

Differential pressure transmitter

Model: PT124B-3501



Description

The model PT124B-3501 differential pressure transmitter can be used to measure liquid, gas, or steam flow, as well as liquid level, density and pressure. It outputs a 4 to 20mA DC HART signal corresponding to the measured pressure differential. The model PT124B-3501 also features remote setup and monitoring through communication with the model RST375 TERMINAL or RSM100 Modem.

Feature

- Adopts FST monocrystalline silicon MEMS chip to encapsulate
- Accuracy $\pm 0.075\%$, Error less than $\pm 0.1\%/10\text{MPa}$
- Advanced stability and static pressure performance
- Excellent overload performance
- Suitable for negative pressure measurement
- Intelligent static pressure and temperature compensation
- Internal integrated high sensitivity temperature transducer
- Perfect thermal drift
- All SS316L welding sealed construction with silicon filled
- Fast response time



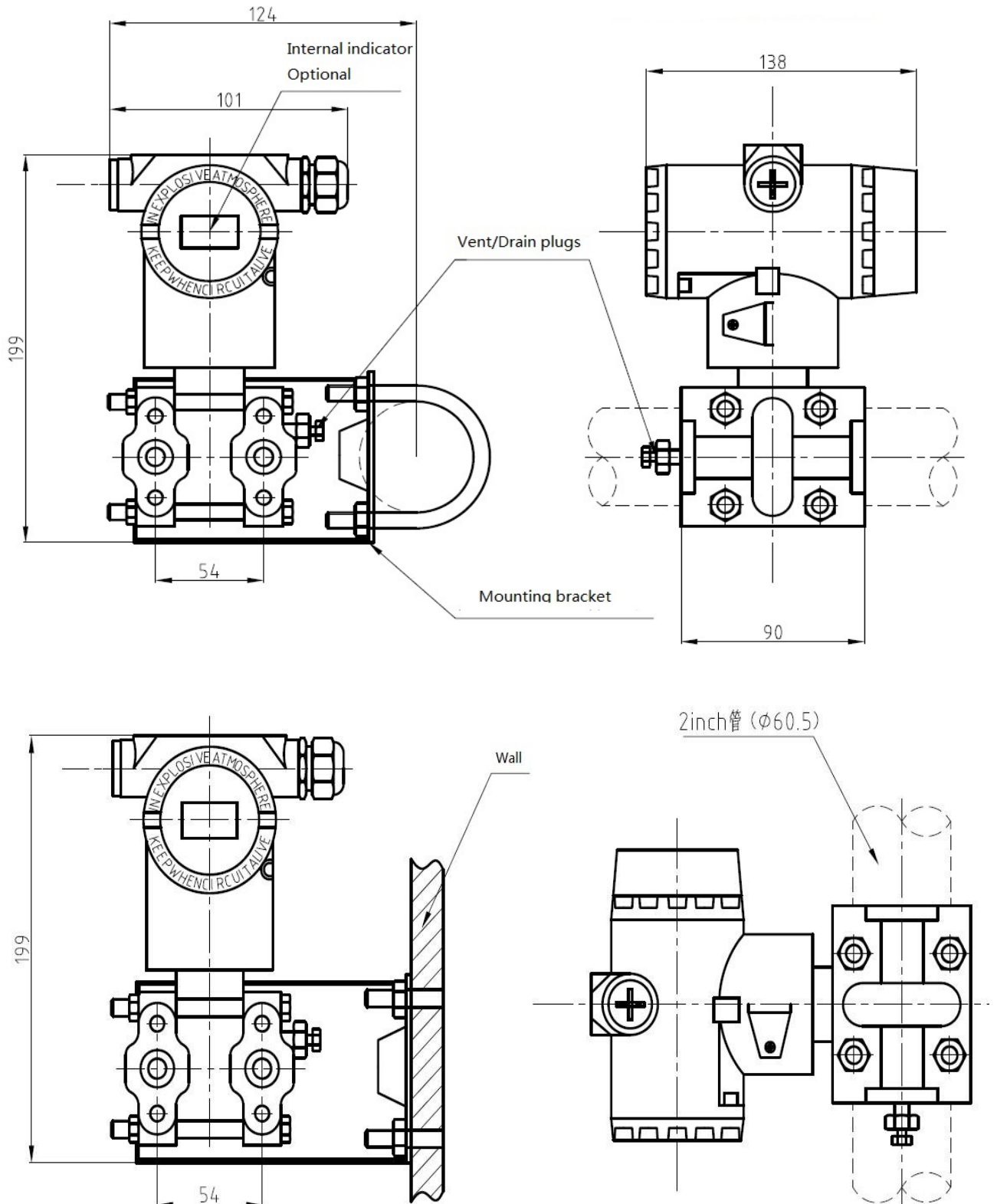
Specification

Item	Specification
Medium	Gas, steam, liquid
Measurement range (Non migration)	-100Pa~10MPa
Accuracy	$\pm 0.075\%$, $\pm 0.1\%$
Wetted parts material	SS316L, Hastelloy C, Tantalum
Output	2-wire 4-20mA, HART communication optional, linear output or square root output available
