

## POB II series

# Coil Tester & Power Supply Units

- Lightweight – only 11 kg
- Powerful DC motor output – up to 40 A
- Separate opening and closing coil outputs:  
10 V – 300 V DC, 10 V – 250 V AC
- Minimum trip voltage test (fully automatic)
- External control for coils outputs



### Description

The Coil Tester & Power Supply Units POB II series is a powerful tool for testing circuit breakers where a substation battery is not available. The POB series contains two models:

- **POB30AD** can withstand 30 A inrush current at DC motor output
- **POB40AD** can withstand 40 A inrush current at DC motor output

These are unique devices in the market due to their dual purpose:

- POB II series can be used as a stable power supply for coils (both DC and AC power supply voltage) and spring-charging motors (DC output) during commissioning and maintenance testing.
- POB30AD and POB40AD II series models are powerful analysis tool for assessing conditions of circuit breaker auxiliary circuit and coils.

The POB II series has separate DC and AC coil outputs for power supply of opening and closing coils. The output voltage is selectable in the ranges from 10 V to 300 V DC or from 10 V to 250 V AC. The Coils outputs can withstand up to 15 A current.

The DC motor output can generate from 10 V to 300 V DC voltage and withstand starting (inrush) currents up to 40 A (POB40AD) or 30 A (POB30AD). The output can also be used as continuous power supply outputs.

The POB II series is equipped with thermal and overcurrent protection. Thanks to a proprietary hardware and software design solution, it is capable to decrease influence of electrostatic and electromagnetic interference in HV electric fields.

External connector on POB II series is used for remote control of the coils outputs.

The instrument can store internally up to 100 measurements. All measurements are time and date stamped.

The POB II series is easy to use and has accessory cable-set with touch-proof contacts.

It can be used as a stable power supply unit during switchgear and circuit breaker testing with DV Power's and well as other vendor's Circuit Breaker Analyzers & Timers.

## Applications

The Coil Tester & Power Supply Units POB II series are primarily designed for MV and HV circuit breakers testing during manufacturing, commissioning and maintenance stages.

The testing process may encompass any or all of the following:

- Power supply for coils and motor while testing with circuit breaker analyzers from different vendors:
  - AC/DC power supply for circuit breaker breaking and closing coils actuation
  - DC voltage for supplying the spring-charging motors
- Coils current value measurement
- Minimum trip voltage-test of the circuit breaker's coils (IEC 56, ANSI C37.09).

The Coil Tester & Power Supply Units POB II series can be used is used in factories and laboratories, but also in high induction switchyards, power and industrial environments.

The DC motor output on POB can also be used as a general power supply unit or a temporary battery charger.

### Using POB as a power supply for coils and motor during switchgears testing

The Coil Tester & Power Supply Units POB II series can be used as a stable power supply for coils (both DC and AC power supply voltage) and spring-charging motors (DC voltage) during circuit breaker testing. This application is significant in all situation when substation battery is not available.

POB enables testing in under-voltage and over-voltage conditions, which us often required during circuit breaker testing. In addition, stable outputs enable analysis of the coil current graphs recorded with Circuit Breaker Analyzers.

POB's coil outputs are not intended for continuous voltage generating.

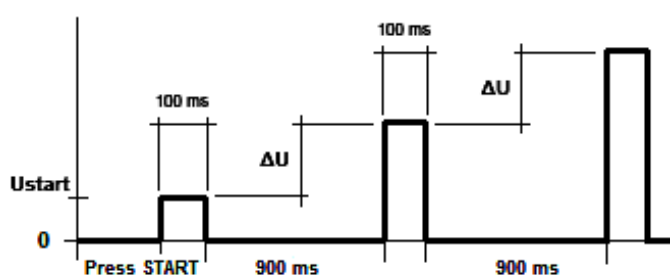
POB's motor outputs capabilities are presented in the table below:

POB30AD			
Mains Voltage	Motor output Load Voltage	Max Current	Max load interval
230 V AC	110 V DC	24 A 20 A 10 A	20 sec 60 sec contin.
	220 V DC	12 A 10 A 7 A	20 sec 60 sec contin.
115 V AC	48 V DC	24 A 20 A 10 A	20 sec 60 sec contin.
	110 V DC	12 A 10 A 7 A	20 sec 60 sec contin.
	115 V DC	10,6 A 8,9 A 3,5 A	20 sec 60 sec contin.
	220 V DC	7 A 6 A 5 A	20 sec 60 sec contin.

