



## KEY FEATURES

- Basic accuracy : 0.05%
- Pulsed test current output mode is used to reduce thermal EMFs affection on milliohm measurement
- DC test current output mode is used to fasten measurement speed for inductive DUT
- Dry-circuit test current output mode (limited Max. 20mV) is used to measure such contact resistances where the maximum open-circuit voltage must be limited to 50mV
- Temperature correction (TC function) regardless of material or temperature
- Useful temperature conversion function for motor/ coil evaluation
- 4 channels R scan with balance check function for fan motor (combined with A165017 option)
- 0.001mΩ~1.9999MΩ wide measurement range with 4½ digits resolution
- Standard RS-232 interface
- Optional GPIB & Handler interface
- Bin-sorting function
- Comparator and pass/fail alarming beeper function
- Large LCD display (240 x 64 dot-matrix)
- Friendly user interface
- LabView® Driver

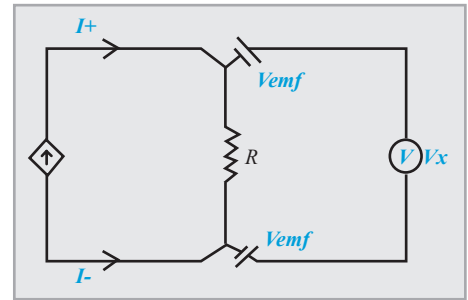


The Chroma 16502 Milliohm Meter is Chroma's newest digital Milliohm Meter. 0.001mΩ~1.9999MΩ wide measurement range. DC, Pulsed, and Dry-circuit test current driving modes, enable the Chroma 16502 can be properly used in DC resistance measurement for various inductive components (coil, choke, and transformer winding etc.), cable, metallic contact (connector, relay switch etc.) and conduction materials.

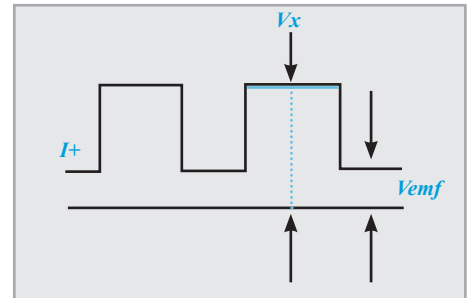
Using the A165014 Temperature Compensation Card with A165015 PT100 Temperature Probe, resistance values measured at ambient temperature can be corrected by applying a thermal coefficient so that the display shows the corresponding resistance values at any other temperature with temperature correction function. Temperature increase ( $\Delta t$ ) is obtained and displayed by converting resistance measurements and ambient temperature with convenient temperature conversion function. This function is especially useful for verifying motor windings or coils, where the maximum temperature increase needs to be determined when current is applied.

Pulsed  $\pm$  function application includes power choke, switch/Relay contract, multi-braided twisted wires, metallic foil or conductive material, thermo-sensitive material (fuse, thermistor sensor) etc. Dry Circuit function application includes switch /relay contract, thermo-sensitive material (fuse, thermistor sensor) etc. DC+ function application includes high inductance DUT, like primary of transformer (multi-turn) measurement with Measurement Delay Function to avoid the test current not produced that effect by high inductance DUT during test period.

Standard RS-232 interface, optional GPIB & Handler interface, high speed and stable measurement capabilities enable the Chroma 16502 can be used for both component evaluation on the production line and milliohm measurement for bench-top applications.



Vemf = Thermoelectric EMFs



$V_x - V_{emf} = IR$  Vemf = Thermoelectric EMFs

## ORDERING INFORMATION

- 16502** : Milliohm Meter
- A110235** : GPIB & Handler Interface
- A110236** : 19" Rack Mounting Kit
- A113012** : Vacuum Generator for A165018
- A113014** : Vacuum Pump for A165018
- A165013** : GPIB and Handler Interface with Temperature Compensation
- A165014** : Temperature Compensation Card
- A165015** : PT100 Temperature Probe
- A165016** : Pin Type Leads (flat)
- A165017** : 4 Channels R Scanner
- A165018** : Test Fixture for SMD Power Choke
- A165019** : Pin Type Leads (taper)
- A165022** : Four Terminal Test Cable

SPECIFICATIONS		
<b>Model</b>	<b>16502</b>	
<b>Range Basic Measurement Accuracy *1; Test Current</b>		
20mΩ	± (0.1% of reading + 0.03 % of range) ; 1A typical	
200mΩ	± (0.05% of reading + 0.03 % of range) ; 100mA typical	
2Ω	± (0.05% of reading + 0.03 % of range) ; 10mA typical	
20Ω	± (0.05% of reading + 0.03 % of range) ; 1mA typical	
200Ω	± (0.05% of reading + 0.02 % of range) ; 1mA typical	
2kΩ	± (0.05% of reading + 0.01 % of range) ; 1mA typical	
20kΩ	± (0.1% of reading + 0.01 % of range) ; 100μA typical	
200kΩ	± (0.2% of reading + 0.01 % of range) ; 10μA typical	
2MΩ	± (0.3% of reading + 0.01 % of range) ; 1μA typical	
<b>Test Signal</b>		
Drive Mode	DC+, DC-, Pulsed+, Pulsed -, Pulsed ±, Stand by	
Dry Circuit	Open Circuit Voltage less than 20mV; for 200mΩ, 2Ω, 20Ω ranges only	
<b>Measurement Time *2</b>		
Fast	65ms	
Medium	150ms	
Slow	650ms	
<b>Temp. Correction / Conversion Function</b>		
Temp. Measurement Accuracy	-10.0°C ~ 39.9°C	± (0.3% of reading + 0.5°C) *3
(Option)	40.0°C ~ 99.9°C	± (0.3% of reading + 1.0°C) *3
Temp. Sensor Type (Option)	PT100/ PT500	
<b>Interface &amp; I/O</b>		
Interface	RS-232(Standard), GPIB, Handler (Optional)	
Output Signal	Bin-sorting & Pass/Fail judge	
Comparator	Upper/Lower limits in value	
Bin Sorting	8 bin limits in %, ABS	
Trigger Delay	0~9999ms	
<b>Trigger</b>	Internal, Manual, External, BUS	
<b>Display</b>	240 x 64 dot-matrix LCD display	
<b>Correction Function</b>	Zeroing	
<b>General</b>		
Operation Environment	Temperature : 10°C~40°C, Humidity : < 90 % R.H.	
Power Consumption	80 VA max.	
Power Requirement	90 ~ 132Vac or 180 ~ 264Vac, 47 ~ 63Hz	
Dimension (H x W x D)	100 x 320 x 346 mm / 3.94 x 12.6 x 13.62 inch	
Weight	4.2 kg / 9.25 lbs	

**Note\*1** : 23 ± 5°C after Zeroing correction. Slow measurement speed. Refer to Operation Manual for detail measurement accuracy descriptions.

**Note\*2** : Measurement time includes sampling, calculation and judge test parameter measurement.

**Note\*3** : Not include temp. sensor accuracy

instrumentos  
de medida

Septiembre 31. 28022 Madrid  
Tel. 91 300 0191 Fax. 31 388 5433  
idm@idm-instrumentos.es  
www.idm-instrumentos.es