## **SPECIFICATIONS**

RANGE	RESOLUTION	ACCURACY (1 YEAR) 18°-28°C ±(%rdg + counts)†	ANALOG RISE TIME (10 -90%)	NORMAL MODE REJECTION RATIO (50 or 60Hz)	MAXIMUM CONTINUOUS INPUT‡
2 nA	0.1pA	0.4 + 4	60ms	70dB	350Vdc
20 nA	1 pA	0.4 + 1	60ms	70dB	350Vdc
200 nA	10 pA	0.2 + 1	6ms	65dB	350Vdc
2 μΑ	100 pA	0.15 + 1	3ms	65dB	350Vdc
20 μΑ	1 nA	0.1 + 1	3ms	65dB	50Vdc
200 μΑ	10 nA	0.1 + 1	1ms	65dB	50Vdc
2mA	100 nA	0.1 + 1	1ms	55dB	50Vdc

INPUT VOLTAGE BURDEN: Less than 200µV.

RANGING: Manual or autoranging.

AUTORANGING TIME: Average 250ms per range.
SETTLING TIME AT DISPLAY: Less than 1 second to within 2 counts on

fixed range

**CONVERSION PERIOD: 300ms.** 

TEMPERATURE COEFFICIENT (0°-18°C & 28°-50°C): ±(0.1 × ap-

plicable accuracy specification) per °C.

MAXIMUM COMMON MODE VOLTAGE: 30V rms, DC to 60Hz sine

**ANALOG OUTPUT:** 

Output Voltage: +1V = -10000 counts, except +100mV = -10000counts on 2nA range.

Output Resistance: 1000Ω.

REL: Pushbutton allows zeroing of on range readings. Allows relative readings to be made with respect to baseline value. Front panel annunciator indicates REL mode.

DATA STORE and MIN/MAX: 100 reading storage capacity; records data at one of six selectable rates from 3 readings/second to 1 reading/hour, or by manual triggering. Also detects and stores maximum and minimum

readings continuously while in the data store mode.

LOG: Displays logarithm (base 10) of the absolute value of the measured current (examples:  $-3.000 = \pm 1 \text{mA}$ ;  $-6.301 = \pm 0.5 \mu \text{A}$ ).

## IEEE-488 BUS IMPLEMENTATION (Option 4853)

MULTILINE COMMANDS: DCL, SDC, GET, GTL, UNT, UNL, SPE, SPD. UNILINE COMMANDS: IFC, REN EOI, SRQ, ATN. INTERFACE FUNCTIONS: SH1, AH1, T5, TEO, L4, LEO, SR1, RL2,

PP0, DC1, DT1, C0, E1.

PROGRAMMABLE PARAMETERS: Zero Check, Range, REL, LOG, Trigger, Calibration, EOI, SRQ, Status, Output Format, Terminator.

## **GENERAL**

DISPLAY: 4½ digit LCD, 0.5" height; polarity, range and status indication. OVERRANGE INDICATION: "OL" displayed.

CONNECTORS:

Input: BNC.

Analog Output: Banana Jacks.

OPERATING ENVIRONMENT: 0-50°C, less than 70% R.H. up to 35°C;

linearly derate 3% R.H./°C up to 50°C.

STORAGE ENVIRONMENT: -25° to +60°C POWER: 105-125V or 210-250V (switch selected), 90-110V available,

50-60Hz. 12 VA

Mandal 4040

DIMENSIONS, WEIGHT: 85mm high  $\times$  235mm wide  $\times$  275mm deep. (3\%"  $\times$  9\%"  $\times$  10\%").

Net Weight: 1.8kg (4 lbs.)

## ACCESSORIES AVAILABLE:

Model 1010:	Single Hack Mounting Kit
Model 1017:	Dual Rack Mounting Kit
Model 1684:	Hard Shell Carrying Case
Model 1758:	Rechargeable Battery Pack
Model 4801:	Low Noise Input Cable (4ft.), BNC to BNC
Model 4803:	Low Noise Cable Kit
Model 49E2	IEEE 400 Interface

Model 7008-3: IEEE-488 Digital Cable (3ft.) Model 7008-6: IEEE-488 Digital Cable (6 ft.) Model 8573: IEEE-488 Interface for IBM PC

<sup>†</sup> When properly zeroed. ‡ With no limiting resistance: 1000Vdc with external 100k $\Omega$  series resistance.