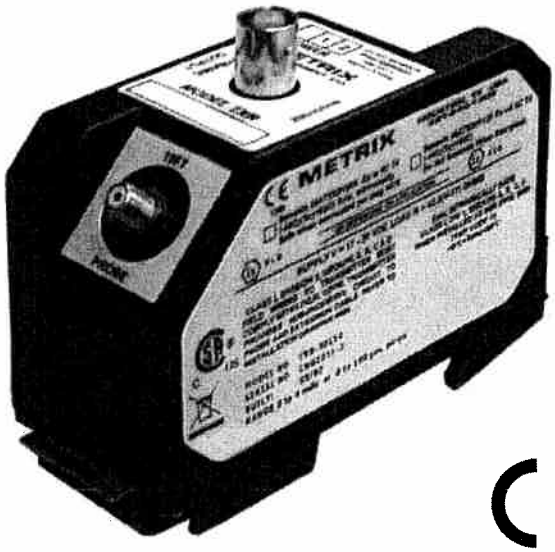
# TRENDSETTER™ MODEL TXA/TXR

*Patent Pending*

## Installation & Operation Manual

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METRIX

Revision: D

Doc. NO: M9671
Inventory P/N: M9671

## System Description

The TXR/TXA series of transmitters consists of two systems, the TXR, Radial Vibration Transmitter System and the TXA, Thrust Transmitter System. Both systems contain three parts – a proximity probe, a matched extension cable and a transmitter. Both systems provide a 4 to 20 mA current loop output signal.

The TXR Vibration Transmitter System measures the radial vibration of a shaft or other part of a machine in relation to the location of the probe tip. The following equation represents the relationship between the vibration and the loop current.

$$\text{Vibration} = \frac{(\text{Current (mA)} - 4)}{16} \times (\text{Full Scale Range})$$

The TXA Axial Thrust Transmitter System measures the distance between the target and the probe tip. The following equation represents the relationship between the target's relative position and the loop current.

$$\text{Absolute Distance} = \frac{(\text{Current (mA)} - 4)}{16} \times (\text{Range}) + 20$$

$$\text{Relative Distance to 50 mils gap} = \frac{(\text{Current (mA)} - 12)}{8} \times (\text{Range} / 2)$$

For 5mm & 8mm probes the range = 60 mils and 11 mm probes the range = 140 mils

Both transmitters provide a voltage proportional to the distance between the target and the probe tip. This voltage is available as a buffered output on the BNC connector for use when gapping the probe and for diagnostic purposes. You may apply this voltage to any battery-powered or ground isolated instrumentation with a 1 Megohm or larger input impedance.

The amplitude of the output signal is +200 mV/ mil. The amplitude of a system using an 11 mm probe is 100mV/mil.

The Dynamic Output signal is buffered however, due to the limited current available on the loop; the DYNAMIC OUTPUT reading will be attenuated by instrumentation with an input Impedance of less than 1 megohms, see Graph 1.

## Receiving, Inspecting, and Handling the System

The probe, extension cable, and transmitter are shipped as separate units and must be interconnected at the installation site by the user. Carefully remove all equipment from the shipping containers and inspect the equipment for shipping damage. If shipping damage is apparent, file a claim with the carrier and submit a copy to Metrix Instrument Co. Include part numbers and serial numbers on all correspondence. If no damage is apparent and the equipment is not going to be used immediately, return the equipment to the shipping containers and reseal until ready for use. Store the equipment in an environment free from potentially damaging conditions such as extreme temperature, excessive humidity, or a corrosive atmosphere.

## Installation

For radial vibration measurements, mount the probe with its axis radial to the shaft with its tip approximately .050" (1.25 mm) from the surface of the shaft. The probe tip must be provided with sufficient clearance from surrounding metal to prevent an erroneous output. As a minimum, the clearance diameter should be .63" (16 mm) for the full length of the probe tip. For an 11mm probe, the minimum clearance should be .88" (22mm). See Figure 1. For exact gapping procedure see the section concerning calibration. To prevent cross-feed between two probes mounted in the same vicinity, at least 1" (25 mm) spacing between the probe tips should be maintained. See Fig. 2.

2. For position (thrust) measurements, mount the probe with its axis parallel to the shaft and with its tip approximately .050" (1.25 mm) from the end of the shaft. For 11mm diameter probes, this distance is approximately .090". See the section concerning calibration for exact gapping procedure. To prevent cross-feed between two probes mounted in the same vicinity, at least 1" (25 mm) spacing between the probe tips should be maintained. For 11mm probes, this distance is approximately 2" (50mm).

3. The probe can be mounted in a simple bracket, such as the Model 7646, in a tapped hole in the bearing cap or by means of a Model 5499 Probe Housing. The latter arrangement provides an easy way to adjust the probe air gap, especially where the target is some distance from the outside surface of the machine.

4. When inserting the probe through the machine case or bearing cap, the signal voltage may vary widely before the proper gap is obtained. Therefore, be sure the gap is within .07" (1.8 mm) of the target before attempting to set the gap electrically. If possible, set the probe gap while the machine is shutdown, to avoid the danger of damaging the probe in the event that it touches the shaft.

5. Connect the probe to the transmitter using the proper coax extension cable. The standard probe configurations are shown on page 14. Do not change the length of the extension cable from the system, as such action will adversely affect the calibration and linearity. If a connector must be replaced, the overall length of the cable can be reduced by 2" without harm. Insulate the probe connector/extension cable connector junction with the Metrix 8973 connector insulator.

