

SCITS50D

Secondary Current Injection Test Set



- **Variable 50-A a.c. output test current and 240-V a.c./d.c. auxiliary voltage output**
- **Sinusoidal constant current source that eliminates the need for waveform correction**
- **Integral timer for checking protection relay operation**

DESCRIPTION

The SCITS50D Secondary Current Injection Test Set has a maximum rating of 50 A/0,46 kVA and incorporates a timer. It is designed for testing electricity supply protection systems and particularly measuring the operating times of relays involved in them.

Current from the main a.c. terminals is completely variable by use of the output control. The output test current is maintained constant and essentially independent of the load impedance; also, its sinusoidal waveform is regulated so that extra filtering is not necessary. Two independently controlled auxiliary outputs, 240 V a.c. and 240 V d.c. are included. These enable directional relays to be fully tested or can be used as a power supply.

The large alphanumeric, dot-matrix LCD indicates the test current and voltage from each output and shows the time elapsed when timing relay operation. The test set has microprocessor circuitry permitting automatic operation as well as having full manual control. Three tactile keys situated below the display are used to set test parameters, initiate a test and control the timer. These control keys take on various functions as defined by the software test programme and shown on the display (which can be set to read in English, French, German, Italian or Spanish).

Microprocessor control, together with the facility to manually control the equipment, gives the operator the choice of two basic operating modes. Both modes can have a maximum test time specified. The manual mode enables small values of current to be adjusted using a

three turn potentiometer, the maximum value of which can be preselected. The programmable modes allow the test current level to be set before the initiation of a test. Within these modes, the test set will automatically measure the forward and/or runback times of the protection system's relay. (Note that a runback time count must always be terminated manually.)

A remote pushbutton can be fitted, which enables the user to control the time counter while closely watching the relay. An RS232 serial data port is provided for sending test results to an external recording device.

Fuses, power dissipation and overcurrent detection and a thermal cutout combine to provide enhanced instrument circuit protection.

The test set is constructed in a robust case with large carrying handles; for easy transportation, a trolley is available optionally.

APPLICATIONS

The SCITS50D is primarily intended for testing protection systems that include IDMT relays. However, it may be suitable for testing systems incorporating thermal overload, instantaneous and directional relays, so long as the thermal shutdown limits are not exceeded.

Protective devices such as relays, overload coils and circuit breakers must be checked at regular intervals while in service. This routine checking ensures that they are always ready to operate should a fault occur in the equipment they are protecting.

Routine secondary current injection testing with the SCITS50D will quickly detect faulty or incorrectly adjusted protection devices and therefore may prevent damage to plant equipment and injury to personnel.

An important part of the correct functioning of a protective system is the time taken for the relay to operate. The integral timer of the SCITS50D, with the option of control by a remote pushbutton, means that the operating time of a protective relay can be easily and conveniently measured.

FEATURES AND BENEFITS

- Automatic protection against thermal or current overload.
- Dot-matrix LCD shows current and voltage levels and elapsed time.
- Remote control of timer allows operation from close by the protective relay.

SPECIFICATION

Current Output AC

0 to 50 A at 0 to 9 V, 50/60 Hz

(Output is floating with respect to the mains input supply.)

Duty cycle (varies with output)

8 s on, 2 min. off at full output.

Auxiliary Voltage Outputs

0 to V supply a.c., 0,5 A

0 to V supply d.c., 0,5 A

(Outputs are floating with respect to the mains input supply.)

Display

Dot-matrix LCD

Current Range:

0 to 50 A, resolution 0,01 A

Accuracy

±2% of reading, ±0,03 A

Auxiliary Voltage Range:

0 to V supply, resolution 1V

Accuracy:

±2,5% of reading, ±1 V

Elapsed Time (IDMT test ranges)

0 to 600 s, resolution 0,01 s

Accuracy:

±1% of reading, ±0,01 s

Elapsed Time (other ranges)

0 to 9999 s, resolution 1 s

Accuracy:

±1% of reading, ±1 s

Temperature Range Operation:

0 to +40° C (32 to 104°F)

Storage:

-20 to +60° C (-4 to 104°F)

Humidity Range Operating:

80% RH at 40° C (104°F)

93% RH at 40° C (104°F)

Supply Voltage

220/240 V ±10%, 50/60 Hz, 1,5 kVA

Safety

The instrument meets the requirements for double insulation IEC1010-1 (1995) and EN61010-1 (1995)

Thermal Overload Protection

Thermal shutdown is inversely proportional to output current. At 12,5 A the instrument will typically shutdown in 32 s.

On-board memory

99 sets of results.

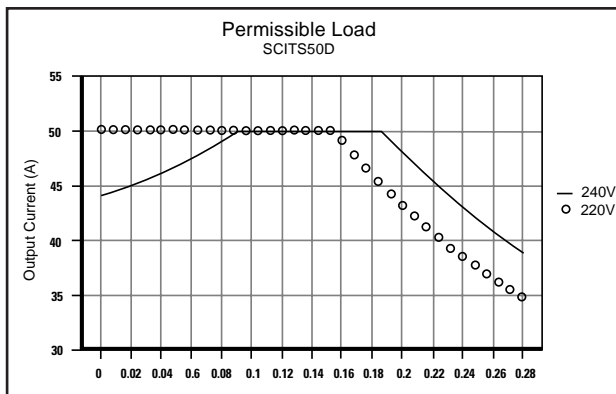
Dimensions (excluding handles)

307 H x 495 W x 310 D mm

(12 H x 19,5 W x 12,25 D in. approx)

Weight

25 kg (55 lb) approx



Load Resistance (Ω)

ORDERING INFORMATION

Item (Qty)	Order No.	Item (Qty)	Order No.
Secondary Current Injection Test Set	SCITS50D	Optional Accessories	
Included Accessories		Lead set, 3 m long	6220-303
Timer remote control lead	6231-457	Transportation trolley	6320-224
Operating instruction book	6171-837	Printer cable	6220-283

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