Vibro Meter Service Manual

111-902-000-012-A1-B6-C092-D2-E500-F0-G0-H05

1. Description

Manufacturer : Meggitt (Vibro-Meter)

3. Product Information

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Manufacturer : Meggitt (Vibro-Meter)

Product No. : 111-902-000-012-A1-B6-C092-D2-E500-F0-G0-H05

Product Type : Proximity Measuring System

111-902-000-012:TQ902 proximity sensor

Environment (A) : 1 = Standard

Body thread (B) : 6 = 3/8″-24UNF

Body length (C):092=92mm

Unthreaded length (D):2=2 mm min.

Integral cable length (E) : 500 = 500 mm ±50 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:

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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

(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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