## Installation Drawings

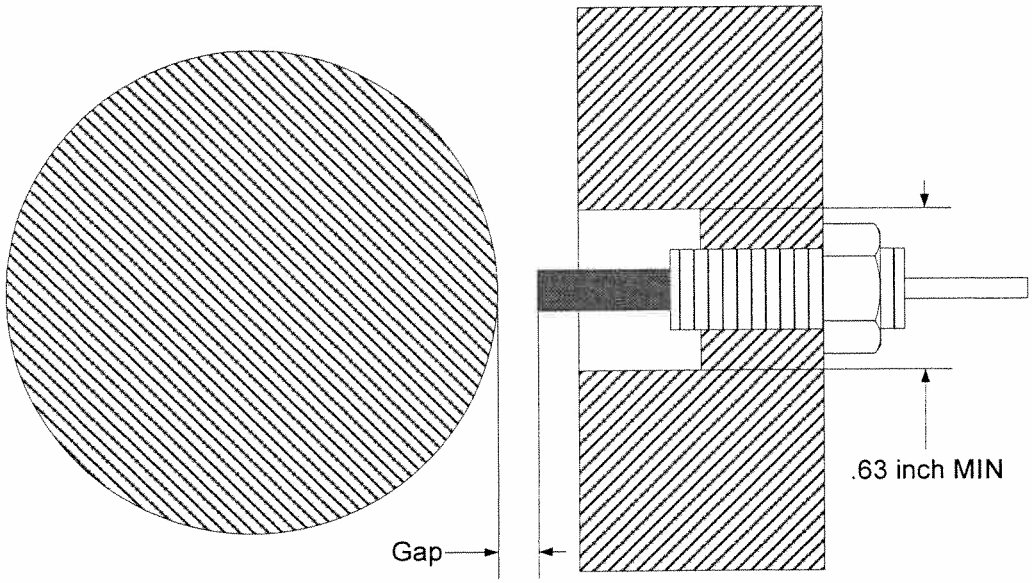



**Figure 1**

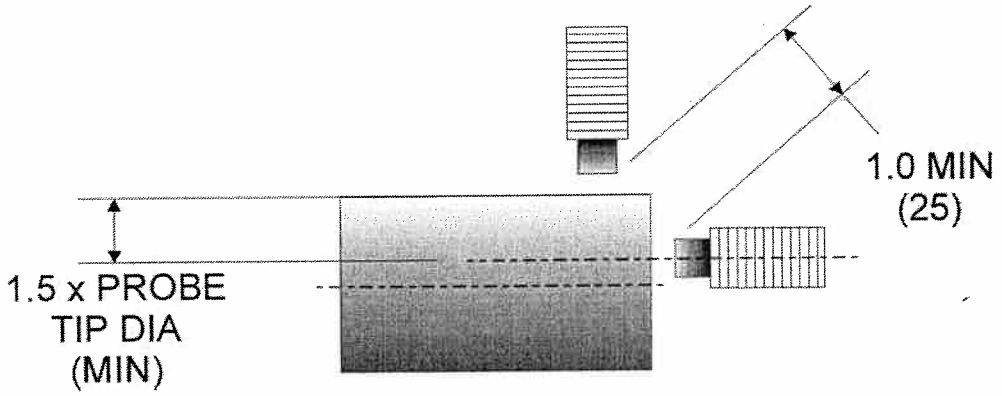



**Figure 2**

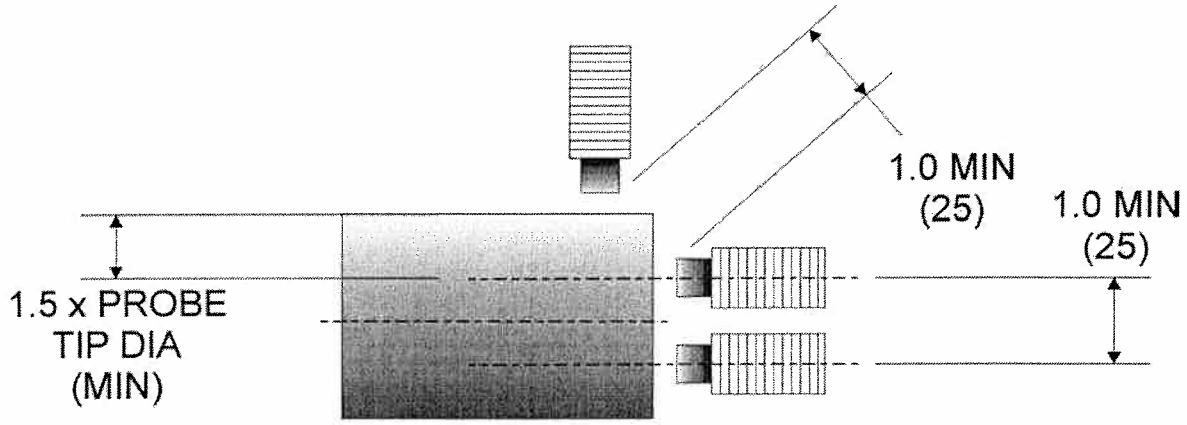



**Figure 3**

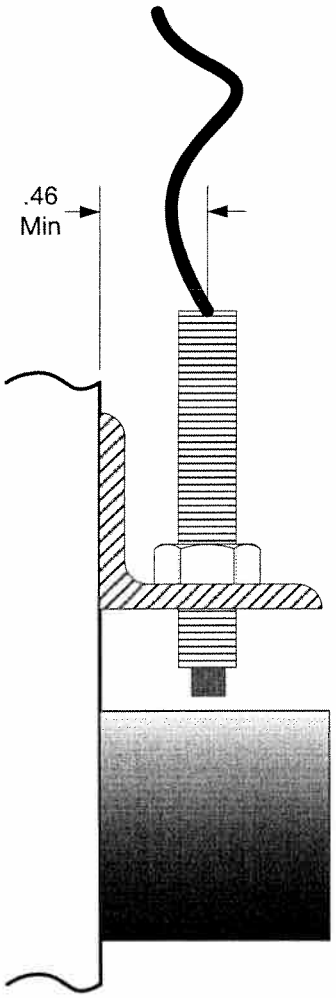
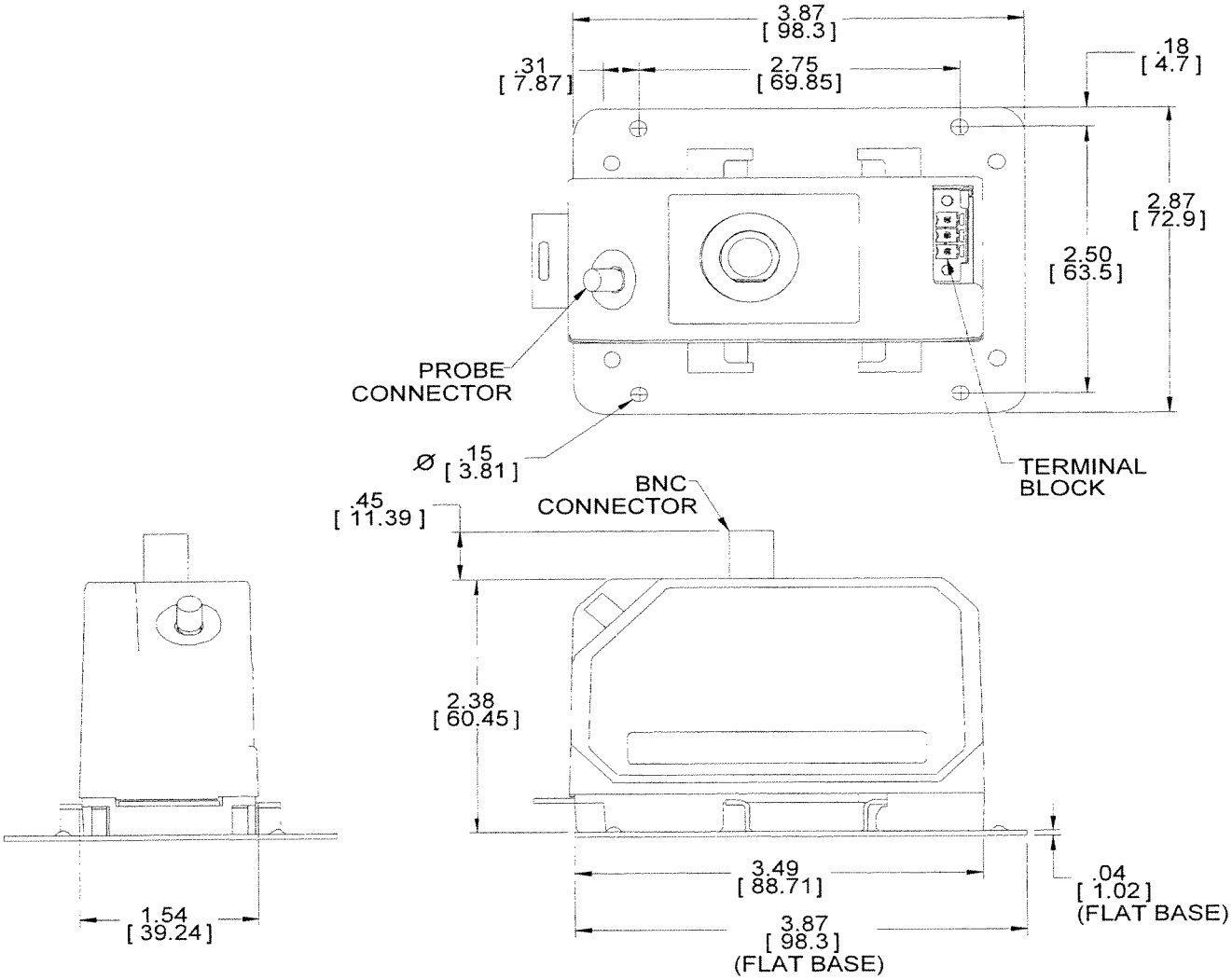



