapters (Reductions, Extensions) S2 EX (M8...M10)

Thread adapters (Reductions, Extensions) S4 EX (M8...M10)

Additional the following customer variants are included:

EX1000.12.91.900;
EX1100.12.91.900;

EX1700.12.86.901.91;
EX1700.12.86.903.91;
EX1740.10.00.004.04;

EX1710.17.86.900.91;
EX1710.12.86.900.91;
EX1710.12.86.900.91;

Progress MS FK EX, A2 FK EX, A4 FK EX, article number. EX130*75.*620.140

Progress MS EMV easyCONNECT KB EX
(brass Ni with clamping jaws, M12; Pg7; NPT1/4")

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Only permanently installed cable may be inserted into an enclosure. The user must provide a suitable strain relief. (not valid for Progress MS ***** KB EX (M12; PG7; NPT1/4")
- The types with a low impact energy must be installed on the enclosure in such way, that they are protected mechanically from impact energy according to EN 60079-0 clause 28.4.2.

APPENDIX E: KGS CERTIFICATIONS

Table E-1: Related KGS certificates

Product(s) covered	Certificate number
CE28x	KGS 17-GA4BO-0322X
CE311	KGS 20-GA4BO-0464X
CE31x	KGS 17-GA4BO-0324X
GSI127	KGS 17-GA4BO-0325X

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KGS certificate:

K0

17-GA4B0-0322X

for

CE28x



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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인 증 조 건

1. 제조공장
Route de Moncor 4, 1752 Villars-sur-Glane, Switzerland에서 제조하는 제품에 한함

2. 제품개요
Piezoelectric Accelerometers are used for vibration monitoring.
The sensor converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal, that is processed externally. When a conversion module is integrated, the sensor signal is converted into a modulated current output signal.

3. 인증범위
-첨부 인증조건 참조

4. 안전한 사용을 위한 조건
- The instructions provided with the product shall be followed in detail to assure safe operation.

5. 인증(변경)사항
IECEX DEK 15.0029 Issue No.0 에 의해 작성되었음

6. 그 밖의 사항
안전인증품의 품질관리, 확인검사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수



안 전 인 증 서

MEGGITT SA

Route de Moncor 4, 1752 Villars-sur-Glane, Switzerland

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목
Piezoelectric Accelerometer
형식 · 모델 / 용량 · 등급 / 인증번호

형식·모델	용량 · 등급	인증번호
444-28*-000-***	U=28V, I=100mA, P=0.7W, L=0mH, C=0nF Ex Ia IIC T6...T3	17-GA4B0-0322X

인 증 기 준
방호장치 안전인증 고서(고용노동부고시 제2016-54호)
인 증 조 건
뒷면 참조

2017 년 04 월 28 일



한국가스안전공사 사장





인 준 조 건(17-0322)

1. Ambient temperature

Ambient temperature range, depending on type and application:

- Type 144-28-000...
Sensor only: -60 °C to +260 °C
- Type 444-28-000...2 to 444-28-000...9
Conditioner: -55 °C to +125 °C
Sensor and Cable: -55 °C to +260 °C
- Type 444-31-000...2 to 444-31-000...9
Sensor and Integral
Conditioner: -55 °C to +125 °C

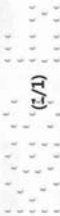
The relation between maximum ambient temperature and temperature class is as follows for all devices, taking into account the above mentioned temperature ranges:

Type	T6	T5	T4	T3	T2
444-28-000...2 to 444-28-000...9 Conditioner	+65 °C	+80 °C	+115 °C	+125 °C	-
444-31-000...2 to 444-31-000...9	+65 °C	+80 °C	+115 °C	+125 °C	-
144-28-000...	+80 °C	+95 °C	+130 °C	+195 °C	+260 °C

2. Electrical data

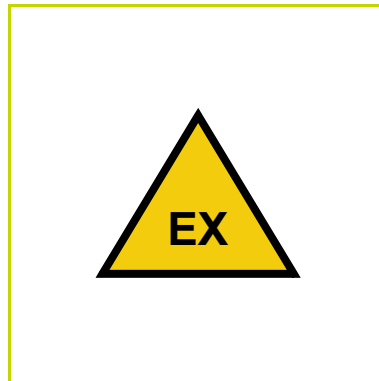
Supply and output signal:
in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:

Type	U _i	I _i	P _i	L _i	C _i sensor	C _i cable
444-28-000...2 to 444-28-000...9	28 V	100 mA	0.7 W	0 mH	0 nF	-
444-31-000...2 to 444-31-000...9	28 V	100 mA	0.7 W	0 mH	0 nF	0.25 nF/m
144-28-000...	28 V	100 mA	0.7 W	0 mH	8 nF	0.25 nF/m



EX CERTIFICATE – KGS

KGS 20-GA4B0-0464X
for
CE311 piezoelectric accelerometer



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference KGS 20-GA4B0-0464X
Edition 1 – August 2020

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안전 인증서

MEGGITT SA

Route de Moncor 4 1752 Villars-sur-Glane SWITZERLAND

제20-0464호

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품목

Accelerometer with integrated electronic

형식·모델 / 용량·등급 / 인증번호

형식·모델	용량·등급	인증번호
CE 311	Vmax=28VDC, Imax=100mA, Pmax=700mW Ex tD A21 IP66	20-GA4BO-0464X

인증기준

방호장치 안전인증 고시(고용노동부고시 제2020-33호)

인증조건

Tamb : -55 ℃ ~ +125 ℃, 뒷면 인증조건 참조

2020 년 07 월 29 일



한국가스안전공사 시장인



한국가스안전공사



인증조건

1. 제조공장:

*Route de Moncor 4/POBox 1616/CH-1701 Fribourg/Switzerland, MEGGITT S.A*에서 제조하는 아래의 제품에 한함

2. 제품개요

본 제품의 케이بل 및 Sensor Head 부분이 일체형으로 제작되었으며, 폭발성 분진, 공기 혼합물 또는 분진 층이 존재하거나 존재할 우려가 있는 장소 또는 그 밖의 위험지역을 대상으로 하는 GROUP A에 속하며 21종 위험장소 및 22종 위험장소에서 사용됨.

3. 인증범위:

본 인증서에 기재된 형식·모델·용량·등급 란에 표시된 제품에 한하여 유효함.

4. 안전한 사용을 위한 조건

가. 사용 주위온도 :

T85℃ with -55℃≤Tamb≤ +65℃

T100℃ with -55℃≤Tamb≤+80℃

T135℃ with -55℃≤Tamb≤+115℃

T200℃ with -55℃≤Tamb≤+125℃

나. 설치 시 사용 설명서를 참조할 것

다. 위험지역에서 접속 될 경우, 해당 접속은 IEC 60079-14에 근거하여 설치할 것("X"조건)

5. 인증(변경)사항

6. 그 밖의 사항

안전인증제품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수



Safety Certificate

No. 2020-0464

* Manufacturer MEGGITT S.A
 * Address Route de Moncor 4/PO Box 1616/CH-1701
 Fribourg/Switzerland

The following product fabricated by the above manufacturer has been certified for the use of the Safety Certification Mark as the product was assessed and tested in accordance with the article 84 of the Occupational Safety & Health Act and the article 108-1 of the Enforcement Rule thereof.

* Product	Accelerometer with integrated electronic
* Type (Model)	CE 311
* Rating	Vmax=28VDC, Imax=100mA, Pmax=700mW
* Type of Protection	Ex tD A21 IP66 T85°C...T200°C
* Certification No.	20-GA4BO-0464X
* Safety Certification Standards	Notification of Protective Device Mandatory Safety Certification (Notice of Ministry of Employment and of Labor No. 2020-33)
* Certification Condition	1. Tamb = -55°C ~ 125°C 2. Refer to the manual before installation and operation 3. Connection part will be installed based on IEC60079-14 if mounted in hazardous area
* Date of Issue	July 29th, 2020

Approved for issue on behalf of the president : Weon-Don, Joo
 Position : General Manager

Signature



**KOREA GAS SAFETY
CORPORATION**



KGS certificate:

K0

17-GA4B0-0324X

for

CE31x



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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인 증 조 건

1. 제조공장

Route de Moncor 4, 1752 Villars-sur-Glane, Switzerland에서 제조하는 제품에 한함

2. 제품개요

Piezoelectric Accelerometers are used for vibration monitoring.
The sensor converts mechanical forces (e.g. vibrations) of the equipment to which it is mounted into an electrical signal, that is processed externally. When a conversion module is integrated, the sensor signal is converted into a modulated current output signal.

3. 인증범위

-첨부 인증조건 참조

4. 안전한 사용을 위한 조건

- The instructions provided with the product shall be followed in detail to assure safe operation.

