

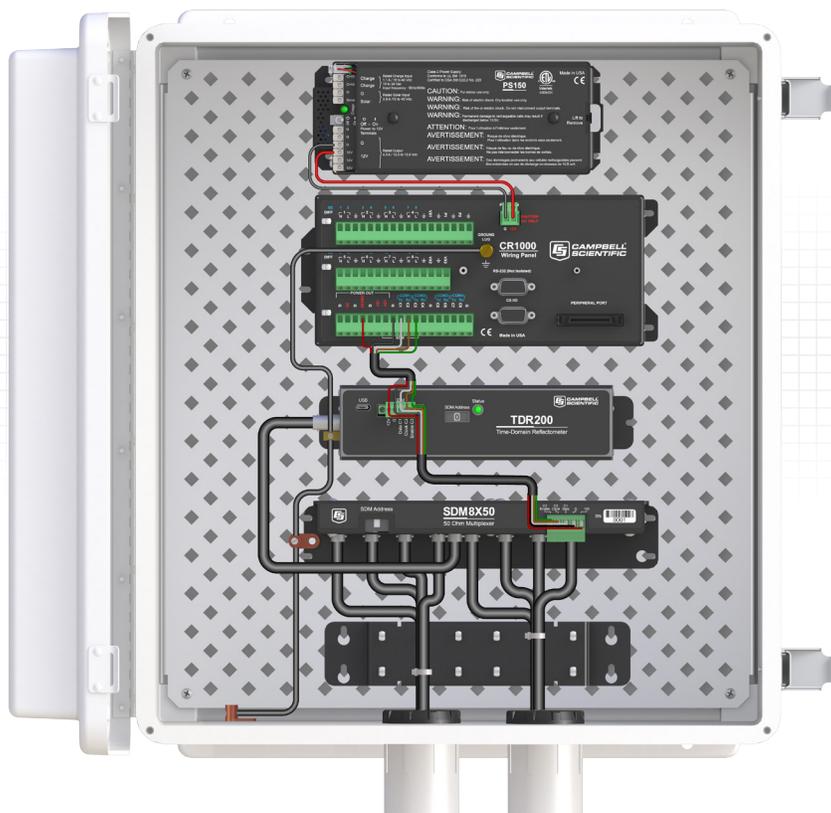


Time-Domain Reflectometry System

TDR200 Reflectometer, SDM8X50 Coax Multiplexer, CS600-Series Soil TDR Probes

Non-destructive measurements

Excellent accuracy and precision



Measurements

- Soil water content
- Soil bulk electrical conductivity
- Rock mass deformation
- Slope stability
- Cable integrity
- Water level detection

Overview

Campbell Scientific time-domain reflectometry system is used to accurately determine soil volumetric water content, soil bulk electrical conductivity, rock mass deformation, slope stability, or user-specific time-domain measurement. The system consists of the

TDR200 Time-Domain Reflectometer, a Campbell Scientific datalogger, SDM8X50 coaxial multiplexers, TDR probes, and PCTDR software. The system is often powered by a datalogger's sealed rechargeable battery recharged by a 10 W solar panel.*

Benefits and Features

- › Uses compact, low-cost TDR200 Reflectometer with performance features that match or exceed other available TDR reflectometers
- › Compatible with CR6, CR800, CR850, CR1000X, CR1000, and CR3000 dataloggers
- › Makes non-destructive, long-term, in-situ soil measurements
- › Provides measurement time of 2 s for water content, electrical conductivity or reflection waveform collection (250 data points)
- › Measures up to 512 TDR probes
- › Uses PCTDR software to facilitate system setup
- › Supports operating temperature range of -40° to 55°C

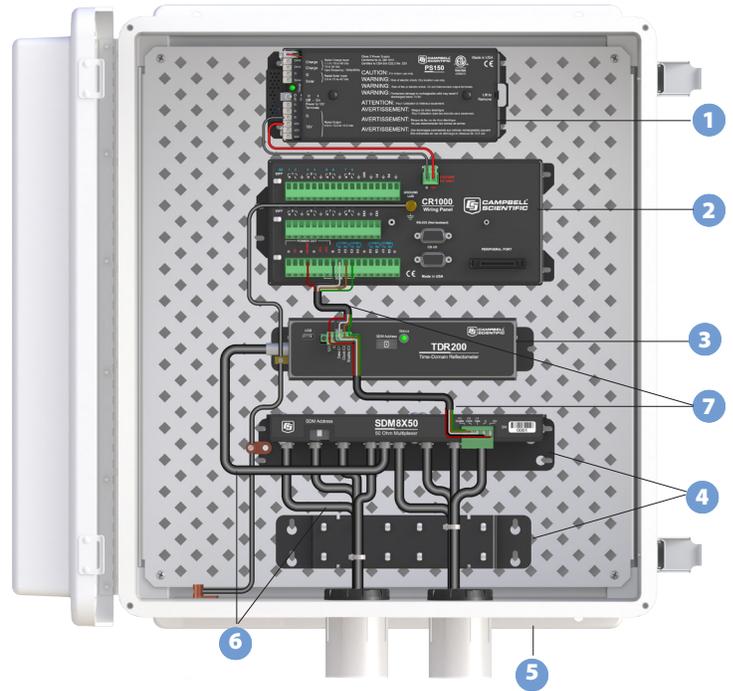
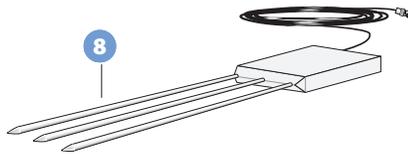
*The power supply requirements depend on the number of sensors measured, how frequently the data's retrieved, data retrieval method used, and location of the site. Systems that measure more sensors, use a high current drain telecommunications method such as satellite transmitters, or retrieve data more frequently may require a user-supplied, deep-cycle rechargeable battery recharged with a 20 W solar panel.

