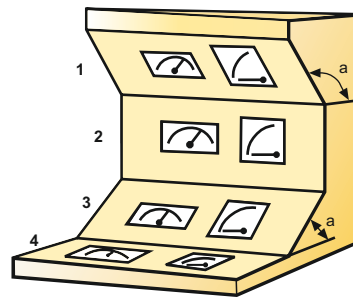


GENERAL FEATURES

Standards	EN60051, VDE 0410, BS-89, EN50081, EN50082, EN61010
Certifications	ISO 9001-2008 DET NORSKE VERITAS, BUREAU VERITAS GERMANISCHER LLOYD (relay)
Casings	IEC 61554 72x72, 96x96, 144x144, 80x64, 105x80, 130x100 MODULAR (for DIN rail)
Scales	Full scale value, DIN 43701 Scale division, DIN 43802
Pointers	DIN 43802

1	$a > 90^\circ$
2	\perp
3	$a < 90^\circ$
4	\square



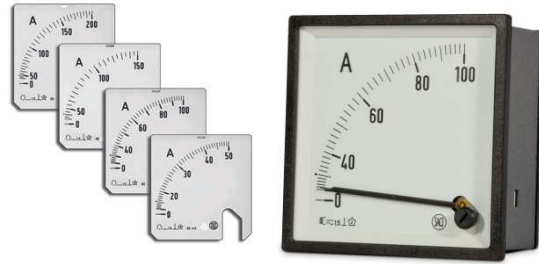
Overloads	1.2 Vn continuous, 2 Vn 5 s 1.5 In continuous, 5 In 30 s, 10 In 5 s, 40 In 1 s
Vibration resistance	VDE 0410, Section 27: 2.5 g, ± 0.25 mm, 50 Hz
Shock resistance	VDE 0410, Section 28: 15 g
Operating temperature	-25°C..+40°C
Reference temperature	+10°C..+30°C (for accuracy class)
Test voltage	2kV, 50 Hz, 1 min.
Tropicalization	DIN 40040 (on request)
Protection	IP52, (IP54, IP65 on request) casings IP00, (IP20 on request) terminals

MOVING IRON

Voltage and alternating current. True effective value.

AMMETERS (INTERCHANGEABLE SCALE)

- Measuring range: x/1 A, x/5 A
- Scale: 90°
- Accuracy: 1,5 %
- Frequency: 15..100 Hz
- Burden: 0,4 VA



Model		EC5VR	EC5V	EC4V	EC3V
Dimensions	mm	45x52,5 DIN RAIL	48x48	72x72	96x96
Approx. weight	kg.	0,15	0,14	0,20	0,25
CT OPERATED AMMETERS (INTERCHANGEABLE SCALE)					
Module		X/5A or X/1A			
Standards scales	In	10; 15; 20; 25; 30; 40; 50; 60 or 75 A and multiples			
Module		2X/5A or 2X/1A			
Standards scales	2xIn	10..20; 15..30; 20..40; 25..50; 30..60; 40..80; 50..100; 60..120 or 75..150 A and multiples			
Module		5X/5A or 5X/1A			
Standards scales	5xIn	10..50; 15..75; 20..100; 25..125; 30..150; 40..200; 50..250; 60..300 or 75..375 A and multiples			

DIRECT INPUT AMMETERS

- Scale: 90°
- Accuracy: 1,5 %
- Frequency: 15..100 Hz
- Burden: 0,3..1 VA

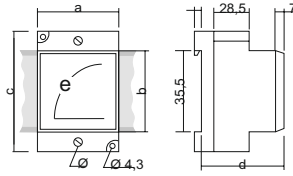


Model		EC5VR*	EC5V	EC4V	EC3V	EC2V	ECb7**	ECb3**	ECb8**
Dimensions	mm	45x52,5 DIN	48x48	72x72	96x96	144x144	80x64	105x80	130x100
Approx. weight	kg.	0,25	0,09	0,20	0,25	0,50	0,14	0,18	0,25
DIRECT INPUT AMMETERS									
MEASURING RANGE	In	1; 1,5; 2; 2,5; 3; 4; 5; 6; 10; 15; 20; 25; 30; 40; 50; 60; 75 or 100 A							
	2xIn	1..2; 1,5..3; 2..4; 2,5..5; 3..6; 4..8; 5..10; 6..12; 10..20; 15..30							
		20..40; 25..50; 30..60; 40..80; 50..100; 60..120; 75..150 or 100..200 A							
	5xIn	1..5; 1,5..7,5; 2..10; 2,5..7,5; 3..15; 4..20; 5..25; 6..30; 10..50; 15..75							
20..100; 25..125; 30..150; 40..200; 50..250; 60..300; 75..375 or 100..500 A									

