

INNOVATIVE SENSORS FOR INDUSTRIAL AND HOME AUTOMATION

Introducing the TD1A, 2A, 3A Series Alloy Fill Melt Pressure Transducers





SERIES: TD1A-Rigid Stem



SERIES: TD2A-Stem/Flex



SERIES: TD3A-Stem/Flex with Thermocouple

FEATURES

- Standard 3.33mV/V, 6 pin Bendix Connector
- 6" Stem (standard), 18" Flex (standard) (TD2A)
- 0.5% or 0.25% Accuracy
- Ranges from 500 to 30,000 psi
- 750° F (400° C) Diaphragm Rating
- Thermocouple Type J (TD3A)
- 80% Output Calibration
- Standard Diaphragm Type 17-4 SS with Titanium-Aluminum Nitride Coating
- Non-Mercury Alloy Fill

TD1A, 2A, 3A OPTIONS

- Connector: 8 pin Screw
- 12" Stem, 30" Flex
- Outputs: 4-20mA, 0-10 VDC



SPECIFICATIONS

Mechanical

Ranges

Filling Material Accuracy Repeatability Over Pressure Capability Mounting Torque

Temperature Effects

Maximum Diaphragm temp Zero/Span Shift (Diaphragm Temp Change)

Maximum Housing Temp Zero/Span Shift (Electronics Temp Change)

Electrical

Outputs Supply Voltge

Insulation Resistance Zero Output

Internal Shunt Calibration Response Time Load resistance 500, 1500, 3000, 5000, 7500 10,000, 15,000, 30,000 psi Alloy (Gallium, Indium, Tin)* No Mercury +/- 0.5% or 0.25% BFSL @ 25°C (77 °F) <0.5% of Full Scale 1.5 x Full Scale 150 Inch-Ibs MIN 500 Inch-Ibs MAX

400°C (750°F) 5 psi / 100°C (212° F)

85° C (185° F) 0.04% F.S / ° C MAX

3.33 mV/V (optional 4-20mA and 0-10 VDC) 10 VDC for mV/V output, 9-36 VDC for 4-20mA output, 18-36 VDC for 0-10V output 1000 megohms @50 VDC Factory set. You may remove "Z" screw (top of housing) and press button for 3 seconds to reset zero if necessary (with no pressure applied). Typically this is not necessary since this is covered when calibrating a new sensor (setting zero and span) with the controller $80\% \pm 0.2\%$ Of Full Scale <30ms $4-20mA = 12VDC <150 \Omega / 24VDC <750 \Omega$ $0-10V = >10K \Omega$

* NOT TO BE USED IN FOOD GRADE APPLICATIONS

ORDERING



Consult factory for further options.

Specificationsmay change without notice. The informationwe supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use. While we provide application assistance personally, through our literature and the Transducers Direct web site, it is up to the customer to determine the suitability of the product in the application.

REV: 10.21



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MECHANICAL INSTALLATION

1. MOUNTING HOLE All holes must be concentric within 0.002" AVAILABLE DRILL KITS : Page 4

2. PROTECTIVE CAP Leave cap on until installation - FRAGILE tip

3.LUBRICATE THREADS with EITHER :

- **1. NEVERSEEZ by BOSTIK**
- 2. C5A by FELRO
- 3. MOLYKOTE by DOW CORNING

4. CLEAN HOLE OF ALL PLASTIC MATERIALS Any residue can damage tip on installation. AVAILABLE CLEAN KITS : Page 4

5. TRANSDUCER HOUSING (Max Temp - 185°F) Install in low vibration area. MOUNTING BRACKET: TDMP-MTG-BRACKET

ELECTRICAL INSTALLATION

1. WIRING DIAGRAM Depending on connector below :

2. CABLE+GROUND (26AWG, 6WIRE, SHIELD) Shield may have to be connected to ground in a high noise environment. Do not connect to meter.



6. MOUNTING TORQUE MIN 150inch-lbs MAX 500inch-lbs Install finger tight then turn 1/4 turn with wrench

3. ZERO ADJUSTMENT

To compensate for pressure drift caused by temp changes. At operating temperature with no pressure on transducer, adjust the pressure indicating device to read "0"

4. SPAN ADJUSTMENT To calibrate readout device to transducer. Press "CALIBRATE" and adjust reading to read 80% SPAN.

TRANSDUCER - 3.33 mV/V

6 PIN BAYONET



LEAD	COLOR	6 PIN
SIGNAL+	RED	A
SIGNAL-	BLACK	В
EXCITATION +	WHITE	С
EXCITATION -	GREEN	D
CALIBRATION	BLUE	E
CALIBRATION	ORANGE	F

TRANSDUCER - 3.33 mV/V

6 PIN BAYONET



8 PIN SCREW



 LEAD
 COLOR
 8 PIN

 EXCITATION+
 WHITE
 A

 SIGNAL+
 RED
 B

 EXCITATION GREEN
 C

 SIGNAL BLACK
 D

 CALIBRATION
 BLUE
 E

 CALIBRATION
 ORANGE
 F

 NOT USED
 H

4-20mA OUTPUT

LEAD	COLOR	6 PIN
SUPPLY/SIGNAL+	RED	А
SUPPLY/SIGNAL-	BLACK	В
N/A	WHITE	С
N/A	GREEN	D
CALIBRATION	BLUE	E
CALIBRATION	ORANGE	F

VOLTAGE OUTPUT

	50	
LEAD	COLOR	6 PIN
SIGNAL+	RED	Α
SIGNAL-	BLACK	В
EXCITATION+	WHITE	С
EXCITATION-	GREEN	D
CALIBRATION	BLUE	E
CALIBRATION	ORANGE	F



INNOVATIVE SENSORS FOR INDUSTRIAL AND HOME AUTOMATION

DIMENSIONS



PHONE 513-583-9491



INNOVATIVE SENSORS

GENERAL OPERATION GUIDES

1. START UP

Before starting the extruder drive, ensure that the extruder is at operational temperature and plastic at tip is molten. A cold start can literally rip off the fragile diaphragm.

2. REMOVAL

Only remove transducer when barrel is at operational temperature and zero pressure. Always clean hole of all solids before re-installing. Check hole dimensions with thread gauge of cleaning kit to ensure proper hole. Hole size at tip can reduce over time. Always remove transducer before cleaning inside barrel with abrasive cleaner or wire brush.

3. CLEANING TIP Clean tip lightly with a dry cloth while tip is still hot. Do not use any sharp tools (screwdriver, chisel, knife, wire brush etc.)

TROUBLE SHOOTING

- 1. Indicator Full Scale
- 2. Indicator Unstable Reading
- 3. Indicator Reads Only "0"
- 4. Indicates Wrong Pressure

Check Continuity Of Cables Check Continuity Of Cables Perform Calibration If Doesn't Change - Send Transducer In For Anaysis Perform Calibration If Still Incorrect - Send Transducer In For Analysis

HOLE CLEANING KIT



HOLE CUTTING KIT

TDMP-1-CUTTINGKIT All the Drills, Reamers and Taps required to drill a proper hole for standard transducers (1/2-20UNF).

