SVERKER 650

Relay Testing Unit

Programma®

A Megger Group Company

SVERKER 650

Relay testing unit

The SVERKER™ 650 testing unit, whose design incorporates benefits gleaned from many years of experience in field relay testing, enjoys a well-earned reputation for reliability and convenience. Compact and powerful, it provides all of the functions needed for secondary testing of almost all types of single-phase protection now available on the market.

SVERKER 650 features logical design and construction, and it is extraordinarily easy to learn and use. Its compact design and light weight makes it extremely portable.

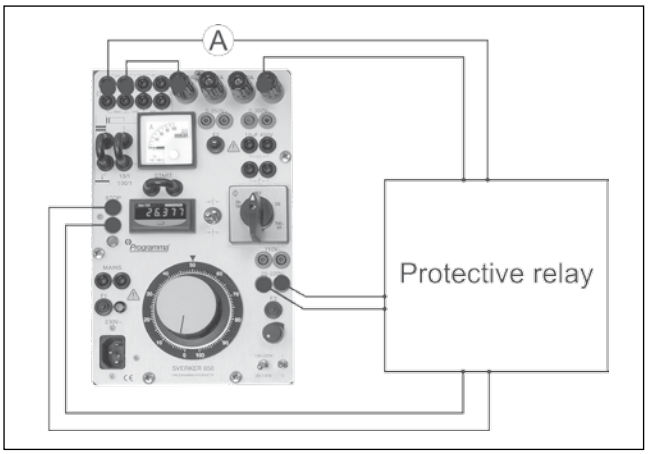
Auxiliary equipment for SVERKER 650 includes a test lead set and a rugged transport case. Another useful accessory is the ACA120 voltage source which makes it easier to test directional relays.

Application example

IMPORTANT

Read the User's manual before using the instrument.

1. Set the desired auxiliary voltage using SVERKER 650.
2. Connect the current and time measurement circuits.
3. Increase the current until tripping occurs.
4. Decrease the current until reset occurs (for the I> function).
5. Increase the current to 1.2-1.5 times the I> function value (1.1-1.2 times the I> function value).
6. Zero-set the timer and power down SVERKER 650.
7. Power up SVERKER 650 (in the timing mode) and make a note of the function times.
8. Repeat steps 3 and 5-7 above but for the I>> function.



Specifications SVERKER 650

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	
LVD	Low Voltage Directive 73/23/ EEC am. by 93/68/EEC
EMC	EMC Directive 89/336/EEC am. by 91/263/EEC, 92/31/EEC and 93/68/EEC
General	
Mains voltage	115/230 V AC, 50/60 Hz
Power consumption	1100 VA (max)
Protection	Thermal cut-outs, miniature circuit breakers
Dimensions	
Instrument	280 x 178 x 250 mm (11" x 7" x 9.8")
Transport case	560 x 260 x 360 mm (22" x 10.2" x 14.2")
Weight	16 kg (35.3 lbs) 26 kg (57.3 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 2.0 m (6.6 ft), 2.5 mm²
Test leads with spade tongue connectors	2 x 3.0 m (9.8 ft), 10 mm²

Measurement section	
Current measurement	
Built-in ammeter	
Ranges	0 – 10 A / 0 – 100 A
Inaccuracy	±3%
External ammeter	
Output for external ammeter	Connected to built-in current transformer
Inaccuracy	±0.5%
Timer	
Range	0 – 999.999 s
Resolution	1 ms
Inaccuracy	±0.02% of displayed value, +2 ms Independent of mains frequency

Outputs

Current outputs, AC

Range	*No-load voltage (min)*	*Output voltage (min)*	*Load/unload times On (max)/Off (min)*
0 – 10 A	85 V	75 V (10 A)	2 min/30 min
0 – 40 A	25 V	19 V (40 A)	20 s/15 min
0 – 100 A	10 V	7.7 V (100 A)	20 s/5 min

Voltage outputs, AC/DC

Range	*Output voltage (min)*
0 – 250 V AC	220 V (2.7 A)
110 V AC (fixed)	110 V (0.3 A)
0 – 350 V DC	280 V (2 A)
20 – 220 V DC (stab.)	200 V (0.25 A)

Other

Built-in capacitor provides phase shift when testing directional protection, and a set of resistors can be used to divide voltages.

Output used to start external cycles.

Terminal for external start/stop of built-in timer.

Terminal for connecting serial impedance when testing nonlinear protection.

Ordering information

	Art.No.
SVERKER 650	
Complete with: Test lead set GA-00030 Transport case GD-00010	
SVERKER 650 – 115 V mains voltage	**BA-11190**
SVERKER 650 – 230 V mains voltage	**BA-12290**
Optional accessories	
See section "Relay testing accessories"	

Test lead set

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