



# SCR ELEKTRONIKS

Leading Manufacturer of Industrial Electronic Products since 1975

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## Short Time High Current Test

### SHORT TIME OVER CURRENT TEST PANEL FOR ENERGY METERS

#### GENERAL DESCRIPTION

SCR Elektroniks have developed a Test Panel to carryout Short Time Over Current Test as specified in Indian Standard IS13779:1999, (Clause : 9.2.3).

It states "Short Time Over Current shall not damage meter. The meter shall perform correctly when back in its initial working conditions".

a) Meter for direct connections :

The meter shall be able to carry over current of 30  $I_{max}$  for one half cycle at rated frequency.

b) Meter for connection through current transformer :

The meter shall be able to carry for 0.5 Sec. a current at 20 times the maximum current.





### TECHNICAL DESCRIPTION

The system broadly comprises of a variable current source with Timer to select the number of cycle. The Shunts provided give the current measurement. Terminals are brought out for connecting the shunt to oscilloscope.

The input is 415 V, 2 Phase for power Circuit and 415 V, 3 Phase for Control Circuit. The input is given to 2 phase oil cooled Variac of 40 Amps. The motorised arrangement is made for adjustment of current. The output of variac is fed to high current Transformer ( 3000 Amps/ 5 Volt). Swamping resistor with by pass arrangement is provided for low current settings i.e. 0- 300 Amps (For CT Operated Meter application). Output of the transformer is given to SCRs which control the current flow through meter under Test.

The firing of the SCR is controlled by point on switching circuit ( Zero cross over ). The number of cycles can be set with Digital controller provided with setting from 1 cycle to 99 cycles. Shunts, 2 numbers, 3000 A/ 300 mV & 300 Amps / 300 mV are provided for current measurement.

SCR have developed a panel which can test the meters up to  $I_{max} = 100$  Amps.

### TECHNICAL SPECIFICATIONS

Input Supply : Two phase, 415 V, 10%, 50 Hz (40A max)

Output Current Range : 50 to 3000 Amp variable, controlled, settable & isolated from Mains. Two Ranges (A) 50-300 Amps. (B) 100-3000 Amps.

Output Current Setting : 1) 150 Amps. to 3000 Amps. : 10 ms  
2) 50 Amps. to 300 Amps. : 500 ms

Compliance Voltage : 5 V

Output Measurement : A suitable connection facility is provided to connect oscilloscope to measure & set the desired output current. Two ranges provided :  
A) 0-300 mV for 0-300 A Output Tap  
B) 0-300 mV for 0-3000 A Output Tap

Time Setting/ : 10 ms to 1000 ms.  
Cycle Setting 1 cycle / 99 cycles.

Construction : Variac & Panels on Castor Wheels.

Protection : Fuse protection on primary side.

Termination : Output current termination on bus bars to facilitate easy connection with energy meter current circuit terminals. Three bus bars, namely, Common, 300 Amps. & 3000 Amps. are provided.

Current Sensing : Through Shunt.

0-300 mV for 0-3000 Amps. Output.

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