

MC20D Smart Pressure Transmitter



DESCRIPTION

MC20D Smart Pressure Transmitter features a fully configurable LCD that displays pressure and diagnostic information. The information displayed is directly from the microprocessor which accounts for its accuracy and reliability. Its performance is so stable and reliable that applies to the outdoor field with quite harsh environment. WM1351T Smart Pressure Transmitter can be processed based on the user's requirement, or the specification compatible with the transmitters of other brands. The products of this series widely apply to the industrial process control, petroleum, chemical industry, metallurgy and other industries.

FEATURES

- Wide pressure range covering.
- 4~20mA HART protocol output.
- Intelligent LCD gauge outfit with backlight.
- With both the local zero point and pressure range adjustment.
- Complete varieties, high accuracy, and good stability.
- Isolation ex-proof housing, strong resistance to the frequency conversion interference.

APPLICATIONS

Process control fields for the industries such as petroleum, chemical industry, metallurgy, electricity, food, paper-making, medicine, machine manufacturing, scientific experiment and military aviation etc.

SPECIFICATIONS

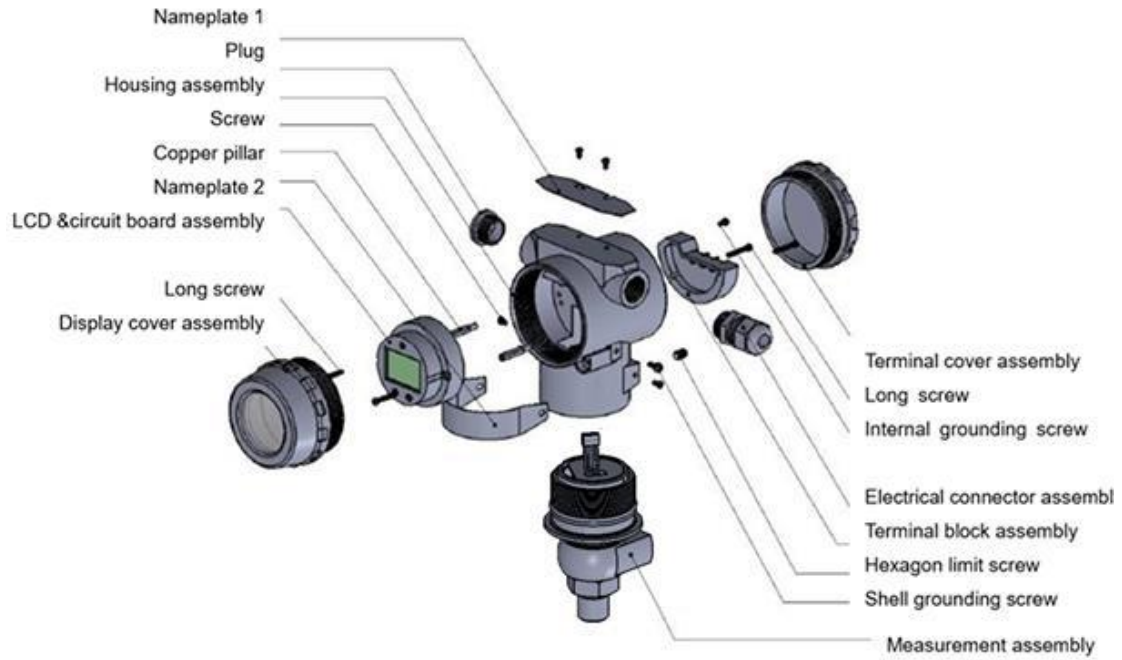
Pressure Media	Fluids, gas
Pressure	Gauge pressure, Absolute pressure, Sealed gauge pressure
Output	4~20mA+HART protocol, 4-20mA 2 wires or 3 wires
Supply Voltage	15 to 36V
Accuracy	$\pm 0.1\%$ ($\pm 0.075\%$)FS($25\pm 5^{\circ}\text{C}$)
Long Term Stability	<0.25%FS per year

Response	<10ms
Temperature Range	-20~85°C(Normal), -20~200°C(with installation of bellow)
Temperature Effects	0.015%FS/°C
Insulation resistance	≥200MΩ/250VDC
Mechanical vibration	20g (20~5000Hz)
Pressure Connection	User specified
Electrical Connection	Waterproof Connector
Protection Class	IP65
Ex-proof	Ex d IIB T6

