



**Megger**   
[WWW.MEGGER.COM](http://WWW.MEGGER.COM)

# **Time Domain Reflectometers**

## **TDR2000/3 - TDR 2000/3P - CFL535G**

## **TDR2010 - TDR2050**

### **User Guide**

For all units released after 2014. If your instrument differs significantly from this guide then please use the guide supplied with your instrument or call technical services for advice.

## Safety warnings must be observed during use

### NOTE - THE INSTRUMENT MUST ONLY BE USED BY SUITABLY TRAINED AND COMPETENT PERSONS

Users of this equipment and/or their employers are reminded that National Health and Safety Legislation requires them to carry out valid risk assessments of all works so as to identify potential sources of danger and risk.

Please refer to the full list of safety warnings for further information. This was supplied in the box your instrument arrived in or can also be found on the support CD and is downloadable from the Megger website.

#### CAT II

Measurement category II: Equipment connected between the electrical outlets and the user's equipment.

#### CAT III

Measurement category III: Equipment connected between the distribution panel and the electrical outlets.

#### CAT IV

Measurement category IV: Equipment connected between the origin of the low-voltage mains supply and the distribution panel.

Measurement equipment may be safely connected to circuits at the marked rating or lower.

## Battery information

This instrument runs on a Lithium Ion battery which should be maintained to maximise health, reliability and longevity. There are a few simple things that you can do to help maintain your battery health and power potential.

1. **Allow your battery to charge fully before using the instrument.** Fully charging the battery before use will ensure it can perform at peak performance and make maintaining performance easier.
2. **Keep your battery charged up whenever possible while in use.** A Li-Ion battery prefers frequent top-ups and should never be left in a flat state for extended periods as this can cause permanent damage.
3. **Maintain a charge during storage.** If your battery is to be stored for extended periods maintain a charge of 40%, allowing for some discharge and maintaining the protection circuit.
4. **Store your battery in a cool, dry place.** Li-ion batteries can get stressed when exposed to heat which can reduce its life. Do not store above 30°C (86°F) for extended periods.

## WEEE Directive

The crossed out wheeled bin symbol placed on Megger products is a reminder not to dispose of the product at the end of its life with general waste.

Megger is registered in the UK as a Producer of Electrical and Electronic Equipment. The Registration No is WEE/HE0146QT.

For further information about disposal of the product consult your local Megger company or distributor or visit your local Megger website.

## Battery disposal

The crossed out wheeled bin symbol placed on the batteries is a reminder not to dispose of them with general waste at the end of their life.

This product contains the following batteries Li-ion rechargeable battery.

They are located under the battery cover at the rear of the instrument.

They can be safely removed by following the instructions in the battery replacement section of this guide.

Spent Li-ion batteries packs are classified as Industrial Batteries. For disposal in the UK contact Megger Ltd.

For disposal of batteries in other parts of the EU contact your local Megger branch or distributor.

Megger is registered in the UK as a producer of batteries.

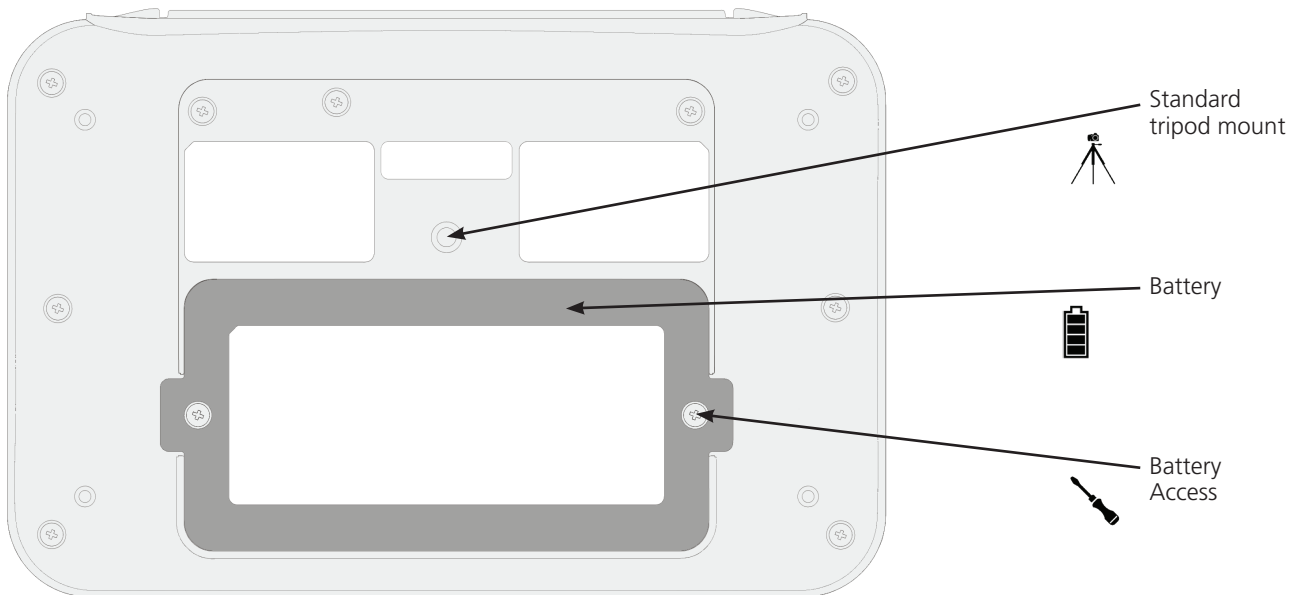
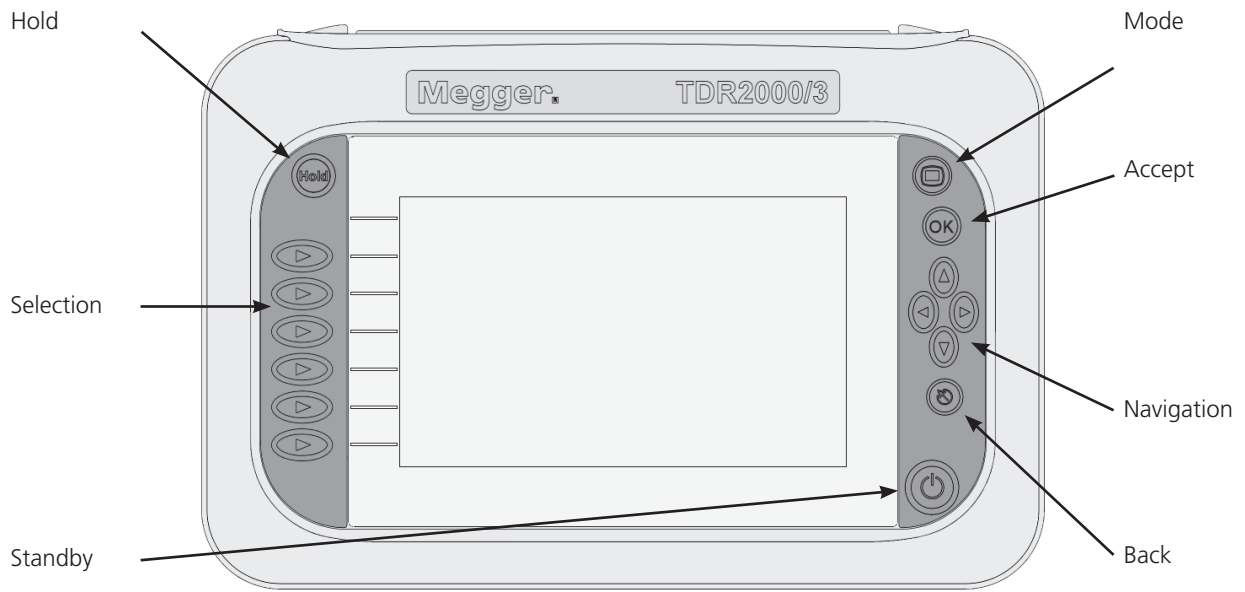
The Registration number is BPRN00142.

