

HT Instruments MACROTESTG3

HT Instruments MACROTESTG3 Multifunction Tester User Manual

Model: MACROTESTG3

1. PRODUCT OVERVIEW

The HT Instruments MACROTESTG3 is an advanced multifunction installation tester designed for safety tests on civil and industrial electrical systems, adhering to IEC/EN61557-1 standards. It features a resistive TFT color touch-screen display, an intuitive icon menu, and integrated help-on-line for ease of use. The device supports a wide range of measurements and includes internal memory for data storage, with transfer capabilities via USB or built-in Wi-Fi to iOS and Android devices.

The MACROTESTG3 can perform high-resolution loop/line impedance measurements with prospective short-circuit current calculations using the optional IMP57 accessory. It also checks breakdown current, tripping current, and I₂t for MCBs (B, C, D, K curves) and fuses (gG, aM types), along with percentage voltage drop on main power lines. RCD tests up to 10A are possible with the optional RCDX10 accessory. Leakage current can be measured using the optional HT96U clamp, and earth probe resistance can be checked with the optional T2100 clamp without disconnection.



Figure 1: HT Instruments MACROTESTG3 Multifunction Tester. This image displays the front view of the orange and black tester, highlighting its color touch-screen display and control buttons.

2. SETUP AND INITIAL USE

2.1 Unpacking and Inspection

Carefully unpack the MACROTESTG3 and all accessories. Inspect the device for any signs of damage. Retain the packaging for future transport or storage.

2.2 Powering the Device

The MACROTESTG3 is powered by 6 x 1.2V rechargeable type AA batteries or 6 x 1.5V type AA batteries. Ensure batteries are correctly inserted according to polarity markings. For rechargeable batteries, fully charge them before first use.

2.3 Initial Connections

Connect the test leads to the appropriate input terminals on the device. Ensure secure connections for accurate measurements.



Figure 2: Top view of the MACROTESTG3 with colored test leads connected. This image shows the input terminals and the secure connection of the red, green, blue, and black test leads.

3. OPERATING INSTRUCTIONS

3.1 User Interface

The device features a resistive TFT color touch-screen display. Navigate through menus using the touch interface or the physical buttons. The icon menu provides quick access to various test functions. Utilize the 'Help-on-line' feature for immediate assistance on specific functions.

3.2 Performing Tests

The MACROTESTG3 supports a variety of tests:

- **Continuity of Protection Conductors:** Perform tests with 200mA current.
- **Insulation Resistance:** Test with 50V, 100V, 250V, 500V, and 1000V DC.
- **RCD Tests:** Type A, AC, and B general, selective, and delayed RCDs up to 1000mA.
- **Loop/Line Impedance:** High-resolution measurements with prospective short-circuit current calculation (requires optional IMP57).
- **MCB and Fuse Tests:** Check breakdown current, tripping current, and I^2t for MCBs (B, C, D, K curves) and fuses (gG, aM types).
- **Voltage Drop:** Measure percentage voltage drop on main power lines.
- **Leakage Current:** Measure using the optional HT96U clamp.
- **Earth Probe Resistance:** Quickly check resistance without disconnection using the optional T2100 clamp.

3.3 Data Management

All measurements can be saved to the internal memory. Saved data can be transferred to a PC via USB or to

iOS/Android smartphones/tablets via built-in Wi-Fi. The supplied software allows for printing testing reports.



Figure 3: A user operating the MACROTESTG3 while performing tests on an electrical panel. The tester is shown in its protective carrying case, demonstrating its use in a professional setting.

4. MAINTENANCE

4.1 Cleaning

Clean the instrument's exterior with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure the device is powered off and disconnected from any electrical circuits before cleaning.

4.2 Battery Care

If using rechargeable batteries, follow the manufacturer's guidelines for charging. If the device will not be used for an extended period, remove the batteries to prevent leakage and damage.

4.3 Storage

Store the MACROTESTG3 in a cool, dry place, away from direct sunlight and extreme temperatures. Use the original packaging or a suitable carrying case to protect the device during storage and transport.

5. TROUBLESHOOTING

- **Device does not power on:** Check battery installation and charge level. Replace or recharge batteries if necessary.
- **Inaccurate readings:** Ensure test leads are securely connected and in good condition. Verify that the correct test function is selected for the measurement.
- **Data transfer issues:** Check USB cable connection or Wi-Fi settings. Ensure the companion software/app is correctly installed and updated.
- **Error messages:** Refer to the 'Help-on-line' feature on the device for specific error code explanations and solutions.

