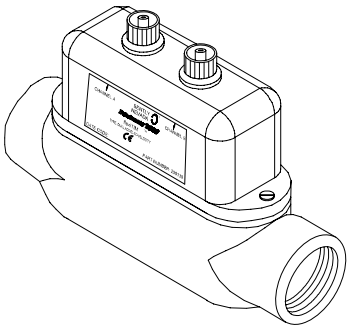
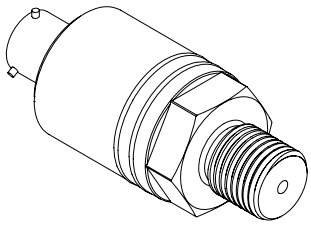
Dual Pressure flexiTIM™ System

Bently Nevada™ Asset Condition Monitoring





Description

The Dual Pressure flexiTIM™ module interfaces 2 individual pressure transducers to the Trendmaster® 2000 System and is intended for non-dynamic pressure applications.

The flexiTIM module and cable interfaces with pressure transducers using a 4-pin, locking bayonet connection. Compatible transducers are standard, millivolt output type devices with an output sensitivity of 10 mV/V. This flexibility allows the dual pressure flexiTIM system to measure a wide range of pressures under a variety of operating conditions. We offer a standard transducer for use with the flexiTIM module for convenience.

Specifications

All specifications are at 25 °C (77 °F) unless otherwise specified.

Operation outside the specified limits will result in false or inaccurate readings.

200130 Dual Pressure flexiTIM

Electrical

Full Scale Range

The pressure transducer sets the Trendmaster full-scale pressure range. The user enters the transducer's full-scale range into the Trendmaster software.

Accuracy

±8.5% of the transducer full-scale rating (transducer accuracy not included).

Transducer Excitation Voltage

4.98 Vdc ± 65 mVdc.

Maximum Transducer Supply Current

2.5 mA absolute maximum available over temperature.

Transducer OK Range

1 Vdc to 3 Vdc bias from transducer (nominal).

Resolution

0.025% of transducer's full scale rating.

Transducer

Bridge type meeting stated requirements.

Environmental Limits

Operating Temperature

-40 °C to +100 °C (-40 °F to +212 °F).

Humidity

100% condensing on exposed surfaces.

100% non-condensing on surfaces inside conduit.

Enclosure Type

NEMA Type 4 (?)

Mechanical

Housing Materials

Powder-coated aluminum.

Weight

554 g (20 oz) not including conduit body

Dimensions

See Figure 1 and Figure 2.

Electromagnetic Compatibility

Radiated Emissions

EN 55022 (1994). Class A.

Electrostatic Discharge

EN 61000-4-2 (1995), Criteria A.

Radiated Susceptibility

EN 61000-4-3 (1997) (ENV 50140 : 1993), Criteria A.

Conducted Susceptibility

ENV 50141 (1993), Criteria A.

Electrical Fast Transient

EN 61000-4-4 (1995), Criteria A.

Surge Capability

ENV 50142 (1994), Criteria A.

Magnetic Field

EN 61000-4-8 (1994), Criteria A.

Hazardous Area Approvals

CSA

Installed with Intrinsically Safe Zener Barriers per Drawing 136925

Class I, Div 1 Groups A, B, C & D

Class II, Div 1 Groups E, F & G

Class III, Div 1

Ex ia IIC; T4, Ta = 100 °C

Class I, Zone 0

Installed Without Barriers per Drawing 136926

Ex nA IIC, Class I, Zone 2

T_4, T_a = 100 °C

Class I, Div 2, Groups A, B, C & D

T_4, T_a = 100 °C

CENELEC

Installed with Intrinsically Safe Zener Barriers per Drawing 136925

 II 1 G

EEx ia IIC T4, Ta = 100 °C

LCIE 99 ATEX 6001X

200131 Cables

Operating Temperature

-20 °C to +100 ° C (-4 °F to +212 °F).

