



CDT-17B Soil PH Sensor

For weather automation applications



Features

- On-line & real-time monitoring
- Low impedance sensitive glass film
- RS485 and 4-20mA output at the same time
- Good repeatability and thermal stability
- Internal signal isolation, strong anti-interference
- IP68 Waterproof Standard
- Easy installation, simple
- Stable performance and long service life

CDT-17B pH sensor should be a good solution to measure pH value. It uses low-impedance sensitive glass, adopts internal signal isolation technology, has strong anti-interference ability, has good reproducibility, thermal stability, and does not require professional calibration instruments.

Easy installation, stable performance, can be used to continuously measure the pH value of the soil, suitable for agriculture and environmental protection and other fields.

Typical installation locations

- Environmental protection
- Agriculture
- Water conservancy
- Industrial wastewater treatment

Design structure

This type of soil pH sensor is a combination of a metal sensor and a functional value switching device. Metal sensor as the core of the hardware system, the detection electrode (sensor) directly in contact with the soil. In the soil, the REDOX reaction in the chemical reaction will generate current, and the size of the current value will drive the different pH unit data corresponding to the ammeter, and finally convert the host to show the results in the form of numerical values.

Easy installation

A representative soil location is selected for installation to ensure that the measurements reflect soil pH across the monitoring area. You can choose to install multiple sensors at different soil depths and different geographic locations to obtain more comprehensive soil pH information.

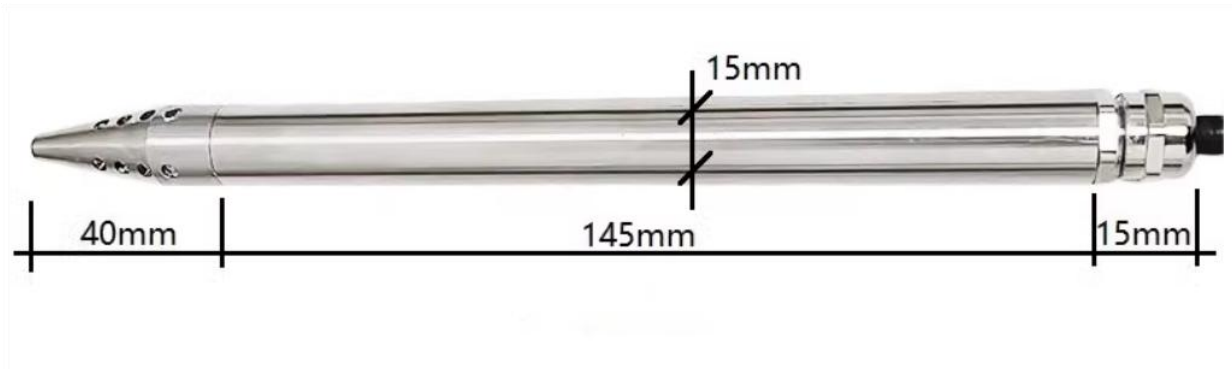
Avoid installing sensors near water, fertilizer, pollution sources, or other places that may affect measurement results. At the same time, it is necessary to consider whether the installation position of the sensor is easy to maintain and calibrate.

Reliable operation

Soil pH sensors require regular maintenance and calibration to ensure the accuracy and reliability of measurement results. The frequency of maintenance and calibration can be determined based on factors such as soil type, monitoring needs and sensor performance.

Dimensions

CDT-17B connector dimension



Electrode maintenance

PH electrode is not used at ordinary times and can be soaked in 3mol/l KCL solution or saturated KCL solution. It is strictly prohibited to immerse the electrode in distilled water and deionize the water or tap water with minimal plasma content. If the PH electrode is contaminated with inorganic substances, it can be cleaned with 0.1mol/l HCl or NaOH solution for a few minutes and then washed with distilled water. If the PH electrode is contaminated with organic substances, it can be cleaned with alcohol or acetone and then cleaned with distilled water. (note: the protective cap before the electrode should be removed when using);

Clean the electrode with tap water every 3 months or 6 months according to the working environment.

PH scale

PH value	Description	PH value	Description
<4.5	Strongly acidity	7.5-8.5	Faintly alkalinity
4.5-5.5	Acidity	8.5-9.5	Alkalinity
5.5-6.5	Faintly acidity	>9.5	Strongly alkalinity
6.5-7.5	Neutral		

Technical data

Measurement performance, models CDT - 17 B

Item	Technical Specification
Measurement Principle	Electrochemistry
Range	0-14PH
Supply	7-30VDC (power consumption<0.2W)
Accuracy	±0.05PH
Resolution	0.01PH
Response time	<10s (soil moisture>30%)
Stability	≤0.01PH/24h
Output Signal	4-20mA & RS485 at the same time
Calibration Cycle	Every 6 month
Operating Environment	0-+80℃(<0.6MPa)
Cable length	5m(default), customizable
Probe material	304SS
Ingress Protection	IP68
Storage	10-60℃@20%-90%RH

Model number	Type	Output	Special features
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
CDT-11A	PH sensor	0-2V 0-5V 4-20mA RS485	Probe: Φ28*160mm
CDT-12A	DO sensor	RS485 4-20mA	Range 0-20mg/L(ppm)
CDT-12B	DO sensor(calibrable)	RS485 4-20mA	Range 0-20mg/L(ppm)
CDT-14A	ORP sensor	RS485 4-20mA	Range -1500mV-+1500mV
CDT-15A	Suspended Matter	RS485	Range 0-200mg/L,0-1000mg/L,0-5000mg/L
CDT-17B	Soil PH sensor	RS485 4-20mA	Probe material:304SS
CDT-19B	Turbidity (SS) sensor	RS485 4-20mA	Wavelength of falling radiation: 860nm
CDT-21B	Soil EC_salinity	RS485 4-20mA	Probe material:316L
CDT-22B	Soil Moisture & Temperature	4-20mA ,0-5V,0-2V,RS485 optional	Probe material:316L
CDT-30B	Soil Moisture,Temperature & EC	RS485,0-2V	316L stainless steel
CDT-70B	Soil 7 in 1 Sensor	RS485	Soil Moisture,Temperature & EC & PH & NPK
CDT-1T2B	Seismic Detection Wave	0-20mV RS485	Natural Frequency(Hz):10±2.5%
CDT-1T3B	Soil layers temperature&moisture	RS485	Range 0-100℃ 0-70%
CDT-1T4B	TDS Sensor	RS485 4-20mA	Range 0-2000ppm
CDT-1T5B	Dissolved CO2 Sensor	RS485	Range 0-2000ppm
CDT-1T6B	Residual Chlorine	RS485	Range 2mg/L,8mg/L,20mg/L
CDT-N0C	Multi-parameter water quality Sensor	RS485	Multi-parameter integration

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