For persistent issues, contact HT Instruments customer support.

6. TECHNICAL SPECIFICATIONS

The following images provide detailed electrical and general specifications for the HT Instruments MACROTESTG3.

6.1 Electrical Specifications (Page 1 of 6)



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1. ELECTRICAL SPECIFICATIONS

Accuracy is indicated as $\pm$ (% readings + no. of digits*resolution) at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$, $<80\%\text{RH}$

Voltage (RCD, LOOP, Phase sequence)

Range [V]	Resolution [V]	Accuracy
15 ÷ 460	1	$\pm(3.0\%\text{rdg} + 2\text{dgt})$

Frequency

Range [Hz]	Resolution [Hz]	Accuracy
47.0 ÷ 63.6	0.1	$\pm(0.1\%\text{rdg} + 1\text{dgt})$

Continuity test on protective and equalizing conductors

Range [Ω]	Resolution [Ω]	Accuracy (*)
0.01 ÷ 99.99	0.01	$\pm(5.0\%\text{rdg} + 3\text{dgt})$

(*) calibrate the cables to null their resistance

Test current:

$> 200\text{mA DC}$ for $R \leq 5\Omega$ (calibration included) ; Resolution for DC current :1mA

Open-circuit voltage:

$4\text{V} \leq V_0 \leq 12\text{V}$

Insulation resistance (DC voltage)

Test voltage[V]	Range [M Ω]	Resolution [M Ω]	Accuracy
50	0.01 ÷ 9.99	0.01	$\pm(2.0\%\text{rdg} + 2\text{dgt})$
	10.0 ÷ 49.9	0.1	
	50.0 ÷ 99.9	0.1	
100	0.01 ÷ 9.99	0.01	$\pm(2.0\%\text{rdg} + 2\text{dgt})$
	10.0 ÷ 99.9	0.1	
	100.0 ÷ 199.9	0.1	
250	0.01 ÷ 9.99	0.01	$\pm(2.0\%\text{rdg} + 2\text{dgt})$
	10.0 ÷ 99.9	0.1	
	100 ÷ 499	1	
500	0.01 ÷ 9.99	0.01	$\pm(2.0\%\text{rdg} + 2\text{dgt})$
	10.0 ÷ 199.9	0.1	
	200 ÷ 499	1	
1000	500 ÷ 999	1	$\pm(5.0\%\text{rdg} + 2\text{dgt})$
	0.01 ÷ 9.99	0.01	$\pm(2.0\%\text{rdg} + 2\text{dgt})$
	10.0 ÷ 199.9	0.1	
	200 ÷ 999	1	
	1000 ÷ 1999	1	$\pm(5.0\%\text{rdg} + 2\text{dgt})$

Open-circuit voltage:

nominal test voltage $-0\% +10\%$

Short circuit current:

$<6.0\text{mA}$ at 500V test voltage

Nominal test current:

$>1\text{mA}$ if load= $1\text{k}\Omega \cdot V_{\text{nom}}$ ($V_{\text{nom}}=50\text{V}, 100\text{V}, 250\text{V}, 500\text{V}, 1000\text{V}$)

Safety protection:

the display shows an error message for input voltage $>10\text{V}$

Z Line (Line-Line, Line-Neutral, Line-PE)

Range [Ω]	Resolution [Ω]	Accuracy
0.00 ÷ 199.9 m Ω (*)	0.1 m Ω (*)	$\pm(5.0\%\text{rdg} + 1\text{m}\Omega)$ (*)
200 ÷ 1999 m Ω (*)	1 m Ω (*)	
0.01 ÷ 9.99 Ω	0.01 Ω	$\pm(5.0\%\text{rdg} + 3\text{dgt})$
10.0 ÷ 199.9 Ω	0.1 Ω	

(*) By means of IMP57 optional accessory

Maximum test current:

5.81A (at 265V); 10.10A (at 457V)

Test voltage ranges:

100÷265V (Line-Neutral) / 100÷460V (Line-Line); 50/60Hz $\pm 5\%$

Protection type:

MCB (B, C, D, K), Fuse (gG, aM)

Insulation materials:

PVC, Rubber butyl, EPR, XLPE

First fault current (IT systems)

Range (mA)	Resolution (mA)	Accuracy
0.1 ÷ 0.9	0.1	$\pm(5.0\%\text{rdg} + 1\text{dgt})$
1 ÷ 999	1	$\pm(5.0\%\text{rdg} + 3\text{dgt})$

Limit contact voltage (ULIM) :

25V, 50V

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Figure 4: Page 1 of the electrical specifications, detailing Voltage, Frequency, Continuity on protective and equalizing conductors, Insulation resistance, and Z Line (Line-Line, Line-Neutral, Line-Earth) measurements, including ranges, resolutions, and accuracies.

