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SPT91 Piezoresistive Differential Pressure Transmitter

Features

- Full stainless steel construction, compact size, easy installation
- Using piezoresistive differential pressure sensor, 316L isolated diaphragm
- Temperature compensation and aging, stable performance
- Zero and span adjustable outside



Introduction

SPT91 uses piezoresistive differential pressure sensor as sensing element. Silicon oil is filled in between die and two diaphragms, when measured differential pressure is added on two diaphragm, the pressure could be transferred onto die through silicon oil. Sensor die connects with amplifier circuit through wires, using semi-conductor's piezoresistive effect, transforming differential pressure signal into electric signal. The whole product is used for differential pressure measurement of petroleum, chemi-industry, power station and hydrology, etc.

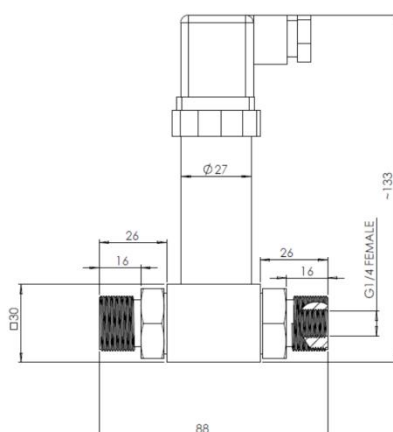
Specification

		Min.	Typ.	Max.	Unit
Accuracy			0.005	0.005	%FS
			0.005	0.005	
Zero Thermal error	0~1bar		0.0075	0.0125	±%FS, @25℃
	2~35bar		0.005	0.0075	
FS Thermal error	0~1bar		0.0075	0.0125	
	2~35bar		0.005	0.0075	
Stability	≤2bar	0.005			%FS/year
	≤35bar	0.002			
Static pressure effect		0.05			±%FS, each 1bar
Compensation temp.		0~50			℃
Operation temp.		-10~80			
Storage temp.		-40~120			
Power supply		2-wire 15~28VDC		3-wire 15~28VDC	
Output signal		2-wire 4~20mADC		3-wire 0/1~5VDC, 0~10/20mADC	
Electric connection		plug connection or Φ7.2mm 7-pin cable			
Response time（10%~90%）		≤1ms			
Insulation resistor		100MΩ, 50VDC			
Shock effect		≤1% at 3gRMS, 30~2000Hz			
Impact		≤1% at 100g, 10ms			
Lifetime		1×10 ⁸ pressure cycles			
Pressure port		G1/4 female			
Media		liquid or gas which is compatible with construction material			

Construction Material

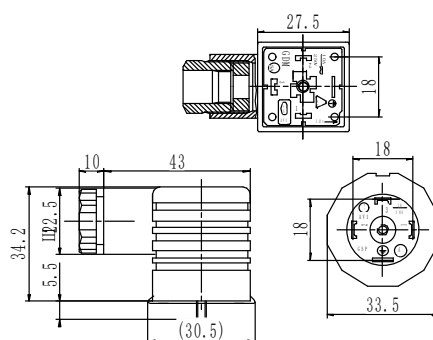
Housing	SUS 321
Diaphragm	SS316L
O-ring	Viton
Filled liquid	Silicon oil

Outline Construction (Unit: mm)



DIN 43650 connector type outline

Electric Connection



Plug Connection

Pin	2-wire	3-wire
1	(+V)	(+V)
2	(+OUT)	(+OUT)
3	Null	(GND)

Cable Connection

Wire color	2-wire	3-wire
Red	(+V)	(+V)
Green	(+OUT)	(+OUT)
Black	Null	(GND)

Order Guide

SPT91		Piezoresistive Differential Pressure Transmitter								
		Code	Pressure range: bar							
		X[0~X] bar	Code	Pressure range (bar)	Over pressure (bar)		Code	Pressure Range (bar)	Over pressure (bar)	
					+	-			+	-
			0A	0~0.35	0.7	0.35	09	0~	14	7
			02	0~0.7	1.5	0.7	10	0~10	20	10
			03	0~1	2	1	12	0~20	40	10
			07	0~2	4	2	13	0~35	70	10
			08	0~3.5	7	3.5				
		Code	Output signal							
		E	4~20mADC							
		J	0~5VDC							
		V	0~10VDC							
		Code	Construction material							
			Diaphragm		Pressure port		Housing			
		22	SS 316L		SS		SS			
		Code	Others							
			C4	G1/4 female						
			B2	Plug connection						
			B3	M12 connector						
		SPT91	[0~100]bar	E	22	C4B3	the whole spec			

Note:

1. We suggest to install tri-valve between the measured point and transmitter to protect the media adding on transmitter's positive and negative cavities slowly;
2. We suggest to make two pressure ports horizontally to reduce installation direction effect;
3. Please pay attention that the static pressure should be less than 20Mpa, transmitter positive and negative cavity should be in the rating pressure range;
4. If the user has special requirement, please feel free to contact our company.