

IPT10 Series - Insenso Pressure Transmitter

for common industrial application



Description

Insenso's new IPT10 Pressure Transmitter combines perfectly design flexibility, cost-efficiency and measurement accuracy into one design.

The IPT10 Series offers two options of sensing elements, one is based on a piezoresistive oil filled pressure cell for high accuracy requirement, the second one relies on a piezoresistive thin-film technology for costs and robustness requirement. Both technologies are the ideal choice for the measurement of liquids and aggressive media.

The flexible design allows the easy adaptation to a multitude of pressure and electrical connections.

Key Features

- From 100 mbar up to 50 bar,
- Relative or absolute pressure
- Compact mechanical design
- Flexible configurations
- All welded pressure port for high media compatibility

Accuracy

- Industrial version: 1.5%
- Prime version: 1%

Applications

- Plant and process engineering
- Compressors and pumps
- Tests and measurements
- Industrial hydraulics

Materials

Wetted parts:

- Stainless steel
 - 1.4404/316L (Oil filled)
 - 17-4PH/1.4301 (Thin-Film)
- FKM (external sealing)

Engineering standards

- Vibration IEC 60068-2-6
- Shock IEC 60068-2-27
- EMC DIN EN 61326-1
- CE Conformity

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Device Specifications

Type	Supply Voltage ^{a)}	Supply Current
Output Signal^{b)}		
4 ... 20 mA ^{c)}	10 ... 32 V	< 22 mA
0 ... 5 V ^{d)}	7 ... 32 V	Typ. 6 mA
0 ... 10 V ^{d)}	12 ... 30 V	Typ. 6 mA

a) Reverse polarity protection

b) Other outputs are available upon request.

c) $RL < (V_s - 10V)/20mA$, additionally for $V_s > 15V$: $RL > (V_s - 15V)/20mA$

d) $RL > 5 k\Omega$

Parameter	Range	Max. Value
Accuracies^{a)}		
Total ^{b)} (Industrial ^{c)})	-10 ... 80°C	1.5% Full Scale
Total ^{b)} (Prime ^{d)})	-10 ... 80°C	1% Full Scale
Room	25°C	0.5% Full Scale
Linearity ^{e)}	25°C	0.25% Full Scale
Long Term Stability	1 Year / 1Mio Cycles	0.2% Full Scale
Repeatability	25°C	0.1% Full Scale

a) Reference condition $15 \pm 0.1V$

b) Combined error from offset and full scale calibration, temperature effect, linearity and pressure hysteresis

c) Thin-film technology

d) Oil-filled technology

e) Best Fit Straight Line

Parameter	Type	Value
Environmental		
Temperature	Ambient	-25 ... 85°C
	Media	-40 ... 125°C
	Storage	-40 ... 125°C
Response Time		< 5 ms
Isolation Resistance		> 100 MΩ
Vibration	IEC 60068-2-6	20 g for 10 to 2000 Hz
Shock	IEC 60068-2-27	100 g for 1 ms
EMC	DIN EN 61326-1	
	DIN EN 61326-2-3	
Enclosures	DIN EN 60529	IP65 ^{a)} / IP67 ^{b)}

a) DIN EN 175301-803-A, with sealed mating connector

b) M12, with sealed mating connector

Range	Proof ^{a)}	Burst	Unit
Pressure^{b)c)}			
0 ... 100	400	800	mbar
0 ... 200	400	800	mbar
0 ... 350	700	1400	mbar
0 ... 500	1000	2000	mbar
0 ... 1	2	4	bar
0 ... 2	4	8	bar
0 ... 3.5	7	14	bar
0 ... 5	10	20	bar
0 ... 10	20	40	bar
0 ... 20	40	80	bar
0 ... 35	70	140	bar
0 ... 50	100	200	bar
0 ... -100	400	800	mbar
0 ... -200	400	800	mbar
0 ... -350	700	1400	mbar
0 ... -500	1000	2000	mbar
0 ... -1	2	4	bar
± 100	400	800	mbar
± -200	400	800	mbar
± -350	700	1400	mbar
± -500	1000	2000	mbar
± -1	2	4	bar
1 ... 2	4	8	bar
1 ... 3.5	7	14	bar
1 ... 5	10	20	bar
1 ... 10	20	40	bar
1 ... 20	40	80	bar
1 ... 35	70	140	bar
1 ... 50	100	200	bar

