CSU20A

Current and voltage source

Programma Products

User's Manual

GE Energy Services

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General

The CSU20A is intended for use together with the Sverker 750 when there is need for a second current supply, as when testing differential relay protection equipment. It is also possible to use a half-wave and a full-wave rectified output when testing ”harmonic restraint” and ”target/seal in”.

Safety precautions

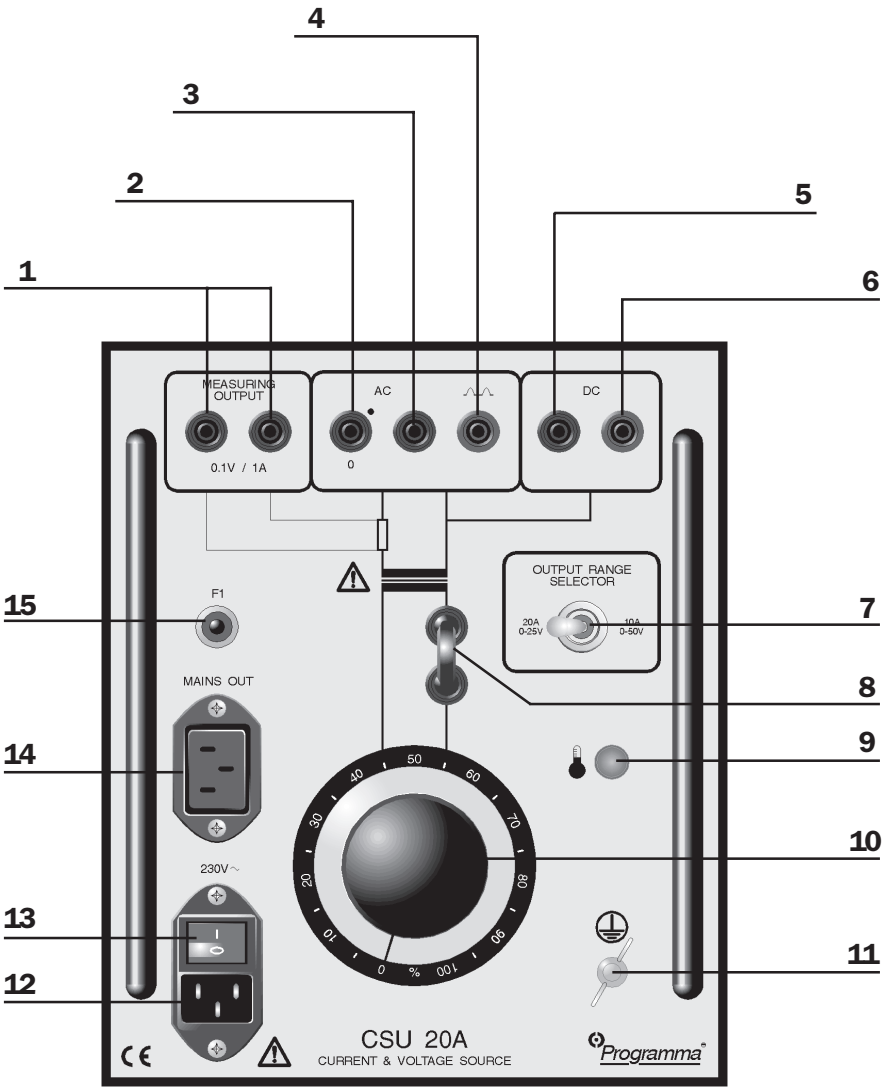
IMPORTANT

- *Read the manual and comply with the following instructions before using CSU20A.*
- *Always comply with local safety regulations.*

WARNING

- *Always connect protective earth.*
- *Always use safety connecting leads.*
- *Always turn the equipment off before connecting.*
- *High voltage/current on input/output terminals.*

Control panel



1. Measuring output — to be connected to the Sverker 750 voltmeter
2. AC terminal 0, phase corresponds to Sverker 750 (if Sverker is connected to mains out 14)
3. AC terminal
4. Half wave rectified output
5. DC terminal –
6. DC terminal +
7. Current range selector
8. Terminal for connection of resistors for increasing the internal impedance
9. Thermal fuse indicator
10. Variable transformer
11. Ground (earth) connector
12. Mains input
13. Mains switch
14. Mains output (unswitched), to be connected to the Sverker 750 mains input
15. Automatic fuse (3/6 A)

