

PT10SR-2230

Intelligent Pressure Transmitter

Introduction

PT10SR-2230 pressure transmitter is the highly accurate and stable intelligent pressure transmitter. It uses digital temperature compensation, non-linearity correction technics and the most advanced transmitter production technique, the whole product has compact size, high accuracy, light weight and wider pressure range, can be used for flow pressure precise measurement. The product will instead the 2-wire working 4mA~20mA DC output analogous signal.

Specification

| | | | | | | | | | | | | | | |
|--------------------|------|------|-----|------|-----|-----|-----|-----|----|----|----|----|----|-----|
| Basic range (MPa) | -0.1 | 0.1 | 0.2 | 0.35 | 0.7 | 1.0 | 2.0 | 3.5 | 7 | 10 | 20 | 35 | 60 | 100 |
| Overpressure (MPa) | -0.1 | 0.15 | 0.3 | 0.5 | 1.0 | 1.5 | 3.0 | 5.0 | 10 | 15 | 30 | 50 | 90 | 110 |

The min.shrunked available pressure range is 1/5 of basic range;
For the pressure range between min.range and max.range, but not indicated in the above table, we enlarge the above basic pressure range to produce (overpressure unavailable);

| | |
|-----------------------|--|
| Total accuracy ① | ±0.075%FS(min.) ±0.15%FS(typ.) ±0.25%FS(max.) |
| Stability | ±0.2%FS/year |
| Compensation temp. ② | -10°C ~70°C |
| Operation temp. | -30°C ~80°C , -10°C ~70°C (Cable) |
| Storage temp. | -40°C ~85°C , -20°C ~85°C (Cable) |
| Power supply | (10~28)V DC(RS485), (12~30)V DC(HART), (10~12)V DC(Intrinsic safe) |
| Output | 4mA~20mADC RS485/HART(optional) |
| Load | (4~20)mA DC output, (U-10V)/0.02A(Ω)(RS485),(U-12V)/0.02A(Ω)(HART) RS485 bus line could connect with 99 transmitters |
| Electrical connection | DIN43650, 4-pin plug(RS485 socket inside) 7-pin plug(for RS485 interface output at local place) Φ7.2mm shielding cable |
| Insulation | 100MΩ/50V |
| Shock | 20g, (20~5000)Hz |
| Impact | 20g,11ms |
| Protection | IP65(B1, B2), IP63(B3) |
| Media compatibility | Diaphragm: SS 316L Housing: SS 1Cr18Ni9Ti O-ring: Viton |
| Weight | ~160g |

① Total accuracy: including linearity, hysteresis, repeatability and thermal error.

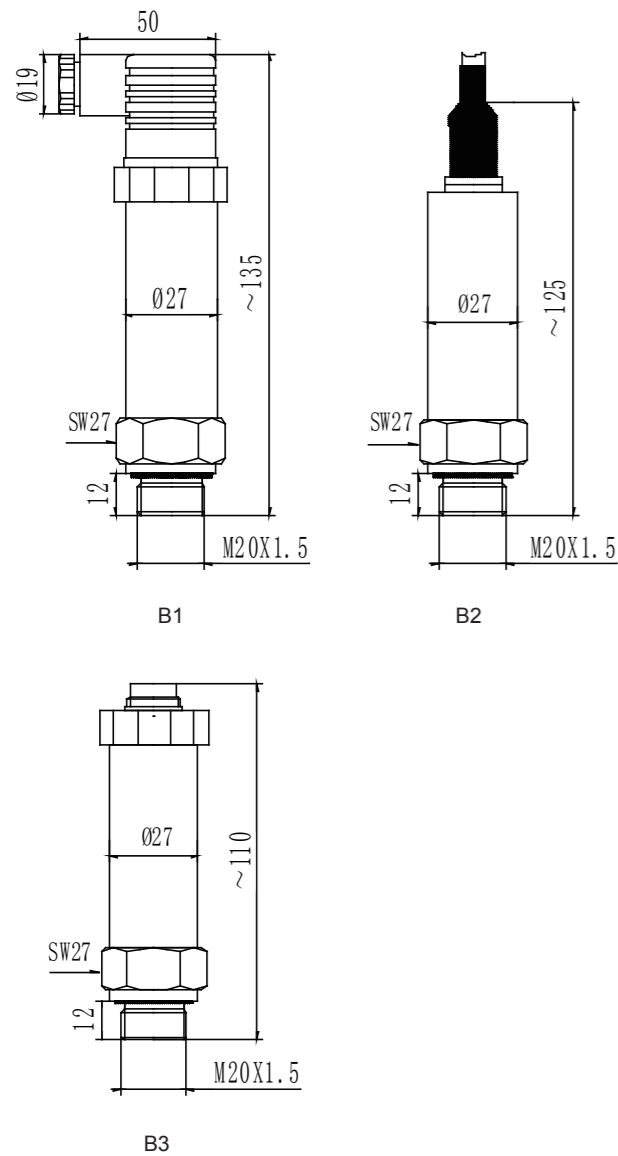
② For special temperature requirement, please feel free to contact our company.



