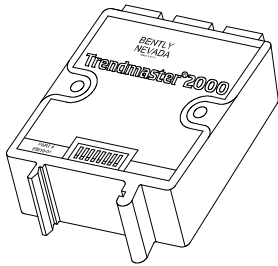


85018-01 and 88269-01 Displacement Transducer Interface Modules

Bently Nevada™ Asset Condition Monitoring



Description

The 85018-01 Displacement Transducer Interface Module (TIM) acts as a Proximator® sensor and interfaces to a Bently Nevada 3300 5 mm or 3300 XL 8mm proximity probe and extension cable (5 metre system). It allows connection of proximity probes to the Trendmaster® 2000 System for radial vibration or axial position measurements.

The 88269-01 is an intrinsically safe version of this TIM.

Specifications

All specifications are within operating temperature limits, using an AISI 4140 steel target, unless otherwise noted.

Electrical

Input:

Used with our 3300 XL 8 mm probe or 3300 5 mm probe and extension cable (5 metre system) only.

Linear Range:

1 mm (40mils).

Linear range begins at approximately 0.25 mm (10 mils) from target and is from 0.25 to 1.3 mm (10 to 50 mils).

Average Scale Factor (ASF):

±12% including temperature effect, internal tolerances and interchangeability error when measured in increments of 0.25 mm (10 mils) over the 40 mil linear range.

Mid-scale gap tolerance:

Mid-scale gap between 660 µm to 864 µm (26 to 34 mils).

Resolution:

0.5 µm (17 µm) nominal

Frequency Response:

0 to 3 kHz: +0, -10%
(0 to 180,000 cpm)

OK Range:

± 20 mils (500 µm) from the mid-scale point.
Probe open or shorted is NOT OK.

Minimum Target Size:

15.2 mm (0.6 in) diameter (flat target).

Shaft Diameter:

Minimum: 50.8 mm (2 in)

Recommended minimum: 76.2 mm (3 in)

Measurements on shaft diameters smaller than 50 mm (2 in) usually require close spacing of radial vibration or axial position transducers with the potential for their electromagnetic emitted fields to interact with one another (cross-talk), resulting in erroneous readings. Care should be taken to maintain minimum separation of transducer tips, generally at least 40 mm (1.6 in) for axial position measurements or 74 mm (2.9 in) for radial vibration measurements. Radial vibration or position measurements on shaft diameters smaller than 76.2 mm (3 in) will generally result in a change in scale factor. Consult Performance Specification 159484 for additional information.

Electrical Classification:

Complies with the European CE mark.

Environmental Limits

Operating Temperature:

-20°C to + 100°C (-4°F to +212°F)

Storage Temperature:

-40° to + 100°C (-40° to +212°F)

Humidity:

Up to 90% relative humidity, noncondensing. Use of weatherproof housing recommended for environmental protection.

Electrostatic Discharge (ESD) Protection:

10 kV through 1 k Ω to exposed surfaces.

Specifications and Ordering Information
Part Number 141563-01
Rev. D (04/07)

Vibration:

50 mm/s peak (2.0 in/s peak).
10 Hz to 1000 Hz any axis.

Mechanical

**Transducer
Interface
Module
Material:**

Polycarbonate

Size

Height:

77 mm (3.0 in) typical

Width:

23 mm (0.89 in) typical

Depth:

78 mm (3.1 in) typical

Weight:

Up to 112 g (0.25 lb)

Mounting:

Variety of mounting configurations including clips for 35 mm mounting rail and two holes for #6 (M4) screws.

Hazardous Area Approvals

CSA/NRTL/C:

88269-01:

Class I, Groups A, B, C, and D;
Class II, Groups E, F and G;
Class III; Enclosure type 4 when installed per drawing number 86571; T₄ @T_a = 100°C
Certificate number LR26744-228

85018-01:

Class I, Div. 2, Groups A, B, C, and D; Class II, Div; 2, Groups E, F, and G; and Class III, Div. 2; Enclosure type 4 when installed per drawing number 86175; T₄ @T_a = 100°C
Certificate number LR26744-89

Patent:

5,200,743

Components or procedures described in this patent apply to this product.

Ordering Information

All necessary connectors for transducer and cable (line) hook-up are included with the TIM.

85018-01

Displacement TIM.