6.2 Electrical Specifications (Page 2 of 6)



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RCD test (Molded case type)

RCD type: AC (⌚), A (⌚), B (⌚) – General (G), Selective (S) and Delayed (⌚)
 Rated tripping currents (I_{ΔN}): 6mA, 10mA, 30mA, 100mA, 300mA, 500mA, 650mA, 1000mA
 Line-PE, Line-N voltage: 100V ÷ 265V RCD type AC and A, 190V ÷ 265V RCD type B
 Frequency: 50/60Hz ± 5%

RCD tripping current (Molded case type – RCD General)

RCD type	I _{ΔN}	Range I _{ΔN} [mA]	Resolution [mA]	Accuracy I _{ΔN}
AC, A, B	6mA, 10mA	(0.2 ÷ 1.1) I _{ΔN}	≤ 0.1 I _{ΔN}	- 0%, +10% I _{ΔN}
AC, A, B	30mA ≤ I _{ΔN} ≤ 300mA			- 0%, +5% I _{ΔN}
AC, A	500mA ≤ I _{ΔN} ≤ 650mA			

RCD Molded type tripping time range [ms] (TT/TN system)

	x 1/2				x 1			x 2			x 5			AUTO			AUTO+		
	I	G	S	⌚	G	S	⌚	G	S	⌚	G	S	⌚	G	S	⌚	G	S	⌚
6mA	AC	999	999	999	999	999	999	160	210		50	150		✓	✓		310		✓
	A	999	999	999	999	999	999	160	210		50	150		✓	✓		310		✓
	B	999	999	999	999	999	999										310		
10mA	AC	999	999	999	999	999	999	160	210		50	150		✓	✓		310		✓
	A	999	999	999	999	999	999	160	210		50	150		✓	✓		310		✓
	B	999	999	999	999	999	999										310		
30mA	AC	999	999	999	999	999	999	160	210		50	150		✓	✓		310		✓
	A	999	999	999	999	999	999	160	210		50	150		✓	✓		310		✓
	B	999	999	999	999	999	999										310		
100mA	AC	999	999	999	999	999	999	160	210		50	150		✓	✓		310		
	A	999	999	999	999	999	999	160	210		50	150		✓	✓		310		
	B	999	999	999	999	999	999										310		
300mA	AC	999	999	999	999	999	999	160	210		50	150		✓	✓		310		
	A	999	999	999	999	999	999	160	210		50	150		✓	✓		310		
	B	999	999	999	999	999	999										310		
500mA 650mA	AC	999	999	999	999	999	999	160	210		50	150		✓	✓		310		
	A	999	999	999	999	999	999	160	210								310		
	B																		
1000mA	AC	999	999	999	999	999	999	160	210										
	A	999	999	999	999	999	999												
	B																		

Resolution: 1ms, Accuracy: ±(2.0%rdg + 2dgt)

RCD Molded type tripping time range [ms] (IT system)

	x 1/2				x 1			x 2			x 5			AUTO			AUTO+		
	I	G	S	⌚	G	S	⌚	G	S	⌚	G	S	⌚	G	S	⌚	G	S	⌚
6mA 10mA 30mA	AC	999	999	999	999	999	999	160	210		50	150		✓	✓		310		✓
	A																		
	B																		
100mA 300mA 500mA 650mA	AC	999	999	999	999	999	999	160	210		50	150		✓	✓		310		
	A																		
	B																		
1000mA	AC	999	999	999	999	999	999	160	210										
	A																		
	B																		

Resolution: 1ms, Accuracy: ±(2.0%rdg + 2dgt)

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Figure 5: Page 2 of the electrical specifications, focusing on RCD (Molded case type) tripping current and tripping time ranges for various RCD types (AC, A, B) and currents.

