Dielectric strength tester RMG15AC

► Dielectric strength tester (also called hipot test, flash test, breakdown test) from 0 to 15kVAC

► PLC, RS232, IEEE488-2 or 0-10 V interfaces in option

► Multi lingual software

The MG series electrical safety testers perform easily and simply all the electrical tests according to the VDE, UL, CSA standards and to the main EN European standards involved in the LOW VOLTAGE DIRECTIVE (LVD).

The RMG15AC is an AC only dielectric strength tester, with a very good price/quality ratio, according to its specs.

Typically used in test laboratory or production for testing batteries

Technical Characteristics

DIELECTRIC STRENGTH TEST FUNCTION

Output voltage

● 0 to 15kV AC

● Accuracy : $\pm$ (3% + 50V) in relation with the set value for voltages between 100 and 15000 volts and for a current < 1mA in the fault detection modes : ΔI, IMAX, FIMAX, ΔI+FIMAX or ΔI+IMAX.

Voltage reading

● On a digital kilovoltmeter connected on the output terminals

● Accuracy : $\pm$ (1.5% + 20V)

● Display : 1200 digits

Stability

● Less than 1% for a mains variation of $\pm$ 10%

Current

● Short-circuit current : $\geq$ 65 mA for the adjustment of the maximum AC voltage

Current reading

● On a shunt resistor inserted in the test circuit

● Accuracy : $\pm$(2.5% + 3 U + (Voltage/5000)*U) of the read value (1U=0.1 mA) on resistive load for voltage > 1000 V

● Display : 1000 digits

Breakdown detection

● "DELTATEST" detector adjusted for ΔI = 10mA $\pm$ 10% with 10 µsec. $\pm$ 20%.

● Total insensitivity to current due to the resistance and the capacitance of the device under test

● "IMAX" detection by maximum current adjustable from 0.1mA to 40.0 mA by 0.1mA step

● DELTATEST and IMAX mode combination

IMIN threshold function

● Adjustable from 00.0 to 40.0 mA

Breakdown indication

● By message on the LCD display, red and green LED, and audible signal (possibility to inhibit).

● Memory storage of the breakdown voltage.

● Memory storage of the leakage current in IMAX mode.

● Cut off of the high voltage at the first zero crossing of the control sinusoidal signal of the HV transformer, thus without over voltage.

Timer

● Rise, hold and fall time adjustment between 0 and 999 sec.

Storage

● 10 test parameter (voltage, threshold, time…) sets can be stored

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REMOTE CONTROL SOFTWARE

Application software

- SMGPRO: powerful software controlling the MG series according to your application

PROTECTIONS

Instrument

- By slow blow fuse

Operator

- No HV or current on the outputs as long as the safety interlock is open
- Red green lamp to indicate HV presence
- Double safety loop which can be used with safety bloc devices

Device under test

- Fast breakdown detection
- HV primary cut off
- Output terminal shorted and capacitors discharged

General Characteristics

Presentation

- Table top unit
- Metal case

Dimensions

- Height : 180 mm
- Width : 430 mm
- Depth : 470 mm

Weight

- 28kg

Power

- 230V or 115V $\pm$ 15% single phase, from 47 to 63Hz
- Consumption : 70 to 600VA depending on test

Operating temperature

- 0℃ to +45℃

Storage temperature

- -10℃ to +60° C

Pollution Degree

- 2

Over-voltage category

- CAT II

Safety Class

- Class I (earth connection)
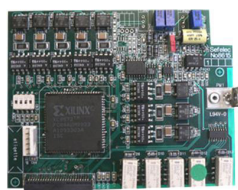
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Options

MG-01

RS232 interface (listener-talker) ; provided with
RS232 cable

MG-02

PLC interface
- START contact
- PASS and FAIL contacts
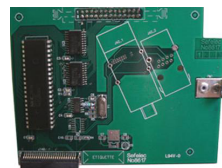- FAULT contact
- ENDOFTEST contact

MG-03

0-10 Volts input and output
- 0-10 V input to control the high voltage
- 0-10 V output for the voltage and the current

MG-06

- IEEE488-2 (talker-listener) interface
Cable not included

MG-09-15AC

Notdisconnectable rear panel output - an equivalent of CO245 and CO175 are going out from rear panel - 5 meters
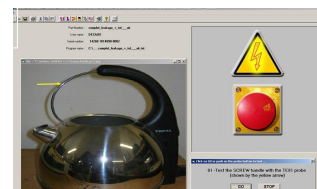
MG-09-15ACPL

disconnectable rear panel output - a CO245-XX and CO175-XX are provided and are going out from the rear panel - length to be defined at time of order

SOFTWARE
MG-96

- SMGPro Software
Powerful software controlling the XS series according to your application

Available accessories

TE89

- High voltage test probe - 1,8 meters

CO245

- high voltage cable without probe for fix connexion ; same as TE-89 without probe - 1,80 meter

CO245-XX

- high voltage cable without probe for fix connexion ; same as TE-89 without probe - XX stands for the length, to be defined at time of order (maximum length : 5 meters)
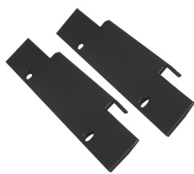
CO175

- Black ground return lead

Available accessories

KRMG4U

- 19" rack mount kit

TE89-REM

high voltage probe with remote control button - 1,8 meters

CO160+CO160-02

Red-green lamp to indicate the high voltage presence

A010

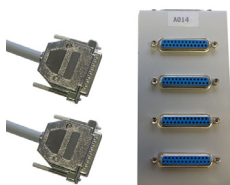Two user hands occupied with safety user buttons

A011

Remote control foot switch
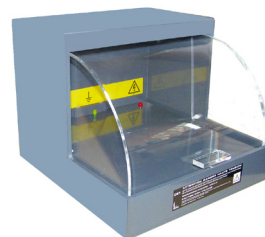
A014

interconnection box

SAFETY CAGE

- Security chamber 15kV, with or without adaptation cable. HV and ground outputs on 4mm banana sockets on the inside of the cage

CS1+CS1-15

- h220 x w380 x d320, 28dm3, 15kg

CS2+CS2-15

- h300 x w500 x d600, 180dm3, 70kg

CS3+CS3-15

- h300 x w1000 x d600, 180dm3, 100kg

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Calibration

MG-91-15AC

● calibration kit - allows you to calibrate the current re-reading (until 30 mA under 15 kv) and voltage generation (divider 15 kv)

Typical applications

TEST OF BATTERIES

● Typically, battery manufacturers are testing batteries for quality purposes.

They test the plastic joint from the battery tap with the RMG15AC (high voltage is applied on the battery terminals and ground on the joint between the tap and the case applied with a metallic rectangle (for instance) which is all around the tap).

They also test the metallic elements inside the battery with the RXS50 (they apply the high voltage on each metallic element against the next one, in order to be sure that the insulation plastic plate is not faulty).

Other tests are made to test the plastic box of the battery, in order to be sure there is no air bubble in the plastic, synonymous of weakness on the battery case, which could be a risk of liquid leakage in time. This test is also made with RMG15AC or higher voltage (see our XS or DT range) in water environment or in dry environment with metallic chains.

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