

## PHASE METERS (ELECTRONIC)

System's power factor measuring.

### Alternating current

- Scale: CAP 0,5 - 1 - 0,5 IND
- Frequency: 50 or 60 Hz
- Voltage range:  $\pm 15\%$  Vn
- Voltage: (Vn): 100, 110  
230, 400, 440 V
- Current range: 20-120%
- Current input: (In): 5A, 1A
- Accuracy: 1,5 % of 90 electrical degrees
- Burden: 6,5 mA  
(Voltage circuits)
- Burden: 1 VA  
(Current circuits)



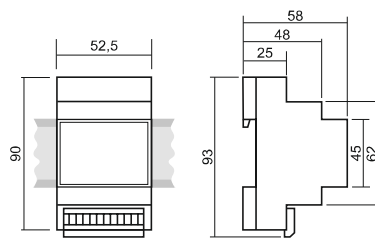
		90° SCALE		90° SCALE		
Dimensions	mm	45x52,5 DIN RAIL	48x48	72x72	96x96	144x144
<b>AC SINGLE PHASE - BALANCED THREE PHASE</b>						
Approx. weight	kg.	0,48	0,48	0,48	0,73	0,73
AC. Single-phase		<b>SC5VRE*</b>	<b>SC5VE*</b>	<b>SC4VE*</b>	<b>SC3VE</b>	<b>SC2VE</b>
3-phase, 3 wire		<b>SC5VRIE*</b>	<b>SC5VIE*</b>	<b>SC4VIE*</b>	<b>SC3VIE</b>	<b>SC2VIE</b>



		240° SCALE			
Dimensions	mm	48x48	72x72	96x96	144x144
<b>AC SINGLE-PHASE - BALANCED THREE PHASE</b>					
Approx. weight	kg.	0,48	0,48	0,73	0,73
AC. Single-phase		<b>SC5CE*</b>	<b>SC4CE*</b>	<b>SC3CE</b>	<b>SC2CE</b>
3-phase, 3 wire		<b>SC5CIE*</b>	<b>SC4CIE*</b>	<b>SC3CIE</b>	<b>SC2CIE</b>

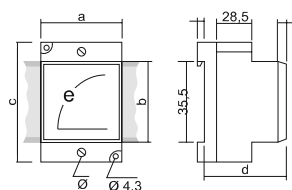
\* With additional module: MBPF model

DIN rail MBPF module



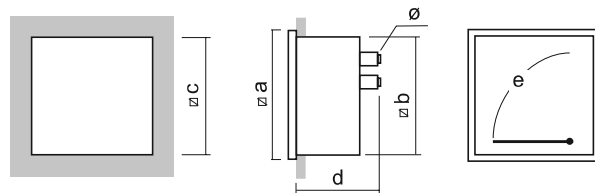
Weight = 0,120  
Plug-in connectors

Dimensions (mm)



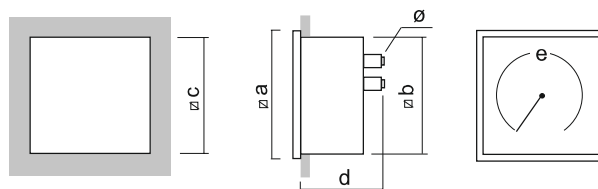
Models	Range	a	b	c	d	e	ø
<b>SC5VRE</b>	100+440	52,5	45	75	60	38	M.6
<b>SC5VRIE</b>	100+440	52,5	45	75	60	38	M.6

Dimensions (mm)



Models	Ranges	∅a	∅b	∅c	d	e	ø
SC5VE SC5VIE	100÷440	48	44,5	45 <sup>+0,6</sup>	59	38	M.4
SC4VE SC4VIE	100÷440	72	66,5	68 <sup>+0,7</sup>	60	65	M.4
SC3VE SC3VIE	100÷440	96	89	92 <sup>+0,8</sup>	92	100	M.4
SC2VE SC2VIE	100÷440	144	135	138 <sup>+1</sup>	92	140	M.4

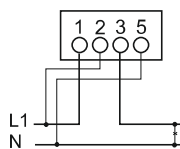
Dimensions (mm)



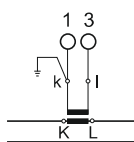
Models	Ranges	∅a	∅b	∅c	d	e	ø
SC5CE SC5CIE	100÷440	48	44,5	45 <sup>+0,6</sup>	83	72	M.4
SC4CE SC4CIE	100÷440	72	66,5	68 <sup>+0,7</sup>	88	101	M.4
SC3CE SC3CIE	100÷440	96	89	92 <sup>+0,8</sup>	128	140	M.4
SC2CE SC2CIE	100÷440	144	135	138 <sup>+1</sup>	92	220	M.4

Connection diagrams

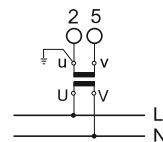
Single-phase



Direct input



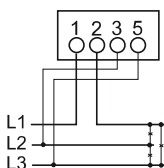
Current Transf.



