



MPM483DM

Intelligent Digital Pressure Transmitter for General, Explosion-proof Industries

ALTHEN
SENSORS & CONTROLS

bar

MPM483DM

FEATURES

- Intrinsic safety product, mark:Ex ia IIC T4 Ga
- Flameproof products, mark: Ex d IIC T6 Gb
- High precision and stability
- High level of electromagnetic compatibility
- LCD display
- RS485, 4mA ~ 20mA dual output

APPLICATIONS

- Hydrology and water resources
- Petroleum and petrochemical engineering
- Power industry
- Mechanical engineering
- Hydraulic and pneumatic control



MICROSENSOR

AUTHORIZED DISTRIBUTOR



MPM483DM intelligent digital display pressure transmitter is a high-precision, high-stability digital display transmitter product launched by our company. The product adopts advanced digital temperature compensation and nonlinear correction technology, combined with mature pressure transmitter design and manufacturing technology, to ensure the accuracy and stability of pressure measurement.

The product has obtained intrinsically safe and flameproof certification, which is suitable for places with explosion-proof requirements. The product adopts wide temperature liquid crystal display and metal casting shell, which can be applied to more severe working conditions. The product is equipped with RS485 communication interface, optional standard RS485 MODBUS RTU communication protocol, and RS485 ASCII custom communication protocol, which can be networked applications.

SPECIFICATIONS

Range	-1bar...0bar ~ 100mbar...1000bar
Overpressure	≤ 2 times FS or 1100bar(minimum value is valid)
Pressure Type	absolute, sealed gauge, gauge(not recommended for flameproof products) ①
Comprehensive Accuracy	see Accuracy
Long-term Stability	±0.25%FS/year
Compensated Temperature	-10°C ~ 70°C
Application Temperature	-30°C ~ 80°C (non-explosion proof and intrinsic safety type)
	-30°C ~ 60°C (Exd type)
Storage Temperature	-40°C ~ 85°C
Insulation Resistance	100MΩ@100V
Vibration	10g, 20Hz ~ 2000Hz (pedestal conglutinate with housing, conglutination by default for flameproof type) ②
Shock	20g, 11ms
Housing Protection	IP65

ACCURACY

Pressure Type	Range	Accuracy
Gauge (G)	0mbar ~ 100mbar<X <200mbar	±0.5%FS
	200mbar ≤ X ≤ 700mbar	±0.25%FS
	700mbar <X ≤35bar	±0.25%FS(default)
		±0.1%FS
	-1bar ~ -350mbar < X ≤ 2bar	±0.5%FS
	-1bar ~ -350mbar < X ≤ 2bar ~ 35bar	±0.25%FS
Absolute (A)	0mbar ~ 700mbar < X ≤ 1bar	±0.5%FS
	1bar < X ≤ 10bar	±0.25%FS
	10bar < X ≤ 1000bar	±0.25%FS(default)
		±0.1%FS
Sealed Gauge S	35bar < X ≤ 1000bar	±0.25%FS(default)
		±0.1%FS

Test standard: GB/T 17614.1-2015/IEC60770-1:2010 ;

Environment temperature: 20°C ±5°C ;

