ISEN-YL 2088 Intelligent Display Pressure Transmitter

The 2088 Smart PressureTransmitter featuresa segmented LCD display for clear and attractive readouts. The product utilizes a 24-bit Σ-Δ analog front end to ensure high measurement accuracy. Comprehensive surge protection, lightning protection, and reverse connection protection designs prevent mis installation and mis operation in engineering applications. Enhanced software security features include low-voltage monitoring reset and multi-task scheduling optimization. All components are imported to ensure a long service
life and stability.

Product

1. The 2088 smart pressure transmitter uses fully digital signal processingt echnology, eliminating issues such as electromagnetic interference and temperature drift that occur in traditional analog signal processing, ensuring the accuracy and stability of measurement results.
2. Excellent stability: In harsh industrial environments, the 2088 pressure transmitter demonstrates excellent stability, capable of accurately monitoring pressure changes over the long term.
3. Easy installation: The transmitter features a compact design and easy installation, accommodating various installation scenarios and requirements.
4. Multiple output signals are available, including the most common 4-20mA two-wire current signal, as well as three-wire 0-10/20mA current signals and 0-5/10V voltage signals.
5. Overpressure protection: When the on-site pressure exceeds the transmitter's measurement range, the power supply automatically disconnects to prevent system damage.
6. Aluminum alloy die-cast housing with three-terminal isolation and an electrostatic powder-coated protective layer, ensuring durability and reliability. LED and LCD display options provide convenient on-site readings.

Working Principle

The 2088-type pressure transmitter typically employs the principle of a piezoresistive sensor (strain gauge). The following outlines its basic measurement principle: Piezoresistive sensor: A piezoresistive sensor is a type of sensor that measures pressure by detecting strain in the material. In the 2088- type pressure transmitter, a metal film is typically used as the sensing element, with strain gauges (resistance elements) attached to the film. When subjected to pressure, the metal film undergoes slight strain, causing a change in the resistance value of the strain gauges. Bridge measurement: The transmitter is internally equipped with a bridge circuit, which organizes the strain gauges in the sensor into a bridge. When no pressure is applied, the bridge is balanced, and the output electrical signal is zero. When pressure is applied, the strain gauges change, disrupting the bridge balance, resulting in a non-zero electrical signal output from the bridge. Signal amplification and conversion: The output electrical signal is amplified by a signal amplification circuit to enhance its strength. Then, through analog-to-digital conversion, the analog signal is converted into a digital signal for further processing and transmission. Temperature compensation: The 2088-type pressure transmitter typically also features temperature compensation functionality to offset the effects of temperature on measurements. This enhances the transmitter's stability and accuracy.

Application Field

The 2088 pressure transmitter is widely used in the petroleum industry, chemical industry, construction machinery industry, metallurgy, power industry, environmental protection, and water treatment industries. In the petroleum industry, it can measure the pressure and liquid level at the top or bottom of pipelines, storage tanks, and gas tanks. In the chemical industry, it is used to monitor pressure changes in equipment such as reactors, evaporators, and separators,

Application (Continued)

Ensure process parameter stability; Engineering machinery field: Applied to hydraulic systems, cooling systems, fuel injection systems, fuel delivery systems, fuel pumps, etc., by monitoring and controlling parameters such as pressure and temperature in each sy stem.