* Maximum measuring range: 40 A, 40..80 A, 40..200 A

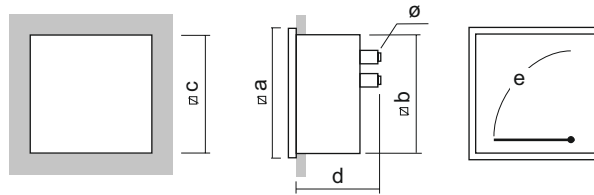
** Maximum measuring range: 50 A, 50..100 A, 50..250 A

Dimensions (mm)



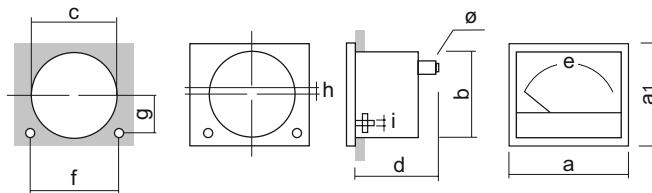
Model	Ranges	a	b	c	d	e	Ø
EC5VR	A - mA - V	52,5	45	75	60	38	M.6

Dimensions (mm)



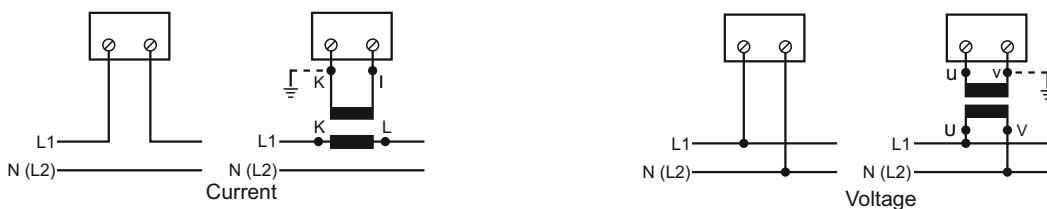
Models	Ranges	∇a	∇b	∇c	d	e	Ø
EC5V	>15..40 A	48	44,5	45 ^{+0,6}	62	38	M.6
	The rest				59		M.4
EC4V	>15..100 A	72	66,5	68 ^{+0,7}	68	65	M.6
	The rest				60		M.4
EC3V	>15..100 A	96	89	92 ^{+0,8}	61	100	M.6
	The rest				59		M.4
EC2V	>15..100 A	144	135	138 ⁺¹	61	140	M.6
	The rest				59		M.4

Dimensions (mm)



Models	Ranges	a x a1	Ø b	Ø c	d	e	f	g	h	i	Ø
ECb7	>15..50 A	80x64	57,6	58,6 ^{+0,6}	63	57	63	12,5	1,5	M.3	M.6
	The rest				55						M.4
ECb3	>15..<50 A	105x80	66	67 ^{+0,7}	63	75	81	13	4,5	M.3	M.6
	The rest				55						M.4
ECb8	>15..<50 A	130x100	66	67 ^{+0,8}	63	100	100	13	13	M.4	M.6
	The rest				55						M.4

