

# AMIC-5000

HIGHEST ACCURACY & LOWEST COST



## Insulation Resistance Meter

# AMIC-5000

Insulation resistance measurement -  $5T\Omega$ :

\* 250, 500, 1000, 2500 y 5000V (predefined)

\* from 250 to 5000 V , 50 V steps (Adjustable)

Memory of 999 measurement results and PC transmission.

Automatic discharge of tested object's capacitance.

Leakage current measurement.

amperis

[www.amperis.com](http://www.amperis.com)

 AMPERIS PRODUCTS S.L  
Agricultura,34  
27003, Lugo, Spain

 Contact

+T [+34] 982 20 99 20 | F [+34] 982 20 99 11  
info@amperis.com | [www.amperis.com](http://www.amperis.com)

AMIC-5000 tester is designed to measure insulation resistance of power cables, transformers, motors and other electrically powered devices. Additionally the device allows for measurement of AC and DC voltages. Input circuits of the measuring devices are electronically protected from overloading, e.g. due to incorrect connection to the circuit being tested or incorrect use of input terminals.

### Main characteristics are the following:

#### Insulation resistance measurement

-Measurement voltage:

\*250, 500, 1000, 2500 y 5000 V

\* From 250 to 5000 V, adjustable 50V steps

-On-line insulation resistance measurement or leakage current.

-Automatic discharge of tested object's capacitance after measurement of insulation resistance.

-Direct measurement of one or two absorption coefficients.

-Acoustic determination of 5 seconds time intervals that facilitates to take time characteristics during insulation resistance measurement.

-Saving measured value of test voltages and selected times  $T_1$ ,  $T_2$  y  $T_3$  ranging from 1... 600 seconds for the measurements of one or two absorption coefficients.

-Indicator of the actual test voltage value during a measurement.

**Measurement of alternating and direct voltages in the 0...600V range.**

**Memory of 999 measurement results with an ability to transfer the data to a PC.**

**Automatic selection of measurement ranges.**

**Powered by rechargeable battery pack.**

-Included with the device an external power supply for automatic battery charging to ensure prolonged battery life and optimal working conditions.

-Battery status indicator.

**AUTO-OFF function.**

#### AC/DC voltage measurement

Range	Resolution	Accuracy
0...600V	1V	±(3%v.m. + 2 digitos)

50Hz (sinusoidal shape with harmonic contents < 2%).

#### Leakage current reading

Range	Resolution	Accuracy
0... $I_{pmax}$	depending on range $R_{ISO}$	(- $\Delta I_-$ , + $\Delta I_+$ )

$I_{pmax}$  - maximum converter current 1,2 ± 0,2 mA.

(- $\Delta I_-$ , + $\Delta I_+$ ) - current reading accuracy calculated using the following formula:

$$\Delta I_- = U_{ISO} \cdot \left( \frac{1}{R} - \frac{1}{R + |\Delta R|} \right)$$

$$\Delta I_+ = U_{ISO} \cdot \left( \frac{1}{R - |\Delta R|} - \frac{1}{R} \right)$$

$U_{ISO}$  - test voltage.

R - displayed insulation resistance value.

$\Delta R$  - resistance measurement defined for a particular measurement.

#### Insulation resistance measurement

-Test voltage can be set in the range between 250V and 5000V with 50V intervals

-Test voltage accuracy ( $R_{obc} [\Omega] \geq 1000 * U_N [V]$ ): 0 +10% of the set value

-Voltage fluctuation due to temperature changes - better than 0,2% / °C

-Measurement times  $T_1$ ,  $T_2$  and  $T_3$  for absorption coefficient measurement selected from the range between 1sec and 600sec with accuracy ± 1sec

Measurement range according to EN 61557-2:  $R_{ISOmin} \dots 5,0T\Omega$ ;  $R_{ISOmin} = U_{ISOnom} / 1mA$

Range	Resolution	Accuracy
0,0...999,9k $\Omega$	0,1k $\Omega$	±(3%.m.v. + 20 digits)
1,000...9,999M $\Omega$	0,001M $\Omega$	
10,0...99,99M $\Omega$	0,01M $\Omega$	
100,0...999,9M $\Omega$	0,1M $\Omega$	
1,000...9,999G $\Omega$	0,001G $\Omega$	
10,0...99,99G $\Omega$	0,01G $\Omega$	
100,0...999,9G $\Omega$	0,1G $\Omega$	
1,000...5,000T $\Omega$	0,001T $\Omega$	

For measurements of limited converter current, the accuracy is not specified.

#### Minimum insulation resistance measured without limited converter current:

Voltage $U_{ISO}$	Range
250V	250k $\Omega$
500V	500k $\Omega$
1000V	1,0M $\Omega$
2500V	2,5M $\Omega$
5000V	5,0M $\Omega$

"m.v." = "measured value".



## Specifications AMIC-5000

### Electric security:

<b>Tipo de aislamiento</b>	Double, acc. to EN 61010-1 and IEC 61557
<b>Categoría de medida</b>	CAT III 600V EN 61010-1
<b>Categoría de medida para los enchufes y circuitos 5kV</b>	extrapolada III 5000V
<b>Clase de protección, acuerdo EN 60529</b>	IP54

### Rated operational conditions:

<b>Operating temperature</b>	-10...+50°C
<b>Test voltage accuracy (<math>R_{obc} [\Omega] \geq 1000 \cdot U_N [V]</math>)</b>	0 +10% of the set value
<b>Voltage fluctuation due to temperature changes - better than</b>	0,2% / °C
<b>Converter output current</b>	min. 1,0mA for rated test voltag
	1,0...3,0mA for 2500V
	1,0...1,4mA for 5000V
<b>Measurement rate</b>	approx. 1 measure/second
<b>Quality standard</b>	ISO 9001

### Other technical data:

<b>Power supply</b>	Juego de baterías Ni-MH
<b>Power supply adaptor</b>	100...240V
<b>t<sub>min</sub> measurement 5kV/1mA acc. EN 61557 (5s/25s)</b>	5h or 600 measurements
<b>Time to auto-off</b>	300 sec. (mode $R_{ISO}/I_L$ : depends on $T_2$ and $T_3$ ; $t_{OFF} = T_2/T_3 + 300$ sec.)
<b>Weight</b>	1,9kg
<b>Dimensions</b>	295 x 222 x 95 mm
<b>Display</b>	LCD

### Standard accesories:

- Ni-MH battery package 7,2V 3Ah
- Test lead with banana plug; 1,8m; 5kV; red
- Shielded test lead with banana plug; 1,8m; 5kV; black
- Test lead with banana plug; 1,8m; 5kV; blue
- "Cocodrile" K04; 5kV; black
- 2 "Cocodrile" K05; 5kV; blue and red
- Pin probe with banana connector - black
- Pin probe with banana connector - red
- Carrying case L1
- Hanging stramps
- Cable for battery charger
- RS-232 serial transmission cable
- Operating manual
- Calibration certificate issued by calibration laboratory

### Optional accesories:

- Software for creation of documentation from electrical measurements
- Software for creation drawings and diagrams
- AGT-16P (triple phase socket adapter)
- AGT-32P (triple phase socket adapter)
- AGT-63P (triple phase socket adapter)
- USB1.1/RS232 adaptor
- USB key for software

