

B10E

Power Supply Unit



B10E



Power supply unit

A variable DC voltage is needed to test a circuit breaker. Substation batteries should not be used since this entails considerable risk for testing personnel, testing equipment and also for the equipment being tested. The best way to ascertain whether or not solenoids and protective mechanisms are sluggish or set improperly is to perform a test at minimum tripping voltage. The minimum trip voltage test is described in a number of international and national standards such as IEC 62271-100, ANSI C37.09 etc.

B10E™ can be used to test breaker coils in this manner. It provides ripple-free variable DC voltage that can easily accommodate a high, variable load.

Since there is a separate output for supplying spring-charging motors, the B10E is ideal for testing circuit breakers where auxiliary voltage is not connected (industrial-truck circuit breakers for example).

The compact Power Supply Unit B10E provides reliable assistance to those who do maintenance on high-voltage breakers. The control panel's intuitive layout makes it easy to operate, and the built-in thermal cutout and overload protector make it safe to use. The B10E has been developed in collaboration with breaker manufacturers and testing personnel.

Application example

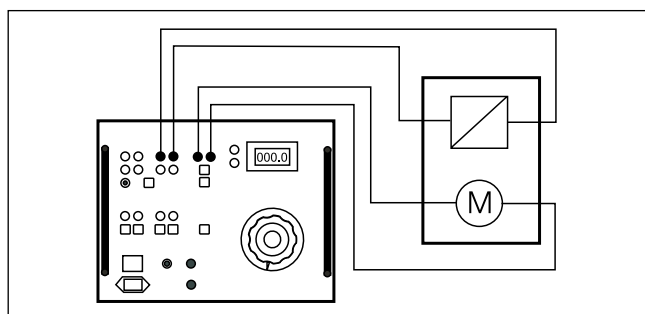
IMPORTANT

Read the User's manual before using the instrument.

Testing the minimum trip voltage of a circuit breaker

1. Connect Power Supply Unit B10E to the breaker's opening circuit and to the spring-charging motor.
2. Set the desired test voltage using the variac.
3. Activate the trip pulse switch.
4. Repeat steps 2-3 at a higher voltage if the circuit breaker does not trip.

When using the B10E, we recommend that the incoming power be protected by a 16 A wall-socket fuse. The incoming current surge occurring at certain combinations can blow the fuse if a slow-blow 10 A fuse or a quick-action 16 A fuse is used.



Specifications B10E

Specifications are valid at nominal input voltage and an ambient temperature of +25°C, (77°F). Specifications are subject to change without notice.

Environment

Application field The instrument is intended for use in high-voltage substations and industrial environments.

Temperature

Operating 0°C to +50°C (32°F to +122°F)

Storage & transport -40°C to +70°C (-40°F to +158°F)

Humidity 5% – 95% RH, non-condensing

CE-marking

EMC 89/336/EEC EMC Directive 89/336/EEC am. by 91/263/EEC, 92/31/EEC and 93/68/EEC

LVD Low Voltage Directive 73/23/EEC am. by 93/68/EEC

General

Mains voltage 115/230 (135/250) V AC, 50/60 Hz

Power consumption 3300 W (max)

Protection Thermal cut-outs, +80°C (+176°F)
Short-circuit protectors at DC outputs

Dimensions

Instrument 350 x 270 x 220 mm
(13.8" x 10.6" x 8.7")

Transport case 610 x 290 x 360 mm
(24.0" x 11.4" x 14.2")

Weight 20.8 kg (45.8 lbs)
29.3 kg (64.6 lbs) with accessories and transport case

Test lead set, with 4 mm stackable safety plugs 2 x 0.25 m (0.8 ft), 2.5 mm²
2 x 0.5 m (1.6 ft), 2.5 mm²
8 x 2 m (6.6 ft), 2.5 mm²

Measurement section

Voltmeter – digital

<i>Range</i>	0 – 300 V DC, 0 – 300 V AC
<i>Resolution</i>	1 V
<i>Inaccuracy</i>	±1% of displayed value, DC ±2.5% of displayed value, AC
<i>Current shunt</i>	5 A/50 mV ±0.5% (built-in)

Outputs for trip coils, DC outputs

<i>Output voltage</i>	24-250 V DC
<i>Load interval</i>	Max 1 s (at currents over ~50 mA)
<i>Ripple</i>	2% peak-to-peak of the preset voltage

<i>No-load voltage (V)</i>	<i>Current (A)</i>	<i>Load dependency</i>
24	10	< 6 %
48	10	< 3 %
110	7.9	< 2 %
250	3	< 2 %
300	1.25	< 2 %

Outputs for trip coils, AC outputs

<i>Output voltage</i>	24-300 V AC
<i>Load current</i>	Max 5 A
<i>Load interval</i>	Max 30 min

Outputs for spring-charging motor, DC outputs

Output voltage 24-300 V DC

<i>Open circuit voltage (V)</i>	<i>Current (A)</i>	<i>Load voltage (V)</i>	<i>Max load interval (s)</i>
44	18	24	20
48	12	40	60
48	18	30	20
120	12	90	60
120	18	70	20
240	6	200	60
240	9	185	20

Ordering information

Art.No.

B10E

Complete with:
Cable set GA-00032
Transport case GD-00182

BG-29092



Test lead set GA-00032.

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