

TDR2000/2P

Dual channel cable fault locator



- **Specifically for the power industry**
- **Fused croc-clip lead set 2 m**
- **300 V CAT III (415 V Phase to Phase)**
- **Intermittent fault location**
- **No blocking filter required**
- **15 memory trace storage**
- **Weather proof to IP54**

DESCRIPTION

The Megger® TDR2000/2P is a state of the art, Monochrome dual channel Time Domain Reflectometer, capable of identifying and locating a wide range of faults on metallic cables from a few meters to 20 km depending on cable type.

The TDR2000/2P is ideal for engineers with little TDR experience. The TDR2000/2P can perform single or dual channel measurements on a wide range of metallic cables.

Cables can be compared with each other or with previously stored traces from memory. Good and bad cores in multi core cables can be compared and just the difference displayed.

Either dead or Live cables to CATIII 300 V Phase to earth or 415 V phase to phase can be tested. The TDR2000/2P is supplied complete with pairs of 2 metre long fused test leads, fitted with 30 mm gape crocodile clips for easy connection to large diameter cables.

No blocking filter is required.

TDR2000/2P FEATURES

Intermittent Mode

An 'intermittent mode' continually updates and shows any transient reflections. Any intermittent fault leaves a permanent record on the display, capturing elusive faults.

Dual cursors

The TDR2000/2P can display either single or dual cursors. Single cursor mode displays the distance from the start of

the cable to the cursor. In dual cursor mode the distance between faults can be measured.

Fast Find key

One press of the find key automatically adjusts the range and gain and positions the cursor to the major event on the cable.

Tx Null

Tx Null helps eliminate the 'dead zone' at the start of the displayed trace, normally obscured by the transmission pulse. By the adjusting the Tx Null the user can see these 'near end' faults more clearly.

Output pulse control

Both the amplitude and width of the output pulse can be adjusted to provide the best possible reflection for accurate location of cable faults.

Interactive Help Screen

A full graphical help screen is available with keyboard layout and individual key operation. At the press of a button.

Trace Storage

15 internal trace memories provide for the storage and recall of test results. The traces can be recalled to the display for analysis or compared with an active display to aid in fault location.

Alternatively the stored results can be downloaded to a computer, over the RS232 port, using the TraceMaster software and RS232 lead provided.

Trace Master PC Software

Trace Master provides download and upload facilities between the TDR and a computer. Traces can be individually selected, saved to a PC and annotated by the user. Historical information can be reviewed on the PC or recalled to the TDR for comparison with current measurements.

Tracemaster is the ideal tool for cable documentation. Results can be printed from the computer for inclusion in documents.

Power source

The TDR2000/2P is supplied with a NiMH rechargeable battery pack and charger as standard.

Further benefits:

- 11 fault location modes.
- For use 300V CAT III (415V phase to phase) power circuits with fused leads.
- External mains blocking filter not required.
- Screen contrast control.
- Multi language operation, uploadable using TraceMaster software.
- 3 step pulse amplitude control.
- Adjustable display contrast.
- 15 trace internal memory.
- Protected to IP54.
- High impact ABS case.
- Comes with test and carry case and test leads.
- 3 year warranty

SPECIFICATION

Except where otherwise stated, this specification applies at an ambient temperature of 20 °C.

General

Ranges:

50 m, 100 m, 200 m, 400 m, 1 km, 2 km, 4 km, 8 km, 16 km.
150 ft, 300 ft, 600 ft, 1200 ft, 3000 ft, 6000 ft, 12000 ft, 24000ft, 48000 ft

Resolution: 0.1 mm (4 inches) up to 200 m
0.2 m up to 400 m
0.1% of range above 400 m

Measurement Accuracy: 0.1% of Range

[Note – The measurement accuracy is for the indicated cursor position only and is conditional on the velocity factor being correct].

Input Impedance: Automatic 0 to 120 Ω

Input Protection: 300 V CATIII phase to ground (440 V phase to phase) working.

Output Pulse Amplitude:

Nominal 3 V, 5 V and 14 V pk to pk into an open circuit

Pulse width user selectable:

50 m range: 7 ns, 20 ns, 40 ns, 60 ns, 80 ns
100 m range: 7 ns, 40 ns, 60 ns, 80 ns, 100 ns
200 m ranges: 7 ns, 40 ns, 80 ns, 140 ns, 200 ns
400 m range: 40 ns, 80 ns, 160 ns, 200 ns, 400 ns
1 km range: 80 ns, 160 ns, 260 ns, 500 ns, 1 μs
2 km range: 160 ns, 260 ns, 500 ns, 1 μs, 2 μs
4 km range: 240 ns, 500 ns, 1 μs, 2 μs, 4 μs
8 km range: 500 ns, 1 μs, 2 μs, 4 μs, 8 μs
16 km range: 1 μs, 2 μs, 4 μs, 8 μs, 16 μs

(Default pulse width for each range underlined)

Gain: 0 to 90 dB in steps of 6 dB

TX Null: 0 Ω to 120 Ω

Velocity Factor: Variable from 0.300 to 0.999 in steps of 0.001

Screen Update Rate:

Once per second or three times per second, (user selectable).

Power Down:

Automatic after 5, 10 or 15 minutes with no keys pressed, (user selectable)

Backlight:

Stays on for 1, 2 or 5 minutes when activated, (user selectable).

Communications Port:

RS-232C compatible - 1 start bit, 8 data bits, 1 stop bit and no parity, 19200 baud standard

Internal Memory: Storage capacity of 15 waveforms and data.

Batteries:

TDR2000/2P 9.6 V NiMH cell

Battery Charger:

Supply voltage

UK and European 230 V a.c. ±10% 50 Hz

North American 115 V a.c. ±10% 60 Hz

SAFETY:

This instrument complies with IEC61010-1 for connection to live systems up to 300 V CAT III phase to earth and 415 V phase to phase with fused leads.

EMC:

The instrument will comply with EN 61326-1, classified as 'class B'. If connected to a live domestic power supply, the operation of this instrument could cause interference with other equipment, connected to the same supply.

To reduce this interference, select the lowest voltage and narrowest width pulse as consistent with accurate measurement.

During immunity tests there may be self-recovering loss of function (i.e Performance criterion B).

MECHANICAL:

The instrument is designed for use indoors or outdoors and is rated to IP54.

Case Dimensions:

250 mm L x 200 mm W x 110 mm D

Instrument weight: 1.5 kg (3.3 lbs)

Case material: ABS

TEST LEADS:

Two pairs of 2 meter long leads fitted with 30mm gape fused croc clips.

9 way D-type connector for serial communication.

DISPLAY:

320 x 240 pixel backlight LCD.

ENVIRONMENTAL:

TDR2000/2P

Operational Temperature:

-15 °C to +45 °C (5 °F to 113 °F)

Storage Temperature

-20 °C to +45 °C (-4 °F to 113 °F)

NOTE:

Charging should not take place when the ambient temperature is less than 0 °C (+32 °F)

Humidity:

<95% at +40 °C non-condensing

ORDERING INFORMATION

Item (Qty)	Order No.
Dual Channel cable fault locator	TDR2000/2P
Included Accessories	
Battery charger UK	6121-538
Battery charger European	6121-539
Dual fused test lead set	6231-713
Test and carry pouch	6420-114
Serial data lead	25955-025
Carry strap for pouch	6220-611
Tracemaster software	6111-458
User Guide6172-662	

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Registered to ISO 9001:2008 Reg no. Q 09250
Registered to ISO 14001:2004 Reg no. EMS 61597

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