

OVERVIEW

The Metrix® MX8030 probe series consist of 8mm tip diameter probes with VIBELOCK® connectors and Triaxial Cables. These models are available with all standard thread sizes and body configurations required in API 670 Standard. The probes offer a full 80 mil (2mm) range, and are designed to offer full API 670-compliant performance characteristics when used with a matching MX8031 extension cable and MX2033 driver. MX8030 probes are fully interchangeable with Bently Nevada® 3300 and 3300 XL 8mm probes.



MX8030-AA-BBB-CCC-DD-EE (5mm/8mm Proximity Probe with VIBELOCK®)

MX8030 - AA or AA - PVC					BBB	CCC	DD	EE ²
AA	Armor	Mount	Tip Diameter	Case Threads	Unthreaded Length	Case Length	Total Length	Agency Approval
01	No	FWD	8mm	3/8"-24	BBB = BB.B" Order in increments of 0.1" Min: 000 = 00.0" Max: case length minus 0.8" Example: 024 = 2.4"	CCC = CC.C" Order in increments of 0.1" Min: 008 = 0.8" Max: 096 = 9.6" Example: 032 = 3.2"	05 = 0.5 m 10 = 1.0 m 15 = 1.5 m 20 = 2.0 m 50 = 5.0 m 90 = 9.0 m	00 = None 05 = CSA, ATEX, IECEx, EAC, KOSHA
02	Yes	FWD	8mm	3/8"-24				
02PVC	Yes	FWD	8mm	3/8"-24				
03	No	FWD	8mm	M10x1	BBB = BBB mm Order in increments of 10mm Min: 000 = 00mm Max: case length minus 20mm Example: 070 = 70mm	CCC = CCC mm Order in increments of 10mm Min: 020 = 20mm Max: 250= 250mm Example: 090 = 90mm		
04	Yes	FWD	8mm	M10x1				
04PVC	Yes	FWD	8mm	M10x1				
05	No	REV	8mm	3/8"-24	002 = 0.2" ONLY	012 = 1.2" ONLY		
06	No	REV	8mm	M10x1	005 = 5 mm ONLY	030 = 30 mm ONLY		
07	No	FWD	8mm	1/2-20 ¹	BBB = BB.B" Order in increments of 0.1" Min: 000 = 00.0" Max: case length minus 0.8" Example: 024 = 2.4"	CCC = CC.C" Order in increments of 0.1" Min: 008 = 0.8" Max: 096 = 9.6" Example: 032 = 3.2"		
08	Yes	FWD	8mm	1/2-20 ¹				
09	No	FWD	8mm	M14x1.5 ¹	BBB = BBB mm Order in increments of 10mm Min: 000 = 00mm Max: case length minus 20mm Example: 070 = 70mm	CCC = CCC mm Order in increments of 10mm Min: 020 = 20mm Max: 250= 250mm Example: 090 = 90mm		
10	Yes	FWD	8mm	M14x1.5 ¹				
40	No	FWD	8mm	3/8" Smooth	Not Applicable	CCC = CC.C" Order in increments of 0.1" Min: 008 = 0.8" Max: 096 = 9.6" Example: 032 = 3.2"		
41	Yes	FWD	8mm	3/8" Smooth	Not Applicable			
41PVC	Yes	FWD	8mm	3/8" Smooth	Not Applicable			

NOTE: All MX8030 series probes and extension cables are part of the 10000 series part number designation for agency approvals. The 10000 series p/n will appear on the product's label along with the MX8030 p/n. e.g. MX8030-AA-BBB-CCC-DD-EE = 103AA-BBB-CCC-DD-EE. PVC refers to the coating around the armor if selected.

- Intended to replace form factor for 11mm probes (Ex: model numbers 10037, 10038, 10039, 10040)
- For SIL approval, replace the first character in Option EE with an "S". **Note:** For all AA=PVC options, EE must equal 00 or S0.

*Registered trademark(s) of Metrix Instrument Co.

