



# Safety Made Simple®



### **Testers For Electrical Safety Compliance**

We've been providing customers exactly the features they need for over 60 years. We aim to simplify the Electrical Safety Industry for our customers and we apply this philosophy to everything we do.





All testers come with all the accessories you need to run a test right out of the box.

#### **PRODUCT SELECTION GUIDE**

|                     | AC Hipot | DC Hipot | Insulation<br>Resistance | Ground Continuity<br>Check | AMPS<br>Ground<br>Bond | Leakage<br>Current | Functional<br>Run |
|---------------------|----------|----------|--------------------------|----------------------------|------------------------|--------------------|-------------------|
| 290 Series          |          |          |                          |                            |                        |                    |                   |
| 294                 |          | •        |                          | •                          |                        |                    |                   |
| 295                 | •        |          |                          | •                          |                        |                    |                   |
| 296                 | •        | •        |                          | •                          |                        |                    |                   |
| 297                 | •        | •        | •                        | •                          |                        |                    |                   |
| 298                 | 500VA    |          |                          | •                          |                        |                    |                   |
| 260 Series          |          |          |                          |                            |                        |                    |                   |
| 264                 |          |          |                          |                            | 40A                    |                    |                   |
| 266                 |          |          |                          |                            | 60A                    |                    |                   |
| <b>4000 Serie</b> s |          |          |                          |                            |                        |                    |                   |
| 4320                | •        | •        | •                        |                            | 30A                    |                    |                   |
| 4520                | 500VA    | •        | •                        |                            | 30A                    |                    |                   |
| 6000 Series         |          |          |                          |                            |                        |                    |                   |
| 6330                | •        | •        | •                        |                            | 30A                    | •                  | •                 |

#### **PROVEN RELIABILITY**

Every SCI tester is backed by a standard 1-year warranty. Extend your warranty for up to 3 years when you return your tester for annual calibration and inspection. We also offer a 2-year protection plan which you can purchase upfront without a calibration requirement.



#### **ONGOING SUPPORT**

Every SCI tester is backed by a standard 1-year warranty. Extend your warranty for up to 3 years when you return your tester for annual calibration and inspection. We also offer a 2-year protection plan which you can purchase upfront without a calibration requirement.



#### **1-DAY SHIPMENT**

We understand that you need to receive your tester in a timely fashion in order to prevent downtime on the production line. We ship every order within 1 business day using standard ground shipping. \*On all standard products. If your product ships late, we pay the freight



#### **CUSTOMER EXPERIENCE GUARANTEE**

We are so confident our testers will meet your needs that we provide a 100% customer experience guarantee. If for any reason you are dissatisfied with your SCI tester, return it for a full refund or exchange within 45 days of the original purchase date, no questions asked.



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| 50Hz 60Hz Frequency Selection | Ramp | Dwell | Low Current<br>Sense | Safety Agency<br>Listed | PLC Remote | USB | (000000)<br>RS-232 |             |
|-------------------------------|------|-------|----------------------|-------------------------|------------|-----|--------------------|-------------|
|                               |      |       |                      |                         |            |     |                    | 290 Series  |
|                               | •    | •     | •                    | •                       | •          | OPT |                    | 294         |
| •                             | •    | •     | •                    | •                       | •          | OPT |                    | 295         |
| •                             | •    | •     | •                    | •                       | •          | OPT |                    | 296         |
| •                             | •    | •     | •                    | •                       | •          | OPT |                    | 297         |
| •                             | •    | •     | •                    | •                       | •          | OPT |                    | 298         |
|                               |      |       |                      |                         |            |     |                    | 260 Series  |
| •                             |      | •     |                      | •                       | •          | OPT |                    | 264         |
| •                             |      | •     |                      | •                       | •          | OPT |                    | 266         |
|                               |      |       |                      |                         |            |     |                    | 4000 Series |
| •                             | •    | •     | •                    | •                       | •          |     | OPT                | 4320        |
| •                             | •    | •     | •                    | •                       | •          |     | OPT                | 4520        |
|                               |      |       |                      |                         |            |     |                    | 6000 Series |
| •                             | •    | •     | •                    | •                       | •          |     | •                  | 6330        |



## **290 SERIES**

### **HIPOT TESTERS**



5 PROGRAMMABLE MEMORIES WITH 10 OPTIONAL

EASILY AUTOMATE FOR DATA COLLECTION

ADVANCED SECURITY SETTING

TAMPER-PROOF FRONT PANEL CONTROLS

REDUNDANT HARDWARE SAFETY INTERLOCK

PORTABLE, RUGGED DESIGN

EASILY SAFEGUARD YOUR WORKSTATION WITH PPE ACCESSORIES

The 290 Series is our most popular line of Hipot testers. These testers are designed to simplify every aspect of safety testing for operators of all comfort levels. Our 290 Series includes the most intuitive user interface in the industry and won't take up too much space on the production line. With multiple memories and an optional USB interface, you can quickly perform tests on a variety of DUT's from the front panel or with a PC. Choose from 5 different models to satisfy your testing requirements.

|     | AC Hipot | DC Hipot | Insulation<br>Resistance | Ground Continuity<br>Check |
|-----|----------|----------|--------------------------|----------------------------|
| 294 |          | •        |                          | •                          |
| 295 | •        |          |                          | •                          |
| 296 | •        | •        |                          | •                          |
| 297 | •        | •        | •                        | •                          |
| 298 | 500VA    |          |                          | •                          |

#### **RELEVANT APPLICATIONS**

**APPLIANCE** 

**AC/DC POWERED PRODUCTS** 

**CABLES & COMPONENTS** 

LIGHTING & LED TESTING

**MODULAR HOMES** 

**MOTORS & PUMPS** 

#### **SUPPLIED ACCESSORIES**

Return Lead 6 ft. (1.8m) 102-069-904

High Voltage Lead 6 ft. (1.8m) 102-055-913

Input Power Cable USA 125-013-001

Interlock Connector 99-10040-01

All testers come with all the accessories you need to run a test right out of the box.

#### **OPTIONS**

| Description       | 294 | 295 | 296 | 297 | 298 |
|-------------------|-----|-----|-----|-----|-----|
| Rear Outputs      | •   | •   | •   | •   | •   |
| USB Port          | •   | •   | •   | •   | •   |
| 10 Memory         | •   | •   | •   | •   | •   |
| 3mA Current Limit | •   | •   | •   | •   |     |
| Pulse Mode        |     | •   |     |     |     |
| Push to Test Mode |     | •   |     |     |     |



#### **SERIES FEATURES**



Test Setup Memories



Frequency Selection



Ramp



Dwell



**Low Current** Sense



**PLC** Remote









## 260 SERIES

### **GROUND BOND TESTERS**







**5 PROGRAMMABLE MFMORIFS** 

**EASILY AUTOMATE FOR DATA COLLECTION** 

**ADVANCED SECURITY SETTINGS** 

MILLIOHM OFFSET **FUNCTION FOR ACCURATE GROUND BOND TESTING** 

REDUNDANT HARDWARE SAFETY INTERLOCK

PORTABLE, RUGGED DESIGN

**EASILY SAFEGUARD YOUR WORKSTATION WITH PPE ACCESSORIES** 

Our 260 Series makes Ground Bond testing simple. Choose between two simple, easy-to-use Ground Bond testers that provide the output current that satisfy NRTL specifications. With an intuitive interface that allows you to set-up a test in seconds and practical security settings, our 260 Series can easily be deployed in both laboratory and production line environments.



