

HR8801 Water Level and Temperature Recorder

Overview

HR8801 Water level and temperature recorder is a groundwater monitoring instrument which can be either external powered or internal battery self-powered, it is used for the long-term recording of the depth (pressure) and the temperature. The transmitter contains the water level and temperature sensor, built-in large capacity non-volatile memory and high capacity long-life lithium battery, its entire stainless steel structure enables all functions are integrated inside a metal casing, it applies to measure the surface water, groundwater, as well as the water level of marine environment.

Features

- Dry capacitive ceramic sensor
- Strong overload capability, preservative
- Nice stability on long-term service
- High precision, up to 0.05% F.S
- Full temperature compensation, full scale digital calibration.
- Wide power supply, 5 ~ 30VDC; anti - access protection and surge voltage protection
- RS485 standard MODBUS-RTU protocol, can be used in DCS or PLC systems;
- Internal recyclable record 5000(water level, temperature, time and power voltage)
- Low power consumption, dormant operating current <math><5\mu\text{A}</math>, operating current 4mA.
- Full stainless steel(or titanium alloy) shell seal structure, IP68 protection.

Specification

Main performance specification	
Water level range	0 ~ 10, 20, 50, 80, 100mH ₂ O
	User can specify range, and factory calibrate
Accuracy	±0.05%F·S
Resolution	0.005%F·S
Long-term stability	< ±0.05%F·S/year
Overload capacity	> 5X F·S
Recording frequency	1 ~ 5760minute
Temperature resolution	0.05°C
Accuracy of temperature sensor	±0.2 °C (0 ~ 70°C)
Internal battery life	10years (Record once /60 minutes)
Storage Capacity	> 50000sets data(water level, temperature, time and power voltage)
Real Time Clock	< ±5minutes/year
Temperature characteristics	
Compensation temperature	0 ~ 50°C
Working Temperature	-20 ~ 85°C
Storage Temperature	-40 ~ 125°C
Electrical characteristics	
Supply voltage	External power: 5 ~ 30VDC
	Internal power: 2.7 ~ 3.6VDC
Communication interface protection	2KV surge voltage
Load capability	128 device addressing nodes

output method	RS485 interface, MODBUS-RTU protocol
Transmission distance	1000m
stand-by current	< 5 μ A
Working current	About 4mA
Insulation	100M Ω @50V
Mechanical characteristics	
Sensor life	> 10 ⁷ times of full scale pressure cycle
Material in contact with liquid	Aluminium oxide ceramic gold plated
Sealing ring material	Fluoro rubber
Housing material	316L stainless steel or titanium alloy
Cable material	PU or PVC
Weight	About 300g

Electrical connections

Wire color	Red	Yellow	Blue	Green
Definition	V+	V-	RS485-A	RS485-B