5. 인증(변경)사항

IECEx DEK 15.0029 Issue No.0 에 의해 작성되었음

6. 그 밖의 사항

안전인증품의 품질관리, 확인검사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수



안전 인증서

MEGGITT SA

Route de Moncor 4, 1752 Villars-sur-Glane, Switzerland

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품목
Piezoelectric Accelerometer
형식·모델 / 용량·등급 / 인증번호

형식·모델	용량·등급	인증번호
444-31*-000-***	$U_i=28V, I_i=100mA, P_i=0.7W,$ $L_i=0mH, C_i=0nF$ Ex Ia IIC T6...T3	17-GA4B0-0324X

인 증 기 준

방호장치 안전인증 고시(고용노동부고시 제2016-54호)

인 증 조 건

뒷면 참조

2017 년 04 월 28 일



한국가스안전공사 사장





인 중 조 건(17-0324)

1. Ambient temperature

Ambient temperature range, depending on type and application:

- Type 144-28-000...
Sensor only: -60 °C to +260 °C
- Type 444-28-000...2 to 444-28-000...9
Conditioner: -55 °C to +125 °C
- Sensor and Cable: -55 °C to +260 °C
- Type 444-31-000...2 to 444-31-000...9
Sensor and Integral
Conditioner: -55 °C to +125 °C

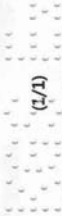
The relation between maximum ambient temperature and temperature class is as follows for all devices, taking into account the above mentioned temperature ranges:

Type	T6	T5	T4	T3	T2
444-28-000...2 444-28-000...9 Conditioner 444-31-000...2 to 444-31-000...9 144-28-000...	+65 °C	+80 °C	+115 °C	+125 °C	-
	+65 °C	+80 °C	+115 °C	+125 °C	-
	+80 °C	+95 °C	+130 °C	+195 °C	+260 °C

2. Electrical data

Supply and output signal:
in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with
following maximum values:

Type	U _i	I _a	P _i	L _i	C _i sensor	C _i cable
444-28-000...2 to 444-28-000...9	28 V	100 mA	0.7 W	0 mH	0 nF	-
444-31-000...2 to 444-31-000...9	28 V	100 mA	0.7 W	0 mH	0 nF	0.25 nF/m
144-28-000...	28 V	100 mA	0.7 W	0 mH	8 nF	0.25 nF/m





KGS certificate:

17-GA4B0-0325X

for

GSI127

K0



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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안전 인증서

MEGGITT SA

Route de Moncor 4, 1752 Villars-sur-Glâne, Switzerland

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품목
GSI 127 Interface
형식·모델 / 용량·등급 / 인증번호

형식·모델	용량·등급	인증번호
244-127-000-***-A2-B*	Uo=25.2V, Io=60mA, Po=0.7W, Co=95nF, Lo=5mH Ex nA[ia] IIC T4	17-GA4B0-0325X

인증기준
방호장치 안전인증 고시(고용노동부고시 제2016-54호)
인증조건
뒷면 참조

2017년 04월 28일

한국가스안전공사 사장



인증조건

1. 제조공장
Route de Moncor 4, 1752 Villars-sur-Glâne, Switzerland에서 제조하는 제품에 한함
2. 제품개요
The GSI 127 interface provides galvanic insulation between power supply circuit or signal treatment circuit (Ex nA) and a sensor or a conditioner (Ex ia).
The equipment consists of electronic board and screwed terminals blocks mounted inside a plastic enclosure. Conformal coating is applied on both sides of the electronic board.
3. 인증범위
-첨부 인증조건 참조
4. 안전한 사용을 위한 조건
- The equipment shall only be connected to associated intrinsically safe certified equipment or simple apparatus.
- This combination must be compatible as regard the intrinsic safety rules.
- The apparatus shall be installed in an enclosure conform to the requirements of standard IEC 60079-0 and with ingress protection of at least IP54.
- Operation ambient temperature: -40°C to +70°C.
5. 인증(변경)사항
IECEx LCIE 13.0026X Issue No.1 에 의해 작성되었음

6. 그 밖의 사항
- 안전인증품의 품질관리, 확인검사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수
- 첨부 인증조건에 따라 확인시험을 실시할 것

인 중 조 건(17-0325)

Type designation:
244-127-000-XXX-A2-BYY
XXX defines the version of the product (X = 0 to 9).
YY defines the transfer mode (YY = 01 to 19 for actual specification; YY = 20 to 39 for alternate specification).

In order to differentiate the two specifications, the type of product is modified as follows:

- Actual specification: 244-127-000-XXX-A2-B01 to B19
- Alternate specification: 244-127-000-XXX-A2-B20 to B39

The difference between these specifications is only on electronic component values without modification of critical components part list and printed circuit board.

User manual (extract), ref. PZ 8763 rev. 00 dated 2016-09-06.

MARKING

MEGGITT SA or VIBRO-METER or MFR S3960
Address: ...
Type: 244-127-000-XXX-A2-BYY
Serial number: ...
Year of construction: ...
Factory (code) 110202X
IECEx: IECEx 110202X
Power supply: U ≤ 30 V, I ≤ 150 mA
Sensor or conditioner:
For 244-127-000-XXX-A2-B01 to B19: U_i: 25.2 V; I_i: 60 mA; P_i: 0.7 W; C_i: 95 nF; L_i: 5 mH
For 244-127-000-XXX-A2-B20 to B39: U_i: 25.2 V; I_i: 45 mA; P_i: 0.5 W; C_i: 95 nF; L_i: 10 mH

RATINGS

Power supply: U ≤ 30 V, I ≤ 150 mA
Sensor or conditioner:
- For 244-127-000-XXX-A2-B01 to B19: U_i: 25.2 V; I_i: 60 mA; P_i: 0.7 W; C_i: 95 nF; L_i: 5 mH
- For 244-127-000-XXX-A2-B20 to B39: U_i: 25.2 V; I_i: 45 mA; P_i: 0.5 W; C_i: 95 nF; L_i: 10 mH

ROUTINE TEST

Each transformer T1 shall be submitted to dielectric strength test under test voltage of 1500 V, 50/60 Hz applied between the primary winding and the secondary windings during at least 60 s in accordance with clause 11.2 of IEC 60079-11:2011 Ed. 6 standard.

APPENDIX F: UK CERTIFICATIONS

Table F-1: Related UK certificates

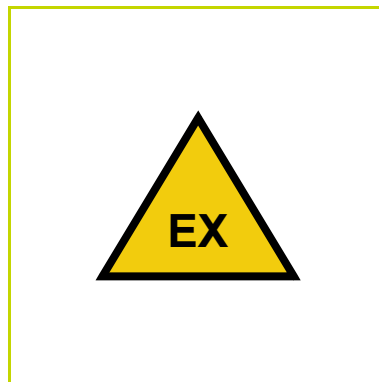
Product(s) covered	Certificate number
CE134	CML 21 UKEX 2540 X
	CML 21 UKEX 4541 X
GSI127	CML 21 UKEX 4542 X

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EX CERTIFICATE – UK

vibro-meter®

CML 21 UKEX 2540 X
for
CE134 piezoelectric accelerometer



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference CML 21 UKEX 2540 X
Edition 1 – September 2021

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UK Type Examination Certificate CML 21UKEX2540X Issue 0

United Kingdom Conformity Assessment

- Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- Equipment **Accelerometer CE 134**
- Manufacturer **Meggitt SA**
- Address **Route de Moncor 4,
1752 Villars-sur-Glane,
Switzerland**
- The equipment is specified in the description of this certificate and the documents to which it refers.
- Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

- The examination and test results are recorded in the confidential reports listed in Section 12.
- If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.
- This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:
EN IEC 60079-0:2018 EN 60079-11:2012
- The equipment shall be marked with the following:
 Refer to attached certificate LCIE 02 ATEX 6089 X, Issue 07 for specific marking of explosion protection symbols.
Refer to attached certificate LCIE 02 ATEX 6089 X, Issue 07 for marked code and ambient temperature range.

1 of 2

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L. A. Brisk
Certification Officer



CML 21UKEX2540X
Issue 0

- Description**
For product description refer to attached certificate LCIE 02 ATEX 6089 X, Issue 07.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	05 Aug 2021	R14182A/00	Issue of the prime certificate, LCIE 02 ATEX 6089 X, Issue 07 is attached and shall be referred to in conjunction with this certificate.

Note: Drawings that describe the equipment are listed in the Annex.

13 Conditions of Manufacture

For conditions of manufacture, refer to attached certificate LCIE 02 ATEX 6089 X, Issue 07.
Any routine tests/verifications required by the ATEX certification shall be conducted.

14 Specific Conditions of Use

For specific conditions of use, refer to attached certificate LCIE 02 ATEX 6089 X, Issue 07.

2 of 2

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Version: 4.0 Approval: Approved



L C I E

- 1 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE**
- 2 Appareil ou système de protection destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)**
- 3 Numéro de l'avenant :
LCIE 02 ATEX 6089 X / 07**
- 4 Appareil ou système de protection : Accéléromètre CE 134**
Type : PNR 444-134-000-YY1 à YY9
- 5 Demandeur : Meggitt SA**
- 15 DESCRIPTION DE L'AVENANT**
- Modification des types pour le design électronique initial Ex Ib, les types deviennent: PNR 444-134-000-YY1 à YY4.
 - Nouvelle conception de l'électronique du conditionneur en Ex Ia, nouveaux types : PNR 444-134-000-YY5 à YY9
- Les résultats des vérifications et essais figurent dans le rapport confidentiel N°129425-680046
- Paramètres spécifiques du ou des modes de protection concernés(s):
PNR 444-134-000-YY1 à YY4 : U_i: 28V; I_i: 100mA; P_i: 2W;
C_i: 15nF; L_i: 0.5mH
PNR 444-134-000-YY5 à YY9: U_i: 28V; P_i: 700mW;
C_i: 0; L_i: 0
- Le marquage doit être:
VIBRO-METER ou MEGGITT SA ou MFR S3960
- Adresse:
Type: PNR 444-134-000-YY1 à YY9
Numéro de série: ...
Année de fabrication: ...
Types PNR 444-134-000-YY1 à YY4
- II 2 G
Ex Ib IIC T6...T1 Gb (voir conditions spéciales)
U_i: 28V; I_i: 100mA; P_i: 2W; C_i: 15nF; L_i: 0.5mH
Types PNR 444-134-000-YY5 à YY9
- II 1 G
Ex Ia IIC T6...T1 Ga (voir conditions spéciales)
U_i: 28V; P_i: 700mW; C_i: 0; L_i: 0
LCIE 02 ATEX 6089 X
- 16 DOCUMENTS DESCRIPTIFS**
Dossier de certification n° DT 1002, Rev. 03 du 17-11-2014.
Ce document comprend 13 rubriques (22 pages).
- Fontenay-aux-Roses, 8 décembre 2014



