

# Pressure Transmitter PTD for Refrigeration and Air Conditioning Technologies

## CERTIFICATIONS



## DESCRIPTION

The compact pressure transmitter PTD has been designed to be used in the refrigeration industry. Due to its cost-efficiency and technical feature, like robustness and long-term stability this pressure transmitter offers suitable engineering solution for OEM applications.

Condensation tightness under toughest operating conditions and excellent chemical resistance against usual refrigerants characterize the pressure transmitter PTD. Mechanical shock and vibration resistance are achieved by welding of stainless steel measuring cell and mechanical connection, which makes sealing elements obsolete. The compact design allows the use in limited space applications.

Various electrical and mechanical connections are available and thereby offer the optimal solution to diverse applications in refrigeration technology.

The pressure transmitter PTD complies with electromagnetic compatibility requirements (EMC) as per EN 61326.



## MEASURING RANGES / OPTIONS

Gauge pressure:

- Range: 0...6 bar to 0...60 bar
- Compound range: -1...0 bar to -1...60 bar

## FEATURES

- Stainless steel wetted parts
- Compatible with all common refrigerants
- Condensation proof
- Vibration and shock resistance by compact design
- Dynamic and static pressure measurement possible
- Cost efficient design
- CE, RoHS-conform

## APPLICATIONS

- Chiller
- Condenser fan controls
- Coolant
- Compressor suction and discharge pressure

## SPECIFICATIONS

Model	PTD		
<b>Pressure Type</b>	Negative or Positive Gauge Pressure		
<b>Pressure Range</b>	-1...0 bar -1...1 bar	-1...30 bar -1...60 bar	0...6 bar to 0...60 bar
<b>Overpressure Limit</b>	x 2		
<b>Burst Pressure</b>	x 10		
<b>Accuracy</b>	± 2% FS <sup>1</sup>		
<b>Output Signal</b> 2-wire: 4...20 mA 3-wire: 0...10 V 3-wire %o: 0.5...4.5 V	Power Supply 7...30 VDC 14...30 VDC 5 ± 0.5 V	Maximum Load R <sub>A</sub> R <sub>A</sub> ≤ (U <sub>b</sub> - 7 V) / 0.02A R <sub>A</sub> > 10 kOhm R <sub>A</sub> > 4.5 kOhm	
<b>Response Time</b>	≤ 1 ms		
<b>Measuring Rate</b>	1000 Hz		
<b>Sensor Element</b>	Piezoresistive		
<b>Long-term Stability</b>	≤ ±0.3 % FS / year at Reference Conditions according to IEC 61298-2		
<b>Case</b>	Stainless Steel 304		
<b>Pressure Connection</b>	7/16-20 UNF-2A 7/16-20UNF-2B Schrader Inside	G1/4 B acc. To EN837 NPT1/4 NPT1/8	
<b>Wetted Parts</b>	Stainless Steel 316L		
<b>Electrical Connection</b>	M12x1 (4-pin)	Metri Pack Serie 150	Cable with Free Ends
<b>Electrical Protection</b>	Short-Circuit Protection		Reverse Polarity
<b>Insulation Voltage</b>	1500 VDC		
<b>Overvoltage Protection</b>	36 VDC		
<b>Thermal Error on Compensated Range</b>	≤ 0.3 % FS / 10K in Compensated Range -20 ...80 °C		
<b>Thermal Error on Zero</b>	≤ 0.5 % /10 K		
<b>Permissible Temperatures</b>	Storage -25...85 °C	Medium -40...100 °C	Environment -25...85 °C
<b>IP Rating</b>	Metri Pack Serie 150: IP 67 M12x1 (4-pin): IP 67 Cable: IP 67 / 69 (molded)		
<b>Conformity</b> Pressure Equipment Directive EMC Directive Shock Resistance Vibration Resistance	CE, RoHS  97/23/EC 2004/108/EEC, EN 61326 Emission (Group 1, Class B) 500g according to IEC 60068-2-27 10g according to IEC 60068-2-6		
<b>Weight</b>	approx. 0.10kg		

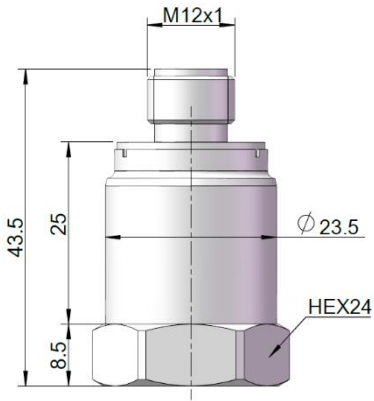
<sup>1</sup>Including Non-Linearity, Hysteresis, Zero Point and Full Scale Error  
(Corresponds to Error of Measurement per IEC 61298-2)

