



Technical Data Sheet

BIG-VUE Series Meter



The moving iron & moving coil panel meters sizes 2^{1/2}" , 3^{1/2}" are housed in a molded polycarbonate cases which are suitable for the measurement of AC & DC ammeters & voltmeters utilizing a high torque pivot and jewel movement.

Special Features

- Surface mounting.
- Near linear scale.
- Glass filled polycarbonate housing (UL 94 V-0).
- Compact case sizes.

Application

The BIG-VUE range of analog panel meters offers accurate measurement and indication of most electrical & electronic parameters in industry standard 2 1/2", 3 1/2" case sizes.

A range of short scale panel meters that comply with Internationally recognized specifications. Their rugged design will suit demanding environmental applications.

Functional Areas

- Switchgear
- Distribution systems
- Control panels
- Generator sets
- Energy management
- Building management
- Utility power management
- Process control
- Motor monitoring

Features

- Two case sizes available : 2 1/2", 3 1/2" inches
- Dust and water jet protected to IP54
- Withstands high levels of shock, vibration, dirt and humidity.
- UL approved.
- Instruments comply with EN61010-1 and meets IEC414 Dielectric Test.
- Complies with international standards : IEC51 (EN60051) or ANSI-C39.1

Benefits

- AC moving iron and moving coil mechanisms.
- ANSI standard case sizes.

Operation

Moving Coil Meter

These meters offer a center cored, self shielding moving coil movements using pivots, hairspring and spring jewels. Variations in movement are limited by design. All DC voltmeters are 1000 ohms per volt, moving coil rectified products run at 900 ohms per volt. Millivolt meter use the 5 milliamp/50mV resistance.

Moving Iron Meter

This clapper type repulsion design utilizes a pivot, hairspring and jewel movement. The bottom jewel is oil filled to provide damping while the top is spring for resilience. All voltmeters are manufactured with internal voltage dropper resistor.

Frequency Meter

N/A

Dials, Pointers and Scales

Standard dials are matt white black printed scales and a tubular knife- edge black are balanced within 1% of scale length and feature a highly repeatable flattened arc scale shape, ensuring consistently accurate measurement reading. Options for non standard customer specific dials are available upon request.

Technical Specifications

Applicable Standards

Terminal bolts/leads	DIN 46200/46282
Safety requirements and protective measures for Electrical indicating instruments and their accessories	IEC 529, IEC 61010-1
Performance specifications for direct acting indicating analogue electrical measuring instruments and their accessories	IS 1248 IEC 51 ANSI C39.1 1981
UL Compatibility	UL 94 V-0

Comply with following European directives

2004 / 108 / EC (EMC directive), 2006 / 95/EC (low voltage directive) & amendment 93/68/EEC, For CE Marking.

Scale and Pointer

Pointer	Spear	
Pointer deflection	90°	
Scale division	Coarse - fine	
Scale length	B250	B350
	50.61 mm	64.76 mm

Mechanical Data

Case details	Molded case suitable for mounting in Control / switchgear panels Machinery consoles.
Case material	Polycarbonate , flame retardant and drip proof as per UL 94 V-0.
Front window	Polycarbonate (transparent)
Color of case	Black
Position of use	Vertical
Panel fixing	Fixing Stud
Panel thickness	≤ 10 mm
Balance	1%

Terminals

Voltmeters and Ammeters & Frequency meters	Terminal 10-32 UNF, Washer 10-32
Fixing	Surface mounting with 3 studs 4-40 UNC studs.

UNF = Unified Nation Fine Thread.

UNC = Unified Nation Course Thread.

Nominal Range of use

Ambient Temperature	0 ...40 °C
Position of use	Vertical ± 5°
Frequency	FN ± 10%
External Magnetic Field	At 0.4 kA/m

Reference Conditions

Accuracy	According to IEC 51/DIN EN 60051
DC Ammeters & Voltmeters	2% 0 to 100% of full scale deflection
AC Ammeters & Voltmeters	See Note 1 on page 3.
Ambient temperature	23 C ± 2°C
Position of use	Nominal position ±1°
Input Waveform	Rated value of measured quantity sine wave, distortion factor ≤ 5%
Frequency	45 - 65 Hz
Other Conditions	IEC 51/DIN EN 60051

Electrical Data

Elapsed Time Meter and Frequency Meter are not available in the Big-Vue Series.

