

MIT30

30-kV High Voltage Insulation Tester



- Continuously variable test voltage, 0 – 30kV
- Test current 0 - 330 μ A
- Output voltage accuracy, + 1.5% (full scale)
- Built-in adjustable ionization indicator
- Fail-safe grounding and “zero-start” switches
- Rugged, compact, lightweight, and portable

DESCRIPTION

The Megger MIT30 is a portable 30-kV insulation tester that has been developed to satisfy the demand for a variety of high voltage, high accuracy, low current applications. The MIT30 is used to undertake HV insulation tests (proof/hi-pot test) on insulating material where low levels of leakage current, down to an accuracy of 100 nA, need to be measured.

The MIT30 has a test current of up to 330 μ A, and user-selectable trip levels from 0 to 360 μ A, provide protection to the test piece against flashovers (arcing) and further damage in the event of a breakdown. An audible ionization indicator gives an audio indication of any electrical discharges present during the test period.

The MIT30 can be used to perform step-voltage and proof tests which, when incorporated into a routine maintenance program, can aid in predicting potential failure before breakdown occurs.

Power for the instrument is derived from a universal mains power supply, 85-264 V ac, 47-440 Hz, or 110 - 350 V dc. The MIT30 is housed in rugged, field-proven IP67, lightweight and portable case. This, plus bright LEDs visible in direct sunlight, and high-contrast backlit LCDs make the instrument suitable for use in differing, and sometimes hostile, environments.

APPLICATIONS

The MIT30 checks the electrical insulation quality and integrity of a wide variety of insulation material and systems.

Due to the unique combination of up to 30-kV high voltage, high accuracy down to 100nA, the MIT30 has several applications in the electrical distribution, aerospace and defense industries:

- Acceptance and maintenance testing of electrical plant :
 - Switchgear
 - Buss-bars
 - Capacitors
 - Transformers and motors
- Testing of spark gaps as used in radar systems and overvoltage protection devices
- Rubber safety glove testing
- Testing of vacuum interrupters
- Power equipment/plant manufacturers to perform QA/QC production tests

FEATURES AND BENEFITS

- Ergonomic design ensures ease of use, hence subsequent reduction in instrument learning time. This allows the operator to undertake accurate safety testing in a minimum amount of time.
- Fast charging of high-capacitance samples reduces testing times.
- Current guard circuit ensures highly accurate measurements and test results, thus avoiding external interferences that could affect the accuracy of any test results.
- Highly accurate voltage and current outputs normally associated with a test bench or laboratory test set, in a rugged, field-proven case, takes high accuracy into the field environment.
- User selectable current trip points provide protection to the test piece and the operator in the event of a breakdown in the insulation of the object being tested.
- Adjustable ionization indicator gives audible indication of electrical discharges during test.
- Universal input 85-264 V ac, 47-440 Hz or 110-350 V dc makes the MIT30 suitable for a wide variety of applications.
- Compact, lightweight and rugged construction makes the unit ideal for field use.
- Its rugged, field-proven case has an integrated carry handle for easy carrying and an air transport pressure relief valve which allows the instrument to be safely transported without damage.

Safety and Reliability

- Fail-safe, gravitationally invariant internal grounding switch
- Zero-start safety provision
- Cable interlock with bright LED, visible even in direct sunlight
- Triaxial HV output cable, with integrated HV, guard, and current sense
- Detachable HV output cable, shielded with interlock provision
- Output current overload relay
- Switch control and indicating lights for high-voltage ON/OFF
- Protected output for both short/open circuit conditions
- Fused power inlet module

SPECIFICATIONS

Output

Voltage: 0 to 30 kV dc (variable negative with respect to earth/ground)

Maximum Current: 330 µA

Peak-Peak Ripple: <0.4%

Line Regulation: 0.03%

Load Regulation: 0.001%

Current

330 µA continuous

User selectable trip from 0 to 360 µA

Accuracy

Voltage Meter: ±1.5% (full scale), 10 V resolution

Current Meter: ±1.5% (full scale), 100 nA resolution

Input

Mains: ac: 85 - 264 V ac, 47 - 440 Hz

dc: 110 - 350 V dc
<75 VA

Mechanical

Dimensions: 360 L x 304 W x 194 D mm (14 L x 12 L x 8 D in.)

Weight: 10 kg (22 lb)

Environmental

Operating Temperature: -10° C to +55° C (14° F to 131° F)

Storage Temperature: -20° C to +70° C (-4° F to +158° F)

Humidity: 0 to 90% RH (non-condensing)

Maximum Altitude (full rating): 1600 m (MSL)

IP Rating

IP67 when closed for transport (Def Stan 81-41/STANAG 4280)

IP52 when in use

ORDERING INFORMATION

Item [Qty]	Cat. No.
30-kV high-voltage insulation tester	MIT30
Included Accessories	
HV triaxial output cable, 3 m	SKRC080509
Input Power cord	17032
Instruction manual	AVTMMIT30
Optional Accessories	
High-voltage resistance discharge stick	222070-62
"The Lowdown on High-Voltage DC Testing" Guide	AVTM22P-1

UK
Archcliffe Road, Dover
CT17 9EN England
T (0) 1 304 502101
F (0) 1 304 207342

UNITED STATES
4271 Bronze Way
Dallas, TX 75237-1019 USA
T 1 800 723 2861
T 1 214 333 3201
F 1 214 331 7399

OTHER TECHNICAL SALES OFFICES
Täby SWEDEN, Norristown USA,
Sydney AUSTRALIA, Toronto CANADA,
Trappes FRANCE, Kingdom of
BAHRAIN, Mumbai INDIA,
Johannesburg SOUTH AFRICA, and
Chonburi THAILAND

ISO STATEMENT
Registered to ISO 9001:2000 Cert. no. 10006.01
MIT30_DS_en_V01

www.megger.com
Megger is a registered trademark