truebner

true excellence in instrumentation

- Accurate volumetric soil moisture measurement
- Integrated temperature measurement
- Suitable for any soil type
- Analog voltage output
- Robust and reliable
- Easy installation
- Low cost

» SMT50 Soil Moisture Sensor

english

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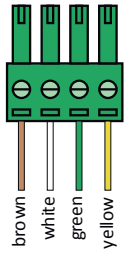
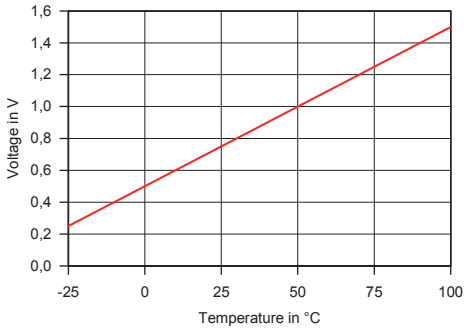
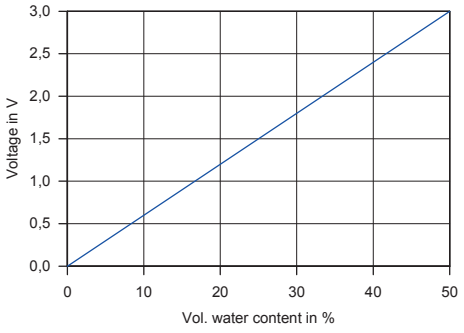
SPECIFICATION

Accuracy:	Soil volumetric water content (VWC) » Using factory calibration up to ± 2% (VWC) in mineral soils with moderate salinity from 0 to 50% VWC Temperature » Typical ± 0.8°C
Resolution:	8 bit = 0.2% volumetric water content 10 mV/°C
Range:	0 to 50% volumetric water content Temperature: -20 to +85°C
Output signals:	Water content: 0 - 3 V linear for 0 to 50% vol. water content Temperature: 0.5 V + (Temperature in °C) • 0.01 V / °C see characteristiv curves Startup time: 300 ms Output resistance: 10 kOhm
Power:	3.3 - 30 V DC, 2.7 mA
Cable length:	10 m
Sensor dimensions:	ca. 13,5 cm x 2,15 cm
Data logger compatibility:	Any logger capable of appropriate power excitation and suitable analog inputs

INSTRUCTIONS

Wiring color code:	Brown: +Vbat (power supply) White: GND (ground) Green: Voltage output temperature Yellow: Voltage output soil moisture
Connector pin assignment:	 brown = +Vbat white = GND green = Temperature yellow = Soil moisture
Characteristic curve temperature:	 **Voltage to temperature conversion:** Temperature in °C = (Voltage in V - 0.5 V) / (0.01 V) Example: Voltage = 1 V → Temperature = 50 °C
Characteristic curve water content:	 **Voltage to water content conversion:** Water content in % = (Voltage in V) / (3 V) • 50 Example: Voltage = 1.5 V → Water content = 25%