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LCIE
Laboratoire Central
des Industries Electriques
Une société de Bureau Veritas

35, av du Général Leclerc
BP 8
92266 Fontenay-aux-Roses cedex
France

Tél : +33 1 40 95 61 60
Fax : +33 1 40 95 66 56
contact@lcie.fr
www.lcie.fr

Société par Actions Simplifiée
au capital de 15 745 904 €
RCS Nanterre B 468 363 174

10-07



L C I E

- 13 ANNEXE**
- 14 AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE**
- LCIE 02 ATEX 6089 X / 07**
- 17 CONDITIONS SPECIALES POUR UNE UTILISATION SURE**
- L'équipement doit être connecté uniquement à des équipements de sécurité intrinsèque certifiés. Ces combinaisons doivent être compatibles avec les règles de sécurité intrinsèque (voir paramètres électriques, paragraphe 15).
 - Plages de températures de fonctionnement (To):
Capteur : -70°C ≤ To ≤ +350°C
Câble : -54°C ≤ To ≤ +260°C
 - Conditionneur :
PNR 444-134-000-YY1 à YY4 : -54°C ≤ To ≤ +100°C
PNR 444-134-000-YY5 à YY9 : -54°C ≤ To ≤ +125°C
 - Classement en température en fonction des températures de fonctionnement du conditionneur, du câble et du capteur, voir tableau ci-dessous :
- | | T6 | T5 | T4 | T3 | T2 | T1 |
|------------------------------|--------|--------|---------|---------|---------|---------|
| Capteur / sensor | + 80°C | + 95°C | + 130°C | + 195°C | + 260°C | + 350°C |
| Câble / cable | + 80°C | + 95°C | + 130°C | + 195°C | + 260°C | -- |
| Conditionneur / conditioner | + 60°C | + 80°C | + 100°C | -- | -- | -- |
| PNR 444-134-000-YY1 à/to YY4 | + 45°C | + 60°C | + 95°C | + 125°C | -- | -- |
| Conditionneur / conditioner | | | | | | |
| PNR 444-134-000-YY5 à/to YY9 | | | | | | |
- 18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
- Couvertes par les normes EN 60079-0:2012/A11 :2013 et EN 60079-11:2012
- 19 VERIFICATIONS ET ESSAIS INDIVIDUELS**
- Néant
- 18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS**
- Covered by standards EN 60079-0:2012/A11:2013 and EN 60079-11:2012
- 19 ROUTINE VERIFICATIONS AND TESTS**
- None

16 DESCRIPTIVE DOCUMENTS
Certification file n° DT 1002, Rev. 03 dated 2014-11-17
This file includes 13 items (22 pages).

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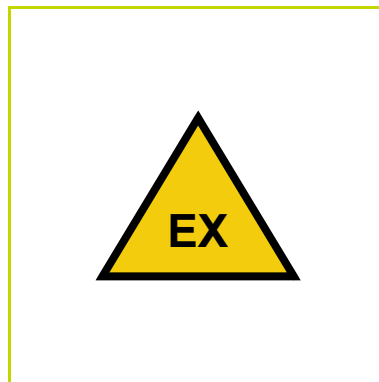
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10-07

EX CERTIFICATE – UK

vibro-meter®

CML 21 UKEX 4541 X
for
CE134 piezoelectric accelerometer



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference CML 21 UKEX 4541 X
Edition 1 – September 2021

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Type Examination Certificate CML 21UKEX4541X Issue 0

United Kingdom Conformity Assessment

- Product or Protective System Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended)
- Equipment **Accelerometer CE134**
- Manufacturer **Meggitt SA**
- Address **Route de Moncor 4,
1752 Villars-sur-Glane,
Switzerland**

- The equipment is specified in the description of this certificate and the documents to which it refers.

- Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

- The examination and test results are recorded in the confidential reports listed in Section 12.

- If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.

- This Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.

- Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-15:2010

- The equipment shall be marked with the following:

 Refer to attached certificate LCIE 09 ATEX 1038 X, Issue 04 for specific marking of explosion protection symbols.
Refer to attached certificate LCIE 09 ATEX 1308 X, Issue 04 for marked code and ambient temperature range.

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1 of 2


L. A. Brisk
Certification Officer



CML 21UKEX4541X
Issue 0

11 Description

For product description refer to attached certificate LCIE 09 ATEX 1308 X, Issue 04.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	05 Aug 2021	R14182B/00	Issue of the prime certificate. LCIE 09 ATEX 1038 X, Issue 04 is attached and shall be referred to in conjunction with this certificate.

Note: Drawings that describe the equipment are listed in the Annex.

13 Conditions of Manufacture

For conditions of manufacture, refer to attached certificate LCIE 09 ATEX 1038 X, Issue 04.
Any routine tests/verifications required by the ATEX certification shall be conducted.

14 Specific Conditions of Use

For specific conditions of use, refer to attached certificate LCIE 09 ATEX 1038 X, Issue 04.

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Version: 4.0 Approval: Approved



L C I E

- 1 **AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE**
- 2 Appareil destiné à être utilisé en atmosphères explosibles (Directive 94/9/CE)
- 3 Numéro de l'avenant :
LCIE 09 ATEX 1038 X / 04
- 4 Appareil : Accéléromètre CE 134
Type : PNR 444-134-000-YY1 à YY9
Demandeur : Meggitt SA
- 15 **DESCRIPTION DE L'AVENANT**
Introduction d'une nouvelle conception de l'électronique dans les nouveaux types : PNR 444-134-000-YY5 à YY9
Les résultats des vérifications et essais figurent dans le rapport confidentiel N°129425-660046
Paramètres spécifiques du ou des modes de protection concernés(s) :
PNR 444-134-000-YY1 à YY4 : U ≤ 30V, I ≤ 130mA, P ≤ 800mW
PNR 444-134-000-YY5 à YY9 : U ≤ 28 V, P ≤ 224mW
Le marquage doit être :
VIBRO-METER ou MEGGITT SA ou MFR S3960
Adresse : ...
Type : PNR 444-134-000-YY1 à YY9
Numéro de série : ...
Année de fabrication : ...
© ILS G
Ex 1A IIC T6, T1 Gc (voir conditions spéciales)
LCIE 09 ATEX 1038 X
- 16 **DOCUMENTS DESCRIPTIFS**
Dossier de certification n° DT 1038, Rev.01 du 02-05-2014.
Ce document comprend 5 rubriques (9 pages).
Fontenay-aux-Roses, le 8 décembre 2014
- 17 **DESCRIPTION DE L'AVENANT**
Introduction d'une nouvelle conception de l'électronique dans les nouveaux types : PNR 444-134-000-YY5 à YY9
Les résultats des vérifications et essais figurent dans le rapport confidentiel N°129425-660046
Paramètres spécifiques du ou des modes de protection concernés(s) :
PNR 444-134-000-YY1 à YY4 : U ≤ 30V, I ≤ 130mA, P ≤ 800mW
PNR 444-134-000-YY5 à YY9 : U ≤ 28 V, P ≤ 224mW
Le marquage doit être :
VIBRO-METER ou MEGGITT SA ou MFR S3960
Adresse : ...
Type : PNR 444-134-000-YY1 à YY9
Numéro de série : ...
Année de fabrication : ...
© ILS G
Ex 1A IIC T6, T1 Gc (voir conditions spéciales)
LCIE 09 ATEX 1038 X
- 18 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
Couvertes par les normes EN 60079-0-2012/A11:2013 et EN 60079-15:2010
- 19 **VERIFICATIONS ET ESSAIS INDIVIDUELS**
Chaque produit devra être soumis à une épreuve de rigidité diélectrique de 500VAC pendant une minute, comme définie dans le paragraphe §6.5 de la norme EN60079-15:2010, appliqué entre les connexions d'entrée et les parties métalliques externes.
Comme alternative l'essai peut être réalisé à 600VAC pendant au moins 100ms.
- 20 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
Couvertes par les normes EN 60079-0-2012/A11:2013 et EN 60079-15:2010
- 21 **VERIFICATIONS ET ESSAIS INDIVIDUELS**
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Comme alternative l'essai peut être réalisé à 600VAC pendant au moins 100ms.



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- 13 **ANNEXE**
- 14 **AVENANT D'ATTESTATION D'EXAMEN DE TYPE VOLONTAIRE**
LCIE 09 ATEX 1038 X / 04
- 15 **DESCRIPTION DE L'AVENANT**
Introduction d'une nouvelle conception de l'électronique dans les nouveaux types : PNR 444-134-000-YY5 à YY9
Les résultats des vérifications et essais figurent dans le rapport confidentiel N°129425-660046
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PNR 444-134-000-YY5 à YY9 : U ≤ 28 V, P ≤ 224mW
Le marquage doit être :
VIBRO-METER ou MEGGITT SA ou MFR S3960
Adresse : ...
Type : PNR 444-134-000-YY1 à YY9
Numéro de série : ...
Année de fabrication : ...
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LCIE 09 ATEX 1038 X
- 16 **DOCUMENTS DESCRIPTIFS**
Dossier de certification n° DT 1038, Rev.01 du 02-05-2014.
Ce document comprend 5 rubriques (9 pages).
Fontenay-aux-Roses, le 8 décembre 2014
- 17 **CONDITIONS SPECIALES POUR UNE UTILISATION SURE**
L'installation électrique doit fournir une protection contre les transitoires de tensions supérieures à 119V.
Le risque de charge électrostatique, le câble doit être protégé contre ce risque par l'installation ou par un avertissement sur l'installation finale.
Plages de température de fonctionnement (To) :
Capteur : -70°C ≤ To ≤ +350°C
Câble : -54°C ≤ To ≤ +260°C
Conditionneur :
PNR 444-134-000-YY1 à YY4 : -54°C ≤ To ≤ +100°C
PNR 444-134-000-YY5 à YY9 : -54°C ≤ To ≤ +125°C
Classement en température en fonction des températures de fonctionnement du conditionneur, du câble et du capteur, voir tableau ci-dessous :
- 18 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
Couvertes par les normes EN 60079-0-2012/A11:2013 et EN 60079-15:2010
- 19 **VERIFICATIONS ET ESSAIS INDIVIDUELS**
Chaque produit devra être soumis à une épreuve de rigidité diélectrique de 500VAC pendant une minute, comme définie dans le paragraphe §6.5 de la norme EN60079-15:2010, appliqué entre les connexions d'entrée et les parties métalliques externes.
Comme alternative l'essai peut être réalisé à 600VAC pendant au moins 100ms.
- 20 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
Couvertes par les normes EN 60079-0-2012/A11:2013 et EN 60079-15:2010
- 21 **VERIFICATIONS ET ESSAIS INDIVIDUELS**
Chaque produit devra être soumis à une épreuve de rigidité diélectrique de 500VAC pendant une minute, comme définie dans le paragraphe §6.5 de la norme EN60079-15:2010, appliqué entre les connexions d'entrée et les parties métalliques externes.
Comme alternative l'essai peut être réalisé à 600VAC pendant au moins 100ms.