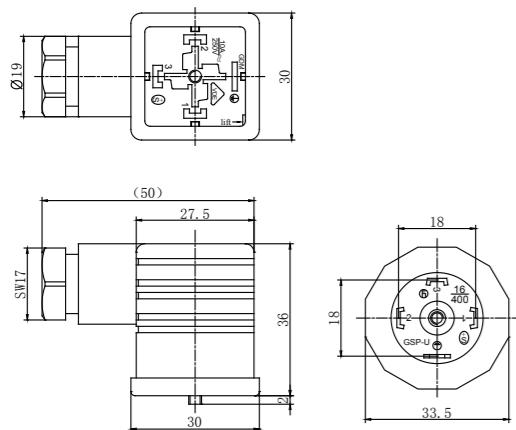
Features

- 4mA~20mA DC 2-wire current output;
- Digital compensation and non-linearity correction technics;
- -10°C ~70°C digital wider temperature compensation;
- RS485 communication interface or HART communication protocol(optional);
- Netting available;
- Full stainless steel construction, compact size, light weight;
- Special requirement available;
- RoHS certificated.
- Intrinsic safe ex-proof version conforming to GB3836.4 ExialIBT6 Ga Regulation; Ex-proof Certificate is issued;
- Marine type products accord with CCS classification of sea-going steel ships of the rules "(2015) the requirements, has obtained the type approval.

Outline Construction (Unit: mm)



Connector appearance and ordering

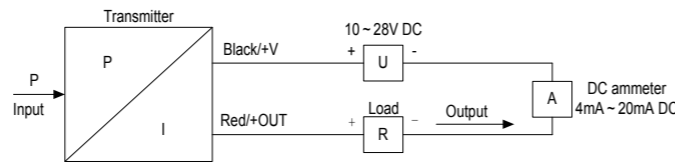


Electrical Connection

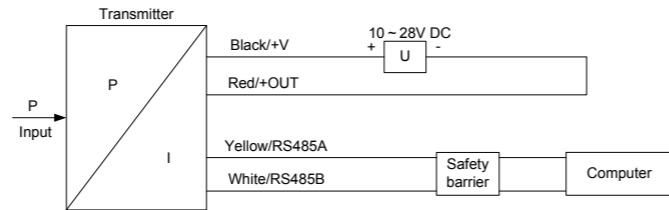
Transmitter connecting the air through plug or cable:

| Function | Inner plug pin color | Outer plug connection | | |
|----------|----------------------|-----------------------|------------|------------|
| | | 4-pin plug | Cable wire | 7-pin plug |
| +V | 1(black) | 1 | Black | 1 |
| +OUT/GND | 2(red) | 2 | Red | 2 |
| RS485B | 4(white) | ⊥ | White | 5 |
| RS485A | 5(yellow) | 3 | Yellow | 4 |

