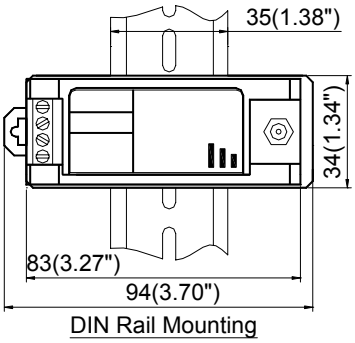
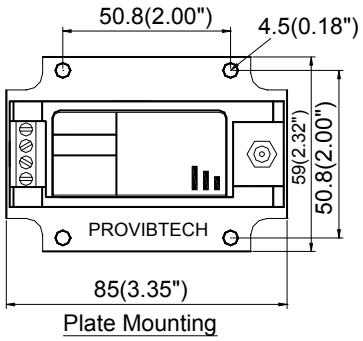
TR4101 Proximity Loop Powered Transmitter for Radial Shaft Vibration

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 (±3dB):
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 kΩ
Maximum cable distance: 3.0m (10ft)
Sensitivity: 8.0mV/um (200mV/mil) nominal

Electrical specifications continued

Maximum Load:
50×(Vs-16)
Where Vs 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℃ to +70℃
Storage: -40℃ to +100℃
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

GXX: Mount
G00*: DIN rail mount
G01: Plate mount

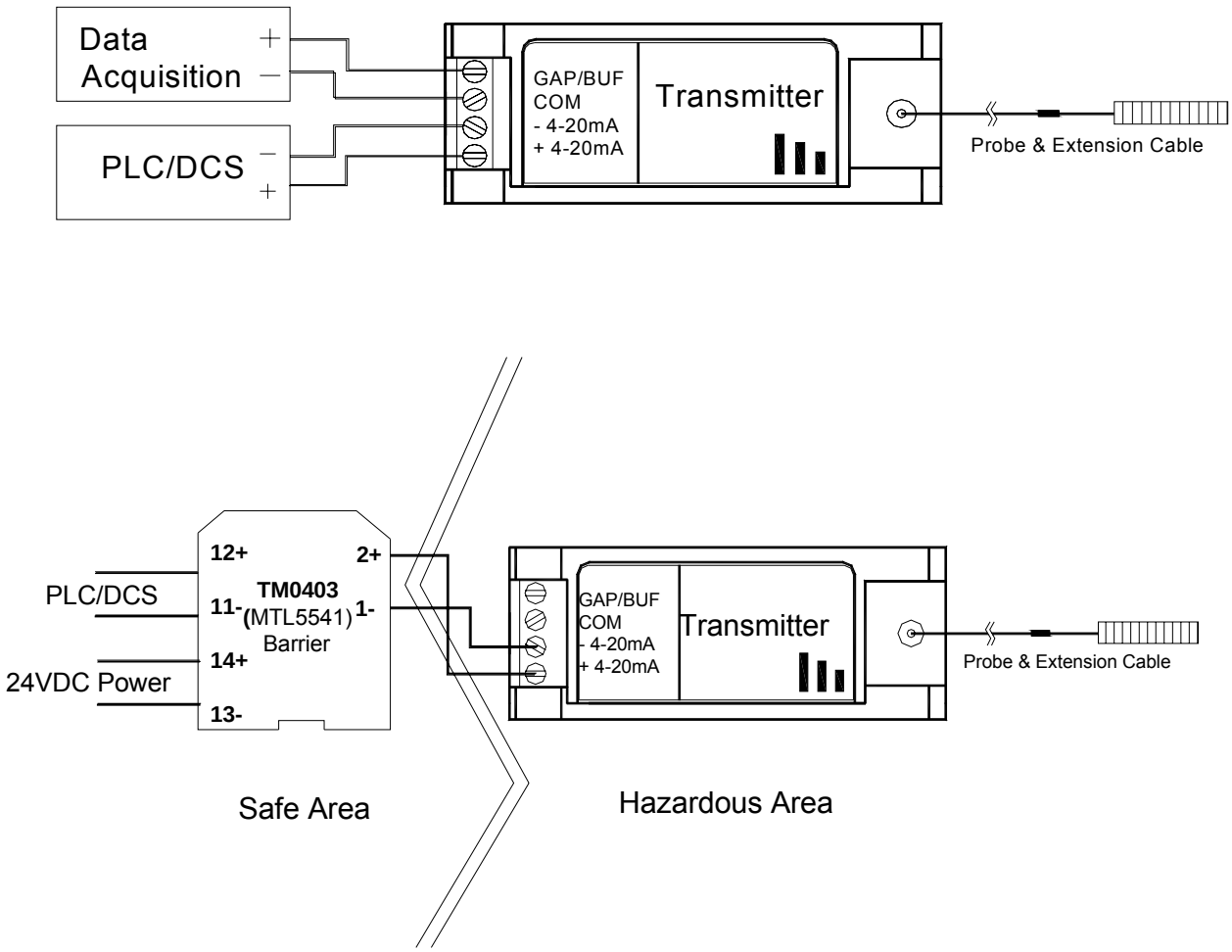
SXX: Hazardous Area
S00*: Without approval. CE
S01: Multiple approvals
ATEX: II 1 G EEx ia IIC T4
@Ta=-40℃ ~ +70℃
KEMA06ATEX0217X
CSA: Non-incendive, Class I, Div. 2,
Groups A, B, C, D & T4
CSA: Intrinsically safe, Class I, Div. I,
Groups A, B, C & D, T4
PCEC: Ex ia IIC T4
TR CU: 0Ex ia IIC T4 X
№ TC RU C-US.ГБ05.B.00477
NANIO CCVE
CE

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 9303/11-22-11)
TM0407: (STAHL 9160/13-11-11)