



7E.170-E
 Issue 1 - 2015

7887PTS Absolute and relative pressure transmitters

Description

Series 7887PTS Transmitters are based on silicon piezo-resistive measuring principle. They have been developed for pressure measurement in all industrial applications. Specifically, the electronic components with high stability enable their use in applications where signal transmission over long distances or in smart control systems is required. 7887PTS Transmitters are calibrated with specific pressure calibration equipment according to international standards.

Main characteristics

- Measuring range: 0 ... 0.5 bar to 0 ... 50 bar
- Output signal: Current (2-wire)
- Protection rating : IP65/67
- Wetted parts: AISI 304, AISI 316, NBR, Viton
- Operating temperature range: -20...+85°C
- Accuracy: ± 0,15% FSO typical
- Filling fluid: silicone oil
- Absolute ranges available



Technical data

Output signal	Current
Accuracy (1)	± 0.15% FSO typical; ± 0.2% FSO max (ranges) ± 0, 1, 5% FSO typical; ± 0, 2 max 5% FSO (absolute ranges)
Resolution	Infinite
Overpressure (without degradation) (2)	See table below
Bursting strength (3)	See table below
Wetted parts through the process	Viton Stainless steel AISI 316, AISI 304, NBR, Viton
External housing Material	Stainless steel AISI 304 e Nylon 66GF35V0
Power supply voltage	10 ... 30 VDC
Sensitivity to power supply	< 0.0015% FSO / V
Insulation resistance	> 1000 MΩ @ 50 Vdc
Signal output to zero	4 mA (E)
Output signal to full scale	20 mA (E)
Maximum consumption on power supply	< 32 mA
Maximum Allowable Load	See overleaf diagram
Long-term stability	< 0.1% FSO / year (fields ≥ 250 mbar)
Operating temperature range (process)	-20 ... + 85 ° C (-4 ... + 185 ° F)
Compensated temperature range	-10 ... + 85 ° C (+14 ... + 185 ° F)
Storage temperature range	-30 ... + 90 ° C (-22 ... + 194 ° F)
Temperature effects over compensated range (zero-span)	± 0.01% FSO / ° C typical (± 0.02% FSO / ° C max.) Fields > 1 bar ± 0, 0 4% FSO / ° C typical for ranges ≤ 1 bar
Response time (10... 90% FSO)	< 1 msec.
Start-up time	< 500 msec.
Mounting position effects	Negligible (fields ≥ 1 bar)
Humidity	Up to 100% RH, non-condensing
Weight	110 grams. approx
Resistance to mechanical shock	100 g (duration 1 msec.), according to IEC 68-2-6
Vibration resistance	20 g max (15-2000 Hz frequency), according to IEC 68-2-6
Degree of protection	IP65
Output short circuit protection and reverse power polarity	Yes
Impulsive overvoltage protection	> 2kV burst test, according to EN61000-4-4
CE Conformity (Directive 89/336)	EEMC Emissions EN61000-6-3 EMC Immunity EN 61000 - 6-2 (1 0 V/m)

FSO = Full Scale Output

(1) BFSL Method (Best Fit Straight Line) includes the combined effects of non-linearity, hysteresis and repeatability

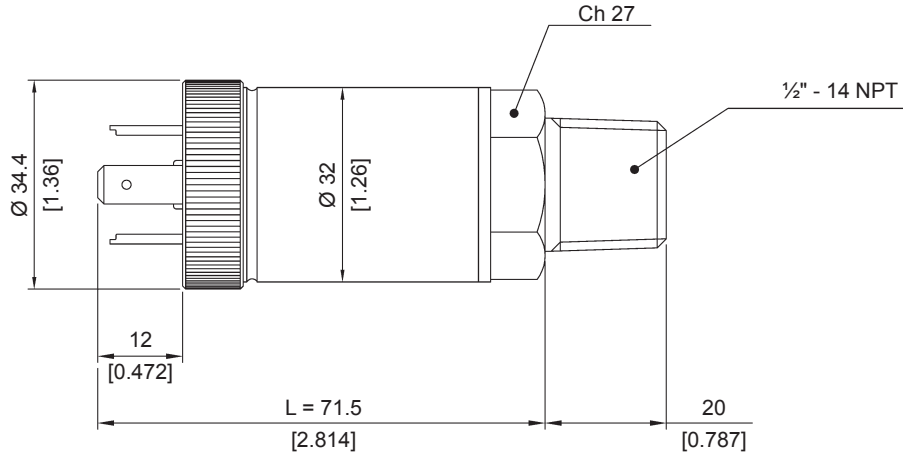
(2) Tested for more than 1000 strokes with single duration <2 ms.

(3) Tested for more than 100 strokes with single duration <2 ms.

