







**PVTVM's Transmitter Selection Guide**

| Model Number  | TR1101  | TR3101<br>TR3102   | TR4101<br>TR4102<br>TR4105  | TR5102  |
|---|---|--|---|---|
|   |  |  |  |  |
| Acceleration (g's)  | •   |  |   |   |
| Velocity (ips/sec, mm/sec)  | •   |  |   |   |
| Displacement (mils, um)   | •   | •  | •   |   |
| <b>Vibration Measurements</b>   |   |  |   |   |
| Radial Vibration  |   | TR3101   | TR4101  |   |
| Axial Position  |   | TR3102   | TR4102  |   |
| Phase Reference   |   |  | TR4102<br>TR4105  | •   |
| Speed   |   |  | TR4105  | •   |
| Case Vibration  | •   |  |   |   |
| <b>Sensor Interfaces</b>  |   |  |   |   |
| Built in Accelerometer  |   |  |   |   |
| Proximity Probe (5mm, 8mm, and 11mm)  |   | •  | •   | •   |
| Accelerometer   | •   |  |   |   |
| Velocity Transducer   | •   |  |   |   |
| <b>Available Outputs</b>  |   |  |   |   |
| 4-20mA Output   | •   | •  | •   | •   |
| Buffered Output (3 meters)  |   |  | •   |   |
| Buffered Output (300 meters)  | •   | •  |   | •   |
| <b>Available Features</b>   |   |  |   |   |
| Loop Powered (2- Wire) Transmitter  |   |  | •   |   |
| 3-Wire Transmitter  | •   | •  |   | •   |
| Hazardous Rating (CSA, ATEX)<br>Explosion Proof, Class I, Class II, Div.1,<br>Groups (A-G), EExdIICT4 |   |  |   |   |
| Hazardous Rating (CSA, ATEX)<br>Intrinsically Safe, EExiaIICT4  |   |  | •   |   |
| Hazardous Rating (CSA), non-incendive,<br>Class I, Div.2, Groups (A-D, T4)                            |   |  | •   |   |
| Environmental Rating- NEMA 4 or IP65  |   |  |   |   |
| Low Pass and High Pass Filter   |   |  |   |   |
| Warranty- 5 years   | •   | •  | •   | •   |

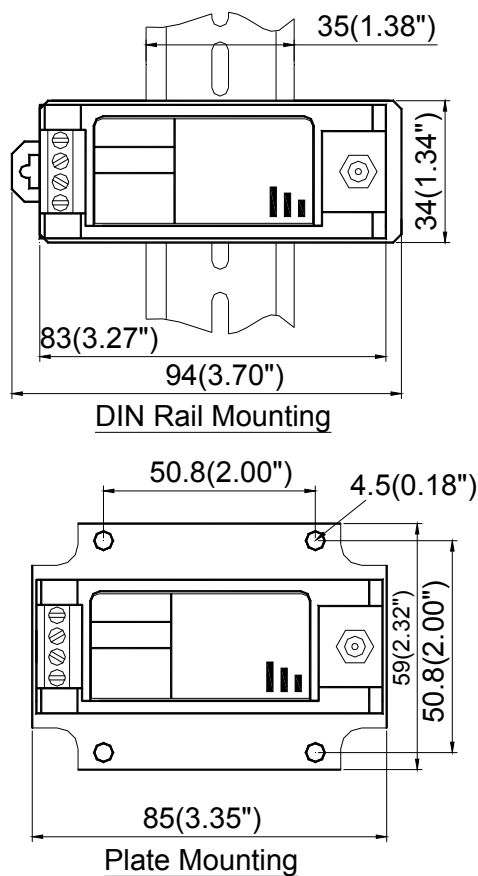
• = Complete Offering

## TR4101 Proximity Loop Powered Transmitter for Radial Shaft Vibration

The TR4101 is a cost-effective solution for monitoring the radial vibration on the shaft of balance of plant machines. The TR4101 combines the proximity probe driver and the signal conditioning circuit into one package. It works with a proximity probe and extension cable as a system.

### Features

- ✓ **Loop powered transmitter**
- ✓ **Does not require proximity probe driver**
- ✓ **Buffered output/ GAP**
- ✓ **Compatible with other manufacturers' proximity probes (5mm, 8mm and 11mm)**
- ✓ **Aluminum cast case (copper free) with epoxy potting for better environmental protection and reliability**
- ✓ **Same size as a proximity probe driver**



### Specifications

#### Electrical

Power Supply:

16-30VDC

Frequency Response ( $\pm 3\text{dB}$ ):

2.0 - 3,000Hz

Probe and Cable:

5 meter or 9 meter proximity probe and extension cable works with 5mm, 8mm, and 11mm probes

Proximity probe includes: TM0180, TM0105, TM0110, 3300, 7200 and 990 series

Sensor Linear Range (reference with AISI 4140 steel):

5mm, 8mm probe: 2.0 mm (80mil)

Approximately 0.25mm (10mil) to 2.25mm (90mil)

11mm probe: 4.0mm (160mil)

Approximately 0.4mm (15mil) to 4.4mm (175mil)

Overall Vibration:

4-20mA

2-wire, load

Buffered Output/ GAP:

Original vibration, un-filtered

Nominal: 2-18VDC

Impedance: 20 k $\Omega$

Maximum cable distance: 3.0m (10ft)

Sensitivity: 8.0mV/ $\mu\text{m}$  (200mV/mil) nominal

#### Electrical specifications continued

Maximum Load:

$50 \times (V_s - 16)$

Where  $V_s$  is the system power supply

Isolation:

> 500Vrms; circuit to case



## System OK:

System OK: output 4-20mA

System Not OK: output < 3.6mA

## Physical

Height: 75mm (2.95")

Weight: 0.5 kg (1.0 lb)

