



Ziegler

Redefine Innovation Metering



Moving Iron Panel Mount Analog Meters With Interchangeable Scales



DE 48

DE 72

DE 96

DE 144

For Voltage-AC Voltmeter
For Current-AC Ammeter
with TRUE EFFECTIVE VALUE



Available in both AC, Current & Voltage type, they come in standard size of 48x48, 72x72, 96x96 & 144x144mm

GENERAL FEATURES:

APPLICABLE STANDARDS	
Performance specifications for direct acting indicating analogue electrical measuring instruments and their accessories	IEC51/DINEN60051 DIN 43701
Scale and pointer for electrical measuring instruments	DIN 43802
Nominal case and cutout dimensions for indicating Electrical instruments	DIN 43700
Connections and Terminal markings for panel meters	DIN 43807
Terminal bolts / leads,	DIN 46200/46282
Principle Dimensions & Front frames for indicating measuring instruments	DIN 43718
Safety requirements and protective measures for Electrical indicating instruments and their accessories.	DIN 40050/6-70, VDE 0110/ 11-72 VDE 0410/ 10-76 IEC 529 , IEC 1010
Enclosure code	IP 52 (standard) IP 65(on req.) IP 54 (on request) casings
UL combustibility class	UL 94 V-0
Compliance with European Directives	89/336/EEC (EMC directive) 73/23/EEC (low voltage directive) & amendment 93/68/EEC, for CE Marking
OVER RANGE	
Ammeters	2 times nominal current
Voltmeters for use on voltage transformers	1.2 times nominal voltage
Insulation class	Group A according to VDE 0110
Installation category	CAT III 600 V (IEC 61010)
Insulation Resistance	>50MΩ at 500 V DC

FACT SHEET:

Casing Details	Moulded square case suitable for mounting in control / switchgear panels, Machinery consoles	
Case Material	Glass filled polycarbonate, Flame retardant & drip proof as per UL 94 V0	
Front Facia	Glass Antiglare Glass (on request) Polycarbonate/transparent(on request)	
Color of Bezel	Black Red/Yellow/Blue/White (on request)	
Position of use	Vertical	
Panel Fixing (mountable in a single cutout)	Metal side clamps leaf springs	
Panel thickness	40mm	
Terminals	Voltmeter& Ammeter 30A	HEX STUD M4 screws and wire clamp
	Voltmeter& Ammeter >30A	Threaded studs M6 with nuts
	Voltmeter& Ammeter >80A	Threaded studs M8 with nuts
Pointer	Knife-edge pointer	
Pointer deflection	0-90°	
Scale characteristics	Nearly linear above10% of nominal full scale value	
Scale divisions	Coarse & fine	
POWER CONSUMPTION :		
Voltmeter	< 4.5 VA	
Ammeter	<15A - < 0.5 VA >15A - <0.8 VA	
Accuracy class	1.5 according to IEC 60051	

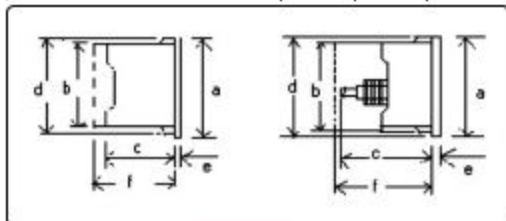


TECHNICAL SPECIFICATIONS:

Model	Unit	DE 48	DE 72	DE 96	DE 144
Front Facia	mm	48x48	72x72	96x96	144x144
Approximate weight	kg	0.10	0.16	0.20	0.40
AC Ammeter CT operated	A		1A, 5A		
AC Ammeter Direct measurement	A	100mA-60A	100mA-100A		
AC Voltmeter	V	6V-600V	6V-750V		
Rated insulation voltage	V	660V	1000V		
Proof voltage	V	2kV	3kV		

OVERLOAD CAPACITY:

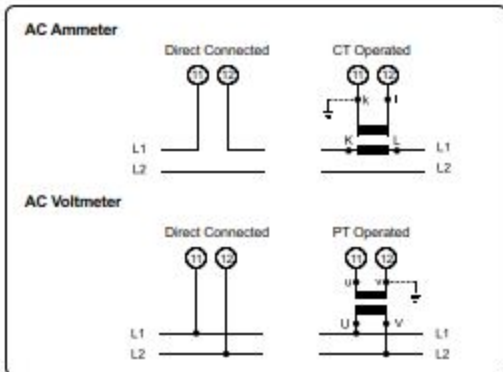
Continuous		1.2 x rated voltage/current			
Short duration Voltmeter		2 x rated voltage, 5sec. max. 10 x rated current, 5sec. max.			
Ammeter	5sec	10 times (200A max.)	10 times		
	1sec	-----	40 times (250 A max.)		
Scale length	mm	41	63	97	148



Dimensions (in mm)		DE 48	DE 72	DE 96	DE 144
Bezel	a	48	72	96	144
Case	b	43.5	66	90	138
Depth	c (<30A)	53	53	53	53
	(>30A)	62	62	62	62
	(>60A)	67	67	67	67
	d	44.5	67.5	91.5	137.5
	e	5.5	5.5	5.5	5.5
Cutout Size		45 ^{+0.6}	68 ^{+0.7}	92 ^{+0.8}	138 ⁺¹
Depth with back cover: f**		64	64	64	64
	(30-60A)	70	70	70	70

** f=75mm, for DE 48 I > 30 A

CONNECTION DIAGRAMS:



ORDERING INFORMATION

Please specify ordering information as given below.

Type	Size	Measured Qty	Measuring Range/Input	Over Range	Scale	Options
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ORDER EXAMPLE

DE	72	Ammeter	100/5A	x 2	100A	with back cover
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