

Soil moisture / temperature

SMT100

Technical Specifications



Sensor model name	Soil moisture and soil temperature sensor Type SMT100
Scope of application	For continuous (permanent installation in soil) or manual (consecutive insertion at different locations) measurements of the volumetric water content of the soil (SWC).
Suitable for	all soil types
Special feature / limitation	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.
Measurement range	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)
Resolution	0.1% SWC 0.01 ° C (analog version 0.2 ° C)
Accuracy	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 ± 0.2 ° C, max. ± 0.4 ° C over the entire measuring range (analog version ± 0.8 ° C)
Logger requirements and sensor output signal	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)
Power supply	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
Operational conditions	Air temperature: -25 to 70 ° C, air humidity: 0 to 100%
Size & Weight (only sensor)	18.2 cm x 3 cm x 1.2 cm; about 80 g without cable
Sensor cable length	10 m, can be extended on request