Minimum Bend Radius

25.4 mm (1.0 in).

Construction

4-conductor (22 AWG) with foil shield and drain wire (100% coverage), yellow PVC outer jacket.

Connectors

Screw-on, 5-pin, keyed connector on the flexiTIM end and a PT06F8-4S (or equivalent) on the transducer end. The user should install the environmental boot over the transducer's connector and body.

200132 Pressure Transducer

Pressure Ranges PSI SG

30, 50, 100, 300, and 500.

Sensitivity

10 mV/V ± 1%.

Zero Offset

±3mV (±6% of full scale range) at atmospheric pressure (14.7 PSI).

Absolute Accuracy

±4% over compensated temperature range.

Excitation

5 Vdc to 10 VDC (nominal).

Input Resistance

> 2 K Ω.

Output Resistance

< 6 K Ω.

Operating Temperature

-54 °C to +121 °C (-65 °F to +250 °F).

Compensated Temperature

+10 °C to +93 °C (+50 °F to +200 °F).

Connector

MS3113H8-4P, 4-position male or equivalent:

A = + Excitation

B = + Out

C = - Out

D = - Excitation

Proof Pressure

2X Full Pressure Scale.

Burst Pressure

3X Full Pressure Scale

Pressure Fitting

1/4 - 18 NPT male.

Case Material

316 Stainless Steel.

Insulation resistance

> 50 MΩ @ 50 VDC.

Ordering Information

200130 Dual Pressure flexiTIM Module (all conduit bodies have 1-inch hubs).

200130-AXX-BXX

A: Conduit body style

0 0	No conduit body
0 1	Appleton® Style C body, malleable iron
0 2	Appleton Style E body, malleable iron
0 3	Appleton Style C body, aluminum
0 4	Appleton Style E body, aluminum
0 5	Weatherproof housing mount

B: Approvals

0 0	CSA, Class 1 DIV 2, no barriers
0 1	CSA approvals installed with barriers
0 2	CENELEC approvals installed with barriers

Transducer Cables

200131-AXX

A: Cable length

0 5	0.5 metres (1.6 feet)
1 0	1.0 metre (3.3 feet)
1 5	1.5 metres (4.9 feet)
2 0	2.0 metres (6.6 feet)
4 0	4.0 metres (13.1 feet)
6 0	6.0 metres (19.7 feet)
9 0	9.0 metres (29.5 feet)

Pressure Transducer

200132-AXXX

A: Pressure rating

0 3 0	0 to 30 PSI SG
0 5 0	0 to 50 PSI SG
1 0 0	0 to 100 PSI SG
2 0 0	0 to 200 PSI SG
3 0 0	0 to 300 PSI SG
5 0 0	0 to 500 PSI SG
1000	0 to 1000 PSI SG
1500	0 to 1500 PSI SG
2000	0 to 2000 PSI SG

Accessories

126709-04	**Trendmaster 2000 Installation Guide.** Includes flexiTIM Installation Guide.
137230-01	**flexiTIM installation Guide**
01620085	**Extra terminal plugs for SPA line connection.** Each flexiTIM module includes 3 terminal plugs.
03814231	**Compression fitting for 1-inch conduit body hubs.** Seals for cables when installing

	flexiTIM modules without conduit.
04500006	**Dow Corning® 4, Electrical Insulating Compound (5.3 Oz).**

Dimensional diagrams

Note: All dimensions in millimetres [inches] except as noted.

