

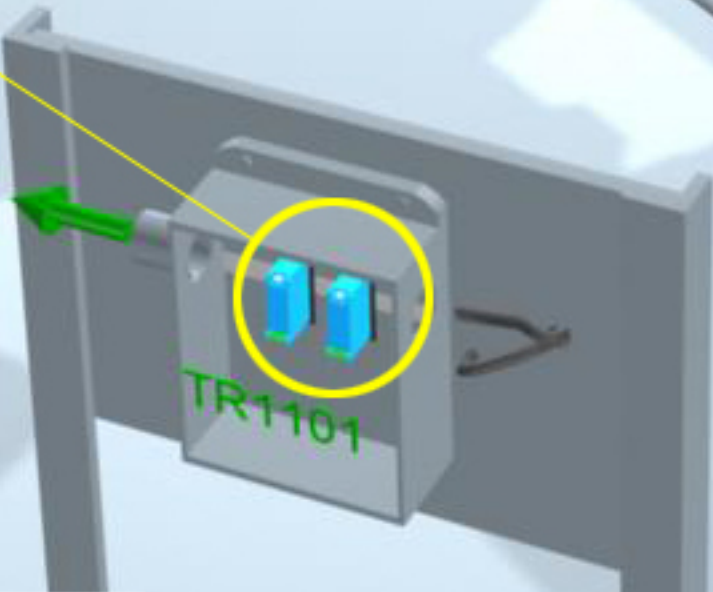


TR1101



TM0782A

PLC/DCS



TR1101



ProVibTech
Innovative Machine Monitoring



TR1101 Seismic Vibration Transmitter

The TR1101 is a cost-effective solution for monitoring case vibration on balance of plant machines. The TR1101 conditions the signal from an accelerometer or velocity transducer and provides a 4-20mA output in acceleration, velocity or displacement.

Features

- ✓ Measures machinery case vibration
- ✓ 4-20mA output in acceleration, velocity or displacement
- ✓ Buffered output up to 300 meters (1,000 feet)
- ✓ Compatible with other manufacturers' sensors (accelerometer or velocity sensor)
- ✓ Aluminum casted (copper free) case with epoxy potting for better environmental protection and reliability
- ✓ Compact size



Specifications

Electrical

Power Supply:

22-30VDC, 100mA (Non isolated)

Frequency Response (± 3 dB):

Acceleration: 2.0 - 10 KHz

Velocity: 2 - 10 KHz (velocity sensor)

Velocity: 10 - 5 KHz (accelerometer)

Displacement: 10 - 3 KHz (velocity sensor)

Acceleration (low frequency): 1.0 - 100Hz

Velocity (low frequency): 1.0 - 100Hz (TM079VD)

Displacement (low frequency): 1.0 - 100Hz (TM079VD)

Sensor Interface:

Sensitivity:

100mV/g nominal for accelerometer or

4.0mV/mm/sec (100mV/in/sec) nominal for velocity sensor

40mV/mm/sec (1000mV/in/sec) nominal for velocity

TM079VD or 4mV/ μ m (100mV/mil) nominal for displacement TM079VD

Current Source:

Nominal 4mA@24VDC

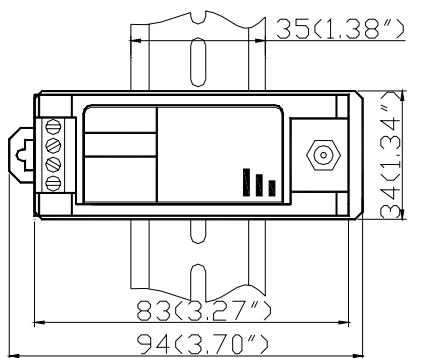
Connectors:

GAP/Buf: gap and buffered output

SIG: sensor signal

COM: signal com

4-20mA: 4-20mA output



DIN Rail Mount

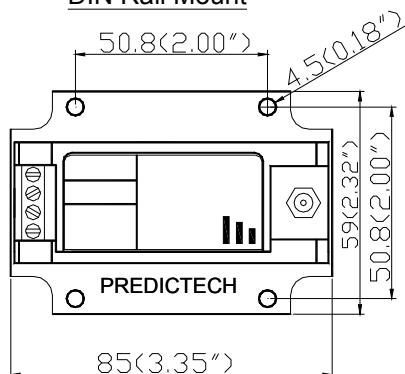


Plate Mount



Electrical Specifications Continued

Buffered Output:

- Original vibration, un-filtered
- Impedance: 100 Ω
- Maximum cable distance: 300m (1,000ft)
- Sensitivity: same as the sensor

Overall Vibration:

- 4-20mA, source
- Driving load resistance up to 750 Ω

System Self-test:

- System OK: output 4-20mA
- System Not OK: output < 3.0mA

Physical

- Height: 75mm (2.95")
- Weight: 1.0kg (2.0 lbs)

Environmental

Temperature:

- Operation: -40°C to +70°C
- Storage: -40°C to +100°C

Humidity:

- 90% non-condensing

Order Information

*Factory Default

TR1101-AXX-EXX-GXX

AXX: Full Scale

- A00*: 0 - 200um pk-pk
- A01: 0 - 500um pk-pk
- A02: 0 - 100um pk-pk
- A03: 0 - 10mil pk-pk
- A04: 0 - 25mil pk-pk
- A05: 0 - 5.0mil pk-pk
- A06: 0 - 50mm/s pk
- A07: 0 - 100mm/s pk
- A08: 0 - 20mm/s pk
- A09: 0 - 2.0ips pk
- A10: 0 - 4.0ips pk
- A11: 0 - 1.0ips pk

AXX: Full Scale Continued

- A12: 0 - 5.0g pk
- A13: 0 - 10g pk
- A14: 0 - 5.0g pk (low frequency)
- A15: 0 - 10g pk (low frequency)
- A16: 0 - 50mm/s pk (low frequency, E01, E04)
- A17: 0 - 100mm/s pk (low frequency, E01, E04)
- A18: 0 - 500um pk-pk (low frequency, E04)
- A19: 0 - 200um pk-pk (low frequency, E04)
- A20: 0 - 2.0ips pk (low frequency, E04)
- A21: 0 - 4.0ips pk (low frequency, E01, E04)
- A22: 0 - 20mil pk-pk (low frequency, E04)
- A23: 0 - 10mil pk-pk (low frequency, E04)
- A24: 0 - 2.0ips (50 mm/s) rms
- A25: 0 - 1.0ips (25 mm/s) rms
- A26: 0 - 0.8ips (20 mm/s) rms
- A27: 0 - 0.5ips (12.5 mm/s) rms

EXX: Sensor Type (not included)

- E00*: Accelerometer TM0782A, TM0783A, TM0784A, TM0785A, TM0786A or any current mode accelerometer with 100mV/g
- E01: Velocity sensor TM0793V, TM0796V or any current mode velocity sensor with 4mV/mm/sec
- E02: 330500, 330525 velocity sensor
- E03: 330750 velocity sensor
- E04: TM079VD low frequency sensor

GXX: Mount

- G00*: DIN rail mount
- G01: Plate mount

TR1101 Accessories

The TR1101 requires an external accelerometer or velocity sensor to work as a system.

TM0782A, TM0783A, TM0784A, TM0785A, TM0786A:
Accelerometer

TM0793V, TM0796V: Velocity sensor

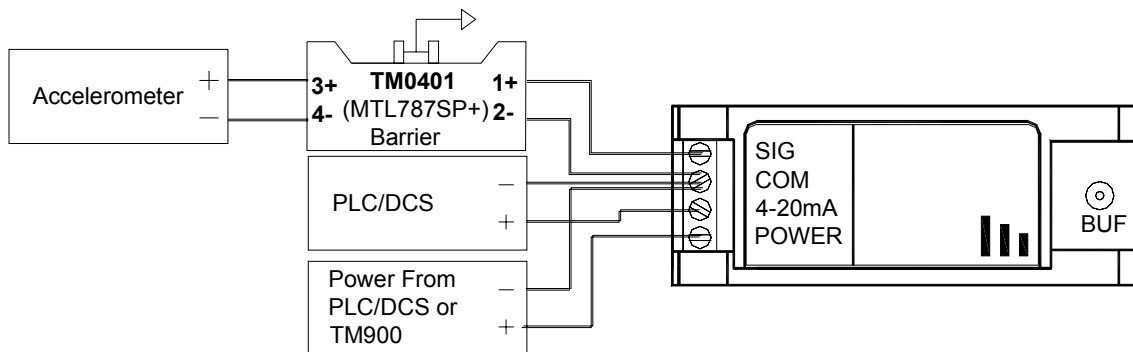
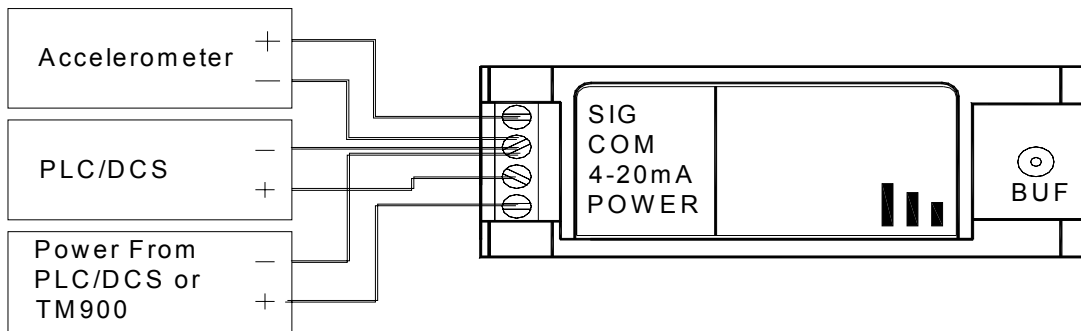
TM079VD: Low frequency velocity and displacement sensor

