

KL78

Submersible Pressure Transmitter

Overview

This product is a level transmitter with a built-in ceramic capacitance sensor that the alumina is used for the pressure receiving part, which supports 4 to 20mA output by a dedicated amplifier.

Because this is a submersible level transmitter, it is possible to easily perform the level measurement by hanging directly in the liquid.

In addition, it is capable of using in combination with the level measurement receiver GC93 (sold separately).

Features

- Because the ceramic diaphragm without need for liquid seal is used for the pressure receiving part, this is a highly reliable product with high withstand pressure and high corrosion resistance.
- Zero adjustment can be easily performed. (atmospheric pressure zero reset and zero suppression)
- Compact and robust structure.
- Surge protection product that has resistance to electrical noise from the outside and induced lightning (1kV).

⚠ CAUTION

This product uses NBR as the wetted seal material and PVC for cable sheath material. Make sure these materials are compatible with process media.



Specifications

Media:

Fluids compatible with wetted parts

Installation environment:

Install in location where no gases or liquids may exist that have the potential to become flammable or ignitable under normal operating condition

Cable type:

φ11 Hollow cable

Please select from 5, 10, 15, or 20m for the cable length.

Wetted parts:

Case SUS316

Sensing diaphragm Alumina 96%

Gasket NBR

*FPM gasket is also available. Please contact us.

Cable sheath PVC (Polyvinyl chloride)

Flange SUS316

Stand SUS316

Chain SUS304

Water level range:

0 to 1m (9.8kPa) → 0 to 10m (98kPa)

Operating temperature range:

-5 to 50°C (No freezing)

Power source:

24 V DC ±10%

Output:

4 to 20mA DC (2 wire system)

Load resistance:

500Ω or lower

Transmission system:

2 wire system

Zero reset:

Short-circuit between the dedicated line and power negative terminal

Accuracy:

±1%F.S.

Temperature coefficient:

Zero ±0.05%F.S./°C

Span ±0.05%F.S./°C

Weight:

Body Approx. 1kg (Cable Approx. 140g/m)

Water level range, Water level detection range, Zero adjustment range, Accuracy and allowable load pressure:

Water level range	Water level detection range	Zero adjustment range*1	Accuracy (±1%F.S.)	Allowable load pressure
0 to 1m (9.8kPa)	0 to 2m (19.6kPa)	0 to 1m (9.8kPa)	±0.01m	5m (0.05MPa)
0 to 3m (29.4kPa)	0 to 5m (49kPa)	0 to 2m (19.6kPa)	±0.03m	15m (0.15MPa)
0 to 5m (49kPa)	0 to 8m (78.5kPa)	0 to 3m (29.4kPa)	±0.05m	25m (0.25MPa)
0 to 10m (98kPa)	0 to 15m (147kPa)	0 to 5m (49kPa)	±0.1m	50m (0.5MPa)

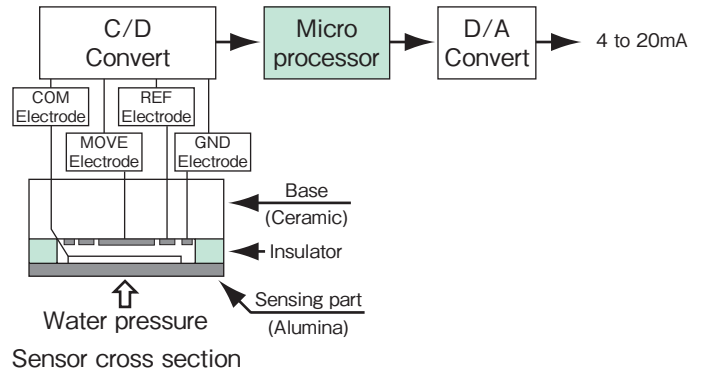
*1 Zero adjustment is performed with the dedicated line.

