



CDL-10B Submersible Liquid Level Transmitter

For weather automation applications



Features

- High accuracy, high sensitivity
- Fast response
- Good stability
- Strong resistance to interference
- Anti-corrosion material optional
- Low temperature drift
- Wide Temperature Range Compensation

CDL-10B Submersible Liquid Level Transmitter is with stainless steel isolation diaphragm diffusion silicon pressure core body, the pressure core body adopts the process of laser trimming resistor for a wide temperature range of zero and sensitivity temperature compensation. Special cable for air-venting conduit and waterproof technology ensures water tightness, and ventilation between inside and outside, so as to acquire accurate and stable measuring data.

Typical installation locations

- Agricultural irrigation
- Petroleum
- Power generation plant
- Urban water drainage

Design structure

The core component of the piezoresistive pressure level sensor is a varistor. When subjected to pressure, the resistance value of the varistor will change. When a varistor is connected to a bridge circuit, a change in the resistance value of the varistor causes the bridge to lose balance when a liquid acts on the sensor, producing an electrical signal that is proportional to the pressure. By amplifying, filtering and digitizing the electrical signal, the digital signal proportional to the height of the liquid level can be obtained, so as to realize the liquid level measurement.

Easy installation

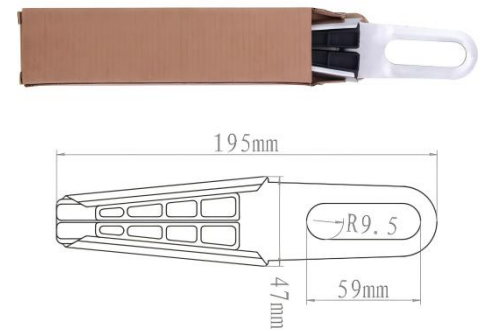
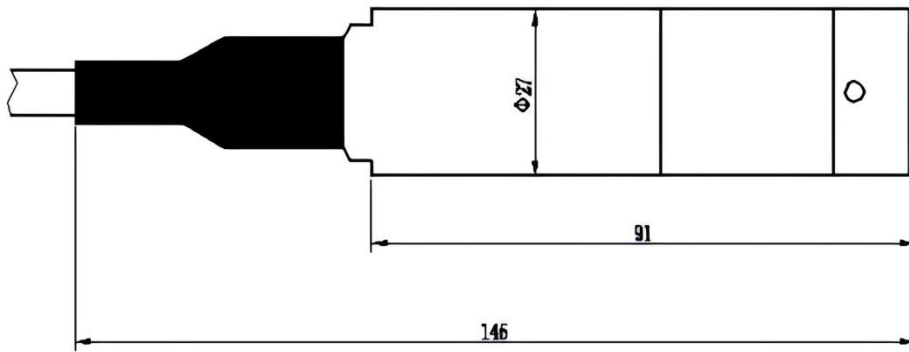
Direct input: If the static water level is measured and the bottom of the container is not affected by impurities such as silt, the sensor can be directly put into the bottom of the water tank (pool), and the cable can be fixed freely with nylon tape or three-pin adjustable mounting rack at the opening of the water tank (pool).

Reliable operation

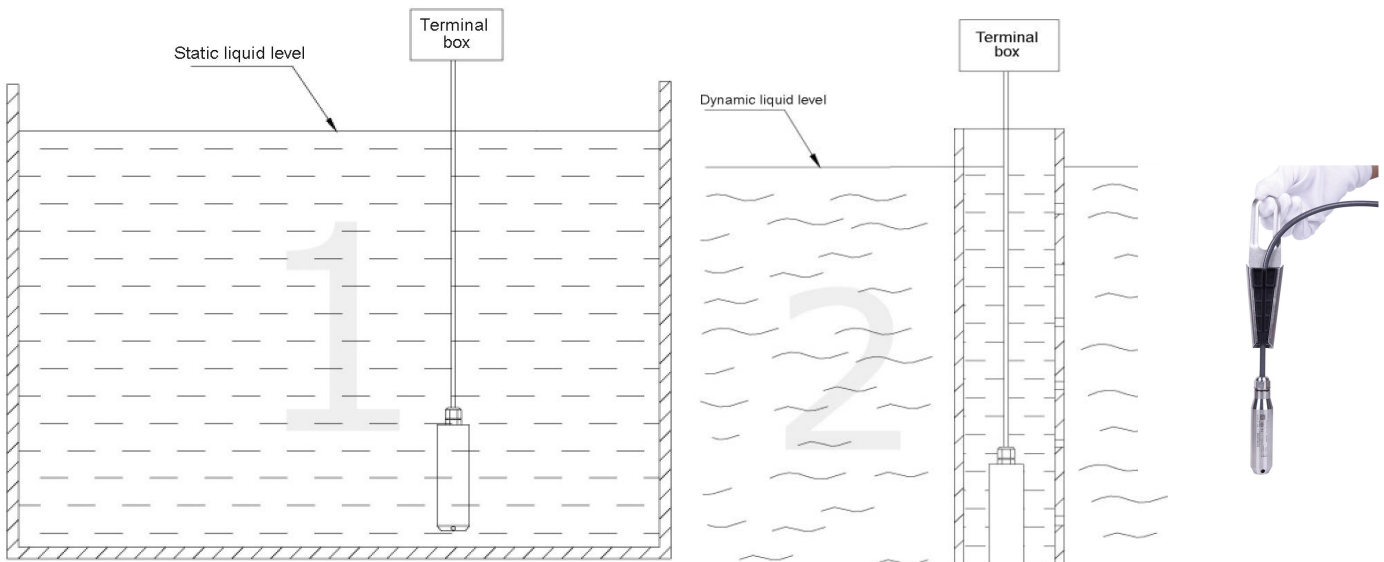
High-quality materials: Reliable pressure level sensors are usually made of high-quality materials, such as corrosion-resistant stainless steel, high-strength engineering plastics, etc. These materials can withstand a variety of harsh working environments, such as high temperature, high pressure, corrosive liquids, etc., to ensure the long-term stable operation of the sensor.

