

# SMT100 Soil Moisture Sensor

## SPECIFICATIONS



within  
trees

|                                       |  |   |
|---------------------------------------|--|---|
| <b>Accuracy:</b>                      | Soil volumetric water content (VWC)  | Using factory calibration up to $\pm 3\%$ (VWC) in mineral soils with moderate salinity from 0 to 50% VWC   |
|                                       | Temperature  | Using medium specific calibration up to $\pm 1\%$ (VWC)<br>Typical $\pm 0.2^\circ\text{C} / 0.4^\circ\text{F}$ , max. $\pm 0.4^\circ\text{C} / 0.7^\circ\text{F}$ over full range |
|                                       | Additional output  | Analog version $\pm 0.8^\circ\text{C} / 1.4^\circ\text{F}$<br>Raw measurement data<br>Dielectric permittivity   |
| <b>Resolution:</b>                    | 0.1% volumetric water content or better<br>0.01°C / 0.02°F or better (analog version 0.2°C / 0.4°F)  |   |
| <b>Range:</b>                         | 0 to 60% volumetric water content<br>(up to 100% volumetric water content with limited accuracy)<br>Temperature: -40°C to +80°C / -40°F to +176°F (analog version -40°C to +60°C / -40°F to +176°F)  |   |
| <b>Interface options:</b>             | RS485 with TBUS<br>RS485 with Modbus<br>RS485 with ASCII<br>SDI-12<br>Analog: 0 - 10 V (other voltage ranges on request)<br>4 - 20 mA (only volumetric water content)  |   |
| <b>Power:</b>                         | 4-24 V DC, up to 40 mA during measurement<br>(analog version 12 - 24 V DC for 0 - 10 V output)<br>(4 - 20 mA version 12 - 32 V DC)<br>Measurement time digital versions: less than 50 ms<br>Measurement time analog versions: less than 500 ms |   |
| <b>Cable length:</b>                  | 10 m / 32.8 ft (customizable)  |   |
| <b>Sensor dimensions:</b>             | 18.2 cm x 3 cm x 1.2 cm / 7.2 in x 1.2 in x 0.5 in   |   |
| <b>Environmental protection:</b>      | IP68   |   |
| <b>Data logger compatibility:</b>     | Any logger capable of appropriate power excitation and RS-485<br>(TBUS, Modbus, ASCII), SDI-12, analog input or 4 - 20 mA input<br>Free PC logger software available on request  |   |
| <b>Cellular connectivity options:</b> | NimbleLink SkyWire LTE-M, NB-IoT Global Embedded Modem<br>(Full specifications are listed in the Solution Datasheet)   |   |
| <b>Part Numbers:</b>                  | Single Sensor (Modbus) Cell Modem<br>Dual Sensor (Modbus) Cell Modem<br>Twelve-Month Cell Phone Plan   | WT-CELL1-01<br>WT-CELL2-01<br>WT-SIM-PLAN12-01 (Sierra Wireless)  |

SMT100 (Modbus) Soil Moisture Sensor

SMT100-MODBUS

SMT100 (SDI-12) Soil Moisture Sensor

SMT100-SDI12 (requires customization with existing cell modem)

SMT100 Installation Accessory

SMT100-INSTALL-DRIVE

SMT100 Installation Accessory

SMT100-INTSTALL-METAL

