NoNonSensors Technical Sheets

NNSG Series

Comply with SIL2 safety performance standard
Magnetic zero locally and autozero remotely
Alloy filling &Mercury filling is optional

1. Introduction

PTOG series adopt high-performance core components, digital-analog integrated circuit design, linear compensation can be achieved through the program, and high measurement accuracy can be obtained. Comply with SIL2 safety performance standards. This series can be rezeroed in two ways:remotely via shorting two pins together and locally via magnetic contacts.

2. Application

It is used for the control of the extrusion process of clean materials such as sheets, composite materials, films, pipes, food packaging, medical packaging, etc.

3. Product Features

Remotely autozero and locally magnetic zero

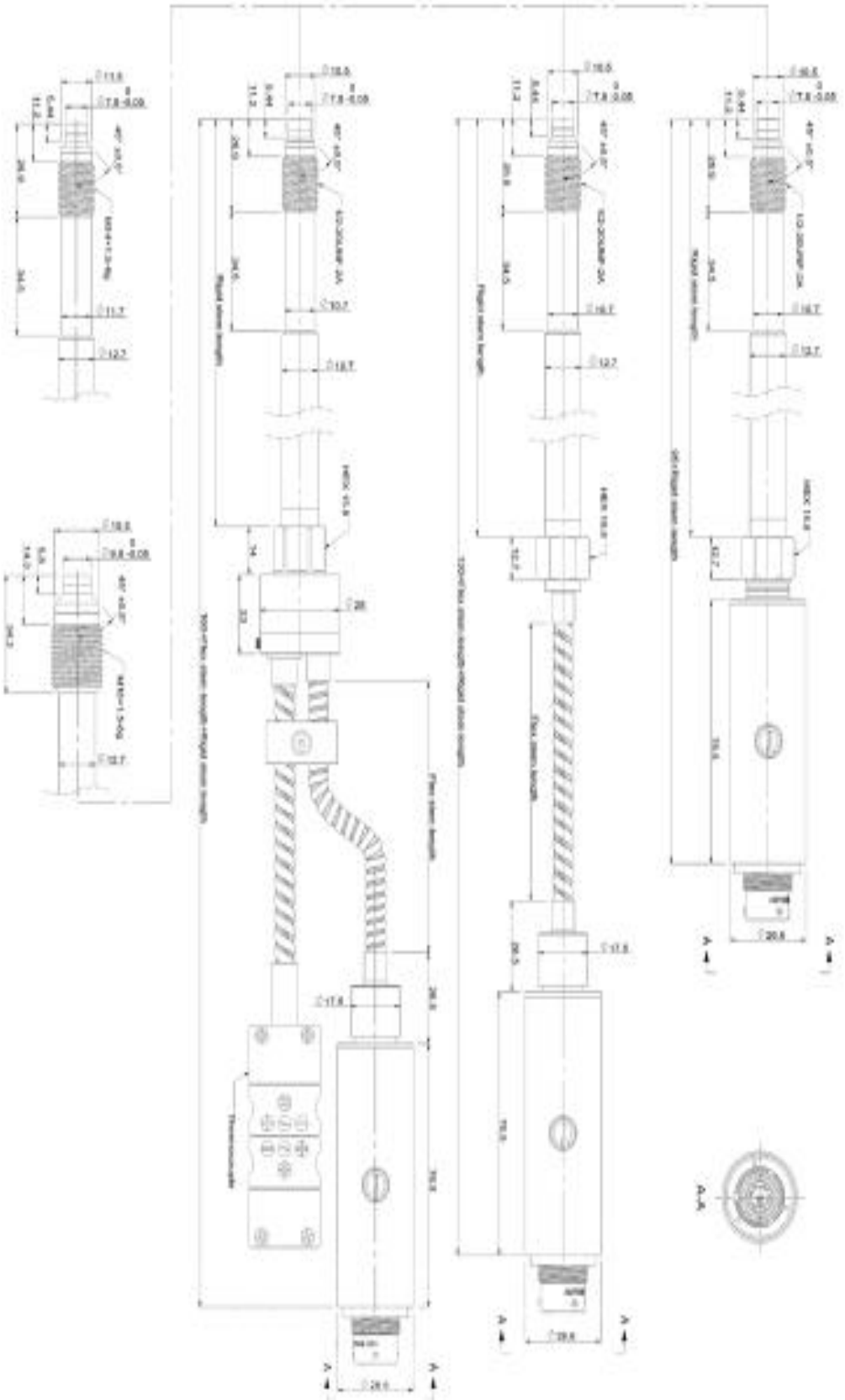
Mercury free filling and relay output is optional

