

# SCOPE

## CRM 100C Contact Resistance Meter



Now constant current upto 100 Amps gives you a large range of resistance measurement in EHV switchyards...  
... accurately on CRM 100C

## The Product

### CRM100C Contact Resistance Meter

CRM 100C directly measures resistance values with DC current injection under live switchyard conditions. The CRM 100C is specially designed to reliably measure contact resistance of circuit breakers, isolators, bus bar joints, welded joints etc., under the hostile electrostatic noise found in live EHV switchyards. It can also be used for testing cables, graphite bars etc. It has a truly continuous current source without any ON/OFF duty cycle.

## Testing with CRM 100C

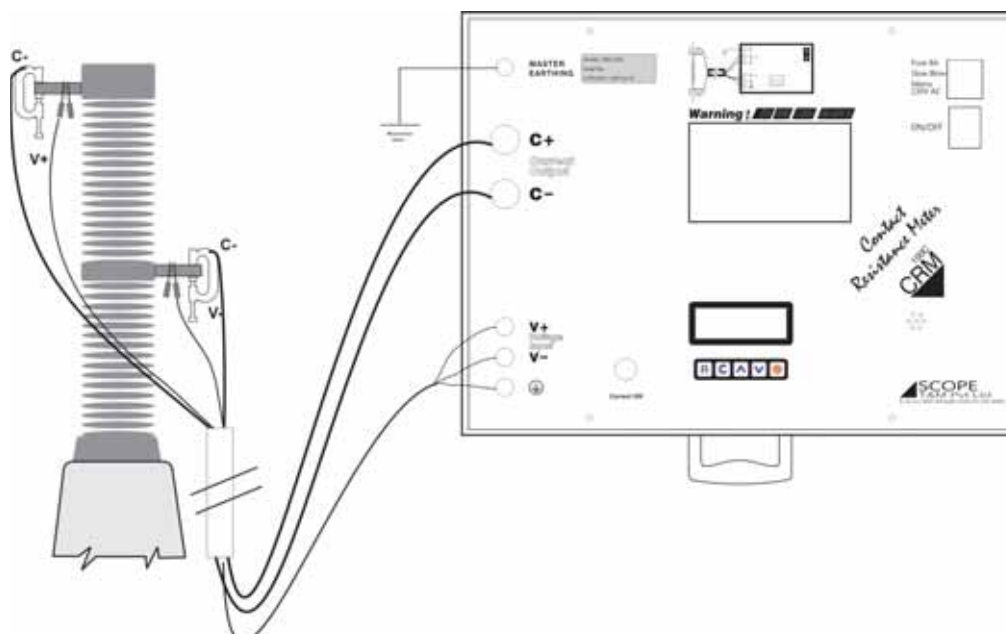


- ① Master Earthing
- ② Current Output
- ③ Voltage Input
- ④ Current ON Indication
- ⑤ power Supply
- ⑥ ON / OFF Switch
- ⑦ LCD Display
- ⑧ Navigation Key

## Measuring With CRM

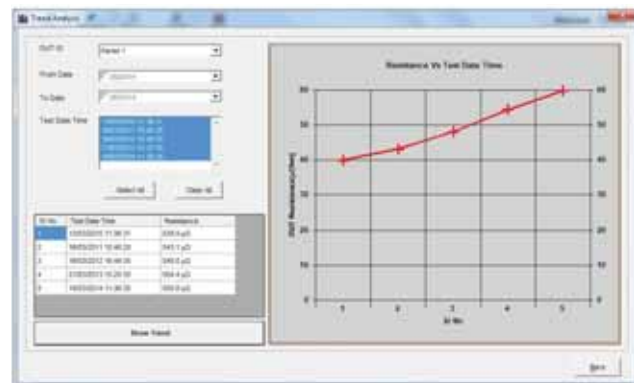
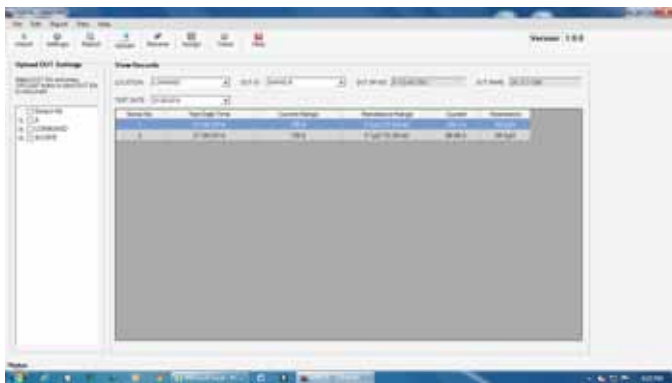
- CRM100C is having inbuilt current source varying from 10 Amps to 100 Amps in steps. This instrument injects current without any on/off duty cycle. The classical four wire method / Kelvin's four wire principle is used to measure the voltage drop across DUT in away to measure the DUT resistance.
- The instrument although contains a constant current source, still calculates resistance by division of measured voltage and injected current. The instrument is isolated from the effect of Electrostatic and Electromagnetic field present in live switchyards, by bypassing the induced charges to earth