#### **RELEVANT APPLICATIONS**

#### **APPLIANCE**

**INDUSTRIAL EQUIPMENT** 

**MEDICAL** 

LABORATORY EQUIPMENT

**WATER PUMPS** 

#### **SERIES FEATURES**



Test Setup Memories



Frequency Selection

#### **264 SUPPLIED ACCESSORIES**

| 99-10725-01 | 40 Amp High Current Lead 6 ft. (1.8m)        |
|-------------|--|
| 99-10724-01 | 40 Amp High Current Return Lead 6 ft. (1.8m) |
| 125-013-001 | Input Power Cable USA                        |
| 99-10783-01 | Fuse 10 Amp (264 Model)                      |





#### **266 SUPPLIED ACCESSORIES**

| 99-10239-01 | 60 Amp High Current Lead 6 ft. (1.8m)        |
|-------------|--|
| 99-10238-01 | 60 Amp High Current Return Lead 6 ft. (1.8m) |
| 99-10164-01 | Input Power Cable USA                        |
| 99-10791-01 | Fuse 12 Amp (266 Model)                      |







All testers come with all the accessories you need to run a test right out of the box.

#### **OPTIONS**

| Description          | 264 | 266 |
|----------------------|-----|-----|
| Rear Outputs         | •   | •   |
| USB Port             | •   | •   |
| Display Voltage Drop | •   | •   |









# **4000 SERIES**



# 4-IN-1 ELECTRICAL SAFETY TESTERS



VERSATILE 4-IN-1 FUNCTIONALITY

SIMPLE MENU NAVIGATION

MEETS 200 mA SHORT CIRCUIT REQUIREMENTS\*

\*4520 ONLY

6 PROGRAMMABLE
MEMORIES WITH 6 TEST
STEPS EACH

EASILY AUTOMATE FOR DATA COLLECTION

REMOTE SAFETY INTERLOCK

EASILY SAFEGUARD YOUR WORKSTATION WITH PPE ACCESSORIES

The 4000 Series provides advanced 4-in-1 test capability in a convenient one-box solution. Our most popular multi-function tester, the 4000 Series performs AC Hipot, DC Hipot, Insulation Resistance and Ground Bond tests while taking up minimal production line space. The 4000 Series includes the simplest menu navigation in the industry, reducing set-up time and increasing production line throughput for any application. With multiple memories and an optional RS-232 interface, you can quickly perform tests on a variety of DUT's from the front panel or with a PLC remote. Choose from two models.

|      | AC Hipot | DC Hipot | Insulation<br>Resistance | 30A<br>Ground<br>Bond |
|------|----------|----------|--------------------------|-----------------------|
| 4320 | •        | •        | •                        | •                     |
| 4520 | 500VA    | •        | •                        | •                     |

#### **RELEVANT APPLICATIONS**

#### **SERIES FEATURES**

#### **APPLIANCE**

**INDUSTRIAL EQUIPMENT** 

INFORMATION TECHNOLOGY

**CONTRACT MANUFACTURING** 







Frequency Selection

#### **SUPPLIED ACCESSORIES**

| 102-050-913 | High Voltage Retractable Probe 6 ft. (1.8m)  |
|-------------|--|
| 102-055-913 | High Voltage Lead 6 ft. (1.8m)               |
| 125-013-001 | Input Power Cable USA                        |
| 99-10164-01 | Input Power Cable USA                        |
| 99-10239-01 | 60 Amp High Current Lead 6 ft. (1.8m)        |
| 99-10238-01 | 60 Amp High Current Return Lead 6 ft. (1.8m) |
| 99-10040-01 | Interlock Connector                          |
| 99-10106-01 | Fuse 4320                                    |
| 99-10656-01 | Fuse 4520                                    |







Sense









#### **OPTIONS**

a test right out of the box.

| Description      | 4320 | 4520 |
|------------------|------|------|
| Rear Outputs     | •    | •    |
| RS-232 Interface | •    | •    |

All testers come with all the accessories you need to run



# **6000 SERIES**



# 6-IN-1 ELECTRICAL SAFETY TESTERS



VERSATILE 6-IN-1 FUNCTIONALITY

20 PROGRAMMABLE MEMORIES WITH 10 TEST STEPS EACH

4 BUILT-IN
NRTL-COMPLIANT
MEASURING DEVICES

EASILY AUTOMATE FOR DATA COLLECTION

REMOTE SAFETY INTERLOCK

EASILY SAFEGUARD YOUR WORKSTATION WITH PPE ACCESSORIES

The 6330 is our most advanced multi-function electrical safety tester with 6-in-1 test capability. With minimal setup time, you can perform AC Hipot, DC Hipot, Ground Bond, Insulation Resistance, Functional Run, and Leakage Current tests on a variety of DUT's. With the 6330 you'll save time, increase throughput, and declutter your test bench over a single function tester. The 6330 is designed to make advanced testing applications simple with the most intuitive user interface on the market.



#### **RELEVANT APPLICATIONS**

**APPLIANCE** 

INFORMATION TECHNOLOGY

**MEDICAL** 

#### **SUPPLIED ACCESSORIES**

| 102-055-913 | High Voltage Lead 6 ft. (1.8m)               |
|-------------|--|
| 102-013-001 | Input Power Cable USA                        |
| 99-10457-01 | 40 Amp High Current Return Lead 10 ft. (3m)  |
| 99-10009-01 | 30 Amp High Current Return Lead 6 ft. (1.8m) |
| 99-10239-01 | 60 Amp High Current Lead 6 FT                |
| 99-10469-01 | Black DUT Input Line Test Lead               |
| 99-10470-01 | Black DUT Input Neutral Test Lead            |
| 99-10471-01 | White DUT Output Line Test Lead              |
| 99-10472-01 | White DUT Output Neutral Test Lead           |
| 99-10040-01 | Interlock Connector                          |
| 99-10467-01 | Adapter Box Universal US 10 ft. (3m)         |
| 99-10106-01 | Fuse   |

All testers come with all the accessories you need to run a test right out of the box.

#### **SERIES FEATURES**



Test Setup Memories



Frequency Selection



Ramp



Dwell



Low Current Sense







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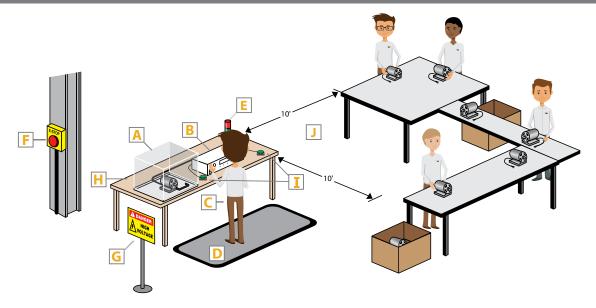
#### **OPTIONS**

Description 6330

**Rack Mount Hardware** 



### **SAFE WORKSTATION**



One of the best ways to prevent injury is to ensure that your test station is set up safely and securely. Test stations can be setup with or without direct protection depending on your requirements. Direct protection means that the operator cannot physically come into contact with an energized DUT while a test is running.



#### **DUT Safety Enclosure**

This is wired to the Hipot tester's Remote Safety Interlock. This protects you from touching the DUT while a test is in progress. If the enclosure door is opened, the tester's high voltage is immediately disabled.



#### **Hipot Tester**

Tester used to test the DUT.



#### **Test Operator**



#### **Insulation Mat**

This isolates you from ground which provides an additional means of protection when operating high voltage equipment.



#### **Signal Tower Light**

Gives an indication as to the status of the testing area. A green light indicates the Hipot tester is not outputting high voltage and the test area is safe. A red light indicates that the Hipot tester is active and to stay clear of the test area.



#### **Emergency Stop Button**

Located on the perimeter of the test area. In the event of an emergency, someone outside the test area can hit the E-Stop button to immediately cut off power to the entire test station.



#### **Warning Sign**

Mark the testing area with a clearly posted sign that reads: DANGER - HIGH VOLTAGE TEST AREA. AUTHORIZED PERSONNEL ONLY.



#### Non-Conductive Work Bench

Only use a work bench made of nonconductive material such as plastic or wood. This ensures no stray leakage current could flow through you during a test.



