

Pressure Transmitter PT5

Technical Bulletin

PT5 Pressure Transmitters convert a pressure into a linear electrical 4...20 mA output signal suitable for controlling simple compressor and fan switching to the more sophisticated application of superheat modulation of Electronic Control Valves. With competitive performance to price characteristics and an easy to install pre-fabricated M12 cable assembly, PT5 transmitters are the designers choice for all heat pump, refrigeration and air conditioning applications.

Features

- Thin-film stainless steel sensor with output signal 4...20 mA and 2-wire connection for the precise operation of superheat, compressor or fan control systems
- Specially calibrated pressure ranges with $\pm 1\%$ accuracy performance to fulfill demands of today's heat pumps, refrigeration and air conditioning applications
- Fully hermetic
- PT5-xxM with 7/16"-20UNF pressure connection and Schrader valve opener
- PT5-xxT with 6 mmx40 mm stainless steel tube and integrated brazing neck for easy mounting in applications requiring a fully hermetic system solution
- PT5-150D with pressure connection 1/4" NPT male suitable for subcritical and transcritical CO₂ systems
- Vibration, shock and pulsation resistant
- Protection class IP65 / IP67 (type-specific)



PT5-xxM



PT5-150D

with PT4-Mxx Cable Assembly



PT5-xxT

Selection table Pressure Transmitter

Type	Part No.		Pressure range for signal output (bar)*	Output signal	Medium temperature range	Max. working pressure PS (bar)*	Pressure Connection
	Single pack	Multipack**					
PT5-07M	802350	802350M	-0.8...7	4...20 mA	-40...+100	27	7/16" – 20 UNF (with Schrader valve opener)
PT5-18M	802351	802351M	0...18			50	
PT5-30M	802352	802352M	0...30			60	
PT5-50M	802353	802353M	0...50			75	
PT5-07T	802380	802380M	-0.8...7		-40...+135	27	6 mm tube x 40 mm long
PT5-18T	802381	802381M	0...18			50	
PT5-30T	802382	802382M	0...30			60	
PT5-50T	802383	802383M	0...50			75	
PT5-150D	802379	-	0...150		-40...+100	150	1/4"-18 NPT (male)

Note: *) Sealed Gauge pressure **) PT5-xxM: 20 pcs, PT5-xxT: 10 pcs

Selection table Plug and Cable Assembly

Type	Part No.		Length***	Temperature range	Description****
	Single pack	Multipack 20 pcs			
PT4-M15	804803	804803M	1.5 m	-50...+80°C static application -25...+80°C mobile application	<p>Pin 1 = BN (brown) Pin 2 = WH (white)</p>
PT4-M30	804804	804804M	3.0 m		
PT4-M60	804805	804805M	6.0 m		

Note: ***) Longer length of the electrical connection cable beyond 6.0 m must be verified by user in term of output signal as well as EMC within installed system.

****) The electrical plug can be mounted on pressure transmitter only in one position (Ⓢ).

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Technical Data

Supply voltage Nominal Range (polarity protected)	24 VDC 8...32 VDC PT-150D: 7...26.4VDC
Permissible noise & ripple Influence of supply voltage	< 1 V _{p-p} < 0,02 %FS/V
Operating current	4...20 mA output Maximum ≤ 24 mA
Load resistance	$R_L \leq \frac{U_b - 7.0V}{0.02A}$
Response time	≤ 5 ms
Weight (without plug and cable ass.)	PT5-xxM, -150D: ~ 80 g PT5-xxT: ~ 60 g
Vibration at 10 ... 2000 Hz	20 g according to IEC 60068-2-6
Temperatures Transport and storage Operating ambient housing Medium:PT5-xxM, -150D PT5-xxT	-25...+80°C -40...+80°C -40...+100°C -40...+135°C (UL listed -40...+100°C)