## Connections for CRM 100C



## Special Features

- Innovative design makes CRM 100C the lightest available continuous current contact resistance meter
- Direct display of micro-ohm value does away with manual calculations
- Fool-proof connections and repeatability are ensured by SCOPE's specially designed proprietary Ck clamps
- Supplied with rugged calibrated test lead set satisfying Kelvin's 4 wire measurement principle.
- Selectable current ranges allows user to test various DUTs having wide resistance range.
- Every current range is associated with selectable resistance range to achieve better resolution of results.
- LED indication makes user aware about current injection status.
- User-friendly Menu structure enables user to take test easily.
- PC downloading facility is available with CData - PC Downloading & Data Management Software. (Optional)



## Benefits

- CRM100C is quick & simple tool to assess heat dissipation inside CB interrupter without opening it.
- User can understand the power loss in high current capacity test objects, loose joints.
- Get early warning of developing hot spots.
- CRM100C proved its reliability in EHV switchyard environment.
- This instrument suits equally to Utilities, OEMs, Test Labs as well as Testing & Commissioning Companies



## Specifications

Accuracy	: Value $\pm 0.5\% \pm 5$ digits
Current	: 10, 20, 50, 100 A DC, selectable,
Display	: One backlit 4 line LCD for interactive menu, test results, keyboard functions and messages, test results, 3½ digit for resistance and current values
Test Leads	: Calibrated Test Cables, 15 m long, 150A rating
Power	: 230 V AC $\pm 15\%$ , 50 Hz $\pm 10\%$ , 500 VA,
Dimensions	: 475 x 405 x 175 mm,
Weight	: 11 kg, instrument
Environment	: 0 to 50°C max, 95 % RH (non-condensing) Live EHV switch yard environment
Ranges	: On SCOPE's Calibrated Test Leads as follows

Test Current	Resistance Range	Resolution
100 A	199.9 $\mu\Omega$	0.1 $\mu\Omega$
	1999 $\mu\Omega$	1 $\mu\Omega$
	19.99 m $\Omega$	0.01 m $\Omega$
50 A	1999 $\mu\Omega$	1 $\mu\Omega$
	19.99 m $\Omega$	0.01 m $\Omega$
20 A	1999 $\mu\Omega$	1 $\mu\Omega$
	19.99 m $\Omega$	0.01 m $\Omega$
	199.9 m $\Omega$	0.1 m $\Omega$
10 A	19.99 m $\Omega$	0.01 m $\Omega$
	199.9 m $\Omega$	0.1 m $\Omega$
	1999 m $\Omega$	1 m $\Omega$

## Ordering Information

Description	Std Qty
<b>STANDARD ACCESSORIES</b>	
Calibrated Test Cables 15 m long, with Ck clamps of 75 mm opening	1 set
Master Earthing Cable, 7 m long	1 set
Mains Cord, 3 m long	1 no.
Spare fuses	1 set
Carrying case for Test Lead Set	1 no.
Instruction Manual	1 no.
<b>OPTIONAL ACCESSORIES</b>	
Calibrated Test Cables 20 m long, with 75, 100 or 150 mm Ck clamps	1 set.

Note: Calibration Certificate having traceability to NABL is supplied

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