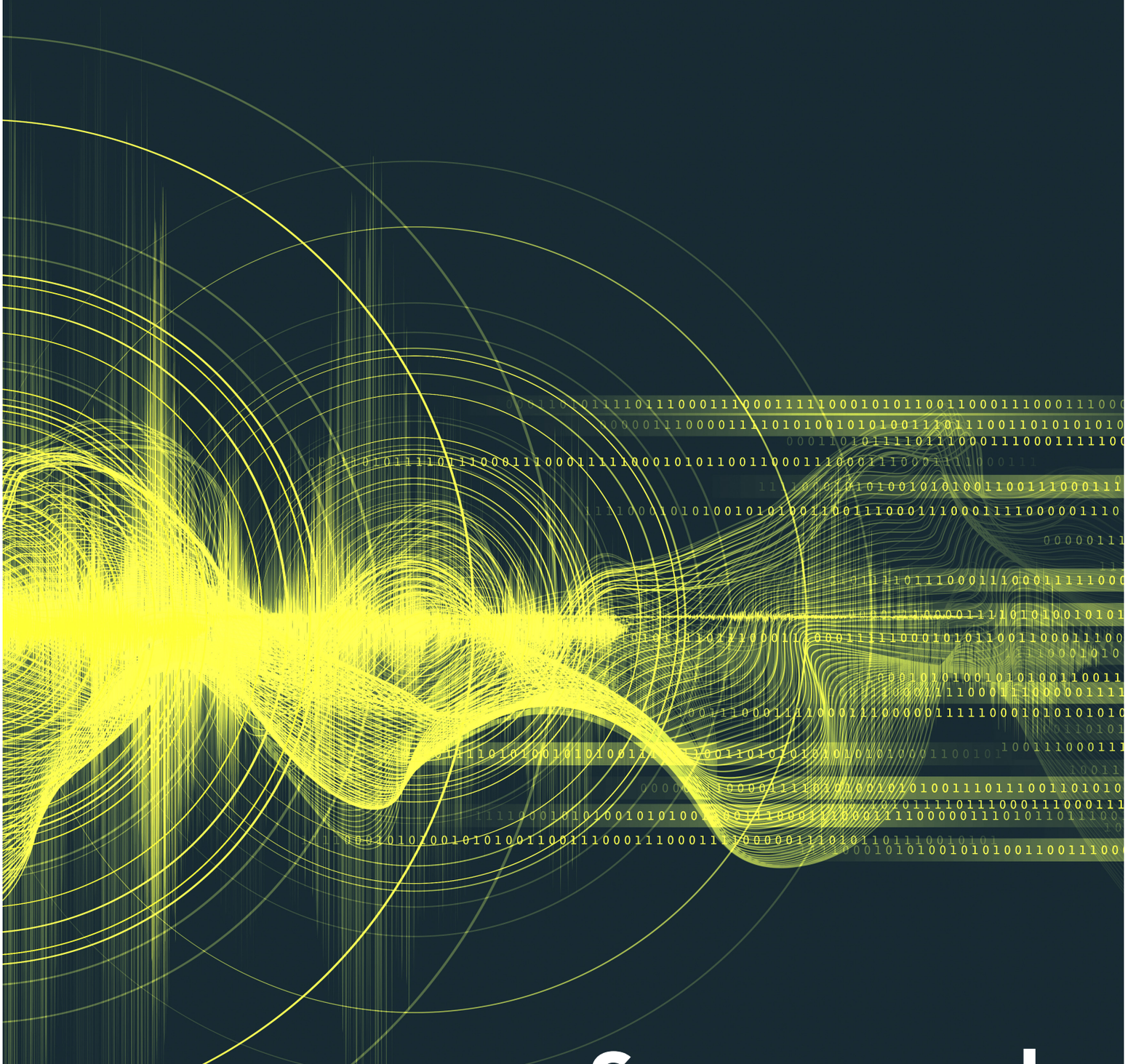
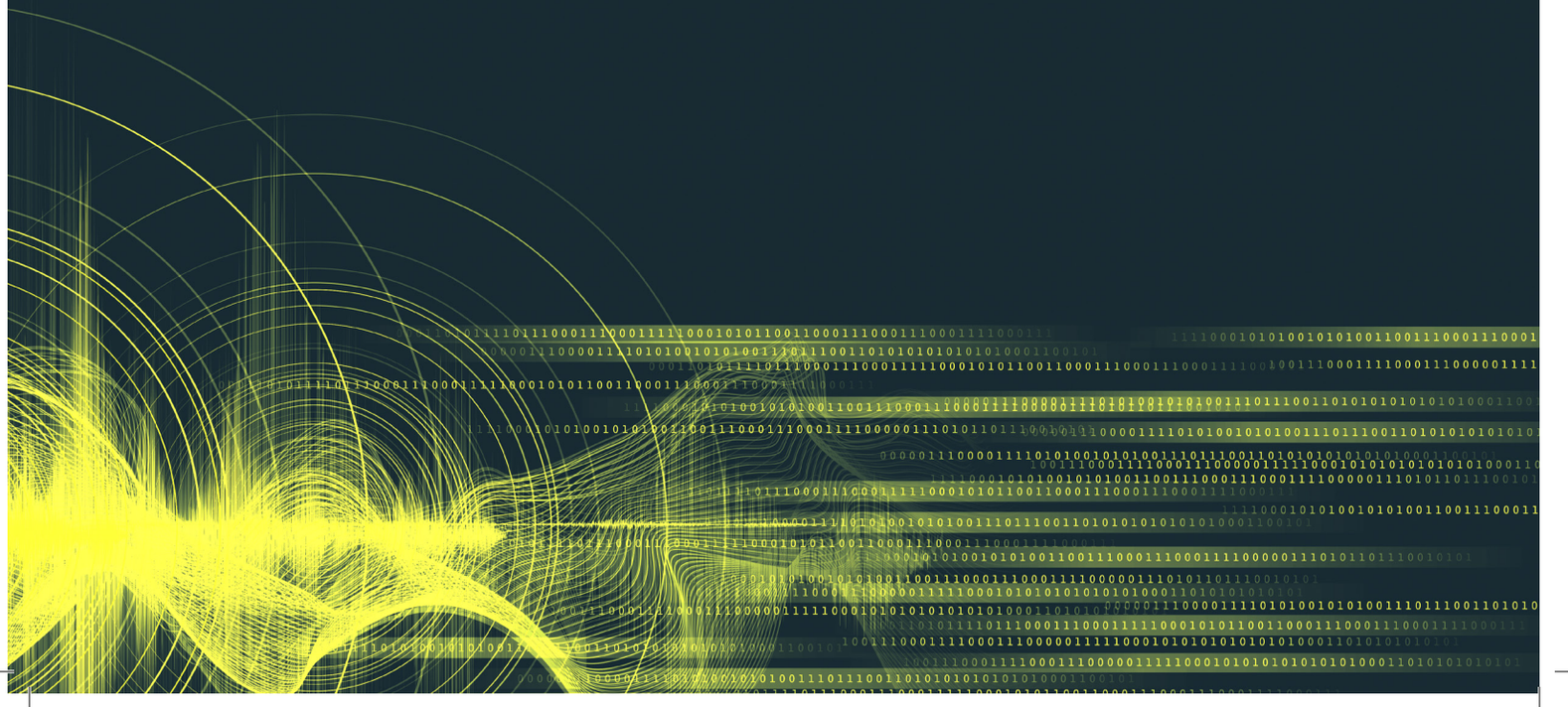
vibro-meter

Parker MEGGITT



Sensors and measurement chains for turbomachinery

Table of Contents



vibro-meter

Legacy

For 70 years, vibro-meter products and expertise have enabled superior solutions for the sensing and monitoring of vibration, pressure and air gap in critical plants and equipment.

Our sensors and measurement chains are used in various industries where the health of rotating machinery, especially large, critical machines is a major concern. They are installed on thousands of machines worldwide and help to monitor and protect these important assets every single day.

We make it our business to provide the best solutions for your measurement and monitoring requirements in order to project your investment.This allows you to reach higher levels of reliability, machine availability and output.

Today, our products are trusted by OEMs globally and have been qualified and adopted as standard-fit components on machinery used in Power Generation, Oil & Gas and other industrial applications.

Quality and Reliability

Meggitt SA is recognised for higher quality standards.

First certified to ISO 9000 in 1995, we have been regularly recertified since. Our latest ISO 9001:2015 quality management and ISO 14001:2015 environmental management certificates were awarded by AFNOR Certification. The ISO 14001:2015 is complemented by our recent ISO 45001:2018 certification.In addition, for specific vibro-meter products:

- A large number are Ex certified so that they can be used in hazardous areas (potentially explosive atmospheres), for example, installed on gas turbines
- A number are SIL safety certified so that they can be used in safety-related applications (functional safety contexts), for example, critical protection systems

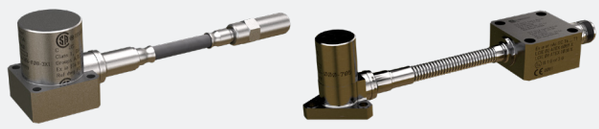
vibro-meter

Product Portfolio

From sensors to decisions

Our comprehensive range of sensors and measurement chains can be used with our monitoring system hardware and software (or third-party systems) in order to provide complete solutions for the monitoring and protection of critical machines and processes. From standard environments to extreme conditions, our sensor catalogue includes the right choice for your application.

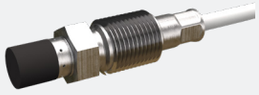
SENSING



Absolute vibration

Dynamic pressure

Air gap



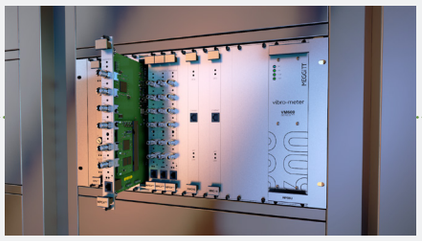
Speed/Relative vibration

Sensors and measurement chains

A world leader in sensi

- Continuous product improvement
- Complete turn
- Ser

PROTECTION	MACHINERY PROTECTION & CONDITION MONITORING	ASSET MANAGEMENT



VM600^{Mk2}

Rack-based monitoring systems

VibroSight®

Data analysis and visualisation

SpeedSys300

Modular overspeed protection system

VibroSmart®

Distributed monitoring system

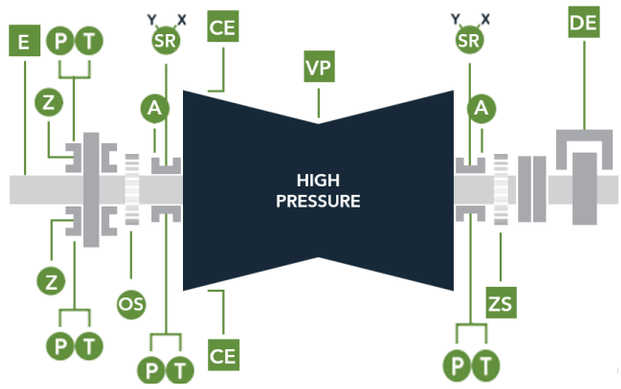
nsing and monitoring solutions for the energy industry

- urnkey solutions
- Services and support
- Support for industry standards (machinery monitoring, communications and cybersecurity)
- Factory acceptance tests (FATs)

Sensors for critical applications

The vibro-meter portfolio specialises in products and solutions for machinery protection and condition monitoring of critical rotating machinery.