- 17 **CONDITIONS SPECIALES POUR UNE UTILISATION SURE**
L'installation électrique doit fournir une protection contre les transitoires de tensions supérieures à 119V.
Le risque de charge électrostatique, le câble doit être protégé contre ce risque par l'installation ou par un avertissement sur l'installation finale.
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Conditionneur :
PNR 444-134-000-YY1 à YY4 : -54°C ≤ To ≤ +100°C
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Couvertes par les normes EN 60079-0-2012/A11:2013 et EN 60079-15:2010
- 19 **VERIFICATIONS ET ESSAIS INDIVIDUELS**
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Comme alternative l'essai peut être réalisé à 600VAC pendant au moins 100ms.
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Couvertes par les normes EN 60079-0-2012/A11:2013 et EN 60079-15:2010
- 21 **VERIFICATIONS ET ESSAIS INDIVIDUELS**
Chaque produit devra être soumis à une épreuve de rigidité diélectrique de 500VAC pendant une minute, comme définie dans le paragraphe §6.5 de la norme EN60079-15:2010, appliqué entre les connexions d'entrée et les parties métalliques externes.
Comme alternative l'essai peut être réalisé à 600VAC pendant au moins 100ms.

Partie / part	T6	T5	T4	T3	T2	T1
Capteur / sensor	+ 80°C	+ 95°C	+ 130°C	+ 195°C	+ 280°C	+ 350°C
Câble / cable	+ 80°C	+ 80°C	+ 130°C	+ 195°C	+ 280°C	--
Conditionneur / conditioner	+ 60°C	+ 80°C	+ 100°C	--	--	--
PNR 444-134-000-YY1 à YY4	--	--	--	--	--	--
Conditionneur / conditioner	+ 65°C	+ 80°C	+ 115°C	+ 125°C	--	--
PNR 444-134-000-YY5 à YY9	--	--	--	--	--	--

- 18 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
Couvertes par les normes EN 60079-0-2012/A11:2013 et EN 60079-15:2010
- 19 **VERIFICATIONS ET ESSAIS INDIVIDUELS**
Chaque produit devra être soumis à une épreuve de rigidité diélectrique de 500VAC pendant une minute, comme définie dans le paragraphe §6.5 de la norme EN60079-15:2010, appliqué entre les connexions d'entrée et les parties métalliques externes.
Comme alternative l'essai peut être réalisé à 600VAC pendant au moins 100ms.
- 20 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
Couvertes par les normes EN 60079-0-2012/A11:2013 et EN 60079-15:2010
- 21 **VERIFICATIONS ET ESSAIS INDIVIDUELS**
Chaque produit devra être soumis à une épreuve de rigidité diélectrique de 500VAC pendant une minute, comme définie dans le paragraphe §6.5 de la norme EN60079-15:2010, appliqué entre les connexions d'entrée et les parties métalliques externes.
Comme alternative l'essai peut être réalisé à 600VAC pendant au moins 100ms.

- 19 **ROUTINE VERIFICATIONS AND TESTS**
Each product shall be submitted to the dielectric strength test at 500VAC during one minute, as defined in the clause §6.5 of the standard EN60079-15:2010, applied between input connections and external metallic parts.
As an alternative the test can be done at 600VAC during at least 100 ms

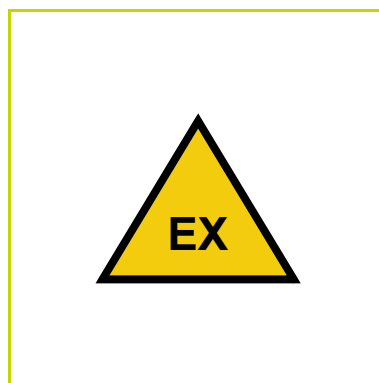
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Page 2 sur 2
03A-Avenant II_yp_app_av - rev3.DOC

EX CERTIFICATE – UK

vibro-meter®

CML 21 UKEX 4542 X
for
GSI127 galvanic separation unit



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference CML 21 UKEX 4542 X
Edition 1 – September 2021

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Type Examination Certificate CML 21UKEX4542X Issue 0

United Kingdom Conformity Assessment

- Product or Protective System Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended)
- Equipment GSI 127 interface
- Manufacturer Meggitt SA
- Address Route de Moncor 4,
1752 Villars-sur-Glane,
Switzerland

- The equipment is specified in the description of this certificate and the documents to which it refers.
- Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

- The examination and test results are recorded in the confidential reports listed in Section 12. If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.

- This Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.

- Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-15:2010

- The equipment shall be marked with the following:

 Refer to attached certificate LCIE 13 ATEX 3037 X, Issue 01 for specific marking of explosion protection symbols.
Refer to attached certificate LCIE 13 ATEX 3037 X, Issue 01 for marked code and ambient temperature range.

This certificate shall only be copied in its entirety and without change
www.CMLEx.com

1 of 2


L. A. Brisk
Certification Officer



CML 21UKEX4542X
Issue 0

11 Description

For product description refer to attached certificate LCIE 13 ATEX 3037 X, Issue 01.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	06 Aug 2021	R14182C/00	Issue of the prime certificate. LCIE 13 ATEX 3037 X, Issue 01 is attached and shall be referred to in conjunction with this certificate.

Note: Drawings that describe the equipment are listed in the Annex.

13 Conditions of Manufacture

For conditions of manufacture, refer to attached certificate LCIE 13 ATEX 3037 X, Issue 01.
Any routine tests/verifications required by the ATEX certification shall be conducted

14 Specific Conditions of Use

For specific conditions of use, refer to attached certificate LCIE 13 ATEX 3037 X, Issue 01.

This certificate shall only be copied in its entirety and without change
www.CMLEx.com

2 of 2

Version: 4.0 Approval: Approved



ATTESTATION D'EXAMEN UE DE TYPE

EU TYPE EXAMINATION CERTIFICATE



1 Version : 01	LCIE 13 ATEX 3037 X	Issue : 01
Directive 2014/34/UE Appareil ou Système de Protection destiné à être utilisé en Atmosphères Explosibles		
3 Produit : Interface GSI 127	Product : GSI 127 Interface	Directive 2014/34/UE Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
4 Fabricant : MEGGITT SA	Type: 244-127-000-XXX-A2-BYY Manufacturer : MEGGITT SA	
5 Adresse : Route de Menor 4 1752 Villars-sur-Glane SUISSE	Address : Route de Menor 4 1752 Villars-sur-Glane SUISSE	
6 Ce produit et ses variantes éventuelles acceptées sont décrits dans l'annexe de la présente attestation et dans les documents descriptifs cités en référence.		
7 Le LCIE, Organisme Notifié sous la référence 0081 conformément à l'article 17 de la directive 2014/34/UE du Parlement européen et du Conseil du 26 février 2014, certifie que ce produit est conforme aux Exigences Essentielles de Sécurité et de Santé pour la conception et la construction de produits destinés à être utilisés en atmosphères explosibles, données dans l'annexe II de la Directive. Les résultats des vérifications et essais figurent dans le(s) rapport(s) confidentiel(s) N° : 108046-614947; 141529-685013		
8 Le respect des Exigences Essentielles de Sécurité et de Santé est assuré par la conformité à : EN 60079-0:2012 + A11:2013 EN 60079-11:2012 EN 60079-15:2010		
9 Le signe « X » lorsqu'il est placé à la suite du numéro de l'attestation, indique que cet appareil est soumis aux conditions particulières d'utilisation, mentionnées dans l'annexe de cette attestation.		
10 Cette Attestation d'Examen UE de Type concerne uniquement la conception et la construction du produit spécifié. Des exigences supplémentaires de la directive sont applicables pour la fabrication et la fourniture du produit. Ces dernières ne sont pas couvertes par la présente attestation.		
11 Le marquage du produit est mentionné dans l'annexe de cette attestation.		

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CERT-ATEX-FORM 04 Rev. 02

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LCIE
Laboratoire Central des Industries Electriques
Une société de Bureau Veritas

33 Avenue du Général Leclerc
92260 Fontenay-aux-Roses
FRANCE

WWW.LCIE.FR

1 Version : 01

LCIE 13 ATEX 3037 X

Issue : 01

DESCRIPTION OF PRODUCT

The GSI 127 interface provides galvanic isolation between power supply circuit or signal treatment circuit (Ex nA) and a sensor or a conditioner (Ex ia).

The equipment consists of electronic board and screwed terminals blocks mounted inside a plastic enclosure. Conformal coating is applied on both sides of the electronic board.