For Further information see [www.megger.com](http://www.megger.com)



Safety	2
Battery	2
Features	4
Connectivity	5
Accessories	6
Mounting possibilities	7
Mode	8
General	10
Setup	11
Trace tagging	13
Trace functions (TDR2050 only)	14
Zoom	18
Advanced	19
Battery	20
Results	21
Tools	22
Colour schemes	23
Glossary	24
Troubleshooting	25
Common fault traces	27
Specifications	28
Repair and warranty, Calibration, service and spare parts	29

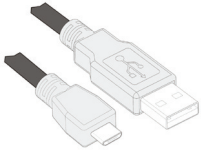




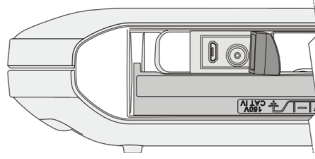
Li-Ion  
11.1 V, 5.2 Ah



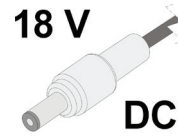
## Connectivity



Used for PC connectivity.

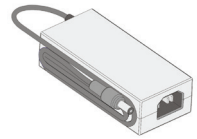


Lift cover for access – avoid stressing.

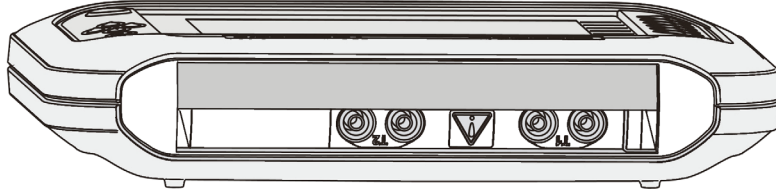
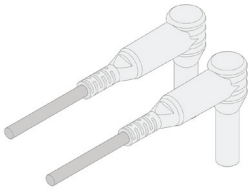


18 V

DC

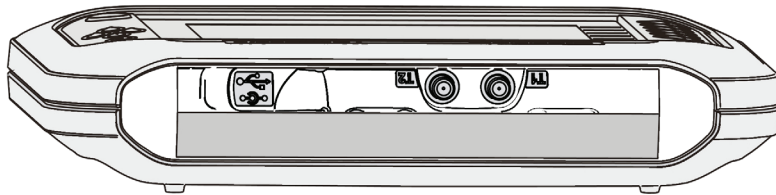
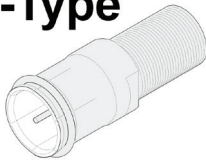


Power lead dependant on region.



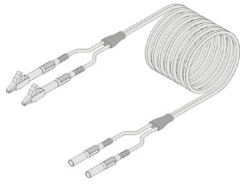
The main connectivity is made via standard 4 mm test leads plugged into the dual channel ports.

## F-Type

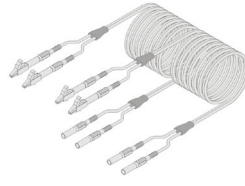


Using the supplied adapter, connectivity can also be made to the dual F-type ports. Other standard push-on adapters also fit. Not available on TDR2050.

## Accessories



6231-652  
Single miniature clip lead set 4mm



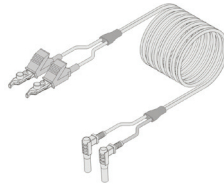
6231-654  
Dual miniature clip lead set 4mm



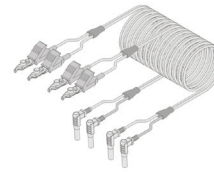
1002-015  
Single Fused test leads



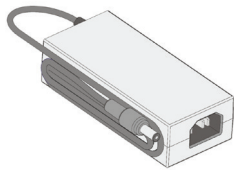
1002-136  
Dual Fused test leads



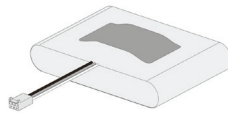
6231-655  
Bed of Nails Test Leads (1 Pair)



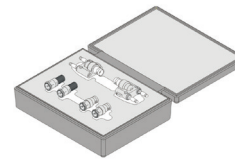
6231-653  
Bed of Nails Test Leads (2 Pairs)



1003-352  
Mains Charger



1002-552  
Replacement Battery



1003-218  
Terminal adaptor kit

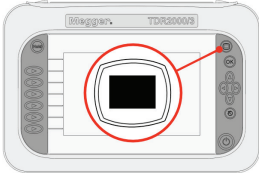
There are various mounting and carrying options for the TDR2000 series to ensure the user can position their instrument securely and efficiently.



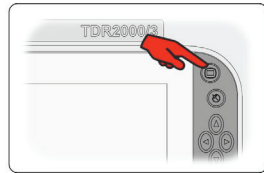
## Mode

The TDR2000 series can be set up to work for several different applications. This will allow the user to specify how the instrument receives, processes and displays test readings. The testing options for each mode are shown on the line adjacent to the icon for the specific mode.

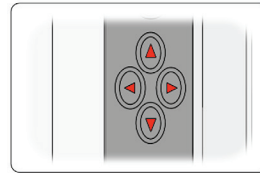
### Selecting Mode



Change mode



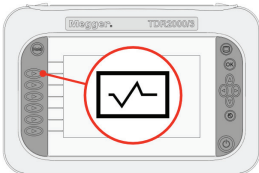
Press to select



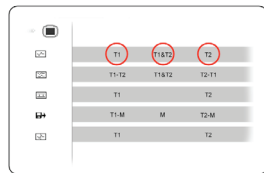
Use cursor keys



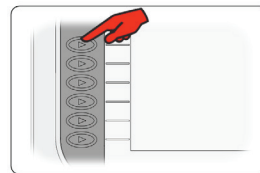
### Choosing a mode



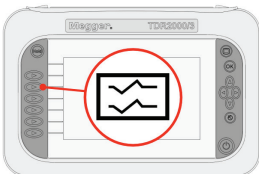
Single Channel mode



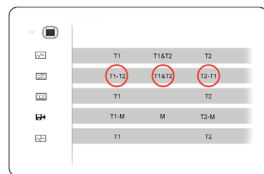
Choose T1 or T2



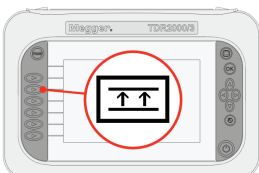
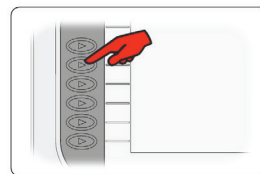
Press key indicated to change