6.3 Electrical Specifications (Page 3 of 6)



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Test on earth leakage delay tester RCDs (with RCDX10 optional accessory)

RCD type: AC (⌚), A (⌚), B (⌚) – General (G), Selective (S) and Delayed (⌚)
 Rated tripping currents ($I_{\Delta N}$): 0.3A ÷ 10A
 Line-PE, Line-N voltage: 100V ÷ 265V RCD type AC and A, 190V ÷ 265V RCD type B
 Frequency: 50/60Hz ± 5%

Earth leakage delay tester RCDs tripping current (RCD General)

RCD type	$I_{\Delta N}$	Range $I_{\Delta N}$ [mA]	Resolution [mA]	Accuracy $I_{\Delta N}$
AC, A, B	$300\text{mA} \leq I_{\Delta N} \leq 1\text{A}$	$(0.3 \div 1.1) I_{\Delta N}$	$\leq 0.1 I_{\Delta N}$	- 0%, +5% $I_{\Delta N}$
AC, A	$1.1\text{A} \leq I_{\Delta N} \leq 10\text{A}$			

Earth leakage delay tester RCDs trip out time range [ms] (TT/TN system)

	x 1/2				x 1			x 2			x 5			AUTO			
	\	G	S	⌚	G	S	⌚	G	S	⌚	G	S	⌚	G	S	⌚	
0.3A ÷ 1.0A	AC	999	999	999	999	999	999	200	250		50	150		✓	✓		310
	A	999	999	999	999	999	999	200	250		50	150		✓	✓		310
	B	999	999	999	999	999	999										310
1.1A ÷ 3.0A	AC	999	999	999	999	999	999	200	250		50	150		✓	✓		310
	A	999	999	999	999	999	999	200	250		50	150		✓	✓		310
	B	999	999	999	999	999	999										
3.1A ÷ 6.5A	AC	999	999	999	999	999	999	200	250		50	150		✓	✓		310
	A	999	999	999	999	999	999	200	250		50	150		✓	✓		310
	B	999	999	999	999	999	999										
6.6A ÷ 10.0A	AC	999	999	999	999	999	999	200	250								
	A	999	999	999	999	999	999										
	B																

Resolution: 1ms, Accuracy: $\pm(2.0\% \text{rdg} + 2\text{dgt})$

Earth leakage delay tester RCDs trip out time range [ms] (IT system)

	x 1/2				x 1			x 2			x 5			AUTO			
	$\backslash$	G	S		G	S		G	S		G	S		G	S		
0.3A ÷ 3.0A	AC A B	999	999	999	999	999	999	200	250		50	150		✓	✓	310	
3.1A ÷ 6.5A	AC A B	999	999	999	999	999	999	200	250		50	150		✓	✓	310	
6.6A ÷ 10.0A	AC A B	999	999	999	999	999	999	200	250								

Resolution: 1ms, Accuracy: $\pm(2.0\% \text{rdg} + 2\text{dgt})$

NoTripTest – Non-trip earth loop impedance

Test voltage: 100÷265V (Line-PE), 50/60Hz ± 5%

NoTripTest – Systems with Neutral wire

Range [Ω]	Resolution [Ω]	Accuracy (*)
0.01 ÷ 9.99	0.01	$\pm(5\% \text{ reading} + N/10)$
10.0 ÷ 199.9	0.1	$\pm(5\% \text{ reading} + N)$
200 ÷ 1999	1	$\pm(5\% \text{ reading} + 3N)$

(*) If $I_{\Delta N} < 30\text{mA}$, test current = $I_{\Delta N}/2$ and $N[\Omega] = 30/I_{\Delta N}$; if $I_{\Delta N} \geq 30\text{mA}$, test current $< 15\text{mA}$ and $N=1\Omega$

NoTripTest – Systems without Neutral wire

Range [Ω]	Resolution [Ω]	Accuracy (*)
1 ÷ 1999	1	-0%, $\pm(5.0\% \text{ lettura} + N)$

(*) If $I_{\Delta N} < 30\text{mA}$, test current = $I_{\Delta N}/2$ and $N[\Omega] = (10 \times 30)/I_{\Delta N}$; if $I_{\Delta N} \geq 30\text{mA}$, test current $I_{\Delta N}/2$ and $N[\Omega] = (3 \times 30)/I_{\Delta N}$

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Figure 6: Page 3 of the electrical specifications, detailing Earth leakage relay tester RCDs (with optional accessory) tripping current and trip time ranges, and NoTripTest for systems with and without neutral wire.

