



AC/DC High-Pot Tester

BIDDLE® **AC and AC/DC** **High-Pot Testers**

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

AC and AC/DC High-Pot Testers

DESCRIPTION

Biddle® AC and AC/DC High-Pot Testers 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 Biddle 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-kΩ requirement

AC HIGH-POT TESTER

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

VARIABLE POTENTIOMETER
adjusts trip level of leakage current.

INPUT POWER CONNECTOR

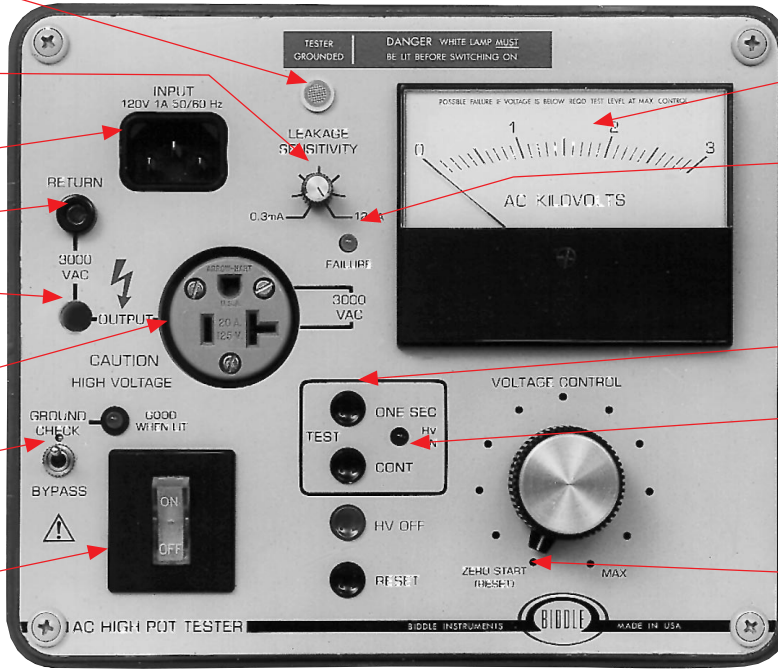
RETURN TERMINAL
for removable return test probe

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 NBS (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.

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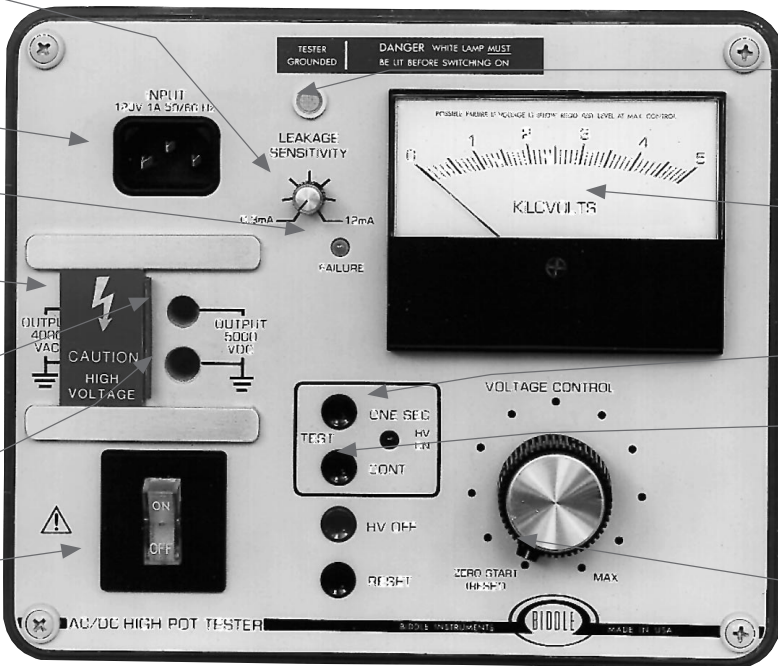
FAILURE LAMP
lights when failure is detected; buzzer sounds, output trips off.

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 NBS (certificate available).

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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 NEMA 5-15R	8 H x 9 W x 8.4 D in. 20.6 H x 23 W x 21 D cm	12.5 lb (5.6 kg)
230415		0 to 4 kV				
230425	AC/DC	0 to 4 kVac 0 to 5 kVdc	AC: 0.3 to 12 mA DC: 0.43 to 17 mA	—		13.5 lb (6.1 kg)

Input

Standard: 120 Vac ±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: ±2%

Leakage Current: ±5%



Optional pistol-grip leads



AC High-Pot Tester with supplied leads

ORDERING INFORMATION

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