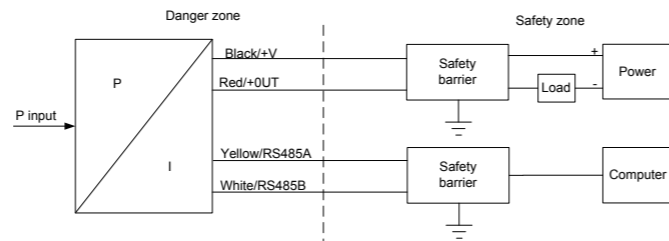
A: Electrical Connection for transmitter with 4mA~20mA DC output



B: Electrical connection for transmitter with RS485 interface



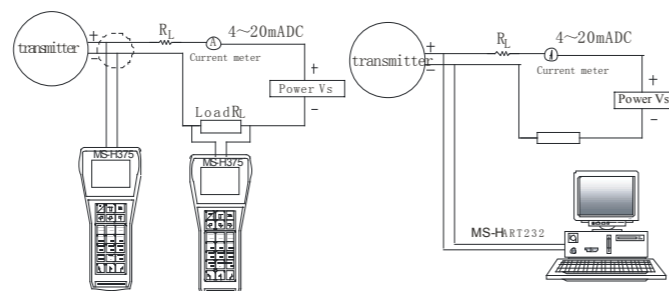
C: This Ann explosion-proof type electrical connection methods are shown below:



ExialIBT6 Ga
Transmitter Ex-proof parameter:
Ui: 12.4V DC Ii:140mA DC
Li: 0mH Ci: 7.4μF Pi: 0.43W

ExialIC
Safe barrier's ex-proof parameter:
Uo:12.4V DC
Io:140mA DC Po:0.43W

D: Wiring for HART® transmitter connecting with hand communicator:

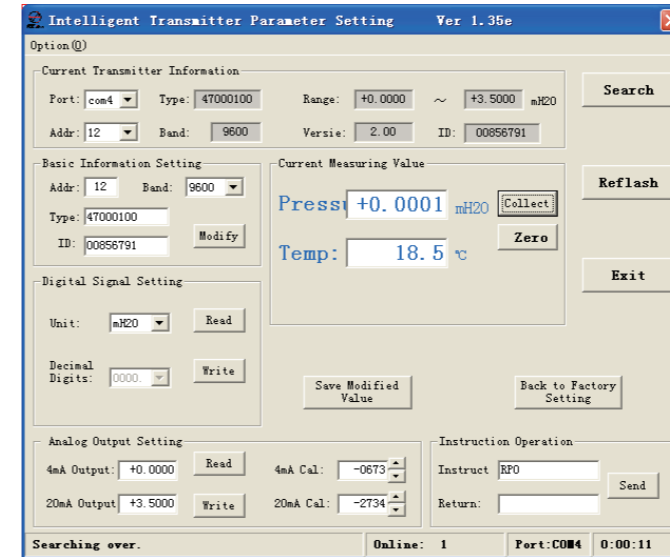


Assistant Software

A: Transmitter Software for RS485 Interface:

MS Setonline Software

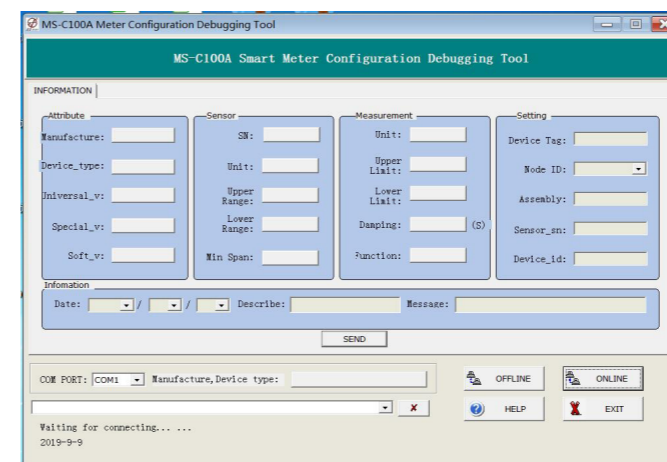
RS232/485 conversion module is used to communicate with RS485 interface, display actual pressure, set new zero, and analog output and transmitter address.