#### **Dual Palm Remote Switches**

Two hand operation switches force the operator to place a hand on each switch and hold them throughout the test.

The palm switches should be placed at least 21.6" (550mm) apart to prevent the operator from one hand activation of both switches.



## NEC (National Electric Code) & NFPA (National Fire Protection Agency

Stipulate that any unqualified workers shall not come within 10' of an EXPOSED energized circuit.

### **PPE ACCESSORIES**

#### IMPROVE WORKSTATION SAFETY WITH PPE

Our Personal Protective Equipment improves workstation safety, warns unqualified operators of a dangerous testing area, and safeguards operators from electric shock. OSHA 1910 Subpart S requires by law that employers provide their employees with working conditions free of known hazards. We'll help you provide your employees with all necessary PPE.



#### **INSULATION MAT**

99-10691-01

This 20 kV electrical insulation mat is an ideal means for adding a level of operator safety. This mat is formulated to provide electrical insulation for the operator. Insulated matting prevents the operator from being grounded thereby preventing electrical shock.





### HIGH VOLTAGE WARNING SIGN

99-10690-01

This "DANGER: HIGH VOLTAGE TEST AREA" sign is ideal for warning unauthorized operators to stay away from the test area. This sign should be clearly visible and mounted outside of the electrical testing area.





#### SIGNAL TOWER LIGHT

99-10706-01

Gives an indication as to the status of the testing area. A green light indicates the Hipot tester is not outputting high voltage and the test area is safe. A red light indicates that the Hipot tester is active and to stay clear of the test area.

#### **Compatible Models:**

290 Series, 260 Series, 4000 Series, 6000 Series



#### **DUT ENCLOSURE**

Our DUT Enclosures are designed to protect the operator from electric shock during testing. Interface an enclosure with our Remote Safety Interlock feature to automatically disable the instrument's output when the enclosure door is opened.

#### **WOOD FRAME WITH FOAM INTERIOR** 99-10599-01

Outside dimensions (W x D x H):

24" x 19" x 11.5" (610 x 483 x 293 mm)

Inside dimensions (W x D x H):

 $20" \times 16" \times 10" (508 \times 407 \times 254 \text{ mm}) 3/4" \text{ Walls, } 3/4" \text{ Flame Retardant Foam,}$ 





### EMERGENCY STOP SWITCH

99-10714-01

The E-Stop trigger will immediately stop the flow of electric current to your SCI tester when pressed, preventing operator injury or damage to a device under test.

Compatible Models: 264 and All Hipots



### REMOTE TRIGGER FOOTSWITCH

99-104-33-01

Allows for remote operation of electrical safety tests while a safe distance is maintained between the operator and test instrument.

Compatible Models: All testers





### DUAL PALM REMOTESWITCHES

DPR-01

Using two-hand operation switches ensures operator safety because it forces you to place a hand on each switch and hold throughout the test. This prevents you from accidentally touching a DUT while the test in running. The palm switches should be placed at least 21.6" (550mm) apart to prevent one-hand activation of both switches.

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Compatible Models: 290 Series

### **PPE ACCESSORIES**



#### **REMOTE TEST BOX**

The RTB is a Remote Test and Reset Control Box. It comes in two different configurations: RTB-01 and RTB-02. Both models utilize the connection of Remote Input/Output on the back of all compatible SCI testers and can be used to initiate and reset a test. The RTB-02 has an additional feature (LED's) which allow the operator to monitor the PASS, FAIL and PROCESSING signals.

RTB-01 Compatible Models: 290 Series, 260 Series, 4000 Series, 6000 Series, 2200 Series

RTB-02 Compatible Models: 290 Series, 260 Series, 4000 Series, 6000 Series



### HIGH VOLTAGE RETRACTABLE PROBE 6FT (1.8M)

102-050-913

The simple-to-use high voltage retractable probe gives operators the ability to press to activate the retractable probe tip.

Compatible Models: All Hipot testers



### RETURN RETRACTABLE PROBE 6FT (1.8M)

102-064-902

Our return retractable probe allows for safe contact to ground points of a DUT. The trigger style is ergonomically comfortable for daily use.

Compatible Models: 290 Series



# DUAL ACTION TRIGGER TEST PROBE 10 FT. (3m)

99-10473-01

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This high voltage test gun has a dual action test trigger that controls the retractable probe tip and activates the high voltage output of the tester. The unique ergonomic shape makes this probe easy and comfortable to use.

Compatible Models: 4000 Series



### 40 AMP HIGH CURRENT PROBE W/ LUG 10 FT. (3m)

99-10661-01

This fixed tip probe allows for easy contact with the grounding points of the DUT. The probe has two separate test buttons making it comfortable to use in various positions. The test switch can be used to activate high current after making good contact with the test point.

Compatible Models: 264, 4000 Series, 6000 Series

### **ACCESSORIES**

#### **TESTER VERIFICATION**

Nationally Recognized Testing Laboratories (NRTLs) require minimums for in-service checks of electrical safety testers. In-service checks are designed to verify the measurement accuracy of the test equipment. These verification checks must accurately detect a pass and failure condition to ensure electrical safety testers are functioning properly. NRTLs require verification testing to be performed daily.



#### **TEST VERIFICATION BOX**

Our test verification box solutions are a go / no-go daily test verification designed to ensure that the failure detectors of an SCI electrical safety tester are functioning properly. These boxes were designed to verify AC and DC Hipot test functionality (the TVB-2 also has Ground Bond test functionality), making it the ideal solution for manufacturers who are required to conduct daily verifications on their test equipment.

TVB-1 Compatible Models: All Hipot Testers
TVB-2 Compatible Models: All Testers

**PASS/FAIL VERIFICATION** 



#### 120 kOhm Resistor

P/N: 99-10293-01

Use the 120 kOhm resistor for Hipot failure verification. It can also be used to establish a Hipot trip current/failure point.

**FAIL VERIFICATION** 

#### **ADAPTER BOX**

An adapter box allows for safe and easy testing of line cord-terminated products. Simply connect the adapter box to the tester and then plug the DUT into the adapter box. Adapter boxes are available for most test instruments in multiple country configurations.

| Adapter Box | Description                           | Used With        |
|-------------|---------------------------------------|------------------|
| 99-10001-01 | Universal Receptacle Box High Voltage | 290 Series       |
| 99-10005-01 | Universal Receptacle Box High Current | 264, 4000 Series |
| 99-10467-01 | Universal Receptacle Box HC/HV/LLT    | 6000 Series      |



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### **ICONOLOGY**



The AC Hipot test is used to stress the insulation of a DUT with AC high voltage.



Run

The Functional Run test ensures your DUT is operating properly before shipment.



Connect your tester to a PC for automated applications with optional USB control.



The DC Hipot test is used to stress the insulation of a DUT with DC high voltage.



Output up to 100 mA of current during an AC Hipot test.



Connect your tester to a PC for automated applications with optional RS-232 control.



**Bond** 

The Ground Bond test is used to verify the integrity of a DUT's earth ground conductor.



Test Setup Memories

Quickly setup, edit and recall test settings for different types of DUT's with multiple user-defined memory locations.



Maximize operator safety by connecting an enclosure, warning lights, or safety probes to your tester.



The Ground Continuity test is used to verify the presence Ground Continuity of the DUT's earth ground conductor.



Frequency Selection

Get your products ready for the global market by testing at 50 or 60 Hz.



On the Go **Portability**  Denotes a tester designed for optimal portability. Perfect for use in the field.



Resistance test is used to determine the total resistance of a DUT's insulation. Insulation Resistance

The Insulation



Ramp

Prevents false failures by slowly ramping up the output voltage over time - perfect for sensitive or highly capacitive DUT's.



**Low Current** Sense

Prevents false Hipot passes with confidence by ensuring your test leads are connected correctly.