**Registered trademark(s) of Bently Nevada



SPECIFICATIONS

MECHANICAL

Probe Tip Material:	Polyphenylene Sulfide (PPS)	Tensile Strength:	Probe body to probe cable: 245N (55 lb)
Probe Case Material:	FWD-mount probe: AISI 304 stainless steel REV-mount probe: AISI 303 stainless steel	Connector Material:	Cable to Connector: 245N (55 lb) Gold-plated brass
Probe Cable Type:	75Ω triaxial, Tefzel® 750 insulation (ethylene – tetrafluoroethylene ETFE)	Connector Gender:	Probe: Male Extension Cable: Female and Male
Extension Cable Type:	75Ω triaxial, Tefzel® 750 insulation (ethylene – tetrafluoroethylene ETFE)	Connector Type:	Driver or Transmitter: Female Miniature knurled
Optional Flexible Armor:	AISI 304 stainless steel (armor) AISI 303 stainless steel (armor ferrule)	Connector Torque:	Maximum: 0.565 N-m (5 in-lb) Recommended: finger tight
NOTE: The PVC (Polyvinyl Chloride) coated armor is intended to enhance moisture and corrosion resistance.		Min. Cable Bend Radius:	Without Armor: 25.4 mm (1.0 in) With Armor: 25.4 mm (1.0 in)

Jam Nut Torque:

PROBE TYPE	MAX. RATED	RECOMMENDED
8mm FWD mount	33.9 N-m (300 in-lb)	11.3N-m (100 in-lb)
8mm REV mount	22.6 N-m (200 in-lb)	7.5 N-m (66 in-lb)

ENVIRONMENTAL

Operating and Storage Temperature:
Probe: -51°C to +177°C (-60°F to +350 °F) ¹
Extension Cable: -51°C to +177°C (-60°F to +350°F) ¹
Driver or Transmitter: -40°C to +85°C (-40°F to +185°F)
Relative Humidity: 95%, non-condensing
Probe tip-to-case Pressure Rating: 8mm Probe 80 bar (1160 psi) (DD)
Patents: Digital performance curve technology in driver and transmitter: US patent number 7768258.
NOTES: MX8030 Probes can be used in a cryogenic fluid to -192°C (-313°F).
MX8030 Probes have a radiation exposure limit of 5 x 10 ⁶ Rads (expected 30-yr dose).
These probes are suitable for use in a reactor compartment in a nuclear power plant.
1. PVC covered armor has a high-end temperature specification of +105°C (+221°F).

WEIGHT AND DIMENSIONS

Weight:	Probe: 298 g (10.5 oz)
	Extension cable: - 33 g/m (0.35 oz/ft) without armor - 98 g/m 1.05 oz/ft) with armor

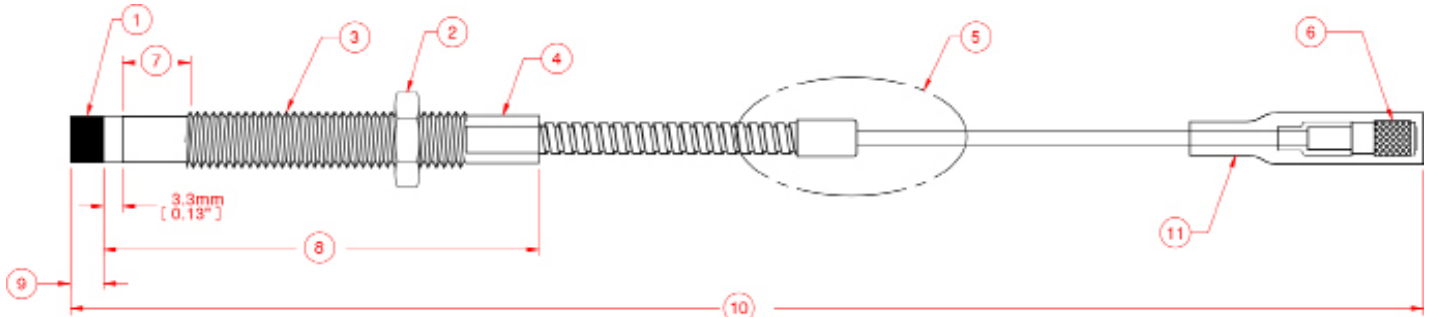


FIGURE 4: MX8030 8mm Forward-Mount Probe (AA=01 through 04)

NOTES:

