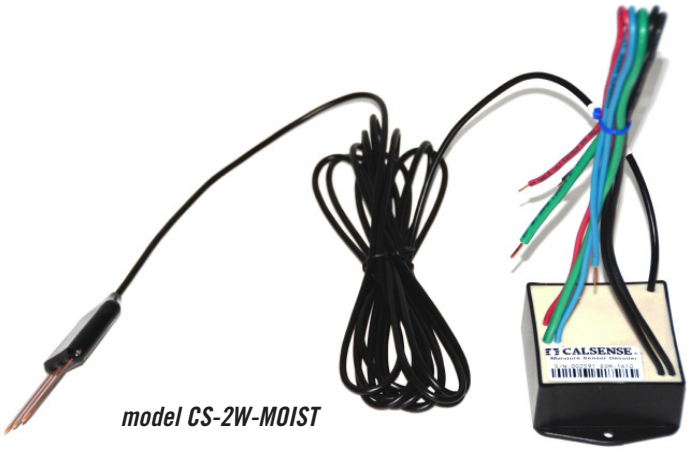
CS-2W-MOIST

soil moisture sensor

The Calsense soil moisture sensor is used to accurately measure the volumetric water content at the depth at which the sensor is placed, by measuring the dielectric constant of the soil using capacitance/frequency domain technology. It is used to maintain soil water balance for optimum plant growth and to manage the amount of irrigation water applied.



model CS-2W-MOIST

description

The model CS-2W-MOIST is used in conjunction with the 2-Wire option, model CS3-2WIRE-OPT offered only with the Calsense model CS3000 irrigation controller. The dual sensor/decoder comes with the standard 16 foot cable for proper sensor placement and the ability to wire one remote control valve to the 2-Wire cable. Moisture sensors can be installed anywhere on the 2-Wire path up to 7,000 ft. of total cable length.

Smart technology enables assigning any decoder's serial number associated with a specific moisture sensor location, to a group of like stations at the controller. The model CS3000 uses the sensor reading measured at the beginning of each irrigation cycle compared to the user defined set point to determine when to stop irrigation.

features

- Monitors volumetric water contenct (VWC) and soil temperature.
- Enables users to montor salt levels in the soil by measuring the electrical conductivity (EC) response to salts and fertilizers in the soil.
- Digital sensor communicates two measurments over a serial interface.
- Low input voltage requirements.
- Built-in surge and lightning protection.
- Search for and identify all decoders connected to the controller on the 2-Wire and list them in the controller by serial number.
- Ground wire included with each decoder
- Robust epoxy overmold to resist corrosive environments.
- Small size makes it easy to install in the field and the robust sensor can be pushed directly into undisturbed soil to ensure good accuracy.
- Signal filtering minimizes salinity and textural effects, making the CS-2W-MOIST accurate in most soils.

technical specifications

accuracy

- Soil Volumetric Water Content (VWC): Using Topp equation: ± 0.03 m^3/m^3 (± 3% VWC) typical in mineral soils that have solution electrical conductivity < 10 dS/m; using medium specific calibration, ± 0.02 m^3/m^3 (± 2% VWC) in any porous medium
- Temperature: ± 0.1 °C

resolution

- ε_a: 0.1 ε_a from 1-20, < 0.75 ε_a from 20 - 80
- VWC: 0.0008 m^3/m^3 (0.08% VWC) from 0 to 50% VWC
- Temperature: ± 0.1 °C

range

- ε_a: 1 (air) to 80 (water)
- Temperature: -40 - 60 °C (-40 - 140° F)

dimensions

- 10 cm x 3.2 cm x 0.7 cm

cable length

- Sensors come standard with 5m (16 ft) cable

power

- 3.6 - 15 VDC, 0.3 mA quiescent, 10 mA during 150 ms measurement

CALSENSE®

2075 Corte del Nogal, Suite P Carlsbad, CA 92011 (760) 438-0525 (800) 572-8608 Fax: (760) 438-2619 www.calsense.com