a) Maximum pressure without damaging the sensing element

b) Other pressure units available

c) Gage and absolute ($\geq 1bar$) available

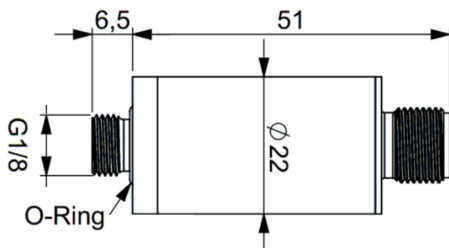
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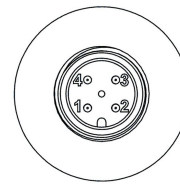
Mechanical Drawing

Electrical Connection

Version: Thread G1/8" - Connector M12



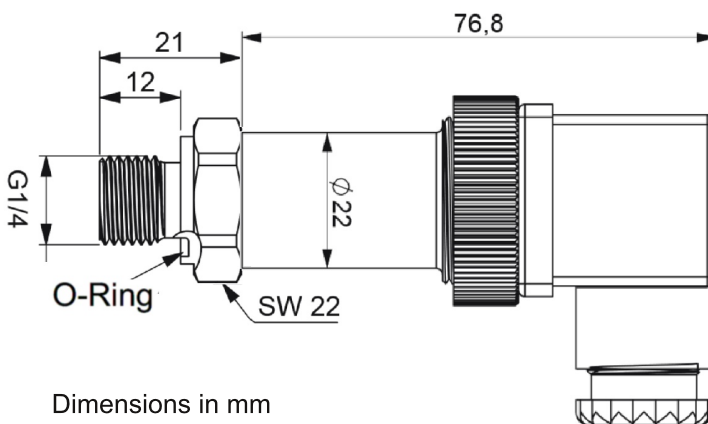
Dimensions in mm



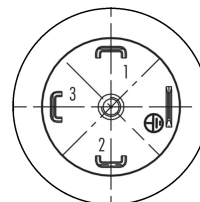
Pin Voltage Current

Output M12		
1	+Vs	+Vs
2	Vout	N/C
3	Case	Case
4	-Vs	-Vs

Version: Thread G1/4" - Connector DIN EN 175301-803-A



Dimensions in mm



Pin Voltage Current

Output DIN Type - A		
1	+Vs	+Vs
2	-Vs	-Vs
3	Vout	N/C
⊕	Case	Case



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Ordering Code^{a)}

Series	Output	El. Con	M. Con	Grade	Mode	Type	Range	Unit							
IPT10	5	0 ... 5V	M	M12	0	0...xxx	G	gage	100	M	mbar				
	1	0 ... 10V	A	DIN EN 175301-803-A	1	0...-xxx	A	abs.	200						
	4	4 ... 20 mA			8	± xxx			350						
				4	G 1/8				500						
					G1/4, DIN 1179-2				001	B	bar				
					N	Industrial			002						
					P	Prime			3x5						
									005						
									010						
									020						
									035						
									050						
IPT10	5	0 ... 5V	M	M12	8	G 1/8	N	Industrial	0	0...xxx	G	gage	100	M	mbar
													1.5	P	psi
													003		
													005		
													007		
													015		
													030		
													050		
													070		
													150		
													300		
													500		
													700		

a) for customized parts, an individual number will be assigned. Format: IPT10-YYxxx, with YY: Year, xxx: serial number
 b) xxx ≥ 1bar: -1...xxxbar

IPT10-5M8N-0G100M
 Order Code Example