

S1-5001

5 kV Insulation Tester



- **Timer -controlled tester measures up to 5 TΩ**
- **Heavy duty current for capacitive tests**
- **Robust, field tester weatherproofed to IP54**

DESCRIPTION

The Megger® S1-5001 is an advanced 5 kV insulation tester with a high output current and many time-saving features. A large, analogue/digital LCD shows resistance values up to 5 TΩ and incorporates a timer and other test information. The output current, of up to 5 mA, speeds up testing by charging capacitive loads quickly. Test voltages and test times can be pre-programmed to a wide range of values allowing automatic safe operation. A high level of safety is provided by the locking test leads, an automatic discharge circuit and high voltage warnings on the display.

Measurement

- Insulation resistance measured to >5 TΩ allows trends of good insulation to be monitored
- Conductor voltage measurement to 1000 V alerts the operator to live circuits
- Test current measured down to 0.01 nA enables very high resistance to be calculated
- Capacitance of test sample measured up to 10 μF
- Guard terminal for removing surface leakage from the measurement
- High test current minimises charging times on capacitive insulation

Operation

- 500, 1000, 2500 & 5000 V standard test voltages quickly selectable
- Variable test voltage 25 to 5000 V allows testing to manufacturers specification
- Test timer up to 90 minutes can be used to control the test
- Results displayed in digital and analogue form

Power Supply

- Battery powered, rechargeable from an a.c. or d.c. source
- At least 8 hours testing with a fully charged battery
- Battery voltage is constantly monitored and displayed

Construction

- Robust tester with accessory storage, weatherproof to IP54
- Instrument safety to IEC1010-1
- Dual warning of presence of HV by LED and flashing LCD arrows

SPECIFICATION

Test Voltages d.c.

500, 1000, 2500, 5000 V plus 25 to 5000 V in 25 V steps

Accuracy:

(20°C) (68°F) ±5% on 100 MΩ load ±25V for test voltages <500V

Insulation resistance range

Digital:

10 kΩ to 500 GΩ @ 500 V
10 kΩ to 1 TΩ @ 500 V
10 kΩ to 2,5 TΩ @ 2500 V
10 kΩ to 5 TΩ @ 5 kV

Analogue:

100 kΩ to 1 TΩ @ all voltages

Basic accuracy:

±5% of reading 1 MΩ to 1 TΩ @ 5 kV (0 to 30°C) (32 to 86°F)

Short circuit current:

5 mA nominal

Voltage range:

50 to 1000 V d.c. or a.c (0 to 5000 V d.c. when testing)

Accuracy:

(20°C) (68°F) ±2%, ±1 V

Display

Analogue:

(40 segment arc)

Digital:

(3 digits)

Interference rejection:

1 mA r.m.s. per kV to a maximum
2 mA

Capacitor charging time:

<2,5 seconds per μF to charge to 5 kV

Capacitor discharge time:

<2 s per μF to discharge from
5000 V to 50 V

Leakage current measurement:

0,01 nA to 999 μA

Accuracy :

±5% ±0,2 nA

Capacitance:

0,01 - 10,0 μF (displayed at end measurement of test)

Accuracy:

±15% ±0,03 μF

Timer:

User selectable 0 to 90 minutes

Temperature/Humidity

Temperature range

Operating:

-20°C to +50°C (-4 to +122°F)

Storage:

-25°C to +65°C (-13 to +149°F)

Temperature coefficient

(Applies over range 0 to 30°C)
(32 to 86°F) 0,2% per °C (0,1%/°F) for test currents >100 nA 0,1% per °C (0,05%/°F) for test voltage

Humidity range:

90% RH @ 40°C max. (104°F)

Safety

IEC1010-1 (1995), EN61010 (1995) to installation category III, 300 V, phase to earth, 500 V phase to phase

Altitude

2000 m maximum

Dimensions

327 x 316 x 196 mm
(12,8 x 12,4 x 7,7 inches)
(+60 mm pouch) (+2,4" pouch)

Weight

6 kg (13,2 lbs.)

Power Supply

4 Ah battery rechargeable from 95-265 V a.c. 50/60 Hz

ORDERING INFORMATION

Item (Qty)	Order No.	Item (Qty)	Order No.
5 kV Insulation Tester	51-5001	Publications	
Included Accessories		'A Stitch in Time'	AVTM21-P8B
User Guide	6172-338		
3 x 3m HV leads	8101-181		
Accessory Pouch	6420-116		
Mains (line) power cord (for recharging battery)			
Optional Accessories			
3 x 8m HV leads	8101-182		
3 x 15m HV leads	8101-183		
5 kV Calibration Box CB101	6311-077		
5 kV Shielded lead set 15 m long	6311-080		
12 V d.c. charging lead with automotive cigarette lighter plug, 3 m long	6231-584		
Test record card (pack of 20)	6111-217		

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