80% Internal calibration

4. Technical Data

Pressure	0 ~ 35bar ; 0 ~ 2000bar		
Accuracy	±0.5%;±0.25%		
Overload pressure	150% FSO		
Bridge resistance	350ΩWheatstone bridge		
Ouptut Signal	4 ~ 20mA	0 ~ 10Vdc、0 ~ 5Vdc	3.33mV/V
Power	12 ~ 36Vdc（Standard24Vdc）		6 ~ 12Vdc（Standard10Vdc）
Load Resistance（Ω）	<（U-12）/0.02	> 10K	——
Calibration	80%FSO		
Process Connection	M14×1.5、1/2-20UNF、M18×1.5		
Insulation Resistance（50Vdc）	1000MΩ @50Vdc		
Diaphragm Material	17-4PH、inconel718、C276		
Diaphragm max temp	400C°		
Film Material	TiAlN		
E-connection	6-pin connector(Standard)、8-pin connector		
Electrical Environment temp	-20C° ~ 85C°		
Thermocouple	J Type,E Type,K Type,pt100		
Protection degree	IP65		
Installation torque	< 30Nm		
Filling Material	Alloy-filling or Mercury filling		

5. Dimensions



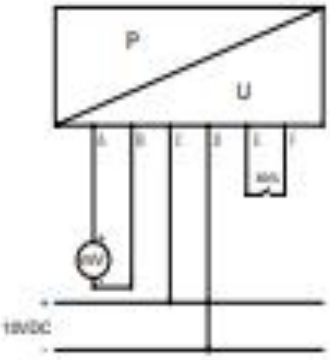
6. Electrical connection & Debugging

After the pressure sensor has been installed on the pipeline, the electrical connection must be carried out in accordance with the connection mode shown in the wiring diagram below.

PTOG series is equipped with an integrated amplifier circuit. The calibration process must be that the pipeline is heated and the pressure is zero. The zero point is adjusted by activating the autozero function,which is via shorting two pins to start(refer diagram below) or magnetic pen. Then 80% of the output signal is detected (see wiring diagram), and the pressure sensor will provide a standard 80% measured value signal.

Rezero with Magnetic pen

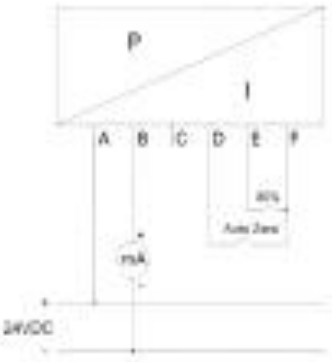
3.33mV/V Output (4-wire)



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

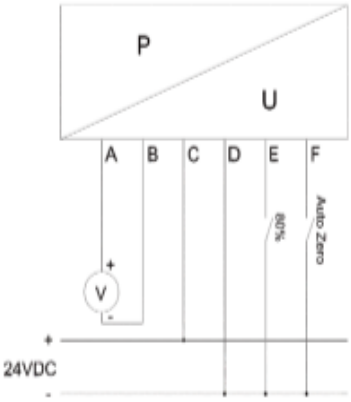
4~20mA Output (2-wire)



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

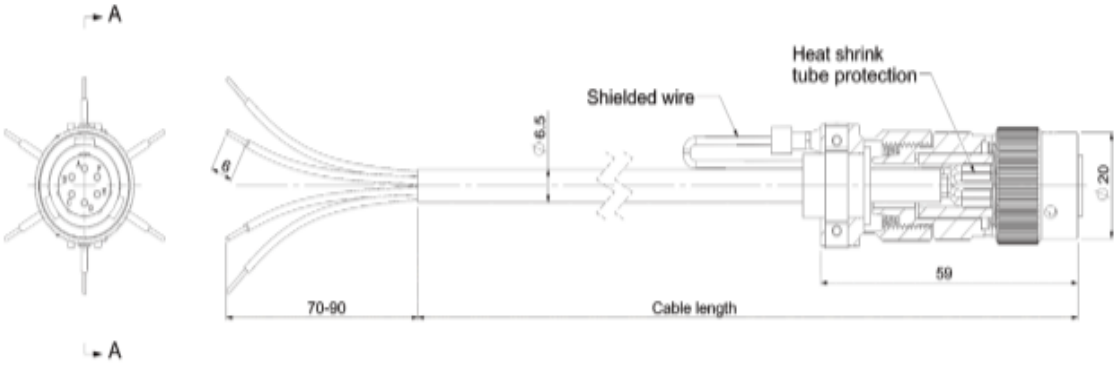


6-pin connector / PT02A-10-6P.

