OVERVIEW

The TightView™ System applies to MX8030 8mm probe tip series and MX2030 5mm probe tip series for both 5m and 9m systems featuring VibeLock™ Connectors and for MX8030, Triaxial Cables. These models are available with standard thread sizes and body configurations required by the API 670 Standard. The TightView System offers a full 80 mil (3.15mm) range with 0.5" (12mm) and a 0.3125" (8mm) counter bores. They are designed to offer full API 670-compliant performance characteristics when used with a matching MX8031 or MX2031 extension cable and MX2033 driver or MX2034 transmitter.

STEP 1. Choose a MX8030 or MX2030 Proximity Probe

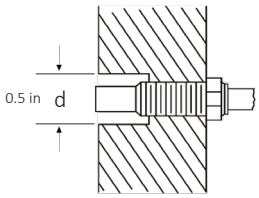


Diagram 1

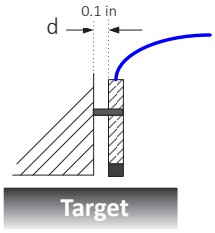


Diagram 2

MX8030-AA-BBB-CCC-DD-EE (8mm Proximity Probe with VibeLock™)

MX8030 - AA					BBB	CCC	DD	EE
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	00 = None 05 = CSA, ATEX, IECEx
02	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				
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		

*For SIL approval, replace the first character in Option EE with an "S".

MX2030-AA-BBB-CCC-DD-EE (5mm Proximity Probe)

MX2030 - AA					BBB	CCC	DD	EE
AA	Armor	Mount	Tip Diameter	Case Threads	Unthreaded Length	Case Length	Total Length	Agency Approval*
71	No	FWD	5mm	1/4" - 28	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 = 0.5m 10 = 1.0m 15 = 1.5m 20 = 2.0m 50 = 5.0m 90 = 9.0m	00 = None 05 = CSA, ATEX, IECEx
72	Yes	FWD	5mm	1/4" - 28				
73	No	FWD	5mm	M8x1	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		
74	Yes	FWD	5mm	M8x1				

*For SIL approval, replace the first character in Option EE with an "S".

NOTE: All Metrix MX8030 and MX2030 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 = 10XAA-BBB-CCC-DD-EE.

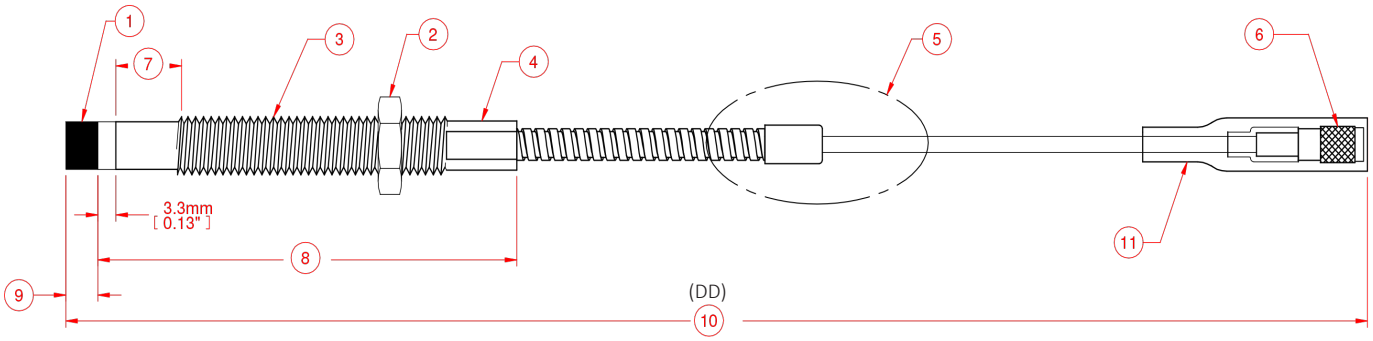


Diagram 3. MX8030 8mm Forward-Mount Probe (AA=01 through 04)

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 – 3.56mm (0.140") 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.
6. Miniature male VibeLock™ triaxial 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 ingression. It is provided for electrical insulation of connectors from inadvertent contact with conduit, junction boxes, and other metal objects.