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Contact voltage (RCD and NoTripTest)

Range [V]	Resolution [V]	Accuracy
0 ÷ Ulim	0.1	-0%, +(5.0% rdg + 3V)

Contact voltage (EARTH test – TT system)

Range [V]	Resolution [V]	Accuracy
0 ÷ 99.9	0.1	-0%, +(5.0% rdg + 3V)

Contact voltage (EARTH test – TN system)

Range [V]	Resolution [V]	Accuracy
0 ÷ 99.9	0.1	-0%, +(5.0% rdg + 3V)
100 ÷ 999	1	

Ground resistance with 3-wire method

Range [Ω]	Resolution [Ω]	Accuracy (*)
0.01 ÷ 9.99	0.01	$\pm(5.0\% \text{ rdg} + 3\text{dgt})$
10.0 ÷ 99.9	0.1	
100 ÷ 999	1	
1.00k ÷ 49.99k	0.01k	

Test current: <10mA – 77.5Hz, Open-circuit voltage: < 20Vrms

(*) Add 5% to the accuracy if the probe resistances (R_s or R_h) > 100 x R_{meas}

Soil resistivity with 4-wire Wenner method

Range [Ωm]	Resolution [Ωm]	Accuracy (*)
0.06 ÷ 9.99	0.01	$\pm(5.0\% \text{ rdg} + 3\text{dgt})$
10.0 ÷ 99.9	0.1	
100 ÷ 999	1	
1.00k ÷ 9.99k	0.01k	
10.0k ÷ 99.9k	0.1k	
100k ÷ 999k	1k	
1.00M ÷ 3.14M	0.01M	

(*) with distance $d=10\text{m}$, Distance "d" range: 1 ÷ 10m

Test current: <10mA – 77.5Hz, Open-circuit voltage: < 20Vrms

Phase sequence rotation with 1-wire method

Voltage range P-N, P-PE[V]	Frequency range
100 ÷ 265	50Hz/60Hz $\pm 5\%$

Measurement is only carried out by direct contact with metal live parts (not on insulation sheath)

Voltage drop on main power lines ($\Delta V\%$)

Range (%)	Resolution (%)	Accuracy
0 ÷ 100	0.1	$\pm(10.0\% \text{ rdg} + 4\text{dgt})$

Leakage current (by HT96U optional clamp transducer)

Range [mA]	Resolution [mA]	Accuracy
0.5 ÷ 999.9	0.1	$\pm(5.0\% \text{ rdg} + 2\text{dgt})$

Environmental parameters (AUX function)

Parameter	Range	Resolution	Accuracy
Temperature [$^{\circ}\text{C}$]	-20 $^{\circ}\text{C}$ ÷ 80 $^{\circ}\text{C}$	0.1 $^{\circ}\text{C}$	$\pm(2.0\% \text{ rdg} + 2\text{dgt})$
Temperature [$^{\circ}\text{F}$]	-4 $^{\circ}\text{F}$ ÷ 176 $^{\circ}\text{F}$	0.1 $^{\circ}\text{F}$	
Relative humidity [%HR]	0 ÷ 100%HR	0.1% UR	
DC output voltage	0.1mV ÷ 1.0V	0.1mV	
Illuminance [Lux]	0.001Lux ÷ 20.00 Lux (*)	0.001 ÷ 0.02 Lux	
	0.1 Lux ÷ 2000 Lux (*)	0.1 ÷ 2 Lux	
	1 Lux ÷ 20 kLux (*)	1 ÷ 20 Lux	

(*) Accuracy of HT53 lux probe is according to Class AA

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Figure 7: Page 4 of the electrical specifications, covering Contact voltage (RCD and NoTripTest), Contact voltage (EARTH test - TT and TN systems), Ground resistance with 3-wire method, Soil resistivity with 4-wire Wenner method, Phase sequence rotation, Voltage drop on main power lines, Leakage current (by HT96U optional clamp transducer), and Environmental parameters (AUX function).

