METRACABLE TDR PRO

Time Domain Reflectometer –
Cable Fault and Length Measuring Instrument

- Rugged, handy time domain reflectometer
- Measures cable length
- Pinpoints cable faults
- Identifies components (e.g. splitters)
- Provides information about the cabling itself (e.g. branches)
- Suitable for all types of electrical cables
- Long range of up to 14 km
- Memory function
- Internal cable database
- AUTO test function ensures readiness for operation at the touch of a button
- Freeze function for detailed viewing of the TDR trace
- Reference function for comparing two TDR traces at a glance
- METRACABLE MANAGER PC software included
- Data transfer to the PC via Bluetooth®

Applications

The METRACABLE TDR PRO is a compact, handy time domain reflectometer with a range of up to 14 km.

The METRACABLE TDR PRO is connected to the cable under test, to which it transmits a pulse. The pulse's reflection, i.e. its TDR trace, appears at the instrument's display panel.

Cable length is determined on the basis of the signal's reflection, whose shape also provides information concerning any included components (e.g. splitters), the cabling itself (e.g. splices, branches etc.) and any cable faults (short-circuits, broken cable, pinching etc.). The locations of components and faults are ascertained accurate to roughly 0.3 m.

Additional functions provide further support during cable inspection. The AUTO test function configures the most important parameters automatically and ensures that the instrument is quickly ready for operation. The freeze function permits detailed viewing of the TDR trace and the reference function saves the first of two measurements in the background, so that both can be compared at a glance.

The TDR trace display can be set up with either one or two cursors – one for absolute distance to the event and the other for measuring the distance between two events.

In combination with white background illumination, the extra high resolution of the high-contrast display ensures ideal viewing of the TDR trace in any environment.

Stored measurements can be conveniently transferred to the included METRACABLE MANAGER PC software via Bluetooth®. The software can be used to evaluate measurements and generate reports.

Features

- Rugged design
  - Impact-resistant ABS housing with fall protector
  - Protected display
  - Membrane keypad
- Compact, handy instrument
- Easy operation
- High-contrast display with background illumination
- High measuring resolution (localization accurate down to 0.3 m)
- BNC adapter for coaxial cable
- Surge protection
- METRACABLE MANAGER PC software
  - Data transfer via Bluetooth®
  - Measurement display
  - Report generation and printing
  - Cable database management
  - Instrument updates

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Technical Data

Mechanical Design

Housing	Approx. 19.5 × 10.0 × 4.5 cm
Weight	Approx. 390 g (without batteries)
Protection	IP 52 per DIN VDE 0470, part 1/EN 60 529 (protection against ingress of solid foreign objects: ≥ 1.0 mm dia. Protection against water ingress: protection against falling dripping water, when the housing is inclined up to 15°)
Mechanical protection	Impact-resistant ABS housing with fall protector and display protection (2 mm Plexiglas with hardened safety glass)
Display	LCD, monochrome, luminous, 240 x 128 pixels, adjustable on-time and contrast for background illumination
Connections	2 ea. 4mm banana plug safety sockets

Ambient Conditions

Operating temperature	-10 … +50 °C
Storage temperature	-25 … +75 °C
Relative humidity	No condensation allowed
Elevation	Max. 2000 m
Place of use	Indoors, in laboratories, in industrial environments, at construction sites

Power Supply

Power Supply	4 ea. LR6 battery, 1.5 V, type AA or 4 ea. rechargeable NiMH, 1.2 V, type AA
Operating time	Up to 30 hours (depending on battery type and quality), adjustable automatic shutdown

Electrical Safety

Pollution degree	1
Protection class	II per DIN EN 61140/VDE 0140-1
Surge protection	DC: 100 V AC: 230 V / 50 Hz

Electromagnetic Compatibility

Interference emission	EN 55011: 2015
Interference immunity	EN 61000-4-2: 2009 EN 61000-4-3: 2006

Data

Interface	Bluetooth®
Internal Memory	Up to 32 entries in the cable database Up to 510 measurements in the instrument

Languages

Menu language	German, English, French

Measurements

Signal type	Symmetrical search signal
Range:	≤ 14 km
Accuracy	+1% ± pixels at 0.66 VF
Resolution	3.125 ns or 0.3 m depending on cable
Output pulse	Max. 20 V pp
Pulse lengths	12, 25, 50, 100, 200, 500, 1000 and 2500 ns
Velocity factor	Variable from 0.2 to 0.99 in steps of 0.01
Impedance	50, 75, 100, 125 Ω
Signal type	Symmetrical
Magnification factor	In steps of 6 dB

Cable Types

Suitable for	Symmetrical cables with maximum attenuation of 80 dB, for example: – Coaxial cables – Shielded cables – Twisted pair cables – Multi-wire cables – Power cables

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Scope of Delivery

1	METRACABLE TDR PRO (with carrying strap)
4	LR6 batteries, 1.5 V, type AA
1	Set of test probes (1.3 m, banana plugs, 300 V Cat II)
2	Alligator clips (plug-on)
1	BNC adapter (banana plug to coaxial cable)
1	Pouch (with carrying strap)
1	Condensed operating instructions

Order Information

Description	Type	Article No.
TDR measuring instrument including batteries, carrying strap, test probes, alligator clips, BNC adapter and pouch	METRACABLE TDR PRO	M281A

Further information regarding accessories can be found:

- In our Measuring Instruments and Testers catalog
- On the Internet at www.gossenmetrawatt.com

Included METRACABLE MANAGER PC software is available free of charge from our website at www.gossenmetrawatt.com.