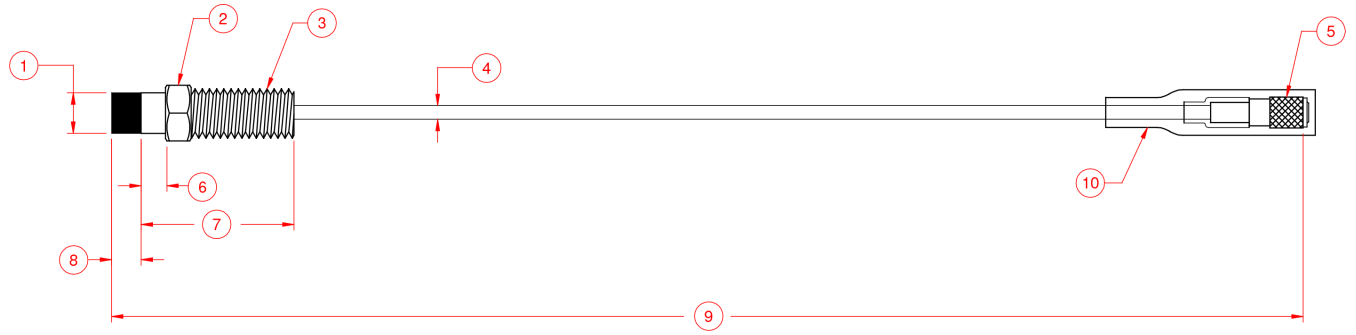
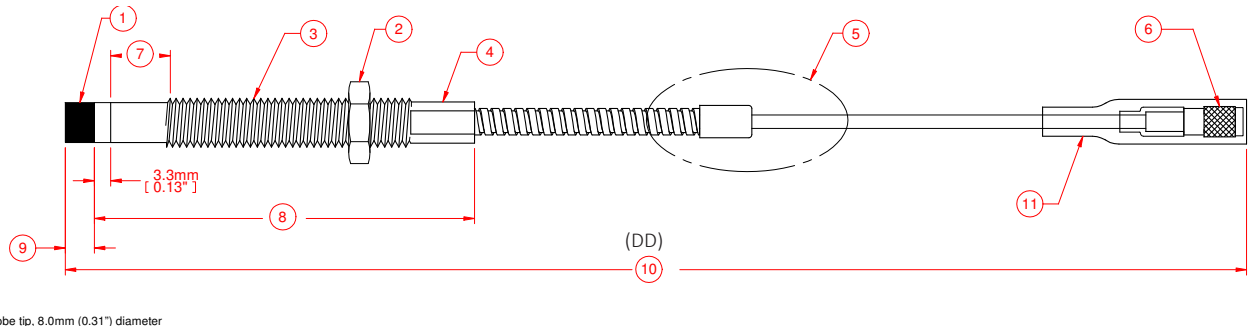


Diagram 4: MX8030 8mm Reverse-Mount Probe (AA=05 and 06)

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 ingression. It is provided for electrical insulation of connectors from inadvertent contact with conduit, junction boxes, and other metal objects.



1. Probe tip, 8.0mm (0.31") diameter

Diagram 5: MX2030 5mm Forward-Mount Probe (AA=71 through 74)

NOTES:

1. Probe tip, 5.0mm (0.20") diameter
2. Forward-mount 5mm probes are supplied with locknut. Locknut is 7/16" for 1/4-28 case threads and M13 for M8 case threads. Locknut material is 18-8 stainless steel.
3. Case threads. AA=71 and 72 have 1/4-28 threads. AA=73 and 74 have M8 threads.
4. Wrench flats. 7/32"for 1/4-28 case threads; 7mm for M8 case threads.
5. 75Ω coaxial cable with ethylene-tetrafluoroethylene (ETFE) jacket – 2.79mm (0.110") max. outside diameter. Optional cable protective armor shown (option AA=72 and 74). 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.
6. Miniature male coaxial connector, round, knurled, 6.86mm (0.270") 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 ingression. It is provided for electrical insulation of connectors from inadvertent contact with conduit, junction boxes, and other metal objects.

*Registered trademark(s) of Metrix Instrument Co.®.
**Registered trademark(s) of Bently Nevada®.

STEP 2. Choose an MX8031 or MX2031 Extension Cable

The TightView™ System uses the MX8031 or MX2031 extension cables. They are available with and without protective armor and feature VibeLock™ Connectors and for MX8031, Triaxial Cables. MX8031 extension cables are compatible with the Metrix TightView™ MX8030 series 8mm probe system while MX2031 extension cables are to be used with Metrix TightView™ MX2030 series 5mm probe systems.

All Metrix MX8031 and MX2031 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 MX8031 p/n. e.g. MX8031-AAA-BB-CC = 10200-AAA-BB-CC.

MX8031-AAA-BB-CC (5mm/8mm Extension Cable)*

A	A	A	Cable Length	B	B	Cable Armor
0	4	0	4.0 meters	0	0	No Armor
0	4	5	4.5 meters	0	1	Armor
0	8	0	8.0 meters	0	1PVC	Armor w/PVC Jacket
0	8	5	8.5 meters	C	C	Approvals*
				0	0	None
				0	5	CSA, ATEX, IECEx

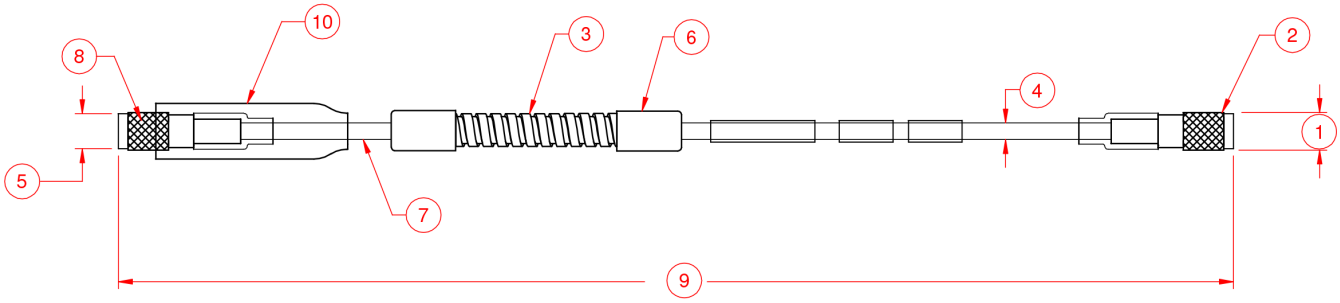
*For SIL approval, replace the first character in Option CC with an "S".