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

It must be a shielded cable, each core wire is about 0.3mm2, the heat-resistant temperature is not less than 105C°, each core wire connection terminal should be insulated and protected by heat shrinkable tube, the shielding wire should be connected with the plug-in metal, and the cable should be specially welded carefully, otherwise it may cause signal transmission errors or damage the product. It is recommended to use a dedicated cable that has been soldered For extra wires in the cable, each wire needs to be individually wrapped with insulating tape.



VIEW A-A

7. Ordering Guide

Product Type	Rigid Stem	1										
	Rigid+flexible stem	2										
	With thermocouple	3										
Pressure Range	3.5MPa 35bar 500psi		5C									
	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								
	M14×1.5			M14								
	M18×1.5			M18								
Rigid stem Length	6" (152mm)				6							
	9" (229mm)				9							
	12.5" (318mm)				12							
	15" (381mm)				15							
	18" (460mm)				18							
Flexible stem Length	18" (460mm)					/18						
	24" (610mm)					/24						
	30" (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)							--				
	7-pin aviation Connector (p/n 62IN-5016-10-7P-4-M)							7P				
	8-pin aviation Connector(p/n M16 DIN/EN45326)							8P1				
Thermocouple	J Type								J			
	K Type								K			
	E Type								E			
	Pt100								RTD1			
Filling Medium	Mercury filling(Standard)									--		
	Alloy filling									EP		
	Oil filling									OF		
Accuracy	0.50%										--	
	0.25%										2A	
Diaphragm	17-4PH(Standard)											--
	inconel718 (Anti-abrasive)											I7
	C276 (Anti-corrosive)											C2

8. Installation & Removal

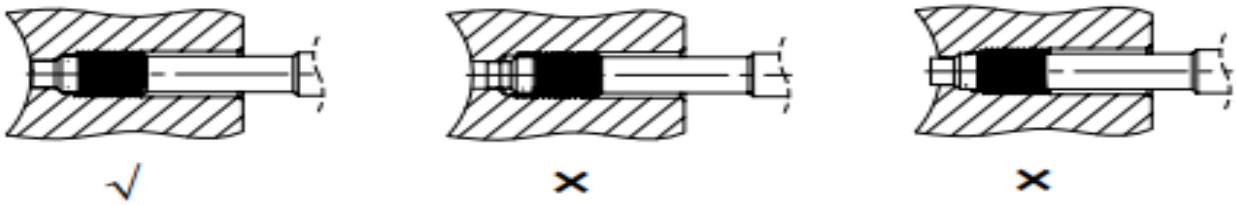
Installation

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.

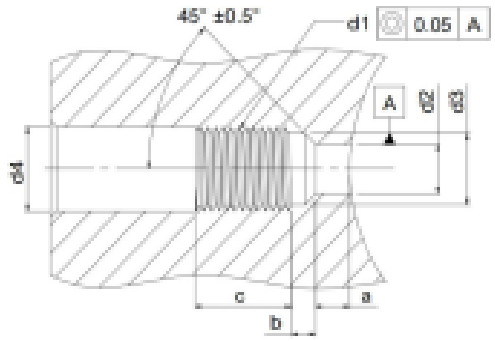
1/2-20 UNF /M14×1.5= Maximum starting torque: 40Nm

M18 x 1.5 = Maximum starting torque: 50 Nm



Removal

The removal of sensor must be done under heated conditions (plastic melting point). When remove the sensor, please note that the diaphragm has no contact pressure. The force to remove the sensor must only 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	$Ø9.9^{+0.1}$	$Ø7.9^{+0.1}$	$Ø7.9^{+0.1}$
d3	$Ø16.1^{+0.1}$	$Ø11.7^{+0.1}$	$Ø10.7^{+0.1}$
d4	Ø20	Ø15	Ø14
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

9. Sensors cleaning

In order to clean the diaphragm, the sealing surface and thread of the sensor must have the same temperature as the melting point of the plastic. Both the diaphragm and the sealing surface can be wiped clean with a soft cloth, and the thread can be cleaned with a steel brush or a copper brush. .

(Do not touch the surface of the diaphragm with the steel brush)

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