

# AC and AC/DC High-pot Testers



- **Rapid production line testing to latest UL standards**
- **Extra safety features**
- **Rugged design for ease of portability**

## DESCRIPTION

AC and AC/DC High-Pot Testers available from Megger are designed for safety and ease of operation, and readily adapt to development, maintenance or production testing. Three models are available: two ac and one ac/dc. The AC High-Pot Testers feature a front-panel, NEMA 5-15R three-prong output receptacle. Booted, alligator-clip output and return probes are also supplied with all models.

Test voltage is continuously adjustable from zero to full output, with a zero-start interlock. Leakage current trip level may be adjusted from 0.3 to 12 mA by a front-panel knob. Pushbuttons are provided to select one-second or continuous testing, to turn off the high voltage and to reset the instrument. All high-voltage connections are recessed to prevent accidental contact with high voltage.

During testing, high voltage will automatically shut down within 50 ms of arcing or exceeding the preset trip level. Visual and audible alarms alert the operator upon failure.

The instruments also feature an interlock that prevents the high voltage from being applied if the supply ground wire is open or if the hot and neutral wires are interchanged. A Tester Grounded lamp lights to confirm the instrument is connected to a properly grounded power source.

The AC High-Pot Testers will automatically shut down if ground circuit resistance of the test object exceeds 15 ohms at any time during testing. This feature may be bypassed when testing double-insulated devices or when using test probes. The AC/DC High-Pot Tester provides a slide switch to select either ac or dc test voltage. The slide switch safely covers the output jacks not in use.

## APPLICATIONS

These portable instruments are used to test the dielectric strength of electrical insulation and the ground circuit continuity of three-wire appliances and other devices. Biddle High-Pot Testers comply with most existing UL requirements for dielectric withstand testing, including:

- UL 544 – Electric Medical and Dental Equipment
- UL 982 – Motor-Operated Household Food Preparing Machines
- UL 1026 – Electric Household Cooking and Serving Appliances
- UL 1270 – Radio Receivers, Audio Systems, and Accessories

## FEATURES AND BENEFITS

- Ground continuity check of three-wire devices with high-voltage interlock (ac models only)
- Front-panel adjustable leakage current trip from 0.3 to 12 mA
- One-second or continuous testing
- Automatic failure shutdown, with visual and audible alarms
- Recessed high-voltage connections
- Front-panel NEMA 5-15R three-prong receptacle on ac models
- Zero start/reset in event of failure
- Meets UL 120-k $\Omega$  requirement

**SPECIFICATIONS**

CAT. NO.	Model	Applied Test Voltage	Adjustable Leakage Current Trip Level	Output Receptacle	Dimensions	Weight
230315	AC	0 to 3 kV	0.3 to 12 mA	Front-panel NEMA5-15R	(5.6 kg) 8 H x 9 W x 8.4 D in. 20.6 H X 23 W X 21 D cm	12.5 lb
230415		0 to 4 kV				
230425	AC/DC	0 to 4 kV 0 to 5 kVdc	AC: 0.3 to 12 mA DC: 0.43 to 17 mA	—		13.5lb (6.1 kg)

**Input**

**Standard:** 120 Vac  $\pm$ 10%, 1 A, 50/60 Hz

**Optional:** Nominal 230-Vac, 50/60-Hz line is available on all models at no additional charge. To order, add -47 to Cat. No.