Steam Turbine



TSI-specific measurements

Conventional measurements

VP Valve p

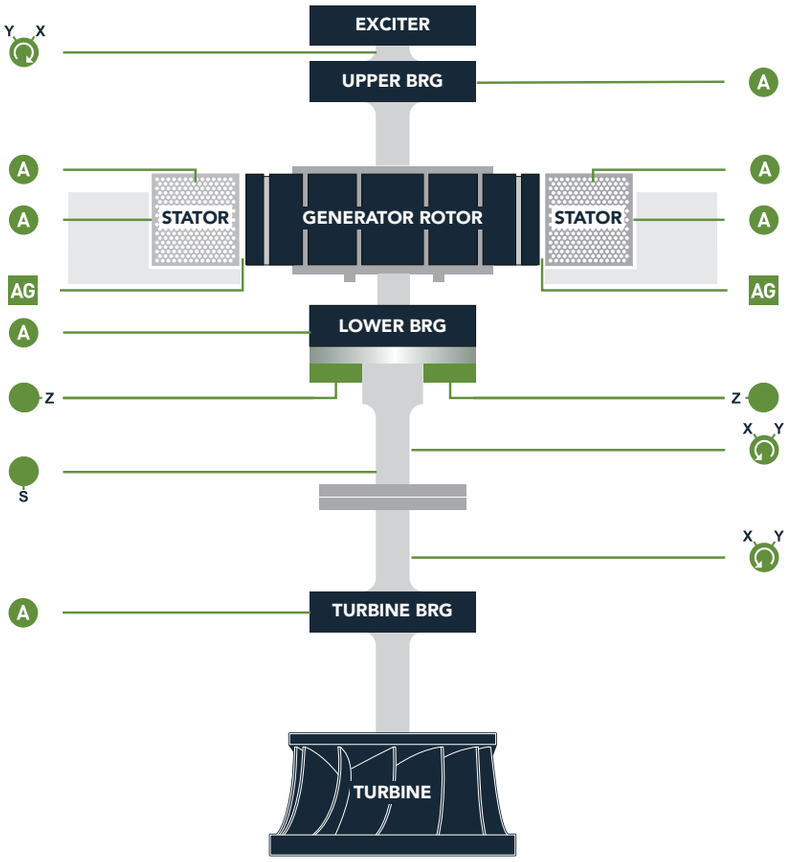
CE Case e

A Case (a

* Although Meggitt vibro-meter® does not provide temperature, p

† These sensors can also be used in conjunction with shaft relative

Hydro Turbine

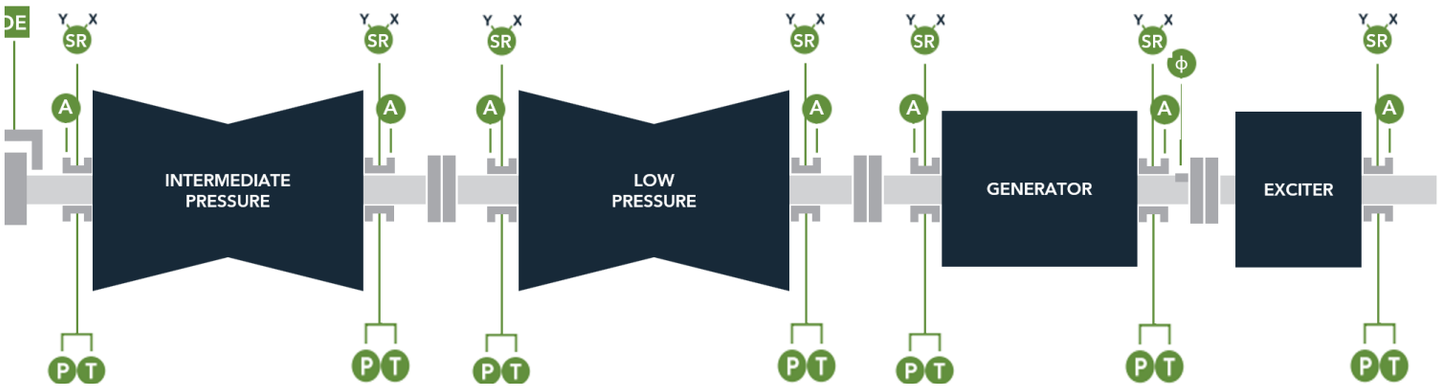


AG Air gap

CE Case expansion

A Case (absolute) vibration

Although Meggitt vibro-meter® does not



lve position *
se expansion
se (absolute) vibration †

ZS Zero speed
E Eccentricity
P Lube oil pressure *

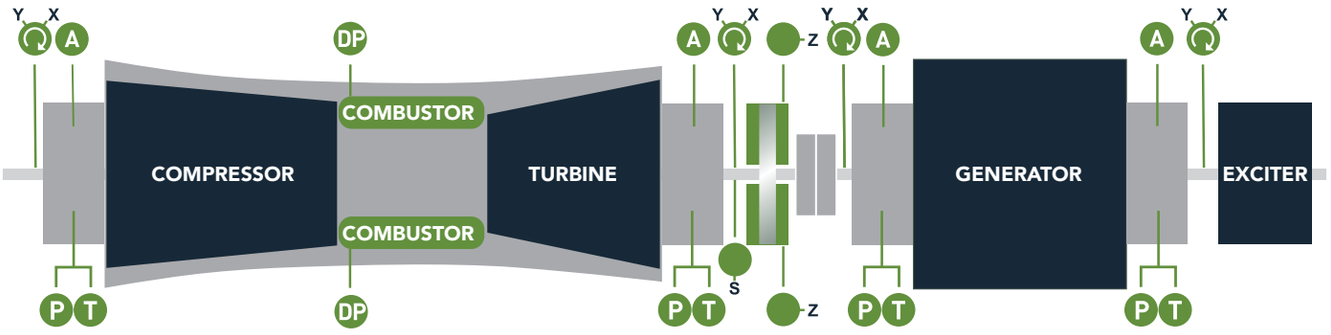
T Bearing temperature *
DE Differential expansion
SR Shaft relative vibration [x,y]

ϕ Speed/phase reference
Z Thrust/axial position
OS Overspeed

ure, pressure or valve position sensors, our protection and condition monitoring systems can integrate these readings.

ative vibration sensors to obtain shaft absolute measurements if oriented to coincide with shaft relative measurement planes.

Gas Turbine



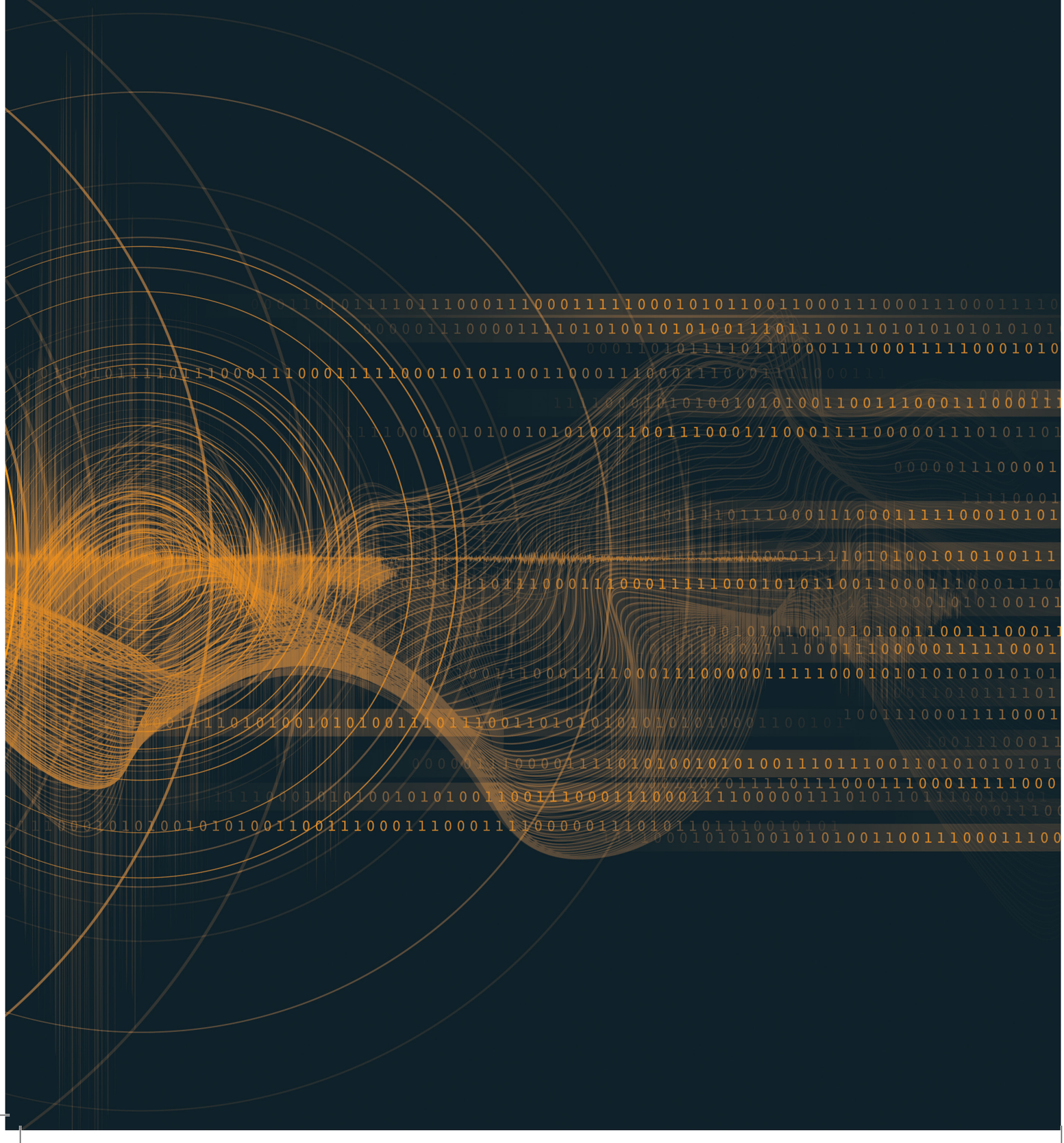
DP Dynamic pressure [combustion chamber]
E Eccentricity
P Lube oil pressure *

T Lube oil temperature *
DE Rotor differential expansion
SR Shaft relative vibration [x,y]

S Speed/phase reference
Z Thrust/axial position
Thrust bearing

not provide temperature or pressure sensors for lube oil, our monitoring systems can integrate these readings.

