

# Soil moisture / temperature

## SMT100

### Technical Specifications



<b>Sensor model name</b>	<b>Soil moisture and soil temperature sensor</b> <b>Type SMT100</b>
<b>Scope of application</b>	For continuous (permanent installation in soil) or manual (consecutive insertion at different locations) measurements of the volumetric water content of the soil (SWC).
<b>Suitable for</b>	all soil types
<b>Special feature / limitation</b>	Special feature: read out of additionally information possible: »Raw data, dielectric permittivity  Limitation: Use for manual point measurements in highly abrasive technosols is not recommended.
<b>Measurement range</b>	SWC: 0 to 60% volumetric water content (up to 100% volumetric water content with restricted accuracy)  Temperature: Temperature: -40 to + 80 ° C (analog version -40 to + 60 ° C)
<b>Resolution</b>	0.1% SWC 0.01 ° C (analog version 0.2 ° C)
<b>Accuracy</b>	Volumetric water content (SWC) - at factory calibration up to $\pm 3\%$ (SWC) in mineral soil types with medium salinity of 0 to 50% VW - for soil-specific calibration up to $\pm 1\%$ (SWC)  Temperature - typical $\pm 0.2$ ° C, max. $\pm 0.4$ ° C over the entire measuring range (analog version $\pm 0.8$ ° C)
<b>Logger requirements and sensor output signal</b>	All data loggers with suitable power supply and RS485 Interface (TBus, Modbus, ASCII), SDI-12 or Analog input 0 - 10 V (other voltage ranges on request)
<b>Power supply</b>	4-24 V DC, up to 40 mA peak during the measurement (Analog version 12 - 24 V DC for 0 - 10 V output signal) Measuring time digital versions: less than 50 ms Measuring time analog versions: less than 500 ms
<b>Operational conditions</b>	Air temperature: -25 to 70 ° C, air humidity: 0 to 100%
<b>Size &amp; Weight (only sensor)</b>	18.2 cm x 3 cm x 1.2 cm; about 80 g without cable
<b>Sensor cable length</b>	10 m, can be extended on request