**Figure 4**

## Mounting the transmitter

Mount the transmitter in a suitable enclosure in a location that is compatible with its environmental specifications. Refer to page 15 for the environmental specifications for the transmitter. The transmitter comes as a DIN rail mount. The below drawing shows the unit with the optional flat base mounting plate, part number 9647.



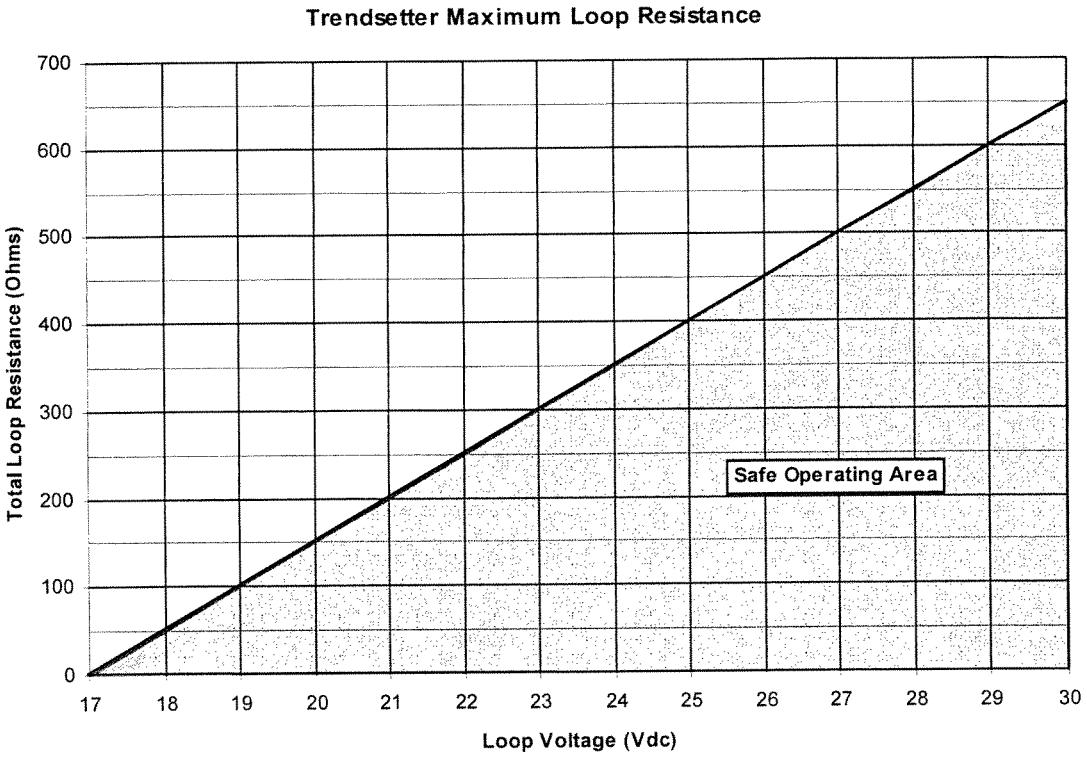
## Routing the Extension Cable and Field Wiring

Route the extension cable using the following guidelines:

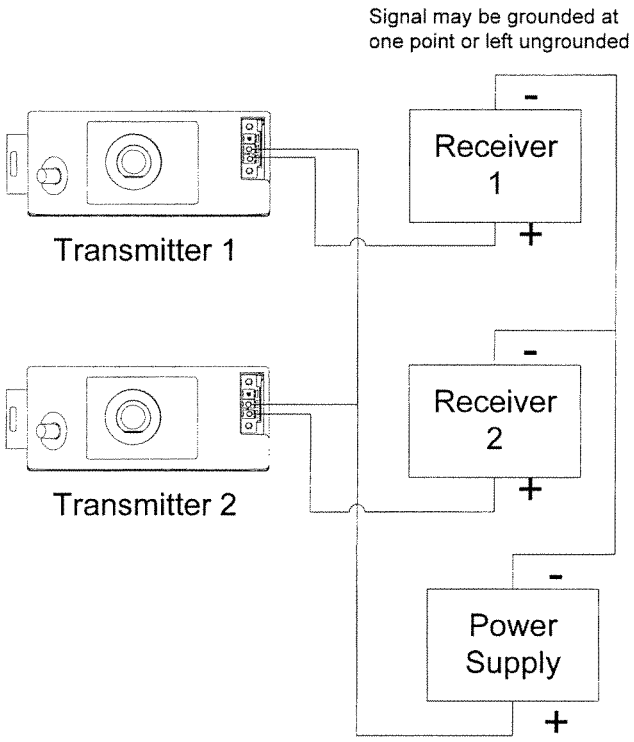
- Check that the Transmitter, extension cable, and probe belong to the same system.
- Secure the extension cable to supporting surfaces or place in conduit. Make certain the cable is not kinked, scraped, nor bent beyond the minimum recommended radius of 1".
- Secure coaxial connectors between the extension cable and the proximity probe. Connection should be "finger tight" with an additional quarter turn using an open ended 9/32" wrench or equivalent.
- Insulate the connection between the probe lead and the extension cable by wrapping the connector with Teflon tape.

