



AP-101 3 1/2 DIGIT, DC PANEL METER

DC Voltage Measurement

Model	Range	Input Impedance	Input Protection
AP-101-11	±199.9mV	100M Ω	±250V
AP-101-12	±1.999V	100M Ω	±250V
AP-101-13	±19.99V	10M Ω	±250V
AP-101-14	±199.9V	10M Ω	±500V

Accuracy: ±0.1% rdg ± 1 digit (23°C ±5°C),

DC Current Measurement

Model	Range	Internal Resistance	Input Protection
AP-101-21	±199.9μA	1K Ω	±10mA
AP-101-22	±1.999mA	100 Ω	±50mA
AP-101-23	±19.99mA	10 Ω	±150mA
AP-101-24	±199.9mA	1 Ω	±500mA
AP-101-25	±1.999A	0.1 Ω	±3A

Accuracy: ±0.2% rdg ±1 digit (23°C ±5°C) (±0.3% rdg ±1 digit only for AP-101-25)

Specifications

Input Configuration: Single ended
Input Bias Current: 50PA (Typ.)
Conversion Rate: 2.5/sec
Normal Mode Rejection: Typ. 40dB (50/60Hz)
Zero Stability: Automatic Zero Adjustment
Display: 3 1/2 digit, LED, 14.2mm (.56")
Polarity: A "-" is displayed automatically
Decimal Point: Settable to any digit position
Overrange Indication: 1999 or -1999 flashes
External Control: Hold/Start and decimal points
Power Supply: 90 ~ 132VAC, 180 ~ 264VAC (Typ.)
 5VDC ±5% 90mA (Typ.)
 24VDC ±20% 20mA (Typ.)
Operating Temperature: 0 ~ 50°C
Power Consumption: 1.5VA
Weight: 150g, 5.25 oz. (AC), 85g, 2.98 oz. (DC)
Dielectric Strength:
AC Type: Between input (Lo) terminal and earth 500VDC
 Between power supply terminal and input terminal, earth, common, case, 1500VAC/1 min.
DC Type: Between input (Lo) and power supply (0V), ±500VDC
Insulation Resistance: 500VDC 100MΩ at above terminals
Size: 48mm (H) x 96mm (W) x 73mm (D)
 1.89" (H) x 3.78" (W) x 2.87" (D)
Accessories: Connector and manual included.

ORDERING GUIDE

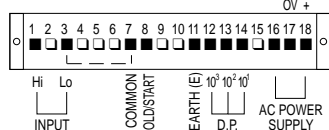
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Power	1	2	3	4
	90 ~ 132 VAC	180 ~ 264 VAC	+5VDC (Isolated)	+24VDC (Isolated)

Range Code	11	12	13	14	21	22	23	24	25
	± 199.9mV	± 1.999V	± 19.99V	± 199.9V	± 199.9μA	± 1.999mA	± 19.99mA	± 199.9mA	± 1.999A

Special Scaling also available

CONNECTION DIAGRAM (Solder Connection)



AP-102 3 1/2 DIGIT, DC PANEL METER

DC Voltage Measurement

Model	Range	Input Impedance	Input Protection
AP-102-10	±19.99mV	100M Ω	±250V
AP-102-11	±199.9mV	100M Ω	±250V
AP-102-12	±1.999V	100M Ω	±250V
AP-102-13	±19.99V	10M Ω	±250V
AP-102-14	±199.9V	10M Ω	±500V

Accuracy: ±0.1% rdg ± 1 digit (23°C ±5°C)

DC Current Measurement

Model	Range	Internal Resistance	Input Protection
AP-102-21	±199.9μA	1K Ω	±10mA
AP-102-22	±1.999mA	100 Ω	±50mA
AP-102-23	±19.99mA	10 Ω	±150mA
AP-102-24	±199.9mA	1 Ω	±500mA
AP-102-25	±1.999A	0.1 Ω	±3A

Accuracy: ±0.2% rdg ±1 digit (23°C ±5°C)
 ±0.3% rdg ±1 digit only for AP-102-25

Specifications

Input Configuration: Single ended
Input Bias Current: 50PA (Typ.)
Conversion Rate: 2.5/sec or 12.5/sec (50Hz), 15/sec (60Hz)
Normal Mode Rejection: More than 40dB (50/60Hz)
Zero Stability: Automatic Zero Adjustment
Display: 3 1/2 digit, LED, 14.2mm (.56")
Polarity: A "-" is displayed automatically
Decimal Point: Settable to any digit position
Overrange Indication: 1999 or -1999 flashes
External Control: Hold/Start and decimal points
Power Supply: 90 ~ 132VAC, 180 ~ 264VAC, 5VDC ±5%
Operating Temperature: 0 ~ 50°C
Power Consumption: 1.5VA
Weight: 150g, 5.25 oz. (AC), 85g, 2.98 oz. (DC)
Dielectric Strength:
AC Type: Between input (Lo) terminal and earth 500VDC
 Between power supply terminal and input terminal, earth, common, case, 1500VAC/1 min.
DC Type: Between input (Lo) and power supply (0V), ±500VDC
Insulation Resistance: 500VDC 100MΩ at above terminals
Output:
Data: Isolated parallel BCD 1-2-4-8 (positive logic)
Polarity: Logic "1" for positive (+) input voltage, TTL level fan out 2
Print Command: 1ms width positive pulse when measurement is finished, TTL level fan out 2
Overrange: Logic "1" when indication is over 1999 due to overrange input, TTL level fan out 2
Size: 48mm (H) x 96mm (W) x 73mm (D)
 1.89" (H) x 3.78" (W) x 2.87" (D)
Accessories: 2 Connectors and manual included.

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Output	1	2	6
	Display Only (2.5/Sec)	BCD (2.5/Sec)	BCD (12.5/Sec 50Hz) (15.0/Sec 60Hz)

Power	1	2	3
	90 ~ 132 VAC	180 ~ 264 VAC	+5VDC (Isolated)

Range Code	10	11	12	13	14	21	22	23	24	25
	± 19.99mV	± 199.9mV	± 1.999V	± 19.99V	± 199.9V	± 199.9μA	± 1.999mA	± 19.99mA	± 199.9mA	± 1.999A

Special Scaling also available

CONNECTION DIAGRAM (Solder Connection)

