



MFT5000 Multifunction Installation Tester



- Large full colour display
- High accuracy no trip loop testing
- Auto sequence RCD testing
- Test general and selective RCDs
- Phase rotation
- 250V / 500V and 1000V insulation test ranges
- Handsfree function
- PFC / PSC test
- Low ohm continuity test
- GS38 leads, probes and switch probe included
- Measurement category CAT III 600V (CAT IV 300V)

Measurement Specification and Accuracies

Loop/PFC-PSC

High Current: 2 wire test Live – Earth or Phase - Phase, 7A nominal at 230V:

Measurement range: 0.00Ω to 500.0Ω
 Accuracy: ±(3% + 3 digits)
 System voltage range: 50 - 440VAC
 System voltage frequency: 50 - 60Hz
 Over voltage protection (BS EN 61557-10): 550V

No-trip: 3 wire test Live-Earth, 13 mA nominal at 230V, max 5Ω Neutral impedance:

Measurement Range: 0.00Ω to 500.0Ω
 Accuracy: ±(5% + 5 digits)
 System voltage range: 195 - 253VAC
 System voltage frequency: 50 - 60Hz
 Over voltage protection (BS EN 61557-10): 550V

Insulation

Test voltage: 250V / 500V / 1000V
 Measurement range: 0.001 to 200.0MΩ (250V)
 0.001 to 500.0MΩ (500V)
 0.001 to 1000MΩ (1000V)
 Short circuit current (Into 2KΩ): <2mA
 Over voltage protection (BS EN 61557-10): 550V

Output Voltage

Voltage: 250V / 500V / 1000V
 Load: 250kΩ (250V)
 500kΩ (500V)
 1MΩ
 Accuracy: -0% +20%
 Output Current: 1mA
 Short Circuit Current: <2mA

Continuity

Measurement Range: 0.00Ω to 19.99kΩ
 Accuracy: ±(3% + 2 digits)
 Open Circuit: >4V / <10V
 Short Circuit Current (At 2Ω): >200mA
 Max Lead Null Resistance: 4Ω
 Over voltage protection: 550V fused

RCD

x0.5 / x1 / RAMP

mA	AC	ACS	A	AS
30	Y	N	Y	N
100	Y	Y	Y	Y
300	Y	Y	Y	Y
500	Y	N	N	N

X5

Battery life (Typical): Idling: 13.5 hours
 Insulation: 1008 tests*
 Continuity: 960 tests*
 *According to BS EN61557-2 and EN61557-4

mA	AC	ACS	A	AS
30	Y	N	Y	N
100	N	N	N	N
300	N	N	N	N
500	N	N	N	N

Accuracy at applied test current

Test current	Accuracy
x0.5	+0% -10%
x1	+10% -0%
x5	+10% -0%
RAMP	±5% of rated I _N

Operating ranges and uncertainties according to EN61557

Function	Display Range	EN 61557 Measurement Range	EN 61557 Operating Uncertainty	Nominal Values
Insulation Resistance EN 61557-2	0.001 MΩ - 1000MΩ	0.1MΩ - 1000MΩ	1.6%	U _N = 250/500/1000 VDC I _N = 1.0 mA
Loop Impedance EN 61557-3	0.01Ω - 500Ω	1.04Ω - 470Ω	Hi-I: 4.8% No-Trip: 10.8%	U _N = 230/400VAC f = 50/60Hz
Continuity EN 61557-4	0.00Ω - 20kΩ	0.1Ω - 10kΩ	12%	4.0VDC <U _Q <24VDC R _{L0} 2.00Ω I _N > 200 mA
RCD EN 61557-6	ΔT: 5ms - 2000ms I _{ΔN} -	ΔT: 38.2ms - 214.8ms I _{ΔN} : 15mA - 500mA	T: 2.8% I _{ΔN} : 7.2%	I _{ΔN} = 30/100/300 /500 mA

Operating uncertainties

Influence Quantity	Insulation Resistance R _{iso} EN 61557-2	Loop Impedance Z _I EN 61557-3	Continuity R _{Lo} EN 61557-4	RCD T EN 61557-6	RCD I _N EN 61557-6
A - Intrinsic Uncertainty	0.8%	0.9%	1%	1.5%	5.6%
E ₁ - Position	0%	0%	0%	0%	0%
E ₂ - Supply Voltage	1.0%	0.8%	10%	1.2%	0.3%
E ₃ - Temperature	0.8%	4.9%	0.7%	1.5%	2.1%
E ₄ - System Phase Angle	-	2.4%	-	-	-
E ₇ - System Frequency	-	0.4%	-	-	-
E ₈ - System Voltage	-	1.4%	-	1.5%	0.6%
E ₉ - System Harmonics	-	0.8%	-	-	-
E ₁₀ - System D.C Quantities	-	8.4%	-	-	-

General Specifications

Dimensions (mm): 115 x 245 x 140
 Weight (with batteries): 965 g
 Protective device: F0.5A, 500V, HRC 6.3 x 32mm
 LCD display: Colour LCD 3.5" 320xRGBx240 px
 Category rating: 300V CAT IV
 600V CAT III
 Ingress protection rating: IP54
 Operating temperature: 0°C to 40°C
 Storage temperature: -10°C to 60°C
 Operating humidity: 80% @ 31°C to 50% @ 40°C
 Operating altitude: 0 to 2000m
 Battery type: 6 x AA / LR6 Alkaline

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