High-temperature vibration sensors



The CA series of vibration sensors are high-temperature, piezoelectric-based accelerometers designed for the long-term measurement and monitoring of absolute vibration in the most severe of environments.

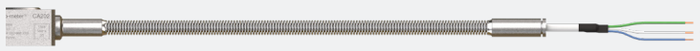
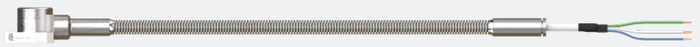
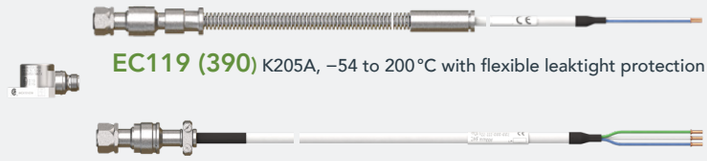
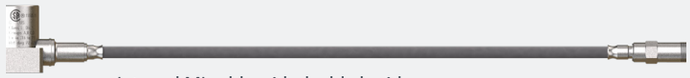
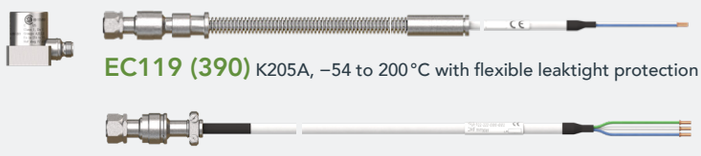
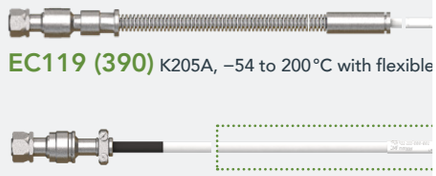
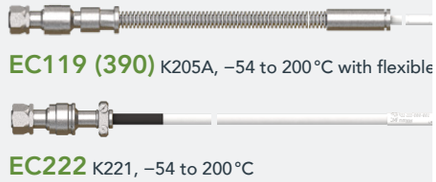
An external IPC signal conditioner is required to convert the low-level charge signal (pC/g) output by a CA sensor into a current or voltage signal suitable for transmission to the monitoring system. This separation of electronics enables the sensor's high performance at higher temperatures.

CA accelerometer based solutions enable high performance at higher temperatures

Key Features

- Available in standard versions and in Ex versions certified internationally for use in hazardous areas
- Suitable for high-temperature environments (up to 700°C) and safety-related applications such as IEC 61508 SIL 2 or ISO 13849 Cat 1, PL c certified measurement chains
- Qualified by major OEMs for industrial vibration monitoring

High-temperature vibration sensors and their measurement chains

Sensor	Cable	Extension cable
CA134 ● 10 pC/g ● up to 500 g ● −253 to 500 °C ● 0.5 to 6000 Hz	 **EC069** MI **EC112** MI	 **EC119 (390)** Softline, armoured **EC153** Softline
CA202 ● 100 pC/g ● up to 400 g ● −55 to 260 °C ● 0.5 to 6000 Hz	 Integral softline with flexible leaktight protection	
CA280 ● 100 pC/g ● up to 500 g ● −60 to 260 °C ● 0.5 to 6000 Hz	 Integral softline with flexible leaktight protection  **EC119 (390)** K205A, −54 to 200 °C with flexible leaktight protection **EC222** K221, −54 to 200 °C	
CA306 ● 50 pC/g ● up to 100 g ● −55 to 500 °C ● 5 to 3000 Hz	 Integral MI cable with double braid  **EC119 (390)** K205A, −54 to 200 °C with flexible leaktight protection **EC222** K221, −54 to 200 °C	 **EC119 (390)** K205A, −54 to 200 °C with flexible **EC222** K221, −54 to 200 °C
CA901 ● 10 pC/g ● up to 200 g ● −196 to 700 °C ● 3 to 3700 Hz	 Integral MI	 **EC119 (390)** K205A, −54 to 200 °C with flexible **EC222** K221, −54 to 200 °C

● Sensitivity ● Dynamic measurement range ● Operating temperature ● Frequency response

MI = mineral insulated

Signal conditioner

IPC707

Signal conditioner

- Frequency range: 0.5 to 20000 Hz
- Configurable high-pass and low-pass filters
- Optional integrator to produce a velocity output
- Current or voltage output signal
- Available in standard and Ex versions
- Optional diagnostic circuitry (built-in self-test (BIST))
- Versions with diagnostics are SIL 2 certified
- DIN-rail mounting and removable screw-terminal connectors

Transmission cable

Current (2-wire) signal transmission:

K209 cable for standard environments

K210 cable for hazardous areas

Voltage (3-wire) signal transmission:

K309 cable for standard environments

K310 cable for hazardous areas

ABA17x

Industrial housings

- Robust steel housing with protective coating
- Lockable hinged door with sealing gasket
- Device-mounting plate with DIN rails
- Cable-entry with openings and plugs
- Protection ratings: IP66, IK10, and NEMA types 4, 12 and 13
- Available in standard and Ex versions
- ABA171 for up to 2 signal conditioners, ABA172 for up to 4 and ABA173 for up to 8
- Wide range of cable fittings (stuffing glands)

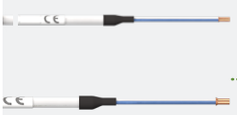
Galvanic separation

GSI127

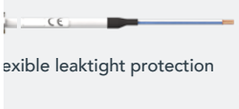
Galvanic separation unit

- 4 kVRMS galvanic separation
- Galvanically isolated power supply to sensor/measurement chain
- Current input with I to V conversion to support current signal transmission over longer distances – up to 1000 m
- Voltage input with V to V conversion to support voltage signal transmission
- Available in standard and Ex versions
- High rejection of frame voltage
- DIN-rail mounting and removable screw-terminal connectors

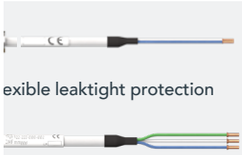
Sheath cable



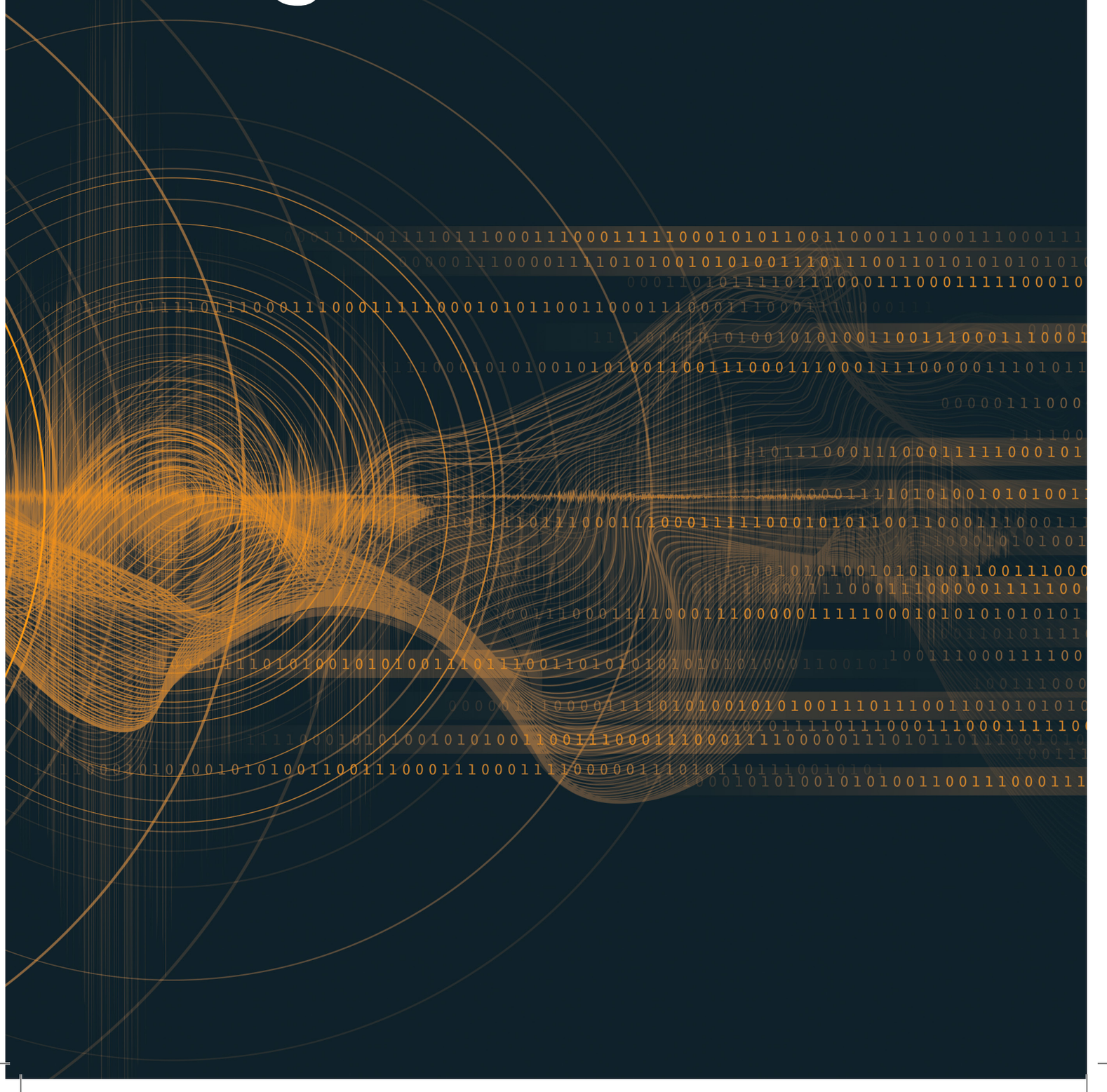
exible leaktight protection



exible leaktight protection



Vibration sensors with attached or integrated electronics



For applications that do not require the high-temperature capabilities of the CA series, these vibration sensors provide more cost-effective and easier to install solutions.

