



Powering Control Solutions

Technical *Datasheet*

Moving Iron meter HL and SD series



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Application

Eutroniks's HL and SD series analog meters are used for measuring electrical parameters and showing data, which include AC DC current and voltage, Frequency, Power Factor, Power, Phase, Maximum demand and a other electrical parameters.

Electrostatic Elimination

In order to maximum reduce the electrostatic influence, all instruments experienced electrostatic elimination post production.

Terminal Protection

For safety consideration, Meter s come with connector base cover to be used at the rear of each meter.



Pointer Angle

Right angle 90° and 240° and 250° wide angle three kinds of indication angle.

Zero Adjustment

All instruments zero adjustments from the front, adjusting the zero position.

The Flexibility using of Instruments

Inserting or take out dial freely by open the sealing strip. The AC meters' dial can be changeable with same accuracy class if the secondary current shares the same internal value. The DC meters' dial can only be changeable with same accuracy class if based on the same shunt output electric

The Dial

The standard dial is usually made of combined aluminum, white (or milk white) base color with black UV ink printing. Unless otherwise stipulates the dial scale and colored ink as per customer's request.

Glass

The cover glasses of meters could be used of High-definition, Anti-dazzling, Explosive-proof and Transparent PC..., etc.

Pointer

The standard of meter pointer is black and is made of combined aluminum. The pointer can also be made in blue, white and yellow..., etc.



Mounting Angle

The instrument is usually installed in a vertical position unless otherwise specified. Other positions such as horizontal or inclined boring at any specified angle to the horizon can be provided upon request. The accuracy class refers to the specified mounting angle only.



Safety Precautions

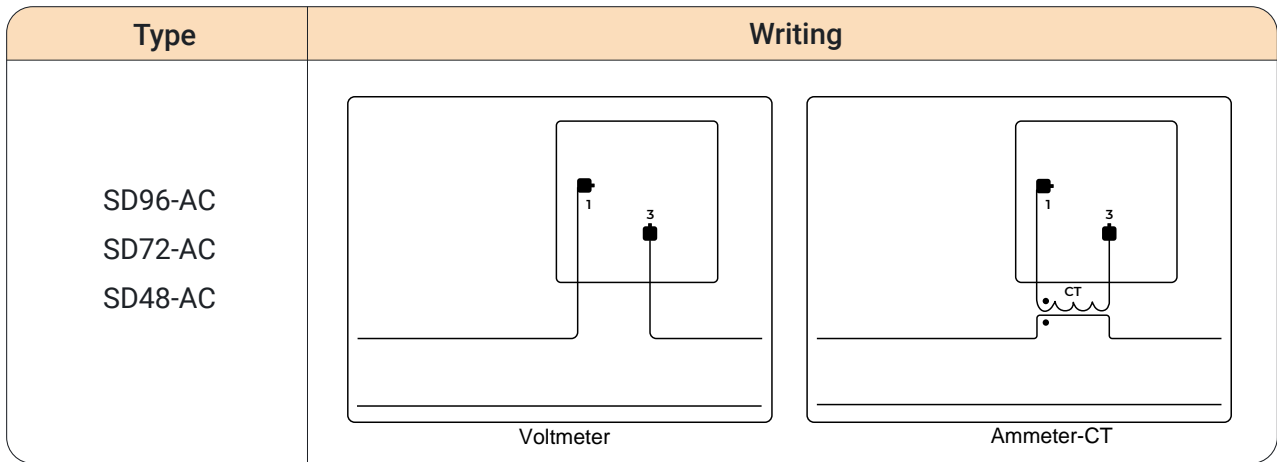
To install wiring or disassemble the instrument, be sure to turn off the power. Signs, cover boxes, and glass must be replaced in the event of a power failure.

The instrument should be kept clean and used as required by the manufacturer; otherwise, it may reduce the instrument safety protection.

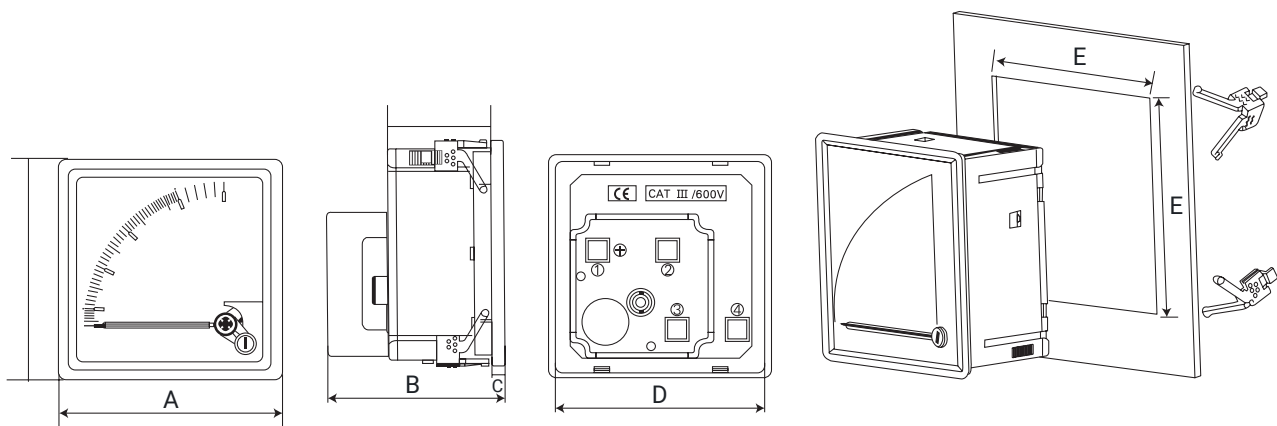
All the meters are equipped with pure white silk-screen printing dial scale. The movement is mostly made of intensive PBT plastics and high-performance magnetic components (or permanent magnet steel) so that it is anti-vibration resistant and has a good heat resistance capability.