Current

The Leakage Current test is used to determine the amount of current that flows through the insulation of a DUT during operation.



Eliminates the need to make adjustments during testing by consistently applying the correct voltage for the correct amount of time.



Safety Agency Listed

This tester is NRTL listed and was subjected to the same rigorous tests it must perform.

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## **290 SERIES SPECIFICATIONS**

| <b>INPUT</b> (294, 295, 296, 297, 298) |                            |  |  |  |
|--|----------------------------|--|--|--|
| Voltage                                | 100-120 VAC / 2            | 100-120 VAC / 200-240 VAC $\pm$ 10% Auto Range |  |  |
| Frequency                              | 50/60 Hz ± 5%              |  |  |  |
| Fuse                                   | 3.15 A / 250 VAC Fast-Blow |  |  |  |
|  |                            |  |  |  |
| DIELECTRIC WITHSTAND TEST MODE         |                            |  |  |  |
| 0 1 10 11                              | 200                        | ACO 50011/AC 0000 A                            |  |  |

| Fuse                           | 3.15 A / 250 VAC Fast-Blow                              |  |  |  |
|--------------------------------|---|--|--|--|
| DIELECTRIC WITHSTAND TEST MODE |   |  |  |  |
| Output Rating                  | 298   | AC 0-5.00 kVAC, 99.99 mA   |  |  |
|                                | 297   | AC 0-5.00 kVAC, 12.00 mA<br>DC 0-6.00 kVDC, 5.00 mA  |  |  |
|                                | 296   | AC 0-5.00 kVAC, 12.00 mA<br>DC 0-6.00 kVDC, 5.00 mA  |  |  |
|                                | 295   | AC 0-5.00 kVAC, 12.00 mA   |  |  |
|                                | 294   | DC 0-6.00 kVDC, 5.00 mA  |  |  |
| Voltage Setting                | 298<br>297<br>296<br>295                                | 0-5.00 kVAC<br>Resolution: 0.01 kV<br>Accuracy: ± (1.5% of setting + 5V)                                       |  |  |
|                                | 297<br>296<br>294                                       | 0-6.00 kVDC<br>Resolution: 0.01 kV<br>Accuracy: ± (1.5% of setting + 5V)                                       |  |  |
| Output Frequency               | 294   | DC only  |  |  |
|                                | 295, 298  | 50/60 Hz Selectable  |  |  |
|                                | 296, 297  | DC and 50/60 Hz Selectable   |  |  |
|                                | Accuracy  | ± 0.1%   |  |  |
| AC Waveform                    | Sine Wave, Crest Factor = 1.3 - 1.5                     |  |  |  |
| DC Output Ripple               | 294<br>296<br>297                                       | <5% ( 6 kVDC / 5mA at Resistive Load)  |  |  |
| Dwell Timer                    | 0, 0.2 - 60 sec, (0=continuous), 0.1 sec/step           |  |  |  |
| Ramp Timer                     | 0.2 - 180 sec, 0.7                                      | 1 sec/step   |  |  |
| Leakage Failure<br>Settings    | 298   | AC Hi-Limit: 0.10 - 99.99 mA<br>Lo-Limit: 0 - 99.99 mA   |  |  |
|                                | Resolution:<br>Accuracy:                                | 0.01 mA $\pm$ (2% of reading + 0.06 mA)  |  |  |
|                                | 297<br>296  | AC Hi-Limit: 0.10 - 12.00 mA<br>Lo-Limit: 0 - 12.00 mA<br>DC Hi-Limit: 0.02 - 5.00 mA<br>Lo-Limit: 0 - 5.00 mA |  |  |
|                                | 295   | AC Hi-Limit: 0.10 - 12.00 mA<br>Lo-Limit: 0 - 12.00 mA   |  |  |
|                                | 294   | DC Hi-Limit: 0.02 - 5.0 mA<br>Lo-Limit: 0 - 5.00 mA  |  |  |
|                                | Resolution:<br>Accuracy:                                | 0.01 mA $\pm$ (2% of reading + 0.02 mA)  |  |  |
| Discharge Time                 | < 50 msec for no load, $<$ 100 msec for capacitive load |  |  |  |

| INSULATION RESISTANCE TEST MODE (297 only) |                                    |   |  |
|--|------------------------------------|---|--|
| Output Voltage                             | Range:<br>Resolution:<br>Accuracy: | 0.1-1.00 kVDC<br>0.01 kV<br>± (1.5% of setting + 3 V)   |  |
| Resistance Display                         | Range:<br>Resolution:<br>Accuracy: | $1$ - $1000$ M $\Omega$ $1$ M $\Omega$ $100-499$ V $\pm$ (7% of setting + 2 M $\Omega$ ) $500-1000$ V $\pm$ (3% of setting + 2 M $\Omega$ ) |  |
| Hi-Limit                                   | Range:<br>Resolution:              | 0.1 - 1000 M $\Omega$ (0=off)<br>1 M $\Omega$   |  |
| Lo-Limit                                   | Range:<br>Resolution:              | 1 - 1000 MΩ<br>1 MΩ   |  |
| Timer                                      | Ramp:<br>Delay:                    | 0.1 or 2.0 sec<br>0, 0.5 - 999.9 sec, (0=continuous)  |  |

|  | Delay.  | 0, 0.3 - 999.9 sec, (0=continuous)   |  |  |
|--|---|--|--|--|
| GENERAL SPECIFICATIONS                   |   |  |  |  |
| Continuity Feature                       | Range:<br>Resolution:<br>Accuracy:  | 0.0 - 1.50 Ω<br>0.01 Ω<br>$\pm$ (2% of setting + 0.02 Ω)   |  |  |
| Memories                                 | 5 (10 optional)   |  |  |  |
| Remote I/O                               | Input:<br>Output:   | Test, Reset, Interlock -Pass, Fail, Test-in-Process Hardware Interlock - a relay on the high voltage output opens when the Interlock signal is disabled. |  |  |
| 3mA AC/DC<br>Current Limit<br>(optional) | 294<br>295<br>296<br>297  | Range: 0.00 - 3.00 mA Resolution: 0.01 mA Accuracy: ± (2% of setting + 0.02mA)   |  |  |
| Meter Max<br>(standard)                  | Displays the maximum voltage value recorded during a breakdown.   |  |  |  |
| lmax<br>(optional)                       | Displays the maximum leakage current value read during a test. Option 3 (USB port) must be installed to receive this measurement.   |  |  |  |
| Security                                 | Option to turn On or Off, when On you can switch between two security levels:  1. Run - Operator can only run a test. No ability to change memory locations or edit test parameters.  2. Mem - Operator can run a test and change memory locations. No ability to edit test parameters. |  |  |  |
| Safety Mark                              | CE/cTUVus   |  |  |  |
| <b>Dimensions</b> (W×H×D)                | 294, 295<br>296, 297<br>298   | 8.5" x 3.5" x 11.9" (215 x 88.1 x 300 mm)<br>16.93" x 5.20" x 11.84" (430 x 132  |  |  |
| Wainbe                                   | 204 205   | x 300 mm)  |  |  |
| Weight                                   | 294, 295<br>296, 297  | 12 lbs (5.46 Kg)   |  |  |
|  | 298   | 46 lbs (20.86 Kg)  |  |  |

Specifications subject to change without notice.

