

# Electrical Test & Measurement Instruments





Connected to Cloud

## PCRM-100S

### Contact Resistance Meter

CAT II	IP	CE	USB	Bluetooth
300	54			

The Motwane's Digital Contact Resistance Meter, model PCRM-100S is specially designed to measure extremely low resistances in micro ohm. The instrument is based on Kelvin 4-wire connection method for measurement of low resistance. Selectable current injection is 100A. PCRM 100S has a large LCD with backlight and display real time test information like injected current with measured resistance value & voltage drop. It is a user-friendly instrument and it's comes with heavy duty cable with clamps for accurate measurement and accessories are housed in easy transportation case. Advance Windows based software is provided for data downloading, analysis and report generation. Internal memory of 499 records is provided for onsite data storage and inbuilt thermal printer to print the test results at the field.

PCRM 100S has dual ground technique to test circuit breaker with both side grounded, which is safer to conduct test in substation.

PCRM 100S has Bluetooth connectivity module with Motware mobile app for remote access of testing data & storage in the cloud for further analysis & record purpose.

## Features

- ✓ 100A Pulsating DC Test Current
- ✓ Resistance Range : 0.1 $\mu\Omega$  to 2m $\Omega$  Autoranging
- ✓ Direct mV Drop Reading
- ✓ Built in Thermal Printer
- ✓ Internal Memory of 500 test results
- ✓ Mains and Battery Operated
- ✓ USB Interface for Data Transfer
- ✓ LED Indication for Mains/Battery/LOBAT
- ✓ Calibration Due Indicator
- ✓ Dual Grounding Facility
- ✓ Conformity IP54, CE
- ✓ Bluetooth enabled for Motware Mobile App

## 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 contacts, 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 ( $\mu\Omega$ ).

PCRM-100S is specially used to measure static contact resistance of LV, HV, EHV circuit breaker contacts installed in energised switchyards. High accuracy and repeatability makes it a reliable tool for Quality Assurance and easy operation makes it a very handy tool for quick maintenance checks in various industries.

### Typical resistance measurement applications are

- Circuit Breaker contact resistance
- Bus Bar joints
- Isolator contacts
- Weld joints
- Bond resistance

## Technical Details

### PCRM 100S

#### Technical Specification

<b>Test Current Injection</b>	100 A Pulsating DC
<b>Test ON Alert</b>	BEEP
<b>Range &amp; Resolution</b>	200 $\mu\Omega$ with 0.1 $\mu\Omega$ 2000 $\mu\Omega$ with 1 $\mu\Omega$
<b>Measurement Principle</b>	Four wire measurement
<b>Basic Accuracy</b>	$\pm 2\%$ of reading, $\pm 1$ digits
<b>Memory Storage</b>	500 reading storage facility
<b>Computer Interface</b>	USB
<b>Thermal Printer</b>	For printing the test results.
<b>Display</b>	Custom Built 3 ½ digit LCD Display with Backlit

#### Physical Specifications

<b>Enclosure Material</b>	Industrial grade Polypropylene
<b>Dimensions</b>	365mm(L) x 465mm(W) x 185mm (H)
<b>Weight</b>	25 Kg. Approx (with Accessories)

#### Power Supply

<b>Mains</b>	115V-230V, 50Hz / 60Hz Single phase AC supply
<b>Battery</b>	Rechargeable Li-ion
<b>Power Consumption</b>	35VA, 6.0 Watt on battery

#### Environmental

<b>Operating Temperature</b>	0°C to 55°C.
<b>Storage Temperature</b>	-10°C to 55°C.
<b>Humidity</b>	less than 95% RH, Non condensing

#### Safety Standards

<b>Safety</b>	According to EN 61010 - 1
<b>EMC</b>	According to EN 61326 - 1
<b>IP Rating</b>	IP 54
<b>Measurement Category</b>	CAT II
<b>CE Certification</b>	LVD: 2006/95/EC
<b>EMC Certification</b>	2004/104/EC

#### Software Details

<b>Type</b>	Windows based software
<b>Interface</b>	USB
<b>Data Transfer</b>	Real Time Data
<b>Internal Data Storage</b>	500 Test results
<b>Features</b>	Remote Operation Data down loading Analysis and report generation

#### Accessories

##### Standard

■ 15 meter lead set with C Clamp 75mm opening	: 1 Set
■ Master Earthing Cable with battery clip (5 meter)	: 1 No.
■ Mains power cord	: 1 No.
■ Spare Fuse (3A/250V slow blow)	: 1 No.
■ User Manual	: 2 Nos.
■ Carrying Case	: 1 No.
■ Thermal Paper Role	: 2 Nos.
■ Software CD	: 1 No.

##### Optional

■ 22 meter strong cable with C Clamp 50mm opening	: 1 Set
■ 22 meter strong cable with C Clamp 100mm opening	: 1 No.
■ 22 meter strong cable with C Clamp 150mm opening	: 1 No.
■ 22 meter strong cable with Heavy Crocodile Clip 25mm opening	: 2 Nos.
■ 03 meter cable with Heavy Crocodile Clip 25mm opening	: 1 No.
■ USB Cable	: 2 Nos.

**Note :** To learn more about the Motware Application, check **Page 62**

## Contact Details

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