



CDW-22A Leaf Wetness Sensor

For weather automation applications



Features

- Reflect the water content of leaf
- Fog, freezing, condensation and rainfall can be detected
- Good waterproof sealing performance
- Long service life
- Multiple signal output options
- Good frequency response
- High level of protection (IP65, etc.)
- Flexible installation, easy to install and use in different places

CDW-22A Leaf Wetness Sensor is an important tool for observing and studying leaf wetness, preventing pests and diseases, and spraying sprinkler control. The accurate measurement of the moisture content of the leaf surface can be used to monitor the trace moisture or ice crystal residue. The shape of the sensor is simulated by the blade, which can simulate the characteristics of the leaf surface, so that it can reflect the situation of the leaf surface more accurately. By measuring the variation of the dielectric constant of the upper surface of the blade, the mist, water vapor and ice can be measured.

Typical installation locations

- Research on the growth
- Prevention of pests
- Foliar fertilization control
- Development of crops

Design structure

High precision thermistors or thermocouples are often used as temperature sensing elements. These components can quickly and accurately respond to temperature changes, and have good stability and reliability.

The shape of the probe can be customized according to different blade shapes, such as flat, needle, etc., in order to better fit the blade surface.

Easy installation

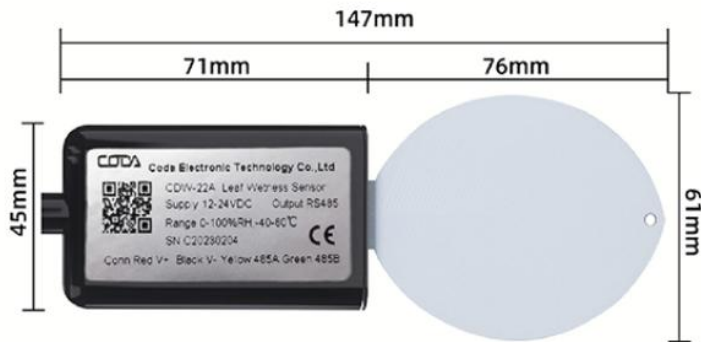
Choose leaves in the middle of the plant that are fully exposed to air and more evenly exposed to light. This ensures that the measurement results are more representative of leaf temperature and humidity conditions throughout the plant. The sensor is secured to the blade surface using special clamps, straps or tape. The clamp should be soft and will not cause damage to the blade, and ensure that the clamping force is moderate, neither loosening the sensor, nor hurting the blade.

Reliable operation

The structural design of the sensor should take into account the special environment and use requirements of the blade surface. For example, the compact and lightweight design is easy to install on the blade surface without placing too much burden on the blade. At the same time, the shell of the sensor should have good waterproof, dustproof and corrosion resistance, and can protect the internal components from the external environment.

Dimensions & installing

CDW-22A connector dimension



Installing



- Fixing method:

The sensor can be fixed to the blade surface using a special clip, binding or tape. The clamp should be soft and will not cause damage to the blade, and ensure that the clamping force is moderate, neither loosening the sensor, nor hurting the blade. The binding can be a choice of soft nylon tape or cotton thread, and the sensor is gently tied to the blade. Tape should be selected with moderate viscosity and no residual glue stains, and carefully pasted on the leaves to avoid affecting the normal physiological activities of the leaves.

- Installation Angle:

Ensure that the sensor is in full contact with the blade surface and the installation Angle is appropriate. In general, the sensing surface of the sensor should be parallel to the blade surface to ensure accurate measurement of the temperature and humidity of the blade surface. For blades of different shapes, the installation Angle can be adjusted appropriately so that the sensor can better fit the blade surface.

- Protective measures:

When installing the sensor, a layer of soft tissue paper or gauze can be placed between the sensor and the blade surface to prevent the sensor from directly touching the blade surface and causing damage. At the same time, a small protective cover can also be added to the outside of the sensor to prevent the impact of external factors such as rain and dust on the sensor.

Technical data

Measurement performance, models CDW - 22 A

Item	Technical Specification
Range	Wetness: 0-100% Temperature: -40-+80°C
Accuracy	Wetness: ±3%(0-50%),±5%(>50%) Temperature: ±0.5°C
Repeatability	<±3%FS
Temperature Drift	≤0.2%FS/°C
Supply	5VDC, 12-24VDC
Output	4-20mA, 0-5V, 0-2V, RS485
IP Rating	IP65
Operating Temperature	-40°C-+80°C
Dimension	65*13*145mm
Storage	-40-70°C@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
CDG-10B	Solar radiation	0-5V,4-20mA,RS485	Spectral range:300~1100nm
CDG-14A	Illuminance sensor	0-5V 0-10V 4-20mA RS485	Spectral range:380~780nm
CDY-12A	Economical Tipping Bucket Rainfall	Pulses(@10kΩ&0.01uF),RS485	Diameter :φ200mm, height: 271mm
CDW-10A	Wall-mounted Barometric Pressure	RS485,4-20mA,0-5V, 0-10V	Barometric range 600-1100hPa(mbar)
CDW-12A	CO2 sensor	4-20mA,0-5V,RS485	Range 0-2000ppm ,0-5000ppm,0-10000ppm
CDW-13B	Noise sensor	RS485	Range 30-130dB
CDW-14A	Paste Type Temperature	PT100 PT1000 RS485	Range -50-+100°C, -20-+50°C
CDW-21A	Dust sensor	RS485 4-20mA,0-5V,0-10V	PM1.0,PM2.5,PM10
CDW-22A	Leaf Wetness	4-20mA,0-5V,0-2V,RS485	Wetness: 0-100% Temperature: -40-+80°C
CDW-33A	Atmospheric Temperature, Humidity & Pressure	RS485	Shelter installation
CDW-15A	O2 Concentration	4-20mA,0-5V,0-10V,RS485	Range 0-30%
CDW-16A	SO2 Concentration	4-20mA,0-5V,0-10V,RS485	Range 0-20PPM 0-2000PPM
CDW-17A	NH3 Concentration	4-20mA,0-5V,0-10V,RS485	Range 0-100PPM 0-1000PPM 0-5000PPM
CDW-18A	H2S Concentration	4-20mA,0-5V,0-10V,RS485	Range 0-100PPM 0-1000PPM
CDW-19A	CO Concentration	4-20mA,0-5V,0-10V,RS485	Range 0-1000PPM 0-2000PPM
CDW-1T0	Visibility sensor	RS485	Range 0-10Km/0-20Km/0-30Km
CDW-1TX	Multi-in-one gas Sensor	RS485	Multi-parameter integration

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