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 ±1% accuracy performance to fulfill demands of today's refrigeration and HVAC applications
- Fully hermetic
- 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" NPT male suitable for subcritical and transcritical CO_2 systems
- Vibration, shock and pulsation resistant
- Protection class IP65 / IP67 (type-specific)

PT5-xxM
with PT4-Mxx Cable Assembly

PT5-150D

PT5-xxT

Selection table

Type	Part No.		Pressure range for signal output	Output signal	Medium Temp. Range at pressure connection	Max. working pressure PS	Test pressure PT	Pressure Connection
	Single pack	Multipack**	[bar]*		[°C]	[bar]*	[bar]*	
PT5-07M	802350	802350M	-0.8…7	4…20 mA	-40…+100	27	30	7/16" – 20 UNF (with Schrader valve opener)
PT5-18M	802351	802351M	0...18			50	63	
PT5-30M	802352	802352M	0...30			60	100	
PT5-50M	802353	802353M	0...50			75	120	
PT5-07T	802380	802380M	-0.8...7		-40...+135	27	30	6 mm tube x 40 mm long
PT5-18T	802381	802381M	0...18			50	63	
PT5-30T	802382	802382M	0…30			60	100	
PT5-50T	802383	802383M	0…50			75	120	
PT5-150D	802379	-	0…150		-40…+100	150	215	1/4" NPT (M)

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

Selection Plug/Cable Assemblies: assembly fits all models

Type	Part No.		Cable Length [m]	Weight/pc [g]	Temperature Range [°C]
	Single pack	Multipack 20 pcs			
PT4-M15	804803	804803M	1.5	50	-50…+80°C static application -25…+80°C mobile application
PT4-M30	804804	804804M	3.0	80	
PT4-M60	804805	804805M	6.0	140	

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Technical Data

Supply voltage (polarity protected)	Nominal: 24Vdc Range: 7…30Vdc PT5-150D: 7…26.4Vdc
Permissible noise & ripple Influence of supply voltage	< 1 V_{p-p} < 0,02 %FS/V
Operating current	Maximum ≤ 24 mA 4…20 mA output
Load resistance	$R_L \leq \frac{Ub - 7.0V}{0.02A}$
Response time	≤ 5 ms
Weight (without plug and cable ass.)	PT5-xxM, -150D: ~ 80 g PT5-xxT: ~ 60 g
Mounting position	Non position sensitive; details see operating instructions
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 according to EN61076-2-101 Part 2 Prefabricated, various cable lengths
Medium compatibility	CFC, CHFC, HFC, CO_2 Not released for use with caustic, flammable substances or ammonia!
Approvals/Marking	CE: 2004/108/EC, EN 61326 Emission (Group 1; Class B) and immunity (industrial locations) UL, c UL us (UL File Nr. E258370) EAC for Russian markets
Protection class (EN 60529)	PT5-07, -18: IP65 with plug PT5-30, -50, -150: IP67 with plug
Vibration at 10…2000Hz	20 g according to IEC 60068-2-6
Materials Housing, pressure connector and diaphragm with medium contact Electrical connector	 Stainless steel 316L, 1.4534 Highly resistive, fiberglass-enforced plastic PBTGF30

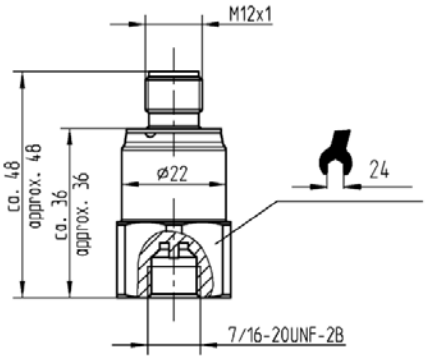
Accuracy Performance

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

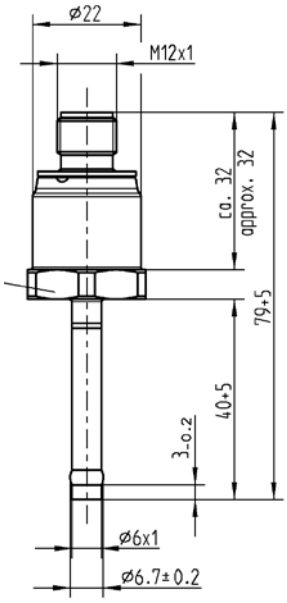
*) Total error includes non-linearity, hysteresis, repeatability as well as offset and span drift due to the temperature changes.
Note: % FS is related to **P**ercentage of **F**ull sensor **S**cale.

Dimensions [mm]

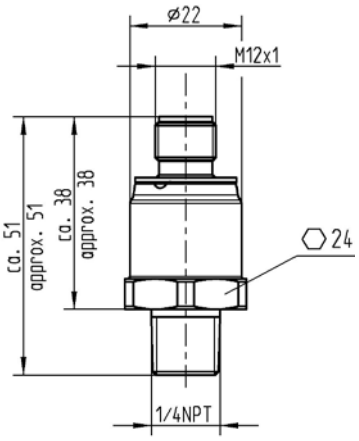
PT5-xxM



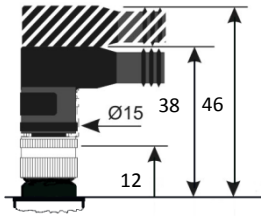
PT5-xxT



PT5-150D



PT4-Mxx Stecker



Min. 8 mm distance for removal!