

IMMERSION TYPE LEVEL METER

DATA SHEET

FQK

This level meter is used for measuring the level of underground water, river, clean water, sewage or industrial waste water. It measures the level in the form of water head pressure, converts it into a current signal and then transmits it to a receiving instrument.

The detector is either suspended in the water or placed on the bottom of the water. The water head pressure acting on the diaphragm is measured via a diffusion type silicon strain gage.

FEATURES

1. Compact, lightweight and highly reliable

Use of a diffusion type silicon strain gage in the pressure receiving section makes the instrument compact, lightweight, and strong against vibration and shock, and it can be installed anywhere.

2. Easy to install

Since the detector is small and light, it can be readily lowered into or lifted out of the water via a cable; use of a chain is unnecessary. For placing it at the bottom of the water, the detector can be attached to a stand to keep it stable.

3. Easy to adjust

The construction of the instrument enables easy adjustment of zero point, span and damping in the field.

4. Usable for any kind of water

This level meter can be used for clean water, sewage water, industrial water, agricultural water, industrial waste water, river water or underground water etc.

5. Arrestor is built-in.

SPECIFICATIONS

Measuring range: 0 to 3, 5, 10, 20, 30m
(water density: level message of "one")

Material: Detector; Pressure receiving diaphragm
316L stainless steel
Other wetted parts
304 stainless steel
Cable PVC covering
Stand 304 stainless steel

Transmitter:
Aluminum alloy (epoxy-polyurethane double coating, silver)
(Field indicator cover; black N3)

Output signal: 4 to 20 mA DC

Allowable load resistance:
0 to 550Ω(at power supply of 24V DC)



Transmitter



Detector

Power supply: 24V±10%DC, 0.48W
(100V or 24V±10%AC, 50/60Hz, is also usable. See "Example of configuration".)

Wiring system: 2-wire system

Liquid temperature:
0 to 30°C

Ambient temperature:
-20 to +60°C

Ambient temperature:
Less than 90% RH

Damping: No damping, or damping with time constant of 0.8, 2.2, 6 sec; selectable in 4 steps

Zero adjustment, span adjustment width:+1.5m
(Upper limit of span: 30 m)
(Lower limit of span: 3 m)

Transmitter waterproof structure:
JIS C 0920 immersion-proof type

External dimensions:
Detector: φ43 x 185mm
Transmitter(H x W x D);
110 x 160 x 185mm

Mass {weight} approx:
Detector; 0.8 kg
Transmitter; 3.5 kg
Cable; 0.3 kg/m

Mounting method:
Detector; Suspended in water or placed at water bottom

Transmitter;
 Mounted horizontally or vertically on
 50A(2B) pipe with U-boit

Repetitive discharge;
 400 times at 8 x 20μs, 100A
 15 sec intervals
 Earthing resistance; Less than 100Ω

Conduit connection:

JIS G1/2

Arrester: Built in

Protective performance:

Voltage limit;
 Between lines: 50V or less
 For earth and line: 200V or less
 Operation delay;
 Less than 0.5μs
 Max. discharge current;
 8 x 20μs, 2000A

Optional specifications

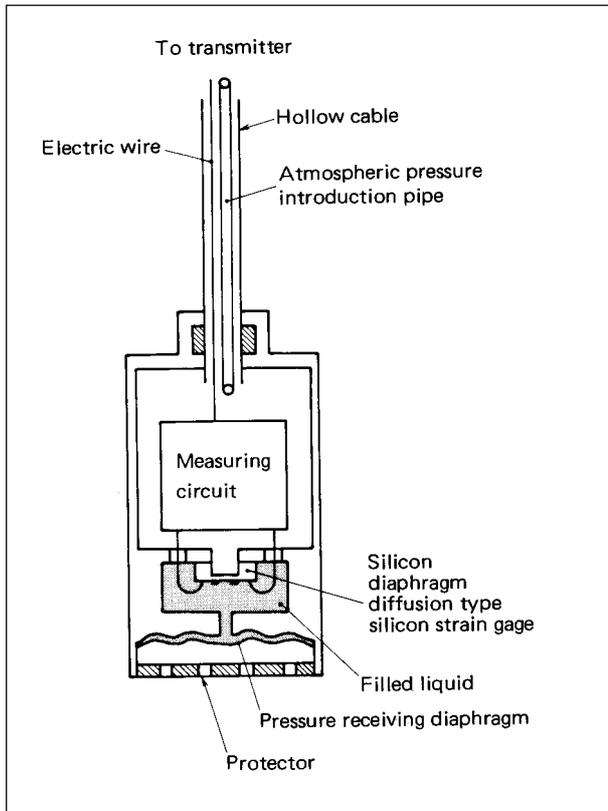
Field indicator: Built in transmitter case, class 1.5, 0 to 100%
 linear scale or actual-value scale