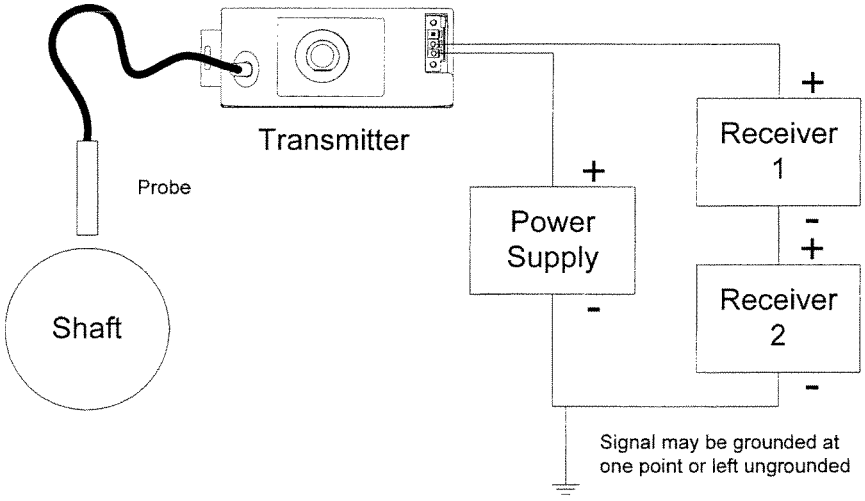
Connect the field wiring in accordance with the appropriate diagrams below. The minimum power supply voltage is 17 V plus 1 volt for each 50 ohms of loop resistance. See Graph 1.

**Graph 1**



## Wiring Diagrams



**Intrinsically Safe Installation In Hazardous Locations**

Baseefa 05ATEX0195X
II 1G Ex ia IIC T4
(-40°C < Tamb < 85°C)

Exia; Intrinsically Safe
Class I, Div. 1, Groups A, B, C, D
Temp Code T4 ($-40°C \leq T_a \leq +85°C$)

Connect the field wiring in accordance with Metrix drawing 9678 for ATEX installations and 9688 for CSA installations. The transmitter requires a minimum of 17 VDC for proper operation. The voltage drop across the specified zener barriers on the installation drawings with a 20 mA loop current is 8.1 VDC. The minimum loop power supply voltage required is 25.1 VDC plus 1 volt for each 50 ohms of loop resistance. The maximum loop power supply voltage that may be applied to the safety barrier is 26 VDC. Therefore, the maximum loop resistance with a 26 VDC supply is 45 ohms.

Example: Single wire resistance = 5 ohms
Resistance of receiver = 50 ohms
Total loop resistance = 55 ohms
Minimum supply voltage = 55 (1V/50 ohms) + 25.1 V = 26.2 VDC

Permanent wiring connection to the Dynamic Signal BNC connector is not allowed under the intrinsic safety certification requirements.

**SPECIAL CONDITIONS OF SAFE USE:**

The input terminals of the apparatus are not protected against unauthorized interference as required by Clause 6.1 of EN 50020:2002. The apparatus must be installed such that the input terminals are protected to at least the requirements of IP20.

The transmitter is not capable of withstanding the insulator test required by Clause 6.4.12 of EN50020:2002. This must be taken into account when installing the transmitter.

**INPUT/OUTPUT PARAMETERS**

Terminals marked "POWER"

| | |
|---|---|
| $U_i$ | = 28V |
| $I_i$ | = 93mA |
| $P_i$ | = 0.66W |
| $C_i$ | = 18nF |
| $L_i$ | = 0 |

**External Probe Connector, J1 marked "PROBE"**

ATEX Parameters

| | |
|---|---|
| $U_o$ | = 5.36V |
| $I_o$ | = 3.64mA |
| $P_o$ | = 20mW |
| $C_i$ | = 24nF |
| $L_i$ | = 110µH |
| $C_o$ | = 32µF |
| $L_o$ | = 500µH |
| $L_o/R_o$ | > 1000µ/H/Ω |

CSA Parameters

| | |
|---|---|
| $V_{oc}$ | = 5.36V |
| $I_{oc}$ | = 3.61mA |
| $C_a$ | = 512uF |
| $L_a$ | = 1000uH |
| $P_o$ | = 19.4mW |

**(Installation in Zone 2 Areas)** Baseefa 06ATEX0113X Ex nA IIC T4 ($-40°C \leq T_a \leq +85°C$)

**SPECIAL CONDITIONS OF SAFE USE:**
Connect the field wiring in accordance with Metrix drawing 9689.

When the apparatus is being used in accordance with the type of protection: Ex nA IIC T4 ($-40°C \leq T_a \leq +85°C$), the apparatus must be mounted in an enclosure capable of withstanding a 7 joule impact (at -40°C if non-metallic) and provide a degree of ingress protection of at least IP54.

Transmitter is certified as a component only and must be installed in a suitable enclosure acceptable to local authorities.

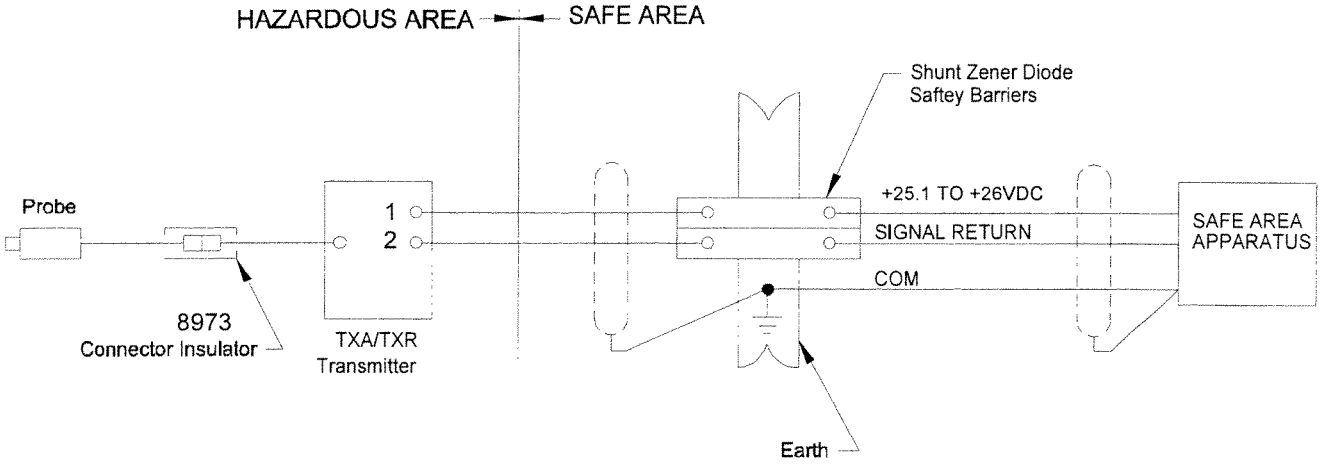
Field wiring from the safe area to the transmitter must conform with the local electrical code. The transmitter provides a non-incendive circuit to probe and extension cable, which therefore require no further electrical protection.