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### **260 SERIES SPECIFICATIONS**

| INPUT     |               |   |  |
|-----------|---------------|---|--|
| Voltage   | 264           | 100 - 120 VAC / 200 - 240 VAC ± 10%<br>Auto Range |  |
|           | 266           | 100 - 240 VAC ± 10% Full Range                    |  |
| Frequency | 50/60 Hz ± 5% |   |  |
| Fuse      | 264           | 10A / 250 VAC Slow-Blow                           |  |
|           | 266           | 12A / 250 VAC Slow-Blow                           |  |

| GROUND BOND TEST MODE        |   |  |  |  |
|------------------------------|---|--|--|--|
| Output Rating                | 264   | 3.0 - 40.0 AAC   |  |  |
|                              | 266   | 3.0 - 60.0 AAC   |  |  |
|                              | Resolu  | tion: 0.1 A  |  |  |
|                              | Accura  | Accuracy: $\pm$ (2% of setting + 0.1A)   |  |  |
|                              | 264   | Voltage 8 VAC (fixed)  |  |  |
|                              | 266   | Voltage 12 VAC (fixed)   |  |  |
| Output Frequency             |   | Hz user selectable cy: $\pm$ 0.1%  |  |  |
| Resistance Limit<br>Settings | 264   | 0 - 150 m $\Omega$ for 30.1 - 40.0 A<br>0 - 200 m $\Omega$ for 10.1 - 30.0 A<br>0 - 600 m $\Omega$ for 3.0 - 10.0 A  |  |  |
|                              | 266   | 0 - 150 m $\Omega$ for 30.1 - 60.0 A<br>0 - 200 m $\Omega$ for 15.1 - 30.0 A<br>0 - 600 m $\Omega$ for 3.0 - 15.0 A  |  |  |
|                              | Resolution: 1 m $\Omega$<br>Accuracy: $\pm$ (2% of setting + 2 m $\Omega$ ) |  |  |  |
| Offset Limit Settings        | 0 - 100 mΩ Resolution: 1 mΩ Accuracy: $\pm$ (2% of setting + 2 mΩ)          |  |  |  |
| Dwell Timer                  | 0, 0.5 -  | 240.0 sec, (0=continuous), 0.1 sec/step  |  |  |
| Ramp Timer                   | 0.1 sec   | fixed  |  |  |
| Measurement                  | 264   | 0.0 - 40.0 AAC   |  |  |
| Current                      | 266   | 0.0 - 60.0 AAC   |  |  |
|                              | Resolution: 0.1 A<br>Accuracy: ± (3% of reading + 0.1 A)                    |  |  |  |
| Ohmmeter                     | 264   | $0\text{-}600\text{m}\Omega$   |  |  |
|                              |   | Resolution: 1 m $\Omega$<br>Accuracy: $\pm$ (3% of reading + 3 m $\Omega$ ) for 3 - 5.9 A,<br>$\pm$ (2% of reading + 2 counts) for 6 - 40A   |  |  |
|                              | 266   | $0\text{ - }600m\Omega$  |  |  |
|                              |   | Resolution: $1 \text{ m}\Omega$<br>Accuracy: $\pm (3\% \text{ of reading} + 3 \text{ m}\Omega) \text{ for } 3 - 5.9 \text{ A}$<br>$\pm (2\% \text{ of reading} + 2 \text{ m}\Omega) \text{ for } 6 - 60 \text{ A}$ |  |  |

| GENERAL SPECIFICATIONS             |   |  |  |  |
|------------------------------------|---|--|--|--|
| Memories                           | 5   |  |  |  |
|                                    |   | T . D  |  |  |
| Remote I/O                         | Input:  | Test, Reset, Interlock   |  |  |
|                                    | Output:   | Pass, Fail, Test-in-Process  |  |  |
|                                    |   | Interlock - a relay on the high voltage output<br>en the Interlock signal is disabled. |  |  |
| Voltage Drop<br>Display (optional) |   | e voltage drop across the circuit instead of the emeasurement.                         |  |  |
| Voltage Limit Settings             | 264   | 0.00 - 6.00 VAC  |  |  |
|                                    | 266   | 0.00 - 9.00 VAC  |  |  |
|                                    |   | Resolution: 0.01 V<br>Accuracy: ± (2% of setting + 0.02 V)                             |  |  |
| Offset Limit Settings              | 264   | 0.00 - 4.00 VAC  |  |  |
|                                    | 266   | 0.00 - 6.00 VAC  |  |  |
|                                    | Resolution: 0.01 V<br>Accuracy: ± (2% of setting + 0.02 V)  |  |  |  |
| Security                           | Option to turn On or Off, when On you can switch between two security levels:                         |  |  |  |
|                                    | 1. Run - Operator can only run a test. No ability to change memory locations or edit test parameters. |  |  |  |
|                                    | Mem - Operator can run a test and change<br>memory locations. No ability to edit test<br>parameters.  |  |  |  |
| Safety Mark                        | CE/cTUVu  | S  |  |  |
| <b>Dimensions</b> (W x H x D)      | 264   | 8.5" x 3.5" x 11.81" (215 x 88 x 300 mm)   |  |  |
|                                    | 266   | 16.93" x 5.20" x 11.81" (430 x 132 x 300 mm  |  |  |
| Weight                             | 264   | 9.25 lbs. (4.3 Kg)   |  |  |
|                                    | 266   | 20.25 lbs. (9 Kg)  |  |  |

Specifications subject to change without notice.

### **4000 SERIES SPECIFICATIONS**

| INPUT     |               |                                       |
|-----------|---------------|---------------------------------------|
| Voltage   | 4320          | 115/230 VAC $\pm$ 15%, user selection |
|           | 4520          | 115/230V Auto Range, ± 15% variation  |
| Frequency | 50/60 Hz ± 5% |                                       |
| Fuse      | 4320          | 6.3 A 250 V slow blow                 |
|           | 4520          | 15 A slow blow 250 VAC                |

|                                    | 4320  | 13 / 310W BIOW 250 V/IC   |  |
|------------------------------------|---|---|--|
| DIELECTRIC WITH                    | ISTAND TEST   | MODE  |  |
| Output Rating                      | 4320  | 5 kV @ 20 mAAC<br>6 kV @ 5 mADC   |  |
|                                    | 4520  | 5 kV @ 100 mAAC<br>6 kV @ 10 mADC   |  |
| Voltage Setting/<br>Display        | Range:<br>Resolution:<br>Accuracy:  | 0 - 5.00 kVAC<br>0 - 6.00 kVDC<br>0.01 kV<br>± (2% of setting + 5 V)<br>± (2% of reading + 10 V)      |  |
| Current Display                    | 4320  | Range: 0 - 20.00 mAAC, 0 - 5.00 mADC<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of reading + 0.02 mA)  |  |
|                                    | 4520  | Range: 0 - 99.99 mAAC, 0 - 10.00 mADC<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of reading + 0.06 mA) |  |
| HI-Limit<br>LO-Limit               | 4320 AC   | Range: 0 - 20.00 mA<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of setting + 0.02 mA)                   |  |
|                                    | 4320 DC   | Range: 0 - 5.00 mA<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of setting + 0.02 mA)                    |  |
|                                    | 4520 AC   | Range: 0 - 99.99 mAAC<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of reading + 0.06 mA)                 |  |
|                                    | 4520 DC   | Range: 0 - 10.00 mADC<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of reading + 0.06 mA)                 |  |
| Failure Detector                   | Audible and Visual  |   |  |
| DC Output Ripple                   | 4320  | < 5% Ripple RMS at 6 kVDC @ 5 mA, resistive load  |  |
|                                    | 4520  | ≤ 5% Ripple RMS at 6 KVDC @ 10 mA, resistive load   |  |
| Discharge Time                     | ≤ 200 ms  |   |  |
| Max. Capacitive<br>Load in DC Mode | 1.00 uF < 1 kV 0.08 uF < 4 kV<br>0.75 uF < 2 kV 0.04 uF < 5 kV<br>0.50 uF < 3 kV 0.01 uF < 6 kV |   |  |
| AC Wave Form                       | Sine Wave distort   | tion <2%, Crest Factor = 1.3 - 1.5  |  |
| AC Output Frequency                | Range:  | 50/60 Hz, user selection  |  |
| <b>Output Regulation</b>           | ± (1% of setting +  | - 5 V) from no load to full load  |  |
| <b>Dwell Timer</b>                 | Range:<br>Resolution:<br>Accuracy:  | 0, 0.2 - 999.9 sec, (0 = continuous)<br>0.1 sec increments<br>± (0.1% + 0.05 sec)                     |  |
| Ramp Timer                         | Range:<br>Resolution:<br>Accuracy:  | 0.1 - 999.9 sec<br>0.1 sec increments<br>± (0.1% + 0.05 sec)  |  |
|                                    |   |   |  |

