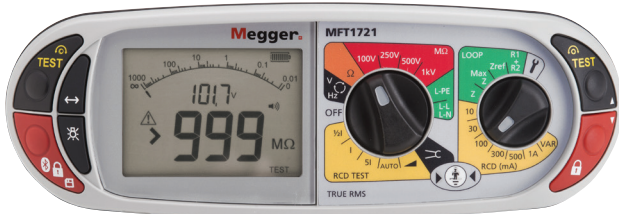


MFT1711 and MFT1721 Multifunction Tester



- Two and three wire non-trip loop testing for RCD protected circuits
- Type-B RCD and 3-phase RCD testing for industrial applications with no Earth
- 3-terminal earth test and stakeless testing for electrode resistance measurement
- Internal memory and Bluetooth® communications
- EN61010 CAT IV safety rating and tough IP54 case
- Megger Loop impedance Confidence Meter™
- RCD coil impedance immunity

DESCRIPTION

The MFT1700 series is a range of instruments for testing low voltage electrical installations to BS7671. They provide all the tests required to complete the necessary electrical certification for industrial, commercial and domestic fixed wiring installations, including:

- TRMS System voltage and frequency measurement
- 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 start - no need to press TEST so leaving both hands free to hold probes
- Resistance range up to 100 kΩ with fast continuity buzzer at selectable thresholds
- 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
 - 3-phase RCDs*
 - Auto-test routine
 - Fault (Touch) voltage display

* Model dependent

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 right 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 handheld. Dual TEST and LOCK buttons - one pair at each end - makes the testers easy to operate left or right handed.

Quick to pick up and use, the 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 MFT1700 series 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.

MFT1711 and MFT1721 Multifunction Tester

Fully compliant with all requirements of IEC 60364 derived standards including VDE 0100 and BS 7671, the MFT includes all the latest measurement technology in a light-weight compact design, fully protected and usable on single phase and 3 phase installations.

Key measurement functions include two and three wire non-trip loop test technology for fast repeatable results, comprehensive testing of RCDs including type B, and integrated 3-terminal and stakeless clamp techniques for earth electrode testing.

The MFT1700 series 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 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: 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 MFT1711 and MFT1721 are supplied in a robust moulded case.

* model dependant

PRODUCT SELECTION CHART

	MFT1711	MFT1721
Insulation ranges		
100 V		■
250 V, 500 V	■	■
1000 V	■	■
Test voltage display	■	■
Adjustable buzzer threshold		■
Continuity and resistance ranges		
200 mA test	■	■
15 mA test		■
Adjustable buzzer threshold	■	■
Loop testing		
2 and 3 wire non-tripping L-PE 50 V ~ 280 V	■	■
2 wire Hi current L-N 50 V ~ 280 V	■	■
2 wire phase to phase L-L 50 V ~ 500 V		■
PSCC and PFC (20 kA max.)	■	■
Max. Zs display	■	■
R1 + R2 value		■
Touch voltage display on faulty earth	■	■
RCD tests		
1/2, 1, 5 x I and ramp RCD test	■	■
Auto RCD test	■	■
Type AC, A and S RCDs	■	■
Type B (pure DC) RCDs		■
Programmable RCD	■	■
3-phase RCD (no earth)		■
30, 100, 300 and 500 mA RCD	■	■
10 mA and 1000 mA RCD	10mA	■
Other features		
Supply measurement	■	■
True RMS	■	■
Leakage current measurement **		■
Phase rotation		■
Calibration certificate	■	■
SP5 Switched probe included		■
Warranty upgradeable to 3 years FREE	■	■
CAT IV 300 V / CAT III 600 V	■	■
Hard moulded case	■	■

MFT1711 and MFT1721

Multifunction Tester

SPECIFICATIONS

Insulation test

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

Insulation 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/neutral supply

48 V ~ 280 V (45 Hz ~ 65 Hz)

Live to live supply (not MFT1711)

48 V ~ 500 V^{††} (45 Hz ~ 65 Hz)

L-N/L-L tests

±5% ±5 digits

L-E tests[†]

0.1 Ω ~ 39.9 Ω	±5% ±5 digits ± noise margin
40.0 Ω ~ 1000 Ω	±10% ±5 digits

Display range

0.01 Ω ~ 1000 Ω

Live to earth PFC range

20 kA

Live to live PSCC range

20 kA

[†] Reference conditions apply

^{††} MFT1711 280 V

For test environments see service data

RCD tests

Supply up to 100 mA 48 V ~ 480 V** (45 Hz ~ 65 Hz)

Supply up to 1 A 48 V ~ 280 V

RCD type

Type AC, A, S
Type B (pure dc)

No trip test

(1/2xl) -10% ~ -0%

Trip test

(1xl, 2xl and 5xl) +0% ~ +10%

Ramp test

Touch voltage

(0 ~ 253 V) +5% +15% ±0.5 V

Trip time

±1% ±1 ms

Trip current

±5%

Step increments

VAR (variable RCD selection)

10 mA ~ 50 mA 1 mA steps

50 mA ~ 500 mA 5 mA steps

500 mA ~ 1000 mA 10 mA steps

Supply measurement

Voltage 10 V ~ 600 V
(15 ~ 400 Hz) True RMS
±3% ±1 V ±2 digits

Phase rotation indication

L1-L2-L3 and L1-L3-L2

Frequency

15 Hz ~ 99 Hz ±0.5% ±1 digit
100 Hz ~ 400 Hz ±2.0% ±2 digits

Frequency resolution

0.1 Hz

Power supply

MFT1711 and MFT1721:

IEC LR6 type AA alkaline
(6 cells - supplied)

Mains charger for on-board re-charging (4 hours typical)

Current

(via optional clamp meter)

±5.0% ±3 digits.

Range

0.1 mA to 200 A ac

Resolution

0.1 mA

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 and humidity

-10 °C ~ +55 °C
90% R.H. at +40 °C max

Storage temperature range and humidity

-25 °C ~ +70 °C

Maximum altitude

2000 m

Weight (instrument and case)

1 kg (with batteries, excluding case)

Dimensions (instrument and case)

150 mm H x 85 mm W x 235 mm D

IP rating

IP54

MFT1711 and MFT1721

Multifunction Tester

Calibration temperature

+20 °C

Temperature co-efficient

<0,1% per °C

For test environments see service data.

* Model dependent

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ORDERING INFORMATION

Description	Order Code	Description	Order Code
MFT1711-BS	1008-121		
MFT1721-BS	1008-123		
Included accessories		Optional accessories	
Quick start guide		Fused 10 A test lead set (red/blue/green) with prods and clips	1001-975
Calibration certificate		ETL30 Extension Test Lead 30 m	1000-215
Switched probe SP5 (not supplied with MFT1711)	1002-774	ETL50 Extension Test Lead 50 m	1000-217
Neck strap - Megger embroidered	2001-509	Switched Probe SP5 (silicone)	1001-687
3 Wire lead set with prods and clips	1001-991	MCC1010 Current measuring clamp	1010-516
Mains plug test lead (BS1363)	6220-810	MVC1010 Voltage Clamp	1010-518
		Test and carry pouch	1006-408
		Large soft pouch with extra storage	1007-463
		3 Pole Earth Test Kit	6210-160
		ETK30 (3 Pole Earth Test Kit)	1010-176

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MFT1711--MFT1721_DS_EN_V09

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ISO 9001
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