



REVISIONS

DOC. NO. SPC-F004 * Effective: 7/8/02 * DCP No: 1398

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1190	A	RELEASED	JWM	10/13/03	HO	10/17/03	DJC	10/17/03



Features

- High basic accuracy of 0.1%
- Wide measurement range of 1 micro ohm to 20kohm
- Current reversal switch for detecting thermal emf effects
- Current diversion switch for easy zero setting
- Four terminal measurement using Kelvin clip leads
- Battery operation with built-in charger
- Switchable 20mV clamp for 'dry circuit' testing

SPC-F004.DWG

TOLERANCES: UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.	DRAWN BY:	DATE:	DRAWING TITLE:			
	Jeff McVicker	10/13/03	Precision Micro-Ohmmeter			
	CHECKED BY:	DATE:	SIZE	DWG. NO.	ELECTRONIC FILE	REV
	Hisham Odish	10/17/03	A	72-7400	01H9899.dwg	A
	APPROVED BY:	DATE:	SCALE: NTS		U.O.M.: Millimeters [Inches}	SHEET: 1 OF 2
	Daniel Carey	10/17/03				

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RANGES and ACCURACY

Accuracies apply over a temperature range of 18°C to 28°C after a warm-up period of 30 minutes, and with the test connections in thermal equilibrium. Specified accuracy applies for a period of one year

Range	Resolution	Test Current	F.S. Voltage	Accuracy
1999 $\mu\Omega$	1 $\mu\Omega$	250 mA	500 μV	$\pm 0.1\%$ reading $\pm 0.4\%$ scale
19.99 m Ω	10 $\mu\Omega$	50 mA	1 mV	$\pm 0.1\%$ reading $\pm 0.2\%$ scale
199.9 m Ω	100 $\mu\Omega$	10 mA	2 mV	$\pm 0.1\%$ reading $\pm 0.1\%$ scale
1999 m Ω	1 m Ω	5 mA	10 mV	$\pm 0.1\%$ reading $\pm 0.1\%$ scale
19.99 Ω	10 m Ω	500 μA	10 mV	$\pm 0.1\%$ reading $\pm 0.1\%$ scale
199.9 Ω	100 m Ω	50 μA	10 mV	$\pm 0.1\%$ reading $\pm 0.1\%$ scale
1999 Ω	1 Ω	50 μA	100 mV	$\pm 0.1\%$ reading $\pm 0.1\%$ scale
19.99 k Ω	10 Ω	10 μA	200 mV	$\pm 0.1\%$ reading $\pm 0.2\%$ scale

FACILITIES

20mV Clamp

Operated by front panel switch. Limits the open circuit voltage across the unknown to 20mV (+0mV, -4mV) for "dry circuit" testing of switch and relay contacts. Not available on the 2000. and 20k. ranges.

Reverse Polarity

Operated by front panel switch. Reverses the polarity of the test current, enabling thermal emf effects to be detected and quantified.

Set Zero

Operated by non-latching front panel switch and rotary offset control. Diverts the test current way from the unknown allowing zero adjustment to be undertaken with the test leads in place.

MEASUREMENT SOURCE

Source EMF: 18 mV $\pm$ 2mV with 20mV Clamp Active
<6V with 20mV Clamp Inactive

Compliance: >1V (> 0.5V on 1999 $\mu\Omega$ range). *Compliance is the maximum voltage that can be tolerated from additional resistance in series with the force connections*

PROTECTION

The instrument is protected against the back-emf of its own test current from any inductance.

The instrument is protected against external voltage sources delivering up to one amp.

Protection against greater abuse is provided by non-flamable fusible resistors.

POWER SOURCE

Battery

Four internal Ni-MH cells (non removable). Operating time depends upon the test current flowing - >150 hours with no test current, > 8 hours with maximum test current (1999 $\mu\Omega$ range). Low battery indication in display.

AC Line

Built-in battery charger allows instrument operation while re-charging.

Nominal re-charge time 16 hours.

GENERAL

Display: 3.5 digit LCD with 12.5mm characters.

Casing: ABS casing with metal tilt stand giving approx. 15° angle.

Power: 230V or 115V $\pm 14\%$ 50/60Hz, adjustable internally;

20VA max. Installation Category II.

Operating Range: +5°C to +40°C, 20% to 80% RH.

Storage Range: -10°C to +65°C

Environmental: Indoor use at altitudes to 2000m, Pollution Degree 2.

Electrical Safety: Complies with EN61010-1.

EMC: Complies with EN61326.

Size: 220(W) x 82(H) x 230(D) mm, (10.3 x 3.4 x 9.2")
excluding feet and tilt stand.

Weight: 1.3 kg (3lb).

ACCESSORIES

SUPPLIED

Supplied with Kelvin Test Clip Leads, Operating Manual, IEC Mains Lead