| INSULATION RESISTANCE TEST MODE |                                    |   |   |              |  |
|---------------------------------|------------------------------------|---|---|--------------|--|
| Output Voltage                  | Range:<br>Resolution:<br>Accuracy: | 100 - 1000 VDC<br>1 V<br>± (2% of reading + 5 V)                        |   |              |  |
| Voltage Display                 | Range:<br>Resolution:<br>Accuracy: | 0 - 1000 V<br>1 V<br>± (2% of reading + 2 V)                            |   |              |  |
| Resistance Display              | Range:                             | 1 - 1000 N  | 1 - 1000 M $\Omega$ (4 digit, auto ranging) |              |  |
|                                 | Resolution:                        |   | 500 VDC                                     | 1000 VDC     |  |
|                                 |                                    | ΜΩ  | ΜΩ  | ΜΩ           |  |
|                                 |                                    | 0.01  | 1.00 - 40.00                                | 1.00 - 80.00 |  |
|                                 |                                    | 0.1   | 35.0 - 999.9                                | 75.0 - 999.9 |  |
| Hi-Limit                        | Range:                             | $0, 1 - 1000 \text{ M}\Omega (0 = \text{off})$                          |   |              |  |
| LO-Limit                        | Range:                             | 1 - 1000 ΜΩ   |   |              |  |
| <b>Delay Timer</b>              | Range:<br>Resolution:<br>Accuracy: | 0, 0.5 - 999.9 sec, (0 = continuous)<br>0.1 sec<br>± (0.1% of 0.05 sec) |   | nuous)       |  |

| GROUND BOND TEST MODE |  |   |  |
|-----------------------|--|---|--|
| Output Voltage        | Range:   | 6 VAC fixed   |  |
| Output Frequency      | Range:   | 50/60 Hz, user selectable   |  |
| Output Current        | Range:<br>Resolution:<br>Accuracy:                     | 3.0 - 30.0 AAC<br>0.1 A<br>± (2% of setting + 0.02 A)                                       |  |
| Current Display       | Range:<br>Resolution:<br>Accuracy:                     | 0 - 30.0 A<br>0.1 A<br>± (3% of reading + 0.01 A)   |  |
| HI-Limit<br>LO-Limit  | Range:   | 0 - 510 mΩ for 3.0 - 10.0 A<br>0 - 200 mΩ for 10.1 - 25.0 A<br>0 - 150 mΩ for 25.1 - 30.0 A |  |
|                       | Resolution:  | 1 mΩ  |  |
|                       | Accuracy:  | $\pm$ (2% of setting + 2 m $\Omega$ )   |  |
| <b>Dwell Timer</b>    | Range:<br>Resolution:<br>Accuracy:                     | 0, 0.5 - 999.9 sec, (0 = continuous)<br>0.1 sec<br>± (0.1% + 0.05 sec)                      |  |
| Milliohm Offset       | Max. Offset<br>Capability:<br>Resolution:<br>Accuracy: | 0 - 100 mΩ<br>1 mΩ<br>± (2% of setting + 2 mΩ)  |  |

| GENERAL SPECIFICATIONS |                   |   |  |
|------------------------|-------------------|---|--|
| Memories               |                   | Allows storage of up to 6 different test programs and 6 steps per memory and a single step mode |  |
| Remote I/O             | Input:<br>Output: |   |  |
| Interface              | Optional RS-      | 232   |  |
| Security               |                   | Lockout capability to avoid unauthorized access to test set-up programs                         |  |
| Calibration            | Software & a      | Software & adjustments made through front panel   |  |
| Mechanical             | Bench or rac      | Bench or rack mount with tilt up front feet (4520 Only)   |  |
| Dimensions             | 4320              | 11" x 3.5" x 17" (280 x 89 x 430 mm)  |  |
| (WxHxD)                | 4520              | 16.9" x 5.2" x 15.7" (430 x 133 x 400 mm)   |  |
| Weight                 | 4320              | 33 lbs. (15 kg)   |  |
|                        | 4520              | 54 lbs. (24.5 kg)   |  |

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Specifications subject to change without notice.

**Dwell Timer** 

Ramp Timer

### **6000 SERIES SPECIFICATIONS**

| INPUT                          |  |  |  |  |  |  |  |
|--------------------------------|--|--|--|--|--|--|--|
| Voltage                        | 115 / 230 V selectable, ± 10 % variation |  |  |  |  |  |  |
| Frequency                      | 50/60 Hz ± 5%                            |  |  |  |  |  |  |
| Fuse                           | 6.3 A slow blow 250 VAC                  |  |  |  |  |  |  |
| DIELECTRIC WITHSTAND TEST MODE |  |  |  |  |  |  |  |
| Output Rating                  | 3.5 kV @ 30 mAAC                         |  |  |  |  |  |  |
|                                | 4.0 kV @ 5 mADC                          |  |  |  |  |  |  |
| Voltage Setting                | Range: 0 - 3.50 kVAC                     |  |  |  |  |  |  |

| Output Rating        | 3.5 kV @ 30 mA  | <del>/</del> C  |           |        |  |  |  |  |  |
|----------------------|---|---|-----------|--------|--|--|--|--|--|
|                      | 4.0 kV @ 5 mADC                                       |   |           |        |  |  |  |  |  |
| Voltage Setting      | Range: Resolution: Accuracy:                          | 0 - 3.50 kVAC<br>0 - 4.00 kVDC<br>0.01 kV<br>± (2% of setting + 5 V)      |           |        |  |  |  |  |  |
| Current Display      | Range:<br>Resolution:<br>Accuracy:                    | 0 - 30.00 mAAC<br>0 - 5.00 mADC<br>0.01 mA<br>± (2% of reading + 0.02 mA) |           |        |  |  |  |  |  |
| HI-Limit<br>LO-Limit | AC  | Range: 0 - 30.00 mA<br>Accuracy: ± (2% of setting + 0.02 mA)              |           |        |  |  |  |  |  |
|                      | DC  | Range: 0-5.00 mA<br>Accuracy: $\pm$ (2% of setting + 0.02 mA)             |           |        |  |  |  |  |  |
| Failure Detector     | Audible and Visual                                    |   |           |        |  |  |  |  |  |
| DC Output Ripple     | 5% Ripple RMS at 4 kVDC @ 5 mA, resistive load        |   |           |        |  |  |  |  |  |
| Discharge Time       | ≤ 200ms   |   |           |        |  |  |  |  |  |
| Max. Capacitive      | 1.00 uF   | < 1 kV  | 0.50 uF   | < 3 kV |  |  |  |  |  |
| Load in DC Mode      | 0.75 uF   | < 2 kV  | 0.08 uF   | < 4 kV |  |  |  |  |  |
| AC Waveform          | Sine Wave, Crest Factor = 1.3 - 1.5                   |   |           |        |  |  |  |  |  |
| AC Output Frequency  | Range:  | 50/60 Hz, user s  | selection |        |  |  |  |  |  |
| Output Regulation    | $\pm$ (1% of setting + 5 V) from no load to full load |   |           |        |  |  |  |  |  |
|                      |   |   |           |        |  |  |  |  |  |