Measuring Ranges (bar)	0,5	1	5	10	16	20	25	50
Max applicable pressure (without degradation)	4	5	20	40	80	80	90	90
Bursting strength	5	10	50	100	120	120	120	120

≥ 2 bar absolute ranges: overpressure 3xFS; bursting strength > 200 bar

Dimensions in inches [mm]



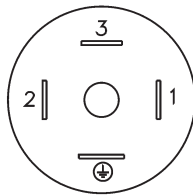
Electrical connections

4-pin Solenoid valve connector (Cod. E)

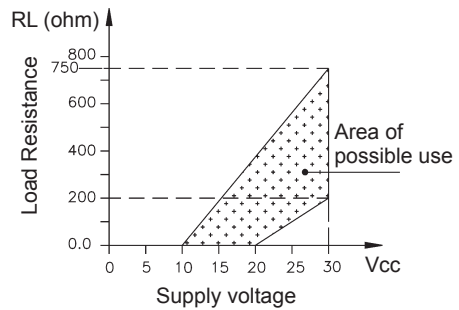
DIN 43650A - ISO4400

Protection degree IP65

- Connections: Pin 1 = Positive (power)
- Pin 2 = Negative (signal)
- Pin 3 = Not connected
- Pin 4 = Ground



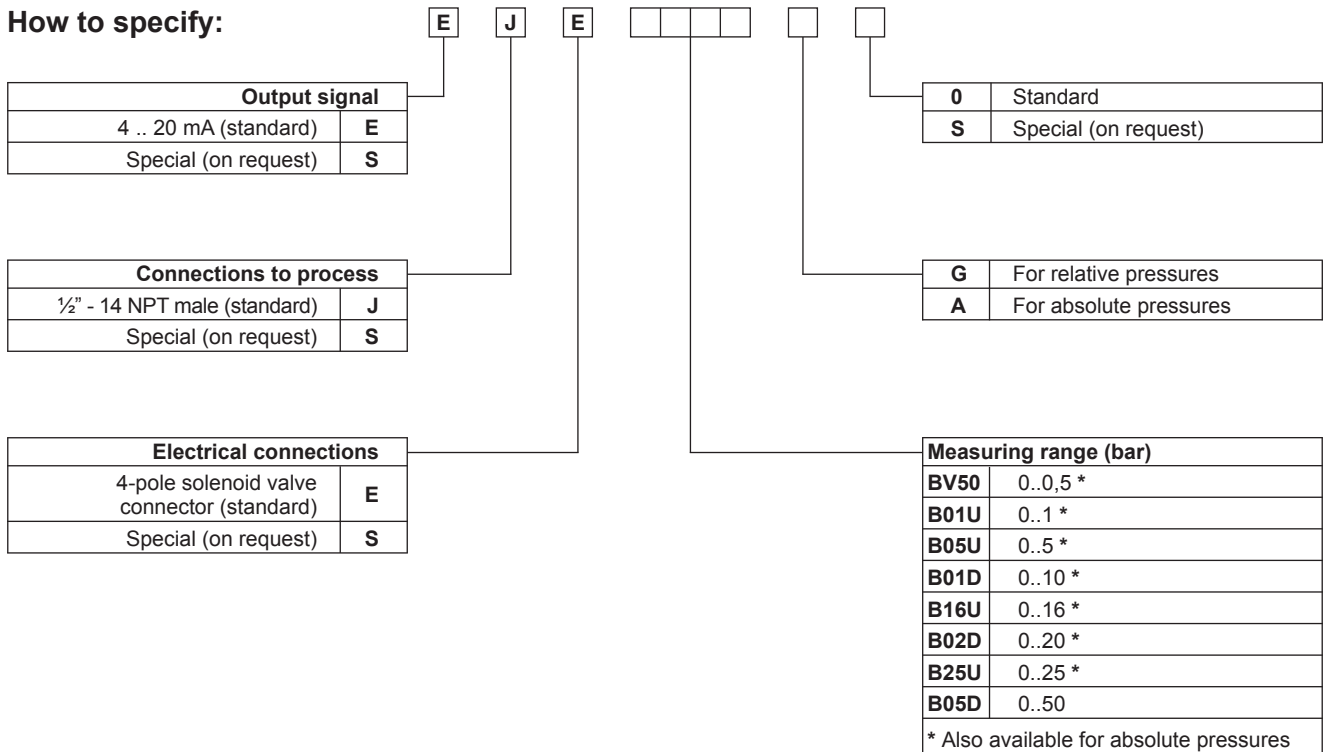
Load chart (Current Output)



Maintenance

These devices do not require any special maintenance, but it is recommended to annually check and recalibrate the transmitter.

How to specify:



How to order:

Example: N° 1 off 7887PTS Pressure Transmitter with output signal 4 to 20 mA, Process Connection 1/2" NPT male, 4-pole solenoid valve Connector, measuring range 0 ... 25 bar relative, accuracy ± 0.15% FSO, response time 1 ms.:
7887PTS - E - J - E - B25U - G - 0