



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
- »Optional 4 - 20 mA 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) »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 »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 »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 $^{\circ}\text{C}$) RS485
Interface options:	with TBUS RS485 with Modbus RS485 with ASCII SDI-12 Analog: 0 - 10 V (other voltage ranges on request) 4 - 20 mA (only volumetric water content) 4-24 V DC, up to 40 mA during measurement
Power:	(analog version 12 - 24 V DC for 0 - 10 V output) (4 - 20 mA version 12 - 32 V DC) Measurement time digital versions: less than 50 ms Measurement time analog versions: less than 500 ms 10 m
Cable length:	ca. 18.2 cm x 3 cm x 1.2 cm
Sensor dimensions:	IP68
Environmental protection:	Any logger capable of appropriate power excitation and RS-485
Data logger compatibility:	(TBUS, Modbus, ASCII), SDI-12, analog input or 4 - 20 mA input Free PC logger software available on request

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Instructions

Wiring color code*RS-485 version*

Brown: +Vbat (power supply)
White: GND (ground) Green:
RS-485 A Yellow: RS-485 B

SDI-12 version

Brown: +Vbat (power supply)
White: GND (ground)
Green: SDI-12 data

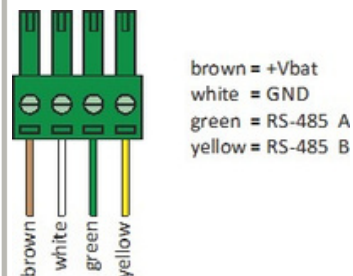
Analog version

Brown: +Vbat (power supply)
White: GND (ground)
Green: Voltage output temperature
Yellow: Voltage output soil moisture

4 - 20 mA version

Brown: +Vbat (power supply)
White: GND (ground)

Connector pin assignment*RS-485 version*

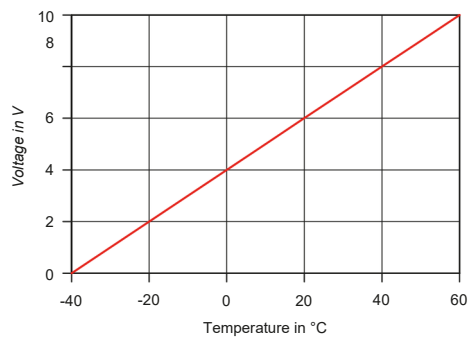


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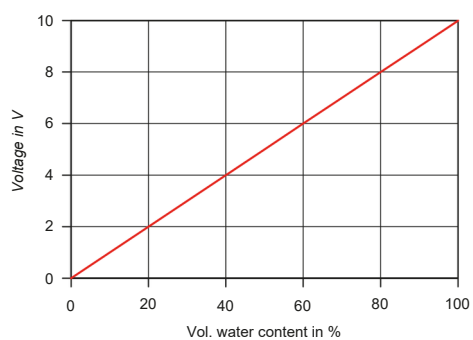
Instructions

Characteristic curves Analog version (0-10 V)

Temperature



Soil moisture



Characteristic curve 4 - 20 mA version

Soil moisture