88269-01

Intrinsically safe Displacement TIM

Accessories

126709-04

Manual

Typical Field Wiring Diagram

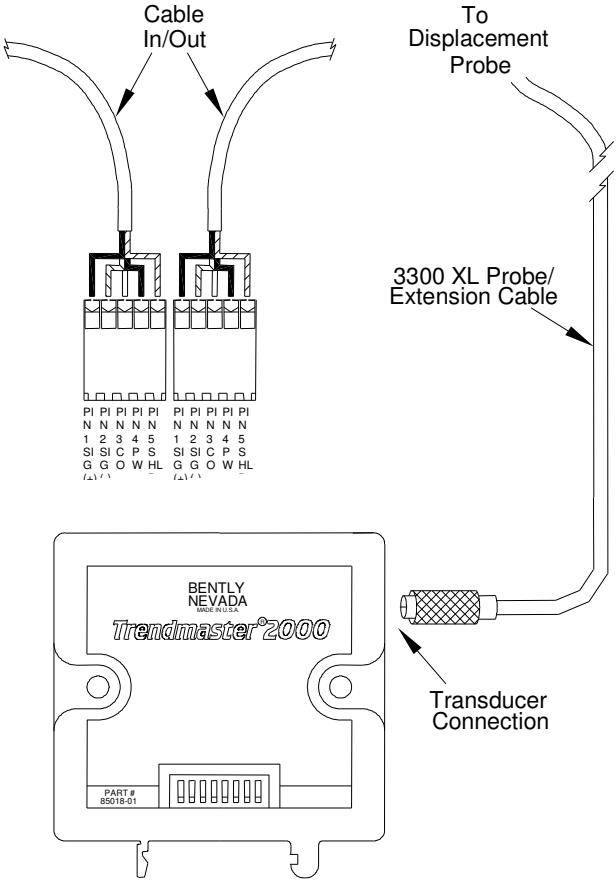


Figure 1: TIM connection details

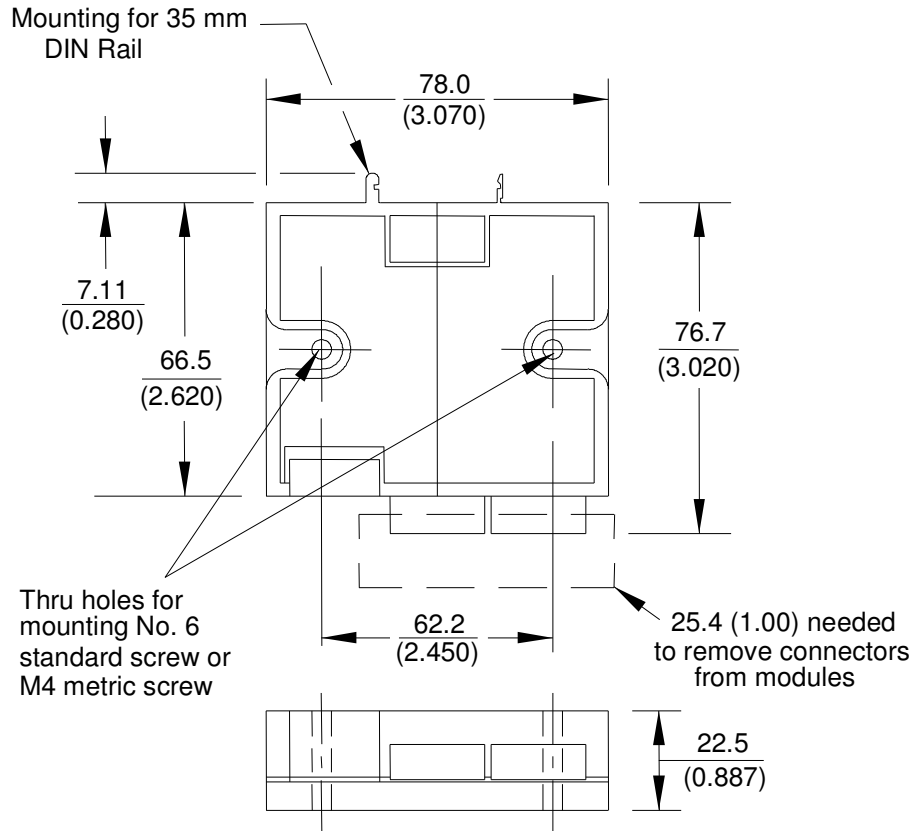


Figure 2: TIM dimensions
 Dimensions are in millimetres (inches)

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