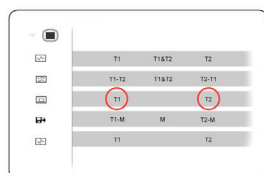
Dual Channel mode



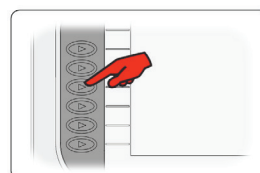
Choose T1-T2, T2-T1, T1&T2 Press key indicated to change



Crosstalk



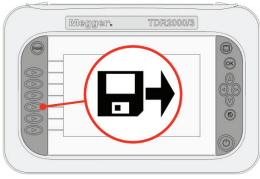
Choose T1 or T2



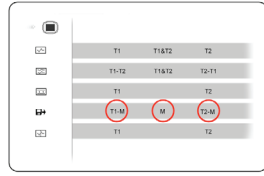
Press key indicated to change



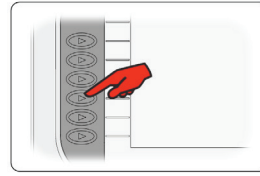




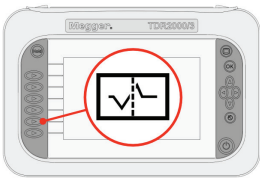
Load saved trace



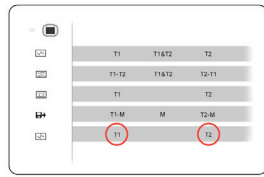
Choose T1-M, T2-M, M



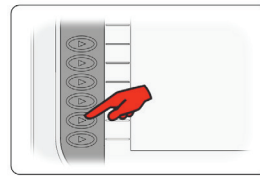
Press key indicated to change



Intermittent mode



Choose T1 or T2



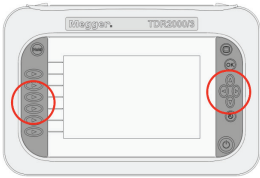
Press key indicated to change



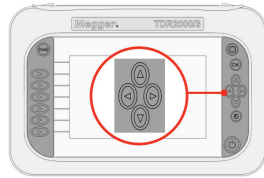
## General

General functions are available from the main screen and be accessed using the left and right navigation keys and appropriate selection buttons.

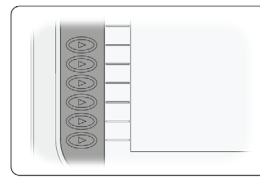
The instrument is also able to save and preview traces, enabling the user to maintain a database of information for downloading to a PC to create reports or to use in other custom applications.



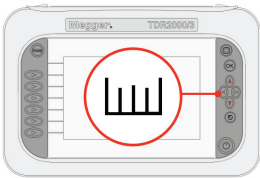
Navigation



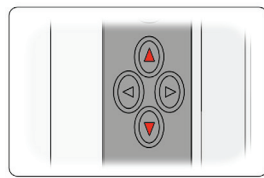
Use cursor keys



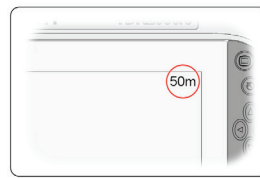
Use soft keys to select



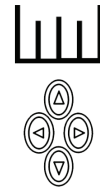
Range



10 m min to 20 km max in 11 steps  
(30 - 60,000 ft)

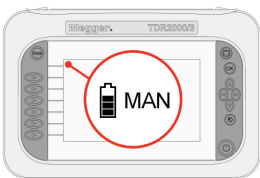


The currently selected range is shown at top right of the screen

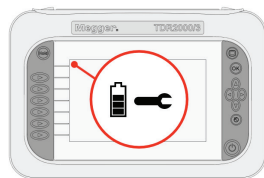


## Operational state

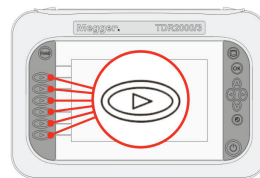
The current operational state is shown at the top left of the screen and identifies the current operational setting for the chosen screen. Icons displayed are specific to the function.



Current operational state.  
Currently in Manual operation



Current operational state.  
Currently in Setup operation



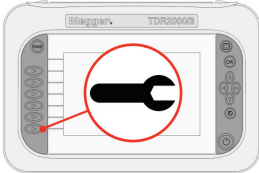
Change current state using  
the appropriate button



## Setup

The user has the ability to change various settings for the live trace ranging from the velocity factor to the gain applied to the trace. These settings can be accessed via the setup icon.

### Accessing Setup



Press to select



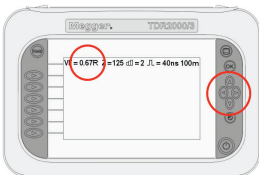
Automatic mode



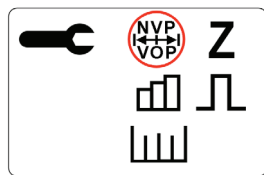
Manual mode



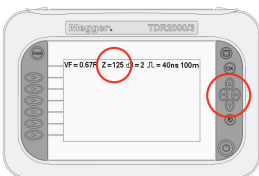
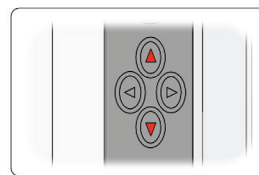
### Adjusting the Setup Options



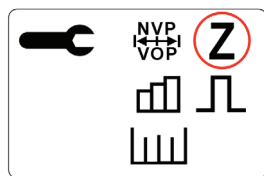
Velocity Factor



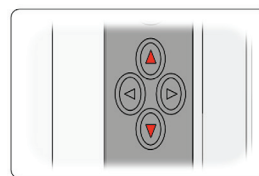
Use the up and down cursors to set the Velocity Factor to match the cable under test.



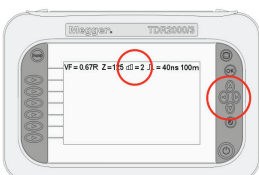
Impedance



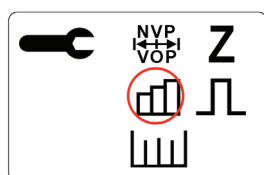
Use the up and down cursors to adjust the impedance for the cable under test.



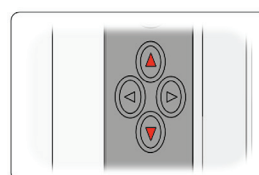
\*Only available in manual operation (see page 13).



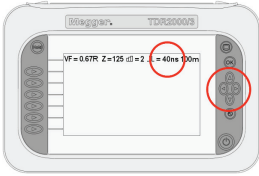
Gain



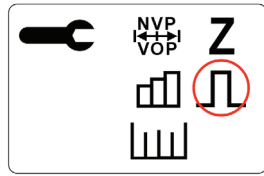
Use the up and down cursors to alter the gain to adjust visible disturbances on trace.



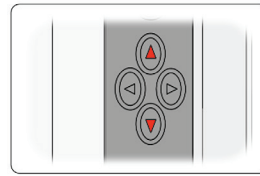
\*Only available in manual operation (see page 13).



