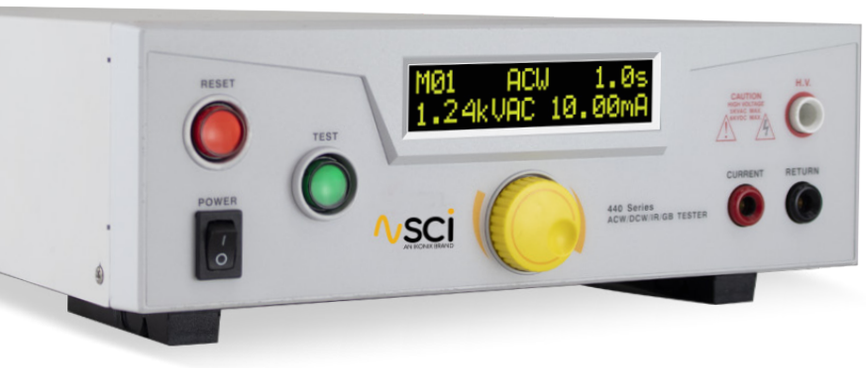
# 440 SERIES

## Hipot / Ground Bond Tester




- VERSATILE 4-IN-1 FUNCTIONALITY
- INTUITIVE USER INTERFACE
- 40A GROUND BOND CAPABILITY
- 20 PROGRAMMABLE MEMORIES
- EASILY AUTOMATE FOR DATA COLLECTION
- REMOTE SAFETY INTERLOCK
- EASILY SAFEGUARD YOUR WORKSTATION WITH PPE ACCESSORIES

The **440 Series** provides advanced 4-in-1 test capability in a convenient one-box solution. This new series performs AC Hipot (448 - 500 VA), DC Hipot, Insulation Resistance and 40A AC Ground Bond tests while taking up minimal production line space. The **440 Series** is simple and easy-to-use; reducing setup time and increasing production line throughput for your application. With multiple memories and an optional USB port for remote BUS communication so you can quickly perform tests on a variety of DUTs from the front panel or with a PC.

| | AC Hipot | DC Hipot | Insulation Resistance | 40A Ground Bond |
|---|---|---|---|---|
| 446 | ● | ● | ● | ● |
| 448 | 500VA | ● | ● | ● |

**440 SERIES SPECS** FOUND ON **PAGE 10 & 11**

## RELEVANT APPLICATIONS

APPLIANCE
INDUSTRIAL EQUIPMENT
INFORMATION TECHNOLOGY
CONTRACT MANUFACTURING
LABORATORY EQUIPMENT

## WHAT'S IN THE BOX

| | |
|---|---|
| 33189 | Power Cord (10A) 6ft - *446 Model |
| 38071 | Power Cord (15A) 6ft - *448 Model |
| 99-10783-01 | Fuse 10A Slow Blow 20mm - *446 Model |
| 99-10168-01 | Fuse 15A Fast Blow 30mm - *448 Model |
| 38075 | Interlock Connector Male |
| 40428 | Ground Bond Test Lead |
| 40429 | Ground Bond Return Lead |
| 04040A-08 | High Voltage Test Lead 6ft |
| 99-10797-01 | USB A-B 1.8M Cable |

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

## OPTIONS

| Description | 446 | 448 |
|---|---|---|
| Rear Outputs | • | • |
| USB Port | • | • |


SCI 448 Model

## SERIES FEATURES

Test Setup Memories

Frequency Selection

Ramp

Dwell

Low Current Sense

Safety Agency Listed

PLC Remote

USB (optional)

On the Go Portability

Intuitive User Interface

# 440 SERIES SPECIFICATIONS

## INPUT (446 and 448)

| | | |
|---|---|---|
| **Voltage** | 100 - 120Vac / 200 - 240Vac±10% Auto Range | |
| **Frequency** | 50/60Hz ± 5% | |
| **Fuse** | 446 | 10A / 250Vac Slow-Blow |
| | 448 | 15A / 250Vac Fast-Blow |

## DIELECTRIC WITHSTAND TEST MODE

| | | |
|---|---|---|
| **Output Rating** | 446 | 5 KV @ 20 mA AC<br>6 KV @ 5 mA DC |
| | 448 | 5 KV @ 99.99 mA AC<br>6 KV @ 10 mA DC |
| **Voltage Setting/Display** | Range | 0 – 5.00 KV AC<br>0 – 6.00 KV DC |
| | Resolution | 0.01 |
| | Accuracy | ± (2% of setting + 5V) |
| **Current Display** | 446 | Range: 0 - 20.00 mA AC, 0 - 5.00 mA DC<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of reading + 0.02 mA) |
| | 448 | Range: 0 - 99.99 mA AC, 0 - 10.00 mA DC<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of reading + 0.06 mA) |
| **Hi-Limit**<br>**Lo-Limit** | 446 AC | Range: Lo-Limit 0 - 20.00 mA, Hi-Limit 0.10 – 20.00 mA<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of setting + 2 counts) |
| | 446 DC | Range: Lo-Limit 0 - 5.00 mA, Hi-Limit 0.02 – 5.00 mA<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of setting + 2 counts) |
| | 448 AC | Range: Lo-limit 0 - 99.99 mA, Hi-Limit 0.10 – 99.99 mA<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of reading + 6 counts) |
| | 448 DC | Range: Lo-Limit 0 - 10.00 mA, Hi-Limit 0.02 – 10.00mA<br>Resolution: 0.01 mA<br>Accuracy: ± (2% of reading + 6 counts) |
| **Failure Detector** | Audible and Visual | |
| **DC Output Ripple** | 446 | <5 % ( 6KV / 5mA at Resistive Load ) |
| | 448 | <5 % ( 6KV / 10mA at Resistive Load ) |
| **Discharge Time** | 446 | < 50 ms for no load, < 200 ms for capacitor load |
| | 448 | < 50 ms for no load, < 100 ms for capacitor load |
| **Max. Capacitive Load in DC Mode** | 1µF < 1KV<br>0.75µF < 2KV<br>0.5µF < 3KV | 0.08µF < 4KV<br>0.04µF < 5KV<br>0.015uF < 6KV |
| **AC Wave Form** | Sine Wave, Crest Factor = 1.3 - 1.5 and output voltage > 300V | |
| **AC Output Frequency** | 50Hz/60Hz ± 0.1%, User Selection | |

