

Instructions

Capillary-Exposed Melt Pressure Sensor

PT180 Series



attestation

ISO 9001:2015

Please read this instruction manual carefully before installation



Content

- 1.Introduction
- 2.Application
- 3.Product features
- 4.Technical data
- 5.Dimensions
- 6.Electrical connection and debugging
- 7.Ordering Guide
- 8.Installation and Removal
- 9.Sensors cleaning
- 10.Transport and storage

| Introduction

PT180 Melt pressure sensor apply special cavity type exposed structure design, with high precision and high response speed.

| Application

PT180 series is designed for measurement and control of melt pressure in special positions of small space such as chemical fiber equipment, rubber and plastic machinery and mold cavity.

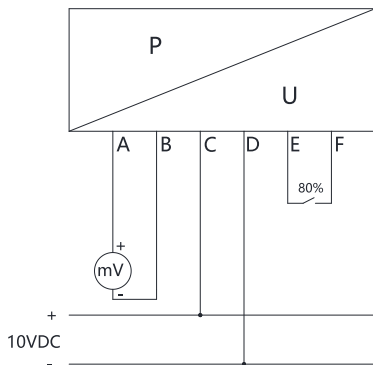
| Product features

- Precision is better than $\pm 0.5\%FS$
- 80% internal calibration
- Exposed structure
- Good stability and repeatability

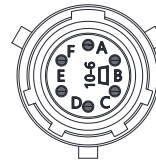
Technical data

Pressure Range	0~35bar ; 0~2000bar	0~100bar ; 0~2000bar
Accuracy	±0.5% ; ±0.25%	
Over load Pressure	1.5FSO	
Bridge Resistance	350Ω Wheatstone bridge	
Output Signal	4-20mA	0~10Vdc , 0~5Vdc 3.33mV/V
Power	9~36Vdc	18~36Vdc 6~12Vdc(10Vdc is standard)
Load Resistance (Ω)	<(U-9)/0.02	>10k ---
Calibration	80%FSO	
Process Connection	1/2-20UNF	
Insulation Resistance(50Vdc)	1000MΩ	
Diaphragm Material	17-4PH , inconel718 , C276	
Diaphragm Max Temp	400°C	
Film Material	TiAlN	
E-connection	6-pin connector(Standard) , 8-pin connector	
Electrical Environment Temp	-20°C~85°C	
Protection Degree	IP65	
Installation Torque	<30Nm	
Filing Material	Mercury filing	

3.33mV/V (4-wire)

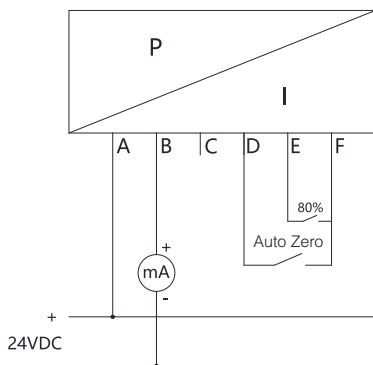


6-pin connector /PT02A-10-6P.

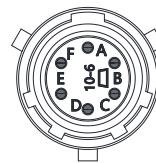


PIN	Function	Wire Color
A	Signal+	Red
B	Signal-	Black
C	Power+	White
D	Power-	Green
E	80%+	Blue
F	80%-	Orange

(4...20mA) 2-wire transmitter

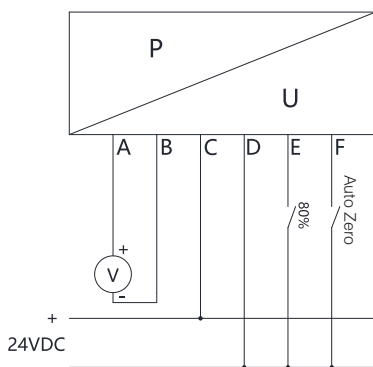


6-pin connector /PT02A-10-6P.

