

# FULLTEST<sup>3</sup>

NEW GENERATION INSTRUMENT FOR SAFETY TESTS ON ELECTRIC PANEL BOARDS, EQUIPMENT AND POWER LINES IN COMPLIANCE WITH IEC/EN60204-1 AND **IEC/EN61439-1** GUIDELINES



>>> TOWARDS THE



**НАУЧНОЕ  
ОБОРУДОВАНИЕ**  
ГРУППА КОМПАНИЙ

# ENSURE THE SAFETY

FULLTEST3 IS THE MOST ADVANCED SOLUTION FOR A COMPLETE COMPLIANCE WITH THE ACTUAL GUIDELINES

FULLTEST3 is designed to satisfy the requirements of the **IEC/EN60204-1:2006** guideline (electrical equipment of industrial machines) and for the **new** series of prescriptions relative to the **IEC/EN61439-1** guideline (Switchgear panels). This last guideline **require**, among other tests, the Dielectric tests with a test voltage up to **5100V!**



## COLOUR TOUCH-SCREEN DISPLAY

Besides belonging to a new concept instrument, designed for complies most standards' requirements, FULLTEST3 is featured by modern solutions such as **touch screen display**, various parameter settings and management of measurement results. This powerful performance made complex measurements extremely intuitive such as test on MCBs as well as power coordination to avoid thermal effects due to short circuit (test  $I_{pt}$ ).





## LAST GENERATION INTERFACE

FULLTEST3 includes:

- USB interface for connection to PC
- USB interfaces for connection of keyboard, printer, pen drivers and barcode
- Bluetooth connection.

Each result can be saved in the internal memory or on a pen drive and then create, through management software, extremely professional test reports. The **“tree type with 3 levels”** memory structure allows to define with detail the part of the switchboard/machine to which they relate the results.

The possibility **to include comments** via virtual touch-screen or external keyboard completes the versatility of the instrument in the description of the performed test.



## >>> INNOVATIVE MEASUREMENT FUNCTIONS <<<

Withstanding test with voltage programmable up to **5100V** comply with requirements of **IEC/EN61439-1** guideline

Verify of **protection against indirect contacts** comply with requirements of **IEC/EN60204-1:2006** guideline:

- Continuity of protection circuit (test current from 200mA to 25A)
- Test on **RCD protection devices** (type AC, A, B) up to 1A
- Earth resistance measurement
- Verify of **magnetothermal** (MCB curve B, C, D, K) and **Fuses** (gG, aM) protection coordination

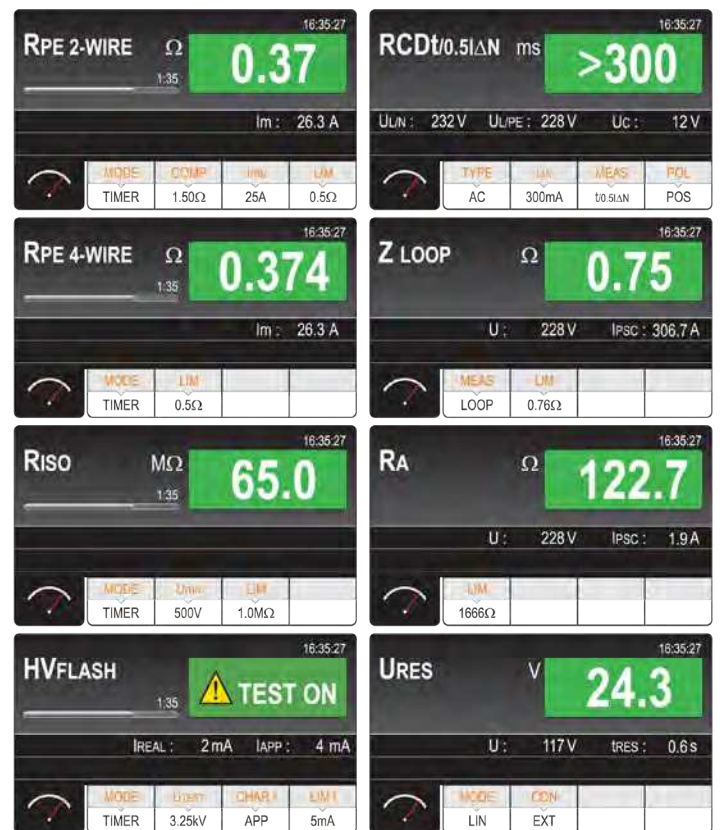
Insulation resistance up to 1000VDC

Residual voltage verify on capacitive elements

Leakage current measurement on the test socket and by transducer clamp (*optional accessory HT96U*)

Routine test on the socket (power, current)

Phase sequence indication.