MX2031-AAA-BB-CC (5mm/8mm Extension Cable)

A	A	A	Cable Length	B	B	Cable Armor
0	4	0	4.0 meters	0	0	No Armor
0	4	5	4.5 meters	0	1	Armor
0	8	0	8.0 meters	0	1PVC	Armor w/PVC Jacket
0	8	5	8.5 meters	C	C	Approvals*
				0	0	None
				0	5	CSA, ATEX, IECEx

*For SIL approval, replace the first character in Option CC with an "S".

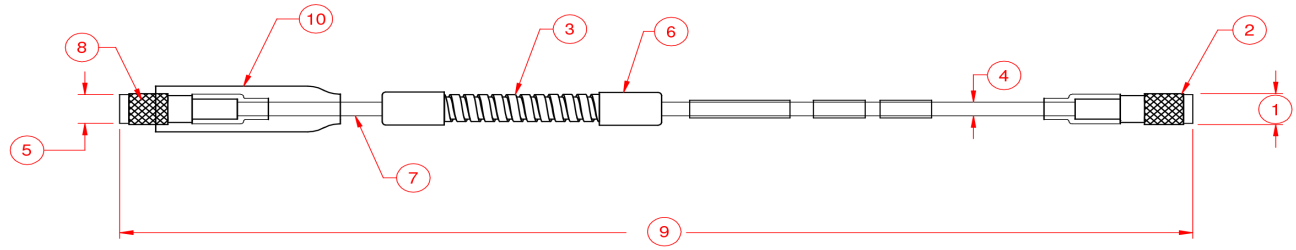
*Note: Other cable lengths are available upon request.



(AAA)

Diagram 6. MX8031 Extension Cable

1. 7.37mm (0.290”) max. outside diameter.
2. Miniature male VibeLock™ triaxial connector, round, knurled.
3. Optional cable protective armor (option BB=01) – 6.99mm (0.275”) max. outside diameter. Armor length is 305mm (12.0”) less than cable length. Armor material is 304 stainless steel.
4. 75Ω cable – 3.56mm (0.140”) max. outside diameter.
5. 7.37mm (0.290”) max. outside diameter.
6. Armor ferrule is 303 stainless steel. 8.89mm (0.350”) max. outside diameter.
7. Ethylene-tetrafluoroethylene (ETFE) insulated triaxial cable.
8. Miniature female VibeLock™ triaxial connector, round, knurled.
9. Total length (option AAA), + 25%,-0%.
10. Fluorosilicone connector insulator boot. 13mm (0.51”) max. outside diameter 50mm (2.00”) max. length. Insulator boot is not designed to seal against moisture ingression. It is provided for electrical insulation of connectors from inadvertent contact with conduit, junction boxes, and other metal objects.



(AAA)

Diagram 7: MX2031 Extension Cable

NOTES:
1. 6.86mm (0.270”) max. outside diameter.
2. Miniature male coaxial connector, round, knurled.
3. Optional cable protective armor (option BB=01) – 6.99mm (0.275”) max. outside diameter. Armor length is 305mm (12.0”) less than cable length. Armor material is 304 stainless steel.
4. 75Ω cable – 2.79mm (0.110”) max. outside diameter.
5. 6.86mm (0.270”) max. outside diameter.
6. Armor ferrule is 303 stainless steel. 8.89mm (0.350”) max. outside diameter.
7. Ethylene-tetrafluoroethylene (ETFE) insulated coaxial cable.
8. Miniature female coaxial connector, round, knurled.
9. Total length (option AAA), + 25%,-0%.
10. Fluorosilicone connector insulator boot. 13mm (0.51”) max. outside diameter 50mm (2.00”) max. length. Insulator boot is not designed to seal against moisture ingression. It is provided for electrical insulation of connectors from inadvertent contact with conduit, junction boxes, and other metal objects.

STEP 3. Choose a Driver or Transmitter

The TightView™ System uses either a Digital Proximity System (DPS) Driver or Transmitter., depending on the required signal output format: The MX2033 is a 3-Wire Driver and the MX2034 is a 4-20 mA Transmitter. These models are fully compatible with a large variety of probes and cables from Metrix and other manufacturers.

MX2033 3-Wire Probe Driver

Dynamic Voltage Output (mV/µm or mV/mil)

MX2033 signal output is compatible with industry-standard continuous vibration monitoring systems and is the format specified in API Standard 670. It uses -24Vdc excitation and provides the output signal proportional to 7.87 mV/µm (200mV/mil).

MX2034 4-20 mA Transmitter

Static Current Output (mA/mm or mA/mil)

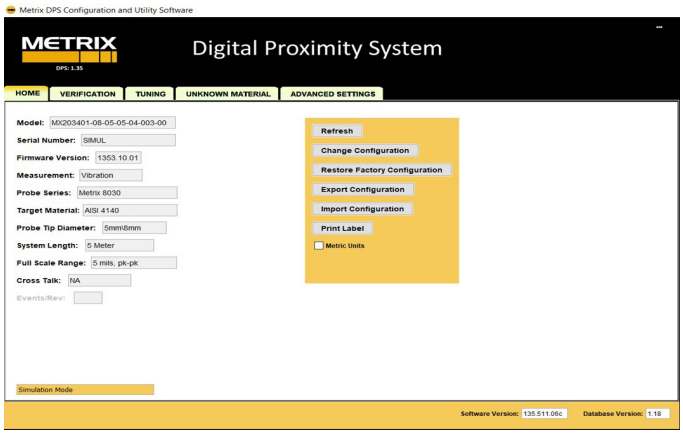
MX2034 signal output provides thrust, radial vibration, or shaft speed measurements directly to PLCs, DCSs, SCADA systems, or other instrumentation that accepts an ISA Standard 4-20 mA signal, without the use of a separate monitor system. The transmitter is a +24 Vdc current loop powered device. It is user-configurable to function as follows:

1. Radial vibration transmitter (4-20 mA signal is proportional to pk-pk vibration amplitude)
2. Axial position transmitter (4-20 mA signal is proportional to average probe gap)
3. Tachometer (4-20 mA signal is proportional to shaft speed).