See our Simpson Catalog for this type of meters.

Moving Iron A.C. Ammeters & Voltmeters

Accuracy Class	2
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Overload

Ammeters	x 1.2 for 2 Hours x 10 for 5 Sec
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Voltmeters	x 1.2 for 2 Hours x 2 for 5 Sec
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Moving Coil D.C. Ammeters & Voltmeters

Accuracy Class	2
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Environmental Conditions

Climatic Suitability	Climate category II as per IEC 60051 (Climatic class 3 according to VDE/VDI 3540)
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Operating Temperature	0°C... + 40°C
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Storage temperature	- 20°C ...+55°C
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Relative humidity	25% to 80% nominal range of use
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Shock resistance	15 g. for pulse duration 11ms
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Vibration resistance	ANSI C39.1 cl. 5. 13
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Standard Measuring Ranges

DC moving coil Ammeters	1 to 500 A
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DC moving coil Voltmeters	5 to 500 V *
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AC moving coil Voltmeters	150 or 600 V
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AC moving iron Ammeters	10 to 1000 A
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Safety Precautions

- 1) Instruments with damaged window or glasses must be disconnected from the mains.
- 2) Adequate safety clearance must be maintained to control panel fasteners and to sheet metal housing. If non - insulated connector wires are used.
- 3) Instruments to be used in grounded panel.

NOTE:

* = Meter is not UL listed.

Ordering Information

A.C. AMMETER (Require CT)		
	Model / Size and Catalog Number	
Range	2-1/2" Model B250	3-1/2" Model B350
0-10	47202	47215
0-25	47203	47216
0-50	47204	47217
0-75	47205	47218
0-100	47206	47219
0-150	47207	47220
0-200	47208	47221
0-300	47209	47222
0-400	47210	47223
0-500	47211	47224
0-600	47212	47225
0-750	47213	47226
0-1000	47214	47227

See www.simpsonelectric.com/accessories to see Donut Current Transformer.

D.C. Volts (Not UL listed)		
	Model / Size and Catalog Number	
Range	Impedance	3-1/2" Model B350
0-5	5K	47243
0-10	10K	47244
0-12	12K	47245
0-15	15K	47246
0-25	25K	47247
0-30	30K	47248
0-50	50K	47249
0-100	100K	47250
0-150	150K	47251
0-200	200K	47252
0-250	250K	47253
0-300	300K	47254
0-500	500K	47255

D.C. AMMETERS (Require Shunt)		
	Model / Size and Catalog Number	
Range		3-1/2" Model B350
0-1		47228
0-1.5		47229
0-2		47230
0-3		47231
0-5		47232
0-10		47233
0-15		47234
0-25		47235
0-30		47236
0-50		47237
0-100		47238
0-150		47239
0-200		47240
0-300		47241
0-500		47242

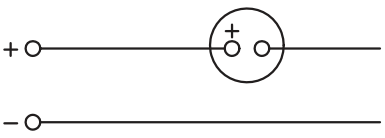
See www.simpsonelectric.com/accessories to see Current Shunts.

A.C. AMPERES (Self Contained)		
	Model / Size and Catalog Number	
Range	2-1/2" Model B250	3-1/2" Model B350
0-5	47256	47257

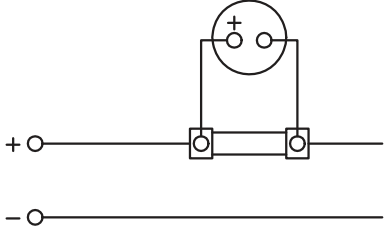
AC Volts		
	Model / Size and Catalog Number	
Range		3-1/2" Model B350
0-150		47200
0-600		47201