FS = Full Scale

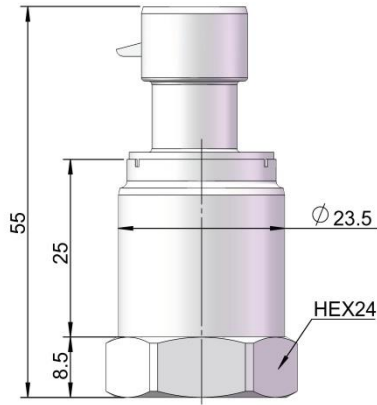
# DIMENSIONS (mm)

## CASE

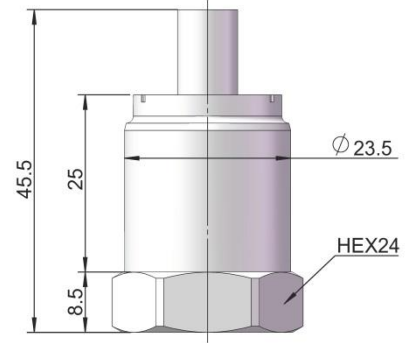
Circular Connector  
M12x1 (4 Pin)



Metri Pack  
Serie 150

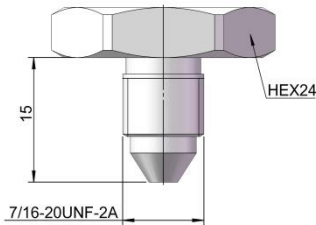


Cable Outlet  
With Free Ends

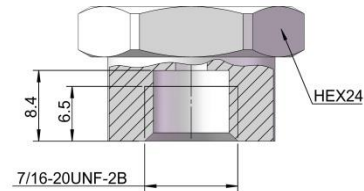


## PRESSURE CONNECTIONS

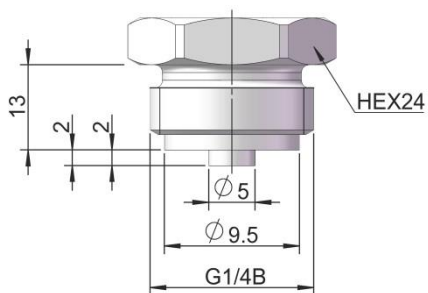
7/16-20UNF-2A  
90° Cone



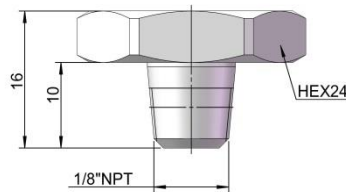
7/16-20UNF-2B Schrader Inside  
With Deflector Pin



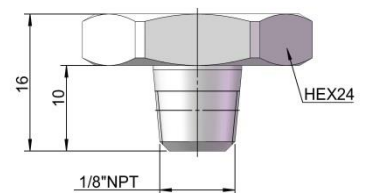
G1/4" B acc. To EN837



NPT 1/4"



NPT 1/8"



# ELECTRICAL CONNECTION

	2-wire	3-wire
Circular Connector M12x1 4-Pin		
Metri Pack Serie 150 3-Pin		
Cable with Free Ends		

Connection Table for Connector or Cable Connection with Free Ends

	4....20 mA (2-wire System)			0....10 VDC (3-wire System)		
	M12x1	Metri Pack Serie 150	Free Ends	M12x1	Metri Pack Serie 150	Free Ends
Supply: UB+	1	B	Red	1	B	Brown
Supply: 0V	3	A	Black	3	A	Black
Signal: S+				4	C	Blue
Signal: S-				3	A	

Modifications reserved

# ORDERING CODE

PTD-AAAA-B-CC-DDD-EE-FFF

AAAA	Pressure Range (bar)			
	6001	6	Z102	-1...+10
	1002	10	Z162	-1...+16
	1602	16	Z252	-1...+25
	2502	25	Z402	-1...+40
	4002	40	Z602	-1...+60
	6002	60	Others on request	
	Z601	-1...+6	request	

B	Output Signal	
	1	4...20 mA
	2	0...10 V
	3	0.5...4.5 V
	Others on request	

CC	Accuracy (% FS)	
	20	2
	Others on request	

DDD	Pressure Connection			
	G4B	G1/4B	NP4	NPT1/4
	U2A	7/16-20 UNF-2A		
	U2B	7/16-20 UNF-2B		
	Others on request			

EE	Electrical Connection	
	MP	Metri Pack Serie 150
	M1	M12x1, 4-pin
	C1	Cable version IP 67
	C2	Cable version IP 69
	Others on request	

FFF	Customized	
	111	Standard version
	XXX	Customer specific