Operating instructions

IMPORTANT

- *Read the manual and comply with the following instructions before using CSU20A.*
- *Always comply with local safety regulations.*

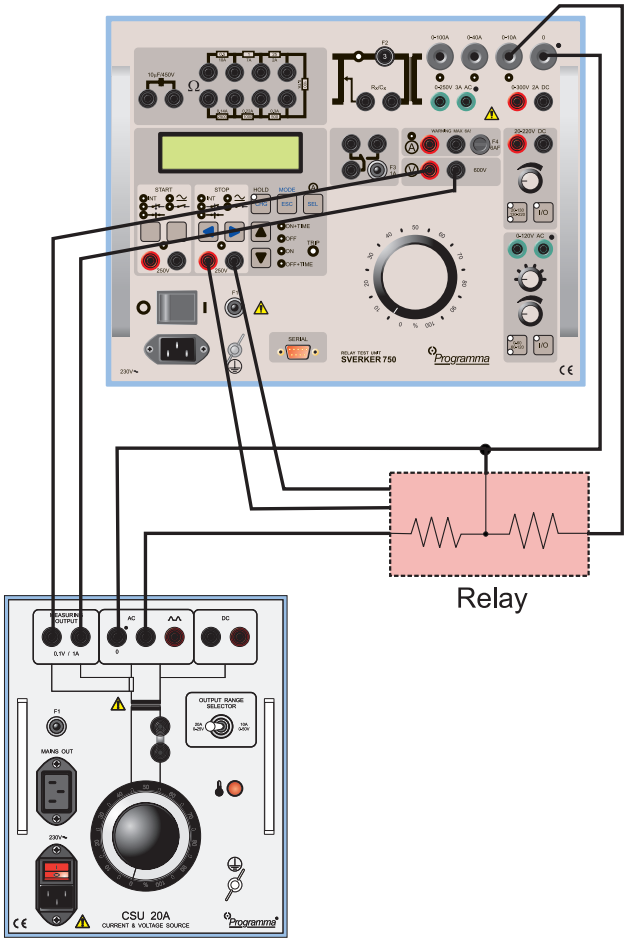
IMPORTANT

- *When a load is applied to the CSU20A, connector (8) must be short-circuited either via the shorting jumper or external resistors.*
- *The switch (7) must only be operated while the unit is unloaded.*

1. Make sure that switch (13) is in the OFF (0) position before making the connections.
2. Use toggle switch (7) to select either 20 A or 10 A test current.
3. Connect the current cables to output terminals (2), (3).
4. Turn the variable transformer down to zero and set the switch (13) to the ON (1) position.
5. Check the output current using Sverker's voltmeter input connected to measuring output (1).
6. Adjust the output current to the desired value using the variable transformer (10).
7. If red lamp (9) lights up, it indicates that the thermal cutout has been triggered. It will be reset automatically when the temperature has returned to its normal level.

Application example

1. Connect CSU20A to mains and Sverker 750 to CSU20A mains output.
2. Connect Sverker 750 and CSU20A outputs to the relay.
3. Connect the tripsignal to the STOP input on Sverker 750.
4. Set Sverker's Ext. Voltmeter to SHUNT, value 100 mΩ.
5. Connect the CSU20A measuring output to the voltage input on Sverker 750.
6. Set I1 with Sverker 750 and I2 with CSU20A and test limit/settings of the differential relay.
7. Use OFF+TIME to measure the trip time.



Connection diagram for testing differential relays using Sverker 750 and CSU20A.

Specifications

Input voltage: 115 or 230 V AC ±10% 50 - 60 Hz

Load capacity		
Output voltage	**Output current**	**Max. load time from cool state**
20 A output		
26 V	0.0 A	continuous
25 V	5.0 A	continuous
22 V	10.0 A	continuous
20 V	15.0 A	3 minutes
18 V	20.0 A	2 minutes
10 A output		
52 V	0.0 A	continuous
50 V	3.3 A	continuous
47 V	5.0 A	continuous
41 V	10.0 A	10 minutes

Others:
One fullwave rectified output and one halfwave rectified output. Specifications as above but consider DC current and diode voltage drop. If loading more than one output at a time the total power and load times as above.

Current shunt: 0.1 A / 1 V ±2%

Operating temperature:
-20 to +50°C (-4 to +122°F)

Thermal protection:
Built-in

Dimensions: 280 x 178 x 246 mm
(11" x 7" x 9.7")

Weight: 5.9 kg (13.0 lbs)

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

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