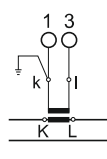
Transf. Voltage

Connection diagrams

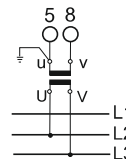
Balanced three-phase



Connection: Direct input



Current Transf.



Transf. Voltage

## PHASE METERS (INDUCTION)

System's power factor measuring.

### Alternating current

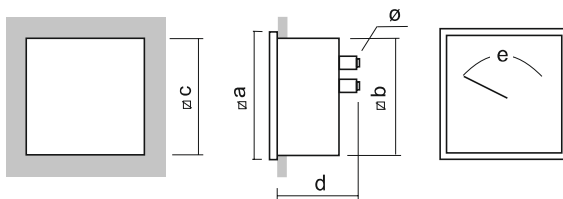
- Scale: CAP 0,5 - 1 - 0,5 IND or 0,8 - 1 0,2 IND (90°)  
CAP 0,1 - 1 - 0,1 IND 4 quadrants (360°)
- Accuracy: 1,5 % of 90 electrical degrees
- Frequency: 50 or 60 Hz
- Voltage range:  $\pm 15\%$  Vn
- Voltage: (Vn): 100, 110  
230, 400, 440 V
- Current range: 20-120%
- Current input: (In): 5A, 1A
- Burden: 20..30 mA  
(Voltage circuits)
- Burden: 1 VA  
(Current circuits)



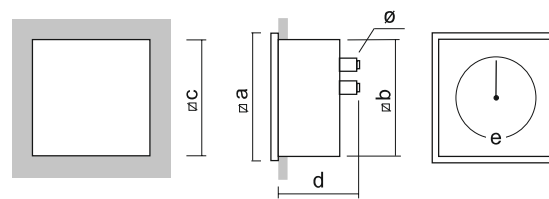
		SCALE 90°		SCALE 360°	
Dimensions	mm	96x96	144x144	96x96	144x144
<b>AC. SINGLE-PHASE - BALANCED THREE-PHASE</b>					
Approx. weight	kg.	1,07	1,57	1,10	1,60
A.C Single phase*		<b>SC3V</b>	<b>SC2V</b>	<b>SC3C</b>	<b>SC2C</b>
3-phase 3-4 wire**		<b>SC3VI</b>	<b>SC2VI</b>	<b>SC3CI</b>	<b>SC2CI</b>
<b>UNBALANCED THREE-PHASE</b>					
Approx. weight	kg.	1,40	2,35	1,43	2,38
3-Phase 3 wire**		<b>SC3VII</b>	<b>SC2VII</b>	<b>SC3CII</b>	<b>SC2CII</b>
3-Phase 4 wire***		<b>SC3VIIIn</b>	<b>SC2VIIIn</b>	<b>SC3CIIIn</b>	<b>SC2CIIIn</b>

\* With additional resistor box (external): Model 4.5.1  
 \*\* 400 V and 600 V with additional resistor box (external): Model 2.6.1  
 \*\*\* 400 V and 600 V only with additional resistor box (external): Model 2.4.1

Dimensions (mm)



Dimensions (mm)



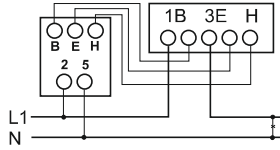
Models	Ranges	∅a	∅b	∅c	d	e	ø
<b>SC3V</b>	100÷440				135		
<b>SC3VI</b>	100÷440	96	89	92 <sup>+0,8</sup>	135	73	M.4
<b>SC3VII</b>	100÷440				165		
<b>SC3VIIIn</b>	100÷440				165		
<b>SC2V</b>	100÷440				135		
<b>SC2VI</b>	100÷440	144	135	138 <sup>+1</sup>	135	160	M.4
<b>SC2VII</b>	100÷440				165		
<b>SC2VIIIn</b>	100÷440				165		

