

METRACABLE TDR PRO

Time Domain Reflectometer – Cable Fault and Length Measuring Instrument

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- 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 × 128 pixels, adjustable on-time and contrast for background illumina- tion |
| 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 construc- tion 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 instru- ment |

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 at- tenuation of 80 dB, for example: <ul style="list-style-type: none">– 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.

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