Datasheet

2088 Housing Digital Submersible Level Transmitter

SUP-PX261-B

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The submersible level transmitter is designed to be directly immersed in the liquid to measure the height of the liquid column from the transmitter probe to the liquid surface. Featuring high accuracy, compact size, and convenient installation, it is suitable for liquid level measurement and control in industries such as petroleum, chemical processing, power generation, municipal water supply, and hydrological exploration.

Features

- Equipped with a high-performance diffused silicon pressure sensor.
- Submersible probe design enables easy and convenient installation.
- Multi-layer protection structure provides excellent ingress resistance and durability.
- Various models available to meet diverse industrial application requirements.
- Constructed from corrosion-resistant stainless steel, suitable for a wide range of working conditions.

2088 Housing Digital Submersible Level Transmitter

Principle

The measuring principle of the submersible level transmitter is based on the hydrostatic pressure principle, where the pressure exerted by a liquid is directly proportional to its height.

A typical submersible level transmitter consists of a sensor and a transmitter. The sensor is in contact with the measured medium through a sealed measuring chamber, which is connected to the transmitter via a cable. When the sensor is immersed in the liquid, the measuring chamber inside the sensor detects the hydrostatic pressure exerted by the liquid column. This pressure is transmitted through the cable to the transmitter, which then converts the detected pressure into an electrical signal corresponding to the liquid level height.

Parameters		
Input		
Pressure Type	Gauge Pressure	
Measured Variables	Level	
Measuring Range	0m~1m...200m	
Output		
Transmitter Output	Output Type	Load Resistance (R_L)
	（4~20）mA	2088 Housing with Display Type R_L≤（U-13）V/0.02A
	（0~5）V	R_L≥5kΩ
	（1~5）V	
	（0~10）V	
	Note: U represents the supply voltage, in volts (V).	
Communication Output	RS485 Interface, MODBUS Communication Protocol	
Power Supply Input		
Power Supply Range for 2088 Housing Type Level Transmitter	(0–10)V output: (12–32)V (0–5)V or (1–5)V output: (8–32)V (4–20)mA output with display: (12–32)V (4–20)mA output without display: (9–32)V (4–20)mA + RS485 output with display: (10–32)V	
Power Consumption	Current output type: ≤0.6W @ 24VDC Voltage output type: ≤0.05W @ 24VDC RS485 output type: ≤0.2W @ 24VDC	
Electrical Interface	Direct Lead Connection, M20*1.5 Cable Gland	
Performance Parameters		
Accuracy	0.5 Class	
Long-Term Stability	±0.2%FS/year Note: For level ranges below 3.5m, the accuracy tolerance increases proportionally.	
Response Time	Current / Voltage Output Type:T90≤10ms RS485 Output Type:T90≤100ms	
Temperature Drift	Zero Output Temperature Drift:±0.3%FS/10℃ Full-Scale Output Temperature Drift:±0.3%FS/10℃	
Compensation Temperature	1m≤Measurement Ranges＜2.5m：（0～60）℃ 2.5m≤Measurement Ranges≤6m：（0～70）℃ Measurement Ranges＞6m：（-10～70）℃	
Insulation Resistance	20MΩ，250VDC	
Protection Rating	Sensor Type:IP68； 2088 Wiring Section:IP65	
Process Conditions		
Overpressure Limit	150%FS	
Medium Temperature	（-20~85）℃	
Environmental Conditions		
Operating Temperature	（-20~85）℃	
Storage Temperature	（-40~85）℃	

