



## CRM 100A

### Contact Resistance Meter



The Motwane's Contact Resistance Meter- CRM 100A is a digital micro ohmmeter, designed to measure extremely low resistance. The instrument is based on the proven 4-wire measurement method for low resistances to eliminate the effect of lead resistance of two wire method. The instrument is designed to replace complex bridge set up with a single compact unit. The DC current injection is continuously adjustable between 10A to 100A. The testing information is displayed on large LCD with backlit, real time data is displayed during the test ON condition. The instrument gives a high resolution of  $0.1 \mu\Omega$  on  $200 \mu\Omega$  resistance range.

The instrument is easy to operate and user friendly. Accessories are rugged and come with heavy duty clips for better grip on test object. The kit and accessories are housed in a trolley mounted casing for easy transportation. Advanced Dot Net based software is provided for data downloading, analysis and report generation. The instrument can be operated through software from a remote location. Internal memory is provided for onsite data storage.

## Features

- ✓ Continuously selectable Current In steps of 10, 20, 50 & 100A resp.
- ✓ Digital Resistance Reading from  $0.1 \mu\Omega$  to  $20m\Omega$ .
- ✓ Simultaneous Display of Test Current, Resistance
- ✓ Minimum Resolution of  $0.1 \mu\Omega$
- ✓ Accuracy  $\pm (0.5\% + 5 \text{ digits})$
- ✓ 3 1/2- digit readings for resistance.
- ✓ Custom built backlit LCD with sealed soft touch membrane keypad.
- ✓ Data Exchange to PC through USB Interface.
- ✓ Built-in Memory to store up to 99 test results.
- ✓ Test 'ON' indicator with LED & beep, provided to signify the flow of Direct Current DUT.

## Applications

Stationary and moving contacts are built from alloys that are formulated to endure the stresses of electrical arcing. However, if contacts are not maintained on a regular basis, their electrical resistance due to repeated arcing builds up, resulting in a significant decrease in the contact's ability to carry current and increase in resistance. Excessive corrosion of contacts is detrimental to the breaker performance. Hence to check contact, apply DC and measure the contact resistance or voltage drop across the closed contacts. The use of a higher current value gives more reliable results than using lower current values. The resistance value is usually measured in micro ohms ( $\mu\Omega$ ).

CRM 100A has a large application for direct and indirect measurements in various industries and manufacturing facilities. High accuracy makes it a reliable tool for Quality Assurance and easy operation makes it a very handy tool for quick maintenance checks for process industries.

### Typical resistance measurement applications are

- Circuit Breaker Contact Resistance in non-energized areas
- Electrode Resistance Measurement
- Bus Bar joints
- Isolator Contacts
- Cable Drum Resistance Measurement
- Cable Splice
- Weld Joints
- Bond Resistance

## Technical Details

### CRM 100A

#### Output Current

<b>DC Test Current</b>	10A, 20A, 50A & 100A
<b>Accuracy</b>	5%
<b>Open Circuit Voltage</b>	5V DC

#### Resistance Measurement

Resistance Ranges	200 $\mu\Omega$	2m $\Omega$	20m $\Omega$
<b>Resolution</b>	0.1 $\mu\Omega$	1 $\mu\Omega$	10 $\mu\Omega$
<b>Accuracy</b>	$\pm(0.5\% + 5 \text{ digits})$		

#### Operation Time

Continuous Operation up to 50A  
4 minutes-ON and 10 minutes-OFF for 100A

<b>Display</b>	3 ½ digit Large LCD Display
<b>PC interface</b>	USB for data transfer

#### Warning

Audio Visual Indication for Test ON Operation  
Indication on Mains ON Operation  
Blinking display for Over range indication

<b>Power Supply</b>	230V, 50Hz 3 10%
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#### Environment

<b>Operating Temperature</b>	0°C to 55°C
<b>Storage Temperature</b>	-10°C to 55°C
<b>Humidity</b>	< 90% RH, Non condensing

#### Physical

<b>Dimensions</b>	365 mm(D) x 426 mm(W) x 178 mm(H)
<b>Weight</b>	12 Kg

#### Safety Standards

Safety : According to EN 61010 - 1  
EMC : According to EN 61326 - 1

#### Accessories

##### Standard

- Output lead Set 4 X 5m
- Mains Power Cord
- Mains Protection fuse 5A
- User Manual
- Calibration Certificate
- Carrying Case

##### Optional

- Software CD
- USB Cord

**Notes:** **1.** The Instrument is accompanied with Test & Calibration sheet. **2.** Test Facilities can be provided at the factory with the available test set-ups only. **3.** The company's policy includes continuous improvement of its product. We, therefore, reserve the right of any deviation from illustration or specifications without notice. **4.** Stated accuracies are valid from 10% of the range to 95% of the range. **5.** Accuracy specified for temperature range of 25°C  $\pm$  5°C & 55% RH  $\pm$  10%.

Note : Do not use this instrument in HT switchyard