| INSULATION RESISTANCE TEST MODE |   |                                      |   |              |  |  |  |  |  |
|---------------------------------|---|--------------------------------------|---|--------------|--|--|--|--|--|
| Output Voltage                  | Range: $100 - 1000 \text{ VDC}$<br>Accuracy: $\pm (2\% \text{ of reading} + 5 \text{ V})$ |                                      |   |              |  |  |  |  |  |
| Resistance Display              | Range:  | 1 - 1000 /                           | 1 - 1000 M $\Omega$ (4 digit, auto ranging) |              |  |  |  |  |  |
|                                 |   |                                      | 500 VDC                                     | 1000 VDC     |  |  |  |  |  |
|                                 |   | ΜΩ                                   | ΜΩ  | ΜΩ           |  |  |  |  |  |
|                                 | Resolution:   | 0.01                                 | 1.00 - 40.00                                | 1.00 - 80.00 |  |  |  |  |  |
|                                 | nesolution.   | 0.1                                  | 35.0 - 999.9                                | 75.0 - 999.9 |  |  |  |  |  |
| HI-Limit/LO-Limit               | Range:  | 1 - 1000 M $\Omega$ (0 = off)        |   |              |  |  |  |  |  |
| Delay Timer                     | Range:  | 0, 0.5 - 999.9 sec, (0 = continuous) |   |              |  |  |  |  |  |

Range:

Range:

0, 0.2 - 999.9 sec, (0 = continuous)

0.1 - 999.9 sec

| GROUND BOND TEST MODE              |           |   |  |  |  |  |  |
|------------------------------------|-----------|---|--|--|--|--|--|
| Output Voltage                     | Range:    | 6 VAC fixed   |  |  |  |  |  |
| Output Frequency                   | Range:    | 50/60 Hz, user selectable                             |  |  |  |  |  |
| Output Current                     | Range:    | 3.0 - 30.0 AAC  |  |  |  |  |  |
| <b>Current Display</b>             | Range:    | 0.0 - 30.0 A  |  |  |  |  |  |
| HI-Limit<br>LO-Limit               | Range:    | $0$ - 510 $m\Omega$ for 3.0 - 10.0 A                  |  |  |  |  |  |
|                                    |           | $0$ - 200 $m\Omega$ for 10.1 - 25.0 A                 |  |  |  |  |  |
|                                    |           | $0$ - 150 $m\Omega$ for 25.1 - 30.0 A                 |  |  |  |  |  |
|                                    | Accuracy: | $\pm$ (2% of setting + 2 m $\Omega$ )                 |  |  |  |  |  |
| Dwell Timer                        | Range:    | 0, 0.5 - 999.9 sec, (0 = continuous)                  |  |  |  |  |  |
| Milliohm Offset Range:<br>Accuracy |           | $0 - 100 \text{ m}\Omega$<br>± (2% of setting + 2 mΩ) |  |  |  |  |  |
|                                    |           |   |  |  |  |  |  |

| Voltage:<br>Current:  | 0 - 277 VAC Single Phase Unbalanced<br>30 AAC max continuous   |  |  |  |  |
|---|--|--|--|--|--|
| Range:  | 0 - 277.0 VAC Full Scale   |  |  |  |  |
| Short circuit current 50 A < 3 s<br>Inrush current 180 A<br>Response time 10 µs |  |  |  |  |  |
| Range:  | 0.2 - 999.9 seconds  |  |  |  |  |
| Range:  | 0, 0.1 - 999.9 seconds (0 = continuous)  |  |  |  |  |
| Range:  | 0 - 999.9 seconds  |  |  |  |  |
| Range:  | 0 - 277.0 VAC  |  |  |  |  |
| Range:  | 0 - 30.0 AAC   |  |  |  |  |
| Range:  | 0 - 8400 W   |  |  |  |  |
| Range:  | 0 - 1.000  |  |  |  |  |
| Range:  | 0 - 10.00 mA (0 = off)   |  |  |  |  |
| Leakage current measuring resistor MD=2K $\Omega$ ± 1%                          |  |  |  |  |  |
|   | Current: Range: Short circuit Inrush curre Response ti Range: |  |  |  |  |

| LEAKAGE CURRENT TEST MODE     |                       |   |  |  |  |  |  |  |  |
|-------------------------------|-----------------------|---|--|--|--|--|--|--|--|
| DUT Power                     | Voltage:<br>Current:  | 0 - 277 VAC Single Phase Unbalanced<br>0 - 30 A maximum<br>30 AAC max continuous  |  |  |  |  |  |  |  |
| Voltage Display               | Range:                | 0 - 277.0 VAC Full Scale  |  |  |  |  |  |  |  |
| Short Circuit<br>Protection   | Inrush current        | Short circuit current 50 A < 3s<br>Inrush current 180 A<br>Response time 10 µs  |  |  |  |  |  |  |  |
| Leakage Current<br>(RMS Only) | Range:                | 0 μΑ - 6000 μΑ  |  |  |  |  |  |  |  |
|                               | Accuracy:             | DC, 15 to 100 kHz $\pm$ (2% of reading + 3 $\mu$ A) $>$ 100 k to 1 MHz $\pm$ 5% of reading                                    |  |  |  |  |  |  |  |
| Measuring Device              | A<br>B<br>C<br>F<br>X | UL544 Non Patient IEC60990 Fig4-U2 UL2601-1, UL60601-1 Frequency Check, External MD (1k $\Omega$ ) External MD (1k $\Omega$ ) |  |  |  |  |  |  |  |
| Line Condition                | Neutral, Reverse      | e, Ground   |  |  |  |  |  |  |  |
| Probe                         | G-L                   |   |  |  |  |  |  |  |  |
| HI-Limit/LO-Limit             | Range:                | 0 - 6000 μΑ   |  |  |  |  |  |  |  |
| <b>Delay Timer</b>            | Range:                | 0, 1.0 - 999.9 sec, (0 = continuous)  |  |  |  |  |  |  |  |

| GENERAL SPECIFICATIONS       |   |  |  |  |  |  |  |
|------------------------------|---|--|--|--|--|--|--|
| Memories                     | 20 memories   | 20 memories with 10 steps per memory                             |  |  |  |  |  |
| Remote I/O                   | Input:<br>Output:   | •  |  |  |  |  |  |
| Interface                    | RS-232 interface  |  |  |  |  |  |  |
| Security                     | Key lock and access   | Key lock and memory lock capability to avoid unauthorized access |  |  |  |  |  |
| Terminations                 | 6' (1.80 m) high voltage and (2) return leads w/ clips                          |  |  |  |  |  |  |
| Calibration                  | Software & adjustments made through front panel                                 |  |  |  |  |  |  |
| Mechanical                   | Bench or rack mount with tilt up front feet                                     |  |  |  |  |  |  |
| Environmental                | Operating Temperature: 32° - 104° F (0° - 40° C)<br>Relative Humidity: 20 - 80% |  |  |  |  |  |  |
| <b>Dimension</b> (W x H x D) | 16.9" x 5.2" x  | 16.9" x 5.2" x 19.6" (430 x 133 x 500 mm)                        |  |  |  |  |  |
| Weight                       | 48.5 lbs. (22 l   | 48.5 lbs. (22 kg)  |  |  |  |  |  |