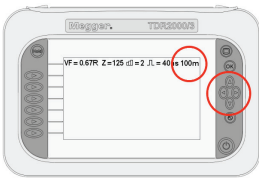
Pulse width



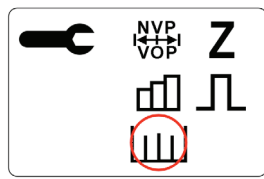
Use the up and down cursors to change the instrument pulse width.



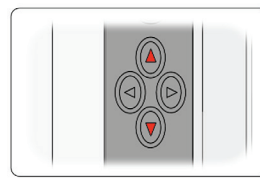
\*Only available in manual operation (see page 13).



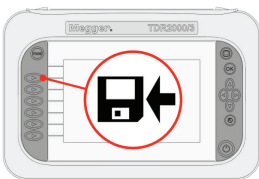
Cable Range



Use the up and down cursors to change the length of the cable under test.



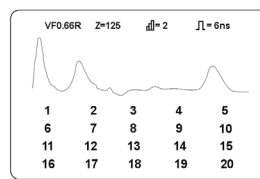
## Saving Current Trace



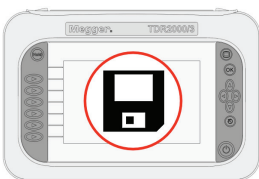
Save



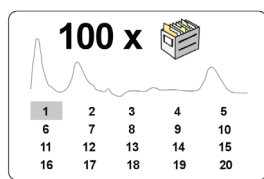
Preview



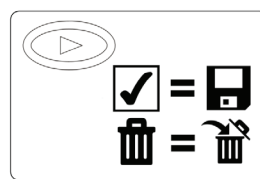
Selected trace displayed



Manage Memory



Use cursor keys

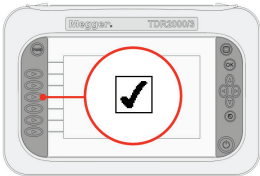


Selecting the tick saves the results to the selected memory location and the bin deletes the result from the selected memory location



## Trace tagging

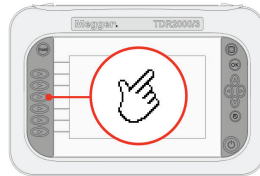
Trace Tagging is only available on the TDR2010 and TDR2050 models. Trace Tagging allows the user to add a name to all saved traces. This could be the circuit ID, building name or any other identifying text the user wishes to save with the trace. A text string of up to 32 alphanumeric characters can be stored against each trace and this can consist of upper case letters including accents.



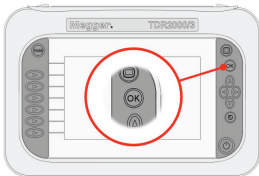
This function is activated when choosing a memory location to save a trace to



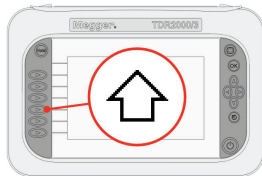
Use the navigation buttons to select a letter and the soft keys to action



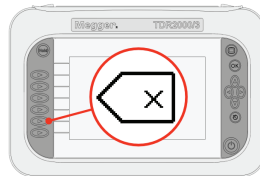
Press the hand icon to add the currently selected character



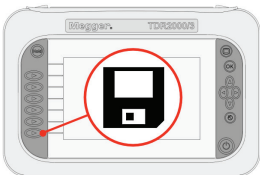
You can also press the OK button to accept the selection



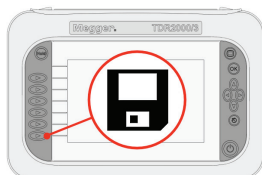
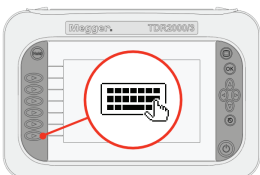
Press the shift icon to change the keyboard to the extended characters



Press the backspace icon to delete the last character



Once all characters have been chosen, press the save icon to complete the save process



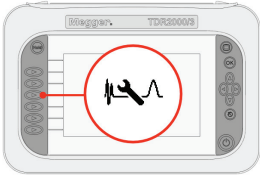
You can edit a current trace tag either when you save a trace, or when you are choosing a trace for a memory mode function.

Once you enter edit mode, simply use the technique for new trace tags in the previous section.

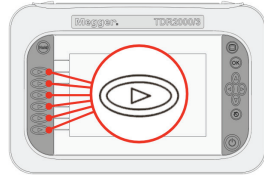
When you have finished editing, press the save icon to complete the edit and save your changes.

## Trace functions (TDR2050 only)

TDR2050 has a suite of trace tools which provide additional test capabilities. These can be found in the Trace Tools menu item.



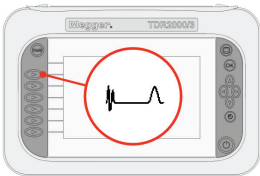
Press to access Trace Tools



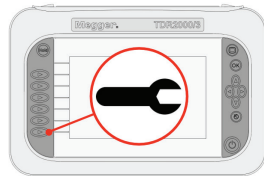
Choose required function

### Standard trace function

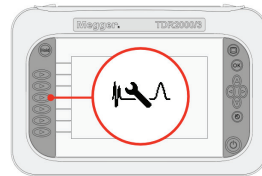
The standard trace function allows the instrument to be set up to work as a standard pulse TDR. This function should be chosen to turn off other trace functions.



Standard trace function



Change settings as required

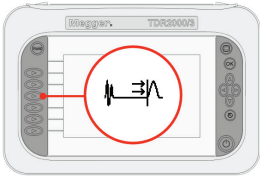


Press to choose another trace function

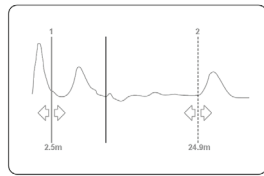
## AutoFind

AutoFind allows the automatic detection of disturbances along the result trace, making it easier to target disturbances amongst a noisy trace.

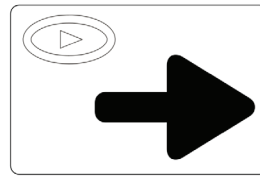
On TDR2000/3 and TDR2010 this function is available from the main screen.



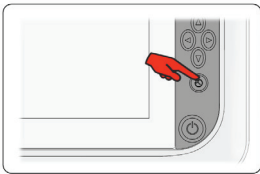
Press to choose AutoFind



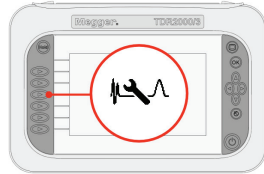
Cursor snaps to disturbance



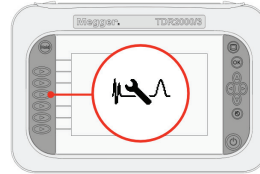
Press for next disturbance



To cancel the next disturbance feature, press the back button to return to the main screen



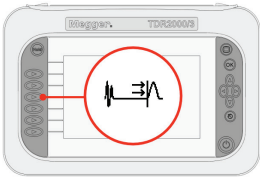
The Trace Tools icon will then show



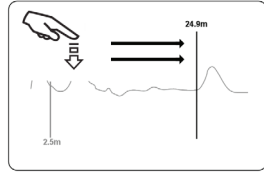
Press choose another trace function

## FindEnd

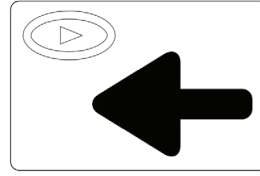
The FindEnd function allows the automatic detection of the end of the cable. On busy or noisy cables this may need to be repeated.