6.5 Electrical Specifications (Page 5 of 6)



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Measurement of main parameters and harmonics (PQA)

AC TRMS Voltage

Range [V]	Resolution [V]	Accuracy
15.0 ÷ 459.9	0.1V	$\pm(1.0\%rdg + 1dgt)$

Allowed crest factor $\leq 1,5$; Frequency: 42.5 ÷ 69.0 Hz

Frequency

Range [Hz]	Resolution [Hz]	Accuracy
42.5 ÷ 69.0	0.01	$\pm(2.0\%rdg + 2dgt)$

Allowed voltage: 15.0 ÷ 459.9V; Allowed current: 5%FS clamp ÷ FS clamp

AC TRMS Current

FS clamp	Range [A]	Resolution [A]	Accuracy
$\leq 10A$	5% FS ÷ 9.99	0.01	1Ph: $\pm(1.0\%rdg + 3dgt)$ 3Ph: $\pm(2.0\%rdg + 5dgt)$
$10A \leq FS \leq 200$	5% FS ÷ 199.9	0.1	
$200A \leq FS \leq 3000$	5% FS ÷ 2999	1	

Range: 5 ÷ 999.9 mV; Values under 5mV are zeroed

Allowed crest factor ≤ 3 ; Frequency: 42.5 ÷ 69.0 Hz

Active power (@ 230V in 1Ph systems, 400V in 3Ph systems, $\cos\phi=1$, f=50.0Hz)

FS clamp	Range [kW]	Resolution [kW]	Accuracy
$\leq 10A$	0.000 ÷ 9.999	0.001	1Ph: $\pm(2.0\%rdg + 5dgt)$ 3Ph: $\pm(2.5\%rdg + 8dgt)$
$10A \leq FS \leq 200$	0.00 ÷ 999.99	0.01	
$200A \leq FS \leq 1000$	0.0 ÷ 999.9	0.1	
$1000A \leq FS \leq 3000$	0 ÷ 9999	1	

Reactive power (@ 230V in 1Ph systems, 400V in 3Ph systems, $\cos\phi=0$, f=50.0Hz)

FS clamp	Range [kVar]	Resolution [kVar]	Accuracy
$\leq 10A$	0.000 ÷ 9.999	0.001	1Ph: $\pm(2.0\%rdg + 7dgt)$ 3Ph: $\pm(3.0\%rdg + 8dgt)$
$10A \leq FS \leq 200$	0.00 ÷ 999.99	0.01	
$200A \leq FS \leq 1000$	0.0 ÷ 999.9	0.1	
$1000A \leq FS \leq 3000$	0 ÷ 9999	1	

Power factor (@ 230V in 1Ph systems, 400V in 3Ph systems, f=50.0Hz)

Range	Resolution	Accuracy
0.70c ÷ 1.00 ÷ 0.70i	0.01	$\pm(4.0\%rdg + 10dgt)$ if $I \leq 10\%FS$ $\pm(2.0\%rdg + 3dgt)$ if $I > 10\%FS$

$\cos\phi$ (@ 230V in 1Ph systems, 400V in 3Ph systems, f=50.0Hz)

Range	Resolution	Accuracy
0.70c ÷ 1.00 ÷ 0.70i	0.01	$\pm(4.0\%rdg + 10dgt)$ if $I \leq 10\%FS$ $\pm(1.0\%rdg + 7dgt)$ if $I > 10\%FS$

Voltage harmonics (@ 230V in 1Ph systems, 400V in 3Ph systems, f=50.0Hz)

Range [%]	Resolution [%]	Order	Accuracy
0.1 ÷ 100.0	0.1	01 ÷ 25	$\pm(5.0\%rdg + 5dgt)$

Frequency of fundamental: 42.5 ÷ 69.0 Hz. DC accuracy not declared

Current harmonics (f=50Hz)

Range [%]	Resolution [%]	Order	Accuracy
0.1 ÷ 100.0	0.1	01 ÷ 9	$\pm(5.0\%rdg + 5dgt)$
		10 ÷ 17	$\pm(10.0\%rdg + 5dgt)$
		18 ÷ 25	$\pm(15.0\%rdg + 10dgt)$

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Tel: +39-0546-621002 - Fax: +39-0546-621144

email: export@htitalia.it - web: <http://www.ht-instruments.com>

Figure 8: Page 5 of the electrical specifications, detailing Measurement of main parameters and harmonics (PQA), including AC TRMS Voltage, Frequency, AC TRMS Current, Active power, Reactive power, Power factor, Voltage harmonics, and Current harmonics.

