



ASY Electronics (Jiaxing) Co., Ltd

Business inquiries: +86 181 5734 3325

E-mail: sales@king-sen.com Website: www.asyjsx.com

Address: Room 302, Building 11, No. 79 Jinsui Road, Economic and Technological Development Zone, Jiaxing , Zhejiang P.R. China

AI-LE Submersible level transmitter general Manual



Product overview

The AI-LE general- purpose submersible level transmitter uses a high-performance diffused silicon pressure sensor as the measuring element . It measures the hydrostatic pressure of the liquid, which is proportional to the liquid depth, and converts it into a standard current or voltage signal output through a signal conditioning circuit to achieve accurate measurement of the liquid depth.

This product is suitable for measuring the liquid level of various media in petrochemical, metallurgical, power, pharmaceutical, water supply and drainage systems and other industries.

Features

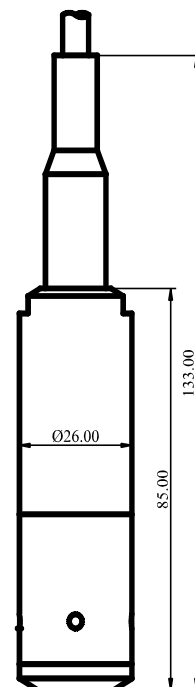
- ✓ Designed entirely of 316L stainless steel, with an IP68 protection rating.
- ✓ More than 2 times the overpressure, and up to 5 times the overpressure for a range of less than 5 meters.
- ✓ Anti-interference and lightning strike protection design.
- ✓ High precision, high stability, and high reliability.



Application areas

- ✓ Petroleum, chemical, and power industries.
- ✓ Urban water supply, hydrological exploration, geology.
- ✓ Industries such as fluid pressure detection and control.

External structure: (unit: mm)



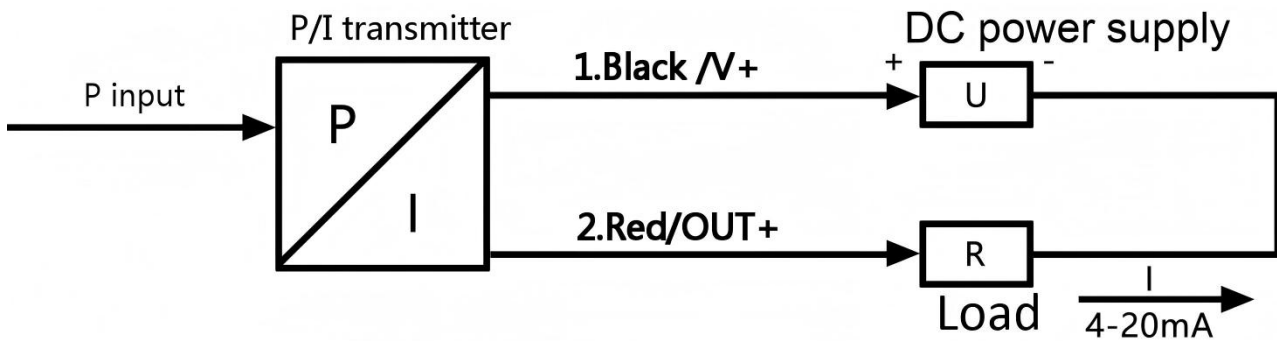


Technical parameters:

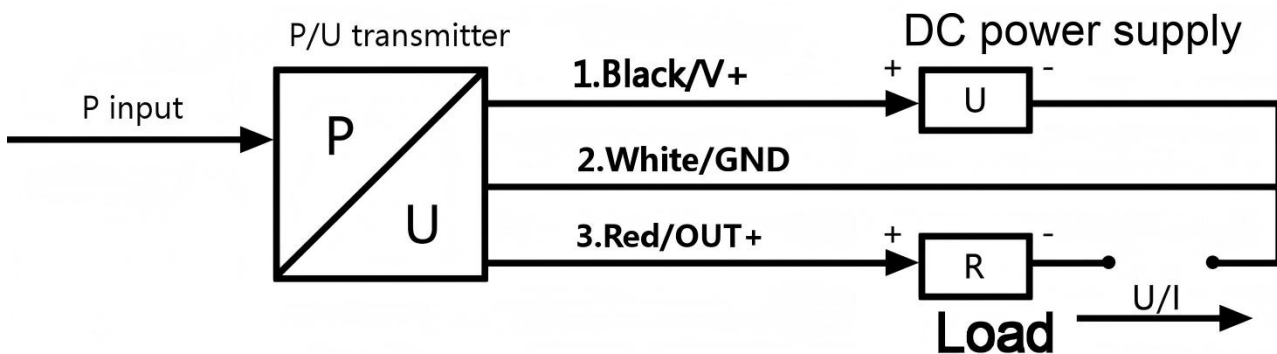
Pressure parameters		
Range	0 mH2O ~ 1 mH2O...200 mH2O	
Overload	2 times full-scale pressure, 5 times overpressure for ranges including 5 mH2O.	
Electrical parameters		
Output type	Current type	Voltage type
Power supply	9~30V DC	12~30V DC
Output signal	4mA ~ 20mA DC (two-wire system)	0/1V~5/10V DC (three-wire system)
Load resistor	≤ (U-9) /0.02 Ω (two-wire system)	≥10k (three-wire system)
Structural parameters		
Enclosure	Stainless steel	
Sensor	316L stainless steel	
Sealing ring	Fluororubber	
Cable	∅ 7.5mm polyethylene special cable	
Protection level	IP68	
Environmental conditions		
Media suitability	Various fluids that do not corrode 316L stainless steel and fluororubber	
Compensation temperature	-10℃~80℃	
Operating temperature	-20℃~85℃	
Storage temperature	-40℃~125℃	
Performance indicators		
Accuracy	±0.25% FS (Typical)	±0.5%FS (Maximum)
Zero point temperature error	±0.05%FS/℃ (≤5 mH2O)	±0.02%FS/℃ (>5 mH2O)
Sensitivity error	±0.05%FS/℃ (≤5 mH2O)	±0.05%FS/℃ (>5 mH2O)
Long-term stability	±0.3%FS/year (maximum)	