Wiring

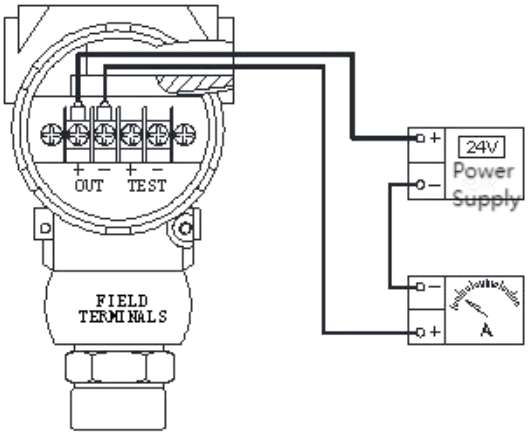

Figure 1 2-Wire Current Output Wiring

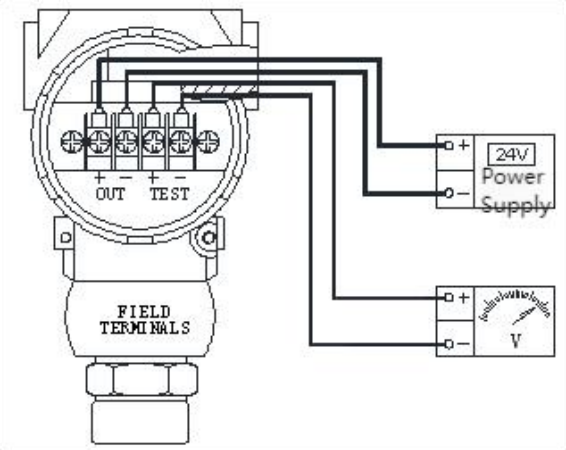

Figure 2 Voltage Output Wiring

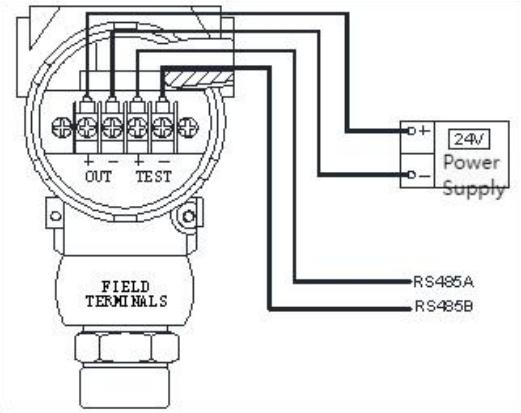

Figure 3 RS485 Output Wiring

Dimension

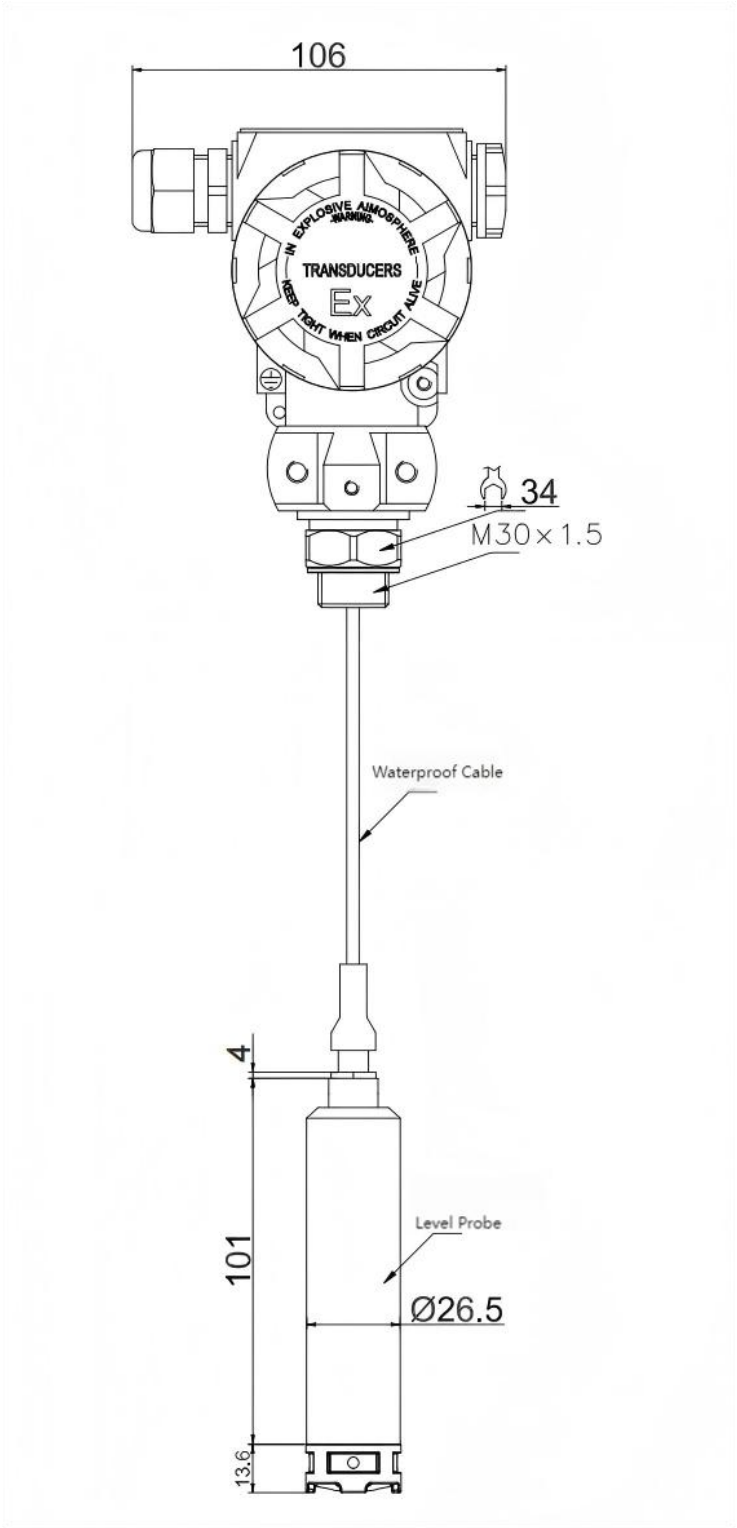

Figure 4 Dimensions of 2088 Housing Submersible Level Transmitter with Display (Unit: mm)

Ordering code

SUP-PX261-B -01-K-LU-A1-M3-M1-WG-N9-05-00											Description
SUP-PX261-B	-	-	-	-	-	-	-	-	-	-	
Measuring Range	01										1m
	02										2m
	03										3m
	05										5m
	07										7m
	10										10m
	15										15m
	20										20m
	25										25m
	30										30m
	40										40m
	50										50m
	80										80m
	1H										100m
	XX										Others
Accuracy		K									Grade 0.5
		G									Grade 0.25
Process Connection			LU								M30 × 1. 5 thread, 304SS
			XX								Others
Output and Power Supply				A1							Two-wire system, 4-20mA
				R2							RS485，24VDC
				SE							4-20mA+RS485，24VDC
				XX							Others
Diaphragm Material					M3						316LSS
					XX						Others
Probe Material						M1					304SS
						M3					316LSS
Electrical Interface, Housing Material, and Protection Rating							WG				M20 × 1. 5 Cable Gland, Aluminum, IP65
Cable Sheath Material								N9			PVC
								XX			Others
Cable Length									05		5m
									06		6m
									07		7m
									08		8m
									10		10m
									15		15m
									20		20m

	25		25m
	30		30m
	40		40m
	50		50m
	XX		other
Probe Accessories		00	Without
		EN	Filter Mesh