5896C
MICRO-OHMMETER

YOUR COMPLETE SOLUTION FOR RESISTANCE MEASUREMENTS ESPECIALLY ON HIGH INDUCTIVE TEST OBJECTS UP TO 500MVA AND MORE

tinsley
PRECISION INSTRUMENTS

OVERVIEW

This high current digital, direct reading, autoranging, microprocessor based microohmmeter is designed to measure the DC-resistance of especially highly inductive windings of power and distribution transformers up to 500MVA and more, generators and large motors. Other test objects may be circuit breakers, transformer tapchangers, power connections and many more.

The 5896C is housed in robust carrying case. All connectors, fuses and keys are located at the frontpanel of the instrument. The model 5896C is a lightweight with it's 15kg.

Up to 60A measuring current extends the low resistance range of the model 5896C to 20micro ohmwith a resolution of 0.01micro ohm.

It's high output voltage of up to 60V supports quick uploading of inductive test objects, which results in short measuring times. An inductive test object is discharged in typ. 1/10 of the uploading time after a measurement.

KEY FEATURES

- Accuracy 0.1% of reading over the full range
- Up to 60A measuring current
- Resistance range extensible to 2ìÙ (600A) using the optional seperate measurement current source
- Up to 60V output test voltage for fast uploading of highly inductive test objects
- Discharging time 1/10 of the uploading time
- Two measuring channels
- Connector for tap changer control
- Connector for external start button
- Connector for external PT100 temperature sensor
- Connector for safety fence contact and warning light
- Build in data storage for up 1000 single measurements
- Build in thermal printer
- RS232 interface for remote control and readout of data storage
- Mains supply 85V~ to 260V~, 6.5A PFC autoranging
- Great LCD display (240*128 dots) with backlight
- Robust compact carring case for field use (490*400*190mm)
- Lightweight (approx. 15kg or 33lbs)
- Safety and EMC : CE, IEC-1010-1, EN55022 B, EN61000-3-2.-3, ENV50204

HIGH PRECISION RESISTANCE METERS MICRO-OHMMETERS

tinsley
PRECISION INSTRUMENTS

The discharging circuit of the model 5896C continues operating in the case of supply voltage failure.

The model 5896C can be supplied with a standard ac-line outlet (85VAC to 260VAC, 6.5A, 45..65Hz, PFC autoranging).

The model 5896C supports two separate measuring channels (e.g. HV and LV).

Each channel can be connected to the test object according to Kelvin (4-pole) method. Primary (HV) and secondary (LV) windings of a transformer for example connected in series can be measured simultaneously (DUAL-mode) using both channels of the 5896C to perform measurements on a saturated core with only a few secondary windings.

The model 5896C generates it's measuring current using a highly stable low noise voltage source with an electronic regulated internal resistance. This design guarantees outstanding stable measurement results even on high inductive test objects.

Output current and voltage can be limited to lower values than the maximum values to permit measurements of smaller sensitive test objects.

The measuring results are displayed on a large LCD screen with backlight. The model 5896C offers build-in data storage, a thermal printer permits hardcopies of test-results in the field and a RS232C interface allows the complete remote control of the instrument.

The model 5896C supports heat-up measurements with automatic calculation of the resistance at the time of disconnecting the load from the test transformer. (start of cooling down)

A PT100 temperature sensor connected to the 5896C supports the direct display of the resistance of the test object at 20°C or 23°C in conjunction with a selectable temperature coefficient (TC) for copper or aluminium. The manual input of the test object temperature is also possible for this purpose just as the possiblity to enter unusual temperature coefficients TC between -9.99%/K and +9.99%/K for alloys.

Connectors for an external warning light, a safety fence input for automatic shutdown of a running measurement and a connector for an external start-button completes the equipment of the model 5896C.

The model 5896C instrument detects invalid connections to the test object or external voltages at test object automatically. A tap changer can be automatically controlled by the instrument while detecting faulty behavior during switching between two taps.

SECURITY FEATURES

- Discharge circuit continues working even on power fail
- External warning lamp (optional) indicates running measurement
- Input for safety fence contact aborts running measurement immediately when opening the fence

Detected measurement errors:

- Disconnected current lead(s)
- Disconnected sense lead(s)
- Invalid sense leads connections
- Faulty tap-changer contacts

CONTACT US

1 Warner Drive
Springwood Industrial Estate
Braintree, Essex
CM7 2YW

Tel: 01376 335271
E-mail: info@tinsley.co.uk

www.tinsley.co.uk

tinsley
PRECISION INSTRUMENTS

SPECIFICATIONS

Resistance Range	20 mW (10-60A) to 6 kW (10mA)
Resolution	0.01 mW e.g. 150.01 mW (4-1/2 digit)
Accuracy	+/- 0.1% Rdg +/- 5 digit
Max.	Voltage 60V pure DC (Noise < 10 mVpp)
Max. Current	60A pure DC
Selectable max. current	10 mA to 60 A, limited by total resistance (cable + object)
Measuring time	extrem short due to very fast uploading with 60V
Discharge time	typ. 1/10 of uploading time
Measuring inputs	2 Current, 4 potential (2 channels)
Temperature input	Connector for PT100 (calculation to 20/23°C for Cu or Al)
Tap changer	Connector for Automatic up/down control
Warning system	Connector for Red/green separate lamp
External Start	Connector for Measurement start via ext. contact
External Current supply	Connector for controlling currents up to 600 A, automatically extends range down to 2 mW (resolution 0.001 mW = 1 nW)
Mains	85 to 260 VAC, 6.5A, PFC Autoranging
Display	LCD 240 x 128 with backlight
Interface	RS232C
Printer	build in thermal printer
Test storage	up to 1000 results
Environment operating	-10°C to 50°C
Environment storage	-30°C to 60°C
Environment humidity	0 ... 90% relativ max., non condensing
Size	490 x 400 x 190 mm (WxDxH, mobile ABS rugged case) (without cables)
Weight (without cables)	approx. 15 kg without cables
Safety and EMC	CE, IEC-1010-1, EN55022 B, EN61000-3-2.-3, ENV50204

ISSUE: UK1

HIGH PRECISION RESISTANCE METERS
MICRO-OHMMETERS