Electrical connection

The electrical connection method for a two-wire 4-20mA ADC output is shown in the following figure:



A three-wire 0/1 ~5V DC output transmitter is shown in the figure below :



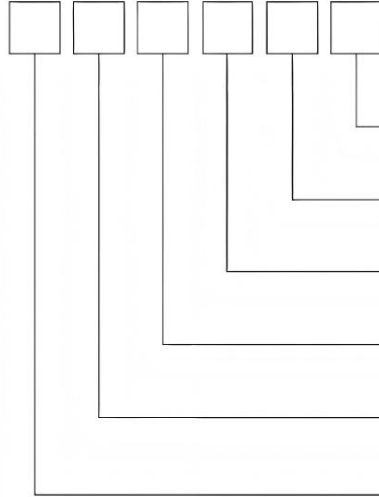
Terminal block definition :

Cable color	Two-line system	Three-line system
Black	Positive power supply: +V	Positive power supply: +V
Red	Signal: + OUT	Positive output: + OUT
White	null	Public side: GND



Selection Guide

AI-LE-



(see the table below for details)

Structural materials

Pressure type

Pressure interface

Output method

Output signal

Measurement range

Item number	Range ability	Output signal	Output mode	Pressure interface	Pressure datum	Structural material
AI-LE	[0~40]MPa	E	B2	C2	G	22

Illustrate:

Item number: AI-LE- [0 ~ 40] MPa – E – B2C2G – 22

Product model: AI-LE General series of submersible level transmitters; **Range ability:** [0~40]MPa;

Output signal: 4-20mA; **Output mode:** Connector output;

Pressure interface: G1/4 internal/external thread; **Pressure datum:** Gauge pressure type;

Structural material:

Interface: Stainless steel 316L, shell: Stainless steel;

Range ability	Measurement rang: 0MPa~10MPa~40MPa [0 ~ X] bar X: Actual measurement range	
Output signal	E	4mA ~ 20mA DC
	J	0V ~ 5V DC
	K	0.5V ~ 4.5V DC
Output mode	B2	Connector output



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	B4	The cable is connected to the output
Pressure interface	C1	M20*1.5 Internal/external threads
	C2	G1/4 Internal/external threads
	C3	G1/2 Internal/external threads
Pressure interface	G	Gauge Type
Structural material	22	Interface: Stainless steel 316L Shell: Stainless steel
	24	Interface: Stainless steel 316L Shell: Stainless steel 316L

Selection tips:

1: Please try to fully understand the medium conditions, pressure range, and other operating status of the pressure detection point. Avoid unnecessary losses caused by improper use of the product.

2: Although the product is designed with various protective measures, for extreme applications, such as applications with strong lightning strikes, the power supply should be reliably grounded and a large-scale lightning protection device should be installed to minimize the probability of product failure.

3: If there are any special requirements regarding electrical interfaces, on-site installation methods, etc., please communicate with the sales engineer in advance to select the appropriate model.

4: For products with special applications, our company can provide special design and manufacturing services. Customers are welcome to inquire and discuss.



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After-sales service



Business Phone: 18157343325 Lila Xu

Technical Phone: 18057302496 Wailly Yang

E-mail: sales@king-sen.com

Office website: www.asyjsx.com

Address: Room 302, Building 11, No. 79 Jinsui Road,
Economic and Technological Development Zone,
Jiaxing , Zhejiang P.R. China

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