TM900: Power converter

TM0200: 3-1/2 digit display unit



Field-Wiring Diagram



Note:

Other barriers available:

TM0402: (STAHL 9001/51-280-091-141)

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



Accelerometer TM0782A

General Purpose, Industrial Piezoelectric Accelerometers

The TM0782A-K accelerometer kit consists of one accelerometer and one 5 meter cable. This accelerometer kit directly interfaces with ProvibTech's signal conditioners: distributed transmitter monitors (DTM), transmitters (TR), dual monitors (DM) and PT580 vibration switches to measure case vibration in acceleration or velocity.

Specifications

Electrical

Sensitivity:

100mV/g, @ 25°C, ±10%

Frequency Response:

0.5 - 10,000Hz (±3dB)

Acceleration Range:

50g

Isolation:

Fully isolated

Electrical Noise:

0.0007g

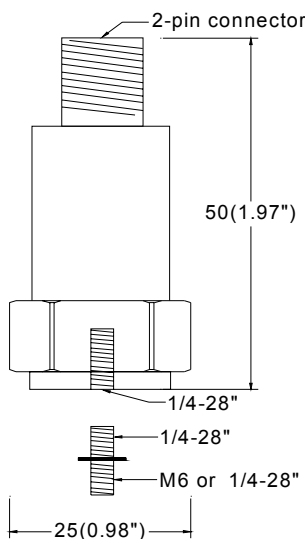
Power Requirement:

2 - 10mA constant current

18 - 30VDC

Bias Voltage:

10 - 14VDC



Resonance Frequency:

30 kHz

Maximum Transmission Distance:

300 meters (1,000 feet)

Environmental and Physical

Temperature Range:

-50°C to +120°C

Environmental Protection:

IP67

Weight:

90 grams

Case Material:

Stainless Steel

Mounting:

1/4-28UNF tapped hole

Installation Torque:

29N x M

Hazardous Area Approval:

ATEX: II 1 G, Ex ia IIC T4

CSA: Class I, Div. 1, Groups A, B, C and D

PCEC, Ex ia IIC T4

Connection

A: Power (red)

B: COM (white)

Shield



Order Information

TM0782A-M

Accelerometer with mounting screw 1/4-28" to M6×1

TM0782A-E

Accelerometer with mounting screw 1/4-28" to 1/4-28"

TM0782A-K-M

Accelerometer kit includes:

- ✓ TM0782A accelerometer
- ✓ Mounting screw (1/4-28" to M6×1)
- ✓ TM0702-05

TM0782A-K-E

Accelerometer kit includes:

- ✓ TM0782A accelerometer
- ✓ Mounting screw (1/4-28" to 1/4-28")
- ✓ TM0702-05

Accessories:

(Standard cable length is 5 meters. XX = 05)



TM0702-XX: Aluminum MIL connector with XX meters cable, 6.35mm diameter.
< 120°C (250°F)



TM0703-XX: Seal tight boot connector with XX meters cable, 6.35mm diameter.
< 120°C (250°F)



TM0704-XX: Stainless steel MIL connector with armored XX meters cable,
4.83mm diameter. < 150°C (300°F)



TM0705-XX: Cornered MIL connector with XX meters cable, 6.35mm diameter.
< 120°C (250°F)

TM0710: Mounting screw 1/4-28" - M6×1

TM0711: Mounting screw 1/4-28" - 1/4-28"

TM0712: Mounting screw 1/4-28" - M8

TM0713: Mounting screw 1/4-28" - M10