The CE series of sensors are piezoelectric-based accelerometers that come with either integrally attached electronics for higher temperature applications or integrated electronics for lower temperature applications. These sensors are suitable for the measurement and monitoring of vibration in harsh environments, such as gas or steam turbines, compressors, pumps and fans.

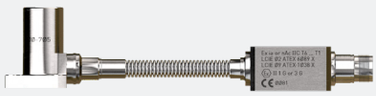
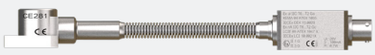
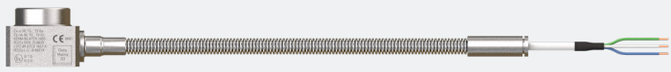
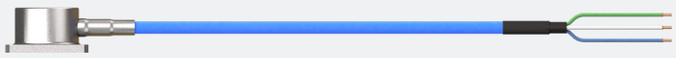
The SE120 is a high-sensitivity piezoresistive accelerometer suitable for the measurement and monitoring of vibration at lower frequencies in harsh environments, such as hydro turbines and fans.

CE-based solutions provide high performance at high temperatures

Key Features

- Available in standard versions and in Ex versions certified internationally for use in hazardous areas
- Attached or integrated electronics so installation is easier (no external signal conditioners and simpler cabling)

Vibration sensors with attached or integrated electronics and their measurement chains

Sensor	Cable	Extension cable
CE134 ● 5 µA/g ● up to 400 g ● –55 to 350 °C ● 5 to 10000 Hz	 Integral softline armoured with attached electronics	 **EC175** K219, –40 to 125 °C Softline, armoured, bayonet connector
CE281 ● 10 µA/g ● up to 200 g ● –55 to 260 °C ● 3 to 7000 Hz	 Integral softline armoured with attached electronics	 **EE139** K210, –40 to 70 °C Softline, armoured, wit bayonet connector  **EE143** K210, –40 to 70 °C Softline, armoured, wit bayonet connector
CE311 ● 50 µA/g ● up to 40 g ● –40 to 125 °C ● 2 to 8000 Hz	 Integral softline armoured	
SE120 ● 2 mA/g ● up to 4 g ● 0 to 75 °C ● 0.2 to 350 Hz	 Integral softline	

● Sensitivity ● Dynamic measurement range ● Operating temperature ● Frequency response

Junction box

JB105 and JB116

Junction boxes

- Mechanical and environmental protection (IP65 protection rating)
- Available in standard and Ex versions
- JB105 in aluminium for standard environments
- JB116 in polyester for hazardous areas
- Fully insulated and corrosion resistant
- Wide range of cable fittings (stuffing glands)

Transmission cable

Current (2-wire) signal transmission:

K209 cable for standard environments

K210 cable for hazardous areas

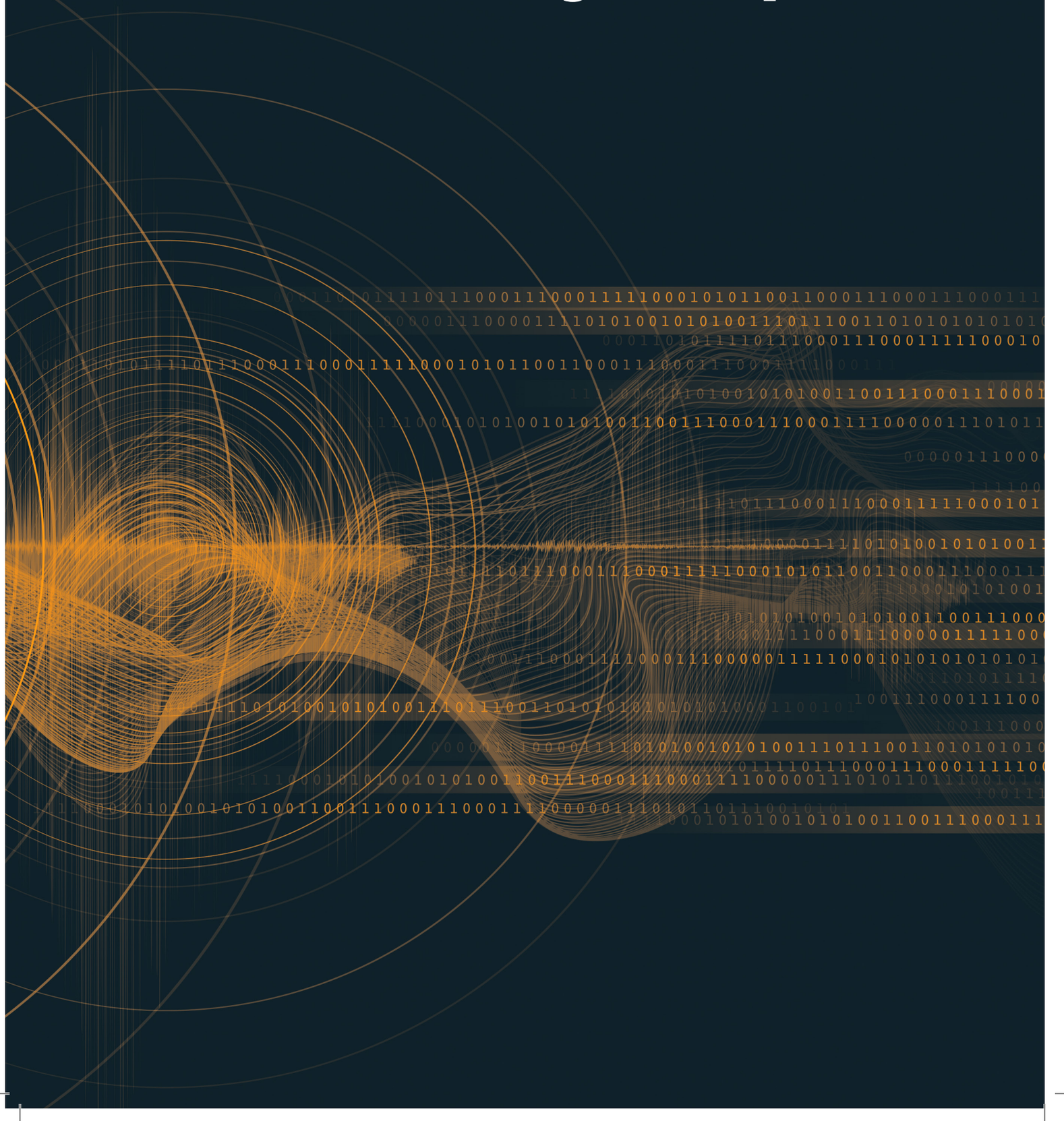
Galvanic separation

GSI127

Galvanic separation unit

- 4 kV_{RMS} galvanic separation
- Galvanically isolated power supply to sensor/measurement chain
- Current input with I to V conversion to support current signal transmission over longer distances – up to 1000 m
- Voltage input with V to V conversion to support voltage signal transmission
- Available in standard and Ex versions
- High rejection of frame voltage
- DIN-rail mounting and removable screw-terminal connectors

Vibration sensors with velocity output



For vibration monitoring of low-speed rotating machinery.

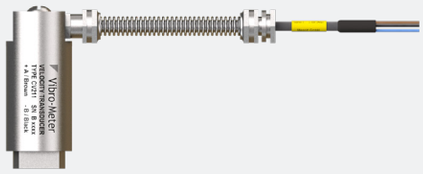
Designed for the long-term measurement and monitoring of absolute vibration at lower frequencies, including hydro turbine and fan applications.

CV and VE velocity sensors enable high performance at low frequencies

Key Features

- Velocity sensors using the moving-coil principle provide a high signal to noise ratio in the low frequency range
- CV sensors are Ex certified for use in hazardous areas

Vibration sensors with velocity output and their measurement chains

Sensor	Cable
VE210 ● 50 µA/mm/s or 50 mV/mm/s ● up to 100 mm/s ● –25 to 80 °C ● 0.5 to 400 Hz	  **EC439** RADOX® with or without protection for current (2-wire) signals  **EC440** RADOX® with or without protection for voltage (3-wire) signals
CV213 and CV214 ● 20 mV/mm/s ● up to 1000 mm/s ● –29 to 204 °C (CV213) ● –29 to 121 °C (CV214) ● 10 to 1000 Hz	  **ED120** with or without protection (up to 204°C)  **ED121** without protection (up to 121°C)
CV211 ● Typical 23 mV/mm/s (2 mm pp) ● –55 to 105 °C ● 10 to 1000 Hz (standard) ● 10 to 1000 Hz (with external linearisation) SIL 1 CAPABLE	

● Sensitivity ● Dynamic measurement range ● Operating temperature ● Frequency response

Junction box

JB105 and JB116

Junction boxes

- Mechanical and environmental protection (IP65 protection rating)
- Available in standard and Ex versions
- JB105 in aluminium for standard environments
- JB116 in polyester for hazardous areas
- Fully insulated and corrosion resistant
- Wide range of cable fittings (stuffing glands)

Transmission cable

Current (2-wire) signal transmission:

K209 cable for standard environments

K210 cable for hazardous areas

Voltage (3-wire) signal transmission:

Note: VE210 only.

