

Compact Insulation Tester

SATURN ISO

- Insulation resistance 10 Ω ... 30 G Ω with measuring voltages 50 ... 1000 V DC and auto-monitoring of prescribed limits
- Resistance 0.1 Ω ... 30 k Ω
- DC or AC voltage up to 600 V
- Fully automated prompting for protection against misconnection and damage
- Permanent storage of settings



Description


With **SATURN ISO**, LEM NORMA meets the increasing demand for good value and light weight insulation testers with high engineering quality.

The **SATURN ISO** is a newly revised version of the internationally renowned, tried and tested UNILAP ISO, featuring a new design and a standard protective cover. The design represents the new advanced principle intrinsic to all products manufactured by LEM NORMA. A large central switch for uncomplicated selection of measuring functions, well-arranged controls for individual settings, and an independent receptacle box with clear lettering... with these features, it is almost impossible to operate the device incorrectly, or to not understand its operation. And in case the user encounters certain operating difficulties, the device will automatically issue error prompts indicated on a well-structured display, as well as block the start of the measurement. Thus, protection against hazardous operating conditions and incorrect operation is fully provided for. The rigid protective cover made of rubber does not only protect against impact, but also against dirt, or water, providing for a very high type of IP56 protection.

Another function of the protective cover is the attachment of a specifically developed and well-designed strap. Mobile applications are possible, since the strap will always ensure that the device is in optimum position to the user's body. Weight, dimensions, but also the price were considerably reduced.

Its sufficient functionality with, e.g., a large range of test voltages (50...1000V DC, fix or variable), and a large measurement range up to 30 G Ω , as well as DC resistance and voltage measurements make the SATURN ISO the ideal tool for professional electricians and related professions.

Technical Data

Display:	4-digit (2999), 7-Segment-Liquid-Crystal-Display, 16 mm high, with fluorescent illumination, 56-segm. analog scale for voltage and resistance ranges
Working temp. range:	-10° C ... 50° C
Operating temp. range:	0° C ... 35° C
Storage temp. range:	-30° C ... 60° C
Operating measurement deviation:	Considers influence of operating temperature. Position and supply voltage have no influence.
Climate class:	JWG as per DIN 40040
Protective class:	IP 56 as per DIN 40050
Safety class:	Complies with II () as per IEC 1010 600 V Cat. II
Quality standard:	Developed, designed and manufactured referring to DIN ISO 9001
Power supply:	6 pcs. 1.5 V Alkali-Mangan batteries (LR 6) or 1.5 V Zinc-Carbon-batteries (IEC R 6) or 1.2 V accus
Dimensions:	240 x 180 x 110 mm (L x W x H)
Weight:	Approx. 1.5 kg with batteries

ELMES
GOERZ
HEME
NORMA



Insulation Resistance (IEC 61557-2)

Analog display:

Display switchable to the real measuring voltage at the test object.

Range	Display range	Operat. deviation
10 kΩ ... 1 TΩ	5 kΩ ... 1 TΩ	± 1 scalemarks

Measuring rate: approx. 5 measurements / sec.

Digital display:

Operating deviation	± (3 % of mv + 2 digits)	
Range	70 Ω ... 3 GΩ	70 Ω ... 30 GΩ
Display range	10 Ω ... 2.999 GΩ	10 Ω ... 29.99 GΩ
Nominal voltages	50 V ... 500 V	500 V ... 1000 V

Automatic discharging after an insulation measurement.

Pre-set limit value: < 500 kΩ

Nominal voltage: 50...1000 V DC variable in steps of 10 V and 100 / 250 / 500 / 1000 V DC in fixed positions

Open circuit voltage: Max. 1.05 x nominal voltage

Measuring current: 1 mA DC at U_n ;

2.5 mA DC at $R_x < 100 \text{ k}\Omega$ and measuring voltage > 250 V DC

Short circuit current: < 5 mA DC

Measuring rate: Approx. 2 measurements / sec.

Battery lifetime: With IEC LR6: >800 measurements (1000 V / 1 mA)

Max. overload: 1.2 x nominal voltage (measurement will not be started)

Resistance

Analog display:

Range	Display range	Resolution	Operat. deviation
0 ... 100 kΩ	100 mΩ ... 100 kΩ	100 mΩ ... 20 kΩ	± 1 segment

Digital display:

Range	Display range	Resolution	Operat. deviation
0 ... 30 kΩ	0.1 ... 29.99 kΩ	0.1 Ω ... 10 Ω	± (5% of mv + 3 D)

Pre-set limit value: > 0.3 Ω

Open circuit voltage: < 20 V DC

Short circuit current: > 1.5 mA DC

Max. overload: $U_{\text{eff}} = 600 \text{ V}$

Voltage measurement with automatic AC/DC detection

Analog display:

Range	Resolution	Frequency range	Operat. deviation
20...600 V	0 ... 1000 V	20 V	± 1 segment

Digital display:

Range	Display range	Resolution	Frequency range	Operating deviation
1...600 V	1...1000 V	1 V	DC	±(1% of mw +1D)
1...100 V			45...65 Hz*	±(1% of mw +2D)
100...400 V			45...65 Hz*	±(1% of mw +1D)
400...600 V			45...65 Hz*	±(1% of mw +2D)
1...600 V			65...400 Hz*	±(1% of mw +3D)

Impedance: Approx.. 600 kΩ

Max. overload: $U_{\text{eff}} = 600 \text{ V}$

*) calibrated for sinusoidal signals

Order Code

Description	Order-No.
SATURN ISO incl. 1 pair of safety measuring leads with test tips 1 alligator clip, insulated Carrying belt 6 batteries Operating instructions	A 1865 06411
Accessories for reorders Probe with START- and lighting function Accuset for charging and external power supply with accessories 1 pair of safety measuring leads 1 pc. safety measuring lead Probe for local insulation Operating instructions, German Operating instructions, English Operating instructions, French	A 6914 40210 A 6403 06211 A 6003 14205 A 6002 34156 A 6045 07000 A 1865 41GA1D A 1865 41GA1E A 1865 41GA1F

Distributor



LEM NORMA GmbH
Palmerstraße 2
A-2351 Wiener Neudorf
PHONE: +43(0)2236 691-0
FAX: +43(0)2236 63 080
E-mail: lno@lem.com

LEM UK LTD
Geneva Court, 1 Penketh Place, West
Pimbo
Skelmersdale, Lancashire WN8 9QX
PHONE: 01695 - 720 777
FAX: 01695 - 507 04
E-mail: luk@lem.com

Printed in Austria.
Technical modifications reserved.
Publication A 99402 E (03.99 - 5 - GD)

LEM Instruments Inc.
23822 Hawthorne Boulevard #100
Torrance, CA 90505
PHONE: 1-310-373-0966
FAX: 1-310-373-9056
E-mail: liu@lem.com