

# MIT30

## 30 kV High Voltage Insulation Tester



- Specifically designed for ungrounded test samples **only**
- Continuously variable test voltage, 0 - 30kV
- Test current 0 - 330  $\mu$ 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 undertake tests on UST (ungrounded test samples). It satisfies the demand for a variety of high voltage, high accuracy, and low current applications. The MIT30 **CANNOT** be used on grounded/earthed test samples. Otherwise, the unit will be damaged.

The MIT30 has a test current of up to 330  $\mu$ A, and user-selectable trip levels from 0 to 360  $\mu$ A. The MIT30 provides 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.

The MIT30 will operate from a wide range of input voltages and frequencies. The unit will operate from 85-264 V ac with a frequency range of 47-440 Hz.

### APPLICATIONS

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

Due to the unique combination of up to 30-kV high voltage, high accuracy down to 100 nA, and low current 0-330  $\mu$ A, the MIT30 has several applications:

- Acceptance and maintenance testing of electrical plant:
  - Switchgear
  - Buss-bars
  - Capacitors
- Defense industry
- Aerospace Industry
- 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 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) 20MΩ minimum

**Maximum Current:** 330 μA @ 30 kV

**Peak-Peak Ripple:** <0.4%

**Line Regulation:** 0.03%

**Load Regulation:** 0.001%

**Current**

330 μA continuous @ 30 kV

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  
<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:** 14° F to 131° F (-10° C to +55° C)

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

**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
<b>Included Accessories</b>	
HV triaxial output cable, 3 m	P1000-921
Input power cord, 120 V	17032
Input power cord, 230 V	17032-12
Instruction manual	AVTMMIT30-EN
<b>Optional Accessories</b>	
High-voltage resistance discharge stick	222070-62
"The Lowdown on High-Voltage DC Testing" Guide	AVTM22P-1

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