K309 cable for standard environments

K310 cable for hazardous areas

Galvanic separation

GSI127

Galvanic separation unit

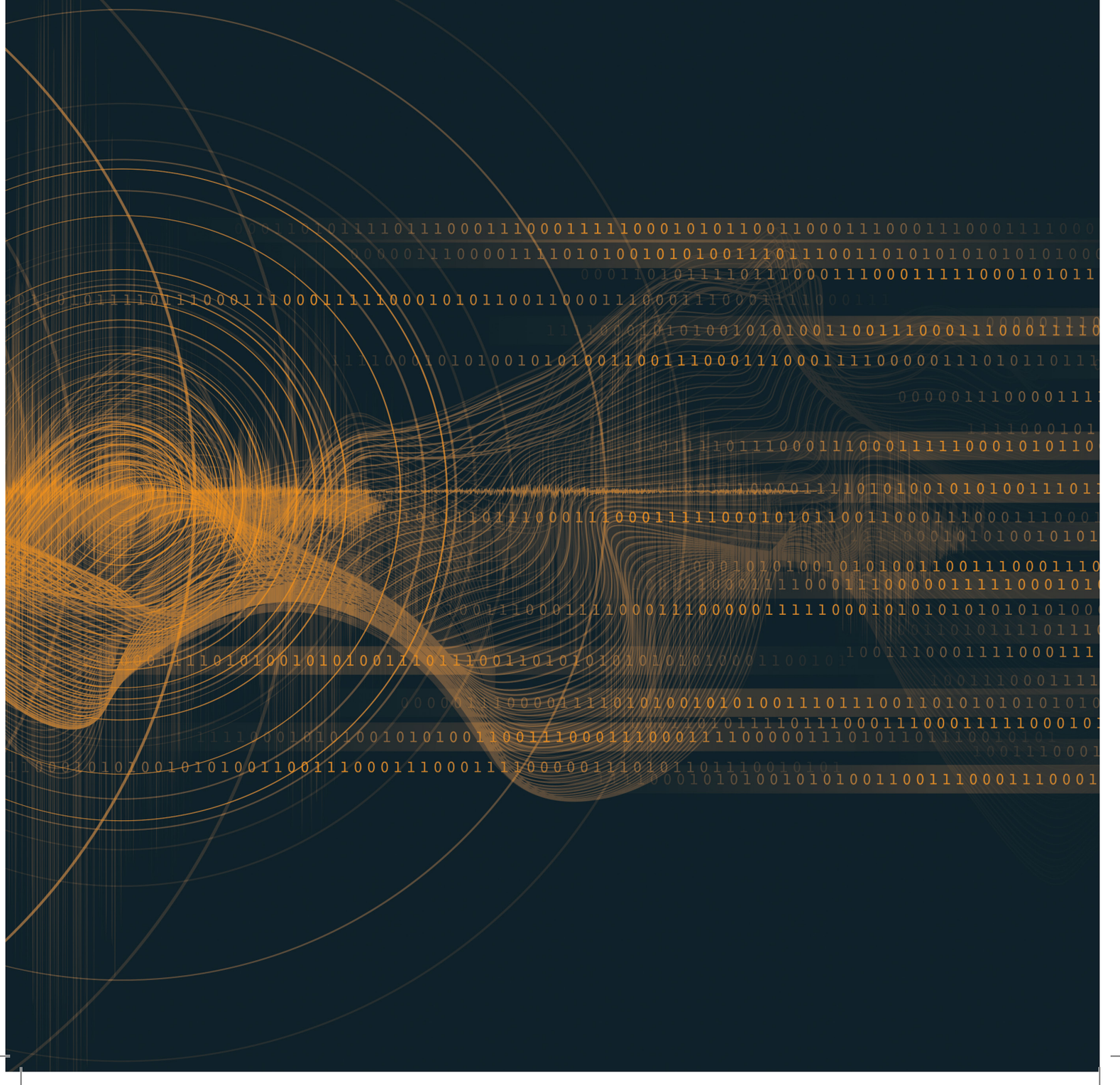
- 4 kVRMS galvanic separation
- Galvanically isolated power supply to sensor/measurement chain
- Current input with I to V conversion to support current signal transmission over longer distances – up to 1000 m
- Voltage input with V to V conversion to support voltage signal transmission
- Available in standard and Ex versions
- High rejection of frame voltage
- DIN-rail mounting and removable screw-terminal connectors

TSG series

Transmitters

- Provides a 4 to 20 mA output signal proportional to vibration
- Ranges selectable 10 to 30 mm/sec
- Frequency 10 to 1000 Hz
- Input from a velocity or any IEPE sensor
- 1 or 2 channel versions

Dynamic pressure sensors for combustion monitoring



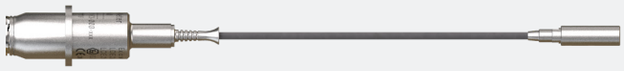
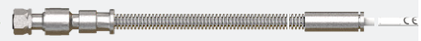
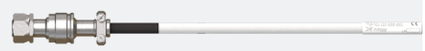
The CP series of dynamic pressure sensors are high-temperature, piezoelectric-based pressure sensors designed for the long-term measurement and monitoring of combustor pulsations and combustion dynamics in gas turbines.

CP sensors use patented acceleration-compensated designs to enable the highest temperatures and pressure sensitivities in the industry

Key Features

- Available in Ex versions certified internationally for use in hazardous areas
- Suitable for high-temperature environments (up to 700°C) and safety-related applications such as IEC 61508 SIL 2 or ISO 13849 Cat 1, PL c certified measurement chains
- Allows high-temperature lean-combustion monitoring – the key to reducing NOx and other emissions

Dynamic pressure sensors for combustion monitoring and their measurement chains

Sensor	Cable	Extension cable
CP103 ● 232 pC/bar ● up to 20 bar ● up to 250 bar ● –54 to 650 °C ● 2 to 10000 Hz	 Integral MI with or without protection (overbraid), terminated with a vibro-meter high-temperature or LEMO connector	
CP211 ● 25 pC/bar ● up to 250 bar ● up to 350 bar ● –54 to 650 °C ● 2 to 15000 Hz	 Integral MI, terminated with a vibro-meter high-temperature or LEMO connector	 **EC119 (390)** K205A, –54 to 200 °C with flexi
CP235 ● 750 pC/bar ● up to 5 bar ● up to 100 bar ● –55 to 520 °C ● 2 to 10000 Hz	 Integral MI with protection (overbraid), terminated with a vibro-meter high-temperature connector	 **EC153** Softline
CP700 ● 229 pC/bar ● up to 20 bar ● up to 100 bar ● –55 to 700 °C ● 10 to 10000 Hz	 Integral MI with protection (overbraid), terminated with a vibro-meter high-temperature connector	 **EC222** K221, –54 to 200 °C softline to 200 °C s

● Sensitivity ● Dynamic measurement range ● Operating temperature ● Frequency response

MI = mineral insulated

Signal conditioner

IPC707

Signal conditioner

- Frequency range: 0.5 to 20000 Hz
- Configurable high-pass and low-pass filters
- Current or voltage output signal
- Available in standard and Ex versions
- Optional diagnostic circuitry (built-in self-test (BIST))
- Versions with diagnostics are SIL 2 certified
- DIN-rail mounting and removable screw-terminal connectors

Transmission cable

Current (2-wire) signal transmission:

- **K209** cable for standard environments
- **K210** cable for hazardous areas

Voltage (3-wire) signal transmission:

- **K309** cable for standard environments
- **K310** cable for hazardous areas

ABA17x

Industrial housings

- Robust steel housing with protective coating
- Lockable hinged door with sealing gasket
- Device-mounting plate with DIN rails
- Cable-entry with openings and plugs
- Protection ratings: IP66, IK10, and NEMA types 4, 12 and 13
- Available in standard and Ex versions
- ABA171 for up to 2 signal conditioners, ABA172 for up to 4 and ABA173 for up to 8
- Wide range of cable fittings (stuffing glands)

Galvanic separation

GSI127

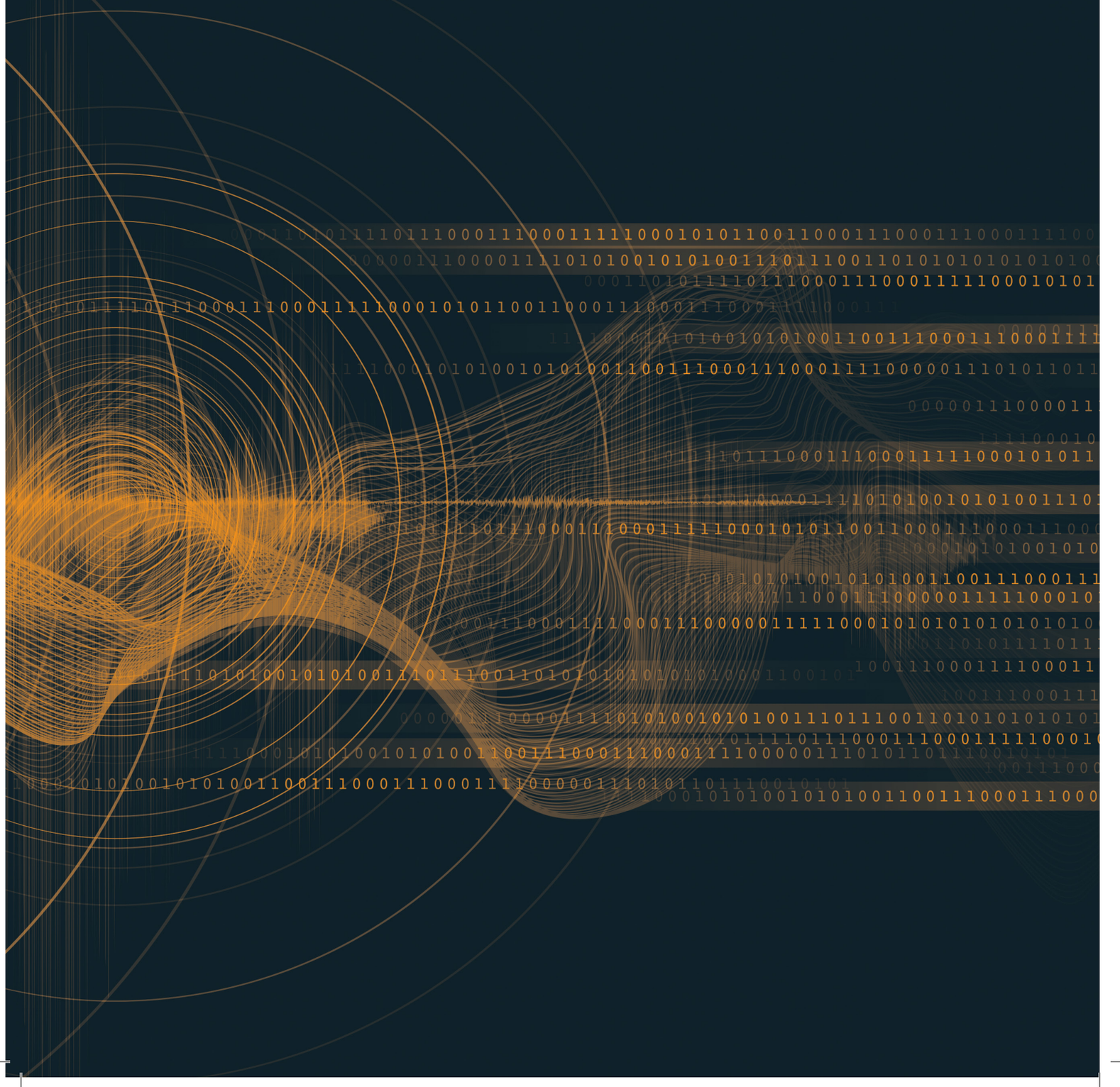
Galvanic separation unit

- 4 kVRMS galvanic separation
- Galvanically isolated power supply to sensor/measurement chain
- Current input with I to V conversion to support current signal transmission over longer distances – up to 1000 m
- Voltage input with V to V conversion to support voltage signal transmission
- Available in standard and Ex versions
- High rejection of frame voltage
- DIN-rail mounting and removable screw-terminal connectors

flexible leaktight protection

°C softline

Proximity sensors for relative vibration and other measurements



The TQ series of proximity sensors are rugged sensors that use the eddy-current principle in order to allow the contactless measurement of relative vibration, position and other measurements in harsh environments.

