

truebner

true excellence in instrumentation



- » Accurate volumetric soil moisture measurement
- » Integrated temperature measurement
- » Suitable for any soil type
- » Digital RS-485 interface with TBUS, Modbus and ASCII
- » Optional SDI-12 interface
- » Optional analog interface
- » Easy installation and low cost

» **SMT100** Soil Moisture Sensor

english



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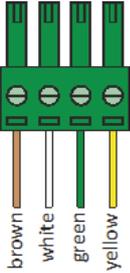
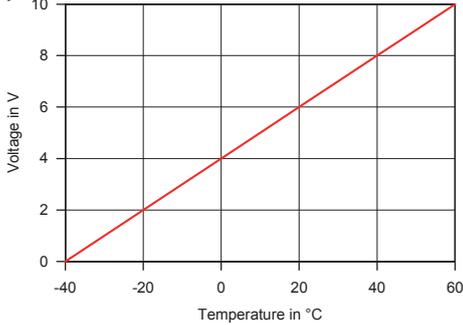
SMT100 Soil Moisture Sensor

SPECIFICATION

Accuracy:	Soil volumetric water content (VWC) <ul style="list-style-type: none">» Using factory calibration up to $\pm 3\%$ (VWC) in mineral soils with moderate salinity from 0 to 50% VWC» Using medium specific calibration up to $\pm 1\%$ (VWC) Temperature <ul style="list-style-type: none">» Typical $\pm 0.2^{\circ}\text{C}$, max. $\pm 0.4^{\circ}\text{C}$ over full range» Analog version $\pm 0.8^{\circ}\text{C}$ Additional output <ul style="list-style-type: none">» Raw measurement data» Dielectric permittivity
Resolution:	0.1% volumetric water content or better 0.01 $^{\circ}\text{C}$ or better (analog version 0.2 $^{\circ}\text{C}$)
Range:	0 to 60% volumetric water content (up to 100% volumetric water content with limited accuracy) Temperature: -40 to +80 $^{\circ}\text{C}$ (analog version -40 to +60 $^{\circ}\text{C}$)
Interface options:	RS485 with TBUS RS485 with Modbus RS485 with ASCII SDI-12 Analog: 0 - 10 V (other voltage ranges on request)
Power:	4-24 V DC, up to 40 mA during measurement (analog version 12 - 24 V DC for 0 - 10 V output) Measurement time digital versions: less than 50 ms Measurement time analog versions: less than 500 ms
Cable length:	10 m
Sensor dimensions:	ca. 18,2 cm x 3 cm x 1,2 cm
Data logger compatibility:	Any logger capable of appropriate power excitation and RS-485 (TBUS, Modbus, ASCII), SDI-12 or analog input Free PC logger software available on request

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Instructions

<p>Wiring color code</p>	<p>RS-485 version Brown: +Vbat (power supply) White: GND (ground) Green: RS-485 A Yellow: RS-485 B</p> <p>SDI-12 version Brown: +Vbat (power supply) White: GND (ground) Green: SDI-12 data</p> <p>Analog version Brown: +Vbat (power supply) White: GND (ground) Green: Voltage output temperature Yellow: Voltage output soil moisture</p>
<p>Connector pin assignment</p>	<p>RS-485 version</p>  <p> brown = +Vbat white = GND green = RS-485 A yellow = RS-485 B </p>
<p>Characteristic curves</p>	<p>Analog version (0-10 V)</p> <p>Temperature</p>  <p>Soil moisture</p> 