Detector stand: For installing detector at water bottom;
 304 stainless steel, approx. 1.8 kg

Characteristics

Accuracy: ±0.5% max.(under standard conditions)
Sensitivity: ±0.05% max.
Allowable over-pressure:
 150% of measuring range

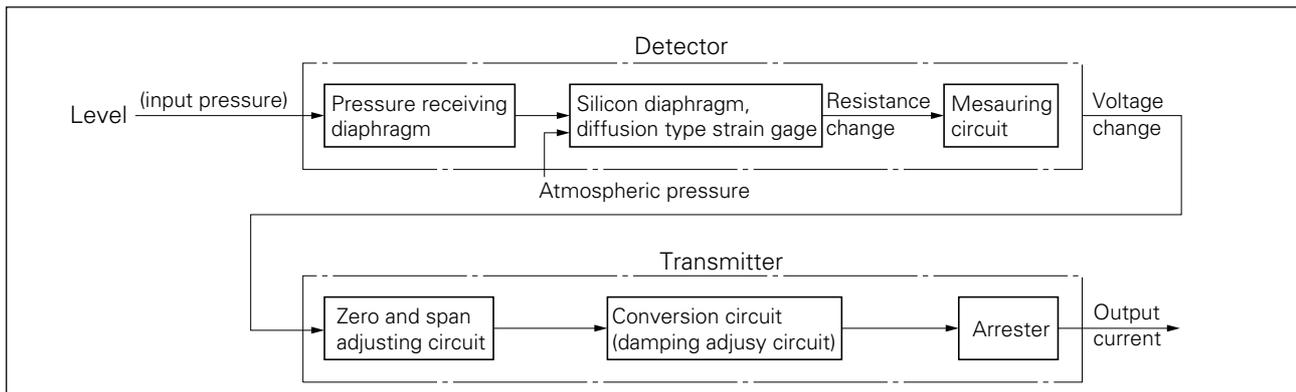
OPERATING PRINCIPLE OF DETECTOR



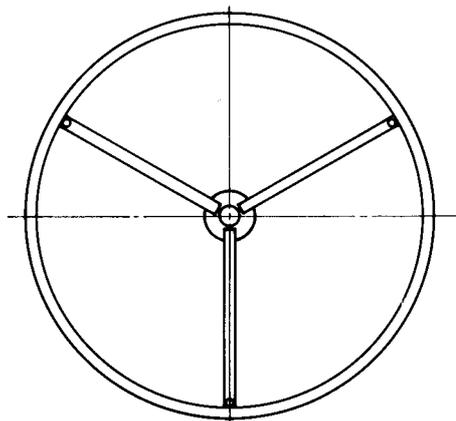
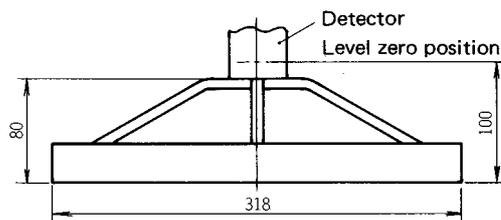
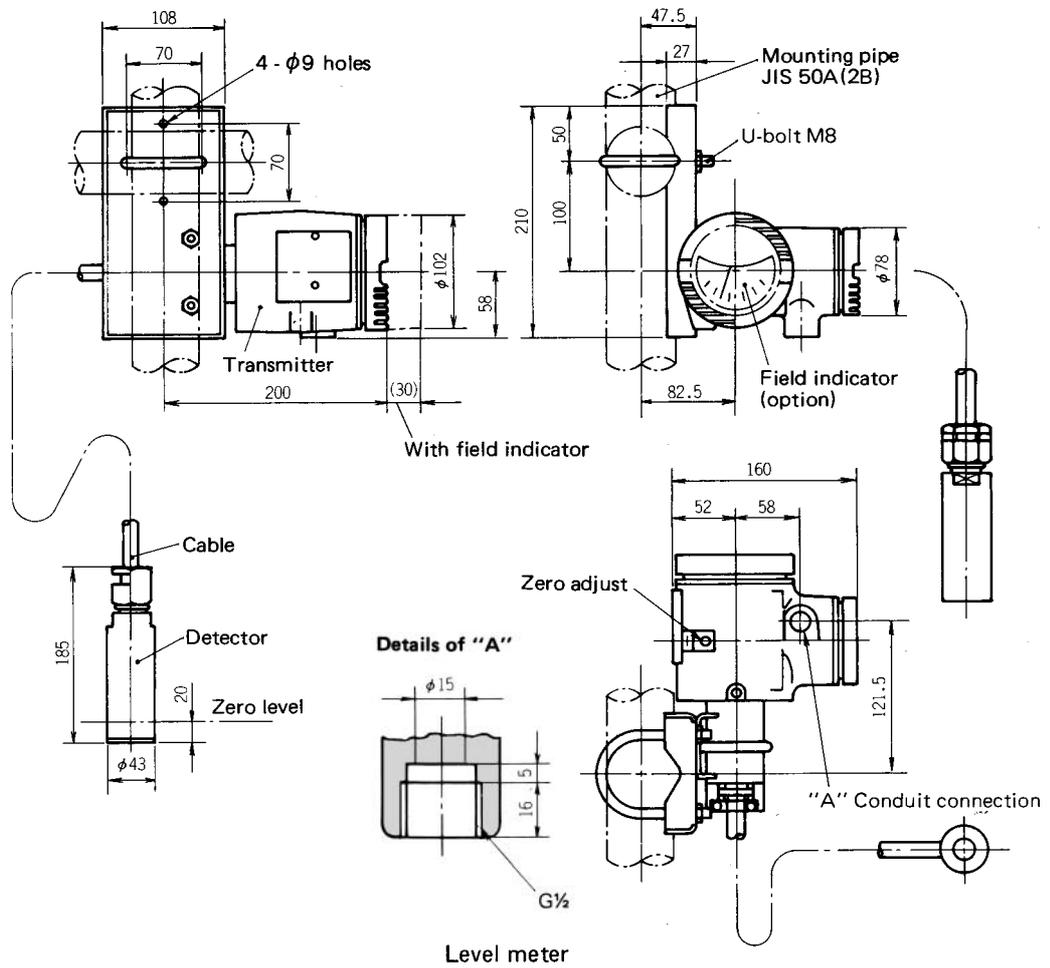
CODE SYMBOLS

1 2 3 4 5 6 7 8 9 10										Description				
F	Q	K				W	2	-					Measuring range [m]	
													1	0 to 3
													2	0 to 5
													3	0 to 10
													4	0 to 20
													5	0 to 30
														Hollow cable length L [m] (total length=measuring range + L)
													1	Measuring range + 5 (basic)
													* 2	Measuring range + 10
													* 3	Measuring range + 20
													* Z	Measuring range + specified value (total length must be 100m or less)
														Transmitter and field indicator
													A	4 to 20mA
													D	A with field indicator (0 to 100% linear scale)
													E	A with field indicator (m actual-value scale)
														Option
													0	None
													1	With detector stand
														Treatment
													Y	None
													* B	Acid and alkali-proof treatment (transmitter and mounting parts)