FEATURES AND BENEFITS

Digitally Configurable

Metrix pioneered the patented technology used in the DPS which provides numerous performance and user-convenience benefits. Developed in 2005 for our vibration transmitters, the technology has proven itself in thousands of installations worldwide.



The DPS Configuration Software features a simple, intuitive user interface that makes it easy to configure the Digital Proximity System in the field. Users can select from a discrete list of factory pre-configured curves using drop-down boxes, or generate a custom linearization curve in the field by entering gap voltages at 10mil (25µm) increments.

These configuration options provide the user with maximum flexibility and accuracy in adapting a single driver or transmitter device in TightView applications.

The driver or transmitter is configurable via a USB port, protected under the baseplate of the device. The DPS configuration software is available as a free download at metrixvibration.com.

Configured DPS units can easily be identified in the field using the DPS configuration software and our optional Metrix User Label Kit P/N 100527 (see Accessories on page 8). The kit consists of specially shaped polycarbonate overlay labels and paper labels (Avery 6570). The customized details are printed on an Avery 6570 label, and this is affixed under a clear rectangular window in the polycarbonate overlay label, providing a weatherproof seal. Target material, probe type and series, system length, and output sensitivity can be recorded. We provide user-configurable fields where you can record installation- and device-specific details such as date of last calibration, instrument loop tag numbers, probe location (machine / bearing / angular orientation), and any other details useful to machinery and instrumentation personnel.

Full API 670 Compliance

The TightView™ System was designed to fully comply with API 670 for linear range, interchangeability, standard probe configurations, and other details.

SPECIFICATIONS

The specifications on the following pages are based upon the following system components, target materials, gaps and temperatures[1, 2]:

- MX2033 3-wire driver
- MX8030 8mm probe with 1.0m cable
- MX8031 4.0m extension cable
- AISI 4140 steel target gapped at 50 mils (1.27 mm) from probe tip
- Temp = 22° C
- 17 μA_{RMS} current loop noise floor

Specifications for MX2034 loop-powered transmitters assume the same probes, cables, target materials, temperatures, and current loop noise floor as shown above.

Interchangeability and accuracy specifications assume the above Metrix products and target materials.

ELECTRICAL

Driver or Transmitter Excitation Voltage:
(Reduced linear range will occur when voltage at the driver or transmitter terminal is more positive than-19 Vdc)

MODEL	W/O BARRIERS	W/ZENER BARRIERS	W/GALVANIC BARRIERS
MX2033	17-30 Vdc	23-26 Vdc	20-30 Vdc
MX2034			

Driver or Transmitter Max Current Consumption:

MODEL	I_{MAX}
MX2033	10 mA
MX2034	23 mA

Driver or Transmitter Output Types:

MX2033 - Terminal: 7.87 mV/µm (200 mV/mil) (instantaneous gap)

MX2034-

	TERMINAL	BNC
Radial vibration	Proportional 4-20 mA (mils or µm pk-pk)	7.87 mV/µm (200 mV/mil) (instantaneous gap)
Axial position	4-20 mA proportional to position (mils or µm)	
RPM	4-20 mA proportional to speed	

Field Wiring Gauge: Recommended: 0.8 mm^3 (18 AWG)
Allowed: 0.2 to 1.3 mm^3 (16 to 24 AWG)

Field Wiring Type: MX2033: 3-conductor shielded cable
MX2034: 2-conductor shielded cable (4-20 mA)
RG-58 A/U coax cable (BNC connector)

Max. Field Wiring Length: MX2033: 1500 m (4920 ft) between driver and monitor[4]
MX2034: 4-20 mA: 5000 m (16,400 ft) between transmitter and monitor[4]

Min. Target Size: 15.2 mm (0.6 in) diameter (assuming flat surface)

Min. Shaft Diameter: Absolute: 50.8 mm (2.0 in)
Recommended: 76.2 mm (3.0 in)

Linear Range: 3.15mm or 80 mils. Range starts at approx. 10 mils gap (-1V)

Suggested Probe Gap: -9V

NOTES:
1. The American Petroleum Institute (API) Standard 670 defines two temperature ranges for proximity probe systems: Testing Range and Operating Range. Except as otherwise noted, all specifications herein are for system performance at 22°C, in the middle of the API 670 Testing Range (0°C – 45°C).
2. Target materials other than AISI 4140 steel may restrict the transducer system's linear range and other specifications. Consult the factory whenever using a non-4140 target to ensure the transducer system will be suitable for the intended measurement range and accuracy requirements.
3. Length limit is imposed by distributed cable resistance and corresponding voltage drop at maximum current output. Assumes 18 AWG 2-conductor cable with resistance of 20 Ω/km, 24 V_{DC} supply voltage, 250 Ω load resistance, no I.S. barriers. Consult the manual for further details.
4. Length limit is imposed by distributed cable capacitance and corresponding frequency response roll-off. Assumes standard 18AWG 3-conductor cable with capacitance of 290 pF/m, no I.S. barriers. Total cable capacitance in excess of 450 nF will limit frequency response at monitor to less than 8-kHz specification. Consult the manual (Metrix Document 1093672) for further details.

