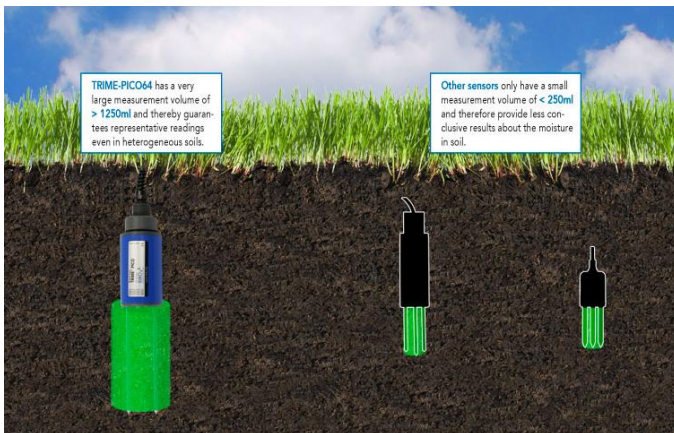

Soil moisture sensors with internal TDR-electronics TRIME-PICO64



Description

Types 3504.1000 TRIME TDR-probes can now report soil EC as standard simultaneously with soil moisture content percentage. A manual conversion based on researched curves for different soil types enables the user to derive a soil EC expressed in mg/l TDS (total dissolved salts).

- ▶ TRIME probes measure conductivity with the same large soil volume as it will be used for the TDR moisture measurement. The contact of the probe rods inside the soil is far less critical as with "galvanic" EC probes with a point to point measurement where even small air gaps lead to significant deviations.
- ▶ TRIME probes use coated and therefore isolated rods which guarantee the non-appearance of galvanic accumulation along the rods allowing for long-run installations over many years. Unisolated rods means there is a risk of galvanic reactions and possible influence on the sensor's reading with serious problems when the probes must be removed from larger depths due to a rod cleaning.
- ▶ TRIME probes measure moisture and conductivity very precisely at a frequency of 1GHz with a better and more exact separation of moisture and conductivity in comparison to capacitive probes with lower frequencies. This means that in practice, a reliable determination of the pore water conductivity EC_w and respectively TDS (mg of salt per litre water) is possible at different moisture levels.
- ▶ All TRIME probes work with a concurrently basic calibration for moisture and conductivity. This allows a check of the limits of saline stress in soils according to standards of FAO2006 for specific soils.