Product Line

1 LCD Explosion-proof Type

2 LED High-Temp

3 LED Clamp Type

4 LCD Flange Type

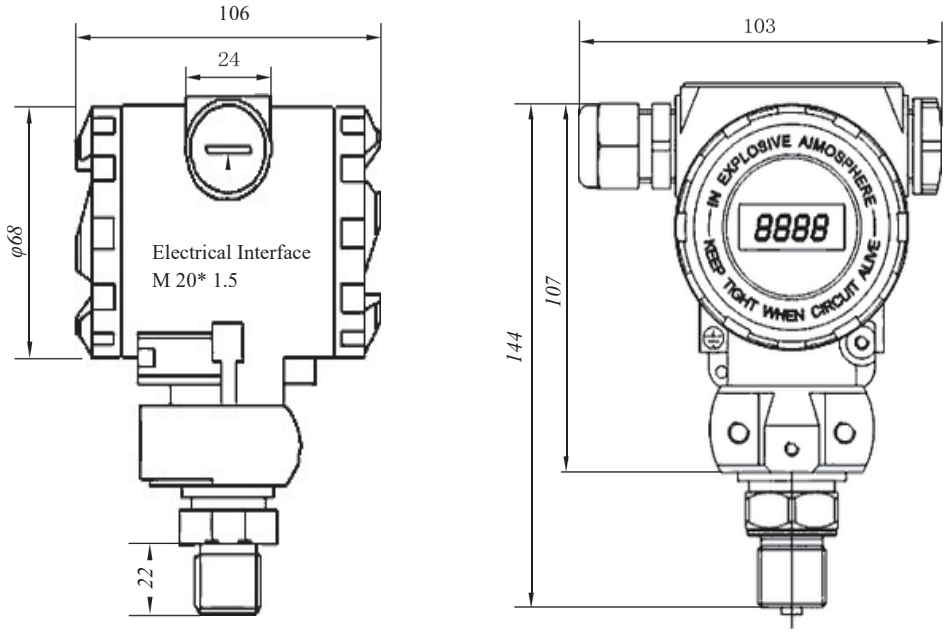
Technical

Working Power Supply	12~35VDC	Output Power	4~20mA
Accuracy Excitation	0.2% F.S.	Consumption	0.3W
Current	0.2mA	Sensor	Diffused silicon, ceramic sensors
Load	≤500Ω	Storage Temperature	-40~120℃
Temperature coefficient	≤25ppm/℃ F.S.	Housing Materials	Aluminum Alloy
Operating Temperature	-30~80℃	Mounting Threaded	M20*1.5

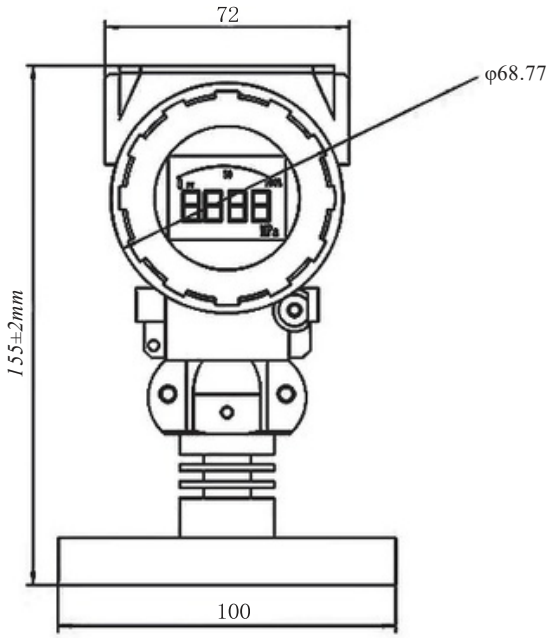
External dimensions diagram (reference)

- 2088 With Display Size Diagram

The installation joint specifications are M20×1.5 Threaded



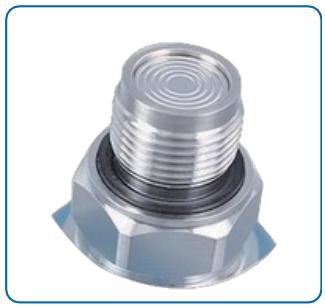
- Flange Type Dimensions



Product Structure and Isolation Diaphragm

1、Product Structure

2、High-quality stain less steel joint 316L stainless steel isolation dia phragm structure(Customizable diaphragm material)



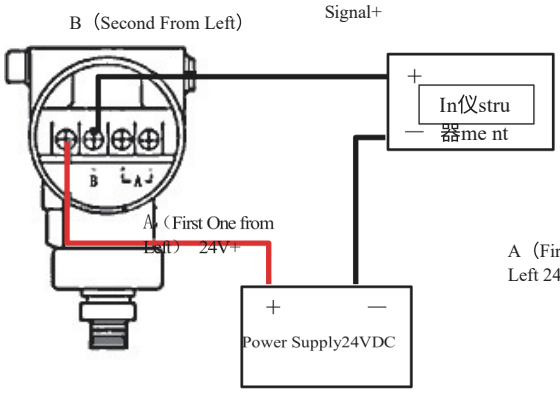
3、Highly stable diffusion silico n pressure chip

