

TRIME T3-50 Tube Access Probe for vertical soil moisture profiling through the wall of 2-inch ID CAB and PVC access tubes



T3-50 shown with TRIME FM3

TRIME is pleased to offer the T3-50 Tube Access Probe (TAP) for moisture measurements in 2-inch ID Schedule 40 PVC and 2" ID CAB Minirhizotron Camera Access Tubes. Based on the unique and popular TRIME-T3 44-mm TAP, the larger diameter T3-50 TAP can be used for 7" incremental profiling, down the length of any 2-inch (50.8-mm) standard access tube. The T3-50 was developed in cooperation with Bartz Technology Corp. and Minirhizotron Camera users.

The T3-50 incorporates aluminum, TDR wave-guides; each positioned on opposite sides of the probe's Delrin body. The 180-mm long convex wave-guides are

segmented and spring-loaded, allowing uninterrupted contact with the inside of the access tube.

Similar to traditional TDR systems the T3-50 probe requires a TRIME-TDR source to measure soil moisture: TRIME FM3 or IPH. Differing from rod-type wave-guides the T3-50 TDR signal pulse is focused outward, penetrating through the access tube wall, 10-cm into the soil. When the T3-50 TAP is coupled with the popular TRIME-FM portable field measurement device, a directly displays the %vol soil moisture content and TDR level is displayed, with the push of a button.

Features

- Vertical profiling in 2" Minirhizotron Camera and PVC Access Tubes
- Direct measurement and display of %vol soil moisture
- Proven TRIME-TDR technology for high precision measurements
- Monitor multiple access tube with a single portable system
- 300 measurements between battery recharging (TRIME FM)
- Convenient RS-232 serial interface

Benefits

- Use currently installed Minirhizotron tubes and 2" PVC tubes.
- Fast, reliable and portable measurement profiles of percent volumetric moisture
- One system can be used in any number of Bartz access tubes.
- Other TRIME probes can be connected to the TRIME-FM

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Product Technical Data: T3-50 TAP and TRIME-FM	
Measuring range:	0...50 % by volume
Measuring accuracy:	+/- 2 % in the range of 0..40 % +/- 3 % in the range of 40..50 %
Conductivity:	0..1 dS/m bulk soil electrical conductivity
Probe length:	200 mm (7.9 inch)
TDR field of influence:	10-cm penetration into soil averaged over 17-cm long wave-guides
Cable length:	1.5 m or 2.5 m (4.9 ft. or 8.2 ft.)
Temperature range:	-20°C...50°C, other ranges on request!
Temperature caused drift:	Max. +/- 0.5%
Interfaces:	RS232 interface, and analog output: 0..1V, optionally: 0(4)..20 mA, IMP232 MICRONET
Power supply	NiCad battery or external 12 V dc @ 250 mA, 4 mA standby current
Calibration data:	The T3-50 probe is delivered with a calibration for mineral soils. Soil-specific calibrations are possible with the program SMCAL.
Access tube type:	Schedule 40 PVC and Cellulose Acetate Butyrate (CAB)

Comments:

- TRIME-TDR devices use a patented intelligent TDR-curve reading and analyzing electronics for direct determination of %vol soil moisture.
- For complete technical details on TRIME-TDR theory and the features of the TRIME-FM refer to a TRIME Technical Produce Guide or our web page. www.mesasystemsco.com.
- Convenient RS-232 serial interface and 0...1 V dc analog outputs are available for PC/ Lap Top interfacing or analog data logging.
- The T3-50 is offered with 1.5 or 2.5- meter long cable for incremental profiling.
- A measuring accuracy of ± 2 vol% can be achieved, provided no air gaps exist between soil and access tube. Close soil tube contact is very important and can be ensured by a careful installation of the access tubes.