RANGE DETAILS

244-127-000-XXX-A2-BYY

XXX defines the version of the product (X = 0 to 9).
YY defines the transfer mode (YY = 01 to 19 for actual specification; YY = 20 to 39 for alternate specification).

MARKING

The marking of the product shall include the following :

MEGGITT SA or VIBRO-METER or MFR S3960

Address : ...

Type: 244-127-000-XXX-A2-BYY

Serial number : ...

Year of construction : ...

⊗ II 3 (1) G

Ex nA [ia Ga] IIC T4 Gc

LCIE 13 ATEX 3037 X

Power supply : U ≤ 30 V; I ≤ 150 mA

Sensor or conditioner :

For 244-127-000-XXX-A2-B01 to B19:
U_i: 25.2 V; I_i: 60 mA; P_i: 0.7 W; C_i: 95 nF; L_i: 5 mH

For 244-127-000-XXX-A2-B20 to B39:
U_i: 25.2 V; I_i: 45 mA; P_i: 0.5 W; C_i: 95 nF; L_i: 10 mH

The equipment shall also bear the usual marking required by the product standards applying to such equipment under the manufacturer responsibility.

SPECIFIC CONDITIONS OF USE

The equipment shall only be connected to associated intrinsically safe certified equipment or simple apparatus. This combination must be compatible as regard the intrinsic safety rules.

The apparatus shall be installed in an enclosure conform to the requirements of standard EN 60079-0 and with ingress protection at least IP54.

Operating ambient temperature: -40°C to +70°C.

ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

Covered by standards listed at 8.

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CERT-ATEX-FORM 04 Rev. 02

Page 2 of 3

LCIE
Laboratoire Central des Industries Electriques
Une société de Bureau Veritas

33 Avenue du Général Leclerc
92260 Fontenay-aux-Roses
FRANCE

WWW.LCIE.FR

LCIE 13 ATEX 3037 X

DESCRIPTIVE DOCUMENTS

	Rev.
	01
	00

ADDITIONAL INFORMATIONS

Routine tests

Each transformer T1 shall be submitted to dielectric strength test under test voltage of 1500 V; 50/60 Hz applied between the primary winding and the secondary windings during at least 60 s in accordance with clause 11.2 of EN 60079-11:2012 standard.

Conditions of certification

holders of EU type examination certificates are also required to comply with the production control requirements defined in article 13 of Directive 2014/34/EU.

DETAILS OF CHANGES

Issue 00 : Conformity assessment according to (2013/05/31) EN 60079-0:2012, EN 60079-1:2012 and EN 60079-15:2010 standards.

Issue 01 :

- Normative update according to EN 60079-0:2012 + A11:2013 standard.
- New operating ambient temperature range: -40°C to +70°C.
- Update of type designation to differentiate two specifications.

- Normative update according to EN 60079-0:2012 + A11:2013
- New operating ambient temperature range: -40°C to +70°C.
- Update of type designation to different two specifications.

Page 2 of 2

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APPENDIX G: EAЭC RU CERTIFICATIONS

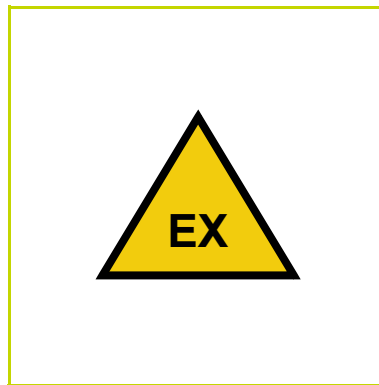
Table G-1: Related EAЭC RU certificates

Product(s) covered	Certificate number
ABA17x	EAЭC RU C-CH.AД07.B.02998/21
CE134, CE281 and CE620	EAЭC RU C-CH.AД07.B.03042/21
GSI127	EAЭC RU C-CH.AД07.B.03008/21

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EX CERTIFICATE – RU

EAЭC RU C-CH.AΔ07.B.02998/21
for
ABA17x industrial housings



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference EAЭC RU C-CH.AΔ07.B.02998/21
Edition 1 – March 2021

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ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ	
СЕРТИФИКАТ СООТВЕТСТВИЯ	
№ ЕАЭС RU C-CH.АД07.В.02998/21	
Серия RU № 0225696	
ОРГАН ПО СЕРТИФИКАЦИИ Орган по сертификации Общество с ограниченной ответственностью «Центр Сертификации «ВЕЛЕС». Место нахождения (адрес юридического лица): 195009, РОССИЯ, город Санкт-Петербург, улица Академика Лебедева, дом 12, корпус 2, литера А, этаж 2, комната 26, Адрес места осуществления деятельности: 190068, РОССИЯ, город Санкт-Петербург, переулок Никольский, дом 4 литер А, помещение 8Н. Уникальный номер записи об аккредитации в реестре аккредитованных лиц № RA.RU.10АД07 Дата решения об аккредитации: 24.03.2016. Телефон: +74952211810 Адрес электронной почты: info@velessert.ru	
ЗАЯВИТЕЛЬ ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "СОРТУМ" Место нахождения (адрес юридического лица) и адрес места осуществления деятельности: 101000, Россия, город Москва, переулок Милютинский, дом 10, строение 1, этаж 3, помещение VIII, комната 4, офис 4 Основной государственный регистрационный номер 1187746680538. Телефон: 74991101637 Адрес электронной почты: info@sortum.ru	
ИЗГОТОВИТЕЛЬ "MEGGITT S.A." Место нахождения (адрес юридического лица) и адрес места осуществления деятельности по изготовлению продукции: Швейцария. Route de Moncor 4, 1752 Villars-sur-Glane	
ПРОДУКЦИЯ Аппаратура распределительная: соединительные коробки, типа: АВА17х Маркировка взрывозащиты согласно приложению (бланки №№ 0765056, 0765057). Продукция изготовлена в соответствии с Директивой 2014/34/EU и технической документацией изготовителя для работы во взрывоопасных средах. Серийный выпуск	
КОД ТН ВЭД ЕАЭС 8538100000	
СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ Технического регламента Таможенного союза "О безопасности оборудования для работы во взрывоопасных средах" (ТР ТС 012/2011)	
СЕРТИФИКАТ СООТВЕТСТВИЯ ВЫДАН НА ОСНОВАНИИ Протокола испытаний № 2688ИЛПМВ от 11.02.2021 года, выданного Испытательным центром Общества с ограниченной ответственностью "ПРОММАШ ТЕСТ" (уникальный номер записи об аккредитации в реестре аккредитованных лиц RA.RU.21BC05) акта анализа состояния производства от 01.12.2020 года, выданного Органом по сертификации Общество с ограниченной ответственностью «Центр Сертификации «ВЕЛЕС» Руководства по эксплуатации, конструкторской документации. Схема сертификации: 1с	
ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Срок службы 30 лет. Срок хранения 10 лет. Стандарты, обеспечивающие соблюдение требований Технического регламента Таможенного союза ТР ТС 012/2011 "О безопасности оборудования для работы во взрывоопасных средах" согласно приложениям - бланки №№ 0765056, 0765057.	
СРОК ДЕЙСТВИЯ С 16.02.2021	ПО 15.02.2026
ВКЛЮЧИТЕЛЬНО	
Руководитель (уполномоченное лицо) органа по сертификации	Ролзвон Галина Александровна (Ф.И.О.)
Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы))	Щатило Андрей Алексеевич (Ф.И.О.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-CH.AD07.B.02998/21

Серия RU № 0765056

1. Назначение и область применения

Сертификат соответствия распространяется на соединительные коробки, типа АВА17х модели eSAM (далее по тексту – соединительные коробки), предназначенные для обеспечения защиты закрытого оборудования от проникновения твердых предметов и жидкостей, а также от повреждений в результате ударов.

Область применения – соединительные коробки являются Ех-компонентами и предназначены для применения в сборе с электрооборудованием предназначенным для установки во взрывоопасных зонах классов 1 и 2 по ГОСТ IEC 60079-10-1-2011 категорий взрывоопасных смесей IIA, IIB, IIC по ГОСТ Р МЭК 60079-20-1-2011, взрывоопасных зонах классов 21 и 22 по ГОСТ IEC 60079-10-2-2011, содержащих взрывоопасную пыль подгрупп IIA, IIB и IIC, согласно маркировкам взрывозащиты электрооборудования, ГОСТ IEC 60079-14-2011 и другим нормативным документам, регламентирующим применение электрооборудования в потенциально взрывоопасных средах.

2. Описание оборудования и средств обеспечения взрывозащиты

Конструктивно корпус соединительной коробки выполнен в виде короба из прочной листовой стали с защитным покрытием. Корпус имеет защитную канавку вокруг дверного проема, навесную дверцу с замком и уплотнительную прокладку, которая помогает обеспечить необходимую степень защиты от внешних климатических воздействий. Крепление соединительной коробки производится с помощью четырех монтажных кронштейнов. В задней части каждого корпуса соединительной коробки имеется монтажная пластина из оцинкованной стали с горизонтальными DIN-рейками для установки преобразователей сигналов или других устройств. При необходимости монтажная пластина снимается с корпуса для облегчения установки и монтажа проводки оборудования. Дверца соединительной коробки имеет соединение с корпусом кабелем заземления. В нижней части каждого корпуса соединительной коробки имеются отверстия кабельного ввода для прокладки кабелей к оборудованию, установленного в корпусе.

Подробное описание конструкции соединительной коробки приведено в руководстве по эксплуатации.

Основные технические данные:

Маркировка взрывозащиты

☒ Ex e IIC Gb U☒ Ex tb IIIC Db U

Диапазон температур окружающей среды, °C

от минус 55 до +100

Степень защиты от внешних воздействий по ГОСТ 14254-2015

IP66

Взрывозащищенность соединительных коробок обеспечивается выполнением их конструкции в соответствии с общими требованиями по ГОСТ 31610.0-2014 (IEC 60079-0:2011), видом взрывозащиты «повышенная защита вида «е» по ГОСТ Р МЭК 60079-7-2012 и видом взрывозащиты от воспламенения пыли «d» по ГОСТ Р МЭК 60079-31-2010.