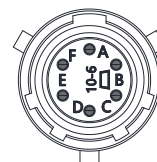


PIN	Function	Wire Color
A	Power+	Red
B	Power-	Black
C		White
D	Shorting D&F to rezero+	Green
E	80%+	Blue
F	Shorting D&F to rezero+/80%-	Orange

0...5V/10V (4-wire)



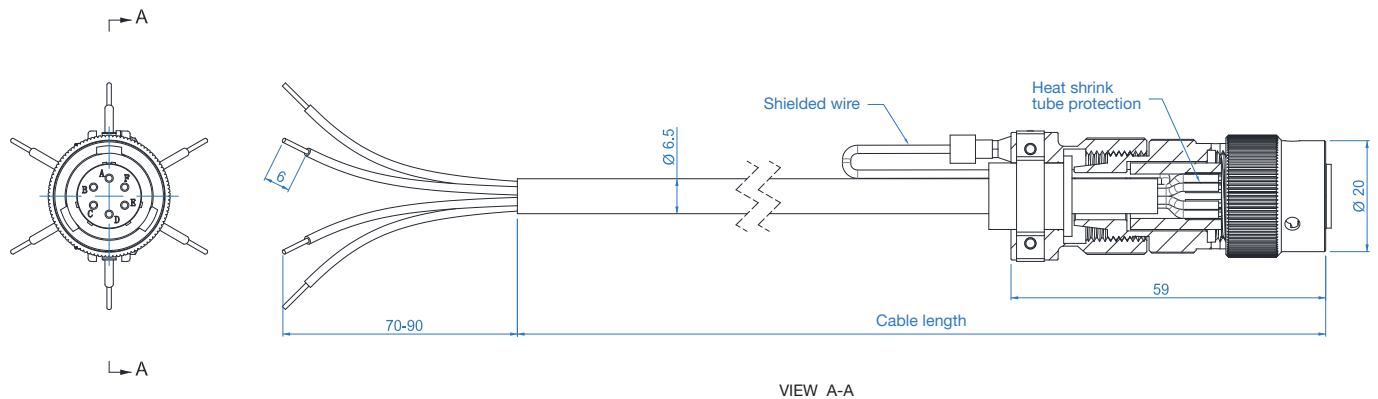
6-pin connector /PT02A-10-6P.



PIN	Function	Wire Color
A	Signal+	Red
B	Signal-	Black
C	Power+	White
D	Power- / 80%- / Shorting D&F to rezero-	Green
E	80%+	Blue
F	Shorting D&F to rezero+	Orange

*B and D pins are connected internally

The cable shall be covered with shielding layer cable, each core wire is about 0.3 mm², temperature-resistance is not less than 105 °C, each core wire connection column shall be insulated and protected by heat shrink tube isolation, shield wire shall be connected with plug-in metal, cable welding should be particularly careful, other wise it may lead to signal transmission error or damage products, it is recommended to use Ziasiot welded special cable. For excess lines in the cable, each wire should be wrapped separately with insulating tape.



Ordering guide

Serie No	PT	X	-	X	-	X	-	X	-	X	-	X	-	X	-	X	
Product type	Exposed Type	180															
Pressure range	10MPa 100bar 1500psi			1.5M													
	20MPa 200bar 3000psi			3M													
	35MPa 350bar 5000psi			5M													
	50MPa 500bar 7500psi			7.5M													
	70MPa 700bar 10000psi			10M													
	100MPa 1000bar 15000psi			15M													
	200MPa 2000bar 30000psi			30M													
Process connection	1/2-20UNF				1/2												
Flexible-exposed length	0inch (0mm)						0										
	10inch (254mm)						10										
Flexible stem length	18inch (460mm)							/18									
	24inch (600mm)							/24									
	30inch (760mm)							/30									
Output signal	4~20mA								MA								
	0~10Vdc								10V								
	3.33mV/V								MV								
E-connection	6-pin aviation Connector (p/n PT02A-10-6P)												--				
	8-pin aviation Connector (p/n PT02A-10-8P)												8P				
Accuracy	0.50%													--			
	0.25%													2A			
Diaphragm	17-4PH (Standard)														--		
	inconel718 (Anti-abrasive)														17		
	C276 (Anti-corrosive)														C2		