A TQ-based measurement chain consists of a proximity sensor, an optional extension cable and an IQS signal conditioner, configured for the particular application. The signal conditioner is required to perform all required signal processing and provide a current or voltage signal suitable for transmission to the monitoring system.

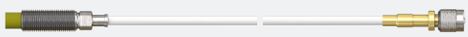
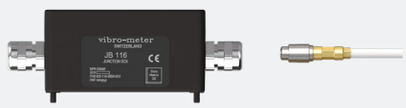
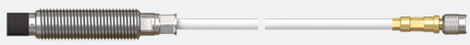
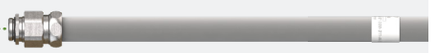
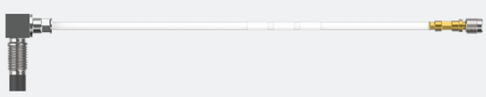
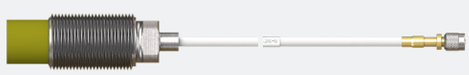
TQ-based measurement chains are ideally suited to the measurement and monitoring of relative vibration and axial position for rotating machine shafts, such as those found in steam, gas and hydraulic turbines, as well as in generators, turbo-compressors and pumps. They can also measure rotational speed and/or provide phase reference (1/REV pulse) signals.

Key Features

- Available in standard versions and in Ex versions certified internationally for use in hazardous areas
- Broad family of sensors with different measurement ranges (sensitivities), mounting options standard, reverse or right-angle and pressure capabilities (up to 100 bar)
- Suitable for safety-related applications such as IEC 61508 SIL 2 or ISO 13849 Cat 1, PL c certified measurement chains, and conforms to API 670 5th edition

TQ-based solutions enable comprehensive measurements including radial vibration, axial position, rotational speed and phase reference (1/REV pulse)

Proximity sensor measurement chains

Sensor	Cable	Extension cable
TQ401 ● 8 mV/µm or 2.5 µA/µm (2 mm) ● Standard ● –40 to 180°C ● Ø 5 mm	 Integral coaxial cable with or without protection	 **JB118** junction box or IP172 interconnection protection (for mechanical and environmental protection of connections) **EAxxx**
TQ902 ● 8 mV/µm or 2.5 µA/µm (2 mm) ● 4 mV/µm or 1.25 µA/µm (4 mm) ● Standard ● –40 to 180°C ● Ø 8 mm	 Integral coaxial cable with or without protection	
TQ912 ● 8 mV/µm or 2.5 µA/µm (2 mm) ● 4 mV/µm or 1.25 µA/µm (4 mm) ● Reverse ● –40 to 180°C ● Ø 8 mm	 Integral coaxial cable with or without protection	 **KS107** Flexible conduit
TQ922 ● 8 mV/µm or 2.5 µA/µm (2 mm) ● 4 mV/µm or 1.25 µA/µm (4mm) ● Standard ● –25 to 140°C ● Ø 12.7 mm ● up to 100 bar	 Integral coaxial cable with or without protection	 **SG1xx** Cable feedthroughs (SG101, SG102 and SG164)
TQ932 ● 8 mV/µm or 2.5 µA/µm (2 mm) ● 4 mV/µm or 1.25 µA/µm (4mm) ● Reverse ● –25 to 140°C ● Ø 12.7 mm ● up to 100 bar	 Integral coaxial cable with or without protection	
TQ942 ● 8 mV/µm or 2.5 µA/µm (2 mm) ● 4 mV/µm or 1.25 µA/µm (4 mm) ● Right-angle (90°) mount ● –40 to 180 °C ● Ø 8 mm	 Integral coaxial cable with or without protection	
TQ403 ● 1.33 mV/µm or 0.417 µA/µm (12 mm) ● Standard ● –40 to 180°C ● Ø 18 mm	 Integral coaxial cable with or without protection	
TQ423 ● 1.33 mV/µm or 0.417 µA/µm (12 mm) ● Standard ● –25 to 140°C ● Ø 25 mm ● up to 100 bar	 Integral coaxial cable with or without protection	

● Sensitivity and (dynamic measurement range) ● Mounting ● Operating temperature ● Tip diameter ● Pressure capability (at sensor tip)

Signal conditioner

IQS900

Signal conditioner

- Frequency range: DC to 20000 Hz
- Current or voltage output signal
- Available in standard and Ex versions
- Optional diagnostic circuitry (built-in self-test (BIST))
- Versions with diagnostics are SIL 2 certified
- TQ9xx, EA90x and IQS900 are fully API 670 5th edition compliant
- Raw output signal and Test input functionality
- DIN-rail mounting and removable screw-terminal connectors

IQS910

Signal conditioner (based on IQS900)

- Frequency range: DC to 15000 Hz
- 4 to 20 mA current-loop output signal
- Available in position measurement and vibration measurement versions
- Vibration measurement version implements special "peak-meter" vibration processing to provide a slowly-varying DC signal corresponding to measured AC vibration
- Note: Other features and specifications as per the IQS900

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K210 cable for hazardous areas

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K310 cable for hazardous areas

ABA17x

Industrial housings

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- Lockable hinged door with sealing gasket
- Device-mounting plate with DIN rails
- Cable-entry with openings and plugs
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- Available in standard and Ex versions
- ABA171 for up to 2 signal conditioners, ABA172 for up to 4 and ABA173 for up to 8
- Wide range of cable fittings (stuffing glands

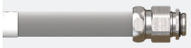
Galvanic separation

GSI127

Galvanic separation unit

- 4 kV_{RMS} galvanic separation
- Galvanically isolated power supply to sensor/measurement chain
- Current input with I to V conversion to support current signal transmission over longer distances – up to 1000 m
- Voltage input with V to V conversion to support voltage signal transmission
- Available in standard and Ex versions
- High rejection of frame voltage
- DIN-rail mounting and removable screw-terminal connectors

XXX Extension cables (EA401, EA902 or EA403)



EA902 Extension cable

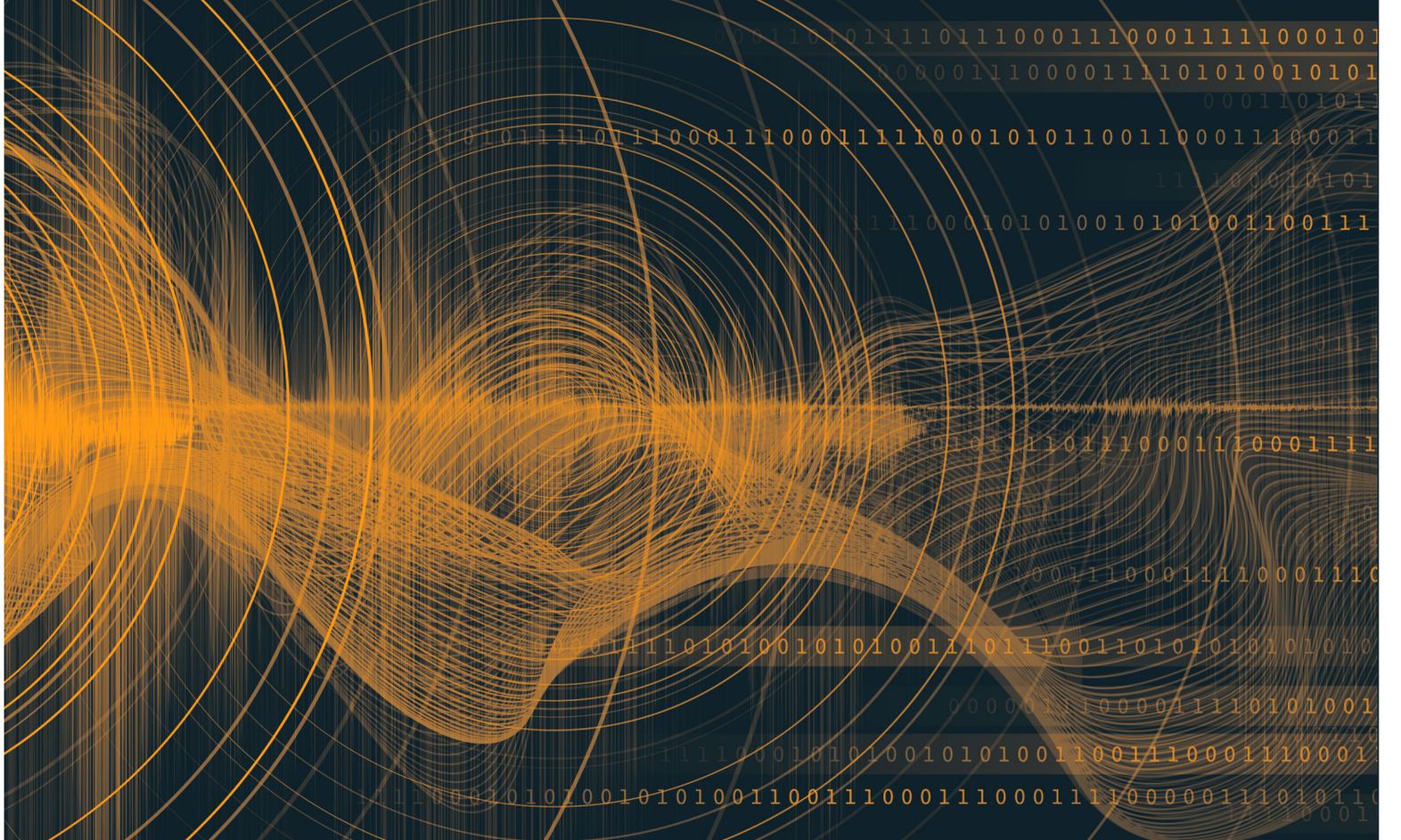
designed to work with any TQ912 sensor (reverse mount)

- 2 or 4 mm
- Ø 8.2 mm

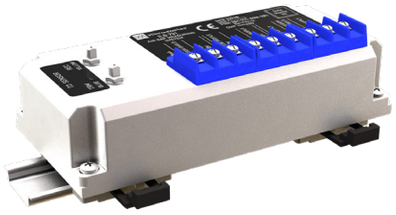
PA15x

EA90x Extension cable (EA901, EA902 or EA903)

Air-gap monitoring system



Housing expansion probes



Electric-field (capacitance) technology for the contactless measurement of air gap in hydroelectric generators, and other large alternators and motors.

