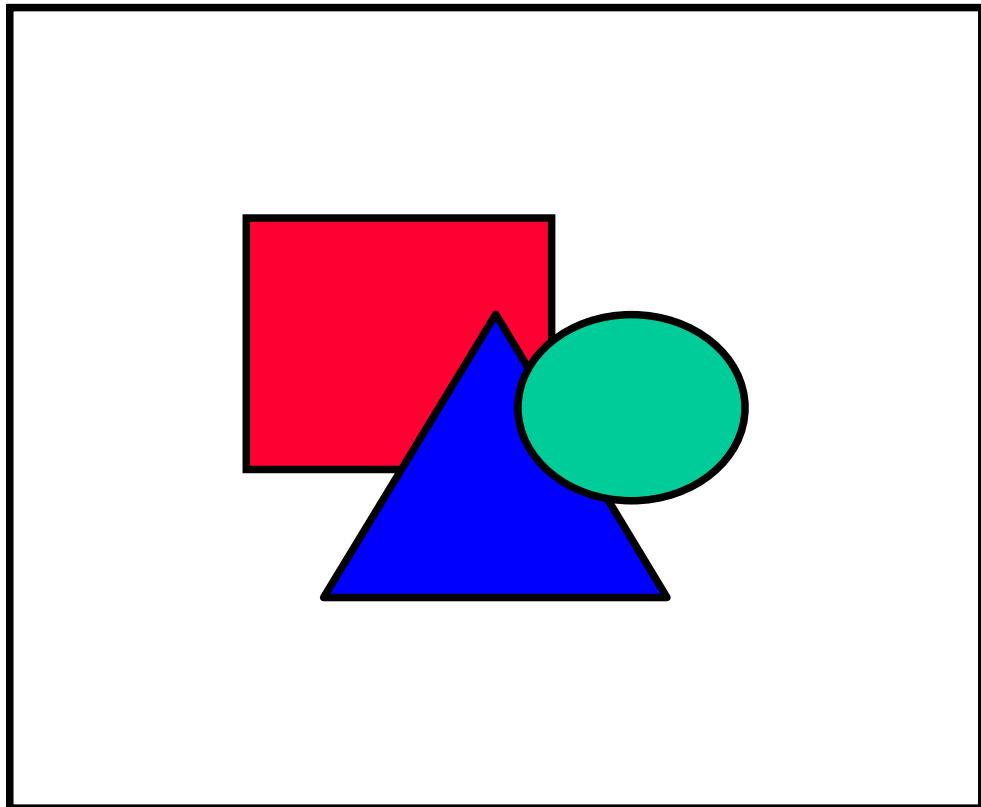


MTS1A/MTS2
Milliohmmeter Test
Standards



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Introduction

The MTS1A and MTS2 Milliohmmeter Test Standards are designed for easy calibration of low resistance ohmmeters and Kelvin/Thompson Bridges.

True four terminal resistance standards are selected using a specially constructed switch with low thermal gold/silver contacts for potential selections and low resistance contacts for current selection.

The resistance standards may be switched between + full scale, true four terminal zero, and - full scale (current terminals reversed).

Operation

Important Note: If possible, the MTS1A and MTS2 Test Standards should be used in a temperature controlled environment.

NOTES: Always refer to manufacturer's calibration procedure before attempting to calibrate an instrument.

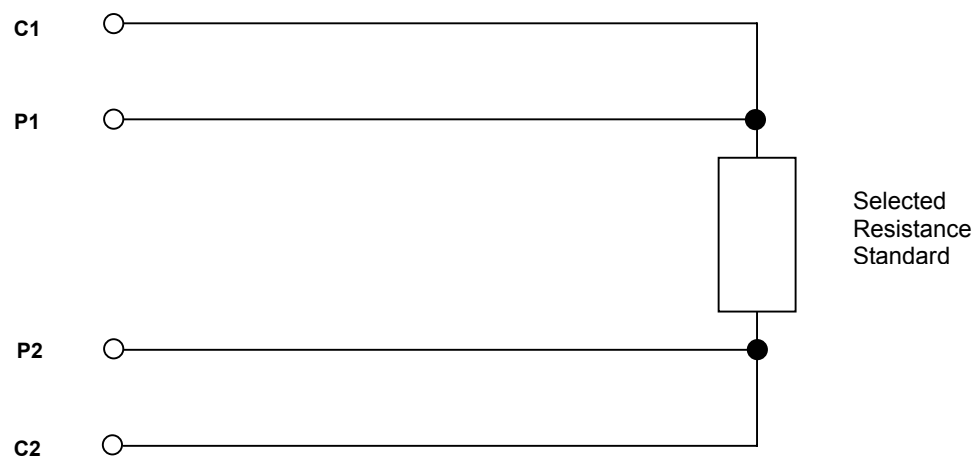
When taking measurements, always wait for a steady reading.

The instrument to be calibrated is connected to the current and potential terminals of the MTS Standard. A chassis connection is also provided, although this is not required when calibrating Croico ohmmeters. The only requirement for the current cables is that they can be used up to 10A. The potential cables should be low thermal emf leads (preferably pure multi-stranded copper with crimped copper connections).

Three operating modes are possible as follows:

1. +Full Scale

In this mode, the Standard is connected as follows:



This is the standard configuration for calibrating an instrument for full scale value.