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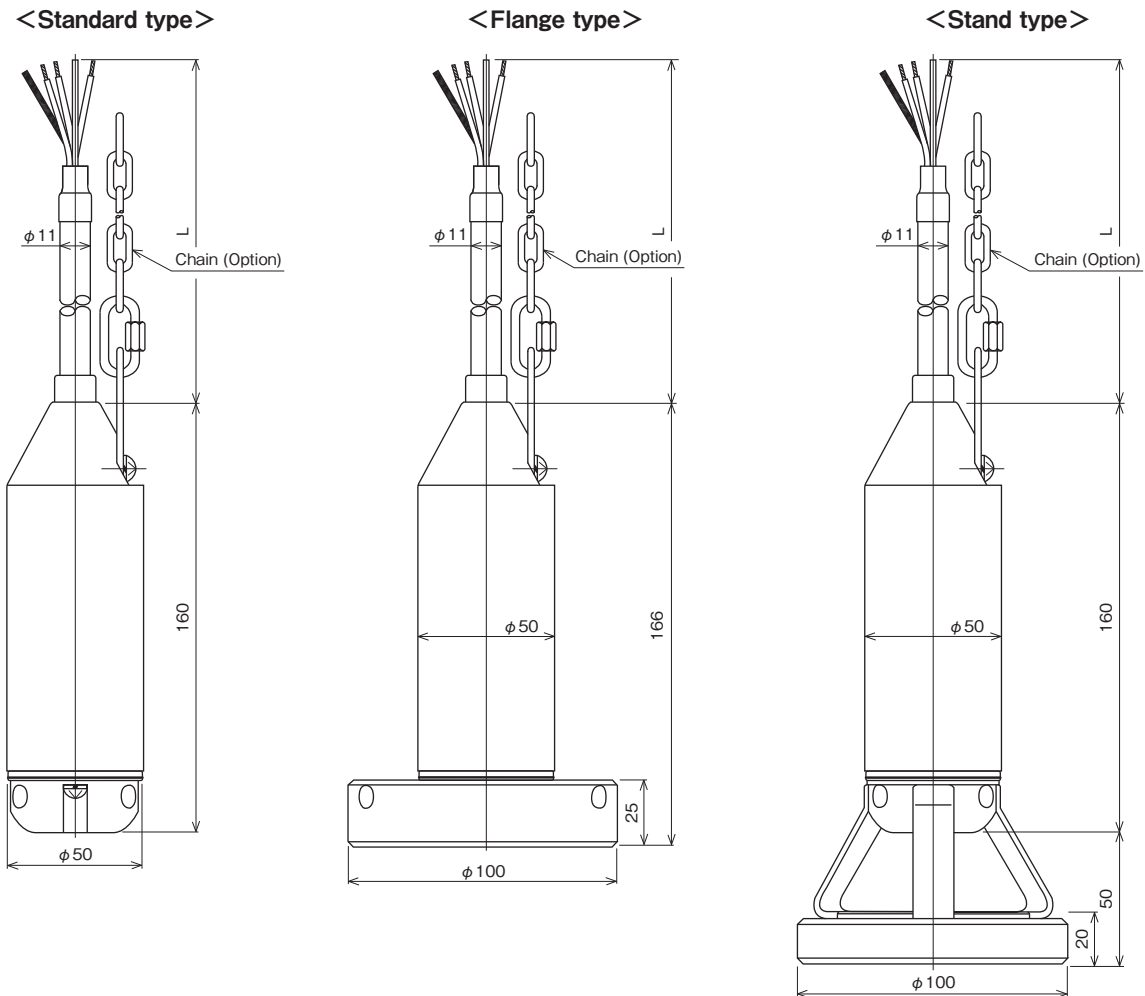
Measuring principle and function

- The water pressure change is detected as a capacitance change of the diaphragm. With regard to accuracy, it has small hysteresis and excellent reproducibility, and further excellent temperature characteristics.
- The suppression can be arbitrarily performed within the zero adjustment range by the zero reset signal.
- Reset signal is easily sent by simply inputting to the negative (-) side of the power source.

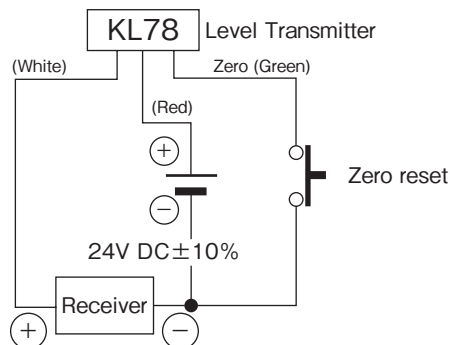


Dimensions

Unit: mm



Wiring



KL78

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Model number configuration

Please specify the model number, each spec. and the water level range for ordering.

Model

Submersible Pressure Transmitter

Model number: **KL78** — **1** **3** — **7** **1** **1** × × × × ×

Model number		Product specifications		Additional specifications (Optional)		
① Case	1	SUS316				
② Type (Outer DIA.)	1	Standard				
	2	Flange (Outer DIA. 100mm)				
	3	Standard (50mm)				
③ Wetted parts	3	Case: SUS316 Sensing diaphragm: Alumina 96% Gasket: NBR Cable sheath: PVC (Polyvinyl chloride)				
④ Water level range	1	0 to 1m (9.8kPa)				
	2	0 to 3m (29.4kPa)				
	3	0 to 5m (49kPa)				
	4	0 to 10m (98kPa)				
⑤ Accuracy	7	±1.0%F.S.				
⑥ Power source	1	24V DC±10%				
⑦ Output	1	4 to 20mA DC 2 wire system				
⑧ Wire length	1	5m				
	2	10m				
	3	15m				
	4	20m				
⑨ Other additional spec.	0	Not required				
	1	Required Chain (/m) (Mounting clamp)				
⑮ Documents	0	Not required				
	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Inspection procedure Calibration test report (One-part one sheet) Inspection certificate Attending inspection				

Please specify applicable range code as well as water level range along with engineering unit.

* Specify code "X" to refer N/A