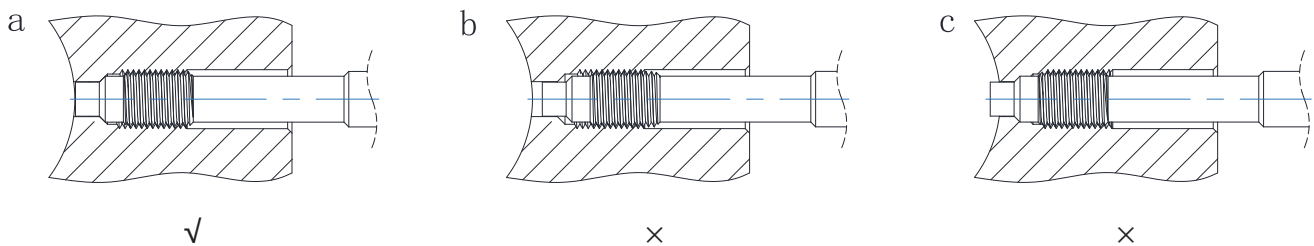
Installation & Removal

Installation

When installing the pressure sensor, the sensor hole should be within the size requirement marked in following drawing and the assembly accuracy can be checked by testing bolts. Before installing the sensor, first clean the impurities in the hole and between the threads, then the thread of the sensor is coated with heat-resistant slurry, the screw teeth can be avoided. The installation force is very important, the installation torque of the sensor can only act on the shaft (hexagon), do not apply any force to the head of the sensor. The housing should be kept away from high temperature areas.

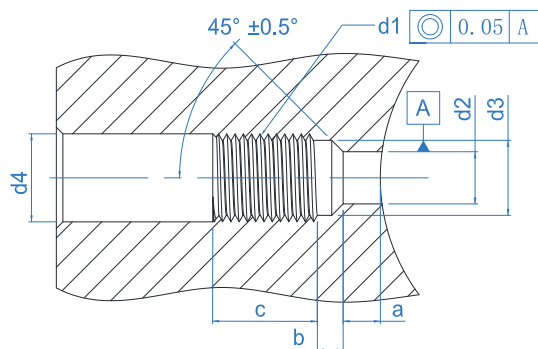
1/2-20 UNF /M14×1.5= Maximum starting torque: 40Nm

M18 x 1.5 = Maximum starting torque: 50 Nm



Removal

The removal of the pressure sensor must be done under heating conditions (plastic melting point). When removing the sensor, note that the diaphragm has no contact pressure. The force to unload the sensor must be applied on the shaft (hexagon), and do not apply any force to the head of the sensor.



d1	M18×1.5	M14×1.5	1/2-20UNF-2A
d2	∅ 9.9 ^{+0.1}	∅ 7.9 ^{+0.1}	∅ 7.9 ^{+0.1}
d3	∅ 16.1 ^{+0.1}	∅ 11.7 ^{+0.1}	∅ 10.7 ^{+0.1}
d4	∅ 20	∅ 15	∅ 14
a	6.1 ^{-0.1}	5.7 ^{-0.1}	5.7 ^{-0.1}
b	4 ^{-0.2}	3.2 ^{-0.2}	3.2 ^{-0.2}
c	25	19	19

| Sensors cleaning

In order to clean the diaphragm, the sealing surface and thread of the transmitter must have the same temperature as the melting point of the plastic. The diaphragm and sealing surface can be cleaned with soft cloth, and rigid rod can be cleaned with steel brush or copper brush. (Do not touch diaphragm surface with the steel brush.)

| Transport and storage

PT180 pressure sensor is usually packed separately. At the front thread of the rigid rod, the induction diaphragm is protected by a protective cap. This protective cap should be tightened at any time during storage, and only opened during installation.

Note: Mounting brackets, extension cables, connectors, cleaning kits, drill kits, dummy plug etc accessories, please contact with us.