6.6 General Specifications (Page 6 of 6)



2. GENERAL SPECIFICATIONS

DISPLAY AND MEMORY:

Features:	Touch screen, color graphic LCD, 320x240mm
Memory:	999 locations, 3 marker levels
Communication:	Optical-USB and built-in WiFi

POWER SUPPLY:

Batteries:	6 x 1.2V(rechargeable) type AA or 6 x 1.5V type AA
Battery life:	> 500 test for each functions
Auto Power OFF:	after 5 min of idleness (disabled)

MECHANICAL FEATURES:

Dimensions (L x W x H):	225 x 165 x 75mm
Weight (included batteries):	1.2kg

WORKING ENVIRONMENTAL CONDITIONS:

Reference temperature:	23°C ± 5°C
Working temperature:	0°C ÷ 40°C
Allowed relative humidity:	<80%RH
Storage temperature:	-10°C ÷ 60°C
Storage humidity:	<80%RH

TEST VERIFIES REFERENCE STANDARDS:

Continuity test with 200mA:	IEC/EN61557-4
Insulation resistance:	IEC/EN61557-2
Earth resistance:	IEC/EN61557-5
Fault loop impedance:	IEC/EN61557-3
RCD test:	IEC/EN61557-6
Phase sequence:	IEC/EN61557-7
Multifunction:	IEC/EN61557-10
Prospective short circuit current:	EN60909-0
Earth resistance on TN systems:	EN61936-1 + EN50522

GENERAL REFERENCE STANDARDS:

Safety of measuring instruments:	IEC/EN61010-1, IEC/EN61010-031, IEC/EN61010-2-032
Product type standard:	IEC/EN61557-1
Technical documentation :	IEC/EN61187
Insulation:	double insulation
Pollution degree:	2
Encapsulation :	IP40
Overvoltage category:	CAT IV 300V~ (to ground), max 415V between inputs
Max height of use:	2000m

This instrument satisfies the requirements of Low Voltage Directive 2014/35/EU (LVD) and of EMC Directive 2014/35/EU

This instrument satisfies the requirements of European Directive 2011/65/EU (RoHS) and 2012/19/EU (WEEE)

Figure 9: Page 6 of the general specifications, outlining Display and Memory, Communication interfaces, Power Supply details (batteries, auto power off), Mechanical Features (dimensions, weight), Working Environmental Conditions (reference, operating, storage temperature, relative humidity), Test Verification Reference Standards, and General Reference Standards.

6.7 Key Features Summary

- Continuity of protection conductors with 200mA.
- Insulation resistance with 50, 100, 250, 500, 1000V DC.

- Type A, AC, and B general, selective, and delayed RCDs up to 1000mA.

7. WARRANTY AND SUPPORT

7.1 Manufacturer's Warranty

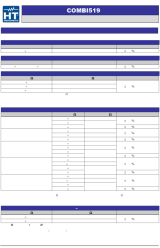
This product comes with a 1-year manufacturer warranty. Please refer to the warranty documentation included with your purchase for specific terms and conditions.

7.2 Customer Support

For technical assistance, service, or warranty claims, please contact HT Instruments customer support. Refer to the contact information provided in the product packaging or on the official HT Instruments website.

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Related Documents - MACROTESTG3

	HT Instruments COMBI519 Multifunctional Safety Measurement Instrument Specifications Detailed technical specifications for the HT Instruments COMBI519, a multifunctional instrument for safety measurements, covering AC TRMS Voltage, Frequency, Continuity, Insulation Resistance, Line/Loop Impedance, RCD testing, and Earth Resistance.
	COMBI521 Multifunction Tester: Electrical Safety, Power Quality & EVSE Testing Comprehensive technical specifications for the HT Instruments COMBI521 multifunction tester, detailing its capabilities for electrical installation safety tests, power quality analysis, and EVSE safety tests. Includes measurement functions, detailed technical data, general specifications, and compliance information.
	HT Instruments MacrotestG3 Professional Installation Safety Tester Specifications Detailed technical specifications for the HT Instruments MacrotestG3 professional installation safety tester, covering electrical specifications, RCD testing, earth leakage, voltage drop, and environmental parameters.

 MFT-ECO User manual TIS	TIS MFT-ECO Multifunction Electrical Tester User Manual: Operation, Safety & Specifications Comprehensive user guide for the TIS MFT-ECO Multifunction Electrical Tester. Covers safety precautions, detailed operating instructions for continuity, insulation, loop impedance, RCD tests, DMM functions, and technical specifications.
 FULLTEST3 User manual HT	HT Instruments FULLTEST3 User Manual Comprehensive user manual for the HT Instruments FULLTEST3, detailing safety precautions, instrument description, preparation, nomenclature, operative instructions, memory operations, optional accessories, maintenance, and technical specifications for electrical testing.
 MANUAL ELMA COMBITEST 422 ELMA instruments	ELMA COMBITEST 422 User Manual - Electrical Installation Testing Explore the ELMA COMBITEST 422 user manual from elma instruments. This guide covers electrical safety testing, including continuity, insulation, loop impedance, RCD tests, and voltage measurements, essential for electrical professionals.