ORDERING CODES

MC20D	Smart Pressure Transmitter	
-	Housing type	H1: Normal H2: New type
-	Pressure range	e.g. 0-10bar or 0-1MPa etc.
-	Wet Part Material	-S4: 304 Stainless Steel -S6: 316 Stainless Steel -US: specified
-O	Signal Output	1: 4-20mA + HART 2: 4-20 mA 2-wires 3: 4-20 mA 3-wires
-D	Display	1: Without 2: LCD
-T	Temperature	1: Normal 2: High Temperature
-E	Ex-proof	1: Nope 2: Ex-proof
-A	Installment type	1: thread 2: flange 3: clamp 4: customer specified
-	Size of installment	e.g. for A1, -1/2BSP or -M20*1.5 etc.; for A3, -2" or 3" etc.

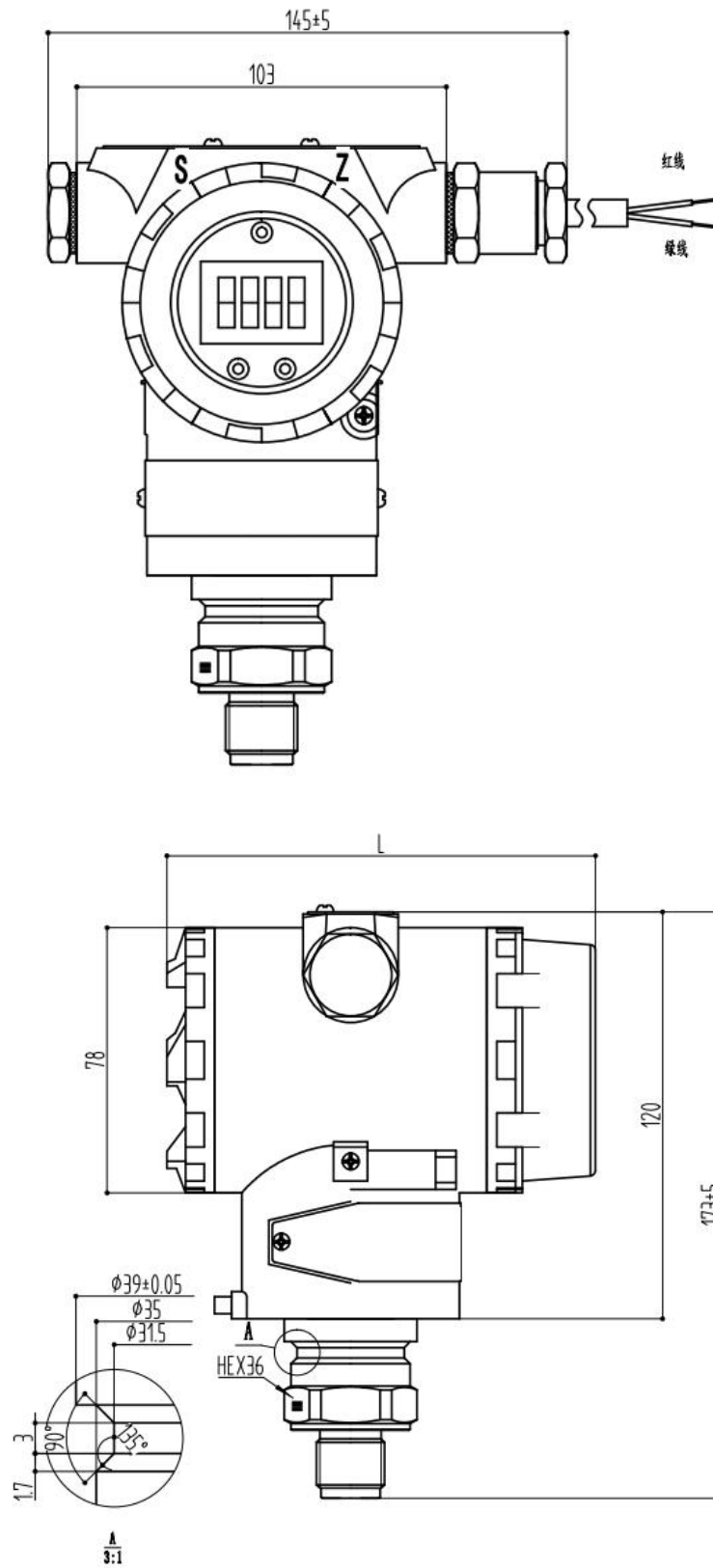
STRUCTURE



NEW HOUSING TYPE OF MC20D



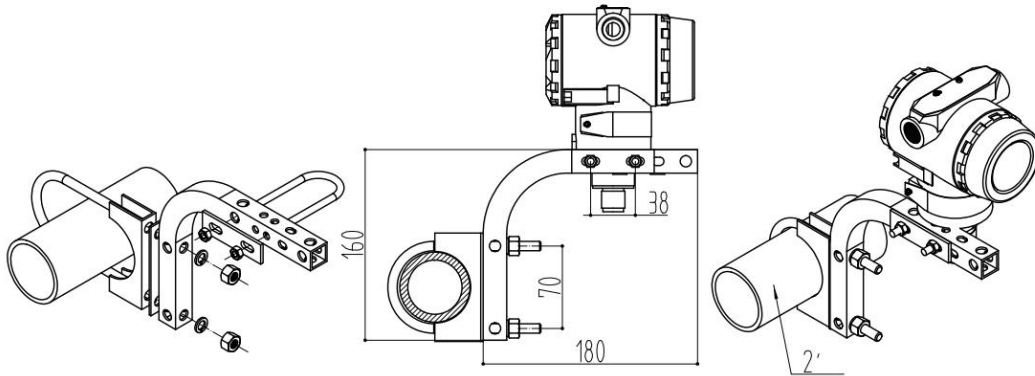
DIMENSION



Note:
With display L=126±5mm

Without display $L=108\pm 5\text{mm}$

L-TYPE BRACKET INSTALLATION

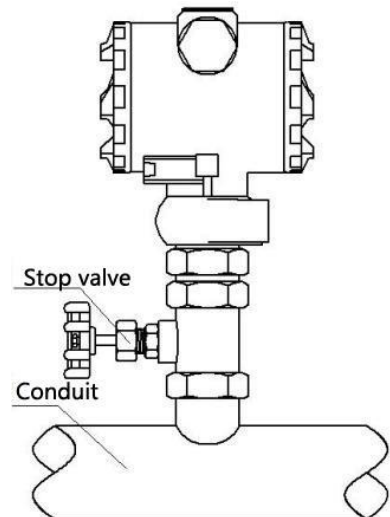


