Alco Controls

Pressure Transmitter PT5

Technical Bulletin

PT5 Pressure Transmitters convert a pressure into a linear electrical 4 .. 20mA 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

- Piezo-resistive sensor with output signal 4 to 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 6mm x 40mm 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 (bar)*	Output signal	Medium Temp. Range at pressure connection (°C)	PS: Max. working pressure (bar)*	PT: Test pressure (bar)*	Burst pressure (bar)*	Pressure Connection
	Single pack	Multipack**							
PT5-07M	802 350	802 350M	-0.8 .. 7	4 .. 20 mA	-40 .. +100	27	30	150	7/16" – 20 UNF (with Schrader valve opener)
PT5-18M	802 351	802 351M	0 .. 18			55	63	250	
PT5-30M	802 352	802 352M	0 .. 30			60	100	400	
PT5-50M	802 353	802 353M	0 .. 50			100	150	400	
PT5-07T	802 380	802 380M	-0.8 .. 7		-40 .. +135	27	30	150	6mm tube x 40mm long
PT5-18T	802 381	802 381M	0 .. 18			55	63	250	
PT5-30T	802 382	802 382M	0 .. 30			60	100	400	
PT5-50T	802 383	802 383M	0 .. 50			100	150	400	
PT5-150D	802 379	-	0 .. 150		-40 .. +100	220	320	1000	1/4" NPT (M)

*) Sealed gauge pressure **) PT5xxM: 20 pcs, PT5-xxT: 10 pcs

Selection Plug/Cable Assemblies: assembly fits all models

Type	Part No.		Cable Length	Weight (g/piece)	Temperature Range
	Single pack	Multipack**			
PT4-M15	804 803	804 803M	1.5 m	50	-50 ... +80°C static application -25 ... +80°C mobile application
PT4-M30	804 804	804 804M	3.0 m	80	
PT4-M60	804 805	804 805M	6.0 m	140	

EMERSON Climate Technologies

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Technical Data Pressure Transmitter

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 to 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/EEC, EN 61326 Emission (Group 1; Class B) and immunity (industrial locations) • UL, cRUus (UL File Nr. E258370) • GOST 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, fiberglas-enforced plastic PBTGF30

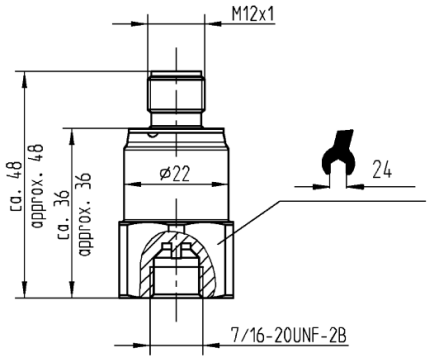
Accuracy Performance

Type	Total error *	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

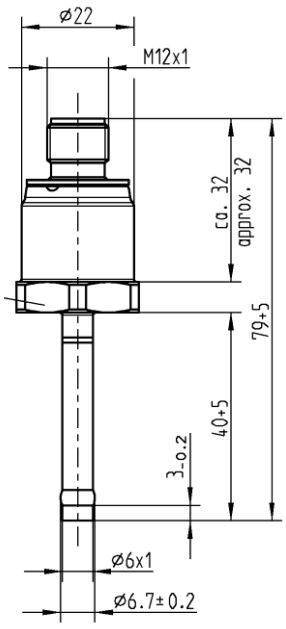
*) Total error includes non-linearity, hysteresis, repeatability as well as offset and span drift due to the temperature changes.
Note: % FS is related to **P**ercentage of **F**ull sensor **S**cale.

Dimensions (in mm)

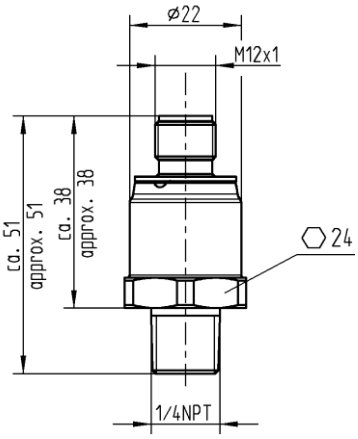
PT5-xxM



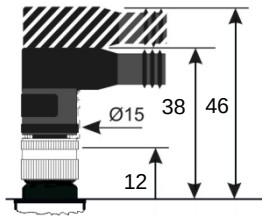
PT5-xxT



PT5-150D



PT4-Mxx Stecker



Min 8mm distance for removal !