SPECIFICATIONS (Continued)

Frequency Response:

MODEL	± 3dB RESPONSE	
MX2033	0-8 kHz	
MX2034	Vibration Configuration (option FF=01-49)	Position Configuration (Option FF= 0-98)
	4-20 mA: 5 Hz- 5 kHz	4-20 mA: 0- 1.2 Hz
	Buffered: 0- 5 kHz	Buffered: 0- 5 kHz

4 - 20 mA Update Rate: 150 ms (applies to MX2034 only)

Incremental Scale Factor (ISF)[1-4] and Deviation from Best-Fit Straight Line (DSL):

PROBE TYPE	ISF (Incremental Scale Factor)	DSL (Deviation from Straight Line)
MX8030 (8mm) or MX2030 (5mm)	7.87 mV/µm ± 5% (200 mV/mil)	± 0.025 mm (± 1 mil)

Accuracy: 0.3% typical, 1% max.

MECHANICAL

Probe Tip Material: Polyphenylene Sulfide (PPS)

Probe Case Material: FWD-mount probe: AISI 304 stainless steel
REV-mount probe: AISI 303 stainless steel

Probe Cable Type: 75Ω coaxial, Tefzel® 750 insulation (ethylene – tetrafluoroethylene ETFE)

Extension Cable Type: 75Ω coaxial, Tefzel® 750 insulation (ethylene – tetrafluoroethylene ETFE)

Driver Case Material: PBT thermoplastic polymer blend (contains PBT, carbon fiber, and glass beads)

Optional Flexible Armor: AISI 304 stainless steel (armor)
AISI 303 stainless steel (armor ferrule)

Tensile Strength: Probe body to probe cable: 245N (55 lb)
Cable to Connector: 245N (55 lb)

Connector Material: Gold-plated brass

Connector Gender: Probe: Male
Extension Cable: Female and Male
Driver or Transmitter: Female

Connector Type: Miniature knurled

Connector Torque: Maximum: 0.565 N-m (5 in-lb)
Recommended: finger tight

Min. Cable Bend Radius: Without Armor: 25.4 mm (1.0 in)
With Armor: 25.4 mm (1.0 in)

NOTE: An ETFE outer jacket is not included on Metrix extension cable and probe armor as it tends to degrade, rather than enhance, moisture and corrosion resistance.

Probe Case 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)
5mm FWD mount	7.3 N-m (65 in-lb)	5.1 N-m (45 in-lb)

ENVIRONMENTAL

Operating and Storage Temperature:
Probe:-51°C to +177°C (-60°F to +350 °F)
Extension Cable:-51°C to +177°C (-60°F to +350°F)
Driver or Transmitter:-40°C to +85°C (-40°F to +185°F)

Relative Humidity: 95%, non-condensing

Probe tip-to-case Pressure Rating: 13.6 bar (200 psi)

Patents: Digital performance curve technology in driver and transmitter: US patent number 7768258.

RECOMMENDED BARRIERS

Passive Zener: MX2033: MTL 7796- (or equivalent)
MX2034: MTL 7787+ (or equivalent)

Active Galvanic: MX2033: MTL 5531, P&F KFD2-VR4-Ex1.26, or equivalent
MX2034: MTL 5541, P&F KFD2-STC4-Ex1, or equivalent

NOTES:
1. Values shown for 5m systems. For 9m systems, add 1.5%.
2. Includes interchangeability errors when measured in increments of 0.25 mm (10 mils) over the linear range between 0°C and 45°C (API Testing Range).
3. ISF shown assumes mV-type output and is valid for MX2033 and BNC connector on MX2034.
4. Above ISF values for MX2034 transmitter pertain only to the BNC connector. The ISF for the transmitter's 4-20mA proportional output is applicable only when configured for position measurements (EE=02). ISF is not applicable to the 4-20mA output on transmitters configured for vibration measurements (EE=01).

SPECIFICATIONS (continued)

HAZARDOUS AREA APPROVALS

AREA	PROBE/CABLE	DRIVER
North America	Class I, Div 1, Grps A,B,C,D -40°C to +177°C Intrinsically Safe and Non-Incendive	Class I, Div 1, Grps A,B,C,D, T4 -40°C ≤Ta≤ +85°C Intrinsically Safe (MX2034)
		Class I, Div 2, Grps A,B,C,D, T4 -40°C ≤Ta≤ +85°C Non-Incendive (MX2034)
International ATEX/IECEX	II 1G Ex ia IIC T3 Ga -40°C ≤Ta≤ +177°C II 1G Ex ia IIC T4 Ga -40°C ≤Ta≤ +110°C Intrinsically Safe	II 1G Ex ia IIC T4 Ga -40°C ≤Ta≤ +85°C Intrinsically Safe
	II 3G Ex nA IIC T3 Gc -40°C ≤Ta≤ +177°C II 3G Ex nA IIC T4 Gc -40°C ≤Ta≤ +110°C Non-Incendive	II 3G Ex nA IIC T4 Gc -40°C ≤Ta≤ +85°C Non-Incendive

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.

