



Coil Analyzer SAT40A

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



Powerful breaker coils analyzer

Coil Analyzer SAT40A is a powerful instrument ideal for testing of circuit breakers, where substation battery is not connected or available. The SAT40A is intended to operate breaker coils, and spring charging motors as a part of commissioning and maintenance testing.

SAT40A measures current and resistance of circuit breaker coils. SAT40A can also be used to test minimum trip voltage of circuit breaker coils, as well as under voltage releases of circuit breaker. Output voltage is selectable from 10 V to 300 V DC or from 10 V to 250 V AC.

The SAT40A is powerful and versatile unit, with possibility to generate at 230V mains supply initial current of 30 A as well as continuous current according to the tables below:

Mains Voltage	Load Voltage	Max Current	Max load interval
230 V	110 V DC	30 A 24 A 12 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

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

The SAT40A has very high ability to cancel electrostatic and electromagnetic interference in HV electric fields. It is achieved by very efficient filtration. The filtration is made utilizing proprietary hardware and software.

Applications

SAT40A is developed for use in switchyards, electric power and industrial environment. An important part of commissioning and maintenance testing is a circuit breaker testing.

SAT40A is used 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
- ✓ power supply at test with breaker analyzers

Many other important parameters are possible to test with a breaker analyzer. SAT40A is also used as a power supply unit. It is compatible with breaker analyzers from different vendors. SAT40A can also be used as general power supply unit or temporary battery charger.

Coil resistance measurement as a unique option on all coil testers.

Experience from field testing of circuit breakers show that, measurement of coil resistance is very important task for circuit breaker monitoring. This feature makes Coil Analyzer SAT40A as one of most versatile and useful devices for Circuit Breaker coil analysis on market.

Automatic testing of the minimum trip voltage of a breaker

To ensure that circuit breaker operation is guaranteed under the most onerous conditions placed on the substation tripping supply, circuit breaker trip coils are specified to work with a minimum tripping voltage much below the nominal battery voltage.

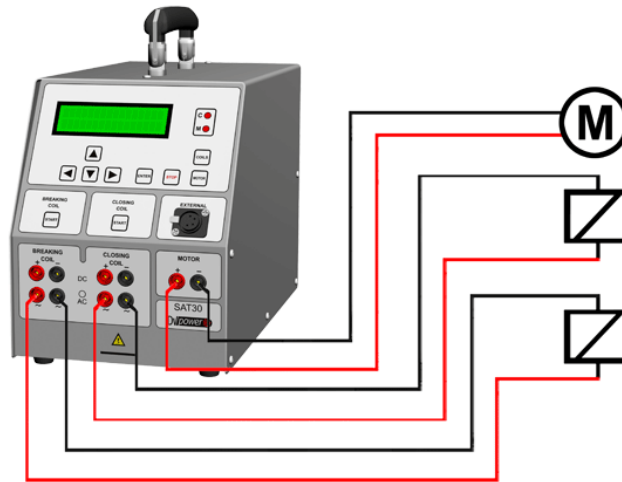
SAT40A have built-in capability to perform automatic test of minimum trip voltage. The minimum trip voltage test is described in a number of international and national standards such as IEC 62271-100, ANSI C37.09 etc.

Test of under voltage release

Undervoltage releases are solenoids that actuate a tripping mechanism upon interruption of the voltage. When line power is too low, or absent the spring loaded solenoid releases and strikes the mechanical trigger, this in turn trips the breaker. One reason why Under Voltage breakers are used is to keep machinery from starting automatically when incoming power is restored after a power outage or after a significant drop in line voltage.

SAT30 can perform automatic test of under voltage release by generating decreasing voltage signal. When the under voltage release is operated, the SAT40A will indicate voltage and current value.

Connecting a test object to SAT40A



Included accessories

- ✓ Mains power cable
- ✓ Ground (PE) cable

Recommended accessories

- ✓ Cable set 6 x 2 m 2,5 mm²
- ✓ Device bag
- ✓ Cable bag

Optional accessories

- ✓ Cable set 6 x 5 m 2,5 mm²
- ✓ Transport case



Transport case



Cable set

Ordering information:

Art.No.	Description
SAT40AA-N-00	SAT40A device with ground cable, USB cable and CD with software
C6-02-02BPBP	Cable set 6 x 2 m 2,5 mm ²
DEVIC-BAG-00	Device bag
CABLE-BAG-00	Cable bag

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

Technical data**1 - Mains Power Supply**

- Connection according to IEC/EN60320-1; UL498, CSA 22.2
- Voltage single phase 110 V – 240 V AC, +10% - -15%
- Frequency 50/60Hz

2 - 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

3 - Measurement

- Voltage 10 V – 300 V DC or 10 V – 250 V AC
- Current 1 A – 50 A
- Accuracy $\pm (0,5\% \text{ rdg} + 0,5\% \text{ FS})$

4 - Coil resistance measurement

- Measuring range / Resolution 1 Ω - 99,9 Ω / 0,1 Ω
100 Ω – 999 Ω / 1 Ω
- Typical accuracy $\pm (0,5\% + 0,5 \text{ F.S.})$

5 - Environment conditions

- Operating temperature $-10^{\circ}\text{C} - +50^{\circ}\text{C}$
- Storage and transportation $-25^{\circ}\text{C} - +70^{\circ}\text{C}$
- Humidity 5% – 95% relative humidity, non-condensing

6- Dimensions and Weight

- Dimensions 202 mm x 261 mm x 480 mm
7,9 in x 10,2 in x 18,9 in
(W x H x D) without handle
- Weight 10 kg / 22 lbs

7- Mechanical protection

IP 43

8 - Warranty

three years

9 - Safety Standards

- European standards LVD 2006/95/EC
EN 61010-1
- International standards IEC 61010-1
UL 61010-1
CAN/CSA-C22.2 No. 61010-1, 2nd edition, including Amendment 1

10 - Electromagnetic Compatibility (EMC)

- CE conformity EMC directive 2004/108/EC
- Emission EN 61326-1
- Immunity EN 61326-1

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