Ambient temperature	-40~85°C -20~65°C (with LCD display, fluorine rubber O-ring)
Protection grade	IP67
Electrical connector	M20*1.5 cable sealing buckle, terminal suitable for 0.5-2.5mm ² cable
Process connection	1/4NPT(F) , 7/16 female on the cover flanges or other optional
Mounting position effect	Rotation in diaphragm plane has no effect. Tilting up to 90° will cause zero shift up to 0.4KPa, which can be corrected by the zero adjustment.

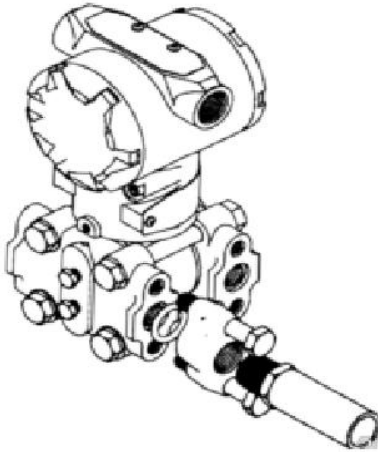
Dimensions and Installation

Horizontal tube connection (side face)

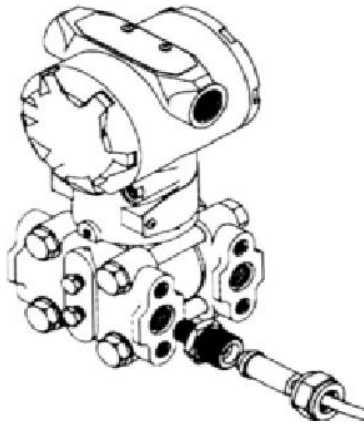
Horizontal tube connection (front)



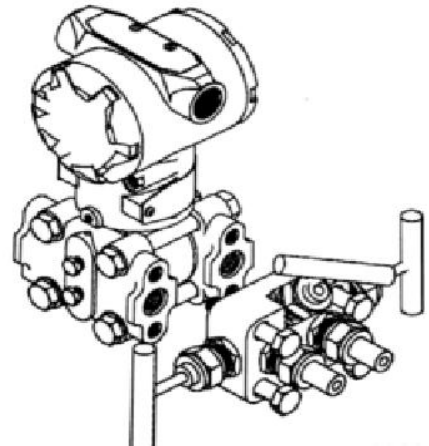
Installation Diagram



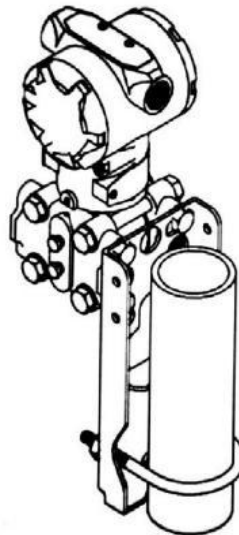
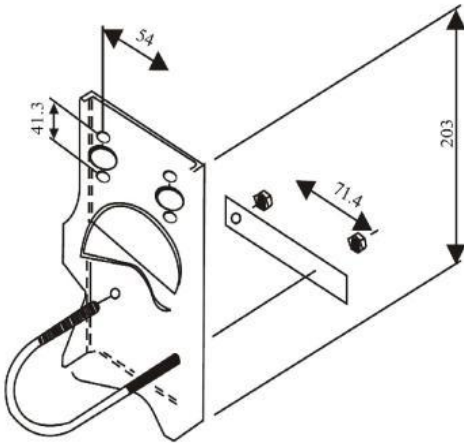
1/4NPT Female



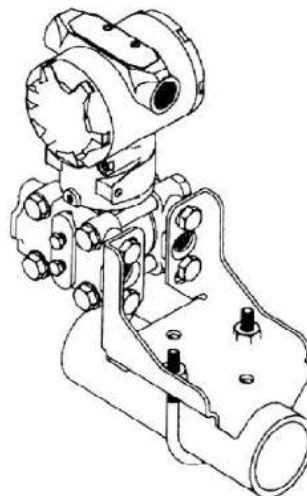
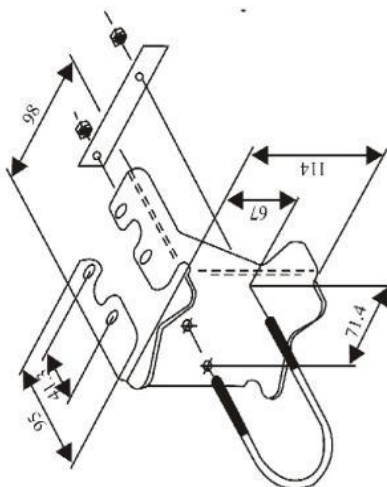
Welded Joint Connection



Three-valve Manifold Connection



Pipe mounted flat bracket



Pipe mounted bent bracket

Site installation schematic



Tank Liquid Level Measurement



Pipe Differential Pressure Measurement

Wiring connector



Terminal	Function
PWR+	Power (E+)
PWR-	Signal (S+)
TEST+	

Remarks: The TEST just for current testing purpose if necessary.

