

PT989

Operation Manual

V1.0



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We suggest you read this manual carefully before use.

1 Introduction

The PT989 is a highly stable and reliable pressure transmitter that features span and zero correction. The unit contains a highly stable and dependable sensor, a high-performance signal processing circuit with a special transmitter PCB that is mounted in a stainless-steel housing. The integrated construction and the standard output signal support automated facility control and monitoring systems.

2 Specifications

Pressure Range: 5, 15, 30, 100, 200, 5000psi

Overpressure: ≤ 1.5 times FS up to 110MPa

Pressure Type: Gauge, Sealed

Accuracy: $\pm 0.5\%$ FS typical

Long-term Stability: $\leq \pm 0.3\%$ FS/year

Zero Thermal Drift: $\leq 0.05\%$ FS/ $^{\circ}$ C (≤ 100 kPa), $\leq 0.03\%$ FS/ $^{\circ}$ C (> 100 kPa)

FS Thermal Drift: $\leq 0.05\%$ FS/ $^{\circ}$ C (≤ 100 kPa), $\leq 0.03\%$ FS/ $^{\circ}$ C (> 100 kPa)

Power Supply: 11V~28V DC, 5V DC

Signal Output: 4mA~20mA DC (2-wire 11V-28V DC Power Supply)

0V to 5VDC (3-wire 11V-28V DC Power Supply)

0.5V to 4.5VDC (3-wire 5V DC Power Supply)

Compensation Temperature Range: 0°C to 50°C

Operation Temperature: -30°C to 80°C

Storage Temperature: -40°C to 120°C

Load Resistance: $\leq (U-11) / 0.02\Omega$ (2-wire) U is power supply voltage
in VDC, formula applies to 2-wire connection only

Load Resistance: $\geq 10k\Omega$ (3-wire)

Pressure Port: NPT1/2 M

3 Outline Construction and Installation

3.1 Construction and Mounting Dimension (Unit: mm):

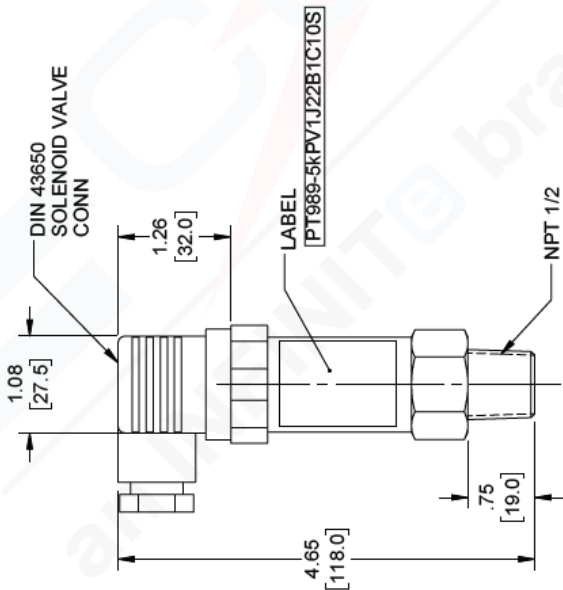


Fig. 1

3.2 Installation

3.2.1 Check before Installation

- The pressure to be measured is in the transmitter's specified pressure range;
- The measured liquid or gas is compatible with the transmitter construction material.
- The measured liquid or gas does not jam the pressure-leading hole.

3.2.2 Installation Method

For proper operation, the transmitter should be mounted vertically where the plug end is up. If this is not possible, the maximum allowable mount slope angle of the transmitter from the vertical is 30 degrees. It is not recommended to mount the transmitter inverted.

Take the pressure port NPT 1/2M of PT989 pressure transmitter as an example. It can be directly installed on the measuring pipe joint. In order to facilitate the installation and maintenance, a shut-off valve between the connector and the pipeline should be used (see recommended method in Figure 2).

Caution : The diaphragm must be protected against manual handling, wires and other rigid objects to prevent damage.

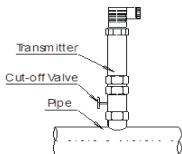


Fig. 2

4 Electric Connection

4.1 The transmitter is connected to the outside circuit through the plug or special cable.

The pin arrangements of the socket are shown in Fig. 3, and pin definitions are as follows:

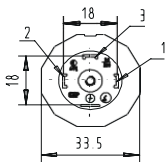


Fig. 3

Pin	2-wire	3-wire
1	+V	+V
2	OV/+OUT	GND
3	Null	+OUT

The electric definitions of cable are as follow:

Table 2

Cable	2-wire	3-wire
Black	+V	+V
Red	OV/+OUT	+OUT
White	Null	GND

Note: Water cannot be allowed into the tube in the center of the cable, nor can the tube be blocked by debris or be pinched. The tube must have free access to the atmosphere for proper, accurate and safe operation of the sensor.