INSTALLATION SUGGESTION

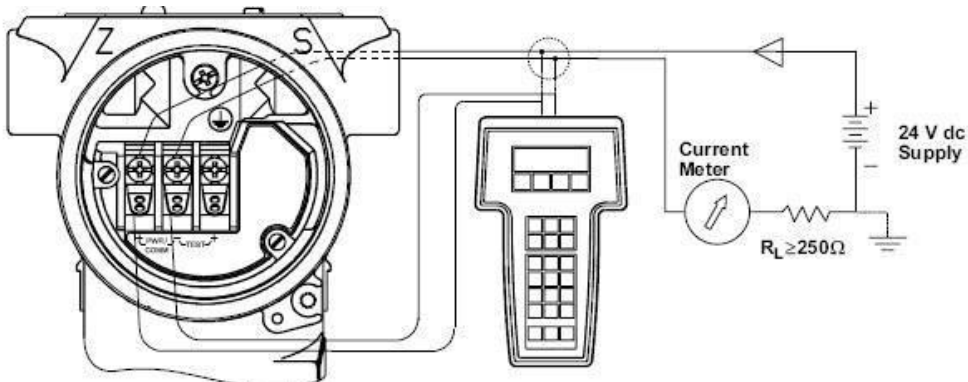
- (1) The product is installed vertically on the field pressure connection.
- (2) During the outdoor installation, try to put the transmitter in a dry and ventilated place, and avoid direct strong sunshine and rain, or else the performance will become poor or break down.
- (3) When the product is installed in the area with frequent lightning, "lightning protection" should be indicated when ordering; meanwhile, we suggest that the user additionally install the lightning protection equipment on site, and ensure reliable grounding of the product and the power supply, which can reduce the probability of the transmitter damage caused by the lightning.
- (4) If no output or abnormal output of the transmitter is found after the installation, please check:

Whether the electrical connection is accurate and firm;

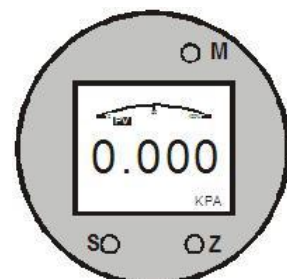
Whether the supply voltage is too low and whether the load resistance is too high



WIRING



BREIF OPERATION OF PRESSURE TRANSMITTER DIGITAL DISPLAY METER



1. HART operator may be connected to the circuit (4-20mA) for monitoring the pressure transmitter or setting operations (see HART operator manual).
2. The use instruction for the button on the transmitter's LCD display:

Zero and Span Shift

Zero Shift: Simultaneously presses down the S key and the Z key (left side is the S key, right side is the Z key) for 6 seconds, display shows "Hart" which indicate that zero and the range adjustment has been activated. Presses down the Z key for 5 seconds, the character of "Hart" vanish. Zero shift finished and the state of activation is withdrawal.

Span Shift: Simultaneously presses down the S key and the Z key (left side is the S key, right side is the Z key) for 6 seconds, display shows "Hart" which indicates that zero and the range adjustment has been activated. Confirming the right pressure corresponding to 20mA, then presses down the S key for 6 seconds, the character "Hart" vanishes, span shift finished at that time and the state of activation is withdrawal.

Note: After entering the state of activation, if not want to make the adjustment, simultaneously presses down the S key and the Z key. After loosening the key, the character of "Hart" on the display vanishes and the state of activation is withdrawal.

(Switching on the power again can achieve the same result)

Parameter settings

Press the S key for 6 seconds, the display shows "PASS", then press Z key and the display shows the value. Flicker bit is the modified bit. Press the Z key to add one to the bit. Press Z key for 4 seconds the cursor shift. First operating in the way as above to modify the value into 160, then press S key to enter the next parameter of the adjustment process. The meaning of each parameter is as follows:

Character	Value	Meaning
	XXXXX	Password, the value is 160
BDSH	XXXX.X	Span shift corresponding to 20mA
BDSL	XXXX.X	Zero shift corresponding to 20mA
TRAN	XXXXX	Transmitting function, =0: Linear output, =1: Evolution output
UNIT	XXXXX	Unit on display, 0=KPa, 1=KPa, 2=KPa, 3=KPa, 4=KPa, 6=Psi, 7=bar, 8=KPa, 9=KPa, 11=Pa, 12=Kpa, 13=Kpa, 15=MPa, 16=mA, 17=%, 18=S, 19=m3, 20=t/h
DAMP	XXXX.X	Damping time, The maximum value is 30 seconds
PREL	XXXXX	<i>Low-point fine-tuning: Adjusting the volume to the current process input values. Pressing Z key then modifying the fine-tune low point pressure. Do not press the Z key if not want to make adjustment. Pressing the S key directly to the next parameter</i>
PREH	XXXXX	<i>High-point fine-tuning: Adjusting the volume to the current process input values. Pressing Z key then modifying the fine-tune high point pressure. Do not press the Z key if not want to make adjustment. Pressing the S key directly to the next parameter</i>
INIT	yes/no	Hart Three-points linearization and fine-tuning data initialization

Note: Please be cautious when operating the parameters in italics. Ensure the pressure imposed by the device to be accurate.

NOTES

1. Please check the signs before installation to conform that the product model and the power supply range and is consistent with the scene;
2. Power should be stable voltage source;
3. In order to avoid solid deposits or other viscous material deposition into the pressure transducer hole, it is recommended to installation should be vertical down (or downward-sloping at an angle);
4. In the measurement of high-temperature media, please use the joining pipe or cooling heat sink, the temperature dropped to the use of transmitter range;
5. For outdoor installation, the transmitter should be kept dry and ventilated place, avoid direct light and rain;
6. When transmitter range $\leq 5\text{KPa}$, the installation location will affect the zero point output; you need to adjust the zero point output after product installation.