LS12x / ILS73x air-gap measurement systems provide three voltage output signals (pole profile, rotor profile and minimum gap) and one current output signal (pole profile, rotor profile or minimum gap) for signal transmission over longer distances.

The minimum gap provides the minimum air gap value for all poles of the rotor – without any post-processing – and is typically connected directly to a monitoring system for simple and reliable protection.

Key Features

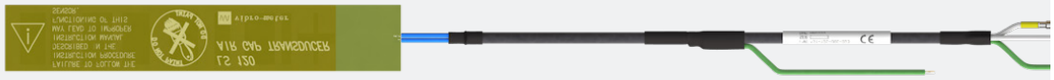
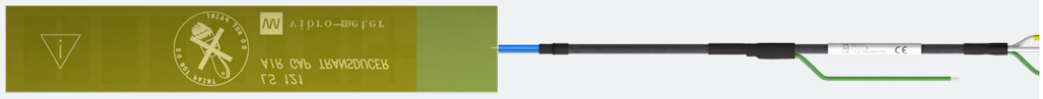
- Easy, fast and reliable installation with enhanced filtering of noise and spikes (induced by high excitation currents)
- Minimum gap signal for direct protection
- Accurate and precise results over the full measurement and temperature ranges

Eddy-current technology for the contactless measurement of absolute housing expansion on medium to large thermal machines such as gas sturbines and steam turbines.

Key Features

- Integrated electronics with a 4 to 20 mA output signal
- IP54 protection rating (splash proof)

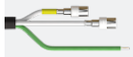
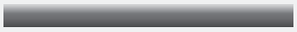
Air-gap monitoring system

Sensor	Cable
LS120 ● 5 to 30 mm (linear) ● –15 to 125 °C	 Integral coaxial cable
LS121 ● 20 to 60 mm (linear) ● –15 to 125 °C	 Integral coaxial cable

Housing expansion probes

Sensor	Cable
AE119 ● 0 to 50 mm (50 mm version) ● 0 to 100 mm (100 mm version) ● 0 to 80 °C	  **EH140** RADOX® with or without protection, straight or right-angl

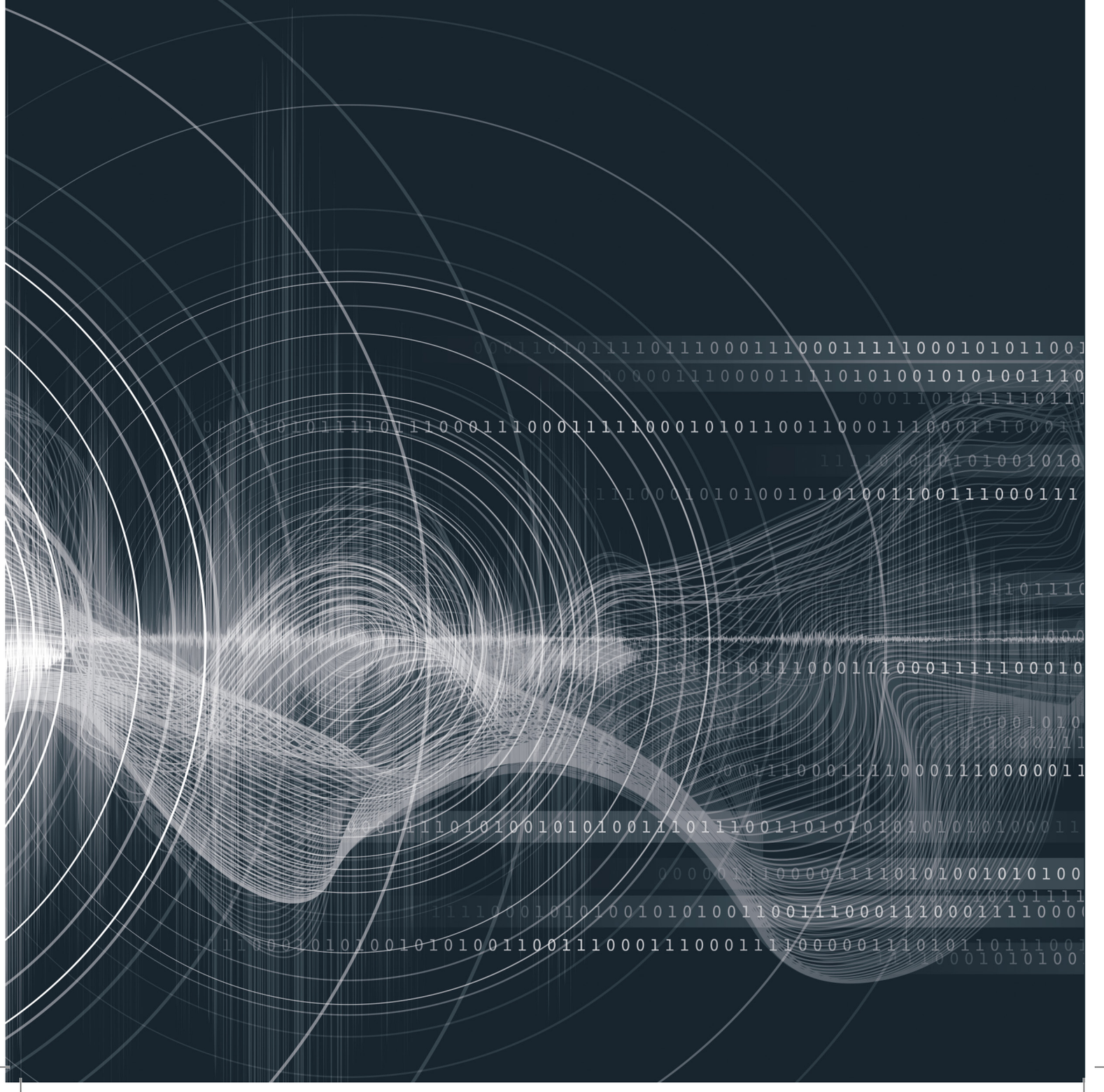
● Dynamic measurement range ● Operating temperature

	Signal conditioner	Transmission cable
 	 **ILS73x** Signal conditioner ILS730 for LS120 ILS731 for LS121 Three voltage output signals: pole profile, rotor profile and minimum gap One current output signal: pole profile, rotor profile or minimum gap (factory configurable) Aluminium enclosure DIN-rail mounting and screw-terminal connectors	 Voltage and current signal transmission **Kxxx** multiwire transmission cable

t-angle connector

Sensors for other applications

General-purpose vibration sensors



The CE620, CE630 and CE687 are piezoelectric accelerometers that provide voltage (IEPE) and current (4 to 20 mA) outputs respectively, while the PV660 and PV685 are piezoelectric velocity sensors that also provide voltage and current outputs.

The CVS100 series of vibration switches allow cost-effective vibration monitoring for stand-alone machines and BOP equipment, such as fans, pumps, centrifuges, mills, gears, etc., on whose operation important installations or processes depend.

The CE6xx, PV6xx and CVS100 are general-purpose vibration sensors designed for the cost-effective measurement and monitoring of vibration in balance of plant (BOP) equipment such as compressors, gearboxes, motors, pumps and fans, as well as larger machinery such as hydro turbines

General-purpose vibration sensors

Piezoelectric accelerometers

Sensor	Cable

CE620 piezoelectric accelerometer with a voltage output

- 100 mV/g or 500 mV/g
- up to 80 g (100 mV/g versions)
- up to 16 g (500 mV/g versions)
- –55 to 120°C (100 mV/g version)
- –55 to 90°C (500 mV/g versions)
- 0.5 to 14000 Hz (100 mV/g versions)
- 0.2 to 3700 Hz (500 mV/g versions)

Note: Available as a sensor only or with an integral cable, in standard or Ex versions.

CE630 piezoelectric accelerometer, side connector

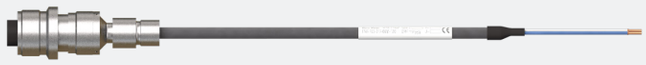
- 100 mV/g or 500 mV/g
- up to 80 g (100 mV/g versions)
- up to 16 g (500 mV/g versions)
- –55 to 120°C (100 mV/g versions)
- –55 to 90°C (500 mV/g version)
- 1 to 8000 Hz (100 mV/g versions)
- 0.2 to 3700 Hz (500 mV/g versions)

Note: Available as a sensor only, in standard or Ex versions.

CE687 piezoelectric accelerometer with a current output

- 4 to 20 mA proportional to 0 to 10 or 0 or 20 g
- –55 to 90 °C
- 3 to 10000 Hz

Available as a sensor only or with an integral cable, in standard versions only.



EC318 RADOX® cable with or without protection (flexible hose)

EC319 RADOX® cable with or without protection (flexible hose), splashproof

EC622 Polyurethane (PUR) cable without protection, IP67 cable boot

EC632 TEFLON® FEP cable with or without protection (overbraid), IP67 cable boot

● Sensitivity ● Dynamic masurement range ● Operating temperature ● Frequency response

Piezoelectric velocity sensors

Sensor	Cable

PV660 piezoelectric velocity sensor with a voltage output

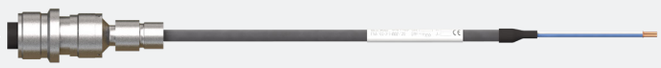
- 4 mV/mm/s
- up to 1250 mm/s
- −55 to 120 °C
- 1.9 to 7000 Hz

Note: Available as a sensor only, in standard versions only.

PV685 piezoelectric velocity sensor with a current output

- 4 to 20 mA proportional to 0 to 20, 0 to 25, or 0 to 50 mm/s
- −55 to 90 °C
- 3 to 1000 Hz

Note: Available as a sensor only or with anintegral cable, in standard versions only.