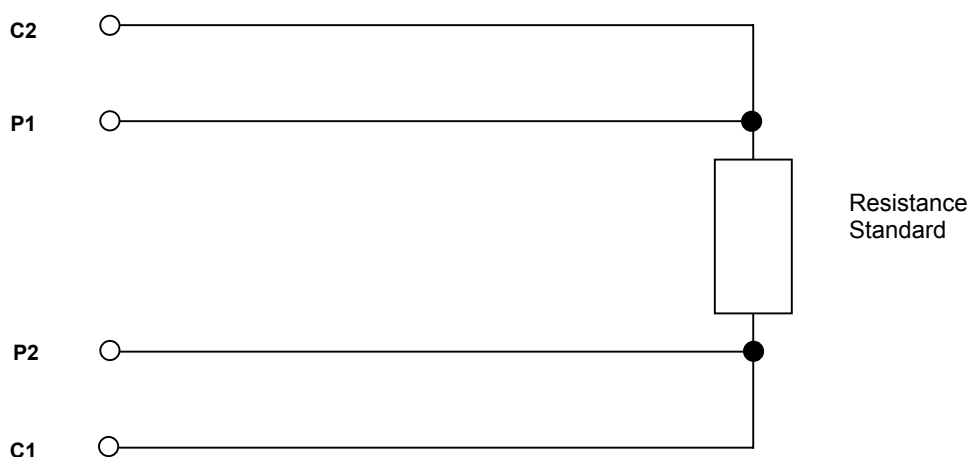
2. Zero

In this mode, the C1 and C2 terminals are short circuited, with no current flowing through the resistance standards. This gives a true four terminal zero

3. -Full Scale

This facility has been especially designed for calibrating Cropico Ohmmeter type DO4A and D07. It may, however, be suitable for use with some other makes of Ohmmeter.

In this mode, the current connections to the resistance standard are reversed as follows:



The potential terminals remain unchanged, and therefore this mode is unsuitable for testing Kelvin/Thompson Bridges.

Technical Information

Terminals:	4 mm. binding posts will accept spade tags and 4 mm. banana plugs. Low thermal emf types are used for the potential
Working Temp:	5 ...20 ... 40°C
Storage Temp.:	5 ... +50°C
Switches:	Special combination switch with low thermal gold/silver contacts for the potential selection and low resistance contacts for the current selection.

Size: 215x88x250nun. (WHD)
 ½ 19" Rack 2U High

467 x 374 x 216 mm. packed in card carton.

Mass 2.8 kg. approx. (3.5 kg. packed in card carton)

MILLIOHMMETER TEST STANDARD TYPE MTS1A

Resistance Value (Ohms)	Uncertainty of adjustment at 20°C	Dissipated Max Watts	Current Max Amps	Typical Temp. Coefficient 15 to 20°C
100 kΩ	±0.01%	0.1	1 mA	<10 ppm
10 kΩ	±0.01%	0.1	3 mA	<10 ppm
1 kΩ	±0.01%	0.6	25 mA	<10 ppm
100 Ω	±0.01%	0.6	75 mA	<10 ppm
19 Ω	±0.01%	0.43	150 mA	<10 ppm
10 Ω	±0.01%	0.45	212 mA	<10 ppm
1.9 Ω	±0.01%	0.475	500 mA	<10 ppm
1 Ω	±0.01%	0.56	750 mA	<10 ppm
100 mΩ	±0.01%	0.625	2.5 A	<10 ppm
10 mΩ	±0.05%	0.25	5 A	<10 ppm
1 mΩ	±0.05%	0.1	10 A	<10 ppm

MILLIOHMMETER TEST STANDARD TYPE MTS2

Resistance Value (Ohms)	Uncertainty of adjustment at 20°C	Dissipated Max Watts	Current Max Amps	Typical Temp. Coefficient 15 to 20°C
400 kΩ	±0.01%	0.1	0.45 mA	<10 ppm
40 kΩ	±0.01%	0.1	1.5 mA	<10 ppm
4 kΩ	±0.01%	0.1	5 mA	<10 ppm
400 Ω	±0.01%	0.1	15 mA	<10 ppm
40 Ω	±0.01%	0.1	50 mA	<10 ppm
4 Ω	±0.01%	0.1	150 mA	<10 ppm
400 mΩ	±0.01%	0.1	500 mA	<10 ppm
40 mΩ	±0.01%	0.1	1.5 A	<10 ppm
4 mΩ	±0.1%	0.4	10 A	<10 ppm
400 μΩ	±0.1%	0.04	10 A	<10 ppm

NOTE (MTS1A & MTS2)

The stated currents are for the reference conditions stated. A 25% overload is permissible for short periods of time.

Additional Products From Cropico

DIGITAL OHMMETERS

RESISTANCE BRIDGES

RESISTANCE DECADE BOXES

RESISTANCE STANDARDS

DIGITAL THERMOMETERS

THERMOCOUPLE SIMULATORS

THERMOCOUPLE REFERENCE JUNCTIONS

THERMOCOUPLE SELECTOR SWITCHES

PT100 SIMULATORS

PRECISION WATTMETERS

INSULATION TEST SETS

UNIVERSAL CALIBRATORS

POWER ANALYSERS

HIPOT TESTERS

ELECTRICAL SAFETY TESTERS

Phone, fax or e-mail for further information on the above or for a copy of our general catalogue:-

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Website:- www.cropico.com