Do not use Dynamic Signal BNC connector unless area is known to be non-hazardous.

The transmitter is not capable of withstanding the insulator test required by Clause 6.4.12 of EN50020:2002. This must be taken into account when installing the transmitter.

Class I Division 2 Hazardous Locations (Non-Incendive), when installed per drawing 9688, sheet 2.

## INSTALLATION -
## PROXIMITY SENSOR IN HAZARDOUS LOCATION
## CENELEC




### Calibration and Signal Analysis

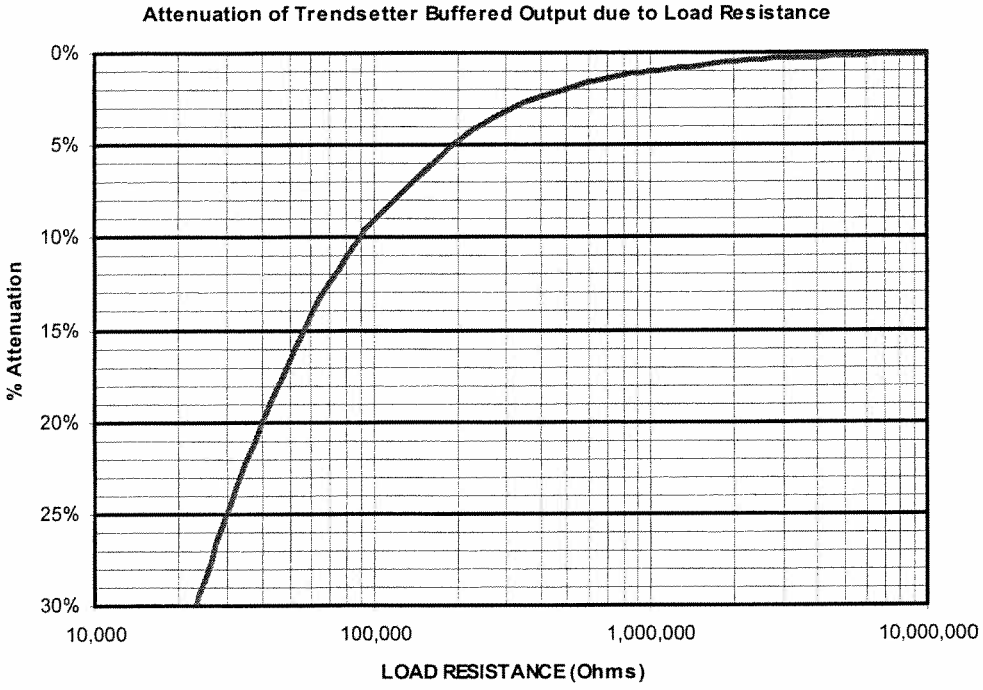
1.Each transmitter has been factory calibrated for use with the probe type and extension cable specified using a 4140 steel target material. The full scale 20 mA output (SPAN) is factory set to the full scale value indicated on the nameplate. Probes and extension cables of the same type may be exchanged with a maximum error of + 12% without recalibration of the transmitter. For maximum accuracy, calibrate the transmitter with the probe and cable to be used.

**CAUTION:** Do not connect test equipment or cables to the transmitter unless the area has been determined to be non-hazardous.

2. The Dynamic Output jack (BNC) is a buffered output from the transmitter. The probe gap can be set "electrically" to the center of its measurement range by observing the DC output voltage at the BNC connector with an isolated meter. Adjust the probe gap to obtain 10 VDC, which corresponds to a gap of approximately .050" (1.25 mm). **Once a 10VDC reading is obtained, it is recommended that power to the transmitter be cycled. This can be accomplished easily by disconnecting the terminal block at the transmitter.** If the reading changes significantly, adjust the probe to obtain a 10 VDC reading. The preferred static gap range for TXR units is .035" to .050". This corresponds to a gap voltage of 7.5 VDC to 10 VDC. Note that for 11 mm probes, the voltage is 9 VDC.

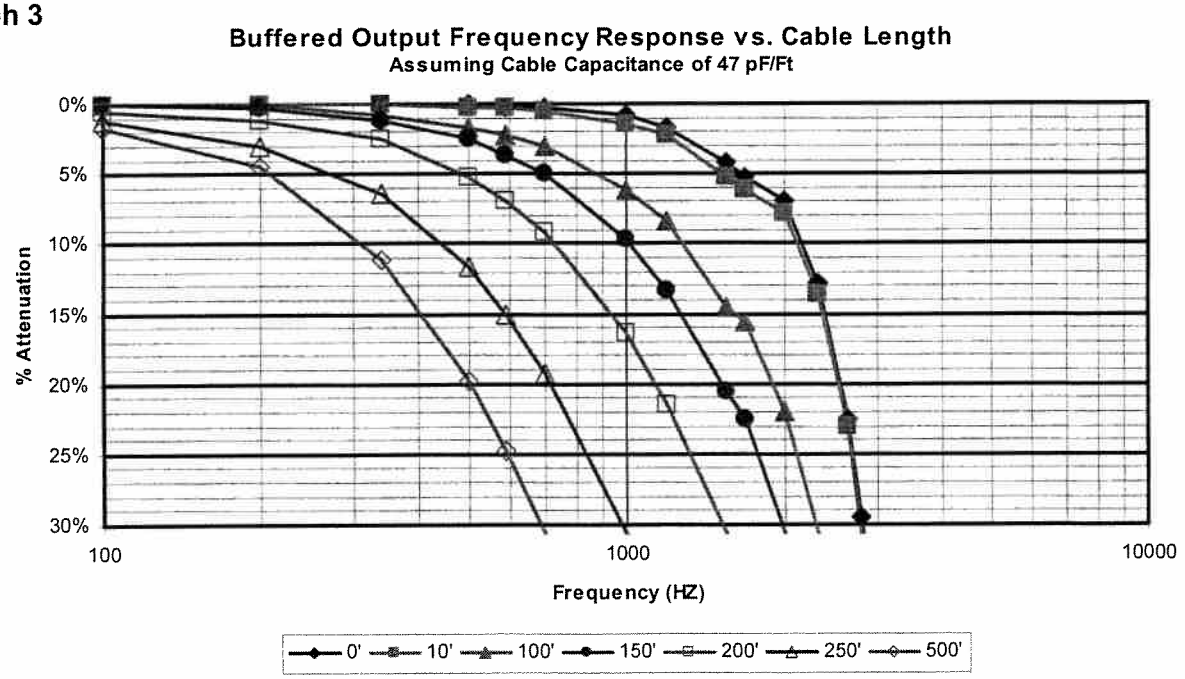
The use of a ground isolated instrument or signal isolator is highly recommended. The meter, oscilloscope or analyzer used to measure the gap voltage or to observe the vibration signal (DYNAMIC OUTPUT) must have and input impedance of one megohm or greater. The output impedance of the DYNAMIC OUTPUT is 10,000 ohms. Use of a measuring instrument with an input impedance of less than one megohm will introduce a measurement error. See Graph 2.