Relative humidity: 0% ~ 85%

ELECTROMAGNETIC COMPATIBILITY

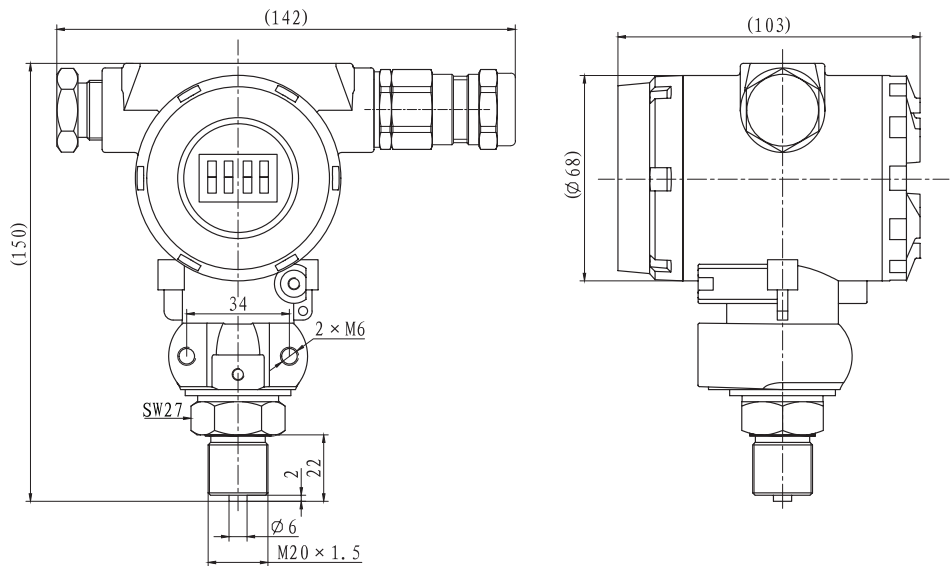
S.N.	Test Item	Test Standard	Test Condition	Performance Level
1	electrostatic discharge immunity	GB/T 17626.2-2018	±4kV(touch) ±8kV(air)	B
2	RF electromagnetic field radiated immunity	GB/T 17626.3-2016	80MHz ~ 6GHz 10V/m	A
3	power frequency magnetic field immunity	GB/T 17626.8-2006	100A/V	A
4	electrical fast transient burst immunity	GB/T 17626.4-2018	2kV 5kHz 5/50ns	A
5	surge (shock) immunity	GB/T 17626.5-2019	line-line 1kV line-ground 2kV	B
6	radio frequency fields disturbance immunity	GB/T 17626.6-2017	150kHz ~ 80MHz	A

OUTPUT SIGNALS

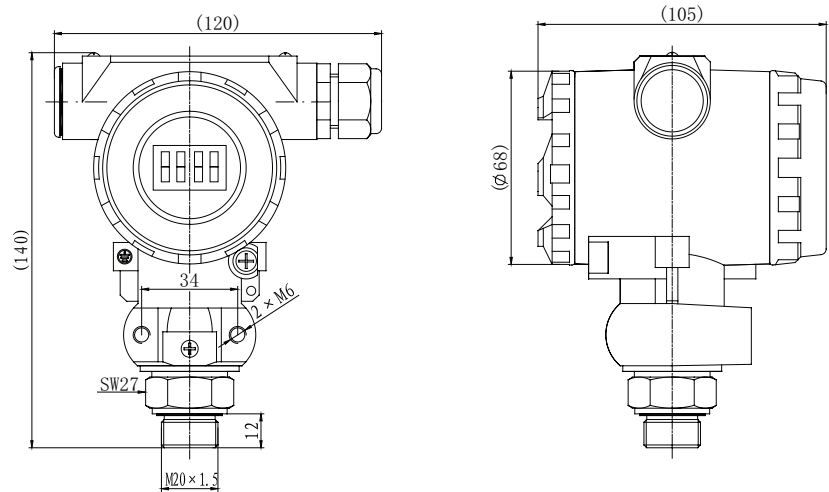
Output Signal	Power Supply	Output Format	Load Resistance
4mA ~ 20mA DC (E)	8V ~ 28V DC	2-wire	≤(U-8)/0.02A(Ω)
RS485, ASCII protocol (R4)		4-wire	RS485 bus can load 99 transmitters
RS485, MODBUS RTU protocol (R8)			

OUTLINE DIMENSIONS (UNIT:mm)