Documents - HT Instruments – MACROTESTG3



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MACROTESTG3 Page 14 GSC60 Page 14 COMBIG2 / COMBI42x Page 14/15 SPEED418 Page 18 FULLTES...

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MACROTESTG3 PROFESSIONAL MULTIFUNCTIONAL INSTRUMENT FOR ELECTRIC SAFETY TESTING CERTIFICATE OF C A L I B R A T I O N CODE HV5036PR **MACROTESTG3** PROFESSIONAL MULTIFUNCTIONAL INSTRUMENT FOR ELECTRIC SAFETY TESTING DISPLAY TOUCHSCREEN WI-FI WITH PC AND APP DATA SHARING IN ELECTRICAL SAFETY TESTING...

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HT96U OMAGGIO VALTOOLS PREZZO DI LISTINO 2.535 PREZZO PROMO 1.925
CAT III 240V MAX 415V TRA GLI INGRESSI HT suggerisce Carica le misure su
HTCLOUDTM e saranno subito disponibili sul tuo PC COD. METEL HV5036SP
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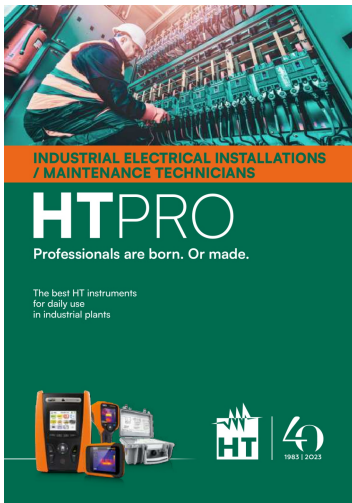
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Bedienungsanleitung

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Fax: 020161-564-583
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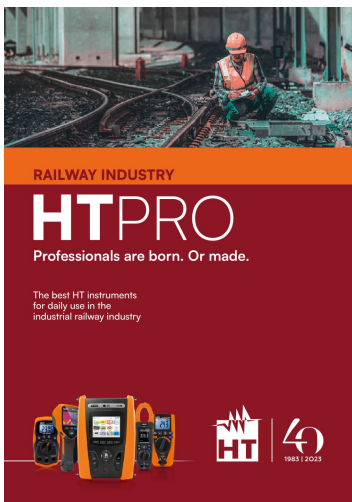


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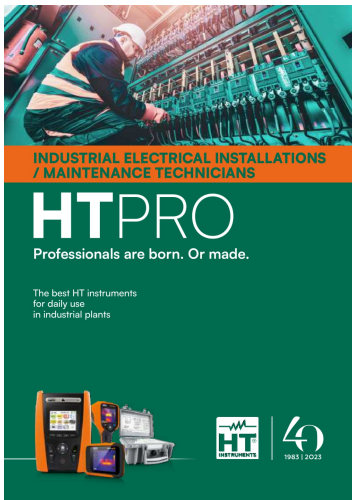


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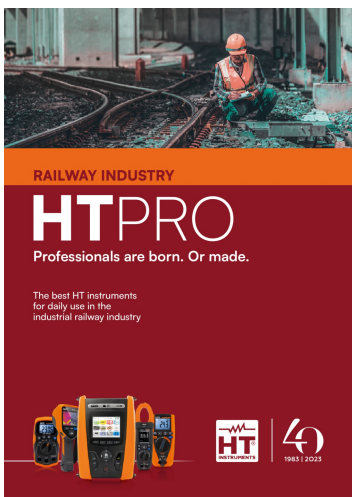


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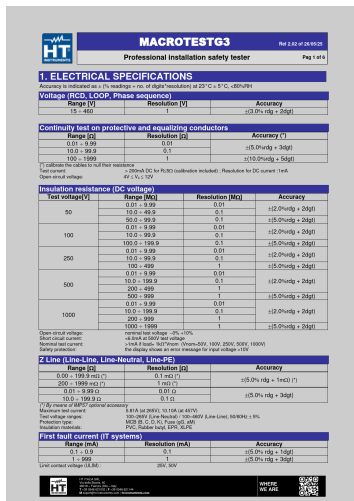


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