## Graph 2




The length of the shielded cable, which temporarily may be attached to the DYNAMIC OUTPUT BNC, is limited to 3 meters (10 ft.). Use of a longer cable length is possible, but will attenuate the higher frequency content of the vibration signal, and cause the reading on the instrument to be lower than the actual amplitude. See Graph 3.

## Graph 3



**Calibration and Signal Analysis (con't)**

3a. TXR Units: During normal operation with vibration input, the transmitter current output is linearly proportional to the full scale vibration range between 4 mA and 20 mA.

**EXAMPLE:**

| Measured mA | Full Scale Vibration | Actual Vibration |
|---|---|---|
| <3.6 | 5.0 mils, pk-pk | Probe Fault |
| 4.0 | 5.0 mils, pk-pk | 0.0 mils, pk-pk |
| 12.0 | 5.0 mils, pk-pk | 2.5 mils, pk-pk |
| 20.0 | 5.0 mils, pk-pk | 5.0 mils, pk-pk |

3b. TXA Units: The transmitter current output is linearly proportional to the probe gap (position) between 4 mA and 20 mA.

**EXAMPLE:** A current of 12 mA represents a probe position of:
(12 mA - 4 mA / 16 mA) x 60 + 20 = (0.5 x 60) + 20 = 50 mils.

To verify the correct operation of the position transmitter, the output current should be as follows:

Low Check Point
30 mils (0.75 mm) = 6.65 mA

High Check Point
70 mils (1.75 mm) = 17.35 mA

**NOTE:** Check points are 10 mils inside of specified range end points. Tolerance is + 0.15 mA. It is recommended that an out-of-tolerance transmitter be returned to the factory for recalibration.

4. The transmitter cannot be repaired in the field and must be replaced by an equivalent unit. The transmitter is not to be exposed to dust conditions.

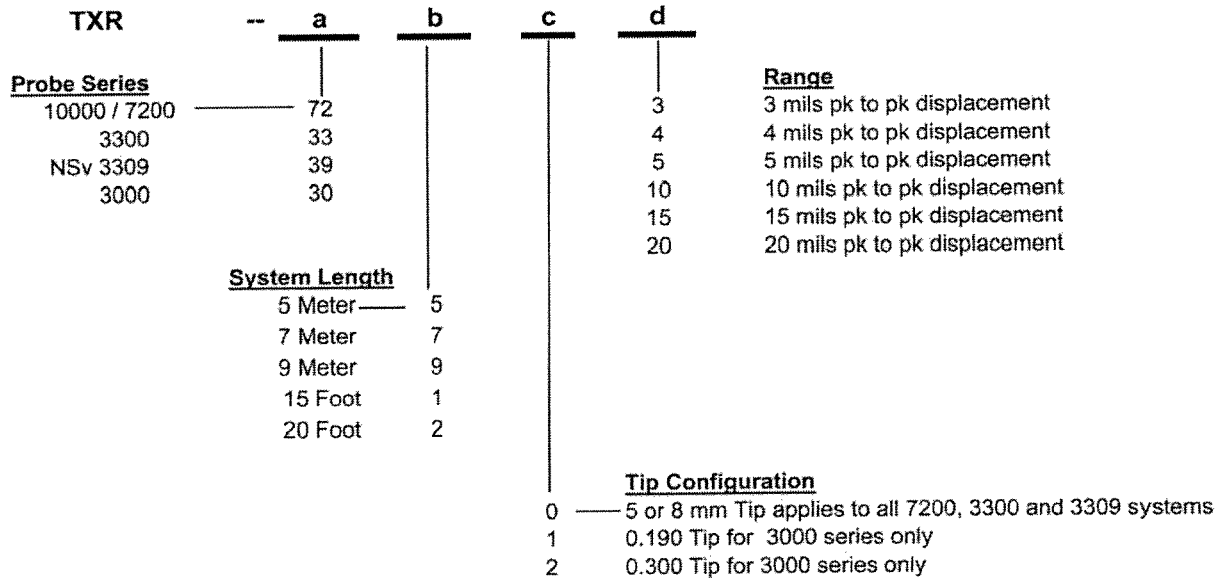
5. The transmitter should not be installed where it may be subjected to mechanical and excessive thermal stresses or where it may be attacked by existing or foreseeable aggressive substances.

6. The transmitter must be installed such that its terminals are protected to at least IP20.

7. The apparatus enclosure is made from plastic which must be protected from impact and friction.

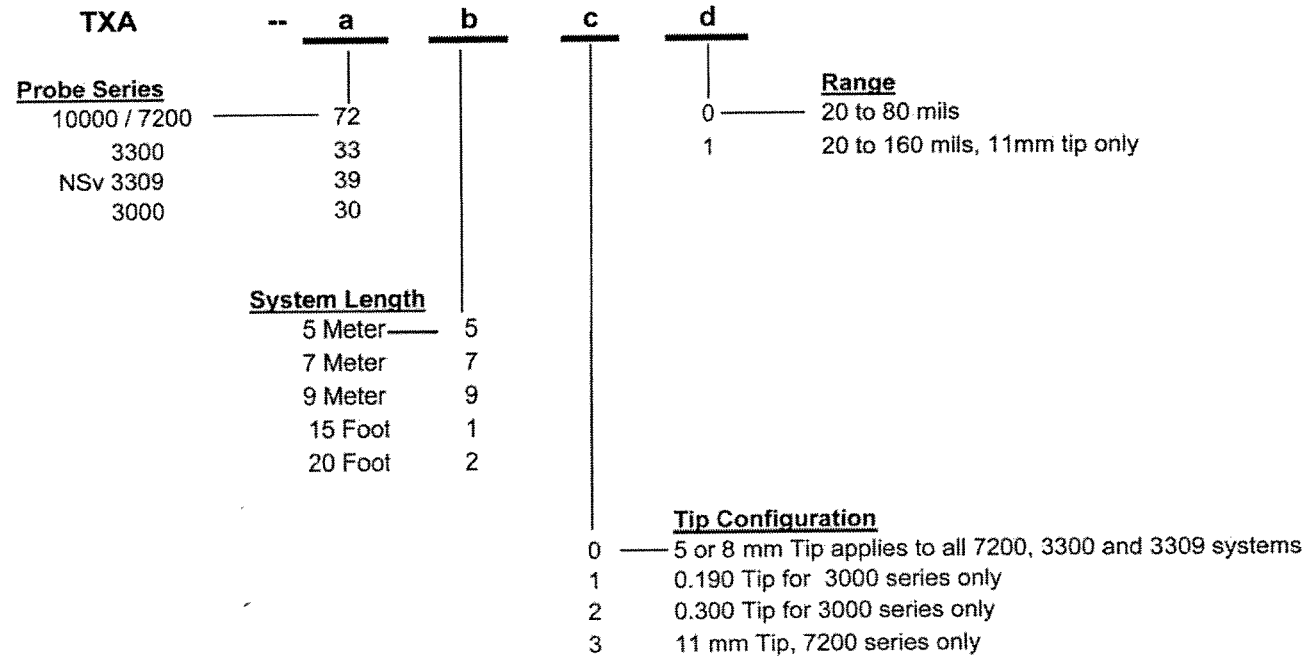
8. Installer must perform a risk assessment in accordance with Clause 10 of EN60079-25 and install lightning protection arresters as deemed necessary.