**Output**

**Maximum Output Current:** 12.6 mA

**Wave Shape**

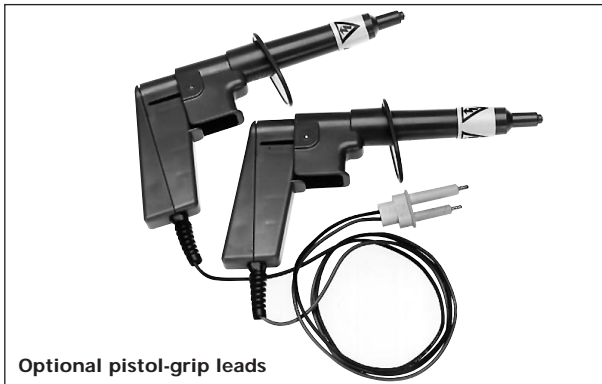
**AC Models:** Line

**AC/DC Model:** Maximum ripple 0.4% rms per mA at full voltage

**Accuracy**

**Applied Test Voltage:**  $\pm$ 2%

**Leakage Current:**  $\pm$ 5%



Optional pistol-grip leads



AC High-pot Tester with supplied leads

**AC High Pot Testers**

**TESTER GROUNDED LAMP**  
lights when tester is connected to properly wired supply.

**VARIABLE POTENTIOMETER**  
adjusts trip level of leakage current.

**INPUT POWER CONNECTOR**

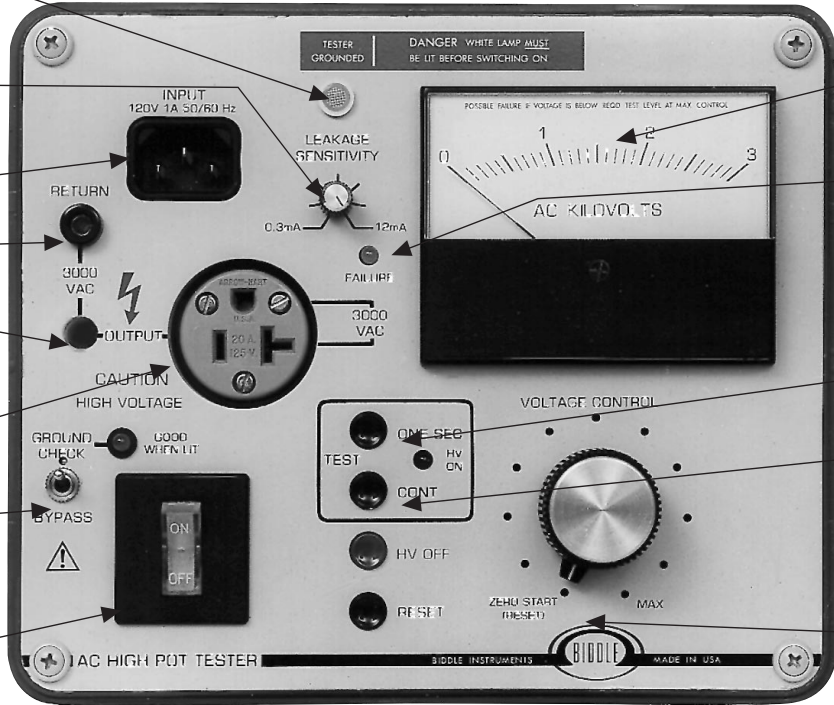
**RETURN TERMINAL**  
for removable return test probe

**HIGH-VOLTAGE TERMINAL**  
for removable high-voltage test probe

**OUTPUT RECEPTACLE**  
used when testing equipment having an input plug

**BYPASS SWITCH**  
is activated when test probes are used instead of panel receptacle or when testing two-wire equipment with receptacle.

**INPUT CIRCUIT BREAKER/POWER SWITCH**  
lights when power is available to the tester.  
No fuses required.



**OUTPUT VOLTMETER**  
gives 2% accuracy traceable to NIST (certificate available).

**FAILURE LAMP**  
lights when failure is detected; buzzer sounds, output trips off.

**PUSHBUTTON**  
for ONE-SECOND HIGH-VOLTAGE TEST

**HIGH-VOLTAGE TEST PUSHBUTTON**  
for timed tests

**VOLTAGE CONTROL SAFETY INTERLOCK**  
requires voltage control be reset to zero before test leads can again be energized.

