

# EQUITEST7051

## INSTRUMENT FOR CONTINUITY OF EARTH CONDUCTOR WITH 10A AND LINE/FAULT IMPEDANCE

The EQUITEST5071 model is principally designed to perform the safety verifies of earth equipotential conductors with test current > 10A in compliance with IEC/EN61557, VDE100 and IEC/EN60204-1:2006 guidelines (medical rooms and safety of electrical machines). The instrument performs even continuity measurements with 200mA, Line/Fault impedance also with high resolution (0.1mOhm – with IMP57 optional accessory), global earth resistance without RCDs tripping and phase sequence indication. Each test can be saved inside the internal memory and downloaded to PC by using supplied Windows software.

### FUNCTIONS

- Continuity on protective conductors with 200mA
- Continuity on protective conductors with 10A and voltage <12V
- Continuity with 10A in compliance with IEC/EN60204-1:2006
- 4 wires measurement method
- Line/Loop impedance with calculation of the prospective short circuit current
- Line/Loop impedance with high resolution (with IMP57 optional accessory)
- Global earth resistance without RCDs tripping
- Contact voltage
- Phase rotation with 3 wires method
- Save results inside memory
- Recall measured test at display
- Optical/USB interface for PC communication
- Auto Power OFF
- Backlight

### ACCESSORIES

	Code
<b>Standard</b>	
Cable 3 wires with Shuko plug	C2033X
Set 3 cables + 3 alligator clips + 1 test lead	UNIVERSALKIT
Power cord for test 10A	C5700
Set of cables for 10A test, length 3m	C7000
Soft carrying bag	BORSA2051
Windows software + optical/USB cable C2006	TOPVIEW2006
ISO9000 calibration certificate	
User manual on CD-ROM	
Quick reference guide	
<b>Optional</b>	
Set cables for 10A test, 5m length	C7000/05
Set cables for test 10A, 10m length	C7000/10
Accessory for high resolution Loop/Line Impedance	IMP57
Set of straps for use of meter on neck	CN0050
Connector for banana cables, black color	1066-IECN



**EQUITEST5071**  
HV005071



## 1. ELECTRICAL SPECIFICATIONS

Uncertainty indicated as  $\pm$  [% readings + (no. of digits \* resolution)] at  $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , <60%HR

### Continuity test of earth conductors with 200mA

Range ( $\Omega$ )	Resolution ( $\Omega$ )	Uncertainty (*)
0.01 $\div$ 9.99	0.01	$\pm(2.0\% \text{rdg} + 2\text{dgt})$
10.0 $\div$ 99.9	0.1	

(\*) Considering calibration of test cables

Test current: > 200mA DC for  $R \leq 5\Omega$  (included calibration) ; Resolution of test current: 1mAOpen-circuit voltage:  $4\text{V} \leq V_0 \leq 12\text{V}$ 

### Continuity test of earth conductors with 10A

Range ( $\Omega$ )	Resolution ( $\Omega$ )	Uncertainty
0.001 $\div$ 0.999	0.001	$\pm(1.0\% \text{rdg} + 2\text{dgt})$

Test current: >10A AC for  $R \leq 0.45\Omega$ 

Resolution test current: 0.1A ; Open-circuit voltage: &lt;12VAC

Measurement method: 4 wires

Power supply voltage: 230V AC / 50/60Hz

### Continuity test of earth conductors with 10A in compliance with IEC/EN60204-1:2006

Range ( $\Omega$ )	Resolution ( $\Omega$ )	Uncertainty
0.001 $\div$ 0.999	0.001	$\pm(1.0\% \text{rdg} + 2\text{dgt})$

Test current: >10A AC for  $R \leq 0.45\Omega$  ; Resolution test current: 0.1A ; Open-circuit voltage: <12VACLength measurement range: 0.1m  $\div$  999.9mSelectable section: 0.5, 1, 1.5, 2.5, 4, 6, 10, 16mm<sup>2</sup> ; Copper resistivity: 0.017  $\Omega\text{mm}^2/\text{m}$ 

Measurement method: 4 wires

Power supply voltage: 230V AC / 50/60Hz

### Contact voltage Ut

Range (V)	Resolution (V)	Uncertainty
0 $\div$ 2U <sub>lim</sub>	0.1	-0%, +(10.0% rdg + 3dgt)