4、Customizable

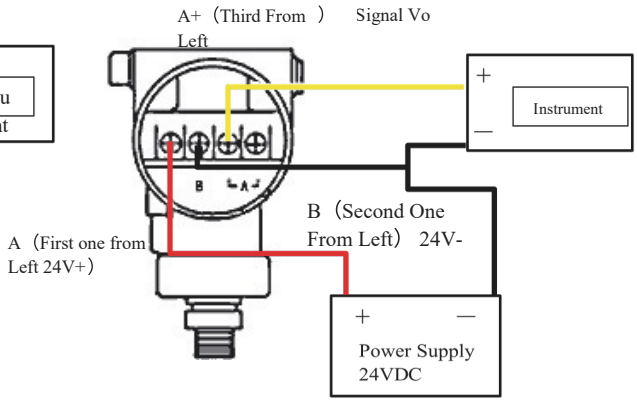
threads can be customized according to user requirements

Interface size

Wiring Guide

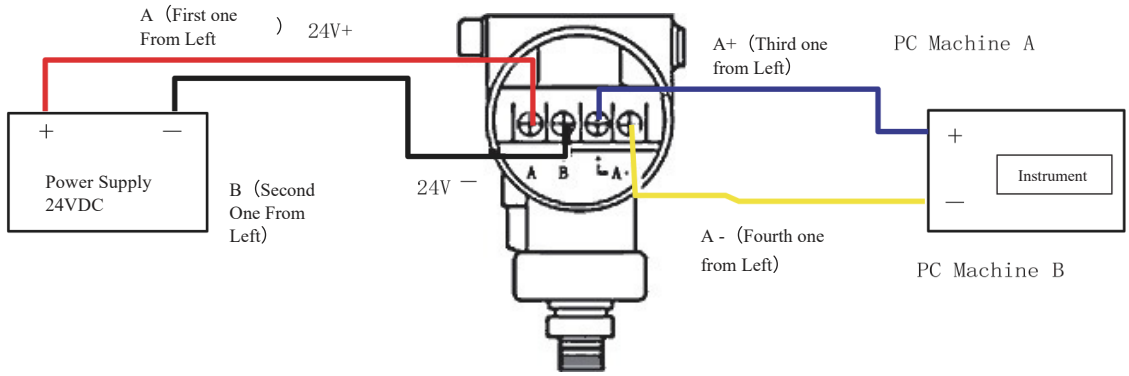


● 4-20mA two- wire wiring diagram



● Voltage o utput three- wire wiring diagram

Wiring Guide（Continued）



- RS485 output four-wire wiring diagram

Installation Guide

1. Installation of pressure transmitters:

Ensure that the transmitter is installed vertically on the ground. For threaded types, use a wrench to tighten the transmitter from the hexagonal bolts at the bottom of the transmitter during installation, avoiding direct rotation of the upper part of the transmitter. For flanged types, apply force evenly around the bolts during installation to prevent irregular deformation of t he seal.

When measuring pressure with rapid changes, a pressure buffer device should be installed at the connection point between the controller and the measured medium to prevent sudden high-pressure pulses from directly impacting the transmitter's measuring element, causing the transmitter to malf unction.

2. Level Transmitter Installation

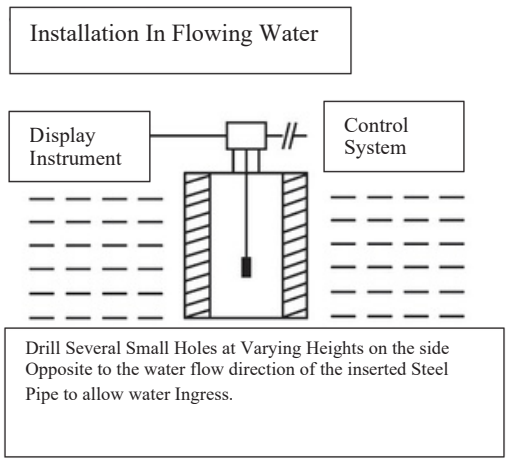
Ensure the transmitter is installed vertically relative to the ground. For threaded types, use a wrench to tighten the transmitter using the hex bolts at the bottom of the transmitter during installation, avoiding direct rotation of the upper part of the transmitter; for flanged types, apply force evenly around the bolts during installation to prevent irregular deformation of t he seal.

