# Hypot®

## Production Line Hipot Testing at its Finest

Our Hypot® Series raises the bar for production line Hipot testing. Improve traceability with onboard data storage and easily transfer test result data and test settings via convenient front panel USB. Take the guesswork out of your production line with the direct barcode connection to quickly associate products with pre-programmed test files. We've included advanced features like improved security and a touch screen interface that provides custom pop-up prompts displayed before each test step. We've dramatically reduced the weight and footprint of the Hypot® Series to make safety compliance a less strenuous ordeal. Quickly interconnect with the HYAMP® Series to form a complete safety compliance system.


### Find the Model that Fits Your Testing Needs

| | AC Hipot | DC Hipot | Ground Continuity | Insulation Resistance | EN 50191 COMPLIANT |
|---|---|---|---|---|---|
| 3805 | • | | • | | • |
| 3855 | • | | • | • | • |
| 3865 | • | • | • | | • |
| 3870 | • | • | • | • | • |

## AVAILABLE INTERFACES

- USB
- RS-232

## SAFETY & PRODUCTIVITY FEATURES

- **SmartGFI®** Automatic operator shock protection
- **Remote Safety Interlock** Easily disable HV output
- **Data Transfer** Easily import/export test files and data via USB
- **Barcode Capability** Direct barcode connection
- **Multiple Languages** Multi-Language user interface
- **PLC Remote** Basic PLC relay control
- **Prompt & Hold** Provides alerts & instructions between tests
- **Advanced User Security** Customize ID & password protection
- **Interconnection** Interconnect with HYAMP® to form a complete test system
- **Ramp-HI®** Reduce ramp time during DC Hipot
- **Charge-LO®** Confirms proper DUT connection
- **FailCHEK™** Confirms failure detection
- **Accredited Cal** Accredited calibration options available
- **WithStand®** Automation Software
- **On Board Data Storage** Save up to 1,500 Test Results on-board

## INPUT SPECIFICATIONS

| | |
|---|---|
| **Voltage** | 100 – 120 VAC / 200 – 240 VAC ± 10% Auto Range |
| **Frequency** | 50/60 Hz ± 5% |
| **Fuse** | 3.15 A, Fast Blow 250 VAC |

## DIELECTRIC WITHSTAND TEST MODE

| | | | | |
|---|---|---|---|---|
| **Output Rating** | 3805/3855/ 3865/3870 | 5 kVA @ 20 mAAC<br>6 kVA @ 7.5 mADC (3865/3870 only) | | |
| **Maximum Limit** | 3805/3855/ 3865/3870 | AC | Range:<br>Resolution: | 0.00 – 20.00 mA<br>0.01 mA |
| | | DC | Range:<br>Resolution:<br>Accuracy: | 0 – 7500 µA<br>1 µA<br>AC and DC ± (2% of setting + 2 counts) |
| **Minimum Limit** | 3805/3855/ 3865/3870 | AC | Range:<br>Resolution: | 0.000 – 9.999 mA<br>0.001 mA |
| | | DC | Range:<br>Resolution:<br>Accuracy: | 0.0 – 999.9 µA<br>0.1µA<br>AC and DC ± (2% of setting + 2 counts) |
| **Arc Detection** | Range: | 1 – 9 (9 is most sensitive) | | |
| **Ground Fault Interrupt** | GFI Trip Current: 450 µA max (AC or DC), Fixed | | | |
| | HV Shut Down Speed: < 1 msec | | | |
| **Current Display** | 3805/3855/ 3865/3870 | AC | Range 1:<br>Range 2: | 0.000 – 4.000 mA<br>3.50 – 20.00 mA |
| | | DC | Range 1:<br>Range 2:<br>Range 3: | 0.0 µA – 400.0 µA<br>0.350 mA – 4.000 mA<br>3.50 mA – 7.50 mA |
| | | | Accuracy: | All Ranges ± (2% of reading + 2 counts) |
| **DC Output Ripple** | ≤ 5% Ripple rms at 6 kVDC @ 7.5 mA Resistive Load | | | |
| **RAMP-HI Selectable** | Range: 0.0 – 7,500 µA, User Selectable | | | |
| **Charge-LO** | 0 – 350 µA DC or Auto Set | | | |
| **Discharge Time** | < 50 msec for no load, < 100 msec for capacitive load<br>**The maximum capacitive load vs. output voltage:**<br>1µF < 1KV 0.08µF < 4KV<br>0.75µF < 2KV 0.04µF < 5KV<br>0.5µF < 3KV 0.015uF < 6KV | | | |
| **AC Voltage Waveform/ Frequency** | Sine Wave, Crest Factor = 1.3 – 1.5 | | | |
| | Range: | 50 or 60 Hz, User Selectable | | |
| **Dwell Timer** | Range: | AC 0, 0.2-999.9 sec (0=Continuous)<br>DC 0, 0.4-999.9 sec (0=Continuous) | | |
| **Ramp Timer** | Range: | Ramp-Up: 0.1 – 999.9 sec<br>Ramp-Down: AC 0.0 – 999.9 sec<br>DC 0, 1.0 – 999.9 sec, (0=OFF) | | |
| **Ground Continuity Current** | DC 0.1A ± 0.01 A, fixed | | | |