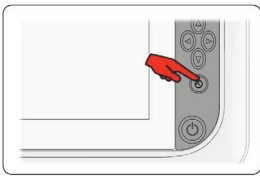
Press to choose FindEnd



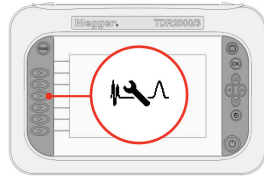
Automatically positions a cursor at the detected end of the current cable



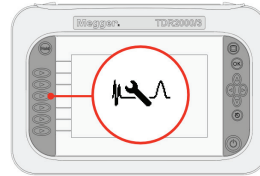
Press to repeat detect end.



To cancel the repeat detect end feature, press the back button to return to the main screen



The Trace Tools icon will then show

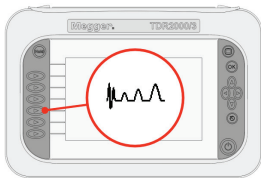


Press choose another trace function

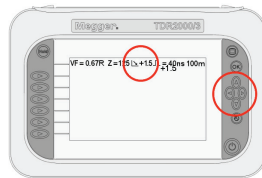


## Distance dependent gain - DDG

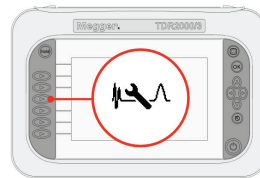
DDG counteracts the effects of signal loss on a cable by gradually increasing the gain along the trace result. DDG is suitable for longer length cables and is available on ranges of 1000m and above.



Distance dependent gain



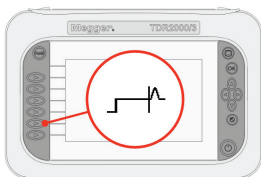
Adjust DDG.  
Single press increments by 0.1 dB  
Press and hold increments by 0.5 DB



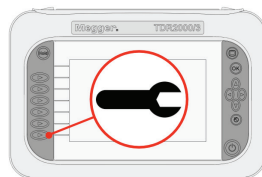
Press choose another trace function

## Step TDR feature

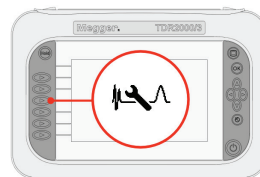
The injected signal is started and then maintained at the same level giving a constant signal. The receiver is also constantly set to receive any reflections. This function is ideal for near-end testing as it is more sensitive than a Pulse TDR due to the constant signal. The Step TDR function is only suitable for shorter length cables and is available on ranges up to and including 500m.



Step TDR function activation



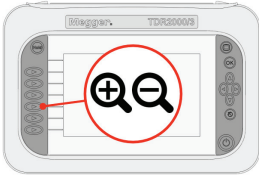
Change settings as for pulse TDR



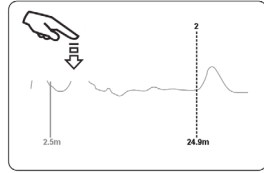
Press choose another trace function

## Zoom

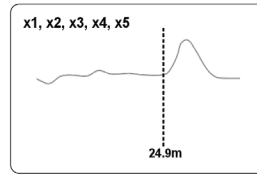
The zoom capabilities are limited by the range chosen and only zoom modes suitable for the chosen ranges are displayed.



Zoom function



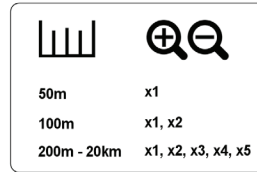
Press to select



Zooms at cursor position



Minimum range



Range/Capability

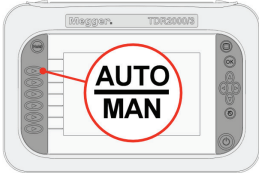


## Advanced

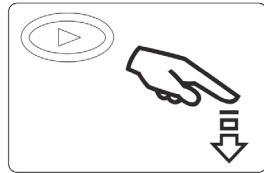
The TDR2000 series have two methods of operation. Both options allow the user to set operational parameters.

In Manual operation the user has full control over the settings in use for the cable under test. In Automatic operation the TDR sets the appropriate impedance to the cable and suggests gain and pulse width settings. Expert Function allows auto detection of faults on the live traces.

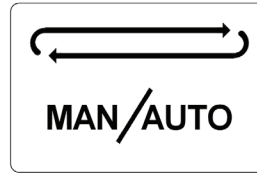
### Manual and Automatic operation



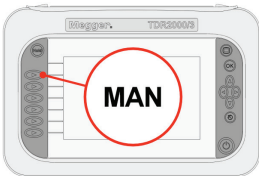
Manual/Automatic



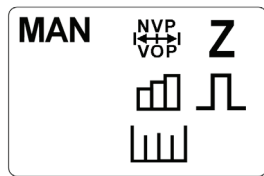
Press to swap modes



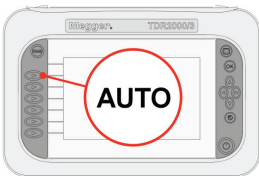
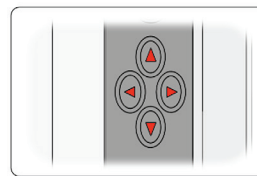
Changes with each press



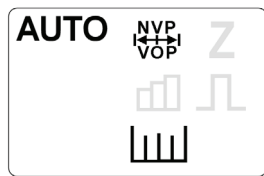
Manual



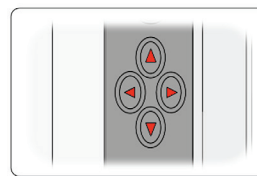
Adjustable in this mode



Automatic



Adjustable in this mode



**NOTE:** Auto in DDG only performs AutoZ; not 'auto settings'

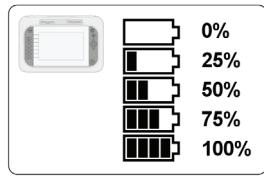
## Battery

The TDR2000 series have built in intelligent charge management technology so that the maximum charge rate is maintained, meaning a longer battery life is possible.

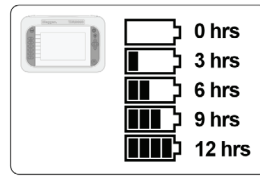
### Battery information



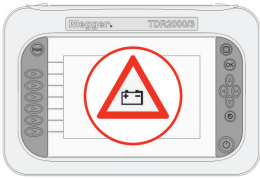
Battery state



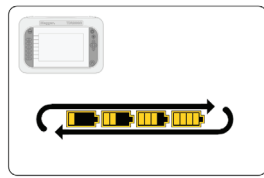
Capacity



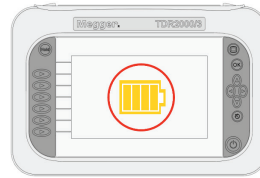
Typical life remaining



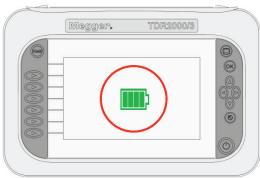
Warnings



Charging



Charging paused

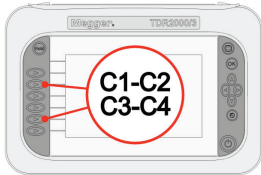


Charged

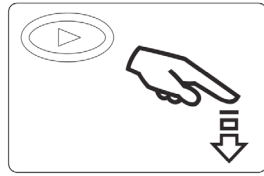
## Results

The cursor lines on the TDR2000 series allow the user to identify disturbances at strategic points to determine distances and positions of potential faults on the trace.

