

Vibro Meter Service Manual

111-912-000-013-A1-B1-E1000-F0-G0-H05

1. Description

Manufacturer : Meggitt (Vibro-Meter)

3. Product Information

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Manufacturer : Meggitt (Vibro-Meter)
Product No. : 111-912-000-013-A1-B1-E1000-F0-G0-H05
Product Type : Proximity Measuring System
111-912-000-011:TQ912 proximity sensor
Environment (A) : 1 = Standard
Body thread (B) : 1 = M10 × 1
Integral cable length (E) : 1000 = 1000 mm ±100 mm
Optional protection (F) : 0 = None
Flexible hose length (G) : 0 = None
Total system length (H) : 05 = 5 m
Weight : 0.22 Kg

KEY FEATURES AND BENEFITS

From the vibro-meter® product line
Non-contact measurement based on eddy-current principle
Available in standard versions and Ex versions
certified for use in hazardous areas (potentially explosive atmospheres)
Conforms to API 670 5th edition
1, 5 and 10 m measurement chains
Temperature-compensated design
Voltage output or current output with short-circuit protection
Current-signal transmission over distances up to 1 km
Frequency response:
DC to 20 kHz (–3 dB)
Linear measurement range:
2 or 4 mm

Temperature range (sensor):
–40 to 180°C

KEY FEATURES AND BENEFITS (continued)

Optional diagnostic circuitry detects sensor, cabling and/or signal conditioner problems
Suitable for use in functional safety contexts:
SIL 2 in accordance with IEC 61508 and Cat 1 PL c in accordance with ISO 13849
IQS900: Removable screw-terminal connectors and DIN-rail mounting
System (chain) calibration
Calibration temperature : +23°C ±5°C
Target material : VCL 140 steel
General
Sensor input requirements : High-frequency power source from an IQS900 signal conditioner
Environmental
Temperature range
Sensor : –40 to 180°C (–40 to 356°F) operating.
180 to 220°C (356 to 428°F) short-term survival for 2 hours max.
Sensor and cabling : Temperature for use in an Ex Zone: see Potentially explosive atmospheres on page 4
Cabling, connector and optional protection
: –40 to 200°C (–40 to 392°F)
Measurement drift
Sensor and cabling with a total system (chain) length of 1, 5 or 10 m
: <5% for –30 to 150°C (–22 to 302°F)
Pressure between sensor tip and body : 6 bar (100 psid) max.
Protection rating

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(according to IEC 60529)

: The head of the sensor (sensor tip and integral cable) is rated IP68

Vibration

(according to IEC 60068-2-26)

: 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)

Physical characteristics

Sensor construction : Wire coil Ø8 mm, PPS (polyphenylene sulfide) high-performance

thermoplastic tip, crimped to a stainless-steel body (AISI 316L)

Integral and extension cables : FEP covered 70 Ω coaxial cable, Ø3.6 mm

Connectors : Self-locking miniature coaxial connectors.

Note: When connecting, these should be hand-tightened until locked.

Optional protection

Flexible stainless-steel hose

(protection tube) with

FEP sheath (extruded fluorinated

ethylene propylene)

: The combination of stainless-steel hose with FEP sheath provides sealed (leak-tight) mechanical and electrically insulated protection.

Note: The FEP sheath also provides resistance to almost all chemicals and low permeability to liquids, gases and moisture, while being flexible, low friction and mechanically tough.

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