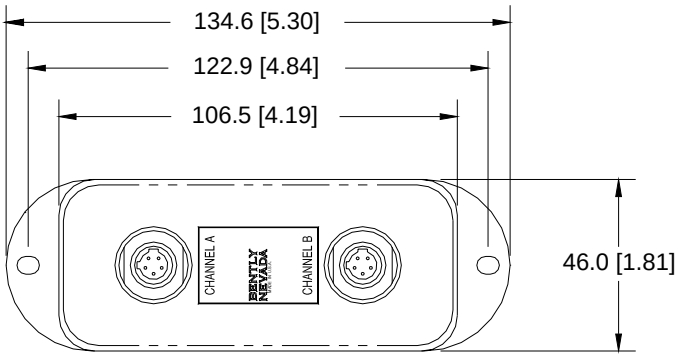
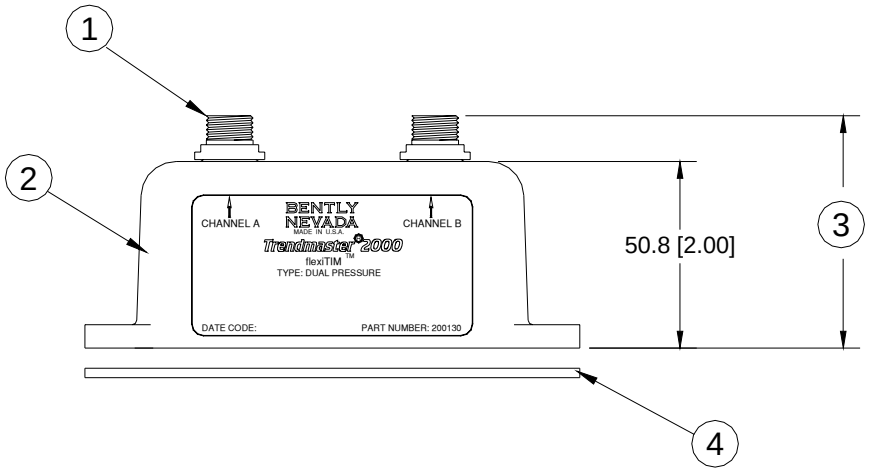


Figure 1: Dual Pressure flexiTIM Module Dimensions (Top View)



1. 1/2-20 5-pole female receptacle
2. Powder-coated aluminum housing
3. 63.3 mm [2.49 in]. Allow 127 mm [5 in] for total height with connector and cable bend.
4. Gasket

Figure 2: Dual Pressure flexiTIM Module Dimensions (Side View)

