SPECIFICATIONS *(continued)*

IQS900 signal conditioner

Current output (2-wire signal transmission)

Current at min. / max. gap	: −15.5 mA / −20.5 mA
Measurement range	: 5 mA (corresponding to 12 mm)
Output sensitivity	: See Operation on page 2 and IQS900 signal conditioner on page 15
Nominal output signal	
• Without diagnostics	: −15.5 to −20.5 mA
• With diagnostics	: −15.5 to −20.5 mA indicates normal operation. Other current values (>−15.5 or <−20.5 mA) indicate a problem with the measurement chain (sensor, cabling and/or signal conditioner).
Output impedance	: >60 kΩ. Note: Recommended monitoring system input impedance: ⩽350 Ω.

Voltage output (3-wire signal transmission)

Voltage at min. / max. gap	: −1.6 V / −17.6 V
Measurement range	: 16 V (corresponding to 12 mm)
Output sensitivity	: See Operation on page 2 and IQS900 signal conditioner on page 15 Nominal output signal
• Without diagnostics	: −1.6 t o −17.6 V
• With diagnostics	: −1.6 t o −17.6 V indicates normal operation. Other current values (>−1.6 or <−17.6 V) indicate a problem with the measurement chain (sensor, cabling and/or signal conditioner).
Output impedance (small signal)	: < 100 Ω at DC. <300 Ω at 20 kHz. Note: Recommended monitoring system input impedance: ⩾50 kΩ. The low output impedance enables operation with a wider range of galvanic separation units / safety barriers, without loss of performance. For example, an IQS900 (output impedance 100 Ω) connected to a third-party galvanic isolator (input impedance 10 kΩ) will see 1% max. signal loss due to impedance matching.
Protection	: Short-circuit (35 mA), overvoltage (−33 V_{DC} typical)
Output voltage swing	: −0.05 to −22.5 V with a 50 kΩ load and a −24 V_{DC} power supply. −0.05 to −21.5 V with a 10 kΩ load and a −24 V_{DC} power supply.

Raw output (RAW/COM)

Output voltage range	: −0.8 to −8.8 V (nominal)
Output impedance	: < 15 kΩ up to 20 kHz. < 10 kΩ for DC measurement. Note: Recommended test equipment input impedance: >1 MΩ.
Protection	: Short-circuit, overvoltage (−33 V_{DC} typical)

SPECIFICATIONS *(continued)*

Test input (TEST/COM)

Input voltage range	: ±0.1 to 4.0 V_{PK-PK} (nominal), depending on the measured gap (DC)
Input impedance	: 500 kΩ. Note: Recommended test equipment output impedance: >5 kΩ.
Protection	: Overvoltage (−33 V_{DC} typical)

Power supply (to IQS900)

Input voltage range	
• With a current output signal (2-wire signal transmission)	: −18 to −30 V_{DC} (nominal)
• With a voltage output signal (3-wire signal transmission)	: −19 to −30 V_{DC} (nominal)
Current consumption (with nominal 24 V_{DC} supply)	: 25 mA max.
Overvoltage protection (diode)	: −33 V_{DC} typical

Note: The IQS900 should be powered (energised) using a limited-power, low-voltage power supply such as a sensor power supply output provided a VM600^{Mk2}/VM600 or VibroSmart® monitoring and/or protection system, a GSI127 galvanic separation unit or other suitable power supply.
In safety-related applications, an IQS900 must be powered using a limited-power, low-voltage power supply with a safe limitation of −30 V_{DC} (nominal), even in the event of a single fault with the power supply.

Environmental

Temperature	
• Operating and storage	: −40 to 85°C (−40 to 185°F)
Humidity	: 0 to 95%, non-condensing
Protection rating (according to IEC 60529)	: IP20. Note: The IQS900 is suitable for indoor use only unless it is installed in an industrial housing or enclosure that ensures a higher level of environmental protection.
Flammability	: UL94 V-0
Vibration (according to IEC 60068-2-6)	: 5 g peak between 10 and 500 Hz
Shock acceleration (according to IEC 60068-2-27)	: 15 g peak (half sine-wave, 11 ms duration)

SPECIFICATIONS *(continued)*

Connectors

Self-locking miniature coaxial connector (bidirectional)	: 1 contact for sensor-side signal: sensor (connects to TQ9xx sensor or EA902 cable)
Screw-terminal connector (input)	: 4 contacts for test signals: raw output (RAW/COM) and test input (TEST/COM)
Screw-terminal connector (output)	: 4 contacts for monitor-side signals: measurement output (O/P/COM) and power supply input (−24V/COM)
Screw-terminal connectors	
• Clamping range (min. to max.)	: 0.2 to 1.5 mm^2 (24 to 16 AWG)
• Tightening torque (min. to max.)	: 0.2 to 0.25 N•m (0.15 to 0.18 lb-ft)

Note: The IQS900 features removal screw-terminal connectors that can unplugged from the main body of its housing to simplify installation and mounting.

Physical characteristics

Electrical connections	: Self-locking miniature coaxial connector and removable screw-terminal connectors (see **Connectors on page 12**)
Housing material	: Injection-moulded aluminium, painted
Dimensions	: See **Mechanical drawings and ordering information on page 15**
Weight	: 200 g (0.44 lb) approx.
Mounting	
• Without DIN-rail mounting adaptor	: Two M4 screws
• With DIN-rail mounting adaptor (ordering option code G2)	: MA130 DIN-rail mounting adaptor for IPC707 and IQS900 signal conditioners. Suitable for TH 35 DIN rails (according to EN 50022 / IEC 60715). For example, TH 35-7.5 or TH 35-15. **See Accessories on page 16**.