

# Portable DC Hipots

## 40-200 kV



### Testing Applications

Perform accurate DC hipot testing of electrical switchgear, cables, motors, generators, and protective equipment

- **Lightweight** and **ruggedly constructed** for years of field use
- Models available with **easy to read digital meters** or a **full-color touch screen** with **data acquisition**
- **Internal** discharge device
- **Shielded** high voltage **output cable**
- **Guard** measurement circuit
- **ISO17025 calibration** upon request



Model 475-20



Model 475-20B



Model 4200-5



## Portable DC Hipots 40-200 kV

Phenix Technologies offers a line of portable 40-200 kV DC Hipots with many advanced features including high accuracy digital meters, analog charging currentmeter, adjustable overcurrent, and high output current ratings.

The high voltage is generated by a filtered high voltage doubler circuit, that is purpose built by Phenix for the exacting demand of high voltage testing.

A solenoid operated discharge switch quickly discharges the load after testing. All high voltage components are housed in an oil filled aluminum sealed grounded dead tank. A shielded high voltage lead allows the operator to safely connect the high voltage output to the test object. The high mA charging current, which is standard with all Phenix DC Hipots allows the operator to quickly and efficiently charge large capacitive loads.

In the standard series the precision metering measured off the high voltage output indicates the output voltage and leakage current on large easy to read digital meters. An analog meter is provided for reading charging current. With the B series available in the 440 and 475 models, there is a 7" Full-Color Touch-Screen display with auto-ranging voltage and current meters plus many additional features.

The 440-20B and 475-20B include a separate always active internal guard mode and will calculate insulation resistance continuously.

Additional safety features include an instantaneous and thermal overload protection for the operator and the test object.

The proven and rugged design coupled with precision metering and ease of use have made Phenix DC hipots the optimal choice.



## Standard DC Hipot Features

- Circuit breaker protection
- External interlock provision
- High voltage On/Off pushbuttons with indicators
- Zero Start interlock
- Manual control of output voltage
- Adjustable overload circuit
- Slow and fast-acting transient protection on all meters and relays
- Built-in discharge circuit
- Multi-range metering
- Meters calibrated with standards certified by NIST. A traceable sticker is affixed to the faceplate.
- Thermal resettable overload protecting high voltage transformer.
- Guard mode for accurate current measurements
- Very low ripple, <2% RMS at full output
- Output overload indicator with reset
- All control and power cables are included
- Cable storage provision
- Calibration certificate
- Operation/maintenance manual

## B Model DC Hipots Automation Features

- Auto ranging Meter for Voltage, up to 4 digits displayed
- Auto-ranging Meter for Total Current up to 5 digits displayed
- Auto-ranging Meter for Guard Current up to 5 digits displayed. Accuracy of  $\pm (0.5\% \text{ of reading} + \text{LSD})$
- 7" Full-color touch-screen display
- Breakdown memory voltmeter
- Maximum voltage reached memory indicator
- Duration and Dwell Timers
- Zero Start interlock
- Manual or Automatic output voltage raise/lower
- Adjustable rate of voltage rise
- Adjustable overcurrent trip point
- Communications port for data acquisition
- Status bar for system messages
- Warning circuit
- Insulation Resistance calculation
- Locking E-Stop button
- USB port for data extraction
- Return lead safety retention clip
- Shielded guard measurement lead