## TXR Model Number Configuration




For negative polarity, buffered output, please add an "N" to the designated number for the Range. Ex: TXR-33505N

## TXA Model Number Configuration




1) 7 Meter system option only applies to 3309 series systems, also known as Ram Probe.
2) 15 and 20 ft systems apply to 3000 series only. This is for replacement only.
3) 0.190 and 0.300 Tip diameters apply to 3000 series only.
4) 11 mm Tip applies to 10000 series and 7200 only.

For negative polarity, buffered output, please add an "N" to the designated number for the Range. Ex: TXA-72931N

**Environmental Specifications**

Unless otherwise noted, all specifications are specified at 21°C (70°F), +24 VDC power supply, gap set to 1.27 mm (50 mils) and using Metrix AISI 4140 steel target.

Operating Temperature Range:
-40°C to 85°C (-40°F to 185°F)

Operating Humidity Range:
95% non-condensing, external environmental protection is required.

Power Requirements:
• 17 to 30 VDC with a maximum start up current of 20 mA (-40°C to 85°C)
• Maximum loop resistance is determined by RL = 50 (Vs-17) ohms

Frequency Response:
• 5 Hz to 5 kHz +0, -3 dB pk-pk vibration (TXR)
• 0 Hz to 20 Hz +0, -3 dB position (TXA)

Linear Range:
• 0.5 to 2.0 mm (20 to 80 mils); (8 mm probe)
• 0.5 to 4.0 mm (20 to 160 mils); (11 mm probe)

Buffered Output:
• 7.87 V/mm (200 mV/mil) +/- 5% when calibrated as a system, +/- 12% including interchangeability error when measured in 0.25 mm (10 mils) increments over the linear range.
• 3.94 V/mm (100 mV/mil) +/- 5% for 11 mm probes when calibrated as a system, +/- 12% including interchangeability error when measured in 0.25 mm (10 mils) increments over the linear range.
• 0 Hz to 3 kHz +0, -3 dB

**Note:** This must be taken into account when installing the transmitter.

4-20 mA Output:
- 4 mA +/- 0.02 mA with no input vibration
- 4 mA +/- 0.2 mA @ -40°C to 85°C with no input vibration
- 20 mA +/- 0.5 mA @ -40°C to 85°C with full scale input vibration
- < 3.6 mA indicates "Not OK" condition

Hazardous Area Ratings
- CSA Certified
  Intrinsically Safe, Class I. Div. 1, Groups A, B, C & D, Temp Code T4
  Non-Incendive, Class I. Div. 2, Groups A, B, C & D
- BASEEFA Certified
  Intrinsically Safe Ex ia IIC T4
  Non-Incendive Ex nA IIC T4

# Migrating from 5465/5488 to Trendsetter™

| | | A | B | | C | D* |
|---|---|---|---|---|---|---|
| TXA | - | XX | X | - | X | X |
| TXR | - | XX | X | - | X | X |

*For negative polarity, please add an "N" to the designated number for the Range. Ex: TXR-729-31N