EC318 RADOX® cable with or without protection (flexible hose)
EC319 RADOX® cable with or without protection (flexible hose), splashproof
EC622 Polyurethane (PUR) cable without protection, IP67 cable boot
EC632 TEFLON® FEP cable with or without protection (overbraid), IP67 cable boot

Vibration switches

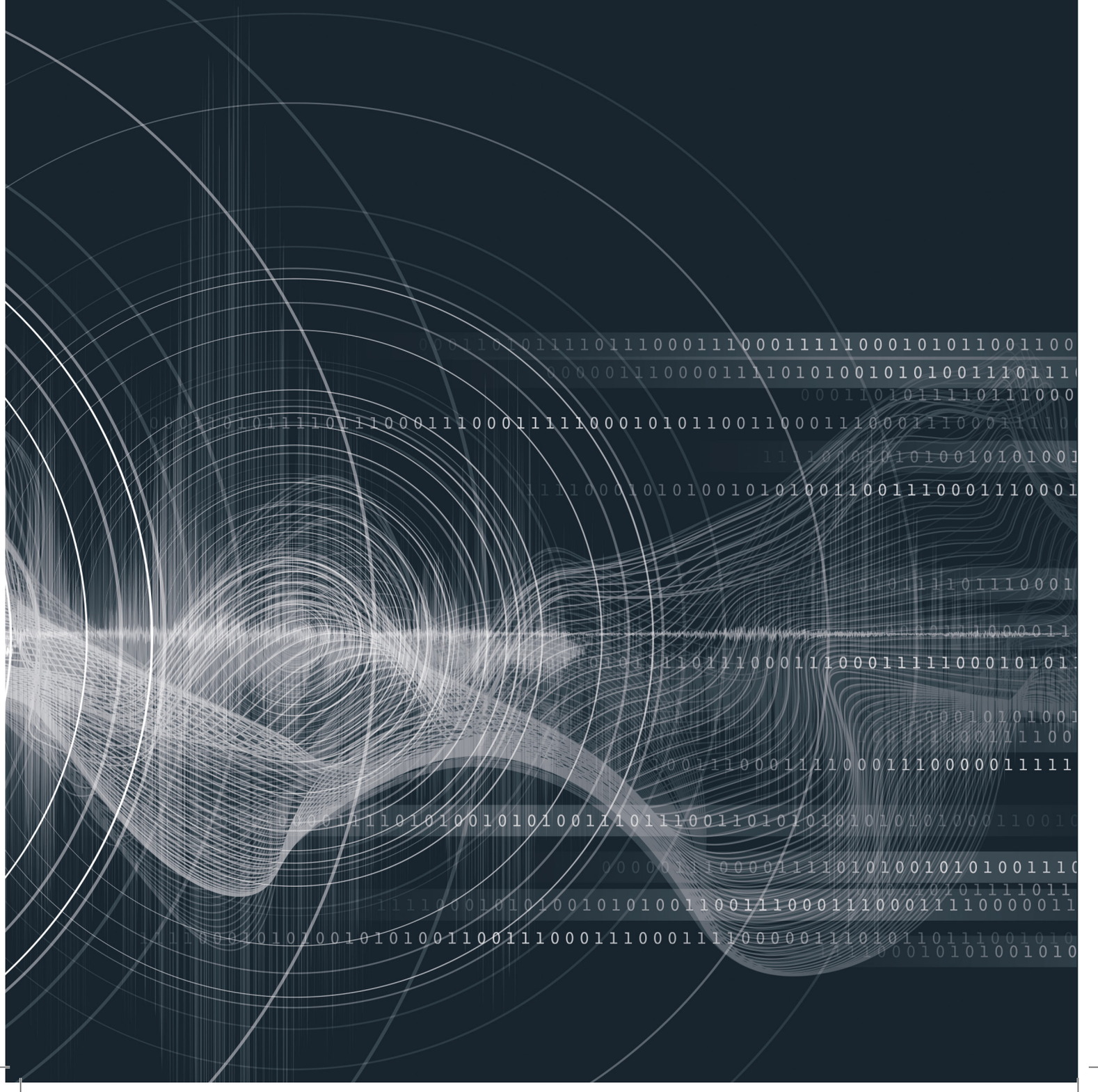
CVS100 series

- 4 to 20 mA proportional to 0 to 2, 0 to 5, 0 to 10, 0 to 20, or 0 to 50 mm/s
- −20 to 70 °C
- 10 to 1000 Hz

Direct alarm and/or trip relay output
Raw output and/or 4 to 20 mA for further signal processing

Sensors for other applications

General-purpose proximity probes



The WW proximity sensors are used in combination with a TWW101 M1 transmitter in order to measure displacement (vibration).

The RE proximity sensors are used in combination with a RE101 / R102 transmitter in order to measure the relative position of a target (object).

The large measurement range of these sensors / measurement chains makes them ideal for monitoring differential expansion on steam turbines.

The WW and RE series of proximity sensors are used in combination with a transmitter or converter for direct 4 to 20 mA current measurement of shaft vibration or relative displacement. Measurements are made according to the eddy-current principle

General-purpose proximity probes

Sensor	Cable
WW007 / WW009 ● 0.5 to 5.5 mm ● –20 to 180 °C	 **WWxxxxx** ● length 4 or 9 m
WW030 ● 2 to 14 mm ● –20 to 145 °C	
RE022 / RE030 ● 22/30 mm ● –20 to 200 °C	

Transmiters

TSW series

Transmitter

Provides a 4 to 20 mA signal proportional to shaft vibration

Ranges selectable: 50 to 500 µm

Various frequency ranges available

Raw signal for sensor adjustment

TIW series

Transmitter

Provides a TTL output of the detected pulses: 15 kHz max

Provides a 4 to 20 mA signal for the selected speed range

Two ranges available: 20000 rpm max.

Raw signal for sensor adjustment

TWW series

Transmitter

Provides a 4 to 20 mA signal proportional to shaft position

Ranges depend on specified sensor

Frequency DC to 2 Hz

● Measurement range ● Operating temperature

Transmiter

TSWxxx for shaft vibration
TWWxxx for shaft position
TIWxxx for speed and/or reference signals

TWWxxx

RE101/RE102 for shaft relative expansion

RE series

Transmitter

Provides dual 4 to 20 mA signals or a 4 to 20 mA signal and a 4 mV/µm signal, depending on version

Additional 0.5 to 4.5 V_{DC} output corresponding to transfer function

Ranges depend on specified sensor: 22 or 30 mm

Frequency DC to 2 Hz

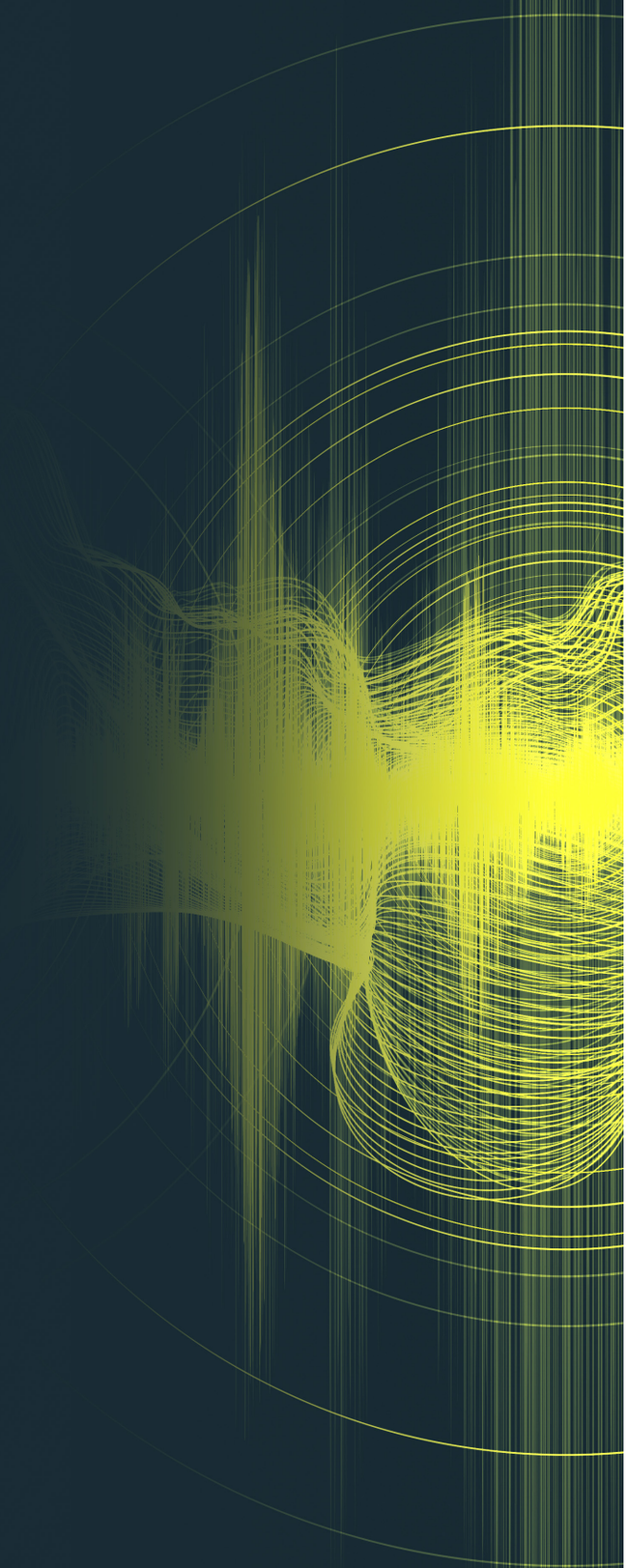
About us

Meggitt pioneered high performance sensing and condition monitoring solutions for extreme environments. After working with the world's turbine manufacturers for more than 60 years, Meggitt through vibro-meter portfolio remains master of all aspects of the condition monitoring and machinery protection disciplines.

From high performance sensing, data acquisition and management to the high speed digital networking and the signal processing algorithms that can deliver diagnostics for prescriptive maintenance solutions.

Meggitt PLC

Headquartered in the United Kingdom, Meggitt PLC is an international group operating in North and South America, Europe and Asia. Known for its specialised extreme environment engineering, Meggitt is a world leader in aerospace, energy and defence markets.
An 11,000-strong workforce serves customers from around 40 manufacturing facilities and regional offices worldwide.



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