**AC/DC High Pot Testers**

**VARIABLE POTENTIOMETER**  
adjusts trip level of leakage current.

**INPUT POWER CONNECTOR**

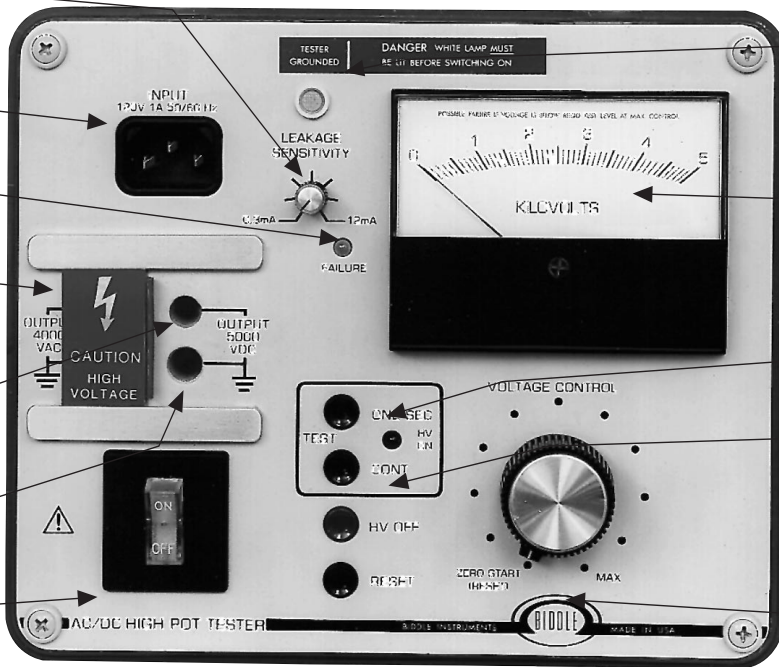
**FAILURE LAMP**  
lights when failure is detected; buzzer sounds, output trips off.

**SLIDE SELECTOR**  
permits connection to either ac or dc panel jacks; automatically connects selected metering circuit.

**HIGH-VOLTAGE TERMINAL**  
for removable high-voltage test probe

**RETURN TERMINAL**  
for removable return test probe

**INPUT CIRCUIT BREAKER/POWER SWITCH**  
lights when power is available to the tester.  
No fuses required.



**TESTER GROUNDED LAMP**  
lights when tester is connected to properly wired supply.

**OUTPUT VOLTMETER**  
gives 2% accuracy traceable to NIST (certificate available).

**PUSHBUTTON**  
for ONE-SECOND HIGH-VOLTAGE TEST

**HIGH-VOLTAGE TEST PUSHBUTTON**  
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**VOLTAGE CONTROL SAFETY INTERLOCK**  
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**ORDERING INFORMATION**

<b>Item</b>	<b>Cat. No.</b>
AC High-Pot Testers	
0 to 3 kV	230315
0 to 4 kV	230415
AC/DC High-Pot Tester, 0 to 4 kV ac/5 kV dc	230425
<b>Included Accessories</b>	
Test probes with alligator clips for ac models, includes one Cat. No. 25507 high-voltage probe and one Cat. No. 25136 return probe, 4 ft [1.2 m]; for ac/dc models, includes one Cat. No. 25149 complete assembly, 4 ft [1.2 m]	
Power cord	17032
Instruction manual for 230315 & 230415	AVTM23-1J
Instruction manual for 230425	AVTM23-4J
<b>Optional Accessories</b>	
Test probes with retractable tips, 4 ft [1.2 m]	
High-voltage probe for ac models only	230315-2
Return probe for ac models only	230315-3
High-voltage and return probe set for ac/dc model only	230425-2
Adapters, for conversion of output receptacles for use with twist-lock plugs	
NEMA L5-15R twist lock	235300-1
NEMA L5-20R twist lock	235300-2
NEMA L5-30R twist lock	235300-4