	MODEL	440-20	475-20	4100-10	4120-10	4160-5	4200-5	
INPUT	Voltage / Current	110-120 V, 5 A 220-240 V, 3A	110-120 V, 10 A 220-240 V, 5 A	110-120 V, 10 A 220-240 V, 5 A	110-120 V, 10 A 220-240 V, 5 A	110-120 V, 10 A 220-240 V, 5 A	110-120 V, 10 A 220-240 V, 5 A	
	Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	
DC OUTPUT	Voltage / Current	0-40 kV, 20 mA	0-75 kV, 20 mA	0-100 kV, 10 mA	0-120 kV, 10 mA	0-160 kV, 5 mA	0-200 kV, 5 mA	
	Ripple	<2%	<2%	<2%	<2%	<2%	<2%	
	Polarity	negative output, positive ground						
DUTY CYCLE	Continuous Capacitive Charging	20 mA	20 mA	10 mA	10 mA	5 mA	5 mA	
INTERNAL DISCHARGE DEVICE	Internal Discharge Device	3 kJ	6 kJ	6 kJ	12 kJ	12 kJ	12 kJ	
DIGITAL METERING	Type / Accuracy	3 1/2 digit, 0.5% of Full Scale						
	Voltmeter Range(s)	0-19.99/40 kV	0-19.99/75 kV	0-19.99/100 kV	0-19.99/120 kV	0-19.99/160 kV	0-19.99/200 kV	
	Currentmeter Range(s)	0-19.99 $\mu$ A/ 199.9 $\mu$ A/ 1.999 mA/ 19.99 mA						
	Output Charging Indicator	1.5" Analog 0-100% of selected range indication						
DIMENSIONS & WEIGHTS	Controls	L	18.5" (470 mm)	18.5" (470 mm)	22.5" (572 mm)	21" (533 mm)	21" (533 mm)	21" (533 mm)
		W	10.5" (267 mm)	10.5" (267 mm)	21" (533 mm)	17" (432 mm)	17" (432 mm)	17" (432 mm)
		H	21.5" (546 mm)	21.5" (546 mm)	16.5" (420 mm)	14" (355 mm)	14" (355 mm)	14" (355 mm)
		Wt	50 lbs (23 kgs)	59 lbs (27 kgs)	98 lbs (44 kgs)	33 lbs (15 kgs)	33 lbs (15 kgs)	42 lbs (19 kgs)
	HV Tank	L			one-piece design	17.5" (440 mm)	18" (460 mm)	23" (584 mm)
		W	one-piece design	one-piece design	one-piece design	12" (305 mm)	12.75" (325 mm)	19" (483 mm)
H					22" (560 mm)	28" (710 mm)	35" (889 mm)	
Shipping Size	Wt				111 lbs (50 kgs)	150 lbs (68 kgs)	375 lbs (170 kgs)	
	L	22" (558 mm)	22" (558 mm)	27" (686 mm)	48" (1219 mm)	42" (1067 mm)	Consult Factory	
	W	14" (356 mm)	14" (356 mm)	26" (660 mm)	30" (762 mm)	27" (686 mm)		
	H	24" (610 mm)	24" (610 mm)	21" (533 mm)	31" (787 mm)	37" (940 mm)		
Wt	56 lbs (25 kgs)	69 lbs (31 kgs)	115 lbs (52 kgs)	195 lbs (88 kgs)	285 lbs (129 kgs)			
CABLES INCLUDED	Input Power	7' (2 m)	7' (2 m)	7' (2 m)	7' (2 m)	7' (2 m)	7' (2 m)	
	High Voltage	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	
	Ground	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	
	Return	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	
	Power Interconnect	n/a	n/a	n/a	25' (8 m)	25' (8 m)	25' (8 m)	

## Environmental Conditions

- 10-40°C, indoor/outdoor in fair weather
- Humidity <95% non-condensing
- Altitude <3300 ft (1000 meters)

## Options

- Model GS100-2 (100 kV) or GS160-2 (160 kV) Ground Stick, 2-piece design, with a 25' (7 m) ground lead
- Model GS30 (30 kV) Ground Stick, single piece design, with a 25' (7 m) ground lead
- Model DS100-2 Discharge Stick (100 kV, 100 kΩ, 50 kJ), 2-piece design with a 25' (7m) ground lead
- Model GSDS-30 (30 kV) Combination Ground/Discharge Stick, with a 25' (7 m) ground lead
- Safety Foot Switch with 20' (6 m) lead
- Positive polarity output
- Custom cable lengths
- Hand cart (option for models 4120-10, 4160-5, 4200-5)
- Calibration data



### GS100-2 Ground Stick



### DS100-2 Discharge Stick



### GSDS-30 Combination Ground/Discharge Stick

### Safety Foot Switch



### ► Flashing Light, Mounted or Stand-alone

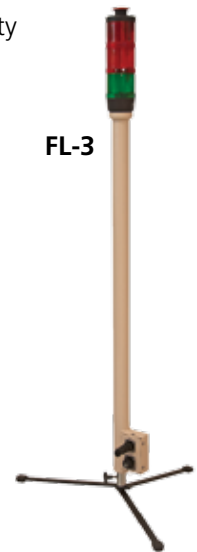
- FL-1 Flashing Light, Mounted, Telescoping Pole
- FL-2 Flashing Light only with magnetic base
- FL-3 Red/Green Light, Folding Base, Telescoping Pole, Security Circuit, E-stop, 20' Cable
- FL-4 Flashing Light with Security Circuit, magnetic base



FL-1



FL-2/FL-4



FL-3



ISO  
9001:2008  
Compliant



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