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

MX2033 Driver: 247 g (8.7 oz)
MX2034 Transmitter: 247 g (8.7 oz)

Dimensions:
MX2033 Driver: See Fig 1 below
MX2034 Transmitter: See Fig 2, page 10

ACCESSORIES

Mounting Options for MX2033 and MX2034:
- 35mm DIN rail (standard)
- 4-hole flat base with 2” x 2” and 2.5” x 2.75” hole patterns (requires optional adapter P/N 9647)

HOW TO ORDER MX2033 for TIGHTVIEW™ SYSTEM

MX2033-AA-BB-CC-DD (DPS 3-WIRE PROBE DRIVER)

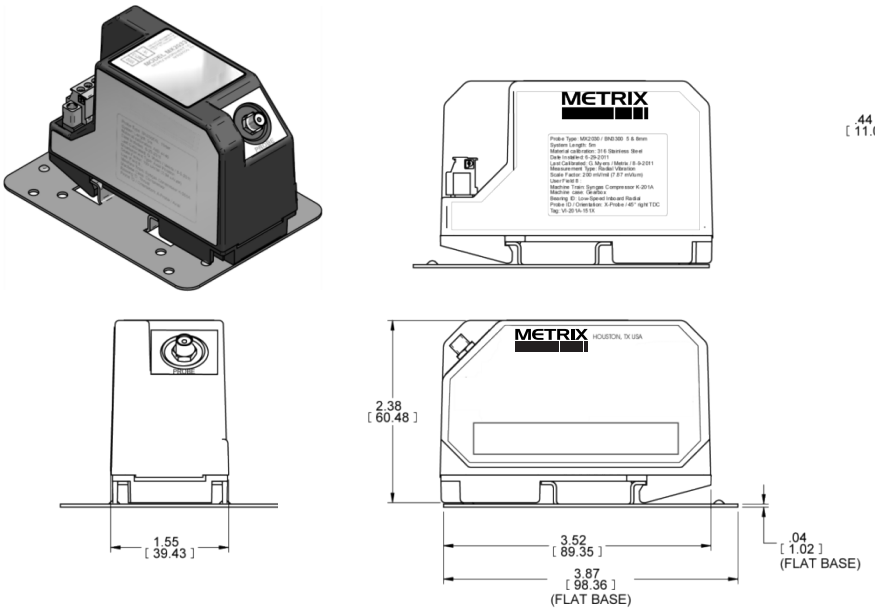
A	A	Material Calibration
0	1	AISI-SAE 4140 CrMo Steel[1]

B	B	Probe Type
0	9	8mm – MX8030
1	0	5mm – MX2031

C	C	System Length
0	5	5 meter
0	9	9 meter

D	D	Approvals[3]
0	0	None
0	5	Multiple Approvals[2]

NOTES:
1. Other TightView target materials, probe types and system lengths are available upon request.
2. ETL, ATEX, Intertek and IECEx hazardous area approvals.
3. For SIL approval, replace the first character in Option DD with an "S".



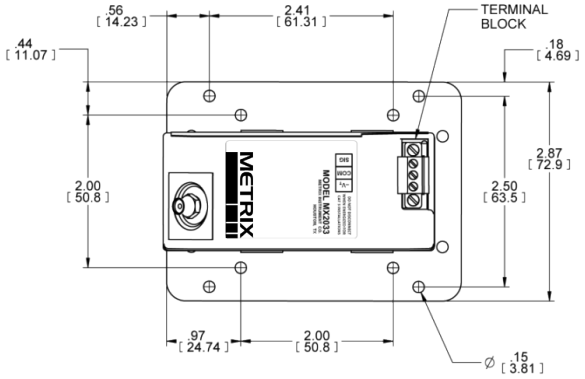


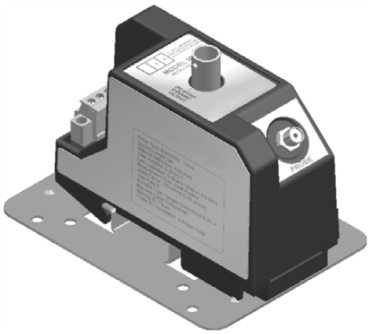
Diagram 6: Dimensions in inches [mm] for the MX2033 3-wire digital proximity driver

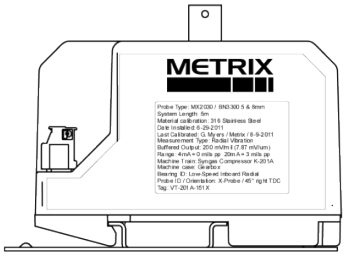
Note: optional 4-hole baseplate mounting adapter shown (P/N 9647). 35mm din rail mount is standard.