Electrical Connections

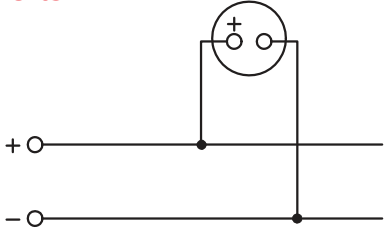
DC Amps



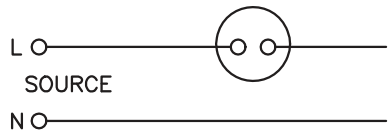
DC Amps - For use with external shunt



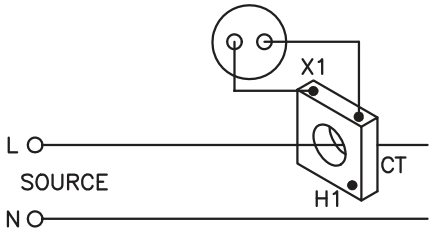
DC Volts



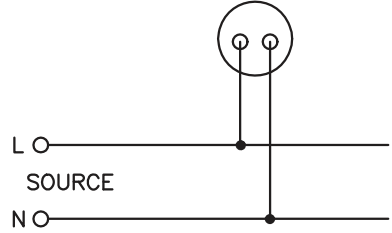
AC Amps - Self Contained



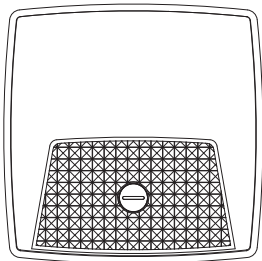
AC Amps - For use with Current Transformer



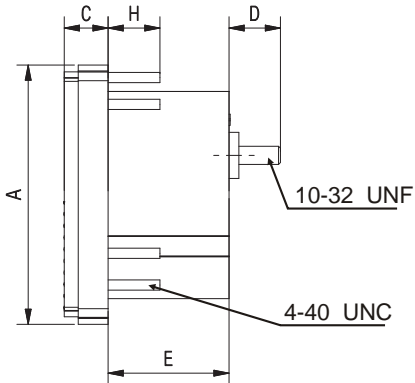
AC Volts



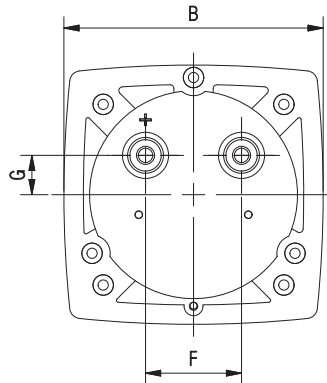
Dimensions



FRONT VIEW



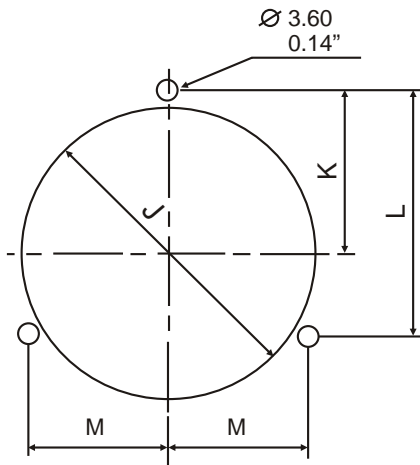
SIDE VIEW



BOTTOM VIEW

PANEL CUTOFF :-

Specify the No. of fixing studs while ordering



STUD POSITION FOR THREE FIXING STUDS

	A	B	C	D	E	F	G	H	J	K	L	M
2 ½ mm	68.6	68.6	11.6	14.6	32.0	25.4	10.4	13.72	55	31	46.5	26.9
Inch	2.70	2.70	0.46	0.58	1.26	1.00	0.41	0.54	2.16	1.22	1.83	1.06
3 ½ mm	88.9	88.9	11.6	14.6	35.7	25.4	10.4	13.72	69	40.2	60.3	34.8
Inch	3.5	3.5	0.46	0.58	1.4	1.00	0.41	0.54	2.71	1.58	2.37	1.37

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