Dimensions

CDL-10B connector dimension



Installing



As shown in picture 1, when the sensor is installed in static water such as in pools, water towers, the probe is immersed into the bottom and should be as far as possible away from the pump or valves. The terminal box should keep above water surface and prevent water penetrating into cables. Please make sure the airway not be blocked.

As shown in picture 2, when the sensor is installed in dynamic water such as dams or rivers, the probe should be inserted into a steel pipe (inner dia is around 45mm), burrowing several holes at different height on the pipe side wall which is opposite to the water flow direction. The terminal box should keep above water surface and prevent water penetrating into cables. Please make sure the airway not be blocked.

Technical data

Measurement performance, models CDL - 10 B

Item	Technical specifications
Range	0 ~ 0.5m...200mH2O or 0 ~ 5KPa...2MPa
Output	4-20mA,0-5V,0-10V,RS485
Supply Voltage	10-30VDC,24V typ.
Over Pressure	2×FS
Measuring Medium	The liquid(not sticky) compatible with 316 stainless steel
Total Accuracy	0.1%FS,0.3%FS(0.25%FS),0.5%FS
Long-term Stability	0.1%FS/year typ.,0.2%FS/year max.
Ingress Protection	IP68
Operating Temperature	-40℃~ +80℃
Compensating Temperature	-10℃~ 70℃
Temperature Drifting	0.03%FS/℃ typ.,0.05%FS/℃
Cycle Life	1*10 ⁸ @25℃
Main Material	Sensor:316L,housing:304SS(316L is optional)
Cable	Outer material: PUR,Atmospheric pressure compensation cable, Polymer waterproof plug at cable end
Power Consumption	Current output:(U*0.02)W, Voltage output:(U*0.008)W, Digital output:(U*0.015)W
Load Capacity	Current output:≤(U-7)/0.02Ω, Voltage output:≥100kΩ
Weight(probe unpacked)	Approx. 230g
Storage Condition	10℃-50℃@20%-90%RH

Model number	Type	Output	Special features
CDF-10A	Wind speed	Pulses(PNP) RS485 4-20MA 0-5V	Three cup plastic wind speed
CDF-11A	Wind direction	RS485 4-20MA 0-5V	Plastic wind direction sensor
CDW-33A	Atmospheric Temperature, Humidity & Pressure	RS485	Shelter installation
CDQ-T6A	Miniature Ultrasonic Automatic Weather	RS485	Wind speed & direction temp & humidity & pressure
CDY-12A	Economical Tipping Bucket Rainfall	Pulses(@10kΩ&0.01uF),RS485	Diameter :φ200mm, height: 271mm
CDG-10B	Solar Radiation	0-5V,4-20mA,RS485	Spectral range:300~1100nm
CDG-12B	PAR sensor	0-5V 4-20mA RS485	Spectral range:400~700nm
CDG-13B	Ultraviolet(UV) Radiation	0-5V 0-10V 4-20mA RS485	Spectral range:280~400nm
CDL-10B	Submersible Liquid Level Transmitter	4-20mA,0-5V,0-10V,RS485	Range 0 ~ 0.5m...200mH2O or 0 ~ 5KPa...2MPa
CDL-12B	Radar Liquid Level Transmitter	4-20mA, RS485(MODBUS-RTU)	Range 10m,30m,50m,70m
CDL-13B	Ultrasonic Liquid Level Transmitter	4-20mA(2wires),4-20mA(4wires),RS485(4wires)	Range 5m,10m,15m,20m,30m
CDL-17B	Radar flowmeter	RS485(MODBUS-RTU)	Range 0.1 ~ 20 m/s & 0-45m

