

MFT1735 Multifunction Tester



- **Simple colour-coded test selection and large clear backlit display for ease of use**
- **Two and three wire non-trip loop testing for RCD protected circuits**
- **Internal memory and Bluetooth® communications**
- **Type-B RCD and 3-phase RCD testing for industrial applications with no Earth**
- **3-terminal earth test and stakeless testing for spike resistance measurement ****
- **EN61010 CATIV safety ratings and tough IP54 case**

DESCRIPTION

The MFT1735 instrument is designed for testing low voltage electrical installations to BS 7671. It provides all the tests required to complete the necessary electrical certification for industrial, commercial and domestic fixed wiring installations, including:

- System voltage and frequency measurement (TRMS)
- Insulation test at 100 V, 250 V, 500 V and 1000 V
Including input protection against live circuits up to 600 V even when insulation test is locked-on
- Continuity resistance at 200 mA or 15 mA
Automatic – no need to press TEST so leaving both hands free to hold probes
- Resistance range up to 100 kΩ
With fast continuity buzzer and selectable thresholds
- Non-trip loop test
- Earth loop test
- 2 and 3 wire non-trip range
- 2 wire Hi current including phase to phase
- Prospective fault current measurement
Up to 20 kA
- RCD testing including:
 - Type AC, A, S, B and programmable RCDs
 - 1/2 x I, 1 x I and 5 x I
 - 3-phase RCDs
 - Fast ramp test
 - Auto-test routine
 - Fault (Touch) voltage display
- Earth testing
 - 2-pole, 3-pole, ART
 - Stakeless techniques

All instruments are IEC 61010 CAT IV 300 V rated for connection to low voltage systems with no protective device, so safe for connection anywhere on the system up to the source transformer without risk of damage from large transient spikes.

The unique modern styling allows it to be operated while stood on the floor, a ladder-shelf or platform, hung around the neck or hand-held. Dual TEST and LOCK buttons – one pair at each end – make the testers easy to operate with either the left or right hand.

Quick to pick up and use, the rotary controls are colour coded to make range selection easy and fast. They also reduce the chance of using the wrong function or range. The large crystal clear backlit display uses the patented Megger digital/analogue arc, providing indication of fluctuating readings while the dual digital readout shows precise values of key measurements simultaneously with the test parameters, such as the output voltage on insulation testing as well as the resistance value in MΩ.

Visible and audible safety warnings are paramount when testing high-energy systems, and the MFT1735 range includes full input protection and safety warnings when a hazardous voltage is present. If live voltages exist on a circuit during insulation or continuity testing, the voltage is displayed on the screen. If this voltage exceeds a safe level, further testing is inhibited and a warning beep sounds.

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The MFT1735 features internally rechargeable batteries and charger with a charge time of less than 4 hrs, so reducing the cost of ownership.

Fully compliant with all requirements of IEC 60364 derived standards including BS 7671, the new MFT includes all the latest measurement technology in a lightweight compact design and fully protected and usable on single phase and 3 phase installations.

New measurement functions include two and three wire non-trip loop test technology for RCD protected circuits, comprehensive testing of RCDs including type B and the latest clamp-on techniques for earth testing.

The MFT1735 includes built in memory and Bluetooth® communications for downloading of memory using Megger Download Manager (supplied) for simple form filling of test results using optional certification software such as **CertSuite** from Megger.

CertSuite electrical certification software works online and offline, with PC, Mac, tablets and phones. It allows you to send your certificate straight from the job to Cloud based secure storage, seamlessly auto-syncing to allow multiple engineers to work on the same certificate simultaneously. An office-based supervisor can manage on-site data entry and add company logos, photographs, etc. **Visit CertSuite.app for more information.**

The new MFT1735 has been designed for tough environments and ultimate reliability. Features include a rubber over mould for extra protection and grip, IP54 protection against dust and water and an EN61010 CAT IV safety rating. Its class leading input protection ensures the new MFT can withstand accidental misuse and voltage transients when other testers can't.

All this in an intuitive and easy to use instrument with no hidden menus or complicated screens. Tests are easily selected using the colour coded rotary switches with results clearly displayed on the high contrast dual measurement backlit display.

Included with the instrument are a standard 3-wire leadset and a mains test lead, a switched probe for fast and easy testing, a full 12-month calibration certificate and warranty upgradeable to 3 years. The MFT is supplied in a robust moulded case with plenty of additional space for optional extras like a few tools and the earth electrode test kit, comprising 2 spikes and 3 long test leads.