U<sub>lim</sub> (UI): 25V , 50V

### Frequency

Range (Hz)	Resolution (Hz)	Uncertainty
47.0 $\div$ 63.6	0.1	$\pm(0.1\% \text{rdg} + 1\text{dgt})$

The Loop measurement is active only for 50Hz  $\pm$ 0.5Hz

### Voltage (LOOP, Phase Sequence)

Range (V)	Resolution (V)	Uncertainty
15 $\div$ 460	1	$\pm(3.0\% \text{rdg} + 2\text{dgt})$

### Line Impedance (Phase-Phase, Phase-Neutral)

Range ( $\Omega$ )	Resolution ( $\Omega$ ) (*)	Uncertainty
0.01 $\div$ 9.99	0.01	$\pm(5.0\% \text{rdg} + 3\text{dgt})$
10.0 $\div$ 199.9	0.1	

(\*) 0.1 m $\Omega$  on range 0.0  $\div$  199.9 m $\Omega$  (with IMP57 optional accessory)

Maximum peak current: 3.65A (at 127V); 6.64A (at 230V); 11.5A (at 400V)

Test voltage: 100 $\div$ 265V (Phase-Neutral) / 100 $\div$ 460V (Phase-Phase); 50Hz  $\pm$  0.5Hz

### Fault Loop Impedance (Phase-Ground)

Range ( $\Omega$ )	Resolution ( $\Omega$ ) (*)	Uncertainty
0.01 $\div$ 9.99	0.01	$\pm(5.0\% \text{rdg} + 3\text{dgt})$
10.0 $\div$ 199.9	0.1	
200 $\div$ 1999	1	

(\*) 0.1 m $\Omega$  on range 0.0  $\div$  199.9 m $\Omega$  (with IMP57 optional accessory)

Maximum peak current: 3.65A (at 127V); 6.64A (at 230V)

Test voltage: 100 $\div$ 265V (Phase-Ground); 50Hz  $\pm$  0.5Hz

### Fault Loop Resistance R<sub>A</sub> without RCDs tripping

Range ( $\Omega$ )	Resolution ( $\Omega$ )	Uncertainty
1 $\div$ 1999	1	$\pm(5.0\% \text{rdg} + 3\text{dgt})$

Test current: 15mA ; Phase-Ground voltage: 100  $\div$  265V 50Hz  $\pm$ 0.5Hz



## 2. GENERAL SPECIFICATIONS

### REFERENCE GUIDELINES

Safety:	IEC/ENEN61010-1
Product type standard:	IEC/EN61557-1, 3, 4, 7
Insulation:	double insulation
Pollution degree:	2
Measurement category:	CAT II 600VAC (inputs) / 350VAC (to ground) CAT III 600V AC (inputs) / 300VAC (to ground)
Continuity with 200mA:	IEC/EN61557-4
Continuity with 10A:	IEC/EN60439-1
Continuity with 10A (LOW $\Omega$ 10E60204)	IEC/EN60204-1:2006
Loop Impedance / Ra:	IEC/EN61557-3
Phase sequence:	IEC/EN61557-7
Max altitude of use:	2000m

### DISPLAY AND MEMORY:

Features:	Dot matrix with backlight
Resolution:	128x128 dots
Memory:	999 measures

### POWER SUPPLY:

Batteries:	6x1.5V alkaline batteries type LR6 AA AM3 MN1500
Battery life:	LOW $\Omega$ : > 80 test LOOP:>1000test; Ra $\perp$ :>1000 test Phase sequence: > 1000 test
Mains power supply:	230V- 50Hz (Continuity 10A features only)

### MECHANICAL FEATURES:

Dimensions (L x W x H):	225x165x105mm
Weight (included batteries):	1.7kg

### WORKING ENVIRONMENTAL CONDITIONS:

Reference temperature:	23°C $\pm$ 5°C
Working temperature:	0° $\div$ 40°C
Allowed relative humidity:	< 80% HR
Storage temperature:	-10 $\div$ 60°C
Storage humidity:	< 80% HR

This instrument complies with the requirements of the European Low Voltage Directives 2006/95/EEC (LVD) and EMC 2004/108/EEC