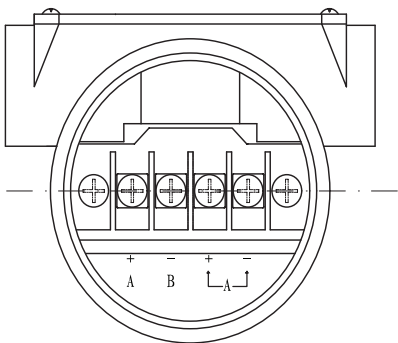
Exd type



Intrinsic safety and non-explosion proof type

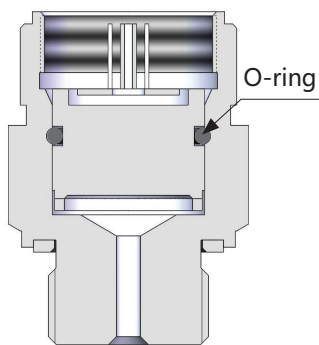


ELECTRICAL CONNECTION



2-wire		4-wire	
terminal	definition	terminal	definition
+ / A	V+	+ / A	V+
- / B	+OUT	- / B	+OUT
		+ └─ A	RS485A
		A └─	RS485B

SENSOR SEALING



O-ring Material: fluororubber/EPDM

MATERIALS

Wetted Parts

Isolated Diaphragm: SS 316L/Tantalum
Pressure Port: SS 304/SS 316L/Hastelloy C

Non-wetted Parts

Housing: Aluminum alloy

SUPPORTING SOFTWARE

User debugging software MS setonline

The software is opened on the computer, and the transmitter can be connected through the RS485 conversion module, read basic internal information, including transmitter address, real-time pressure value, and temperature information such as degree values Note: "For the user debugging software MS setonline to obtain the method, go to the company's website www.microsensor.cn - enter the keyword 'MS setonline' in the upper right corner to search --download.

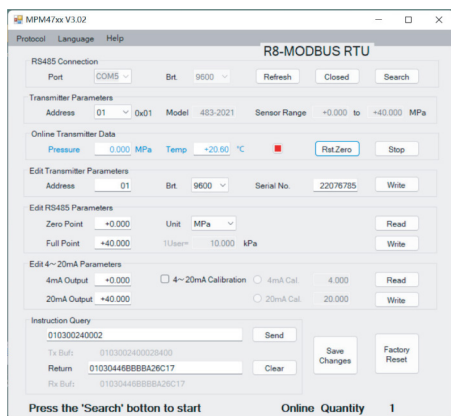
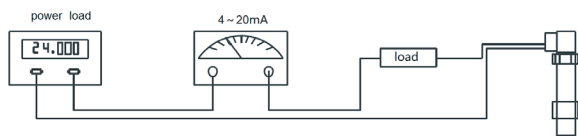
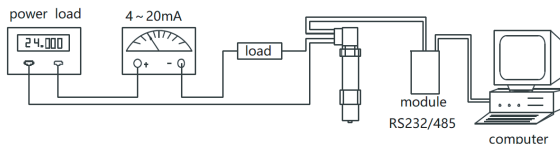


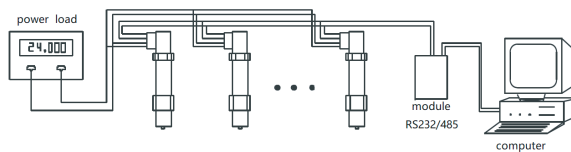
diagram of 2-wire transmitter pressure measurement



wiring diagram of computer field tuning

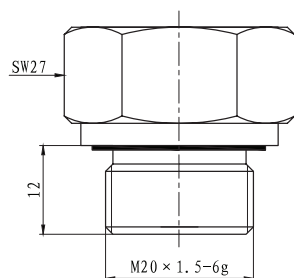


wiring diagram of RS485 interface network application

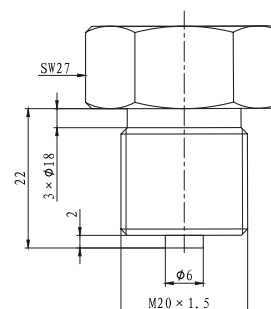


PROCESS CONNECTION (UNIT:mm)