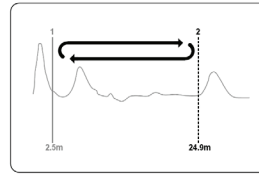
### Cursors and measurements



Cursor choice

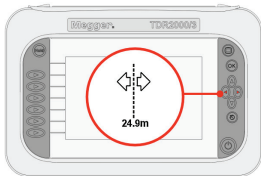


Press to select

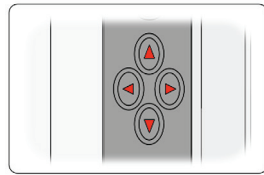


Swap between cursors

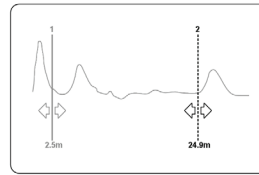
C1-C2  
C3-C4



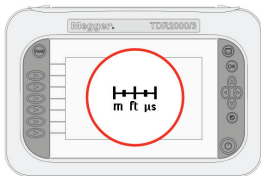
Cursor movement  
C1-C2 Trace 1  
(Single Trace Mode)  
C3-C4 Trace 2  
(Dual Trace Mode)



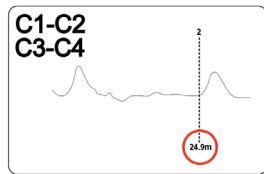
Use cursor keys



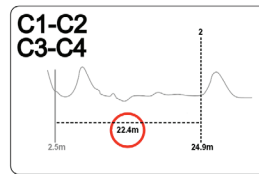
Cursor position on trace



Distance measurement



Distance to cursor



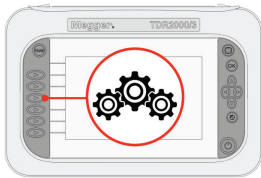
Delta measurement

m ft μs  
C1-C2  
C3-C4

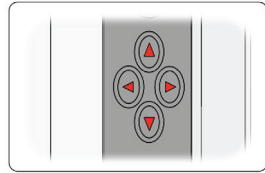
## Tools

When in the Setup screen, access can be made to a selection of user tools. Within the tools function the user can change basic settings and locate current instrument setup information.

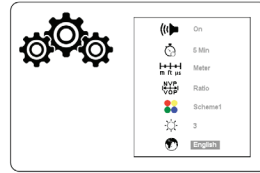
Adjustable settings include Volume, Standby, Units of measure, NVP formats, Colour scheme, Brightness and Language.



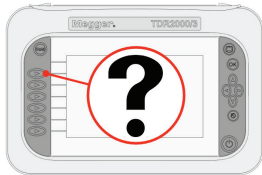
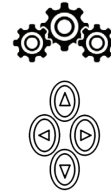
Preferences



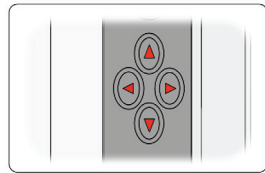
Use cursor keys



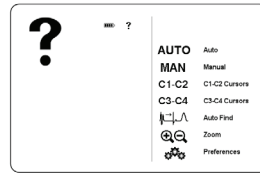
Up/Down to select  
Left/Right to change



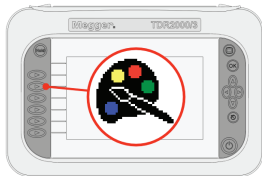
Help



Use cursor keys



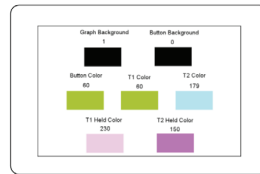
Function information



Custom



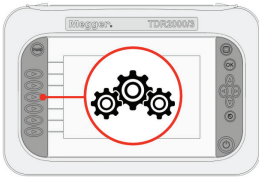
Press to select



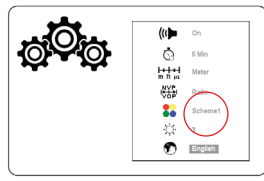
Left/Right to select  
Up/Down to change



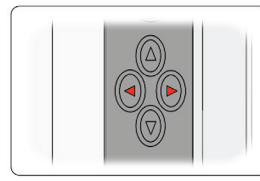
## Colour schemes



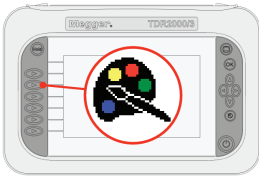
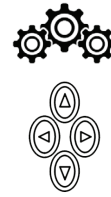
Press the preferences icon to access the system preferences screen



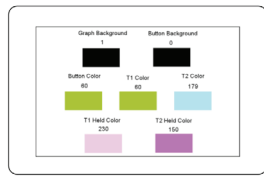
There are a number of colour schemes available as standard, plus additional custom schemes where you can set your own



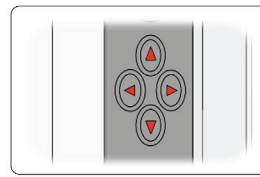
Use the left and right navigation buttons to change the current scheme



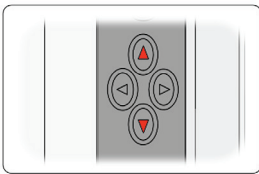
You can use the current scheme as a basis for a custom scheme by pressing the custom scheme pallet icon



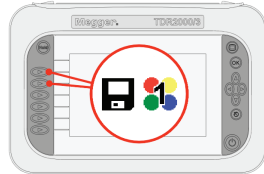
From here you can change any of seven elements that make up all screens



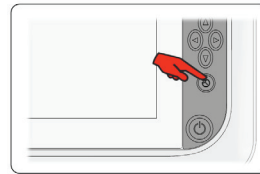
Use the left and right navigation buttons to choose an element



Use the up and down navigation buttons to change the colour for the chosen element



Once finished setting your colours, press either the custom 1 or custom 2 icons to save that scheme. The scheme currently stored in that custom slot will be overwritten.



