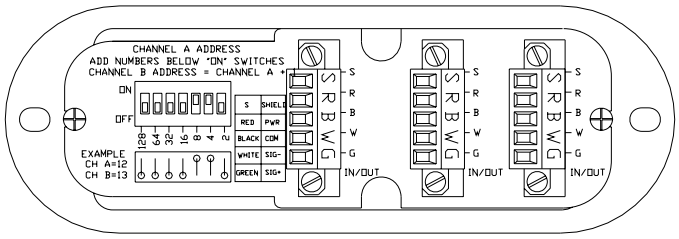


Figure 3: Dual Pressure flexiTIM Module Bottom View

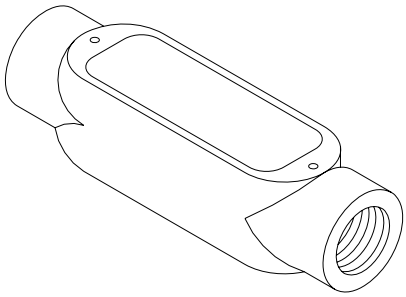


Figure 4: Conduit Body Style C Provided with flexiTIM Modules

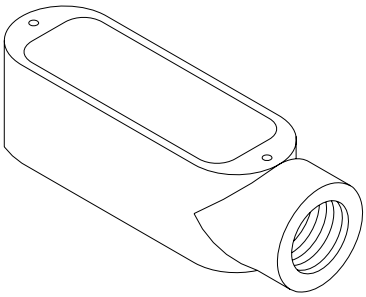
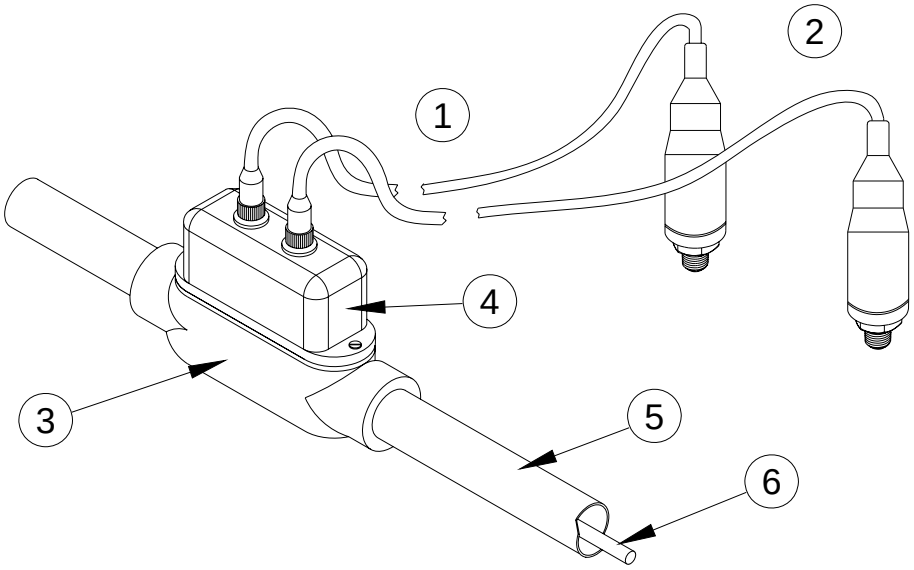
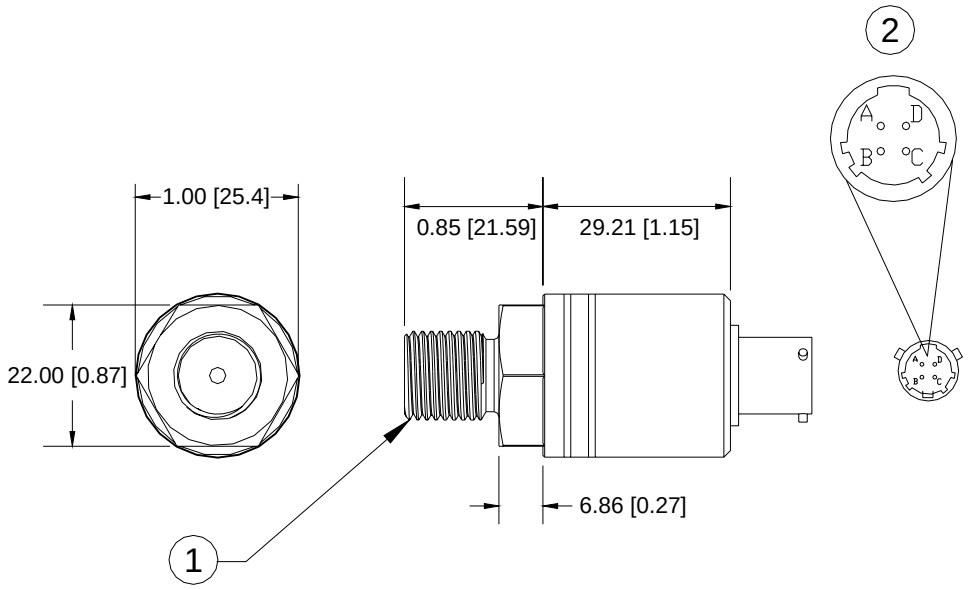


Figure 5: Conduit Body Style E Provided with flexiTIM Modules



1. Transducer cables with environmental boots
2. Transducers
3. Conduit body
4. flexiTIM module
5. Rigid conduit
6. SPA line

Figure 6: Installed Pressure flexiTIM Module



1. 1/4-18 NPT
2. MS3113H8-4P, 4-position male or equivalent. A = + Excitation, B = + Out, C = - Out, D = - Excitation.

Figure 7: Pressure Transducers