Внесение изготовителем в конструкцию и техническую документацию изменений, влияющих на взрывобезопасность и соответствие соединительных коробок требованиям ТР ТС 012/2011, возможно только по согласованию с органом по сертификации ООО «Центр Сертификации «ВЕЛЕС».

Данный сертификат соответствия подтверждает соответствие требованиям взрывобезопасности ТР ТС 012/2011 и не рассматривает любые другие виды безопасности соединительных коробок.

3. Оборудование соответствует требованиям:

ТР ТС 012/2011

ГОСТ 31610.0-2014 (IEC 60079-0:2011)

ГОСТ Р МЭК 60079-7-2012

ГОСТ Р МЭК 60079-31-2010

Технический регламент Таможенного союза «О безопасности оборудования для работы во взрывоопасных средах»;

Взрывоопасные среды. Часть 0. Оборудование. Общие требования;

Взрывоопасные среды. Часть 7. Оборудование. Повышенная защита вида «е»;

Взрывоопасные среды. Часть 31. Оборудование с видом взрывозащиты от воспламенения пыли «t».

Руководитель (уполномоченное
лицо) органа по сертификации

Галина Александровна
(подпись)

«Центр
Сертификации
«ВЕЛЕС»
М.П.

Розыгон Галина Александровна
(ф.и.о.)

Эксперт (эксперт-аудитор)
(эксперты (эксперты-аудиторы))

Андрей Алексеевич
(подпись)

Шатило Андрей Алексеевич
(ф.и.о.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-CH.AД07.B.02998/21

Серия **RU** № **0765057**

4. Маркировка

Маркировка, наносимая на электрооборудование, должна включать следующие данные:

- 4.1 наименование предприятия-изготовителя или его зарегистрированный товарный знак;
- 4.2 обозначение типа оборудования;
- 4.3 порядковый номер по системе нумерации предприятия-изготовителя;
- 4.4 маркировку взрывозащиты см. п. 2 «Основные технические данные»;
- 4.5 наименование или знак органа по сертификации и номер сертификата соответствия;
- 4.6 предупредительные надписи;
- 4.7 единый знак ЕАС обращения продукции на рынке государств - членов Таможенного союза;
- 4.8 специальный знак взрывобезопасности **Ex** в соответствии с ТР ТС 012/2011;
- 4.9 другие данные, которые должен отразить изготовитель, если это требуется технической документацией (диапазон температур окружающей среды, степень защиты оболочки и т.д.).

5. Шкала ограничений

Нет.

Руководитель (уполномоченное
лицо) органа по сертификации

(подпись)

Эксперт (эксперт-аудитор)
(эксперты (эксперты-аудиторы))

(подпись)



Родзиков Галина Александровна

(ф.и.о.)

Щатило Андрей Алексеевич

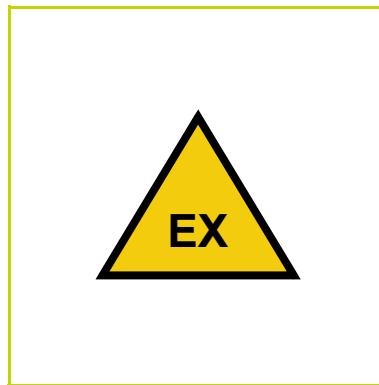
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EX CERTIFICATE – RU

**EAЭC RU C-CH.AΔ07.B.03042/21
for
CA134, CA20x, CA28x, CA30x, CA901, CE134,
CE281 and CE620 vibration sensors**



Note: Although the Ex certificate may be included in more than one language, the liability of the notified body applies only on the text of the original copy of the certificate that it published.

Document reference EAЭC RU C-CH.AΔ07.B.03042/21
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ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ	
СЕРТИФИКАТ СООТВЕТСТВИЯ	
№ ЕАЭС RU C-CH.AД07.B.03042/21	
Серия RU № 0225745	
ОРГАН ПО СЕРТИФИКАЦИИ Орган по сертификации Общество с ограниченной ответственностью «Центр Сертификации «ВЕЛЕС». Место нахождения (адрес юридического лица): 195009, РОССИЯ, город Санкт-Петербург, улица Академика Лебедева, дом 12, корпус 2, литера А, этаж 2, комната 26. Адрес места осуществления деятельности: 190068, РОССИЯ, город Санкт-Петербург, переулок Никольский, дом 4 литер А, помещение 8Н. Уникальный номер записи об аккредитации в реестре аккредитованных лиц № RA.RU.10АД07. Дата решения об аккредитации: 24.03.2016. Телефон: +74952211810 Адрес электронной почты: info@velessert.ru	
ЗАЯВИТЕЛЬ ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "СОРТУМ" Место нахождения (адрес юридического лица) и адрес места осуществления деятельности: 101000, Россия, город Москва, переулок Милютинский, дом 10, строение 1, этаж 3, помещение VIII, комната 4, офис 4 Основной государственный регистрационный номер 1187746680538. Телефон: 74991101637 Адрес электронной почты: info@sortum.ru	
ИЗГОТОВИТЕЛЬ "MEGGITT S.A." Место нахождения (адрес юридического лица): Швейцария, Route de Moncor 4, 1752 Villars-sur-Glane Филиал изготовителя: VIBRASSENS, Место нахождения (адрес юридического лица) и адрес места осуществления деятельности по изготовлению продукции: Франция, Avenue des Montboucons 2E, 25000 BESANCON	
ПРОДУКЦИЯ Оборудование измерительное: акселерометры, типов: CA134, CA20X, CA28X, CA30X, CA901, CE134, CE620, CE281. Маркировка взрывозащиты согласно приложениям (бланки №№ 0765150, 0765151, 0765152). Продукция изготовлена в соответствии с Директивой 2014/34/EU и технической документацией изготовителя для работы во взрывоопасных средах. Серийный выпуск	
КОД ТН ВЭД ЕАЭС 9031803800	
СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ Технического регламента Таможенного союза "О безопасности оборудования для работы во взрывоопасных средах" (ТР ТС 012/2011)	
СЕРТИФИКАТ СООТВЕТСТВИЯ ВЫДАН НА ОСНОВАНИИ Протокола испытаний № 2690ИЛПМВ от 11.02.2021 года, выданного Испытательным центром Общества с ограниченной ответственностью «ПРОММАШ ТЕСТ» (уникальный номер записи об аккредитации в реестре аккредитованных лиц RA.RU.21BC05) акта анализа состояния производства от 01.12.2020 года, выданного Органом по сертификации Общество с ограниченной ответственностью «Центр Сертификации «ВЕЛЕС» Руководства по эксплуатации, конструкторской документации. Схема сертификации: 1с	
ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Срок службы 30 лет. Срок хранения 10 лет. Стандарты, обеспечивающие соблюдение требований Технического регламента Таможенного союза ТР ТС 012/2011 "О безопасности оборудования для работы во взрывоопасных средах" согласно приложениям - бланки №№ 0765150, 0765151, 0765152.	
СРОК ДЕЙСТВИЯ С ВКЛЮЧИТЕЛЬНО 21.02.2021	ПО 20.02.2022
Руководитель (уполномоченное лицо) органа по сертификации	Родина Галина Александровна (Ф.И.О.)
Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы))	Ивтило Андрей Алексеевич (Ф.И.О.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-CH.АД07.В.03042/21

Серия **RU** № **0765150**

1. Назначение и область применения

Сертификат соответствия распространяется на оборудование измерительное: акселерометры, типов: CA134, CA20X, CA28X, CA30X, CA901, CE134, CE620, CE281 (далее по тексту - акселерометры) которые предназначены для мониторинга и измерения вибрации в случаях, когда необходима высокая чувствительность прибора.

Область применения – взрывоопасные зоны классов 0, 1 и 2 по ГОСТ ИЕС 60079-10-1-2011 категорий взрывоопасных смесей IIA, IIB, IIC по ГОСТ Р МЭК 60079-20-1-2011, взрывоопасные зоны классов 20, 21 и 22 по ГОСТ ИЕС 60079-10-2-2011, содержащие взрывоопасную пыль подгрупп IIA, IIB и IIC, а также подземные выработки угольных шахт и рудников, в том числе опасные по газу (метану) и (или) угольной пыли, и их наземные сооружения, согласно маркировкам взрывозащиты электрооборудования, ГОСТ ИЕС 60079-14-2011 и другим нормативным документам, регламентирующим применение электрооборудования в потенциально взрывоопасных средах.

2. Описание оборудования и средств обеспечения взрывозащиты

Конструктивно акселерометры, типов: CA134, CA20X, CA28X, CA30X, CA901, CE134, CE620, CE281 имеют сварной, стальной герметичный корпус. Внутри корпуса расположен датчик акселерометра, выполненный из искусственного пьезоэлектрического материала, что обеспечивает исключительную стабильность и надежность показаний прибора.

Отверстия в подложке корпуса акселерометров обеспечивает их надежное крепление. Для подключения акселерометров используется соответствующий штатный кабель, обеспечивающий минимальные затухания сигнала с выхода датчика. Сигнал с датчика акселерометра по кабелю поступает на усилитель сигнала и далее на исполнительное устройство.

Подробное описание конструкции акселерометров приведено в руководстве по эксплуатации на изделие.