After saving your custom scheme, press the back button to return to the main screen







## Glossary

### Appendix A








#### Function

 Mode	 Preferences	<b>Z</b> Impedance
 Single channel mode	 Settings	 Gain
 Dual channel mode	 Auto/Manual choice	 Pulse Width
 Intermittent mode	 Press for next fault	 Range
 Crosstalk	 Delete	 Edit Trace Tag
 Save	 Accept	 Select current character
 Load saved trace	 Preview	 Shift character set
<b>C1-C2</b> <b>C3-C4</b> Cursor controls	<b>T1</b> Trace 1	 Backspace delete
 Zoom function	<b>T2</b> Trace 2	 Complete and save
 Help	<b>M</b> Memory	

#### Trace Functions

 Trace Functions	 Standard Trace	 AutoFind function
 FindEnd	 DDG	 Step Trace

#### Preferences

 Speaker	 Velocity format	 Brightness
On/Off	Ratio	1 - 10
 Power down timer	m/μs	 Language
1, 5, 10 min, Never	ft/μs	English
 Unit of measurement	 Colour scheme	Dutch
Meters	Default/Outdoor	Swedish
Feet	Scheme 1 - 6	Spanish
Nanoseconds	Custom 1 - 2	Italian
		German
		French



## Troubleshooting

### Appendix B

Fault	Problem
<b>Solution</b>	
Instrument won't turn on	Battery not charged up
Plug in charger and charge for 6 hours.	
Instrument won't charge	Battery not functioning (Flashing charge icon)
Contact your local Megger dealer for a replacement battery.	
Instrument won't charge	Charger not functioning (LED)
Contact your local Megger dealer for a replacement charger.	
Instrument keeps turning itself off	Battery not sufficiently charged
Plug in charger and charge for 6 hours	
Instrument keeps turning itself off	Standby set too low
Access user settings and change standby time.	
Display not visible	Colour settings incorrect
Access user settings and change colours.	
Display not visible	Instrument in power save mode
Press standby button to return to display.	
Distance to fault is inaccurate	Incorrectly set Velocity Factor
Check VF value for the cable under test and change settings.	
Can't set Velocity Factor	Cable Velocity Factor unknown
Test a known length of cable to determine Velocity Factor.	
VF, Impedance, Gain, Pulse inaccessible	Instrument set to Automatic
Press the escape button and then change to manual.	
Instrument keeps ticking	Dual input function chosen
Ticking is normal due to relays switching input.	



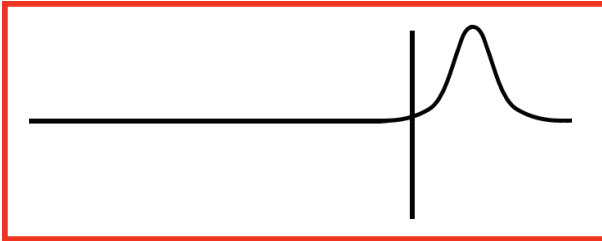
## Troubleshooting

### Appendix B

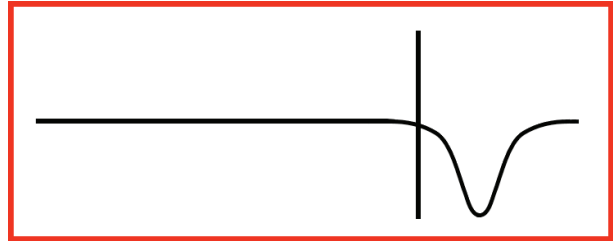
Fault	Problem
<b>Solution</b>	
Instrument keeps ticking on single input	Incorrect connection to cable under test
End of cable not determined so unable to reach max range.	
Buttons not responding	Keypad error
Contact Megger for repair.	
Can't see end of cable on trace	Wrong range chosen
From main screen press up navigation button to extend range.	
Can't see fault I know is there	Gain set too low
In manual mode select and change gain with navigation buttons.	
The trace is very noisy	Gain set too high
In manual mode select and change gain with navigation buttons.	
No trace even though leads connected	Leads plugged in to wrong channel
Connect test leads to correct channel.	
Instrument not uploading/downloading	USB cable damaged or wrong type
Use only genuine Megger cable and check before connecting.	
Instrument won't download data	No saved results on TDR
Take readings and save results before download.	
TraceXpert won't load up	Incorrect or unstable installation
Obtain correct user rites if required and re-install TraceXpert.	
TraceXpert won't install on PC	Incompatible operating system
TraceXpert is compatible with Windows XP, Vista, 7 and 8.	

