

Coil Analyzer SAT40A

- Lightweight - only 10 kg
- Powerful – up to 40 A
- Voltage 10 V - 300 V DC, 10 V - 250 V AC
- Coil resistance measurement
- Coil current measurement
- Minimum trip voltage test
- Undervoltage release test
- Fully automatic operation
- DV Win software



Description

The Coil Analyzer SAT40A is a powerful tool for testing circuit breakers where a substation battery is not available. It operates the breaker coils and spring charging motors as a part of commissioning and maintenance testing.

The SAT40A measures a current and a resistance of the circuit breaker coils. In addition, the SAT40A can also be used to test a minimum trip voltage of the circuit breaker coils.

The output voltage is selectable in the ranges from 10 V to 300 V DC or from 10 V to 250 V AC.

This device is a powerful and a versatile unit which, at 230V mains supply, is capable of generating the initial current of 40 A as well as the continuous currents as presented in the tables below:

Mains Voltage	Load Voltage	Max Current	Max load interval
230 V	110 V DC	30 A 24 A 10 A	20 sec 60 sec continuous
	220 V DC	15 A 12 A 8 A	20 sec 60 sec continuous
115 V	110 V DC	15 A 12 A 8 A	20 sec 60 sec continuous
	220 V DC	8 A 6 A 5 A	20 sec 60 sec continuous

Mains Voltage	Load Voltage	Max Current	Max load interval
230 V	110 V AC	15 A 10 A	10 sec continuous
	220 V AC	12 A 6 A	10 sec continuous
115 V	110 V AC	12 A 8 A	10 sec continuous
	220 V AC	8 A 5 A	10 sec continuous

It is equipped with a thermal and overcurrent protection. The SAT40A is easy to use and has accessory cable-set with touch-proof contacts.

Thanks to a proprietary hardware and software design solution, it is capable of canceling electrostatic and electromagnetic interference in HV electric fields.

Application

The SAT40A is used in switchyards, power and industrial environment, in manufacturing, in commissioning and as well in maintenance of the circuit breakers for:

- Operating circuit breakers
- Supplying spring-charging motors
- Coils resistance measurement
- Coils current measurement
- Minimum trip voltage-test of the circuit breaker's coils
- Undervoltage release test
- As a power supply in the tests with breaker analyzers from different vendors

Other important parameters of the circuit breaker can be tested with a circuit breaker analyzer. The SAT40A is also used as a power supply unit while testing with circuit breaker analyzers. It is compatible with circuit breaker analyzers from different vendors.

The SAT40A can also be used as a general power supply unit or a temporary battery charger.

Coil resistance measurement as a unique option on the market among all coil testers

The experience from field tests show that, a measurement of the circuit breaker coil resistance is a very important task for circuit breaker condition monitoring. Availability of this feature makes the Coil Analyzer SAT40A one of the most versatile and useful devices in the market.

Automatic testing of a breaker minimum trip voltage

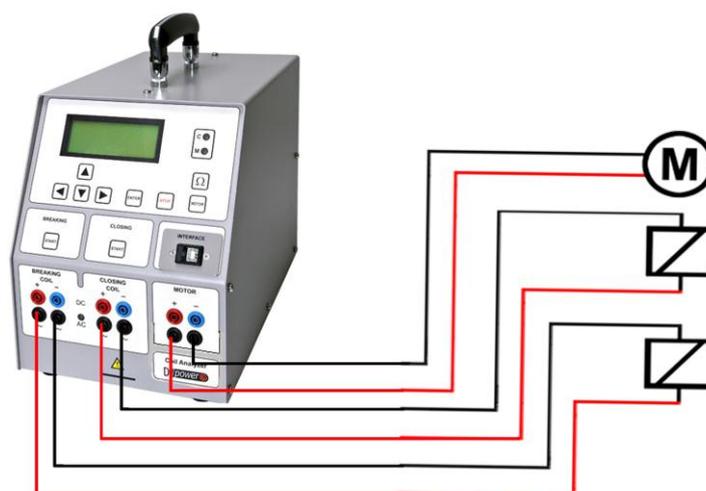
To ensure that a circuit breaker operation is guaranteed under the most severe conditions placed upon the substation tripping supply, the circuit breaker trip coils are required to work with a minimum tripping voltage much below the nominal battery voltage. The SAT30A have built-in capability to perform 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.

Test of undervoltage release

Undervoltage releases are intended for automatic tripping when loss of power occurs or when there is a major voltage dip. The undervoltage release accessory is installed in a circuit breaker and it consists of a solenoid magnet with a moving armature affixed to a spring-loaded latch. The spring-loaded latch retains a spring-based plunger which releases and contacts the breaker trip bar to trip the breaker. The SAT40A can perform automatic test of undervoltage release by generating a decreasing voltage signal. When the undervoltage release is operated, the SAT40A will indicate voltage and current values.

Connecting SAT40A to test object



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

- Coils output DC Voltage 10 V to 300 V DC
- Coils output AC Voltage 10 V to 250 V AC; 50/60 Hz; true RMS
- Motor output DC Voltage 10 V to 250 V DC
- Output current max 40 A

Measurement

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

Coil resistance measurement

- Measuring range / Resolution
1 Ω - 99,9 Ω / 0,1 Ω
100 Ω – 999 Ω / 1 Ω

- Typical accuracy $\pm (0,5\% + 0,5 \text{ F.S.})$

Environment conditions

- Operating temperature
–10°C - +55°C / 14 F – 131 F
- Storage and transportation
–40°C - +70°C / -40 F – 158 F
- Humidity Maximum relative humidity 95%, non-condensing

Dimensions and Weight

- Dimensions (W x H x D) with handle down
205 mm x 287 mm x 410 mm
8,07 in x 11,29 in x 16,14 in
- Weight 10kg / 22,046 lbs

Mechanical protection

- IP 43

Warranty

- three years

Safety Standards

- European standards LVD 2006/95/EC (EN 61010-1)
- International standards IEC 61010-1, UL 3111-1
CAN/CSA-C22.2 No 1010.1-92

Electromagnetic Compatibility (EMC)

- CE conformity EMC standard 2004/108/EC

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



Transport case

Cable set

Order info:

Instrument with included set of accessories	Art.No.
Coil Analyzer SAT40A	SAT40AA-N-00
CD with DV-Win software including USB cable	
Mains power cable	
Ground cable	

Recommended set of accessories	Art.No.
Cable set 6 x 2 m 2,5 mm ²	C6-02-02BPBP
Device bag	DEVIC-BAG-00
Cable bag	CABLE-BAG-00

Optional accessories	Art.No.
Cable set 6 x 5 m 2,5 mm ²	C6-05-02BPBP
Transport case	HARD-CASE-00