MOHR™ CT100 Series

High-Resolution Automated Metallic TDR Cable Testers

Ideal for maintenance of modern microwave/RF and digital communications systems

Key Features

- *As low as 60 ps system risetime (20-80%)*
- *75 micron (0.003 in.) cursor resolution*
- *16-bit digital sampling*
- *Up to 500 waveforms/sec*
- *2 GB storage, enough for thousands of traces*
- *USB host/client, 10/100 Ethernet*
- *Lightweight, bright color screen*
- *Internet streaming and remote control*

Mohr CT100 Series TDRs are the industry's most capable and versatile tools for troubleshooting and maintenance of modern microwave/RF and digital communications cables and interconnects.

Features and Benefits

Industry's Best Cable Fault Sensitivity

With ultrawideband step-pulse architecture and 16-bit digital sampling, these instruments can detect subtle cable faults before they impair system performance.

Industry's Best Cursor Resolution

Measure cable length and localize faults with 75 micron (0.003 in.) precision, hundreds of times better than competing TDR and FDR instruments.

Industry's Best Spatial Resolution

With the ability to resolve faults and interconnect and PCB features located less than 9 mm (CT100HF) or 14 mm (CT100) apart, CT100 Series TDRs have spatial resolution many times sharper than competing TDR and FDR instruments.

High-Resolution Cable Scanning

Scan a cable or portion of a cable at high-resolution (up to millions of points); later,translate and rescale for comparison to other scanned or live traces, either on the device itself or on the included CT Viewer™ TDR analysis software package.

Capture Rapid Transient Faults

With the ability to acquire up to 500 waveforms per second, CT100 Series TDRs are uniquely able to identify and localize transient faults that other instruments would miss.

Versatile Connectivity Options

Client USB and 10/100 Mb Ethernet ports for connection to a PC and host USB port compatible with USB thumbdrives, keyboards, and barcode readers. Now featuring live LAN/WAN/Internet streaming and remote control of any CT100 Series TDR via CT Viewer™.

Ergonomics for Easy Use

Rugged, portable, and lightweight, CT100 Series TDRs feature long battery life and bright daylight-readable color screens.

Applications

CATV, Power, Telephony
Naval / Marine
Wireless Infrastructure
Aerospace / Aviation
PCB Controlled Impedance
TDR Sensors (Soil Moisture, Geophysics)

Specifications

TDR System Characteristics
Excitation Signal: Step-rise, 300 mV into 50 Ω load
System Risetime (20-80%, typ.): 60 ps, 100 ps (CT100HF, CT100)
Timebase Resolution: 760 fs
Timebase Random Jitter (typ.): < 1 ps rms
Timebase Non-Linearity (typ.): < 1%
Sample Resolution: 16 bits
Sequential Sample Rate: 12.5 - 250 kHz
TDR Framerate: 25 - 500 waveforms/s

Horizontal System
Range: 0 - 30,000 ft. (0 - 9 km)
Scales: 0.003 - 400 ft./div (0 - 125 m/div)
Cursor Resolution: 0.003 in. (75 µm) at VoP 0.66
Accuracy (max, 0-50°C): < 1% of measured distance, typ. < 1 mm

Velocity of Propagation (VoP)
Range: 0.250000 to 1.000000
Resolution: 0.000001

Vertical System
Range: < 1.0 Ω to > 1500.0 Ω
Resolution: ≤ 0.1 Ω, depending on scale
Accuracy (typ.): < 1% of measured value or < 1 Ω, 0 to 1000 Ω
Accuracy (max, 0-50°C): < 10% of measured value, 0 to 1000 Ω

Measurements/Math
Measurements: Time-to-fault, distance-to-fault, Ohms-at-cursor, reflection coefficient, return loss, Δtime, Δdistance, ΔOhms, Δreflection coefficient, relative return loss
Waveform Processing: smoothing, subtraction, 1st derivative, FFT, S11 estimation, impedance, layer-peeling

Special Features
Functions: AutoFit™, AutoScan™
Libraries: Waveform library, cable-type library, configuration library

Data Storage
2+ GB flash memory, thousands of high-resolution cable scans

Connectivity
Standard Features: USB host (front panel) and client (rear panel), 10/100 Mb Ethernet, optional 802.11b/g wireless networking
Special Features: Live streaming and remote control of any CT100 Series TDR over LAN/WAN/Internet using CT Viewer™

Display
Color LED-BL 4.3 in. (10.9 cm) WQVGA TFT-LCD, > 600 cd/m^2

Power System
AC Power: 90-264 VAC, 50-60 Hz using AC adapter
Battery Power: Internal 2500 mAh 14.4 VDC NiMH battery
Battery Life: >6h (typical use), unlimited with external battery packs
Battery Charging: <1 h low-battery, <4 h fully-discharged

Environmental and Mechanical
Operating / Non-Operating Temp.: -10ºC to +55ºC / -20ºC to +60ºC
Dimensions: 4.3(H) x 11.5(W) x 6.9(L) in. (10.9 x 29.2 x 17.5 cm)
Weight: 5.1 lbs. (2.3 kg) with cover, 4.7 lbs. (2.2 kg) without cover

Regulatory
CE Complies with all applicable EU directives, as specified by the instrument's Declaration of Conformity.

EMC: MIL-PRF-28800F. MIL-STD-461F RE102, CE102. IEC 61000
Shock/Vibration: MIL-PRF-28800F (Class 3)
Temperature/Humidity: MIL-PRF-28800F (Class 3)
Explosive Atm: MIL-STD-810G 511.5 Procedure 1 (+55ºC, 0-4600 m)

Ordering Information

General Options
CT100, BNC test port (self-grounding)
CT100S, SMA test port
CT100HF, SMA test port

Standard Accessories (Included)
One (1) License CT Viewer™ Software
Standard Calibration Kit
Operator's Manuals
Rugged Soft-Sided Carrying Case
External AC Power Adapter
USB / Ethernet Cables
NIST-Traceable Calibration / Certificate
12-Month Standard Limited Warranty

Optional Accessories
General
Small Form-Factor Keyboard CT100-AC-KBD
External Battery Pack (2700 mAh) CT100-AC-B270E
Hard Carrying Case CT100-AC-CH

Adapter Kits
SMA Adapter Kit CT100-AK-SMA
BNC Adapter Kit CT100-AK-BNC
Impedance Matching Kit CT100-IK-BNC

Impedance Matching Adapters
50 Ω to 75 Ω CT100-AC-I5075-BNC
50 Ω to 93 Ω CT100-AC-I5093-BNC
50 Ω to 125 Ω CT100-AC-I50125-BNC

MOHR™
Test and Measurement Solutions for Industry™

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