More info: 435.227.9120
campbellsci.com/tdr200



Components

- 1 12 Vdc Power Supply (PS150 shown)
- 2 Measurement and Control Datalogger (CR1000 shown)
- 3 TDR200 Time Domain Reflectometer
- 4 SDM8X50 8-Channel Solid State 50 Ω Coaxial Multiplexer
- 5 ENCTDR100 Environmental Enclosure
- 6 COAXTDR-L TDR Multiplexer Cable
- 7 5-Conductor Cable (pn 32559). Shipped with the TDR200 and ENCTDR100; CABLE5CBL may also be used.
- 8 Up to 512 three-rod TDR probes (CS605 shown)



Customizations

The TDR200-based system is completely customizable, allowing you to configure the station to your projects specification. The following are the components that are available:

Soil TDR Probes

- CS605—recommended for typical soils (soil bulk conductivity ≤ 1.4 dS/m) and cable lengths ≤ 15 m.
- CS610—recommended for typical soils (soil bulk conductivity ≤ 1.4 dS/m) and cable lengths ≤ 25 m.
- CS630—recommended for high conductivity soils (soil bulk conductivity ≤ 3.5 dS/m) and cable lengths ≤ 15 m.
- CS635—recommended for high conductivity soils (soil bulk conductivity ≤ 3.5 dS/m) and cable lengths ≤ 25 m.
- CS640—recommended for very high conductivity soils (soil bulk conductivity ≤ 5 dS/m) and cable lengths ≤ 15 m.
- CS645—recommended for very high conductivity soils (soil bulk conductivity ≤ 5 dS/m) and cable lengths ≤ 25 m.

Multiplexers

The system can use three multiplexer levels allowing up to 512 probes to be measured. The first level includes the TDR200 and one multiplexer. Up to eight coaxial cables connect to each multiplexer. The coaxial cables can be connected to TDR probes or the next level's multiplexers.

- SDM8X50 50 Ω, coaxial, 8:1 multiplexer—consists of a multiplexer circuit board enclosed in a metal housing and a separate strain-relief bracket for the coaxial cables. It mounts to a wall or an enclosure backplate. When purchased with the –E option, it includes a 10-inch- by-12-inch environmental enclosure.

Environmental Enclosures

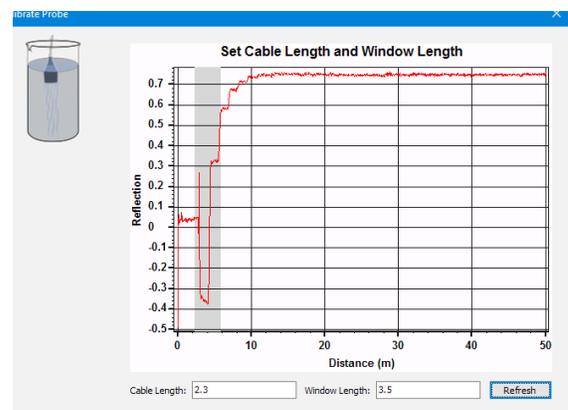
- ENCTDR100 16 inch- by-18 inch enclosure—houses the datalogger, datalogger's power supply, TDR200, and SDM8X50. Interconnecting SDM and coaxial cables are included.

Communications

Communication options include Ethernet, cellular, fiber, RS-485, satellite, and telephone.

Software

- PCTDR 3.0—used for TDR and sensor setup, troubleshooting, and program generation. PCTDR runs on Windows 10, 8, 7, and Vista
- LoggerNet—supports telecommunications, datalogger programming, data transfer, and data processing functions



PCTDR 3.0 has a calibration wizard that helps users quickly determine the appropriate cable length and window length.

