

PT5

Pressure transmitter

A1

General information

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
- With output signal 4...20 mA and 2-wire connection for the precise operation of superheat, compressor or fan control systems
- Fully hermetic
- Easy install M12 electrical connection with pre-assembled cable assemblies available in various lengths
- Vibration, shock and pulsation resistant
- Protection class IP67
- PT5-xxM with 7/16"-20UNF pressure connection and Schrader valve opener
- PT5-xxT with 6x40 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"-18 NPT male suitable for subcritical and transcritical CO₂ systems



PT5-xxM PT5-150D
with PT4-Mxx Cable Assembly



PT5-xxT

Type code

		PT5	-	X	X
Product Name					
Pressure Range (Signal output)		Pressure Connection			
07	-0.8...7 bar	M 7/16"-20 UNF with Schrader valve opener (female)			
18	0...18 bar	T 6 mm x 40 mm long solder tube			
30	0...30 bar	D 1/4"-18 NPT (male)			
50	0...50 bar				
150	0...150 bar				


Selection Table

Type	Part No.		Pressure Range for Signal Output (bar)*	Output Signal	Medium Temperature Range	Max. allowable Pressure PS (bar)*	Pressure Connection
	Single pack	Multipack 25 pcs					
PT5-07M	802350	802350M	-0.8...7	4...20 mA	-40...+135 °C	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			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	802379M	0...150			150	1/4"-18 NPT (male)

NOTE 1: *) Sealed gauge pressure

NOTE 2: When selecting also observe the information in the operating instructions. Available on COPELAND website. For assistance with selection please contact your local Copeland Sales offices.

Selection Table Accessory

Type	Part No.		Cable Length **	Description	Temperature range	Illustration
	Single pack	Multipack 20 pcs				
PT4-M15	804880	804880M	1.5 m	M12, Connector, loose wires angled	-50...+80 °C static application -25...+80 °C mobile application	
PT4-M30	804881	804881M	3.0 m			
PT4-M60	804882	804882M	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.

Technical Data

Supply voltage* (polarity protected)	Nominal: 24 VDC PT5-... Range: 7...30 VDC ??? PT5-150D Range: 7...26.4 VDC
Operating current	Maximum ≤ 24 mA 4...20 mA output
Load resistance	$R_L \leq \frac{U_b - 7.0V}{0.02A}$
Response time	≤ 5 ms
Temperatures	Storage/ Transport All types -20...+80 °C Operation PT5-...: -20...+80 °C Medium PT5-...M/D: -40...+100 °C PT5-...T: -40...+135 °C (UL listed -40...+100 °C)
Vibration at 15...2000 Hz	20 g according to IEC 60068-2-6
Medium compatibility	R134a, R410A, R407C, R404A, R507, R448A, R449A, R513A, R450A, R452A, R23, R124, R744, R1234ze (A2L) A1

Electrical connection	M12 plug and cable assembly PT4-M... (EN 61076-2-101 Part 2)
Weight (without plug and cable assembly)	PT5-...T: ~ 60 g PT5-...M: ~ 80 g PT5-150D: ~ 80 g
Mounting position	Non position sensitive; details see operating instructions
Protection class (EN 60529)	PT5-07/18: IP65 with plug PT5-30/50/150: IP67 with plug
Materials	Housing, pressure connector & diaphragm with medium contact Electr. connector Stainless steel 316L, 1.4534, 1.4301 (PT5-xxT) Highly resistive, fiberglass-enforced plastic PBTGF30
Sensor Lifetime	30 Million Load Cycles with 1.3 times of nominal pressure
Marking	CE acc. EMC Directive (EN 61326 - group1, class B) UL (E258370),

NOTE:*) The power supply for the pressure transmitter must be made via an energy-limited electrical circuit in accordance with section 9.3 of UL/EN/IEC 61010-1, or an LPS to UL/EN/IEC 60950-1, or class 2 in accordance with UL1310/UL1585 (NEC or CEC). The power supply must be suitable for operation above 2,000 m should the pressure transmitter be used at this altitude.

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

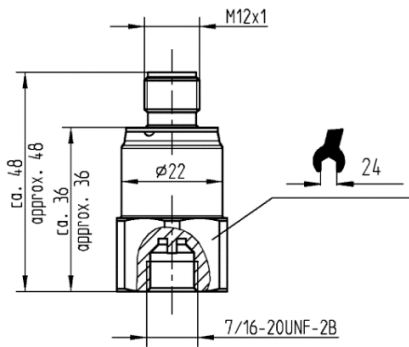
NOTE:

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

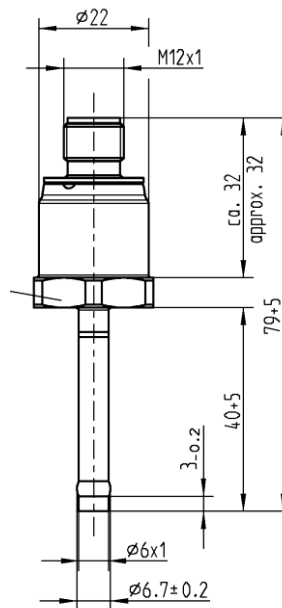
%FS is related to Percentage of Full sensor Scale.

Dimension (mm)

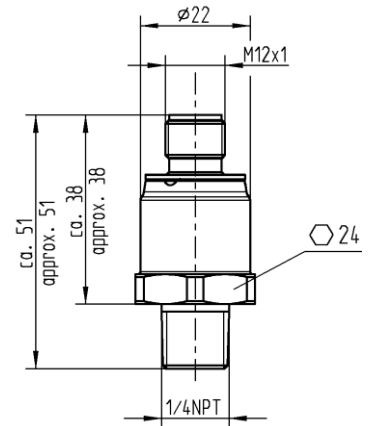
PT5-...M



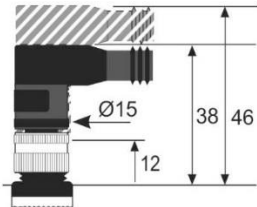
PT5-...T /



PT5-150D



PT4-M... / M12 Plug



DISCLAIMER: The Copeland logo is a trademark and service mark of Copeland LP or one of its affiliates. Copeland Europe GmbH shall not be liable for errors in the stated capacities, dimensions, etc., as well as typographic errors. Products, specifications, assumptions, designs and technical data contained in this document are subject to modification by us without prior notice. Illustrations are not binding. ©2025 Copeland LP. All rights reserved.