Characteristic to evaluate	SWITCHBOARD PANELS IEC/EN60204-1:2006	
	Description of test	FULLTEST3
Continuity of earth system and protection conductor	Continuity >200mA	✓
Automatic disconnection of the supply (RCD, MCB, Fuse)	Test on RCD (TT), MCB and Fuse (TN)	✓
Insulation measurement	Insulation 500V	✓
Power-frequency withstand voltage	Dielectric test 1000V ~ 1sec	✓
Residual voltage measurement	Discharging V<60V in 5sec/1sec	✓

Characteristic to evaluate	SWITCHGEAR PANELS IEC/EN61439-1, -2	
	Description of test	FULLTEST3
Clearances and creepage distances	Dielectric test <b>3400V/5100V~</b>	✓
Continuity of earth system and protection conductor	Continuity 10A - 0.10hm	✓
Insulation measurement	(only if In<250A) - INS 500V	✓
Power-frequency withstand voltage	Dielectric test 1890V~	✓
Impulse withstand voltage	Dielectric test <b>3400V/5100V~</b>	✓
Test on enclosures of insulating material	Dielectric test <b>2835V~</b>	✓
Residual voltage measurement	Discharging V<60V in 5sec	✓

● Plus functions of FULLTEST3



Carrying case for accessories (standard)



HT96U AC leakage current clamp (optional)



IMP57  
Accessory for high resolution loop impedance measurement (optional)

## BASIC TECHNICAL SPECIFICATIONS

### Continuity of protection conductors

Test current: 200mA, 25AAC

Test voltage: approx.. 4.5VAC

Accuracy:  $\pm(3\% \text{ rdg} + 3\text{dgt})$

Timer on measure: 1s  $\div$  60min

### Insulation resistance

Test voltage: 100, 250, 500, 1000VDC

Basic accuracy:  $\pm(3\% \text{ rdg} + 3\text{dgt})$

Timer on measure: 1s  $\div$  60min

### Dielectric test

Test voltage: 250  $\div$  5100VAC

Test frequency: 50/60Hz

Output power: 500VA (@5100V)

Discharging current range: 1mA  $\div$  110mA

Accuracy:  $\pm(3\% \text{ rdg} + 2\text{mA})$

Timer on measure: 10s  $\div$  10min

### Residual voltage

Voltage range: 10V  $\div$  460V AC  
10V  $\div$  650VDC

Discharging time limits: 1s, 5s

Basic accuracy:  $\pm(3\% \text{ rdg} + 3\text{V})$

### Test on RCD

RCD current: 10,30,100,300,500,650,1000mA

RCD's type: AC, A, B, General, Selective, Delayed

Measurement modes: x1/2, x1, x2, x4 (B), x5 (AC, A), Ramp, Auto, Ut

Voltage range: 100  $\div$  265V, 50/60Hz

### Line/Loop impedance

Measurement range: 0.00 $\Omega$   $\div$  199 $\Omega$  ; 0.000 $\Omega$   $\div$  2.000 $\Omega$  (with IMP57)

Resolution: 0.01 $\Omega$   $\div$  1 $\Omega$  ; 0.1m $\Omega$  (with IMP57)

Measurement modes: Loop/Ipsc, kA, I2t, Ut, Trip out

Voltage range: 100  $\div$  265V, 50/60Hz (L-N, L-PE)  
100  $\div$  460V, 50/60Hz (L-L)

Accuracy:  $\pm(3\% \text{ rdg} + 3\text{dgt})$

Section of PE conductor: 1  $\div$  70mm<sup>2</sup>

MCB protection devices: Curve B, C, D, K

Max nominal current of MCB: 32A (D,K), 63A (B,C)

Fuses protection devices: gG, aM

Max nominal current of Fuse: 2A  $\div$  1250A (gG)  
2A  $\div$  630A (aM)

Type of cable: Copper, Aluminum

Cable length range: 0.1m  $\div$  999,9m

Cable insulation: PVC, Butyl rubber, EPR/XLPE

Number of parallel cables: 1  $\div$  99

Timer on measure: 10s  $\div$  10min

### Global earth resistance without RCDs tripping

RCD current: 10,30,100,300,500,650,1000mA

Test current : I<sub>dn</sub>/2

Voltage range: 100  $\div$  265V, 50/60Hz

Accuracy:  $\pm(3\% \text{ rdg} + 3\text{dgt})$

### Phase sequence indication

Voltage range: 360V  $\div$  460V

Accuracy:  $\pm(2\% \text{ rdg} + 2\text{dgt})$

Visualization: 1.2.3. (correct), 2.1.3 (incorrect)

## GENERAL SPECIFICATIONS

Main supply: 207V  $\div$  253V / 50-60Hz

Output interface: USB type "B" and type "A", Bluetooth

Memory: 999 locations

Safety: IEC/EN61010-1

Insulation: Class I (protection conductor)

Pollution degree: 2

Measurement category: CAT II 300V (power), CAT III 300V (others)

Encapsulation: IP40

Reference guidelines: IEC/EN61557-1-2-3-4-6-13-14  
IEC/EN60204-1:2006, IEC/EN61439-1,  
IEC/EN60335-1, EN50106

Dimensions (L x W x H) : 400 x 300 x 170mm

Weight: 15kg

## ACCESSORIES

### Standard

Integrated power supply cord

Test cable, 3m, red, 2pcs

Test cable, 3m, black, 2pcs

Test cable, 3m, blue

Test cable, 3m, green

3-wire cable with Shuko plug

Set of 2 cables, 5kV protection, for dielectric test

CAT III test lead, 3pcs

Crocodile clip, 4 pcs

TOPVIEW2007: Windows software + USB cable

Carrying bag for accessories

ISO9000 calibration certificate

User manual on CD-ROM

Quick reference guide

### Optional

IMP57: accessory for ZLoop measurement with high resolution

HT96U: rigid clamp for leakage current measurement