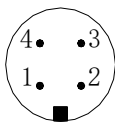


Fig. 4

Table 3

Pin	2-wire	3-wire
1	+V	+V
2	Null	GND
3	OV/+OUT	+OUT
4	Null	Null

4.2 Plug connection Operation Method:

- a) If the plug has been connected to the transmitter, loosen the central bolt on the top of the plug with a small screwdriver and pull out the plug from the transmitter.

(**caution** : do not take out the socket on the transmitter, as this will cause damage)
- b) To disconnect the plug, take out the central bolt on the top of the plug, then turn the plug to the bottom and insert a small flat screwdriver into a corner signed "Lift" or arrow and lift with some force. The plug core will be disconnected from the housing.
- c) To connect the cable, put the cable through the cable jack and connect the wires with terminals on the plug core correctly (the connection terminals are signed with clear numbers). Please choose $\Phi 4.5\text{mm}$ -7mm shield cable and connect the cable reliably to prevent a short circuit.
- d) Pull the cable slightly and push the plug core into the housing (a rattling sound may occur), then screw down the cable-fixed nut.
- e) To remove the cable, loosen the cable-fixed nut to relax the cable, and operate as Item2 to disconnect the plug. Take out the cable from terminals with a small screwdriver and pull out the cable from cable-fixed nut, then renew the connection between plug core, plug and socket.

Caution: Renew the rectangle-ring to the pre-mounting situation in order

to maintain the protection class when connect plug and socket.

5 Unpacking Components and Storage

5.1 Unpacking

- a) Check the package for shipping damage.

- b) When opening the box, please be careful to protect the housing and rubber casing of the transmitter cable from being damaged.

5.2 Enclosed

The following items are enclosed with the transmitter package:

PT989 Pressure Transmitter
Product Manual

5.3 Storage

The storage temperature range is -20°C to 85°C, and relative humidity under 85%. The transmitter should not be stored in the presence of corrosive gases.

6 Operation, Maintenance and Warranty

6.1 Operation

The customer can operate the transmitter without adjustment.

Please be sure that the installation and electrical connection are correct before operation.

Connect the (power) excitation and operate.

It is recommended that the transmitter output signal be allowed 30

minutes to settle after it has been powered into operation.

6.2 Maintenance

PT989 Piezo-resistive pressure transmitter is a compact measurement device, please pay attention to the following items in the operation:

- a) If the pressure-leading hole is jammed or the diaphragm is dirty, please carefully clean them with a solvent which is compatible with transmitter construction material. Do not poke the pressure-leading hole with hard objects or brush the diaphragm.
- b) The transmitter and the external circuit connect through the special plug seat. When the installation of electrical connection is completed, be sure to tighten the socket nut and cable fastening nut while being careful not to overtighten.
- c) Transmitter and external circuit connect through cable, the transmitter's cable has a vent pipe that is used to make the gauge pressure sensor back pressure chamber connect to the atmosphere. When installing and operating the transmitter, ensure that the tube is not blocked or there is water inflow. It must be connected to the atmosphere to ensure the protection of the product and the accuracy of the output measurement. Not taking these precautions may cause damage to the transmitter.

6.3 Warranty

Products manufactured and/or branded by seller are warranted for a period of one year from time of delivery against defects in workmanship

or materials or failure to operate as described in product data sheets under normal use. In some cases, the warranty period may exceed one year where a written warranty description specific to a certain product is stated in a contract or posted on a company website, product catalog or user's manual. Accessories and consumable goods such as batteries, chargers and accessory cables are warranted for four months.

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About L-com



30 High Street, West Mill, 3rd Floor, Suite #302, North Andover, MA 01845, USA

L-com, a leading manufacturer of wired and wireless connectivity products, offers a wide range of solutions and unrivaled customer service for the electronics and data communications industries. The company's product portfolio includes cable assemblies, connectors, adapters, antennas, enclosures, surge protectors and more. L-com is headquartered in North Andover, Mass., is ISO 9001:2015 certified and many of its products are UL® recognized. L-com is an [Infinite Electronics](#) brand.

Company Information

- USA Control # 05-35F-01740
- US Pat No: 5222891, 5222892, #137814
- ISO Cert. #10028277 QMS
- CANE CODE # 41311
- DUNS # 04-018-9672
- NADCS 335911, 335932, 334419 SICs 3679, 3679, 3644, 3600
- CCR Established
- Military Packaging Capable
- SSI Capabilities with a Government Representative Onboard