SPECIFICATIONS

Insulation test

Output voltage	-0% +20% at rated load or less
Voltage display voltage	±3% ±3 digits ±0.5% of rated
Short circuit current	1.5 mA nominal test current
Test current on load	1 mA at min pass values of insulation

Measurement accuracy

1000 Volts	10 kΩ ~ 999 MΩ	±3% ±2 digits
500 Volts	10 kΩ ~ 500 MΩ	±3% ±2 digits
	>500 MΩ	±10% ±4 digits
250 Volts	10 kΩ ~ 250 MΩ	±3% ±2 digits
	>250 MΩ	±10% ±4 digits
100 Volts	10 kΩ ~ 100 MΩ	±3% ±2 digits
	>100 MΩ	±10% ±4 digits

Resistance and continuity

0.01 Ω ~ 99.9 Ω	±2% ±2 digits
100 Ω ~ 99.9 kΩ	±5% ±2 digits
Open circuit voltage 5 V	±1 V
Test current (0 Ω ~ 2 Ω)	205 mA ± 5 mA
15 mA	±5 mA (user selectable)

Loop test

Live to earth supply	48 V ~ 280 V (45 Hz ~ 65 Hz)
Live to live supply	48 V ~ 500 V (45 Hz ~ 65 Hz)
L-N/L-L tests	±5% ±3 digits
L-E tests*	
0.1 Ω ~ 39.9 Ω	±5% ±5 digits ± noise margin
40.0 Ω ~ 999 Ω	±10% ±5 digits
Display range	0.01 Ω ~ 999 Ω
Live to earth PFC range	20 kA
Live to live PSCC range	20 kA

RCD tests

Intrinsic current accuracy:

No trip test:	(1/2xl) -10% to 0%
Trip test:	(1xl, 2xl and 5xl) +0% to +10%.
Ramp test current:	±5% ±1 digit
Trip time:	±1% ±1 ms

Programmable step increments:

10 mA to 50 mA	- 1 mA steps.
50 mA to 500 mA	- 5 mA steps
500 mA to 1000 mA	- 10 mA steps.

Supply:	48 V - 280 V 45 Hz to 65 Hz
Max service error:	±10% ±2 digits

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Supply measurement

Voltage	10 V ~ 600 V (15 ~ 400 Hz) True RMS
	$\pm 3\% \pm 1 \text{ V} \pm 2 \text{ digits}$
Phase rotation indication	L1-L2-L3 & L1-L3-L2
Frequency	15 Hz ~ 99 Hz $\pm 0.5\% \pm 1 \text{ digit}$
	100 Hz ~ 400 Hz $\pm 2.0\% \pm 2 \text{ digits}$
Frequency resolution	0.1 Hz

Power supply

MFT1735: 1.2 V NiMH (rechargeable 6 cells supplied) Mains charger for on-board re-charging (4 hours typical) 12 V car charger (cigar lighter lead - optional)

Earth / ground test

Resolution	0.01 Ω
Current	0.45 mA or 4.5 mA
Noise rejection	20 V pk/pk (7 V rms).
Max probe resistances Rp & Rc	100 k Ω @ 50 V
	5 k Ω @ 25 V
2 & 3 pole method	(0.01 Ω ~ 1.999 k Ω) $\pm 2.0\% \pm 5 \text{ digits}$
ART method digits**	(1.00 Ω ~ 1.999 k Ω) $\pm 5.0\% \pm 5$
Stakeless method digits**	(1.00 Ω ~ 199 Ω) $\pm 7.0\% \pm 5$

Current range

(via optional clamp meter)

Range	0.1 mA to 200 A ac $\pm 5.0\% \pm 3 \text{ digits}$.
Resolution	0.1 mA

MV sensor input

including temperature (third party module)	$\pm 1.0\% \pm 2 \text{ digits}$
Range	0.0 mV to $\pm 199.9 \text{ mV dc}$
Resolution	0.1 mV

Data storage

Capacity 1000 results
Bluetooth communication

Safety

IEC 61010-1:2010
IEC 61010-30:2010
IEC 61010-031:2008
600 V CAT III / 300 V CAT IV
(Max Phase to Phase 600 V)
IEC 61557:2007 parts 1 to 10

EMC

IEC61326 edition 2 location class B

Operating temperature range	-10 $^{\circ}\text{C}$ ~ +55 $^{\circ}\text{C}$
Storage temperature range	-25 $^{\circ}\text{C}$ ~ +70 $^{\circ}\text{C}$
Humidity	90% R.H. at +40 $^{\circ}\text{C}$ max
Maximum altitude	2000 m
Weight	1 kg (with batteries, excluding case)
Dimensions	150 mm H x 85 mm W x 235 mm D
IP rating	IP54
Calibration temperature	+20 $^{\circ}\text{C}$
Temperature co-efficient	<0,1% per $^{\circ}\text{C}$

Note: The Bluetooth word mark and logo are owned by the Bluetooth SIG, Inc. and any use of such marks by Megger is under licence.

* Reference conditions apply.

** requires optional accessory for some ranges

ORDERING INFORMATION

Description	Order Code
Included accessories	
Neck strap - Megger embroidered	2001-509
3 Wire lead set with prods and clips	1001-991
Mains plug test lead (BS1363) (LT300-EN-BS)	6220-810
AC battery charger	1002-736
Earth electrode kit	1001-810
Switched probe SP5	1007-157
Optional accessories	
Fused 10 A test lead set (red/blue/green) with prods and clips	1001-975
ETL30 Extension Test Lead 30 m	1000-215
ETL50 Extension Test Lead 50 m	1000-217
Cigar lighter adapter for battery charging.	6280-332
3 Pole Earth Test Kit	6210-160
MCC1010 Current Clamp	1010-516
MCC1010 Voltage Clamp	1010-518

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