HOW TO ORDER MX2034 for TIGHTVIEW™ SYSTEM

MX2034-AA-BB-CC-DD-EE-FFF-GG (DPS 4-20 MA TRANSMITTER)

A	A	Material Calibration[1]
0	1	AISI-SAE 4140 CrMo Steel[1]
0	2	17-4 Stainless Steel
1	6	Aluminized Steel
B	**B**	**Probe Type**
0	9	8mm – MX8030
1	0	5mm - MX2030
C	**C**	**System Length**
0	5	5 meter[1]
0	7	7 meter[1]
0	9	9 meter[1]
D	**D**	**Approvals[5]**
0	0	None
0	5	Multiple Approvals[2]
0	6	Custom Union & KOSHA Approval
0	7	Multiple Approvals[3]
E	**E**	**Measurements**
0	1	Vibration- 2 wire
0	2	Position- 2 wire
0	3	Speed- 2 wire
0	4	Vibration- 4 wire[2,4]
0	5	Position- 4 wire[2,4]
0	6	Speed- 4 wire[2,4]





F	F	F	Full Scale Range
0	0	1	3 mils, pk-pk (Vibration)
0	0	2	4 mils, pk-pk (Vibration)
0	0	3	5 mils, pk-pk (Vibration)
0	0	4	6 mils, pk-pk (Vibration)
0	0	5	10 mils, pk-pk (Vibration)
0	0	6	15 mils, pk-pk (Vibration)
0	0	7	20 mils, pk-pk (Vibration)
0	0	8	30 mils, pk-pk (Vibration)
0	0	9	40 mils, pk-pk (Vibration)
0	2	1	100 µm, pk-pk (Vibration)
0	2	2	150 µm, pk-pk (Vibration)
0	2	3	200 µm, pk-pk (Vibration)
0	2	4	250 µm, pk-pk (Vibration)
0	2	5	300 µm, pk-pk (Vibration)
0	2	6	400 µm, pk-pk (Vibration)
0	2	7	500 µm, pk-pk (Vibration)
0	2	8	750 µm, pk-pk (Vibration)
0	2	9	1000 µm, pk-pk (Vibration)
0	5	0	30-70 mils, avg gap (Position)
0	5	1	20-80 mils, avg gap (Position)
0	5	2	10-90 mils, avg gap (Position)
0	5	3	10-50 mils, avg gap (Position)
0	5	4	20-70 mils, avg gap (Position)
0	5	5	10-60 mils, avg gap (Position)
0	7	0	750-1750 µm, avg gap (Position)
0	7	1	500-2000 µm, avg gap (Position)
0	7	2	250-2250 µm, avg gap (Position)
0	7	3	250-1250 µm, avg gap (Position)
0	7	4	500-1750 µm, avg gap (Position)
0	7	5	250-1500 µm, avg gap (Position)

5	0	1	500 RPM (Speed)
2	0	2	2000 RPM (Speed)
3	6	2	3600 RPM (Speed)
4	0	2	4000 RPM (Speed)
5	0	2	5000 RPM (Speed)
6	0	2	6000 RPM (Speed)
7	5	2	7500 RPM (Speed)
1	0	3	10000 RPM (Speed)
1	5	3	15000 RPM (Speed)
5	0	3	50000 RPM (Speed)
6	0	3	60000 RPM (Speed)
7	5	3	75000 RPM (Speed)
1	0	4	100000 RPM (Speed)
2	5	4	250000 RPM (Speed)
4	0	4	400000 RPM (Speed)

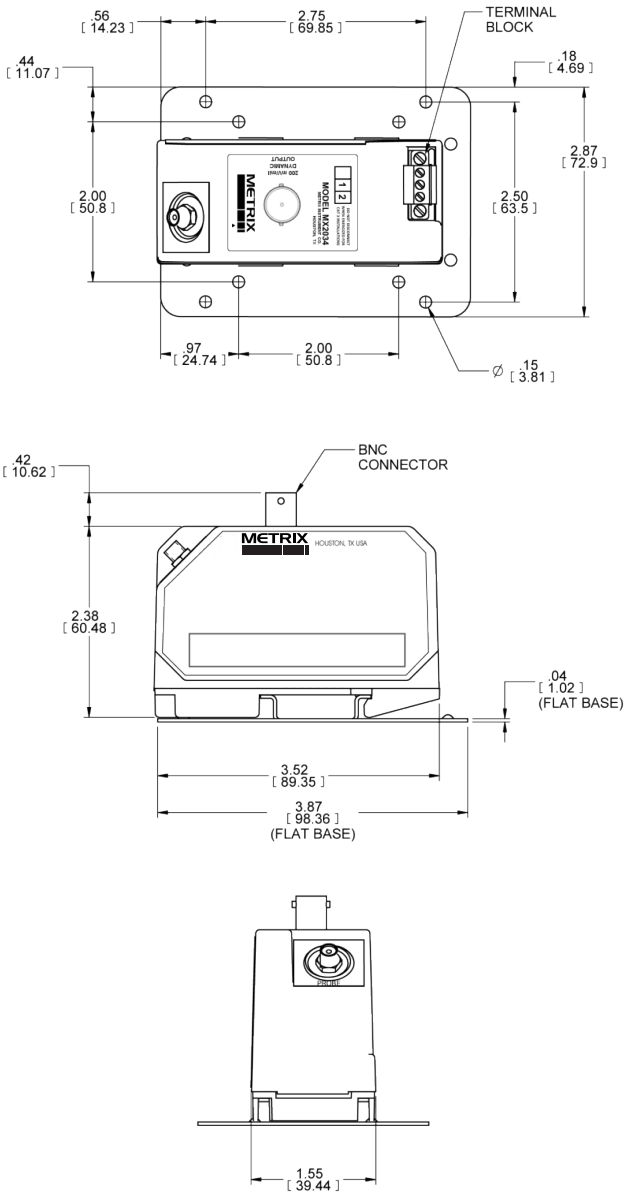
G	G	Pulses / Revolution
0	0	N/A (for vibration or position)
X	X	XX= number of pulses per revolution (keyways), valid entries are two digit numbers from 01-99, with a maximum value of RPM x # Keyways ≤ 400,000

