TDR2000/2
Cable Fault Locator

- **20 km range at VF = 0.90**
- **Monochrome or colour options**
- **Primary cell or rechargeable options**
- **Large back lit LCD Display**
- **Dual cursor measurement**
- **Intermittent fault location**
- **Output pulse amplitude and width control**
- **"TX Null" technology**
- **No blocking filter required**
- **Trace Master PC software included**
- **15 memory trace storage**

DESCRIPTION

The Megger® TDR2000/2 is a state of the art, monochrome or colour, dual channel Time Domain Reflectometer, capable of identifying and locating a wide range of faults on metallic cables.

The TDR2000/2 has a minimum resolution of 0.1m and a maximum range of 20 km at VF=0.9 and 16 Km at 0.65 VF. The TDR2000/2 can perform single or dual channel measurements on a wide range of metallic cables. Active channels can be compared with each other or with previously stored traces from memory. Differential channel measurements are possible and cross talk between channels can also be identified.

All results are displayed on a high resolution, QVGA colour display. Full contrast adjustment provides optimum display contrast in a variety of ambient light conditions.

3 Configurations Options
The TDR2000/2 comes in three configurations:

TDR2000/2 Monochrome primary cell
A fully featured high resolution TDR with backlit monochrome display and powered by 8 x AA (LR6) batteries.

TDR2000/2RM Monochrome rechargeable
As the TDR2000/2 but with a rechargeable NiMH battery pack and charger in place of the Dry cells.

TDR2000/2R Colour rechargeable
As the TDR2000/2RM but with a colour high resolution display providing excellent trace separation in dual trace

modes. The unit is also powered by a rechargeable NiMH and includes battery charger.

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 TDR2000/2 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 TDR2000/2 can be supplied as a standard battery powered unit or in a rechargeable version, as the TDR2000/2RM or TDR2000/R. Fitted with a NiMH rechargeable battery pack the TDR2000/2R and TDR2000/RM are supplied with the charger as standard.

BENEFITS

- 11 fault location modes
- For use on Telecom TNV-3 circuit, or 300V CAT III power circuits (415 V phase to phase) 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

SPECIFICATION

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

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, 24000 ft, 48000 ft

Resolution:

0.1 m (4inches) 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 being correct]

Input Impedance:

120 Ω.

Input Protection:

300 V CATIII working, 415 V CATIII Phase to Phase

Output Pulse Amplitude:

Nominal 3 V, 5 V and 14 Vpk to pk into an opencircuit

Pulse width user selectable:

50m range:	7 ns, 20 ns, 40 ns, 60 ns, 80 ns
100m 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
1km range:	80 ns, 160 ns, 260 ns, 500 ns, 1 ms
2km range:	160 ns, 260 ns, 500 ns, 1 ms, 2 ms
4km range:	240 ns, 500 ns, 1 ms, 2 ms, 4 ms
8km range:	500 ns, 1 ms, 2 ms, 4 ms, 8ms
16km range:	1 ms, 2 ms, 4 ms, 8 ms, 16 ms

(Default pulse width for each range underlined)

Gain:

0 to 90dB in steps of 6dB

Velocity Factor:

Variable from 0.30 to 0.99 in steps of 0.001

TX Null:

0 Ω to 120 Ω

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
TDR2000/2
Eight LR6 (AA) type batteries,   manganese-alkali or nickel-cadmium or nickel-metal-hydride cells.

TDR2000/2RM

NiMH cell

TDR2000/2R

NiMH cell

Battery Charger
Supply voltage:

UK & European Version: 230 V a.c. ±10% 50 Hz

Safety
This instrument complies with IEC61010-1 for connection to live systems up to 300V CAT III 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 long x 200 mm wide   110 mm deep

Instrument weight: 1.5 kg (3.3lbs)

Case material:

ABS

Connectors:

Two pairs of 4mm safety terminals.

9 way D-type connector for serial communication.

Display
320 x 240 pixel eight colour backlight LCD.

Environmental
TDR2000/2

Operational Temperature:

-15ºC to +50ºC (5ºF to 122ºF)

Storage Temperature:

-20ºC to +70ºC (-4ºF to 158ºF)

TDR2000/2R and 2RM
Operational Temperature:

-15ºC to +45ºC (5ºF to 113ºF)

Storage Temperature:

-20ºC to +45ºC (-4ºF to 113ºF)

Charging should not take place when the ambient temperature is less than 0ºC (+32ºF)

Humidity
<95% at +40ºC non-condensing

ORDERING INFORMATION

Item (Qty)	Order No.	Item (Qty)	Order No.
TDR2000/2 Monochrome Drycell	TDR2000/2	Included Accessories TDR2000/2R Only	
TDR2000/2RM Monochrome		Battery charger	
Rechargeable	TDR2000/2RM		
TDR2000/2R Colour Rechargeable	TDR2000/2R	Optional Accessories	
Included Accessories		Fused test lead set:	6111-218
Test and carry Pouch	6420-114	Battery charger UK mains	6121-538
Serial data lead	25955-025	Battery charger US mains	6121-539
2 x Miniature Clip Test Lead Set	6231-654	Battery charger European mains	6121-605
Carry Strap for Pouch	6220-611		
Tracemaster software	6111-458		
User Guide	6172-662		