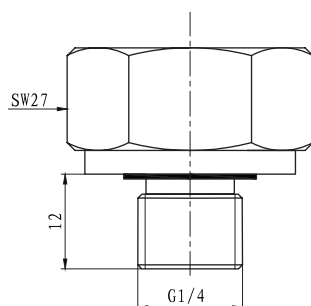
M20×1.5 male, end face seal(C1)



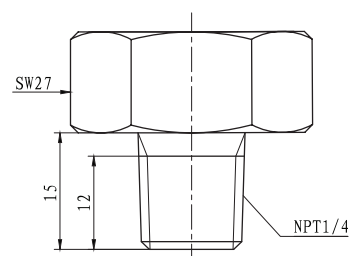
M20×1.5 male, waterline seal(C5)



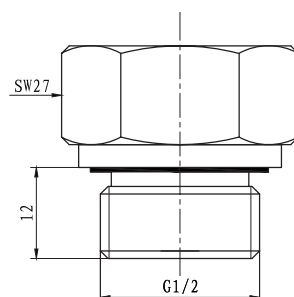
G1/4 male, end face seal (C2)



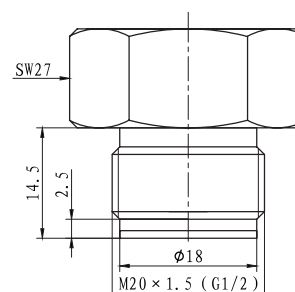
NPT1/4 male (C6)



G1/2 male, end face seal(C3)



M20×1.5 or G1/2 flush structure (PC1/PC3)



CABLE RECOMMENDATION

The product does not have a cable by default, if required, it can be used in the special remarks of the order.

Product lock connector has two specifications by default, which are differentiated by product type: normal and intrinsically safe types use plastic waterproof connectors, flameproof type adopts a metal stuffing box. Common specifications of cable: diameter $\phi 7.4\text{mm} \pm 0.1\text{mm}$.

ORDER GUIDE

MPM483DM		Intelligent Digital Display Pressure Transmitter									
		Code	Certification Requirement ③								
		null	no certification requirement								
		i	intrinsic safety Ex ia IIC T4 Ga								
		d	Ex d IIC T6 Ga								
		Range [0 ~ X]mbar or bar	Range	Measurement Range: -1bar...0bar ~ 100mbar...1000bar							
			[0 ~ X]mbar or bar	X: actual measured range							
			Code	Output Signals							
			ER4	4mA~20mA DC (2-wire)+RS485 interface, ASCII protocol							
			ER8	4mA~20mA DC (2-wire)+RS485 interface, MODBUS RTU protocol							
			Code	Material							
				Isolated Diaphragm		Pressure Port		Housing			
		22	SS 316L		SS 304		Aluminum alloy				
		24	SS 316L		SS 316L						
		25	Tantalum		SS 304						
		35	Tantalum		Hastelloy						
			Code	Process Connection							
			C1	M20×1.5 male, end face seal							
			C2	G1/4 male, end face seal							
			C3	G1/2male, end face seal							
			C5	M20×1.5male, waterline seal							
	C6	NPT1/4 male									
	PC1	M20×1.5 flush structure				0bar ~ 200mbar...350bar					
	PC3	G1/2 flush structure									
	Code	Pressure Type									
	G	gauge (not recommended for Exd type products)									
	A	absolute									
	S	sealed gauge									
MPM483DM		i	[0 ~ 1]bar	ER4	22	C1	G	Complete Type Specification			

Notes

- ①, in specification table means, gauge is not recommended for Exd type products, Exd type products with gauge sensor may impact accuracy;
- ②, Vibration in specification table means, 10g, 20Hz ~ 2000Hz (pedestal conglutinate with housing, conglutination by default for flameproof type) flameproof products have glue filling, flameproof product's pedestal and housing cannot wring, which means flameproof product's header cannot change the direction after installation;
- Fluororubber O-ring's application temperature range is -20℃ ~250℃ , EPDM O-ring's application temperature range is -55℃ ~125℃ , default gasket is Fluororubber, If there are special needs, please specify it in the order.
- If there are other requirements, please contact us and specify it in the order.