Sensor lifetime	30 million load cycles with 1.3 times of nominal pressure
Electrical connection PT4-Mxx Cable Assembly	M12 connection acc. to EN61076-2-101 Part 2 Pre-fabricated, various cable lengths
Medium compatibility	CFC, HCFC, HFC, CO ₂ , HFO, HFO blends Not released for use with caustic, flammable substances or ammonia!
Marking	CE 14/30/EC, EN 61326 Emission (Group 1; Class B) and immunity (industrial locations) UL (UL-File Nr. E258370)
Protection class (acc. to EN 60529)	PT5-07, -18: IP65 with plug PT5-30, -50, -150: IP67 with plug
Materials: Housing, pressure connector and diaphragm with medium contact Electrical connector	Stainless steel 316L, 1.4534 1.4301 (PT5-xxT) Highly resistive, fiberglass-enforced plastic PBTGF30

Accuracy performance

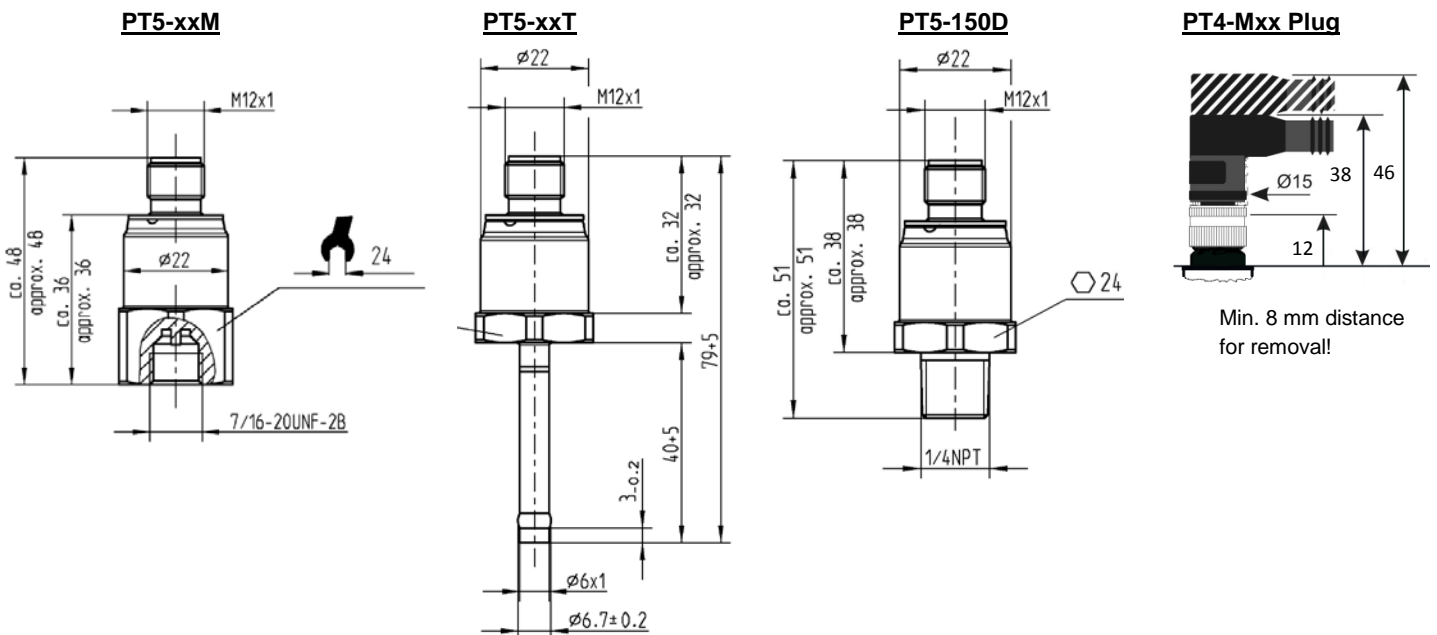
Type	Total error ¹	Temperature range
PT5-07 / -18	≤ ±1% FS	-40...+20°C
PT5-30 / -50	≤ ±1% FS	+10...+50°C
	≤ ±2% FS	-10...+80°C
PT5-150D	≤ ±1% FS	+10...+50°C
	≤ ±2% FS	-10...+100°C

Note:

¹) Total error includes non-linearity, hysteresis, repeatability as well as offset and span drift due to the temperature changes.

%FS is related to Percentage of Full sensor Scale.

Dimensions (mm)



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