1. Probe tip, 8.0mm (0.31") diameter
2. Forward-mount 8mm probes are supplied with locknut. Locknut is 9/16" for 3/8-24 case threads and M17 for M10 case threads. Locknut material is 18-8 stainless steel.
3. Case threads. AA=01 and 02 have 3/8-24 UNF-2A threads. AA=03 and 04 have M10 x 1 threads.
4. Wrench flats. 5/16" for 3/8-24 case threads; 8mm for M10 x 1 case threads.
5. 75Ω triaxial cable with ethylene-tetrafluoroethylene (ETFE) jacket – 3.70mm (0.146") max. outside diameter. Optional cable protective armor shown (option AA=02 and 04). Armor is 304 stainless steel with 6.99mm (0.275") max. outside diameter. Armor length is 152mm (6.0") less than cable length. Armor ferrule is 303 stainless steel with 8.89mm (0.350") max. outside diameter. Armor can also come with a PVC jacket, see options AA - PVC.
6. Miniature male VIBELock® coaxial connector, round, knurled. 7.37mm (0.290") max. outside diameter.
7. Unthreaded Length (option BBB).
8. Case Length (option CCC).
9. 6.0mm (0.235") max.
10. Total Length (option DD), +30%, -0%.
11. Fluorosilicone connector insulator boot. 11mm (0.43") max. outside diameter 25mm (1.00") max. length. Insulator boot is not designed to seal against moisture ingress. It is provided for electrical insulation of connectors from inadvertent contact with conduit, junction boxes, and other metal objects.

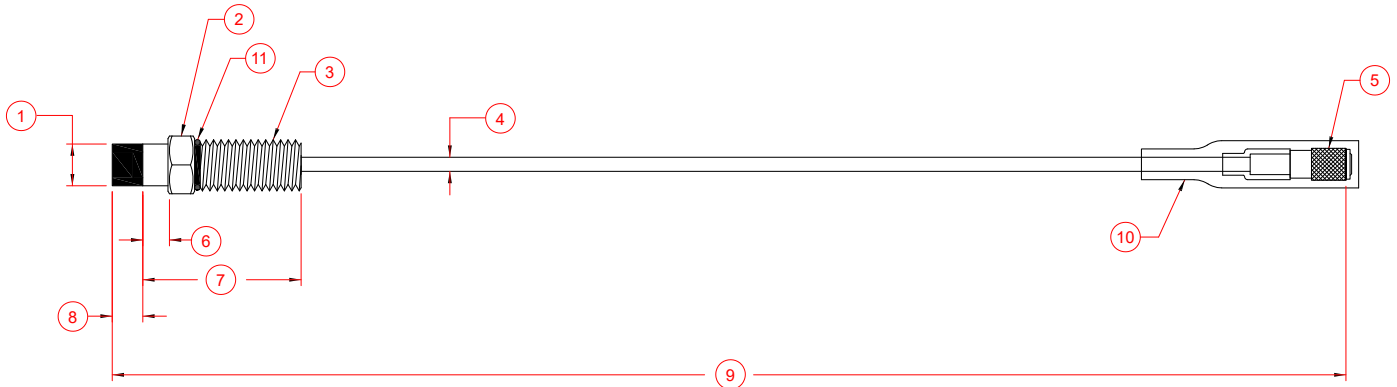


FIGURE 5: MX8030 8mm Reverse-Mount Probe (AA=05 and 06)

NOTES:

1. Probe tip, 8.0mm (0.31") diameter
2. 7/16" hexagonal
3. Case threads. AA=05 has 3/8-24 UNF-2A threads. AA=06 has M10 x 1 threads.
4. 75Ω triaxial cable with ethylene-tetrafluoroethylene (ETFE) jacket – 3.70mm (0.146") max. outside diameter.
5. Miniature male VIBELock® coaxial connector, round, knurled. 7.37mm (0.290") max. outside diameter.
6. Unthreaded Length (option BBB). BBB must be 002 for AA=05. BBB must be 005 for AA=06.
7. Case Length (option CCC). CCC must be 012 for AA=05. CCC must be 030 for AA=06.
8. 6.0mm (0.235") max.
9. Total Length (option DD), +30%, -0%.
10. Fluorosilicone connector insulator boot. 11mm (0.43") max. outside diameter 25mm (1.00") max. length. Insulator boot is not designed to seal against moisture ingress. It is provided for electrical insulation of connectors from inadvertent contact with conduit, junction boxes, and other metal objects.
11. O-Ring: AS-568-108, BUNA N, H70

SAFETY INTEGRITY LEVEL

SIL is a method or measurement unit to determine the reliability of electrical, electronic and programmable systems. The purpose of the SIL certification is to measure safety system performance and the likelihood of failure. Achieving SIL certification, based on the IEC61508 Functional Safety Standard, signifies that the product has been thoroughly assessed and is a reliable electronic device ready to use across a wide range of industries.

Metrix DPS products have been thoroughly evaluated by an independent third party agency on the basis of IEC61508 Functional Safety standards to obtain SIL certification.

Note: Metrix is continuously improving our products. Please refer to our website to download the latest version of this document.

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