

Pressure transmitter PT5N

PT5N 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, PT5N transmitters are the designers choice for all heat pump, refrigeration and air conditioning applications.



PT5N-30M

PT5N-30T

Features

- Piezo-resistive 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 refrigeration and HVAC applications
- Fully hermetic
- PT5N-xxM with 7/16"-20UNF pressure connection and Schrader valve opener
- PT5N-xxT with 40 mm stainless steel tube and integrated brazing neck for easy mounting in applications requiring a fully hermetic system solution
- PT5N-150D for subcritical and transcritical CO₂ systems
- Vibration, shock and pulsation resistant
- Protection class IP65 / IP67 (type-specific)
- UL (File No. E499688)

Selection table

| Type | Part No. | | Pressure Range For Signal Output (bar)* | Output Signal (mA) | Medium Temp. Range at Pressure Connection (°C) | Max. Allowable Pressure PS (bar) | Test Pressure PT (bar) | Burst Pressure (bar)* | Pressure Connection | |
|-----------|-------------|-------------|---|--------------------|--|----------------------------------|------------------------|-----------------------|---|------|
| | Single Pack | MultiPack** | | | | | | | | |
| PT5N-07M | 805350 | 805350M | -0.8 .. 7 | 4 .. 20 | -40 .. +135 | 27 | 30 | 150 | 7/16" - 20 UNF (with Schrader Valve Opener) | |
| PT5N-18M | 805351 | 805351M | 0 .. 18 | | | 48 | 63 | 250 | | |
| PT5N-30M | 805352 | 805352M | 0 .. 30 | | | 60 | 100 | 400 | | |
| PT5N-50M | 805353 | 805353M | 0 .. 50 | | | 75 | 150 | 400 | | |
| PT5N-07T | 805380 | 805380M | -0.8 .. 7 | | | 6 mm ODM | | 27 | 30 | 150 |
| PT5N-18T | 805381 | 805381M | 0 .. 18 | | | | | 48 | 63 | 250 |
| PT5N-30T | 805382 | 805382M | 0 .. 30 | | | | | 60 | 100 | 400 |
| PT5N-50T | 805383 | 805383M | 0 .. 50 | | | | | 75 | 150 | 400 |
| PT5N-150D | 805379 | - | 0 .. 150 | | | | | 150 | 320 | 1000 |

Note: *) Sealed Gauge Pressure
**) 25 pcs

Selection table plug/cable assemblies: assembly fits all models

| Type | Part No. | | Cable Length | Weight (g/Piece) | Temperature Range |
|---------|-------------|-------------|--------------|------------------|--|
| | Single Pack | Multi Pack* | | | |
| 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 | |

Note 1: *) 20 pieces

Note 2: PT4-M... are not in compliance with EN60335-1/2-40, clause 30 in term of glue wire test however, they comply to EN60079-15, clause 22.3 heat endurance test.

Technical data pressure transmitter

| | | | |
|---|---|---|---|
| Supply Voltage (Polarity Protected) | Nominal: 24 VDC Range: 7.. 33 VDC | Sensor Lifetime | 30 Million Load Cycles with 1.3 Times of Nominal Pressure |
| Medium Compatibility | A1: R134a, R410A, R407C, R404A, R507, R448A, R449A, R513A, R450A, R452A, R23, R124, R744 A2L: R32 | Electrical Connection PT4-Mxx Cable Assembly | M12 Connection according to IEC 61076-2-101:2012 Prefabricated, various cable lengths |
| Operating Current | Maximum \leq 23 mA 4...20 mA Output | Approvals/Marking |  acc. EMC Directive (EN 61326-2-3)  cULus(LISTED) (UL File Nr. 499688) pending |
| Load Resistance | $R_L \leq \frac{U_b - 7.0 V}{0.02 A}$ | Protection Class (EN 60529) | IP67 with mounted plug and cable assembly |
| Response Time | \leq 2 ms | Vibration at 15...2000Hz | 20 g according to IEC60068-2-6 |
| Temperatures Transport and Storage Operating Ambient Housing Medium: | -50 .. +100 °C -30 .. +85 °C -40 .. +135 °C (UL listed -40...+100 °C) | Materials Housing Pressure Connection PT5N-xxT | Stainless steel 1.4404 / AISI316L Stainless steel 1.4301 / AISI 304 |

Accuracy performance

| Type | Total Error * | Temperature Range |
|----------------|----------------------------|----------------------------------|
| PT5N-07 / 18 | \pm 1% FS | -40 ... +20 °C |
| PT5N-30 / -50/ | \pm 1% FS \pm 2% FS | +10 ... +50 °C -10 ... +80 °C |
| PT5N-150D | \pm 1% FS \pm 2% FS | +10 ... +50 °C -10 ... +90 °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 Percentage of Full sensor Scale.