HR8800 Water Level and Temperature Transmitter

HR8800 Water level 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, it ‘s entire stainless steel structure enables all functions are integrated inside a metal casing with the size of 24mm diameter ,it applies to measure the surface water, groundwater ,as well as the water level of marine environment. Using the ultra low power technology, it’s internal battery can be used for about 10 years, it provides RS-485 interface and MODBUS-RUT communication protocol.

Application Fields

·Monitoring the groundwater resources

·Real-time monitoring the water level of the the reservoirs and the large dams

·Monitoring the oceans, rivers , lakes ,as well as the surface water level

·monitoring unmanned hydrological sites

·The flood warning system

·The city flood control system

·Local level monitoring to the industrial process

Features

1. High stability sensor for liquid level measuring, nice stability on long-term service
2. High accuracy, up to 0.05% F.S;
3. The temperature measurement resolution is 0.05 C
4. The temperature compensation of full temperature range, the digital calibration of full range;
5. High overload capacity;

6.· Wide power supply, 5 ~ 30VDC;

7 .RS485 standard MODBUS-RTU protocol, can be used in DCS or PLC systems;

8. Low power consumption, dormant operating current <5 A;

9. Protection: anti - access protection and surge voltage protection

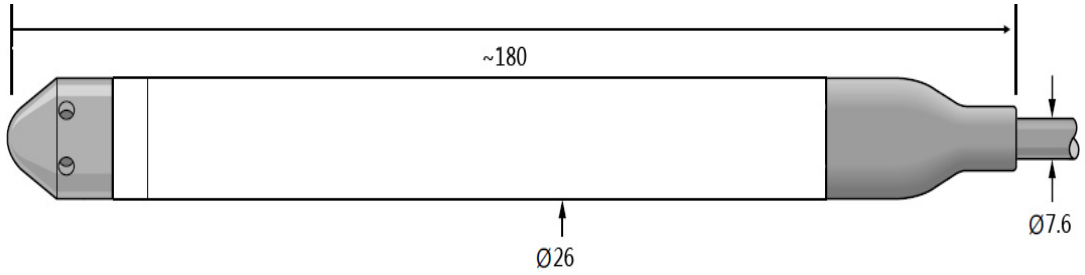
10. Entire stainless steel (or alloy) shell seal structure, IP68 protection.

Specification

Main performance specification	
Water level range	0～10、20、50、100mH_2O
	User can specify range, and factory calibrate
Accuracy	±0.05％F.S @20℃
Resolution	0.005％F.S
Long-term stability	＜±0.05%F.S/(Year)
Overload capacity	＞2X F.S
Recording frequency	1 minute～99 hours
Temperature measuring range	-40～125℃
Temperature resolution	0.05℃
Accuracy of temperature sensor	±0.25 ℃（-10～100℃）
Internal battery life	10years (Record once /60 minutes)
Storage Capacity	＞50000 sets data
Real Time Clock	＜±5minutes/year
Temperature characteristics	
Temperature Effect on Zero	0.005％ F·S/℃
Temperature Coefficient of Full Scale Span	0.005％ F·S/℃
Compensation temperature	-10～80℃
Working Temperature	-20～85℃
Storage Temperature	-40～125℃
Electrical Properties	
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	RS485 interface, MODBUS-RTU protocol
Transmission distance	1km
Standby Current	＜5μA
Working current	＜5mA
Insulation	100MΩ @50V
Mechanical properties	
Sensor life	＞10^6 times of full scale pressure cycle
wetted material	316L
Sealing ring material	fluororubber
Shell material	316L stainless steel (optional titanium alloy)
Cable material	Polyethylene
Weight	About 300g
Environmental characteristics	
Vibration	20g 20～5000Hz
Impact	20g 11ms
Protection Class	IP68

Outline Construction:（Unit:mm）



HR8800 can establish a remote monitoring system of groundwater level, which is composed of the following parts:

1. HR8800 automatic water level temperature recorder

2.The wireless data acquisition terminal (RTU)

3.Managing software for the underground water level remote monitoring system

With the GPRS network, using the underground water level monitoring system, the staff in the monitoring center can check the water level and the temperature datas of the groundwater. the managing software of monitoring center can finish the works such as remote data acquisition, remote monitoring, assuring the datas are all recorded into the database, and generate a variety of reports and curves.