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### **SAFETY STANDARD REFERENCE CHART**

| Standard /<br>Harmonized                                | Testing     | Dielectric Withstand                       |  | Ground Bond/Continuity                |  |                        | Earth<br>Leakage                                 |                      | Insulation<br>Resistance |                  |                      | Suggested<br>Model #  |                       |                       |
|---|-------------|--|--|---------------------------------------|--|------------------------|--|----------------------|--------------------------|------------------|----------------------|-----------------------|-----------------------|-----------------------|
| Standard  | Type        | Test Voltage                               | Max I.   | Test<br>Time                          | Test<br>Current  | V<br>Limit             | Max. R   | Test Time            | Test<br>Voltage          | Max I.           |                      | V<br>Limit            | Min<br>R              | Slaughter Tester      |
| IEC/UL 60601-1  | Performance | 500 – 4000 VAC<br>or 707 – 5656 VDC        |  | 60 s                                  | 10-25 A  | ≤ 6 V                  | ≤ 0.1 Ω  | 5 s                  | 110% x<br>rated V        | 5-10 mA          |                      | N/A                   |                       | 6330                  |
| 3rd Edition Medical<br>Electrical Equipment             | Production  | 1000 – 3000 VAC                            | No Breakdown                                   | 1 or 60 s                             | 10-25 A  | ≤ 6 V                  | ≤ 0.1 Ω  | 5 s                  | N/                       | Ά                | N/A                  |                       |                       | 4320, 4520            |
| H.U.D. Specification                                    | Performance | 900-1079 VAC<br>or 1273-1526 VDC           | No Breakdown                                   | 60 s                                  |  | N/A N/A                |  |                      | 294, 295,<br>296, 297    |                  |                      |                       |                       |                       |
| #24 CFR 3280.810  | Production  | 1080-1250 VAC<br>or 1527-1768 VDC          | No Breakdown                                   | 1 s                                   | Continuity   |                        |  |                      |                          | 'A               | N/A                  |                       | 294, 295,<br>296, 297 |                       |
| R.V.I.A. (NEC)  | Performance | 900 VAC or 1280 VDC                        | No Breakdown                                   | 60 s                                  | Continuity   |                        |  |                      |                          | N/A              |                      | N/A                   |                       | 294, 295,<br>296, 297 |
| R.V.I.A. (NEC)  | Production  | 1080 VAC or<br>1530 VDC                    | No Breakdown                                   | 1 s                                   | Continuity   |                        |  |                      | N/A                      |                  |                      | N/A                   |                       | 294, 295,<br>296, 297 |
| IEC 60335-1<br>Household Electrical                     | Performance | 500 – 2400 VAC x rated V<br>+ 2400 VAC     | No Breakdown                                   | 60 s                                  | ≥ 10 A   | ≤ 12 V                 | 0.1 – 0.2<br>Ω                                   | ≤ 120 s              | 1.06 x<br>rated V        | 0.25 –<br>5.0 uA |                      | N/A                   |                       | 6330 + 298*           |
| Appliances  | Production  | 400 – 2500 VAC                             | 5-30 mA  | 1 s                                   | ≥ 10 A   | ≤ 12 V                 | 0.1 – 0.2<br>Ω                                   | No time specified    | N/                       | 'A               |                      | N/A                   |                       | 4520                  |
| UL 60335-1<br>Household Electrical                      | Performance | 500 V – 2400 VAC x rated<br>V + 2400 VAC   | No Breakdown                                   | 60 s                                  | 40 A   | ≤ 6.5 V                | ≤ 0.5 Ω  | 120 s                | 1.06 x<br>rated V        | 0.25 –<br>5.0 uA | N/A                  |                       | 6330 + 298*           |                       |
| Appliances  | Production  | 400 – 2500 VAC                             | 5-30 mA  | 1 s                                   | 40 A $\leq 12 \text{ V}$ $0.1 - 0.2$ No time specified |                        | N/A  |                      | N/A                      |                  | 4520                 |                       |                       |                       |
| IEC 60598-1   | Performance | 500 – 4 x rated V + 2000<br>VAC            | No Breakdown                                   | 60 s                                  | ≥ 10 A   | ≤ 12 V                 | ≤ 0.5 Ω  | 60 s                 | Rated V                  | 0.5 – 10<br>mA   | 60 s                 | 500<br>VDC            | 1-4<br>ΜΩ             | 6330 + 298*           |
| Luminaires  | Production  |  |  | Not S                                 | pecified - I   | Responsi               | bility of Ma                                     | anufacturer          |                          |                  |                      |                       | 294, 295,<br>296, 297 |                       |
| UL 1598 Luminaires                                      | Performance | 1000 VAC - 1000 VAC x 2<br>x rated V       | No Breakdown                                   | 60 s                                  | 30 A   | ≤4V                    | ≤ 0.1 Ω  | 120 s                | N/                       | 'A               | No time<br>specified | 500<br>VDC            | ≥ 2<br>MΩ             | 4520                  |
|   | Production  | 1200 VAC                                   |  | 1 s                                   | Conti  | nuity                  | ≤ 0.1 Ω  | Continuity           | N/A                      |                  | N/A                  |                       |                       | 295                   |
| IEC/UL 61010-1 & CSA 22.2 No. 61010-                    | Performance | 940 11040VAC or 1200                       |  |                                       | 25 or 30 A   | ≤ 10<br>V or ≤<br>12 V | $\leq 0.1 \Omega$<br>or $<4 V$<br>$0.133 \Omega$ | 60 or 120 s          | < 300 V                  | 0.5 mA           |                      | N/A                   |                       | 6330 + 298*           |
| 1 Laboratory Control<br>Test & Measurement<br>Equipment | Production  | 840 - 11940 VAC or 1200<br>- 7500 VDC      | No Breakdown                                   | 5 s max<br>ramp<br>up<br>2 s<br>dwell | Continuity   |                        |  | N/A                  |                          | N/A              |                      | 294, 295,<br>296, 297 |                       |                       |
| EN 60204-1<br>Electrical Equipment                      | Performance | 2 x rated V or<br>1000 VAC                 | No Breakdown                                   | 1 s                                   | 0.2 -<br>10 A  | ≤ 24 V                 | Refer to<br>Section<br>18.2.2                    | No time<br>specified | N/                       | 'A               | No time<br>specified | 500 V                 | ≥ 1<br>MΩ             | 4320                  |
| of Machines   | Production  |  | Not Specified - Responsibility of Manufacturer |                                       |  |                        |  |                      |                          |                  |                      | 294, 295,<br>296, 297 |                       |                       |
| UL 45A Portable   | Performance | 1000 VAC + 2 x rated V<br>or DC equivalent |  |                                       | Continuity   |                        | < 300 V 0.5 - 3.5 mA                             |                      | 60 s 500 V ≥ 50<br>KΩ    |                  | ≥ 50<br>KΩ           | 6330                  |                       |                       |
| Electrical Appliances                                   | Production  | 1000 - 3000 VAC                            | 140 DIEdKOOWII                                 | 1 s                                   |  | Co                     | ntinuity   |                      | N/A                      |                  | N/A                  |                       |                       | 294, 295              |
| EN 60950-1 EN<br>50116 Information                      | Performance | 1000 – 3000 VAC                            | Na Brack I                                     | 120 s                                 | 30 A   | ≤ 12 V                 | ≤ 0.1 Ω  | 60 s                 | < 300 V                  | 0.25 –<br>3.5 mA | 60 s                 | 500 V                 | ≥ 2<br>MΩ             | 6330                  |
| Technology<br>Equipment                                 | Production  | or 1414 – 4242 VDC                         | No Breakdown                                   | 1 - 4 s                               | 25 A   | ≤ 12 V                 | ≤ 0.1 Ω  | 1-4 s                | N/                       | Ά                |                      | N/A                   |                       | 4320                  |
| UL 60950-1 CSA<br>22.2 No. 60950-                       | Performance | 1000 3000 146                              |  | 60 s                                  | ≤ 40 A   | ≤ 12 V                 | ≤ 0.1 Ω  | 60 s                 | < 300 V                  | 0.25 –<br>3.5 mA | 60 s                 | 500 V                 | ≥ 2<br>MΩ             | 6330                  |
| 1 Information<br>Technology<br>Equipment                | Production  | 1000 – 3000 VAC<br>or 1414 – 4242 VDC      | No Breakdown                                   | 1 – 6 s                               | Continuity   |                        |  | N/A N/A              |                          |                  |                      | 294, 295, 296         |                       |                       |

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