## Common fault traces

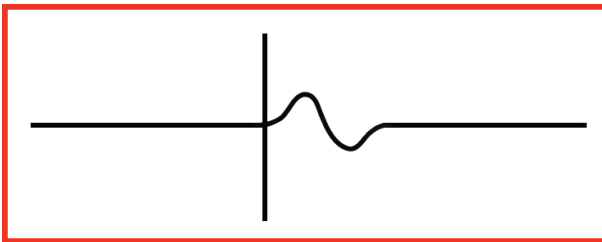
### Appendix C



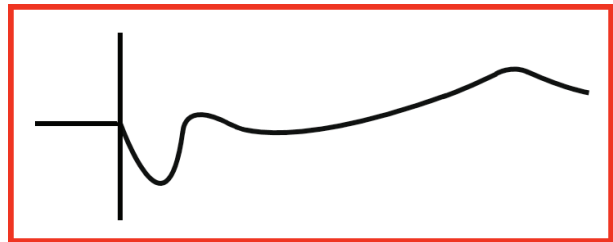
Open conductor



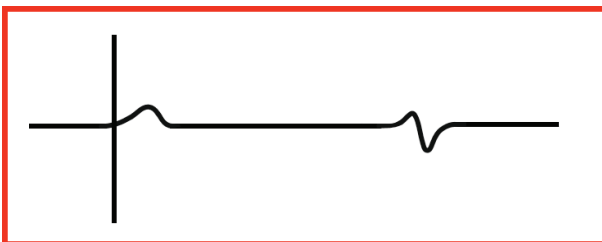
Shorted conductor



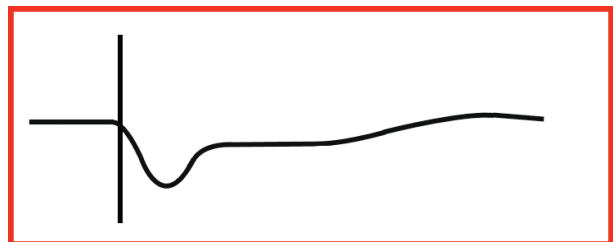
Cable splice/joint



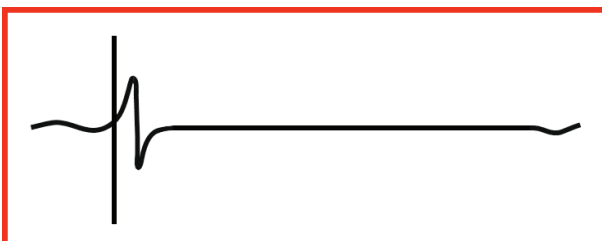
T-joint



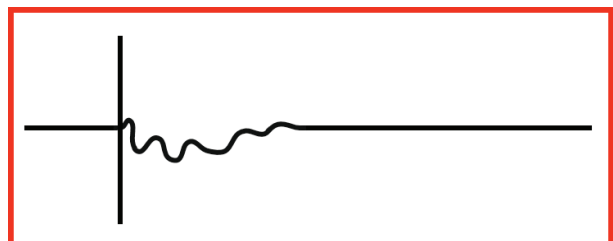
Bridge tap



Spilt/resplit



Wet splice



Water ingress

## Specifications

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

### General

<b>Range</b>	Up to 20000m with a minimum resolution of 0.1m
<b>Accuracy</b>	±1% of range ± 1 pixel at 0.67VF
Note- The measurement accuracy is for the indicated cursor position only and is conditional on the velocity factor being correct	
<b>Resolution</b>	1% of range
<b>Input Protection</b>	This instrument complies with IEC61010-1 to protect the user in the event of connection to live systems. TDR2050 is rated at 600 V CAT IV whilst all other models are rated at 150 V CAT IV. TDR2050 is specifically designed to allow use on energised systems up to the rated voltage.  All other models are designed for use on de-energised systems and Megger fused leads must be used on power cables.
<b>Output pulse</b>	Up to 20 volts peak to peak into open circuit. Pulse widths determined by range, cable and model used.
<b>Gain</b>	Set for each range with user selectable steps (in Manual operating mode)
<b>Velocity Factor</b>	Variable from 0.2 to 0.99 in steps of 0.01
<b>TX Null</b>	Automatic mode
<b>Trace Tagging</b>	32 alphanumeric characters chosen from upper case letters including accents
<b>Colour schemes</b>	Selectable TDR2000/3 x2 TDR2010, TDR2050 x8  Custom TDR2000/3 x1 TDR2010, TDR2050 x2
<b>Step TDR</b>	Eliminates the Dead Zone effect.
<b>DDG</b>	Available in ranges 1000 m and above Adjust DDG. Single press increments by 0.1 dB Press and hold increments by 0.5 DB
<b>Cable Impedance</b>	25, 50, 75, 100, 125, 140 ohm + AUTO (model dependent)
<b>Power Down</b>	User programmable auto power off timer 1, 5, 10 minutes or off
<b>Batteries</b>	Li-Ion rechargeable battery with 12 hours typical life
<b>Safety</b>	IEC61010-1 compliant for live systems. TDR2050 600 V CATIV All other models 150 V CAT IV or 300 V CAT III. EN60950-1, EN61010-1, UN38.3 and EN62133
<b>EMC</b>	Complies with Electromagnetic Compatibility Specifications BS EN 61326-1, B min. for all immunity tests
<b>Mechanical</b>	The instrument is designed for use indoors or outdoors and is rated to IP54
<b>Case Dimensions</b>	290 mm (11.4 inches) x 190 mm (7.5 inches) x 55 mm (2.2 inches)
<b>Instrument weight</b>	1.7 kg (3.8lbs)
<b>Case material</b>	ABS
<b>Display</b>	800 x 480 pixel WVGA colour graphics LCD, viewable in external environments, user selectable colour schemes
<b>Connectors</b>	Four 4mm-safety terminals and two F connectors. Other standard push on adapters will fit. F connectors not available on TDR2050
<b>Test leads</b>	
<b>TDR2000/3, TDR2010</b>	2 m 2 x 4 mm shrouded connector to miniature crocodile clips
<b>TDR2000/3P, TDR2050</b>	2 x 1.5 m fused leads
<b>CFL535G</b>	2 x Bed-of-Nails lead set

## Environmental

<b>Operational Temperature</b>	-15°C to +50°C (5°F to 122°F)
<b>Storage Temperature</b>	-20°C to 70°C (-4°F to 158°F)
<b>Charging Temperature</b>	0°C to 40°C

## Repair and warranty

If the protection of an instrument has been impaired it should not be used, but sent for repair by suitably trained and qualified personnel. The protection is likely to be impaired if, for example, the instrument shows visible damage, fails to perform the intended measurements, has been subjected to prolonged storage under unfavourable conditions, or has been exposed to severe transport stresses.

New instruments are covered by a two year warranty from the date of purchase by the user, the second year being conditional on the free registration of the product on [www.megger.com](http://www.megger.com). You will need to log in, or first register and then login to register your product. The second year warranty covers faults, but not recalibration of the instrument which is only warranted for one year. Any unauthorised prior repair or adjustment will automatically invalidate the warranty.

These products contain no user repairable parts and if defective should be returned to your supplier in original packaging or packed so that it is protected from damage during transit. Damage in transit is not covered by this warranty and replacement/repair is chargeable.

Megger warrants this instrument to be free from defects in materials and workmanship, where the equipment is used for its proper purpose. The warranty is limited to making good this instrument (which shall be returned intact, carriage paid, and on examination shall disclose to their satisfaction to have been defective as claimed). Any unauthorised prior repair or adjustment will invalidate the warranty. Misuse of the instrument, from connection to excessive voltages, fitting incorrect fuses, or by other misuse is excluded from the warranty. The instrument calibration is warranted for one year.

This Warranty does not affect your statutory rights under any applicable law in force, or your contractual rights arising from a sale and purchase contract for the product. You may assert your rights at your sole discretion

## Calibration, service and spare parts

For service requirements for Megger Instruments contact Megger or your local distributor or authorised repair centre.

Megger operates fully traceable calibration and repair facilities, ensuring your instrument continues to provide the high standard of performance and workmanship you expect. These facilities are complemented by a worldwide network of approved repair and calibration companies to offer excellent in-service care for your Megger products.

See the back of this user guide for Megger contact details.

Details of your Authorised Service Centre is available by contacting [ukrepairs@megger.com](mailto:ukrepairs@megger.com) and giving details of your location.



Megger Limited  
Archcliffe Road  
Dover Kent, CT17 9EN  
England  
Tel: +44 (0) 1304 502100  
Fax: +44 (0) 1304 207342

Megger  
4271 Bronze Way  
Dallas, TX 75237-1017 U.S.A.  
Tel: +1 (800) 723-2861 (U.S.A. only)  
Tel: +1 (214) 330-3203 (International)  
Fax: +1 (214) 337-3038

Megger  
Valley Forge Corporate Center  
2621 Van Buren Avenue  
Norristown, PA 19403, USA  
Tel: +1 (610) 676-8500  
Fax: +1 (610) 676-8610

Megger SARL  
Z.A. Du Buisson de la Coudre  
23 rue Eugène Henaff  
78190 TRAPPES  
France  
Tel : +33 (1) 30.16.08.90  
Fax : +33 (1) 34.61.23.77

Megger GmbH  
Obere Zeil 2  
61440 Oberursel  
Germany  
Tel: +49 6171-92987-0  
Fax: +49 6171-92987-19

Megger Sweden AB  
Rinkebyvägen 19  
182 36 Danderyd  
Tel: +46 8 510 195 00  
Fax: +46 8 510 195 95

Seba Hungária Kft.  
1027 Budapest, Vitéz u. 14/a.  
Magyarország  
Tel./FAX: +36 1 214-2512  
Mobil: +36 20 9654-297

Megger Pty Limited  
Unit 26 9 Hudson Avenue  
Castle Hill  
Sydney NSW 2125 Australia  
T +61 (0)2 9659 2005  
F +61 (0)2 9659 2201

Megger Limited  
Unit 106-550 Alden Road  
Markham, Ontario L3R6A8  
Canada  
T +1 416 298 9688 (Canada only)  
T +1 416 298 6770  
F +1 416 298 0848

**Megger**<sup>®</sup>

WWW.MEGGER.COM

This instrument is manufactured in the United Kingdom.  
The company reserves the right to change the specification or design without prior notice.

Megger is a registered trademark

[www.megger.com](http://www.megger.com)

TDR20003--TDR20003P--TDR2010--TDR2050--CFL525G\_UG\_EN\_V01