

DATASHEET

Level

Water Level Temperature Monitoring Recorder

Level&Temperature

Model PWL755C



Description

PWL755C Pressure Water Level Meter is a groundwater level and temperature monitoring instrument that can be powered by external power or internal battery. It can be used to record water depth (pressure) and temperature for a long time. PWL755C is fully made of stainless steel and is consisted with water level sensor and temperature sensors, built-in large-capacity non-volatile memory and high-capacity long-life lithium battery.

PWL755C water monitoring recorder is an integrated immersion structure with a shielded air-conducting cable. Since the cable is generally long, steel wire is added to the cable to increase the tensile strength and improve reliability. It is suitable for long-term monitoring of water level and temperature in surface water, groundwater and marine environment.

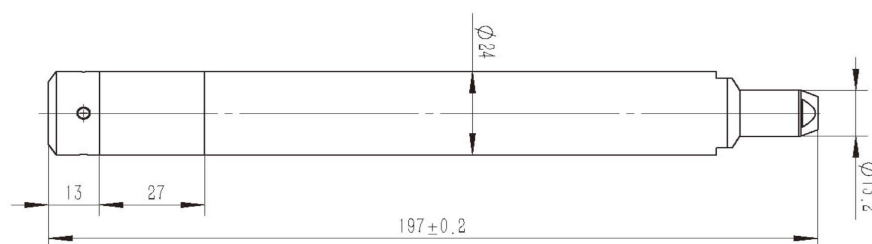
Application

- Groundwater level and temperature monitoring
- Flood control level monitoring in coastal cities
- Reservoir and dam water level
- Lake and surface runoff water level monitoring
- Unmanned hydrological monitoring stations
- Real-time monitoring of liquid level in tanks
- On-site liquid level monitoring of industrial control systems

Features

- Dry capacitive ceramic sensor
- Strong overload resistance, corrosion resistance, high long-term stability
- High accuracy: Level 0.05%F.S., resolution 0.005%FS; Temperature $\pm 0.2^{\circ}\text{C}$, resolution 0.05 $^{\circ}\text{C}$
- Temperature compensation in the full temperature range, full-scale digital calibration
- Wide power supply, 5-30VDC, power reverse protection and surge voltage protection
- RS485 Modbus RTU protocol, support DCS or PLC system
- Internal cyclic storage records 50,000 Pieces(water level, water temperature, time, battery voltage)
- Low power consumption, working current in standby $< 5\mu\text{A}$, working current 4mA
- All stainless steel (or titanium alloy) shell sealed structure, IP68 protection

Dimensions (mm)



Electrical Connection

Wire Color	Definition
Red	Vcc
Yellow	Vcc-
Blue	RS485 A
Green	RS485 B

Specifications

Main Characteristics	
Sensing Element	Dry capacitive ceramic sensor
Level Range	0~10mH ₂ O...0~100mH ₂ O (Or other)
Water level accuracy	±0.05%F.S.
Resolution	0.005%F.S.
Pressure Type	Gauge/Absolute
Long stability	<±0.05%F.S./year
Safe Overload	>500%FS
Record Frequency	1~5760 minutes
Temperature Accuracy	±0.2℃ (0~70℃)
Temperature Resolution	0.05℃
Built-in Battery Life	10 years (Record once/60 minutes)
Storage Capacity	>50,000 pieces record (Water level+water temperature+water pressure+battery voltage+time)
Real-time Clock	<±5 minutes/year
Temperature Characteristics	
Compensation Temperature	0~50℃
Operating Temperature	-20~85℃
Storage Temperature	-40~125℃
Electrical Characteristics	
Power Supply	External voltage: DC5~30V
	Internal battery: 2.7~3.6VDC
Power Protection	Reverse polarity protection and over-voltage protection, Anti surge 2KV
Communication	RS485 Modbus RTU, via a data reader to download data to computer
Load capacity	128 device addressing nodes
Transmission Distance	1,000 meters
Standby Current	<5μA
Working Current	About 4mA
Insulation	100MΩ @50V
Mechanical Characteristics	
Sensor Service Life	>10 ⁷ recycles of full range pressure
Wetted Parts Material	Alumina ceramic gold plating
Sealing Ring Material	Viton
Housing Material	316L stainless steel or titanium(optional)
Cable Material	PU or PVC
Measurable Medium	Compatible with 316L stainless steel and Viton
Weight	About 300g (excluding cable)
IP Rating	IP68

Note for power supply

The external power supply can be 5VDC~30VDC, and it has reverse polarity protection function;

It supports intermittent power supply mode; Equipped with a 3.6V lithium battery inside, and when there is no external power supply, it is powered by the battery and measures and records at set time intervals.