XI'AN YUNYI INSTRUMENT COMPANY LIMITED

1.Wireless Pressure Transmitter
2.Wireless Pressure Gauge
3. Wireless Flow transmitter
4.Wireless temperature transmitter
5. Wireless Level Transmitter

Certificates

YDW3051 Intelligent High-precision

Monocrystalline Differential Pressure Transmitters

Profile

The YDW3051 series intelligent wireless differential pressure transmitter is a low-power, wireless communication-enabled smart instrument. It utilizes an advanced industrial-grade MCU as its core and a high-quality sensor as its data acquisition front-end. Integrating an IoT CAT1 data module and China Telecom's 4G network, it enables wireless transmission of field instrument data to the cloud. The YD-221WA2 series utilizes both timed transmission and value alarms to promptly detect abnormal pressures and ensure pipeline safety. This product features an industrial explosion-proof housing and a sensor with a single-piece silicon/diffused silicon core and multi-point temperature compensation for stable data acquisition, ensuring reliable and accurate data. The YD-221W series features a local LCD digital display for easy zero and span adjustment, reverse polarity protection, current limiting protection, lightning and shock resistance, a safe and explosion-proof housing, a compact size, attractive appearance, and a cost-effective price. It also boasts high precision, stability, and reliability.

Features

- ☆ Advanced monocrystalline silicon pressure sensor technology and packaging technology adopted;
- ☆ Modularization design with microprocessor as the core and assisted by advanced digital isolation technology, which makes it with high anti-interference and stability;
- ☆ Powerful 24-bit ADC achieves high precision;
- ☆ Innovative dual compensation technology, 0.075% high precision.

Function Parameters

Range limit	Within the upper and lower limits of the measuring range, it can be adjusted arbitrarily. It is recommended to select a range code with the lowest possible turndown ratio to optimize performance
Zero point setting	Zero point and range can be adjusted to any value within the measurement range in the table, as long as: calibration range ≥ minimum range
Influence of installation location	The change of the installation position perpendicular to the diaphragm surface will not cause the zero drift effect. If the installation position and the diaphragm surface change more than 90°, the zero position in the range of <0.4kPa will be affected. It can be adjusted by adjusting the zero and there is no impact on the range.
Output	Two-wire system 4-20mA, in line with NAMIR NE43 specification, superimposed digital signal (Hart protocol) Linear or square root output is optional.
Output signal limit	Imin=3.9mA，Imax=21.0mA
Fault warning	Zero point and range can be adjusted to any value within the measurement range in the table, as long as: calibration range ≥ minimum range
Alarm current	Low alarm mode (minimum): 3.9mA
High report mode (maximum)	21 mA
Alarm current default setting	High alarm mode
Response time	The damping constant of the amplifier component is 0.1s; the time constant of the sensor is 0.1 to 1.6s, depending on the range and the range ratio. The additional adjustable time constant is: 0~100s
Preheating time	<15s

Performance Parameters

Measuring medium	Liquid, gas, steam
Accuracy	±0.2%,±0.075%,±0.1%(Including linearity, hysteresis and repeatability from zero)
Stability	±0.1%/3 years
Ambient temperature influence	≤±0.04%URL/10℃
Influence of static pressure	±0.05%/10MPa
Power supply	10~36Vdc(24Vdc recommended)
Power influence	±0.001%/10V (10~36Vdc), which can be negligible
Ambient temperature	-40℃ ~85℃
Measuring medium temperature	-40℃~120℃
Storage temperature	-40℃ ~105℃
Display	LCD, OLED
Module temperature shown on display	-20℃~70℃ (LCD), -40℃~80℃ (OLED)
Explosion-proof rating	Exd Ⅱ CT6，Exia Ⅱ CT4
IP Rating for Housing	IP67

Overload and static pressure

	Range	Unilateral overload (negative end)	Unilateral overload (positive end)	Bilateral static pressure
A	1KPa	16MPa	16MPa	40MPa
B	6KPa	16MPa	16MPa	40MPa
C	40KPa	25MPa	25MPa	40MPa
D	400KPa	25MPa	25MPa	40MPa
E	4MPa	25MPa	25MPa	40MPa

Technical Parameters

1. Product Name: YD-221WL Wireless Differential Pressure Transmitter
2. Measurement Range: Monocrystalline Silicon: Static Pressure 3. Maximum 40 MPa; Differential Pressure: 0-40 MPa; Diffused Silicon: Static Pressure (2x Differential Pressure), Range 0-2 MPa; Accuracy: 0.5% FS, Customizable 0.2% FS and 0.1% FS; Display: 5-digit digital display
4. Transmission Range: Up to 2-5 km in urban areas
5. Operating Frequency: ISM Band, including 433, 868, and 915 MHz, IEEE 802.15.4g standards
6. Capacity: One LoRa gateway can connect to thousands or tens of thousands of LoRa nodes; Operating Temperature: -10°C to 60°C, 7. Ambient Humidity ≤ 80% RH; Threaded Interface: M20*1.5 (Other threads available upon ordering)
8. Temperature Compensation Range: 4-point temperature compensation available upon request (temperature compensated version); Communication Current: Average Communication Current: 100mA @ 3.6VDC; Monitoring Current: 20uA @ 3.6VDC; Antenna Interface SMA antenna interface Measuring medium: liquid, gas, steam

Selection table

YDW3051	Lora Wireless Differential Pressure Transmitter Basic Model					
	Code	Explosion-proof standards				
	B	Explosion-proof Exdb11CT6Gb				
	B1	Customized				
		Code	Accuracy level			
		J1	0.5%			
		J2	Customized			
			Code	Pressure		
			P3051A	Gauge pressure		
			P3051CA	Differential pressure		
				Code	Thread size standard	
				M1	M20*1.5	
				M2	Single flange	
				M3	Double flange	
				M4	Customized	
					Code	Temperature
					T1	Ambient temperature
					T2	Without temperature
YDW3051	B	J1	P3051A	M2	T1	Lora wireless differential pressure transmitter, 0.5%fs, Single flange