| | | |
|---|---|---|
| **Ground Continuity Maximum Limit Minimum Limit** | Range:<br>Resolution:<br>Accuracy: | 0.00 – 1.50 Ω<br>0.01 Ω<br>± (3% of setting + 0.02 Ω) |
| **Ground Continuity Auto Offset** | Range:<br>Resolution:<br>Accuracy: | 0.00 – 0.50 Ω<br>0.01 Ω<br>± (3% of setting + 0.02 Ω) |

## INSULATION RESISTANCE TEST MODE

| | | |
|---|---|---|
| **Voltage Setting** | Range:<br>Resolution:<br>Accuracy: | 30 – 1,000 VDC<br>1 V<br>± (2% of setting + 5 V) |
| **Resistance Display** | Range: | 1 – 50,000 MΩ |
| | Resolution: | 30 – 99 VDC / 100 – 499 VDC / 500 – 1000 VDC<br>MΩ / MΩ / MΩ / MΩ<br>0.001 / 1.000 – 1.999 / 1.000 – 1.999 / 1.000 – 9.999<br>0.01 / 2.00 – 19.99 / 2.00 – 19.99 / 10.00 – 99.99<br>0.1 / 20.0 – 199.9 / 20.0 – 199.9 / 100.0 – 999.9<br>1 / 200 – 10,000 / 200 – 20,000 / 1000 – 50000 |
| | Accuracy: | ± (8% of reading+2 counts) at test voltage 30 – 499 V and 1.00–999.9 MΩ |
| | At test voltage 500-1000 V<br>± (2% of reading + 2 counts) for 1.00 – 999.9 MΩ<br>± (5% of reading + 2 counts) for 1000 – 9999 MΩ<br>± (15% of reading + 2 counts) for 10000 – 50,000 MΩ | |
| **HI & LO-Limit** | Range:<br>Resolution: | 0, 1.00 – 99.99 MΩ (0=OFF, HI-Limit ONLY)<br>0.01 MΩ<br>1000-50000<br>1 MΩ |
| | Range:<br>Resolution: | 100.0 – 999.9 MΩ<br>0.1 MΩ |
| | Accuracy: | At test voltage 500-1000 V<br>± (2% of setting + 2 counts) for 1.00 – 999.9 MΩ<br>± (5% of setting + 2 counts) for 1000 – 9999 MΩ<br>± (15% of setting + 2 counts) for 10000 – 50,000 MΩ |
| **Charge-LO** | Range: | 0.000 – 3.500 µA DC or Auto Set |
| **Ramp Timer** | Range: | Ramp-Up: 0.1 – 999.9 sec<br>Ramp-Down: 0, 1.0 – 999.9 sec, (0=OFF) |
| **Delay Timer** | Range: | 0.5 – 999.9 sec (0=OFF) |
| **Dwell Timer** | Range: | 0, 0.5 – 999.9 sec (0=continuous) |

## GENERAL SPECIFICATIONS

| | | |
|---|---|---|
| **Remote Control and Signal I/O** | Inputs: Test, Reset, Hardware Interlock, File Recall<br>Outputs: Pass, Fail, Test-in-Process, Reset-Out, Start-Out | |
| **Vmax** | Displays the maximum voltage value recorded during a breakdown | |
| **Imax** | Displays the maximum leakage current value read during a test | |
| **Memories** | 50 steps<br>1500 test results | |
| **Interface** | USB standard | |
| **Language** | English, Traditional Chinese, Simplified Chinese, Turkish, Portuguese, Spanish, German, French | |
| **Security** | Multiple user setups with ID and password | |
| **Dimensions (W x H x D)** | 3805/3855/ 3865/3870 | 8.5" x 3.5" x 11.9"<br>(215 mm x 88.1 mm x 300 mm) |
| **Weight** | 3805/3855/ 3865/3870 | 12 lbs (5.46 kgs) |

**Why We Use Counts**
Associated Research publishes some specifications using "counts" which allows us to provide a better indication of the instrument's capabilities across measurement ranges. A count refers to the lowest resolution of the display for a given measurement range. For example, if the resolution for voltage is 1V then 2 counts = 2 V.

**Specifications subject to change without notice.**