

Quartz Type Water Level Gauge

(Water Temperature Correction Type)



- High accuracy and stability: Water level gauge equipped with a quartz oscillator
- Effect of density differences eliminated: Water temperature measurement and density correction with 6 temperature sensors
- Easy installation and maintenance: Temperature sensors integrated in water level gauge and sensor cable



In a water environment such as a dam, the water is deep and there are differences in water temperature in the depth direction, density differences occur due to the differences in water temperature. The density differences affect water level measurement by water pressure.

The water level gauge measures water temperature with a total of six temperature sensors, one inside the water level gauge and five inside the sensor cable, and it is equipped with a water level gauge coder for density correction.

Specifications

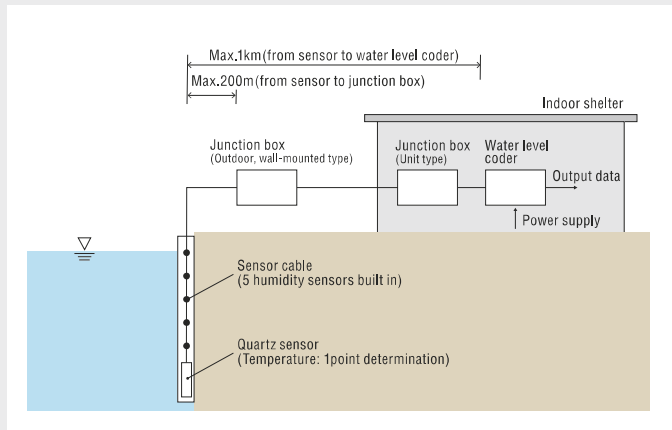
■ Quartz sensor

Model	QSR-10 (measuring range 0 to 10m) QSR-20 (measuring range 0 to 20m) QSR-30 (measuring range 0 to 30m) QSR-50 (measuring range 0 to 50m) QSR-70 (measuring range 0 to 70m)
Accuracy	$\pm 0.05\%FS \pm 0.02\%FS$: QSR-H□□ $\pm 0.01\%FS$: QSR-S□□ (The QSR-S30, S50, and S70m are limited-production models.)
Temperature coefficient at 0 point	$\pm 0.0007\% FS/^{\circ}C$
Temperature sensitivity coefficient	$\pm 0.0049\% FS/^{\circ}C$
Overload resistance	120%FS
Temperature sensor	(1) Built in the water level sensor 1) Detecting system: Quartz type 2) Accuracy: $\pm 1^{\circ}C$ 3) Quantity: 1 point determination (2) Built in the sensor cable 1) Detecting system: Platinum resistance (Pt100 Ω) 2) Accuracy: $\pm (0.15 + 0.002t)^{\circ}C$ 3) Quantity: 5 points determination
Power supply	DC12V (DC10.5 to 16.5V)
Operating condition (temperature)	-10 $^{\circ}C$ to 60 $^{\circ}C$ (No freezing)
Material	SUS316L or Titanium
Dimensions	$\phi 60 \times 240$ mm
Weight	2.5 kg or less (sensor body)
Cable	Sheath material: Heat-resistant vinyl Outer diameter: Approx. $\phi 13$ mm (finished outer diameter) Length: Maximum 200m (1 km maximum with the cable to connect the junction box with the water level gauge coder)

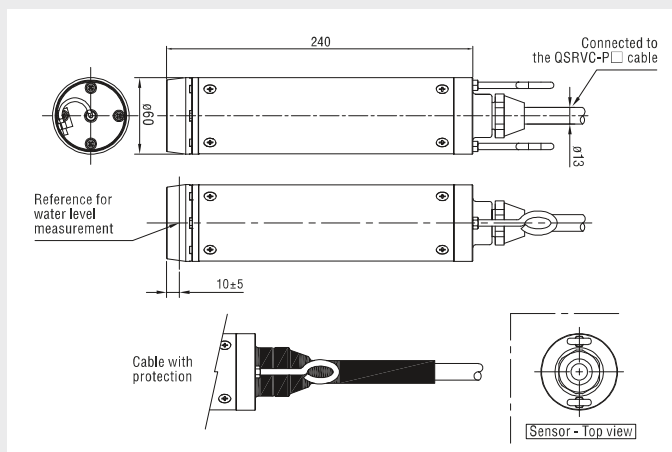
■ Water level coder

Model	WLCR-Q1-A B C D E F G A) Analog output 0: No, 1: 4 to 20mA, 2: 0 to 5V, 3: 0 to 10mV B) BCD output 0: No, 1: Yes 1 for each, 2: Yes 2 for each, 3: Yes 3 for each, 4: Yes 4 for each C) Comparison output 0: No, 1: Yes D) Printer 0: No E) SD Card slot 0: No, 1: Yes F) Power supply D1: DC12V, A1: AC100V G) Serial output Blank: RS-232C, R4: RS-422
Display • Operation	LCD touch panel
Processing functions Average calculation	None averaging Moving average 20 sec, 1 min, 5 min, 10 min (every 1 sec) or (every 2 sec) Weighted average 5 sec, 10 sec, 15 sec (every 1 sec) Level Setting -999.999m to +999.999m
Input	(1) Built in the water level sensor 1) Number of input : 1 channel 2) Sensor type : Quartz type (2) Built in the sensor cable 1) Number of input : 5 channel 2) Sensor type : Resistance temperature detector
Power supply	DC12V (10.5 to 16.5V)
Operating condition (temperature)	-10 $^{\circ}C$ to 50 $^{\circ}C$ (No freezing)
Material	SECC
Dimensions	480W×99H×300D mm (excluding protruding parts)
Weight	7.0 kg or less

■ Configuration diagram



■ Quartz sensor



■ Water level coder