| Configurator | | | | | | | DESCRIPTION | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base M/N | - | Probe Series | System Length | - | Tip Diame-ter | Range* | Probe Series | Axis | System Length | Tip Diameter | Range | Cross-Reference |
| TXR | - | 72 | 5 | - | 0 | 5 | Metrix 10000 / MX7200 | Radial | 5 meter | 5 & 8 mm | 5 mils, pk-pk | 5465E-103 |
| TXR | - | 72 | 5 | - | 0 | 3 | Metrix 10000 / MX7200 | Radial | 5 meter | 5 & 8 mm | 3 mils, pk-pk | 5465E-124 |
| TXR | - | 72 | 5 | - | 0 | 0 | Metrix 10000 / MX7200 | Radial | 5 meter | 5 & 8 mm | 10 mils, pk-pk | 5465E-104 |
| TXR | - | 72 | 9 | - | 0 | 5 | Metrix 10000 / MX7200 | Radial | 9 meter | 5 & 8 mm | 5 mils, pk-pk | 5465E-119 |
| TXR | - | 72 | 9 | - | 0 | 3 | Metrix 10000 / MX7200 | Radial | 9 meter | 5 & 8 mm | 3 mils, pk-pk | 5465E-125 |
| TXR | - | 72 | 9 | - | 0 | 0 | Metrix 10000 / MX7200 | Radial | 9 meter | 5 & 8 mm | 10 mils, pk-pk | 5465E-120 |
| TXA | - | 72 | 5 | - | 0 | 0 | Metrix 10000 / MX7200 | Axial | 5 meter | 5 & 8 mm | 20 to 80 mils | 5488E-101 |
| TXA | - | 72 | 5 | - | 3 | 1 | Metrix 10000 / MX7200 | Axial | 5 meter | 11 mm | 20 to 160 mils | 5488E-118 |
| TXA | - | 72 | 9 | - | 0 | 0 | Metrix 10000 / MX7200 | Axial | 9 meter | 5 & 8 mm | 20 to 80 mils | 5488E-102 |
| TXA | - | 72 | 9 | - | 3 | 1 | Metrix 10000 / MX7200 | Axial | 9 meter | 11 mm | 20 to 160 mils | 5488E-119 |
| TXR | - | 30 | 1 | - | 1 | 0 | Metrix MX3000 | Radial | 15 ft | 0.190" | 10 mils, pk-pk | 5465E-106 |
| TXR | - | 30 | 1 | - | 1 | 5 | Metrix MX3000 | Radial | 15 ft | 0.190" | 5 mils, pk-pk | 5465E-105 |
| TXR | - | 30 | 1 | - | 1 | 3 | Metrix MX3000 | Radial | 15 ft | 0.190" | 3 mils, pk-pk | 5465E-121 |
| TXR | - | 30 | 1 | - | 2 | 0 | Metrix MX3000 | Radial | 15 ft | 0.300" | 10 mils, pk-pk | 5465E-108 |
| TXR | - | 30 | 1 | - | 2 | 5 | Metrix MX3000 | Radial | 15 ft | 0.300" | 5 mils, pk-pk | 5465E-107 |
| TXR | - | 30 | 1 | - | 2 | 3 | Metrix MX3000 | Radial | 15 ft | 0.300" | 3 mils, pk-pk | 5465E-123 |
| TXR | - | 30 | 2 | - | 1 | 0 | Metrix MX3000 | Radial | 20 ft | 0.190" | 10 mils, pk-pk | 5465E-129 |
| TXR | - | 30 | 2 | - | 1 | 5 | Metrix MX3000 | Radial | 20 ft | 0.190" | 5 mils, pk-pk | 5465E-128 |
| TXR | - | 30 | 2 | - | 1 | 3 | Metrix MX3000 | Radial | 20 ft | 0.190" | 3 mils, pk-pk | N/A |
| TXR | - | 30 | 2 | - | 2 | 0 | Metrix MX3000 | Radial | 20 ft | 0.300" | 10 mils, pk-pk | N/A |
| TXR | - | 30 | 2 | - | 2 | 5 | Metrix MX3000 | Radial | 20 ft | 0.300" | 5 mils, pk-pk | N/A |
| TXR | - | 30 | 2 | - | 2 | 3 | Metrix MX3000 | Radial | 20 ft | 0.300" | 3 mils, pk-pk | 5465E-126 |
| TXA | - | 30 | 1 | - | 1 | 0 | Metrix MX3000 | Axial | 15 ft | 0.190" | 20 to 80 mils | 5488E-103 |
| TXA | - | 30 | 1 | - | 2 | 0 | Metrix MX3000 | Axial | 15 ft | 0.300" | 20 to 80 mils | 5488E-105 |
| TXA | - | 30 | 2 | - | 1 | 0 | Metrix MX3000 | Axial | 20 ft | 0.190" | 20 to 80 mils | 5488E-104 |
| TXA | - | 30 | 2 | - | 2 | 0 | Metrix MX3000 | Axial | 20 ft | 0.300" | 20 to 80 mils | 5488E-106 |
| TXR | - | 33 | 5 | - | 0 | 0 | Metrix MX3300 | Radial | 5 meter | 5 & 8 mm | 10 mils, pk-pk | 5465E-143 |
| TXR | - | 33 | 5 | - | 0 | 3 | Metrix MX3300 | Radial | 5 meter | 5 & 8 mm | 3 mils, pk-pk | 5465E-140 |
| TXR | - | 33 | 5 | - | 0 | 5 | Metrix MX3300 | Radial | 5 meter | 5 & 8 mm | 5 mils, pk-pk | 5465E-142 |
| TXR | - | 33 | 9 | - | 0 | 0 | Metrix MX3300 | Radial | 9 meter | 5 & 8 mm | 10 mils, pk-pk | 5465E-153 |
| TXR | - | 33 | 9 | - | 0 | 3 | Metrix MX3300 | Radial | 9 meter | 5 & 8 mm | 3 mils, pk-pk | 5465E-150 |
| TXR | - | 33 | 9 | - | 0 | 5 | Metrix MX3300 | Radial | 9 meter | 5 & 8 mm | 5 mils, pk-pk | 5465E-152 |
| TXA | - | 33 | 5 | - | 0 | 0 | Metrix MX3300 | Axial | 5 meter | 5 & 8 mm | 20 to 80 mils | 5488E-107 |
| TXA | - | 33 | 9 | - | 0 | 0 | Metrix MX3300 | Axial | 9 meter | 5 & 8 mm | 20 to 80 mils | 5488E-108 |
| TXR | - | 39 | 5 | - | 0 | 0 | Metrix MX3309 | Radial | 5 meter | 5 mm | 10 mils, pk-pk | N/A |
| TXR | - | 39 | 5 | - | 0 | 3 | Metrix MX3309 | Radial | 5 meter | 5 mm | 3 mils, pk-pk | N/A |
| TXR | - | 39 | 5 | - | 0 | 5 | Metrix MX3309 | Radial | 5 meter | 5 mm | 5 mils, pk-pk | 5465E-137 |
| TXR | - | 39 | 7 | - | 0 | 0 | Metrix MX3309 | Radial | 7 meter | 5 mm | 10 mils, pk-pk | N/A |
| TXR | - | 39 | 7 | - | 0 | 3 | Metrix MX3309 | Radial | 7 meter | 5 mm | 3 mils, pk-pk | N/A |
| TXR | - | 39 | 7 | - | 0 | 5 | Metrix MX3309 | Radial | 7 meter | 5 mm | 5 mils, pk-pk | 5465E-139 |
| TXA | - | 39 | 5 | - | 0 | 0 | Metrix MX3309 | Axial | 5 meter | 5 mm | 20 to 80 mils | 5488E-122 |
| TXA | - | 39 | 7 | - | 0 | 0 | Metrix MX3309 | Axial | 7 meter | 5 mm | 20 to 80 mils | 5488E-123 |

## About Metrix

Metrix Instrument Co. was founded in 1965 in Houston, Texas. It was the first company in the market to offer 4-20 mA vibration transmitters for seismic and proximity monitoring. This greatly simplified and reduced the cost of vibration monitoring.

Metrix serves customers worldwide with a complete line of instrumentation to measure and monitor vibration and provide early warning of potential machinery failure. These products include proximity probes, cables and transducers, switches, transmitters, seismic sensors, accelerometers, signal conditioners, monitors and portable meters. Metrix also features direct replacements for GE/Bentley Nevada 3000, 3300 and 7200 Series components.

Metrix specializes in providing products for the oil and gas, petrochemical, pipeline, air separation, power generation, cooling tower, water/wastewater and chemical industries. Our focus on these market segments allows us to deliver quantifiable business results to our customers on a global scale.

Metrix is a wholly owned subsidiary of Roper Industries (NYSE=ROP). Roper is a $1.4 billion diversified provider of engineered products in industrial technology, energy systems and controls, scientific/industrial imaging and instrumentation. Roper acquired Metrix in 1995, and the company began to expand its global presence. In 1998, Metrix procured PMC/BETA and began expanding its product portfolio to solve vibration problems and improve machinery uptime. Metrix is committed to exceeding the needs and expectations of our customers by providing quality solutions through continuous improvements.

Today, Metrix Instrument Co. operates in over 40 countries and enlists 80 representatives and distributors worldwide.

*For Datasheets, Installation Manuals and Company Information, visit*

www.metrix1.com