

# PT46X4 Series Pressure Sensors With SIL2

*SIL2 AND PL'c' RATING WITH LOCAL AND  
REMOTE REZEROING CAPABILITY*



## Features

- Adjustable zero and span, via side-mounted pots
- Accuracy better than  $\pm 0.5\%$
- DyMax® coated stainless steel wetted parts
- 4-20 mA output
- 0-500 to 0-30,000 psi
- Internal 80% shunt calibration
- 3rd-party agency analysis (exida™) and self-certified based on FMEDA analysis and internal audit
- Output signal meets Performance Level 'c' as defined by the Machinery Directive (Category 1)
- Meets the following compliance directives, when properly installed and used:
  - SIL2
  - Machinery Directive EN ISO 13849-1

## Description

The PT46X4 Series pressure sensor is a  $\pm 0.5\%$  sensor ideal for general melt pressure measurements requiring simple installation, repeatability and reliability. The PT46x4 sensor provides the industry standard 4-20 mA amplified signal designed to work with DCS and PLCs. The PT46X4 comes equipped with adjustable zero and span side-mounted potentiometers. PT46X4 Series mA sensors can be rezeroed in two ways: locally via the zero potentiometer, or remotely via shorting two pins together (contact closure). Optional thermocouple or RTD configurations are available to provide melt temperature. The PT46X4 features a 1/2-20 UNF thread for simple and easy installation in standard transducer mounting holes. The 4-20 mA output signal is rated PL'c' as described in the Machinery Directive EN ISO 13849-1. The PT46X4 Series mA sensors are self-certified

based on the evaluation reports of the respected third-party agency, exida™. The PT46X4 Series mA sensors have undergone extensive FMEDA analysis (Failure Mode Effects and Diagnostic Analysis). The FMEDA reports show that these sensors have been evaluated for random failure requirements and meet Performance Level 'c' (PL'c') as well as SIL2 (Safety Integrity Level 2). The information in the FMEDA report can be used by the customer's system designer as part of the overall qualification of the device in the system for PL'c' or SIL compliance. The PT46X4 Series can be equipped with a safety relay, separate from the signal output. Called Guardian, this optional relay signal has an application specific pressure threshold setting that will place a machine in a safe mode as described in the Machinery Directive EN ISO 13849-1.

## Performance Characteristics

<b>Output:</b>	4-20 mA
<b>Input Voltage:</b>	14-36 Vdc
<b>Accuracy:</b>	±0.5% FSO combined error (Including Linearity, Repeatability & Hysteresis)
<b>Repeatability:</b>	±0.2% FSO
<b>Configuration:</b>	Four-arm bonded foil Wheatstone bridge strain gage
<b>Load Resistance:</b>	0-1,100 Ohms
<b>Over Pressure:</b>	2x FSO or 35,000 psi (which- ever is less)
<b>Internal Shunt Calibration (R-Cal):</b>	80% FSO ±0.5%
<b>Insulation Resistance:</b>	1,000MΩ @ 50 Vdc