NOTES:

1. Other TightView target materials, probe types and system lengths are available upon request.
2. ETL, ATEX and IECEx hazardous area approvals. Applies to EE-01, 02 and 03 only – Increased Safety, Nonincendive, and Intrinsically Safe. BNC output can be used for Intrinsically Safe.
3. ETL, ATEX and IECEx hazardous area approvals. Applies to EE-04, 05 and 06 only – Increased Safety and Nonincendive.
4. Two wires are for the 4-20 mA loop power and two wires are for the Dynamic Signal Output (raw signal).
5. For SIL approval, replace the first character in Option DD with an "S".

Diagram 8. Dimensions in inches [mm] for MX2034 digital proximity transmitter.

Note: optional 4-hole baseplate mounting adapter shown (P/N 9647). 35mm din rail mount is standard.



ACCESSORIES

DPS User Label Kit for up to 16 devices (P/N 100527)

Each MX2033 driver and MX2034 transmitter comes with the four factory-applied labels summarized below. The DPS User Label Kit allows the Left Sidewall Label to be replaced with a customized label containing installation-specific data, as depicted on page 3 of this datasheet. The User Label Kit contains enough materials for labeling up to 16 signal conditioners as follows:

- 16 specially-shaped polycarbonate adhesive labels with a clear rectangular window and the Metrix logo.
- A sheet of 32 standard 1.75” W x 1.25” H labels (Avery 6570).

Using the Metrix DPS Configuration Software, the desired information is printed directly onto the Avery 6570 sheet using any Windows-compatible inkjet or laser printer. The printed Avery label is removed from the sheet, placed behind the window on the polycarbonate label, and both are then affixed to the left sidewall of the DPS signal conditioner. The polycarbonate label uses the same finish as all other factory-applied labels, providing protection from the elements and giving a clean, durable, and professional finish.

NOTE: The User Label Kit must be ordered separately and is not automatically included with driver or transmitter.

Of the four labels affixed to each DPS signal conditioner, only the Left Sidewall Label is intended for customization and field replacement. The others are designed to remain permanently affixed to the device during its life and contain information that does not change with device configuration.

1. Left Sidewall Label (Configured Devices)
   All devices ordered in a programmed state will have this label a fixed. The label will reflect the as-ordered configuration data.

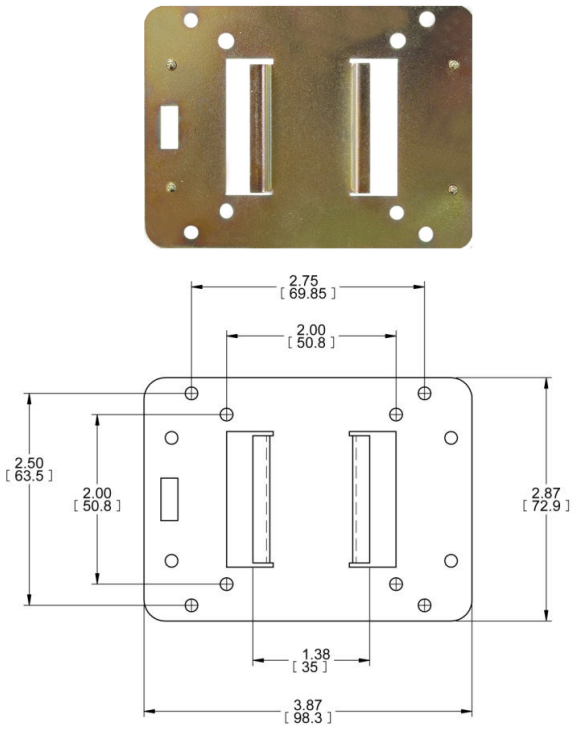
2. Right Sidewall Label
   This is a factory-applied permanent label with the serial number, date of manufacture, model number and all approvals data.

3. Front Label
   This is a factory-applied permanent label that indicates the connector for the probe and extension cable.

4. Top Label
   This is a factory-applied permanent label that indicates the wiring terminals, model number, and (MX2034 only) BNC connection details.

DIN to 4-Hole Flat Base Mounting Adapter (P/N 9647)

This adapter allows the 35mm DIN rail clip on MX2033 driver, and MX2034 transmitters to be compatible with a 4-hole flat base mounting method. The adapter has industry-standard hole patterns for both a 2" x 2" square and a 2.75" x 2.5" rectangle. The 2" x 2" pattern matches the holes on Metrix 5533 drivers and BN* 3300, 7200, and 3000 series Proximitor* devices. The 2.75" x 2.5" pattern matches the holes on Metrix 5465/5488 transmitters and BN* 990/991 transmitters. Material is 19 gauge mild steel (ASTM A366 or equal) with gold chromate zinc plating.



MANUALS AND SOFTWARE

The most recent versions of the Metrix DPS Configuration Software and the DPS user manual can be downloaded from the Metrix website, www.metrixvibration.com.

NOTE: Manuals are published electronically in Adobe® PDF format and may be printed and freely distributed. Adobe Reader is required and can be downloaded free from www.adobe.com.

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