

PT5B series

Pressure transmitters

General information

PT5B 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. PT5B series is fully hermetic device using a hybrid film technology with fully laser welded body.

An integrated electronic and a state-of-art pressure sensing element is providing a high precision on a wide temperature range, making it particularly suitable for accurate superheat control applications. The PT5B fulfils the highest requirements in terms of reliability and stability while being compatible with all refrigerant groups.

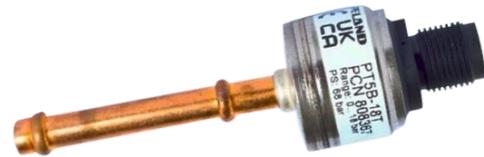
Features

- Hybrid film technology where the pressure measuring cell is fully welded with the pressure transducer without seals.
- With output signal 4...20 mA and 2-wire connection for the precise operation of superheat, compressor or fan control systems
- Fully hermetic
- Calibrated for specific temperature and pressure ranges
- Easy install M12 electrical connection with pre-assembled cable assemblies available in various lengths
- Vibration, shock and pulsation resistant
- Protection class IP67 with mounted Plug and Cable Assembly



PT5B-xxM

with 7/16"-20UNF pressure connection and Schrader valve opener



PT5B-xxT

with 6 x 50 mm copper tube and integrated brazing neck for easy mounting in applications requiring a fully hermetic system solution

Product code

Product Name	PT5B	-	X	X	Pressure Connection
Pressure Range (Signal output)	10 -0.8...10 bar	30 0...30 bar	40 0...40 bar		M 7/16"-20 UNF
	18 0...18 bar	35 0...35 bar	50 0...50 bar		T 6 mm tube, solder & 50 mm long

Selection Table

Type	Part No.		Pressure Range for Signal Output*	Pressure Connection	Type	Part No.		Pressure Range for Signal Output*	Pressure Connection
	Single pack	Multipack 50 pcs				Single pack	Multipack 50 pcs		
PT5B-10M	808360	808360M	-0.8...10 bar	7/16" - 20 UNF (with Schrader valve opener)	PT5B-10T	808366	808366M	-0.8...10 bar	Solder 6 x 50 mm
PT5B-18M	808361	808361M	0...18 bar		PT5B-18T	808367	808367M	0...18 bar	
PT5B-30M	808362	808362M	0...30 bar		PT5B-30T	808368	808368M	0...30 bar	
PT5B-35M	808363	808363M	0...35 bar		PT5B-35T	808369	808369M	0...35 bar	
PT5B-40M	808364	808364M	0...40 bar		PT5B-40T	808370	808370M	0...40 bar	
PT5B-50M	808365	808365M	0...50 bar		PT5B-50T	808371	808371M	0...50 bar	

NOTE 1: *) Sealed gauge pressure

NOTE 2: When selecting also observe the information in the operating instructions. Available on Copeland website (www.copeland.com/en-gb).

For assistance with selection or to place an order, please contact your local Copeland Sales offices.

Selection Table Accessory

Type	Part No.		Cable Length**	Description	Temperature Range	Illustration
	Single pack	Muli pack*				
PT4-M10 FLR	804886	804886M	1.0 m	M12, Connector, loose wires, angled	-40...+70 °C	
PT4-M15 FLR	804887	804887M	1.5 m			
PT4-M20 FLR	804888	804888M	2.0 m			
PT4-M60 FLR	804883	804883M	6.0 m			

NOTE: *) Multipack = 20 pcs

**) 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

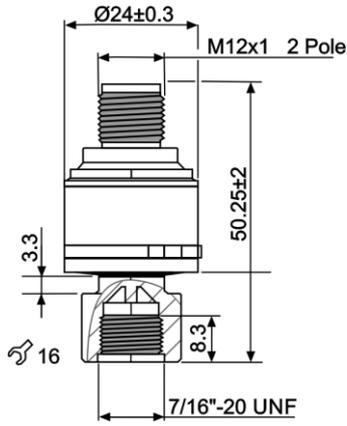
Max. allowable Pressure PS	68 bar	Mounting position	Non position sensitive; details see operating instructions
Supply voltage (polarity protected)	Nominal: 24 VDC Range: 8...32 VDC	Operating endurance	1 Million Cycles
Operating current	Maximum ≤ 10 mA 4...20 mA output	Weight (without plug and cable assembly)	PT5B-...T: ~ 40 g PT5B-...M: ~ 48 g
Load resistance	$R_L \leq \frac{U_b - 8.0V}{0.02A}$	Vibration at 10...2000 Hz (IEC 60068-2-64)	PT5B-...T: 5 G PT5B-...M: 10 G
Response time	≤ 10 ms	Shock resistance	100 G
Temperatures Storage/ Transport/ Ambient Medium	-40...+100 °C -30...+135 °C	Protection class (EN 60529)	IP67 with mounted M12 plug and cable assembly PT4-M60-FLR
Materials Housing Pressure Connection	Stainless steel 17-4PH PT5B-...T copper, PT5B-...M brass	Accuracy performance Total error ¹ Long term stability	$\leq \pm 2$ % FS* $\leq \pm 3$ % FS*
Medium compatibility Fluid group II Fluid group I Fluid group I	R134a, R410A, R407C, R404A, R507, R448A, R449A, R513A, R450A, R452A, R23, R124, (A1) R32, R454A, R454B, R454C, R452B, R1234yf, R1234ze, R455A (A2L) R290 (A3)	Marking	 EMC 2014/30/EU (EN 61326)  II 3G Ex ec IIC Gc  (File No. SA46306)

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

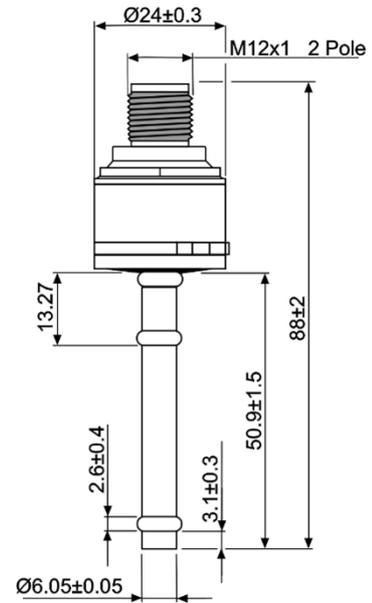
*) % FS is related to Percentage of Full sensor Scale.

Dimension (mm)

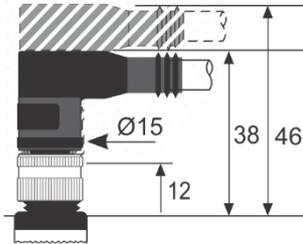
PT5B-...M



PT5B-...T



M12 Plug PT4-M...-FLR



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