FUNDAMENTAL BLOCK DIAGRAM

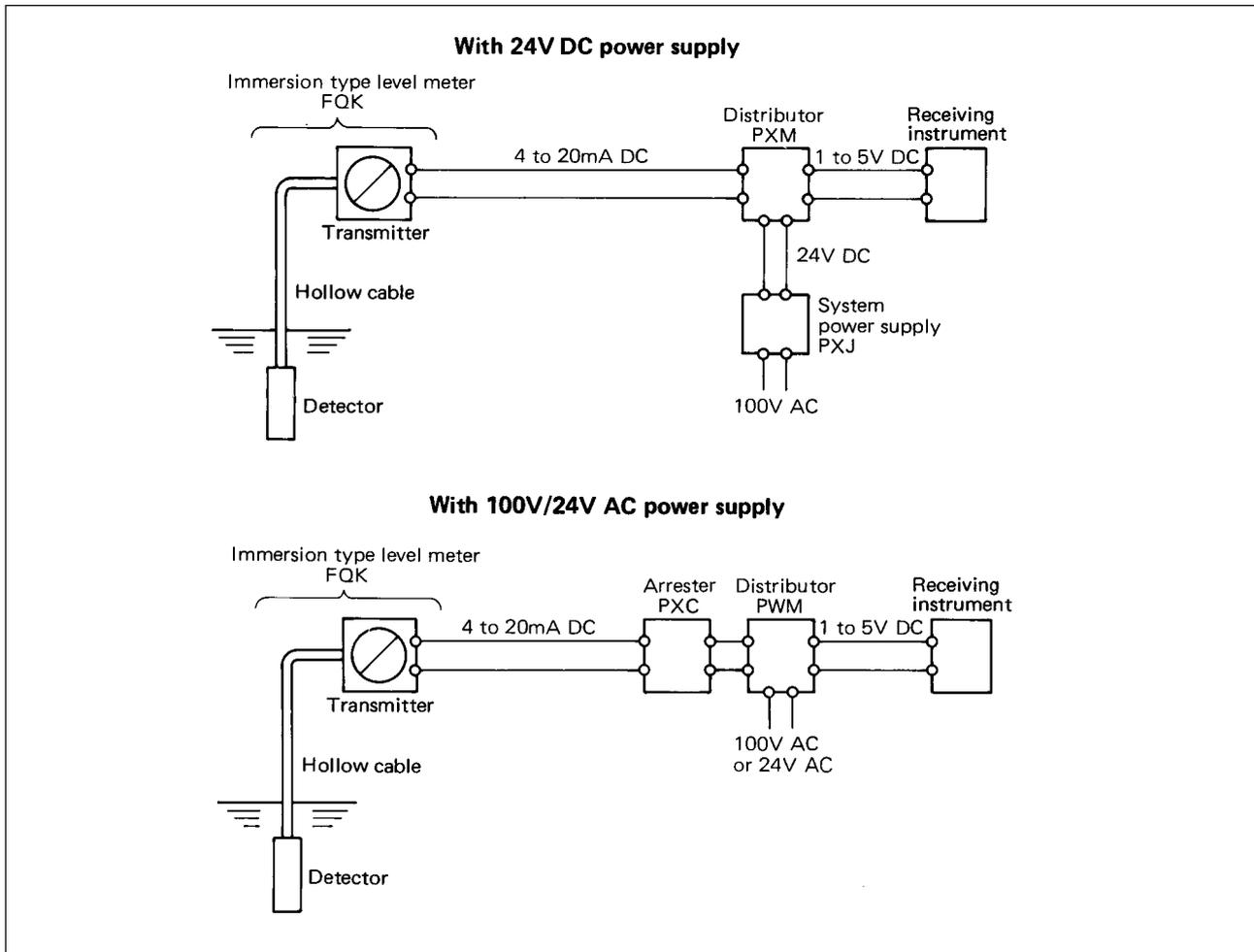


OUTLINE DIAGRAM (Unit:mm)

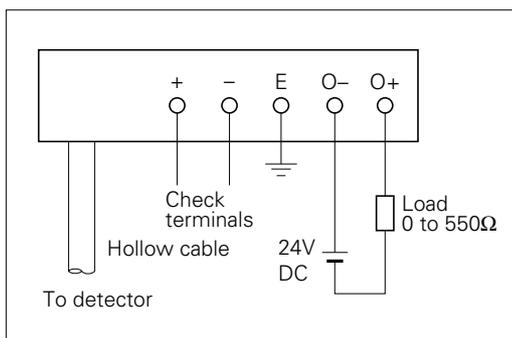


Detector stand

EXAMPLE OF CONFIGURATION



EXTER CONNECTION DIAGRAM



*Asterisked items; Non standard

⚠ Caution on Safety

*Before using this product, be sure to read its instruction manual in advance.

RELATED DEVICES

Opener
Distributor

ORDERING INFORMATION

1. Measuring object of application
2. Product name
3. Code symbols
4. Measuring range
5. Special specifications requirement
6. Other necessary items

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