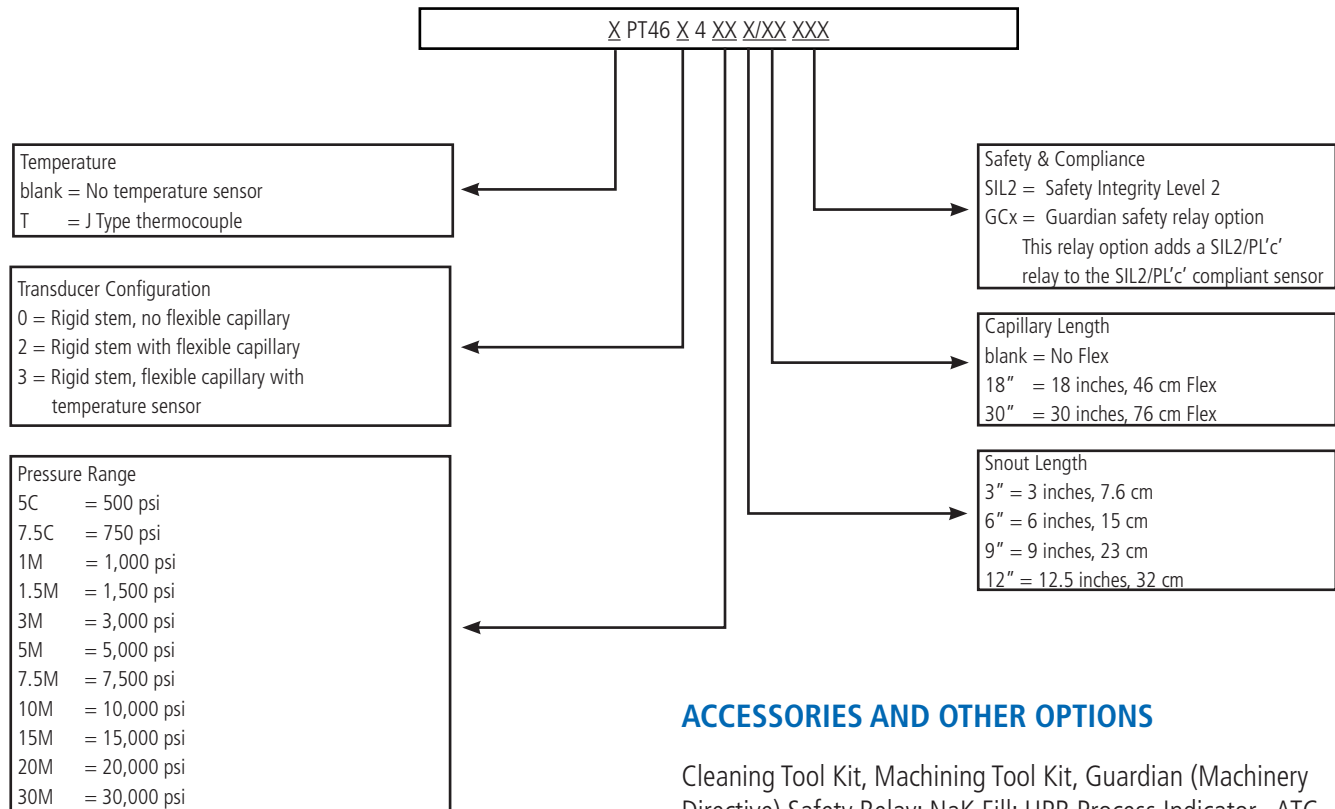
## MECHANICAL CHARACTERISTICS

<b>Diaphragm Temp, Max:</b>	750°F (400°C)
<b>Zero Shift (temp chg):</b>	25 psi/100°F Typical (45 psi/100°C)
<b>Electronics Operating Temp:</b>	-20° to 185°F (-29° to 85°C)
<b>Zero Shift (temp chg):</b>	±0.05% FS/°F max (±0.10% FS/°C max)
<b>Mounting Torque:</b>	500 inch/lbs. max
<b>Standard Wetted Parts:</b>	DyMax® coated 15-5 PH SST

## APPROVALS & SELF CERTIFICATIONS

<b>CE:</b>	Directive 2004/108/EC
<b>PL'c':</b>	EN ISO 13849-1 meeting the performance requirements of a safety-related part of a control system for Performance Level 'c' (PL'c') safety system when installed per Category 1
<b>SIL2 :</b>	Safety Integrity Level 2

## Ordering Guide for PT46X4 Series



Standard mating connector Dynisco P/N 711600 or 6-pin mating connector cable assembly. Accuracy may be affected if non-standard configurations are used. For additional options please consult factory.