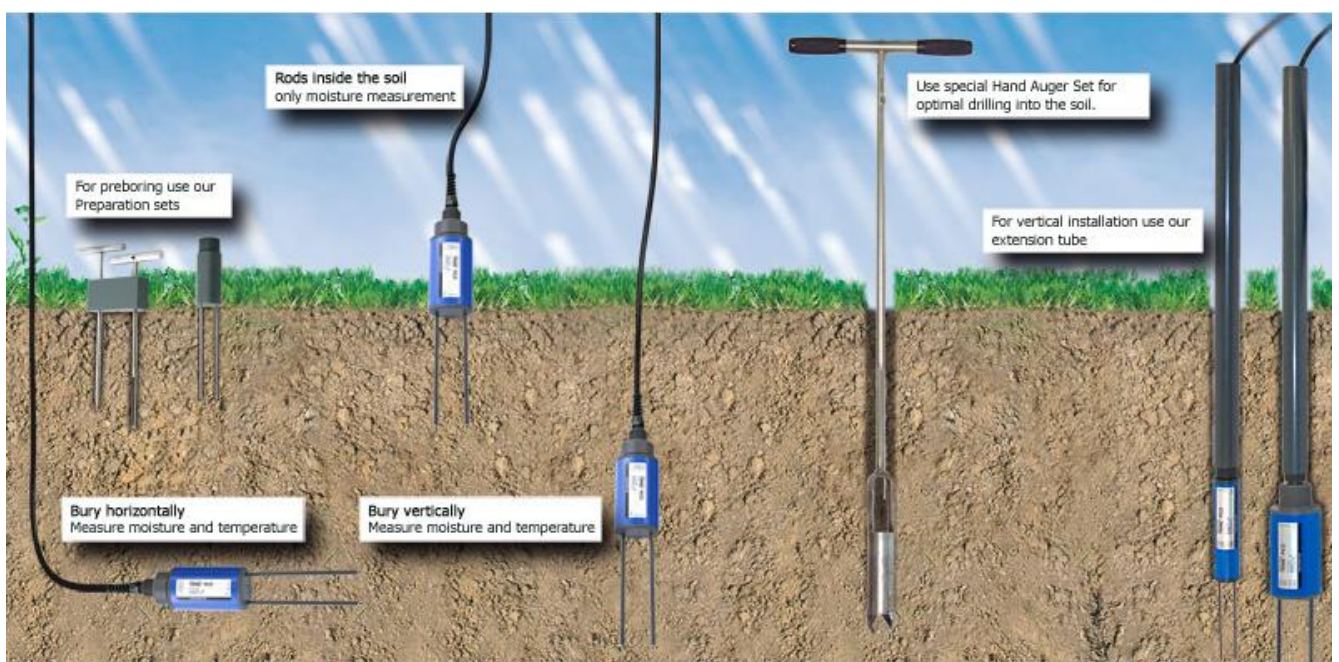


For in situ monitoring of volumetric moisture in soils and other porous materials. The large measuring volume permits high spatial resolution. Burying capability for both horizontal and vertical orientation. Due to its mechanical robustness TRIME-PICO64 is recommended for mobile use together with Bluetooth module PICO-BT or rugged display unit HD2.

TRIME-PICO64 sensor with integrated TDR-electronics

TRIME-PICO rod probes are highly sophisticated high-tech devices and extremely robust. A unique feature is their integrated TDR electronics, thus achieving the greatest accuracy and best networking capability e.g. digital network cable lengths of up to 3 km are possible for the IMP-Bus version. In contrast to other methods TRIME-PICO is less effected by disturbing variables such as temperature or electrical conductivity. An integrated temperature sensor gives valuable additional information.

- ▶ TRIME-PICO64 is the sensor for maximum accuracy in materials with bulk electrical conductivity of up to 12dS/m (Bulk-Soil-Conductivity)
- ▶ Large measuring volume more than 1250ml
- ▶ The best solution for heterogeneous and stony soils



Technical data

Power supply:	7V..24V-DC		
Power consumption:	100mA at 12V/DC during 2..3 sec. of measuring		
Moisture measuring range:	0..100% volumetric water content		
Accuracy (in % volumetric water content):			
Conductivity range:	0..6dS/m	6..20dS/m	> 20dS/m
Moisture range 0..40%:	±1%	±2%	with material specific calibration
Moisture range 40..70%:	±2%	±3%	
Repeating accuracy:	±0.2%	±0.3%	
Temperature caused drift of electronics (full range)::	±0.3%		
Soil temperature measuring range:	-15 °C...50 °C		
Soil temperature measuring accuracy:	±1,5 °C absolute, ±0,5 °C relative		
Measurement volume:	1.25L \triangleq 160x100mm diameter		
Operating Temperature:	-15 °C...50 °C (extended temperature range on request)		
Calibration:	Calibration for a wide range of standard soil types (in accordance with Topp (equation))		
	standard calibration for most soils customizable material specific calibration storage of up to 15 user defined calibration curves calibration of dielectric permittivity is <i>possible</i>		
Probe body:	waterproof sealed PVC (IP68)		
Size:	155 x Ø63mm		
Rod length:	160mm		
Rod diameter:	6mm		
Interfaces:	IMP-BUS RS485 Analogue output: 2x 0..1V, 0(4)..20mA		

Options			
Interfaces	Application	Cable length	Connector
RS485 & analogue	mobile, for HD2 & PICO-BT	1.5m	7- pin female
IMP-BUS	for globeLog datalogger	5m (special length on request)	4- pin female
RS485, IMP-BUS & analogue	for analogue datalogger Optional: E-BOX (cable extension box) Optional available for cable extension and current output: C-BOX (0.1V to 0(4)..20mA converter box)	5m (special length on request)	10- pin end splices
SDI-12, IMP-BUS & analogue	for SDI-12 datalogger	5m (special length on request)	9- pin end splices

Technical data are subject to change!