

HR310 Series Digital Pressure Transmitter

Overview

HR310 series digital pressure transmitter use top quality pressure components with mixed signal processing technology and unique compensation methods to realize high precision digital pressure measurement, F S digital linearity correction, full temperature digital temperature compensation, compensation data stored in nonvolatile memory, multiple safety protection system to avoid the products cannot be used due to correction data lost; Circuit part with power and watchdog monitor, mechanical part with full seal stainless steel structure, both of them improve the reliability of the whole transmitter. The high precision digital pressure transmitter is widely and successfully used in many industries, such as pressure measurement of industry, hydrology and water conservancy, geological prospecting and etc.

Features

- High stable pressure sensing unit, with long-term stability;
- High precision, up to 0.05%F.S(Linearity, repeatability, hysteresis);
- Adopts mixed signal microprocessor to realize high precision compensation;
- RS485 Standard MODBUS-RTU Protocol output, can be used in DCS or PLC system;
- Low power consumption, when operating at full speed, the power consumption is about 4mA, outstanding performance on external battery supply
- Anti-surge, electromagnetic interference

Specification

Main performance indicators	
Range	0~0.01~100MPa
Accuracy	0.05%F.S (Optional) , 0.1% F·S , 0.25%F·S
Resolution	0.005%F.S
Stability	<0.1%F.S/year
Overload capability	2X F.S
Temperature characteristics	
Compensation temperature	0~70°C
Operating temperature	-20~85°C
Storage temperature	-40~125°C
Electrical characteristics	

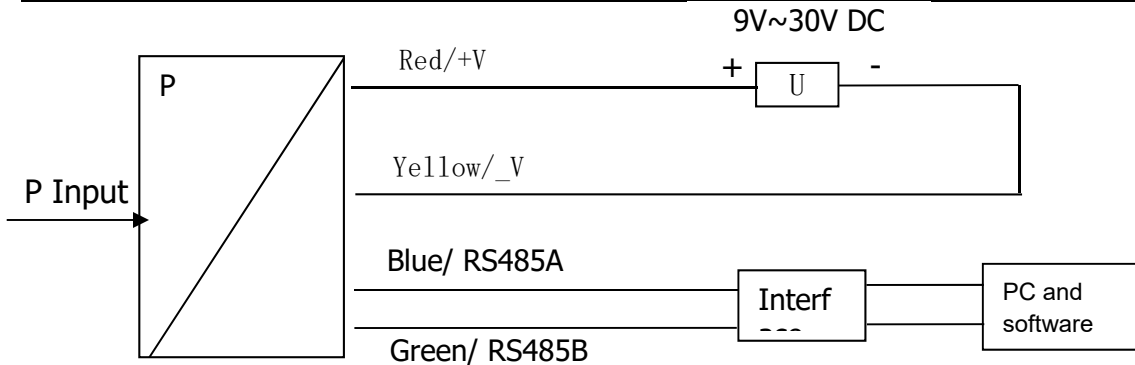
Power Supply	24VDC (9~30V)
Communication interface protection	(2KV) Surge voltage
Load capability	128 transmitter nodes
Output method	RS485 interface ,MODBUS-RTU
Insulation	100MΩ @50V
Structural characteristics	
Sensor service life	10 ⁶ times full pressure running
Contacting with liquid material	316L stainless steel
Sealing material	Fluororubber
Housing material	316L stainless steel(titanium alloy optional)
Cable material	Polyurethane, PVC optional
Weight	~200g
Environmental characteristics	
Vibration	20g 20 ~ 5000Hz
Shock	20g 11ms
Protection level	IP67
Explosion-proof grade	Exia IIC T6

Electric Connection:

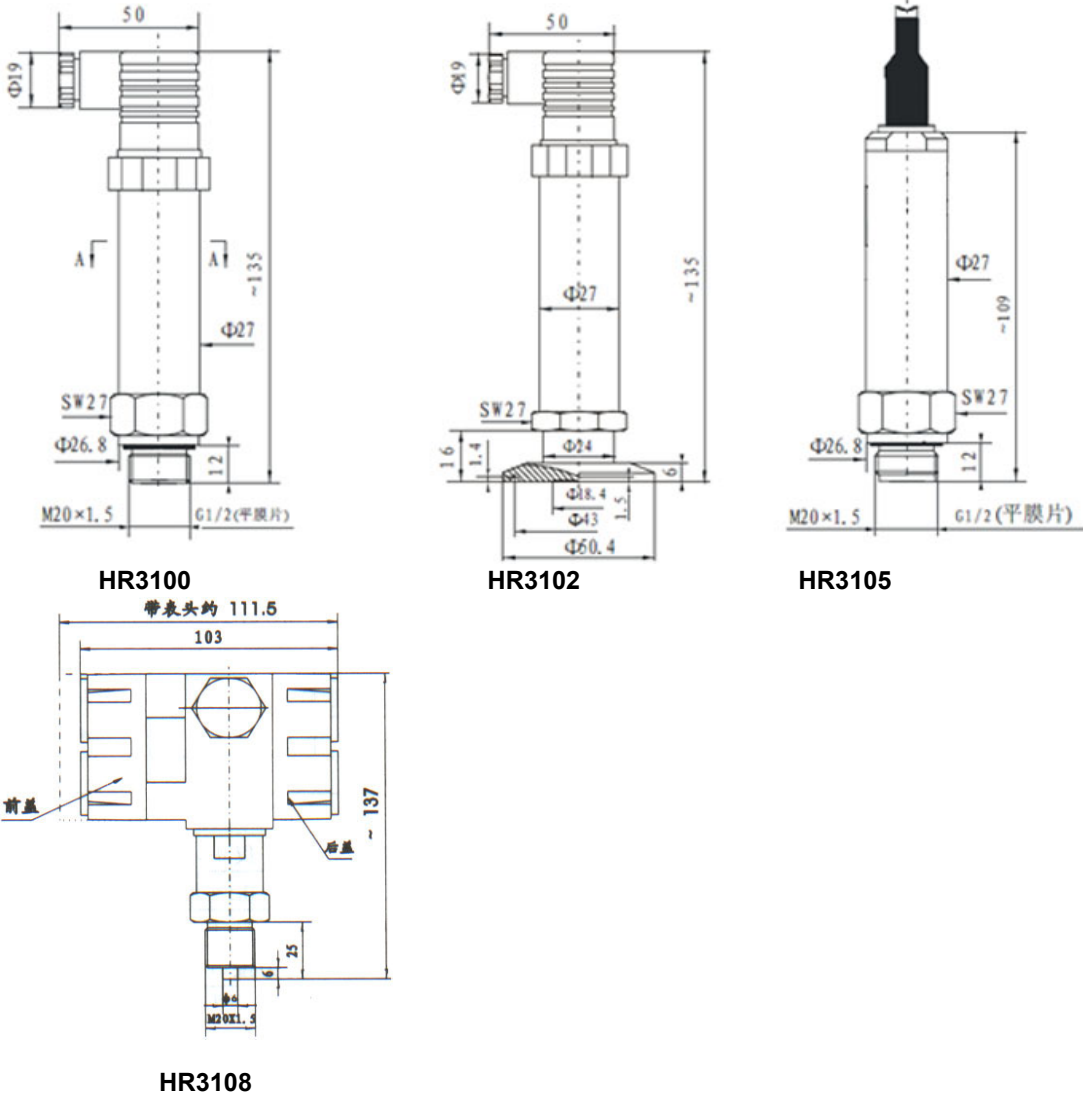
- Transmitter connecting with the outside by plug or cable:

Function	Inner Plug pin Color	Outer electric connection		
		4 Plug pin	Wire color	7 Pin plug
+V	1 (Red)	1	Red	1
-V	2 (Yellow)	2	Yellow	2
RS485B	4 (Green)	$\frac{\perp}{\perp}$	Green	5
RS485A	5 (Blue)	3	Blue	4

Typical Application



Outline Construction: (Unit:mm)



Oder Guide

HR310X	Digital Pressure Transmitter				
	Range				
	[0~X] KPa/MPa				
		Code	Output Signal		
		Q	RS485/MODBUS-RTU		
		Q1	RS485-/customized protocol		
	code	Construction Material			
		Housing	Diaphragm	Process connection	

			S1	Stainless Steel	316L	Stainless steel
			S2	316L	316L	316L
					Others	
			C1	M20×1.5 male, face type seal		
			C2	M20×1.5 male, waterline seal		
			C3	Flush diaphragm, G1/2 male		
			DN	DN25clamp connection (sanitary type)		
			B1	Hirschmann plug connection		
			B2	Cable connection, default cable length: 1.5m		
			LM	Current limiting module		
			G	Gauge pressure type		
			A	Absolute pressure		
HR3100	[0~10] MPa	Q	S2	C2B1G	Full model example	

Note:HR3108 housing is alum.