Основные технические данные:

Маркировка взрывозащиты:

- акселерометр CA134 (тип 144-134-000-XXX)	☒ 0Ex ia IIC T6...510°C Ga X
- акселерометр CA134 (тип PNR: 144-134-000-XXX)	☒ 2Ex nA II T6...510°C Gc
- акселерометр CA20X (тип PNR: 144-20X-000-YYY)	☒ 0Ex ia IIC T6...T2 Ga X
- акселерометр CA20X (тип PNR: 144-20X-000-YYY)	☒ 2Ex nA IIC T6...T2 Gc
- акселерометр CA28X (тип 144-28-000-...)	☒ 0Ex ia IIC T6...T2 Ga X
- акселерометр CA28X (тип PNR: 144-28X-000-YYY)	☒ 2Ex nA IIC T6...T2 Gc
- акселерометр CA30X (тип 144-30-000-...)	☒ 0Ex ia IIC T6...510°C Ga X
- акселерометр CA30X (тип PNR: 144-30X-000-YYY)	☒ 2Ex nA IIC T6...510°C Gc
- акселерометр CA901 (тип PNR: 144-901-000-XXX)	☒ 0Ex ia IIC T6...710°C Ga X
- акселерометр CA901 (тип PNR: 144-901-000-XXX)	☒ 2Ex nA IIC T6...710°C Gc
- акселерометр CE134 (тип PNR: 444-134-000-XX1...XX4)	☒ 1Ex ib IIC T6...T1 Gb X
- акселерометр CE134 (тип PNR: 444-134-000-XX5...XX9)	☒ 0Ex ia IIC T6...T1 Ga X
- акселерометр CE134 (тип PNR: 444-134-000-XX1...XX9)	☒ 2Ex nA IIC T6...T1 Gc
- акселерометр CE620 (тип 444-620-000-XXX)	☒ PO Ex ia I Ma X
	☒ 0Ex ia IIC T4 Ga X
	☒ Ex ia IIC T135°C Da X
- акселерометр CE28X (тип 444-28-000-...)	☒ 0Ex ia IIC T6...T2 Ga X
- акселерометр CE28X (тип PNR: 444-28X-000-YYY)	☒ 2Ex nA IIC T6...T2 Gc

Руководитель (уполномоченное
лицо) органа по сертификации

(подпись)

Эксперт (эксперт-аудитор)
(эксперты (эксперты-аудиторы))

(подпись)

Робинзон Галина Александровна
(Ф.И.О.)Патило Андрей Алексеевич
(Ф.И.О.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-CH.АД07.В.03042/21

Серия **RU** № **0765151**

Диапазон температур окружающей среды, °C:

- акселерометр CA134 (тип 144-134-000-XXX)	от минус 200 до +500
- акселерометр CA134 (тип PNR: 144-134-000-XXX)	от минус 200 до +500
- акселерометр CA20X (тип PNR: 144-20X-000-YYY)	от минус 55 до +260
- датчик акселерометра CA28X (тип 144-28-000-...)	от минус 60 до +260
- датчик и кабель акселерометра CA28X (тип 144-28-000-...)	от минус 55 до +260
- акселерометр CA30X (тип 144-30-000-...)	от минус 30 до +80
- акселерометр CA30X (тип PNR: 144-30X-000-YYY)	от минус 54 до +500
- акселерометр CA901 (тип PNR: 144-901-000-XXX)	от минус 196 до +700
- датчик акселерометра CE134 (тип PNR: 444-134-000-...)	от минус 70 до +350
- кабель акселерометра CE134 (тип PNR: 444-134-000-...)	от минус 70 до +350
- акселерометр CE620 (тип 444-620-000-XXX)	от минус 54 до +121
- датчик акселерометра CE28X (тип 444-28-000-...)	от минус 60 до +260
- датчик и кабель акселерометра CE28X (тип 444-28-000-...)	от минус 55 до +260
Степень защиты от внешних воздействий по ГОСТ 14254-2015	IP67

Параметры искробезопасных цепей приведены в таблице 2.1

Таблица 2.1

Наименование акселерометров	Значение параметров искробезопасных цепей акселерометров				
	U, В	I, мА (линейное/ нелинейное питание)	P, Вт	C, нФ	L, мкГн
Акселерометр CA134	28	100/25	0,7	1,2+0,25 нФ/м (кабель)	0
Акселерометр CA20X	28	100	0,7	20+0,2 нФ/м (кабель)	1 мкГн (кабель)
Акселерометр CA28X (тип 144-28-000-...)	28	100	0,7	8+0,25 нФ/м (кабель)	0
Акселерометр CA30X (тип 144-30-000-...)	28	100/25	0,7	2+0,2 нФ/м (кабель)	0
Акселерометр CA901 (тип PNR: 144-901-000-XXX)	28	100	0,7	0,2+0,2 нФ/м (кабель)	0
акселерометр CE134 (тип PNR: 444-134-000-YY1...YY4)	28	100	2	15	500
акселерометр CE134 (тип PNR: 444-134-000-YY5...YY9)	28	-	0,7	0	0
акселерометр CE620 (тип 444-620-000-XXX)	28	93	0,65	41 (исполнение с разъемом) 56 (исполнение с кабелем. Кабель до 99 метров)	0 (исполнение с разъемом) 51 (исполнение с кабелем. Кабель до 99 метров)
Акселерометр CE28X (тип 444-28-000-...1)	28	100	0,7	10,5	0
Акселерометр CE28X (тип 444-28-000-...2...9))	28	100	0,7	0	0

Взрывозащищенность акселерометров обеспечивается выполнением их конструкций в соответствии с общими требованиями по ГОСТ 31610.0-2014 (IEC 60079-0:2011), видом взрывозащиты «искробезопасная электрическая цепь «i» по ГОСТ 31610.11-2014 (IEC 60079-11:2011) и видом взрывозащиты «п» по ГОСТ 31610.15-2014/IEC 60079-15:2010.

Внесение изготовителем в конструкцию и техническую документацию изменений, влияющих на взрывобезопасность и соответствие акселерометров требованиям ГОСТ 31610.0-2014/IEC 60079-0:2011, возможно только по согласованию с органом по сертификации ООО «Центр Сертификации «ВЕЛЕС».

Руководитель (уполномоченное лицо) органа по сертификации

Эксперт (эксперт-аудитор)
(эксперты (эксперты-аудиторы))

(подпись)

(подпись)

Родина Галина Александровна
(ф.и.о.)Мило Андрей Алексеевич
(ф.и.о.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-CH.AD07.B.03042/21

Серия **RU** № **0765152**

Данный сертификат соответствия подтверждает соответствие требованиям взрывобезопасности ТР ТС 012/2011 и не рассматривает любые другие виды безопасности акселерометров.

3. Оборудование соответствует требованиям:

ТР ТС 012/2011

ГОСТ 31610.0-2014 (IEC 60079-0:2011)

ГОСТ 31610.11-2014 (IEC 60079-11:2011)

ГОСТ 31610.15-2014/IEC 60079-15:2010

Технический регламент Таможенного союза «О безопасности оборудования для работы во взрывоопасных средах»;

Взрывоопасные среды. Часть 0. Оборудование. Общие требования;

Взрывоопасные среды. Часть 11. Оборудование с видом взрывозащиты "искробезопасная электрическая цепь "i".

Взрывоопасные среды. Часть 15. Оборудование с видом взрывозащиты "n".

4. Маркировка

Маркировка, наносимая на электрооборудование, должна включать следующие данные:

4.1 наименование предприятия-изготовителя или его зарегистрированный товарный знак;

4.2 обозначение типа оборудования;

4.3 порядковый номер по системе нумерации предприятия-изготовителя;

4.4 маркировку взрывозащиты см. п. 2 «Основные технические данные»;

4.5 наименование или знак органа по сертификации и номер сертификата соответствия;

4.6 предупредительные надписи;

4.7 единый знак ЕАС обращения продукции на рынке государств - членов Таможенного союза;

4.8 специальный знак взрывобезопасности **Ex** в соответствии с ТР ТС 012/2011;

4.9 другие данные, которые должен отразить изготовитель, если это требуется технической документацией (диапазон температур окружающей среды, степень защиты оболочки и т.д.).

5. Специальные условия применения

Знак X, стоящий после Ex-маркировки, означает, что при эксплуатации необходимо соблюдать следующие специальные условия:

- к акселерометрам с видом взрывозащиты искробезопасная электрическая цепь должны подключаться устройства, имеющие соответствующую маркировку взрывозащиты и сертификат соответствия требованиям ТР ТС 012/2011. Выходные напряжение, ток и мощность таких устройств не должны превышать соответствующих максимальных входных значений акселерометров. Внешние допустимые индуктивность и электрическая емкость искробезопасных цепей таких устройств должны быть не менее максимальных значений внутренних индуктивности и электрической емкости искробезопасных цепей акселерометров с учетом параметров линии связи;

- акселерометры необходимо подключать в соответствии с инструкцией по эксплуатации;

- для акселерометров в версии с разъемом используемый кабель должен иметь рабочую температуру, совместимую с окружающей средой, в которой используется устройство.

Руководитель (уполномоченное
лицо) органа по сертификации

Эксперт (эксперт-аудитор)
(эксперты (эксперты-аудиторы))

М.П.
(подпись)

М.П.
(подпись)

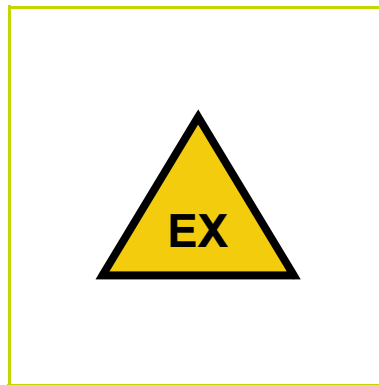


Роздильни Галина Александровна
(ф.и.о.)

Андрей Алексеевич
(ф.и.о.)