### ACCESSORIES AND OTHER OPTIONS

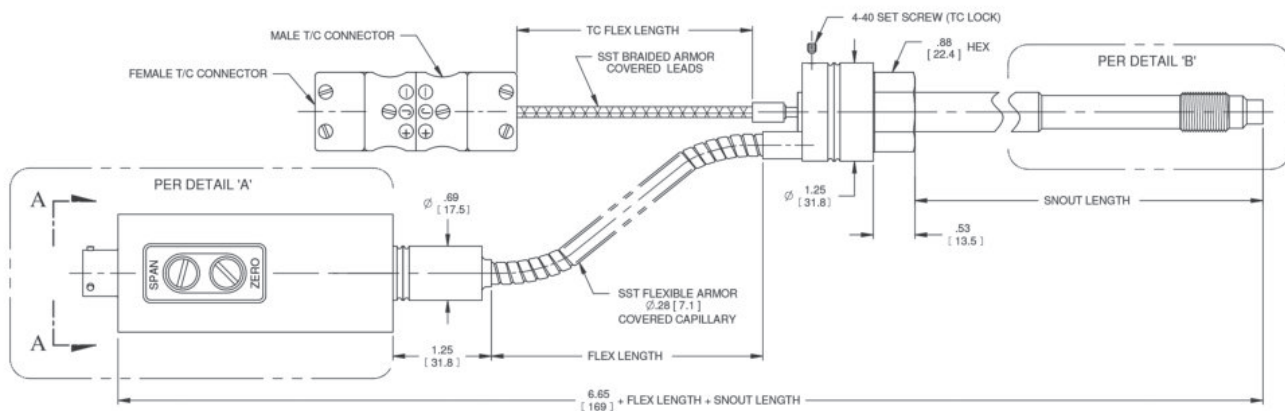
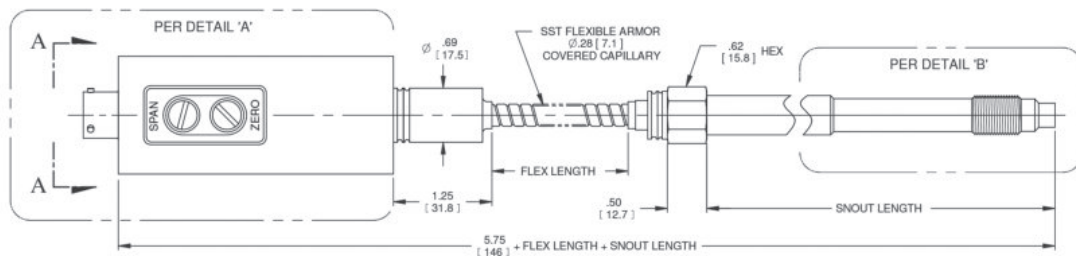
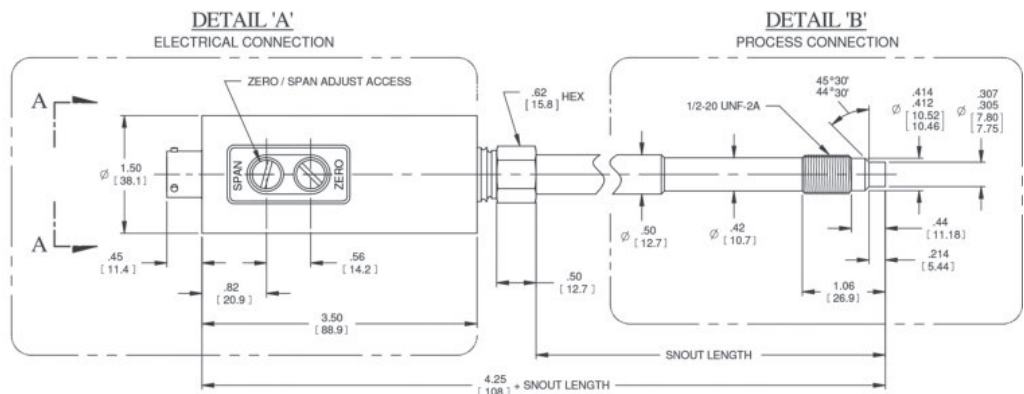
Cleaning Tool Kit, Machining Tool Kit, Guardian (Machinery Directive) Safety Relay; NaK Fill; UPR Process Indicator, ATC Process Controller. For additional options please contact the factory.

## Dimensions

CONNECTOR WIRING	
PIN	FUNCTION
A	SIGNAL + / EXCITATION +
B	SIGNAL - / EXCITATION -
C	NO CONNECTION
D	REZERO +
E	RCAL +
F	RCAL - / REZERO -

ZERO AND SPAN ADJUST ACCESS  
PROTECTED BY SEAL SCREWS

BENDIX CONNECTOR PT02A-10-6P  
OR EQUIVALENT  
MATING CONNECTOR PT06A-10-6S (SR)  
OR EQUIVALENT



### NOTES:

1. DIMENSIONS ARE IN INCHES [ MILLIMETERS ].
2. DIMENSIONS ARE NOMINAL AND FOR REFERENCE ONLY.
3. NOT ALL CONFIGURATIONS & OPTIONS ARE SHOWN, CONSULT FACTORY.