

CWT Soil sensor manual

HC-A (analog type)



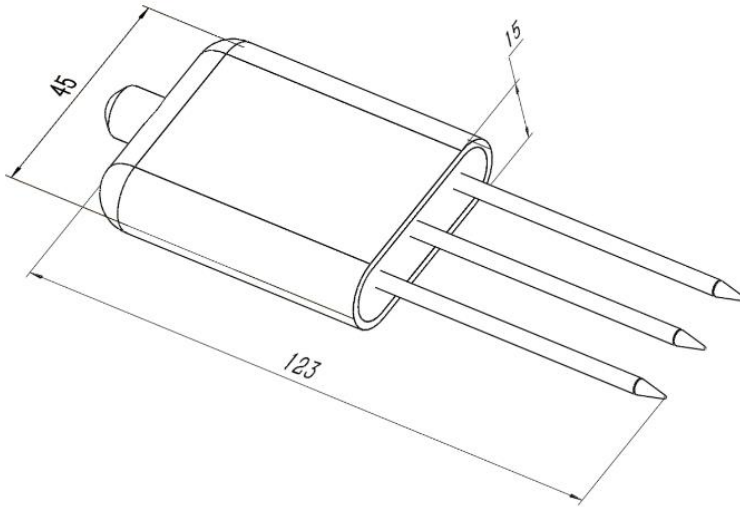
Soil parameters measuring

| | |
|---------------------|--|
| Humidity (moisture) | <ul style="list-style-type: none"> • Measuring range: 0-100%RH • Accuracy: 2% within 0-50%, 3% within 50-100% (@60%, 25°C) • Long-term stability: ≤1%RH/y • Response time: ≤4s |
| Conductivity (EC) | <ul style="list-style-type: none"> • Measuring range: 0-10000 us/cm • Accuracy: 0-10000 us/cm range is ±3% • Long-term stability: ≤1%uS/cm • Response time: ≤1s • Inside temperature offset sensor, range: 0-50°C |

Basic parameters

| | |
|-----------------------|--|
| Power supply | 4-20mA/0-5V type: DC10-30V 0-10V output type: DC18-30V |
| Max Power consumption | 4-20mA type: 0.4W (12V power supply) 0-5V type: 0.3W (12V power supply) |
| Protection class | IP68, long-term immersion in water use |
| Cable length | 2M |
| Operating environment | -40°C-80°C |
| Overall dimensions | 45 * 15 * 123mm |
| Output signal | Current output: 4-20mA Voltage output: 0-5V/0-10V |
| Load capacity | Current output: ≤600 Ω Voltage output: resistance ≤250 Ω |

Size



Wiring

| Cable color | description |
|-------------|---------------------------------|
| Brown | Power + (DC10-30V) |
| black | GND |
| yellow | Moisture signal output |
| blue | Conductivity (EC) signal output |

Output signal calculation

Moisture range is 0-100%RH, Conductivity measuring range is 0-10000us/cm

4-20mA output:

formula:

measuring value=(Pmax-Pmin)/(20-4)*(current value-4mA)

0-5V output:

formula:

measuring value=(Pmax-Pmin)/(5-0)*current value

0-10V output:

formula:

measuring value=(Pmax-Pmin)/(10-0)*current value

E.g., moisture current value is 12mA.

measuring moisture value=(100/16)*(12-4)=50

Measuring range

$\phi=5\text{cm}$



Installation