Ordering Guide

Model	Range	Output	Screw Thread	connection	Other requirement
PT124B-3501	---	---	---	---	---
Example: PT124B-3501-10bar-4/20mA(HART)-1/2NPT-M20*1.5 cable sealed					

◆ **Modify LCD display**

Normally display, hold down press S key, switch among current, main variable and percentage, release when exist the required parameter; Now, it maybe change each 3s, while exist the undesired variable, please repeat the former operation again.

◆ **Menu 2: Modify the units**

Normally display, hold down press Z key, and there will display “00000”twinkle in turn, while the rightmost 0 twinkle release the key, then press S key to change the digital to “00002”, press M key, the low left quarter display “2”. Each press S key, low right quarter unit will change, till the required unit exist, then press M key to save.

◆ **Menu 3/4: Modify the range**

Normally display, hold down press Z key, and there will display “00000”twinkle in turn, while the rightmost 0 twinkle release the key, then press S key to change the digital to “00003”, press M key, the low left quarter display “3”. Press S key, the leftmost arrow twinkle, press Z key to shift, and press S key to change the digital. When the rightmost digit twinkles, press Z, the decimal all bright, then press S key to choose the decimal place. Finished above and press M, save the data and auto shift to the upper range value. (Remarks: If you need not adjust the lower range value, press M key skip while into menu “3”, directly into menu “4”, it till show “4” at the low left quarter, repeat above operation, press M key to save after changed the digital.

◆ **Menu 5: Modify the damping**

Normally display, hold down press Z key, and there will display “00000”twinkle in turn, while the rightmost 0 twinkle release the key, then press S key to change the digital to “00005”, press M key, the low left quarter display “5”, Press S key, the leftmost arrow twinkle, press Z key to shift, and press S key to change the digital. When the rightmost digit twinkles, press Z, the decimal all bright, then press S key to choose the decimal place. Finished above and press M, save the data and auto shift to Menu 6.

◆ **Menu 6: Main variable adjust zero**

Normally display, hold down pressure Z key, and there will display “00000”twinkle in turn, while the rightmost 0 twinkle release the key, then press S key to change the digital to “00006”, press M key, the low left quarter display “6”, Press S key, low right quarter switch between “NO “and “YES”, when display “YES”, press M key to finish.

◆ **Menu 7: Shortcut key:**

Normally display, press M+Z key together, and keep 5s. while the low left quarter display “6”, other operation the same as above.

◆ **Menu 8: Output function**

Normally display, hold down press Z key, and there will display “00000”twinkle in turn, while the rightmost 0 twinkle release the key, then press S key to change the digital to “00008”, press M key, the low left quarter display “8”, Press S key, low right quarter shift display between “LIN linearity” and “SQRT current prescribing”, press M key to save when exist the required function.

◆ **Menu 9/10: Calibrate upper-lower limit**

Normally display, hold down press Z key, and there will display “00000”twinkle in turn, while the rightmost 0 twinkle release the key, then press S key to change the digital to “00009”, press M key, the low left quarter display “9”, Press S key, the leftmost arrow twinkle and into calibrate, add the upper limit pressure, press Z key to shift, and press S key to change the digital, When the rightmost digit twinkles, press Z, the decimal all bright, then press S key to choose the decimal place, and press M to save the data and shift to calibrated upper range. The moment, the low left quarter display “10”, add the lower limit pressure, repeat above operation, input the pressure and press M to save.

Notice:

The function require menu 9 and 10 calibrated at the same time, and the upper limit pressure should be different from the lower limit pressure!

◆ **Menu 11: Arbitrary point migration**

Automatic enter after finished Menu 10, refer to the setting operation of Menu 9/10, set the required migration value (current pressure value), press M key to save the data.

Notice:

1, In whichever of Menu 2-3-4-5-6-8, whenever you press M key, it will shift to next menu, it will save if there are changes. The next menu of Menu 8 is 0 means normally display; it will exit after 3s if there is no operation, and normal display. And it will re-circulate menu 2-3-4-5-6-8 if there is operation within 3s.
2, Menu 9-10-11 should operate by professionals, so it is not in the circulate above; only can enter from “00009”.

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