## Environmental

Temperature:

Operation: -40°C to +70°C

Storage: -40°C to +100°C

Humidity:

90% non-condensing

## Order Information

\* Factory default

Standard configuration:

**TR4101-A00-E00-G00-S00**

8mm probe:

**TM0180-07-00-05-10-02**

Extension cable:

**TM0181-040-00**

## TR4101-AXX-EXX-GXX-SXX

### AXX: Full Scale

A00\*: 0 - 200um (8.0mil) pk-pk

A01: 0 - 500um (20mil) pk-pk

A02: 0 - 100um (4.0mil) pk-pk

A03: 0 - 250um (10mil) pk-pk

A04: 0 - 630um (25mil) pk-pk

A05: 0 - 125um (5.0mil) pk-pk

### EXX: Probe and Cable (not included)

E00\*: TM0180, 8mm Probe, 5m Cable

E01: TM0180, 8mm Probe, 9m Cable

E02: 3300, 8mm Probe, 5m Cable

E03: 3300, 8mm Probe, 9m Cable

E04: 7200, 8mm Probe, 5m Cable

E05: 7200, 8mm Probe, 9m Cable

E06: TM0105, 5mm Probe, 5m Cable

E07: TM0105, 5mm Probe, 9m Cable

E08: TM0110, 11mm Probe, 5m Cable

E09: TM0110, 11mm Probe, 9m Cable

E10: 3300, 11mm Probe, 5m Cable

### EXX: Probe and Cable continued

E11: 3300, 11mm Probe, 9m Cable

E12: 7200, 11mm Probe, 5m Cable

E13: 7200, 11mm Probe, 9m Cable

E14: 3309 Probe, 5m Cable

E15: 3309 Probe, 7m Cable

E16: 3000, 190 Probe, 15 Feet Cable

E17: 3000, 190 Probe, 20 Feet Cable

E18: 3000, 300 Probe, 15 Feet Cable

E19: 3000, 300 Probe, 20 Feet Cable

E20: 7200, 5mm Probe, 5m Cable

E21: 7200, 5mm Probe, 9m Cable

### GXX: Mount

G00\*: DIN rail mount

G01: Plate mount

### SXX: Hazardous Area

S00\*: Without approval. CE

S01: Multiple approvals

ATEX: II 1 G EEx ia IIC T4

@Ta=-40°C ~ +70°C

KEMA06ATEX0217X

CSA: Non-incendive, Class I, Div. 2,

Groups A, B, C, D & T4

CSA: Intrinsically safe, Class I, Div. I,

Groups A, B, C & D, T4

PCEC: Ex ia IIC T4

\*\*TR CU: 0Ex ia IIC T4 X

№ TC RU C-US.ГБ05.B.00477

NANIO CCVE

CE

Note: \*\* TR CU certificate is pending

### TR4101 Accessories

The TR4101 requires a proximity probe and extension cable to work as a system.

**TM0180:** 8mm probe

**TM0105:** 5mm probe

**TM0110:** 11mm probe

**TM0181:** Extension cable

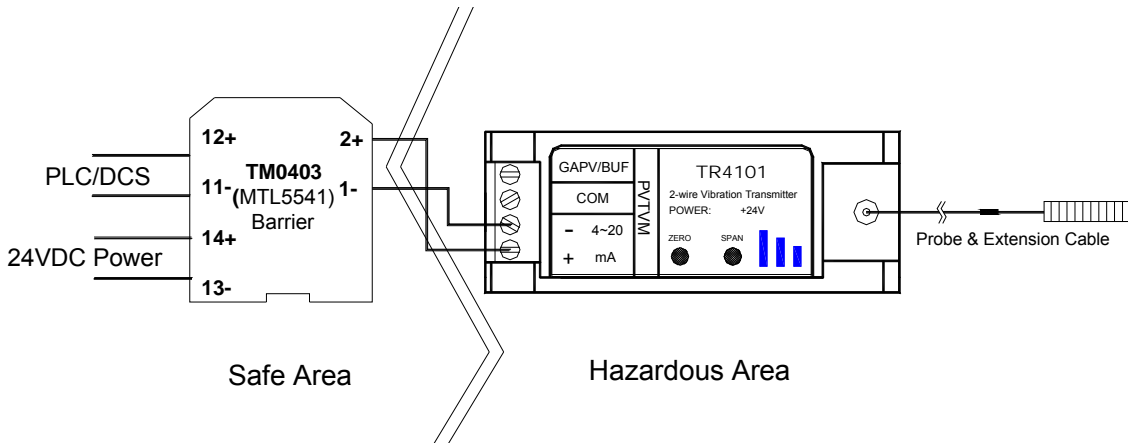
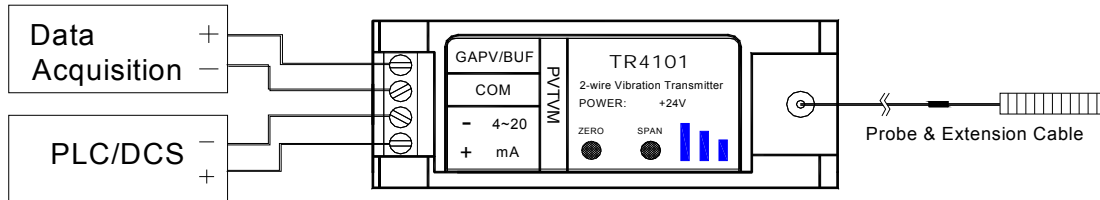
**TM0200:** 3-1/2 digit display unit

**BNC-2:** BNC adaptor for portable data collector





### Field-Wiring Diagram



Note:

Other Barriers:

- TM0406: (STAHL 9160/13-11-10s)
- TM0407: (STAHL 9160/13-11-11)