AC Ammeter & Voltmeter Wiring

The following table means parameter value



SD Series Square Meter



Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
HL-S96 SD-S96	96	76	5.5	90.5	92
HL-S72 SD-S72	72	76	5.5	67	68.5
HL-S48 SD-S48	48	71	5.5	44.2	45

Meter Sizes (front)
both ammeter and voltmeter

SD48-T / HL48-T: 48x48mm
SD72-T / HL72-T: 72x72mm
SD96-T / HL96-T: 96x96mm

Electrical Specifications

Accuracy Class	1.5 according to IEC 60051 (Class 1 on request)
Overload	Conventional 1X and 2X 1.2X,1.5X,3X,5X and 6X on request
Insulation Test	5300V, 50Hz as per IEC61010-1
Measured Quantity	AC Voltage and Current
Enclosure IP rating	IP40 for Case (IP52, IP54, IP56 and IP65 on request for both SD and SL Series)
Power consumption for Voltmeter	< 4.5VA
Power consumption for Ammeters ≤ 15A	< 0.5VA
Power consumption for Ammeters > 15A	< 0.8 VA
Working Frequency	50Hz and 60Hz (Both available on request)

Mechanical Specifications

Cover Glass	Anti Dazzling explosion proof Polycarbonate
Case Details	SL series is made of PC material with 130° Vicat Tolerance SD series - case is made of ABS with 80°C vicate Tolerance and Base is made of PC material with 130° Vicat Tolerance
Vibration Tolerance	Complies with IEC60068-2-6 standard
Frequency range	10~55~10Hz;
Mobile Scope	±0.15mm,±0.3mm
Time of circle frequency	: 5 times
Speed Frequency	10ct/min
Max speed	147m/s ² (15g), 490m/s ² (50g)
Mechanical shock	complies with IEC60068-2-27
Mounting angle	Vertical ±°C
IP rating	IP40 for Case (IP52, IP54, IP56 and IP65 on request for both SD and SL Series

Pointer and Scale

Scale sizes	SD48: 41mm, SD72: 63mm SD96: 97mm
Pointer angle	90°, 240° and 250°
Zero Adjustment	Adjustable from Front
Scale	Interchangeable
Dial	White base with Aluminium Black UV ink Printing
Damping and Overshoot	<15% with pointer deflection at 2/3 scale
Terminal Protection	Connector Base cover at rear

Environmental and reference conditions

Ambient Temperature	23°C ± 2°C (Range 13°C to 33°C)
Operating Temperature	HL Series : -25°C - +55°C SD Series: -20°C - +40°C
Storage Temperature	-35°C to +70°C

Product Standards

Product Dimension Standards	IEC 61554:1999 and GB/T1242
Safety requirements for electrical equipment for measurement and control	GB 4793 and IEC 61010-1
Direct acting indicating analogue electrical measuring instruments and their accessories for ammeters and voltmeters.	GB/T7676-1998 and IEC60051-2
Environmental conditions, classification and methods of test	IEC60068-2-6 and IEC60068-2-7
Certifications	CE, TSE, ROHS and IP65

Technical Data for Moving Iron AC Ammeter


Part Number	HL or SD96-T-AC - " A HL or SD48-T-AC - " A HL or SD48-T-AC - " A
Input Range Direct Connection	"100mA 150mA 250mA 400mA 600mA 1A 1.5A 2.5A 3A 4A 5A 6A 10A 15A 20A 25A 30A 40A 50A 60A (N/A for SD48)
Accuracy 1.5 for 1000mA-50A and 2.5 from 60A-100A for SD96 and SD72. Accuracy 2.5 for all SD48 ranges	
Input Range CT Connected	X/1A secondary and X/5A secondary

Technical Data for Moving Iron AC Ammeter

Part Number	HL or SD96-T-AC - " V HL or SD48-T-AC - " V HL or SD48-T-AC - " V
Input Range Direct Connection	6V 10V 15V 25V 40V 60V 100V 120V 132V 150V 200V 250V 300V 400V 500V 600V (N/A for SD48) 750V (N/A for SD48) 1000V (N/A for SD48)
Input Range with PT	X/100V secondary & X/110V secondary



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