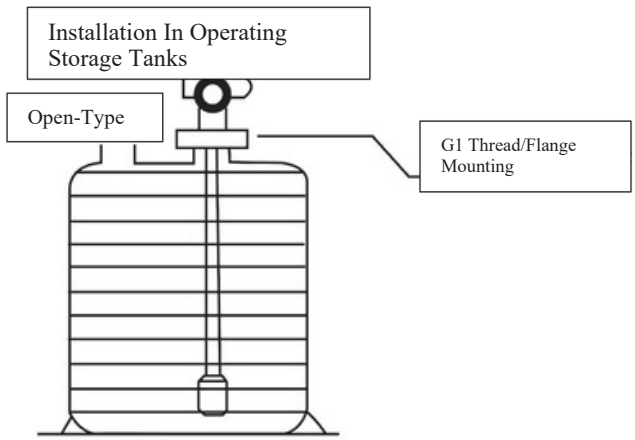
3. Wind Pressure Transmitter Installation

Wind pressure connection: standard 8mm inner diameter air tube (Heat the inner diameter of the hose to 6mm with hot water for better sealing)

Pressure measurement: For positive pressure range (e.g., 0-1 kPa), connect the longer end of the bell mouth; for negative pressure, connect the shorter end of the bell mouth. For negative pressure range (e.g., -5 to 0 kPa), directly connect the longer end of the bell mouth.

Pressure differential measurement: Connect the longer tube to the high-pressure end and the shorter tube to the low-pressure end.





Selection Chart

Model	Product Name
ISEN-YL2088	Small Display Pressure Transmitter

Code	Type
10	Standard Type
20	Flat Diaphragm Type

Code	Explosion Protection
P	Non-Explosion Proof
E	Explosion-Proof Type

Code	Pressure Type
B	Gauge Pressure
J	Absolute Pressure
B	Sealed Gauge Pressure
C	Negative Pressure

Code	Accuracy
1	0.1%F.S
2	0.25%F.S
3	0.5%F.S

Code	Process Connection
S	Threaded connection: 1. M20*1.5; 2. G1/2“ thread; 3. 1/2” NPT thread; 4. M27*2
F	Flange connection: 1. DN25 flange; 2. DN50 flange
T	Chuck connection: 1. Chuck 50.5 mm; 2. Chuck 64 mm
Y	Special specifications can be customized.

Code	Connection Material
4	Stainless Steel 304
6	Stainless Steel 316L
F	Polytetrafluoroethylene PTFE
Y	Customizable

Code	Temperature Range
N	-20~80℃
T	-20~200℃

Code	Output Signal
1	4~20mA Two-wire System
2	0~5V Three-wire System
3	0~10VDC Three-Wire System
4	RS485 Communication
Y	Customizable

Code	Diaphragm Material
K	Diffused silicon (default)
T	Ceramic piezoresistive
P	Ceramic capacitive
6	Stainless steel 316L

Selection Chart （Continued）

	Y	Customizable	
		Code	Display Type
		0	Without Display
		1	LED Digital Display
		2	LCD Display
		Code	Junction box material
		L	Aluminum Alloy
		4	Stainless steel 304
		6	Stainless steel 316L
		Code	Junction Box Color
		B	Blue
		Y	Yellow
		G	Green

Selection Examples

Example: ISEN-YL2088-10PJ2S14N1K1LB, Smart Display Pressure Transmitter, Standard Type, Explosion-Proof Standard Type, Absolute Pressure, Accuracy 0.25% F.S., Threaded Connection M20*1.5, Connection Material Stainless Steel 304, Temperature Ra-nge 20~80°C, Output Signal 4~20mA Two-Wire System, Diaphragm Material Diffused Silicon (Default), Digital Display, Junction Box Aluminum Allo y, Blue.

Website

WhatsApp

All your process control needs

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