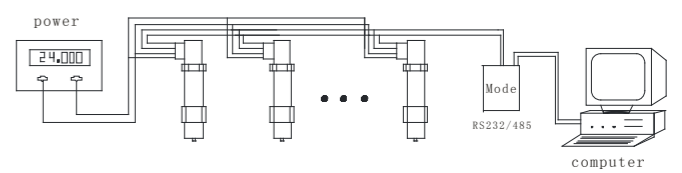
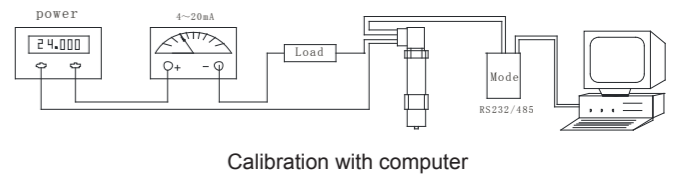
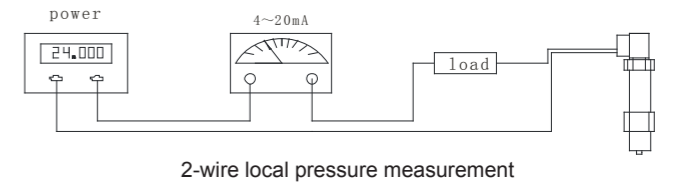
Note: "MS Setonline" software could be downloaded from our website www.microsensor.cn

B: Software for HART® transmitter:MS-C100A software

Through MS-HART232 conversion module, the user could calibrate and adjust HART® transmitter.



Local Application



Order Guide

| PT10SR-2230 | | Intelligent Pressure Transmitter | | | |
|------------------------|--|--|---------------|---------------------------------|----------------|
| Range | | -100kPa...0kPa~10kPa...100MPa | | | |
| [0~X]kPa or MPa | | X: Actual measure range | | | |
| Code | | Output signal | | | |
| E | | 4mA~20mA DC | | | |
| R ₄ | | RS485 communication interface, ASCII protocol | | | |
| R ₈ | | RS485 interface, MODBUS communication protocol | | | |
| H | | HART ^a communication protocol | | | |
| Code | | Construction material | | | |
| | | Diaphragm | Pressure port | Housing | |
| 22 | | SS 316L | SS | SS | |
| 24 | | SS 316L | SS 316L | SS 316L | |
| Code | | Others | | | |
| B ₁ | | 4-pin Hirschmann plug connection | | | |
| B ₂ | | Cable connection, default cable length: 1.5m | | | |
| B ₃ | | 7-pin plug connection | | | |
| PC ₁ | | Flush diaphragm, M20×1.5 male | | | |
| PC ₃ | | Flush diaphragm, G1/2 male | | | |
| C ₁ | | M20×1.5 male, face type seal | | | |
| C ₃ | | G1/2 male | | | |
| C ₄ | | G1/4 female | | | |
| C ₅ | | M20×1.5 male, waterline seal | | | |
| G | | Gauge | | | |
| S | | Sealed gauge | | | |
| A | | Absolute | | | |
| i | | Intrinsic safe version ExialIBT6Ga | | | |
| T | | Ship-use | | | |
| PT10SR-2230 [0~100]kPa | | ER ₄ | 22 | B ₃ C ₁ G | the whole spec |

Notes

- 1.For RS485 interface transmitter, please select B2 cable connection output or B3 7-pin plug connection;
- 2.Flush diaphragm transmitter's pressure range: 0~70kPa...35MPa;
- 3.If the user has special requirement, please feel free to contact our company.