Conection diagrams






SPECIALITIES

SPECIALITIES												
	Ø 48	Ø 72	Ø 96	Ø 144	80 x 64	105 x 80	130 x 100	MODULAR	Ø 48	Ø 72	Ø 96	Ø 144
POINTERS												
Knife pointer + fine divisions	---	●	●	●	---	---	---	---	---	---	---	---
Knife pointer + fine divisions + mirror	---	●	●	●	---	●	---	---	---	---	---	---
Red pointer, set externally		●				●		---				
SCALE												
Non standard scale (*)		●				●		●			●	
Antiparallax scale		---				---		---	---	●	●	---
Black scale, white div., figures and pointer	---	●	●	●		●		---				
Black scale, yellow div., figures and pointer	---	●	●	●		---		---	---	●	●	●
Double scale	---	●	●	●		●		---		●		
Double numbering	---	●	●	●		●		---	---	●	●	●
Red line		●				●		●		●		
Colour arc (until 20 mm)		●				●		●		●		
Add text (<10 letters)		●				●		●		●		
Non electrical unit measuring												
PROTECTION												
Naval series or tropicalized		●				●		●		●		
Protection IP43		●				●		---			●	
Housing protection IP54		●				---		---			●	
Terminal cover (protection IP20)	●	●	●	---		---		---	●	---	---	---
Movil equipment and critical damping		●				●		---			●	
Frontal protection (IP65)	---	●	●	---		---		---	---	●	●	---
MISCELLANEOUS												
Makrolon glass		●				●		---			●	
Antireflecting glass		●				●		---			●	
Lighting 12, 24 V (with white scale)	---	●	●	●	---	●	●	---	---	●	●	●
Indirect Lighting 12, 24 V (with black scale)	---	●	●	●	---	●	●	---	---	●	●	●
Non vertical working position		●				●		●		●		
Rubber gasket (Panel)	---	●	●	---		---		---		---		---
MOVIN IRON METERS												
Non standard input (**)		●				●		●			---	
Calibrated for 150 or 400 Hz		●				●		●			---	
Calibrated in D.C.		●				●		●			---	
Accuracy 1%		●				●		●			---	
Insulation 3 kV		●				●		●			---	
750 to 1000V (with external box)		●				●		●			---	
Overload 200% (A, mA)		●				●		●			---	
Overload 500% (A, mA)		●				●		●			---	
Double range		●				●		●			---	
MOVING COIL AND MOVING COIL RECTIFIED METERS												
Non standard input (**)		●				●		●			●	
Insulation 3 kV		●				●		●			●	
Central zero		●				●		●			●	
Displaced zero		●				●		●			●	
Zero mechanically suppressed (max. 25%)		●				●		●			●	
Overload 200 or 500% (for Amm. A.C.)		●				●		●			●	
Non linear function scale (Ohm, db, etc.)		●				●		●			●	
Adjusted to specific internal resistance		●				●		●			●	
Accuracy		●				●		●			●	
600 up to 1000 V D.C.(with external box)		●				●		●			●	
>1.000+2.000V D.C.(with external box)		●				●		●			●	
>2.000+4.000V D.C (with external box)		●				●		●			●	
Full scale adjustable by potentiometer (±10%)	---	●	●	●	---	---		---	---	●	●	●
Double range		●				●		●			●	

(*) Scale: striped and numbered.

(**) Current or voltage required to move the needle at the end of the measurement zone.

SPECIALITIES

SPECIALITIES										
	Ø 48	Ø 72	Ø 96	Ø 144	MODULAR	Ø 48	Ø 72	Ø 96	Ø 144	
INDUCTION WATTMETERS AND VARMETERS										
Central zero		●			●			●		
Displaced zero		●			●			●		
Non standard voltage			●		●			●		
Current 1 A			●		●			●		
Calibrated between 0,4 and 0,5 of appa. power			●		●			---		
Calibrated between 0,6 and 0,8 of appa. power			---		---			●		
Calibrated between 1,3 and 1,5 of appa. power			●		●			●		
Accuracy 1%			●		●			●		
ELECTRONIC WATTMETERS AND VARMETERS										
Calibrated to 400 Hz			●		●			●		
Current 1 A			●		●			●		
Accuracy 1%			●		●			●		
INDUCTION POWER FACTOR METERS										
Non standard voltage (single phase)			●		●			●		
Non standard voltage (three phase)			●		●			●		
Current 1A			●		●			●		
ELECTRONIC POWER FACTOR METERS										
Non standard voltage			●		●			●		
Scale 0-1-0 (single phase), 0,1-1-0,1 (three phase)			●		●			●		
Current 1A			●		●			●		