EX CERTIFICATE – RU

EAЭC RU C-CH.AΔ07.B.03008/21
for
GSI127 galvanic separation unit



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СЕРТИФИКАТ СООТВЕТСТВИЯ	
№ ЕАЭС RU C-CH.АД07.В.03008/21	
Серия RU № 0225707	
ОРГАН ПО СЕРТИФИКАЦИИ Орган по сертификации Общество с ограниченной ответственностью «Центр Сертификации «ВЕЛЕС». Место нахождения (адрес юридического лица): 195009, РОССИЯ, город Санкт-Петербург, улица Академика Лебедева, дом 12, корпус 2, литера А, этаж 2, комната 26, Адрес места осуществления деятельности: 190068, РОССИЯ, город Санкт-Петербург, переулок Никольский, дом 4 литер А, помещение 8Н. Уникальный номер записи об аккредитации в реестре аккредитованных лиц № RA.RU.10АД07. Дата решения об аккредитации: 24.03.2016. Телефон: +74952211810 Адрес электронной почты: info@velessert.ru	
ЗАЯВИТЕЛЬ ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "СОРТУМ" Место нахождения (адрес юридического лица) и адрес места осуществления деятельности: 101000, Россия, город Москва, переулок Милютинский, дом 10, строение 1, этаж 3, помещение VIII, комната 4, офис 4 Основной государственный регистрационный номер 1187746680538. Телефон: 74991101637 Адрес электронной почты: info@sortum.ru	
ИЗГОТОВИТЕЛЬ "MEGGITT S.A." Место нахождения (адрес юридического лица): Швейцария, Route de Moncor 4, 1752 Villars-sur-Glane Филиал изготовителя: ТТ ELECTRONICS IMS; Место нахождения (адрес юридического лица) и адрес места осуществления деятельности по изготовлению продукции: Китай, Feng Qiao Industrial Park 158 – 29 Hua Shan Road 215129 SUZHOU CITY	
ПРОДУКЦИЯ Блоки гальванической развязки, типа: GSI127 Маркировка взрывозащиты согласно приложению (бланки №№ 0765078, 0765079). Продукция изготовлена в соответствии с Директивой 2014/34/EU и технической документацией изготовителя для работы во взрывоопасных средах. Серийный выпуск	
КОД ТН ВЭД ЕАЭС 9031803800	
СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ Технического регламента Таможенного союза "О безопасности оборудования для работы во взрывоопасных средах" (ТР ТС 012/2011)	
СЕРТИФИКАТ СООТВЕТСТВИЯ ВЫДАН НА ОСНОВАНИИ Протокола испытаний № 2691 ИЛПМВ от 11.02.2021 года, выданного Испытательным центром Общества с ограниченной ответственностью «ПРОММАШ ТЕСТ» (уникальный номер записи об аккредитации в реестре аккредитованных лиц RA.RU.21BC05) акта анализа состояния производства от 01.12.2020 года, выданного Органом по сертификации Общество с ограниченной ответственностью «Центр Сертификации «ВЕЛЕС» Руководства по эксплуатации, конструкторской документации. Схема сертификации: 1с	
ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Срок службы 30 лет. Срок хранения 10 лет. Выдан взамен № ЕАЭС RU C-CH.АД07.В.02996/21 дата выдачи 16.02.2021 год. Стандарты, обеспечивающие соблюдение требований Технического регламента Таможенного союза ТР ТС 012/2011 "О безопасности оборудования для работы во взрывоопасных средах" согласно приложениям - бланки №№ 0765078, 0765079.	
СРОК ДЕЙСТВИЯ С 18.02.2021	ПО 15.02.2026
ВКЛЮЧИТЕЛЬНО	
Руководитель (уполномоченное лицо) органа по сертификации	Розинзон Галина Александровна (Ф.И.О.)
Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы))	Натило Андрей Алексеевич (Ф.И.О.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-CH.AД07.B.03008/21

Серия **RU** № **0765078**

1. Назначение и область применения

Сертификат соответствия распространяется на блоки гальванической развязки, типа: GSI127 (далее по тексту – блоки гальванической развязки), предназначенные для эксплуатации совместно с электрометрическими усилителями, преобразователями сигнала и электроникой (подключаемой или встроенной), используемой различными измерительными цепями вибрметров.

Область применения – взрывоопасные зоны класса 2 по ГОСТ IEC 60079-10-1-2011 категорий взрывоопасных смесей IIA, IIB и IIC по ГОСТ Р МЭК 60079-20-1-2011, согласно маркировке взрывозащиты электрооборудования, ГОСТ IEC 60079-14-2011 и другим нормативным документам, регламентирующим применение электрооборудования в потенциально взрывоопасных средах.

2. Описание оборудования и средств обеспечения взрывозащиты

Блоки гальванической развязки, типа GSI127 выполнены в пластиковом корпусе, со степенью защиты от внешних воздействий IP20. Конструкция корпуса обеспечивает выполнение его монтажа на DIN-рейку. Внутри корпуса блоков гальванической развязки расположена электронная плата. Корпус блока оснащен съемными винтовыми клеммными разъемами, которые могут быть отключены от основного корпуса для упрощения установки и монтажа. Блок гальванической развязки является универсальным устройством, которое может использоваться для передачи высокочастотных сигналов переменного тока на большие расстояния в измерительных цепях, использующих передачу токового сигнала, или в качестве безопасного барьера в измерительных цепях, использующих передачу сигнала напряжения. В более общем случае он может использоваться для питания любой электронной системы (сторона датчика), имеющей потребление тока до 22 мА. Блоки гальванической развязки не имеют какой-либо индикации по работе блока и не требуют дополнительных настроек.

Подробное описание конструкции блоков гальванической развязки приведено в руководстве по эксплуатации на изделие.

Основные технические данные:

Маркировка взрывозащиты: ☒ 2Ex nA [ia Ga] IIC T4 Gc X
 Диапазон температур окружающей среды, °C: от минус 40 до +70
 Степень защиты от внешних воздействий по ГОСТ 14254-2015: IP20
 Напряжение питания, В (постоянного тока): 18 – 30
 Максимальное напряжение U_m , В: 30
 Параметры искробезопасных цепей блоков гальванической развязки приведены в таблице 2.1.

Таблица 2.1

Наименование параметра	Значение	
	Блок GSI127 исполнения B01 – B19	Блок GSI127 исполнения B20 – B39
Максимальное выходное напряжение U_o , В	25,2	25,2
Максимальный выходной ток I_o , мА	60	45
Максимальная выходная мощность P_o , Вт	0,7	0,5
Максимальная внешняя емкость C_o , нФ	95	95
Максимальная внешняя индуктивность L_o , мГн	5	10

Взрывозащищенность блоков гальванической развязки обеспечивается выполнением их конструкции в соответствии с общими требованиями по ГОСТ 31610.0-2014 (IEC 60079-0:2011), видом взрывозащиты «искробезопасная электрическая цепь «i» по ГОСТ 31610.11-2014 (IEC 60079-11:2011) и видом взрывозащиты «m» по ГОСТ 31610.15-2014/IEC 60079-15:2010.

Руководитель (уполномоченное
лицо) органа по сертификации

(подпись)



«Центр
Сертификации»
Родивон Галина Александровна
(ф.и.о.)

Эксперт (эксперт-аудитор)
(эксперты (эксперты-аудиторы))

(подпись)

Шатило Андрей Алексеевич
(ф.и.о.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-CH.AД07.B.03008/21

Серия **RU** № **0765079**

Внесение изготовителем в конструкцию и техническую документацию изменений, влияющих на взрывобезопасность и соответствие блоков гальванической развязки требованиям ТР ТС 012/2011, возможно только по согласованию с органом по сертификации ООО «Центр Сертификации «ВЕЛЕС».

Данный сертификат соответствия подтверждает соответствие требованиям взрывобезопасности ТР ТС 012/2011 и не рассматривает любые другие виды безопасности блоков гальванической развязки.

3. Оборудование соответствует требованиям:

ТР ТС 012/2011	Технический регламент Таможенного союза «О безопасности оборудования для работы во взрывоопасных средах»;
ГОСТ 31610.0-2014 (IEC 60079-0:2011)	Взрывоопасные среды. Часть 0. Оборудование. Общие требования;
ГОСТ 31610.11-2014 (IEC 60079-11:2011)	Взрывоопасные среды. Часть 11. Оборудование с видом взрывозащиты "искробезопасная электрическая цепь "i".
ГОСТ 31610.15-2014/IEC 60079-15:2010	Взрывоопасные среды. Часть 15. Оборудование с видом взрывозащиты "n".

4. Маркировка

Маркировка, наносимая на электрооборудование, должна включать следующие данные:

- 4.1 наименование предприятия-изготовителя или его зарегистрированный товарный знак;
- 4.2 обозначение типа оборудования;
- 4.3 порядковый номер по системе нумерации предприятия-изготовителя;
- 4.4 маркировку взрывозащиты см. п. 2 «Основные технические данные»;
- 4.5 наименование или знак органа по сертификации и номер сертификата соответствия;
- 4.6 предупредительные надписи;
- 4.7 единый знак ЕАС обращения продукции на рынке государств - членов Таможенного союза;
- 4.8 специальный знак взрывобезопасности **Ex** в соответствии с ТР ТС 012/2011;
- 4.9 другие данные, которые должен отразить изготовитель, если это требуется технической документацией (диапазон температур окружающей среды, степень защиты оболочки и т.д.).

5. Специальные условия применения

Знак Х, стоящий после Ex-маркировки, означает, что при эксплуатации необходимо соблюдать следующие специальные условия:

- температура окружающей среды при эксплуатации от минус 40 °С до плюс 70 °С;
- блоки гальванической развязки должны устанавливаться в корпусе со степенью защиты от внешних воздействий не ниже IP54.

Руководитель (уполномоченное
лицо) органа по сертификации

[Подпись]
(подпись)

Эксперт (эксперт-аудитор)
(эксперты (эксперты-аудиторы))

[Подпись]
(подпись)



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