## DIELECTRIC WITHSTAND TEST MODE (Cont.)

| | | |
|---|---|---|
| **Output Regulation** | ± (1% of output + 5V), From no load to full load | |
| **Dwell Timer** | Range:<br>Resolution:<br>Accuracy: | 0, 0.2 - 60.0 (0=continuous)<br>0.1<br>± (0.1% of setting + 0.05 sec) |
| **Ramp Timer** | Range:<br>Resolution:<br>Accuracy: | 0.2-180.0<br>0.1<br>± (0.1% of setting + 0.05 sec) |

## INSULATION RESISTANCE TEST MODE

| | | |
|---|---|---|
| **Output Voltage, VDC** | Range:<br>Resolution:<br>Accuracy: | 100 - 1000<br>1<br>± (2% of setting + 5V) |
| **Hi-Limit resistance, MΩ** | Range:<br>Resolution:<br>Accuracy: | 0, 1 - 1000 (0 = OFF)<br>1<br>100-499V ± (7% of setting + 2 counts) |
| **Lo-Limit resistance, MΩ** | Range:<br>Resolution:<br>Accuracy: | 1 - 1000<br>1<br>500-1000V ± (3% of setting + 2 counts) |
| **Ramp Time , second** | Range:<br>Resolution:<br>Accuracy: | 0.1 or 2.0<br>0.1<br>± (0.1% of setting + 0.05 sec) |
| **Delay Time, second** | Range:<br>Resolution:<br>Accuracy: | 0, 0.5 - 999.9 (0=continuous)<br>0.1<br>± (0.1% of setting + 0.05 sec) |

Specifications subject to change without notice.

# 440 SERIES SPECIFICATIONS

## GROUND BOND

| | | |
|---|---|---|
| **Output AC Current, A** | Range:<br>Resolution:<br>Accuracy: | 1.0 – 40.0<br>0.1<br>± (2 % of setting + 2 counts) |
| **Output AC Voltage, V** | 8V(Fixed) | |
| **Output Frequency, Hz** | 50Hz/60Hz ± 0.1%, User Selectable | |
| **Maximum Loading** | 1.0–10.0A/0–600mΩ,10.1–30.0A/0–200mΩ, 30.1–40.0A/0–150mΩ | |
| **Offset, mΩ** | Range:<br>Resolution:<br>Accuracy: | 0-100<br>1<br>± (2 % of setting + 2 counts) |
| **HI and LO-Limit Resistance, mΩ** | Range:<br>Resolution:<br>Accuracy: | 0 – 150 (30.1-40.0A)<br>1<br>± (2 % of setting + 2 counts) |
| | Range:<br>Resolution:<br>Accuracy: | 0 – 200 (10.1-30.0A)<br>1<br>± (2 % of setting + 2 counts) |
| | Range:<br>Resolution:<br>Accuracy: | 0 – 600 (1.0-10.0A)<br>1<br>± (2 % of setting + 2 counts) |
| **Fix Ramp Timer, second** | Range:<br>Resolution:<br>Accuracy: | 0.4<br>0.1<br>± 0.05 sec |
| | 0-250mOhm = 0.1sec ramp up<br>251-300mOhm = 0.2sec ramp up<br>301-450mOhm = 0.3sec ramp up<br>>450mOhm = 0.4sec | |
| **Dwell Timer, second** | Range:<br>Resolution:<br>Accuracy | 0, 0.1 - 240.0 (0 = continuous)<br>0.1<br>± 0.05 sec |

## GENERAL SPECIFICATIONS

| | | |
|---|---|---|
| **Memories** | Allows storage of up to 20 different test programs and a single step mode | |
| **Remote I/O** | Input:<br>Output: | Test, Reset, Interlock & Recall Memory 1 – 6<br>Pass, Fail, Test-in-Process |
| **Interface** | USB (Optional) | |
| **Security** | Lockout capability to avoid unauthorized access to test set-up programs | |
| **Calibration** | Software and adjustments made through the front panel | |
| **Dimension** | 446 | 280mm(W) ×89mm(H) × 400 mm(D) |
| | 448 | 430mm(W) ×132mm(H) × 400 mm(D) |
| **Weight** | 446 | 18lbs (8kg) |
| | 448 | 53lbs (24kg) |

Specifications subject to change without notice.