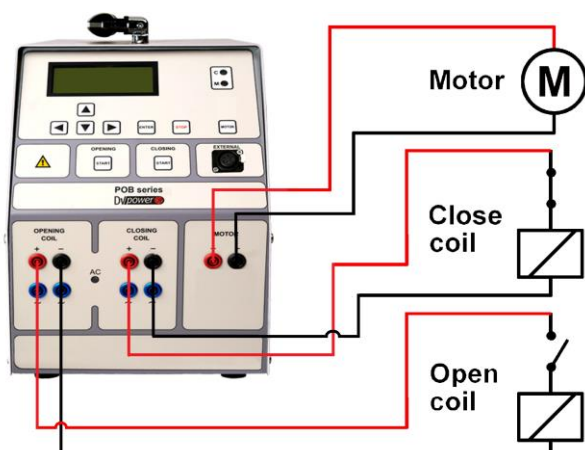
POB40AD			
Mains Voltage	Motor output Load Voltage	Max Current	Max load interval
230 V AC	110 V DC	30 A 24 A 15 A	30 s 110 s Continuous
	220 V DC	16 A 14 A 8 A	30 s 110 s Continuous
115 V AC	48 V DC	30 A 24 A 15 A	30 s 110 s Continuous
	110 V DC	18 A 15 A 12 A	30 s 110 s Continuous
	220 V DC	9 A 8 A 6 A	30 s 110 s Continuous

## Minimum trip voltage

To ensure that a circuit breaker operation is guaranteed under the most severe conditions placed upon the substation tripping supply, the circuit breaker trip coils are required to work with a minimum tripping voltage much below the nominal battery voltage. The POB series have built-in capability to perform automatic test of minimum trip 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.



## Connecting the POB device to a test object



## Benefits and features

The main benefits and features of POB devices are listed below:

- Dual purpose device for circuit breaker testing:
  - As a stable power supply for coils and spring-charging motors
  - As coils and auxiliary circuit analyzer
- Lightweight and portable (2x lighter from competitor devices). POB II series have the best output power vs. weight ratio in market.
- The DC output voltage is filtered and has a ripple of less than 1 %. This enables analysis of the coil current graphs recorded with circuit breaker analyzers.
- Separate outputs for open & close coils (2 x DC and 2 x AC coil outputs available)
- DC motor output available. POB30AD can withstand up to 30 A inrush current, while POB40AD can withstand up to 40 A inrush current.
- Compatible with Circuit Breaker Analyzers from different vendors.

Enables testing in under-voltage and over-voltage conditions when used as a power supply unit for testing MV and HV switchgears and circuit breakers with Circuit Breaker Analyzers.

## Technical Data

### Mains Power Supply

- Connection: according to IEC/EN60320-1; UL498, CSA 22.2
- Voltage 90 V – 264 V AC, 50/60 Hz, Single phase
- Power consumption: 4000 VA

### Output data

- Coil outputs: DC Voltage 10 V to 300 V DC, separate opening and closing coil outputs
- Coil outputs AC Voltage 10 V to 250 V AC; 50 Hz; true RMS separate opening and closing coil outputs
- Motor output DC Voltage 10 V to 250 V DC
- Output motor current:
  - POB30AD: max 30 A DC (inrush current)
  - POB40AD: max 40 A DC (inrush current)

### Measurement

- Voltage: 10 V – 300 V DC or 10 V – 250 V AC
- Current: 1 A – 50 A
- Accuracy:  $\pm (0,25\% \text{ rdg} + 0,25\% \text{ FS})$

### Environment conditions

- Operating temperature:  $-10^{\circ}\text{C} - +55^{\circ}\text{C} / 14^{\circ}\text{F} - 131^{\circ}\text{F}$
- Storage and transportation  $-40^{\circ}\text{C} - +70^{\circ}\text{C} / -40^{\circ}\text{F} - 158^{\circ}\text{F}$
- Humidity Maximum relative humidity 95%, non-condensing

### Dimensions and Weight

- Dimensions (W x H x D) with handle down 216 mm x 380 mm x 396 mm  
8.5 in x 14.9 in x 15.59 in
- Weight 11 kg / 24.25 lbs

### Mechanical protection

- IP50

### Warranty

- 3 years + additional 1 year upon registration on DV Power official website ([www.dv-power.com](http://www.dv-power.com)).

### Applicable Standards

- Low Voltage Directive: Directive 2014/35/EU (CE conform).
- Applicable standards, for a class I instrument, pollution degree 2, Installation category II: IEC EN 61010-1

**All specifications herein are valid at ambient temperature of + 25 °C and recommended accessories. Specifications are subject to change without notice.**

## Accessories



Transport bag

Cable set 6 x 2 m with banana plugs

Cable bag

## Order info

Instrument	Art. No.
Coil Tester & Power Supply Unit POB30A II series	POB30AD-NX-2
Coil Tester & Power Supply Unit POB40A II series	POB40AD-NX-2

Included set of accessories
Mains power cable (EU 16 A / NA 20 A / UK 16A /AU 16 A plugs)
Ground cable
Transport bag

Recommended set of accessories	Art. No.
Cable set 6 x 2 m 2,5 mm <sup>2</sup> with banana plugs	C6-02-02BPBP
Cable bag	CABLE-BAG-00

Optional accessories	Art. No.
Cable set 6 x 5 m 2,5 mm <sup>2</sup> with banana plugs	C6-05-02BPBP
Cable set 2 x 2 m 2,5 mm <sup>2</sup> with banana plugs	C2-02-02BPBP
Cable set 2 x 5 m 2,5 mm <sup>2</sup> with banana plugs	C2-05-02BPBP
External trigger cable set 2 m	TC-02-04MCBP
Transport bag for SAT and POB Series	TRBAG-M00-SA
Cable plastic case - small size	CABLE-CAS-01