Models	Ranges	∅a	∅b	∅c	d	e	ø
<b>SC3C</b>	100÷440						
<b>SC3CI</b>	100÷440	96	89	92 <sup>+0,8</sup>	124	210	M.4
<b>SC3CII</b>	100÷440						
<b>SC3CIIIn</b>	100÷440						
<b>SC2C</b>	100÷440						
<b>SC2CI</b>	100÷440	144	135	138 <sup>+1</sup>	135	330	M.4
<b>SC2CII</b>	100÷440						
<b>SC2CIIIn</b>	100÷440						

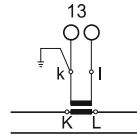
Resistor boxes on page AN-42

## Connection diagrams

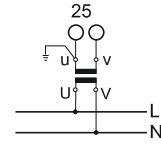
Single-phase



Connection: Direct input



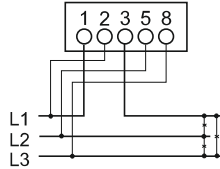
Current Transf.



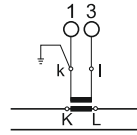
Transf. Voltage

## Connection diagrams

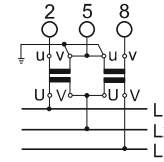
Balanced three-phase (100, 230 V)



Connection: Direct input



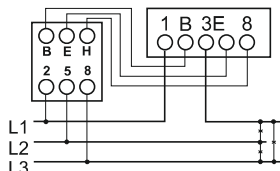
Current Transf.



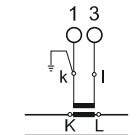
Transf. Voltage

## Connection diagrams

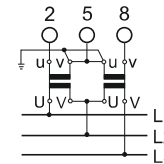
Balanced three-phase (400, 440 V)



Connection: Direct input



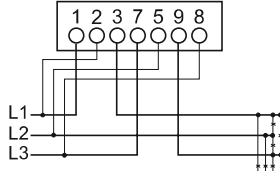
Current Transf.



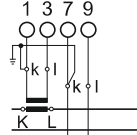
Transf. Voltage

## Connection diagrams

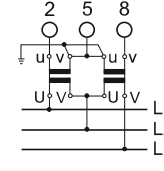
Unbalanced three-phase, 3 wire (110, 230 V)



Connection: Direct input



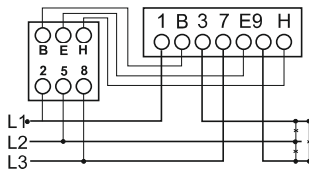
Current Transf.



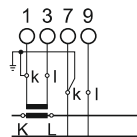
Transf. Voltage

## Connection diagrams

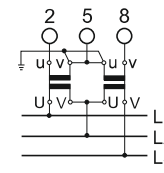
Unbalanced three-phase, 3 wire (400, 440 V)



Connection: Direct input



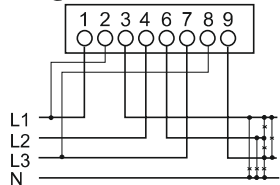
Current Transf.



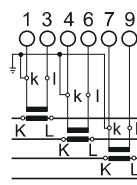
Transf. Voltage

## Connection diagrams

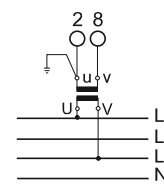
Unbalanced three-phase, 4 wire (100, 230 V)



Connection: Direct input



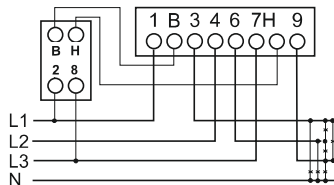
Current Transf.



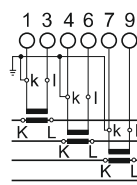
Transf. Voltage

## Connection diagrams

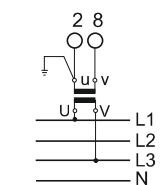
Unbalanced three-phase, 4 wire (400, 440 V)



Connection: Direct input



Current Transf.



Transf. Voltage

## RESISTOR BOXES

Connection to measuring elements.



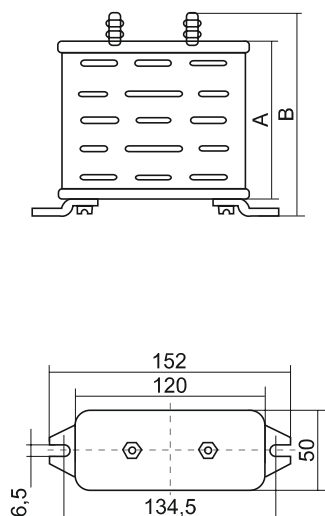
- Accuracy: 0,5 %

Models		1.2.1	1.3.1	1.4.1	1.4.2	1.5.1	1.6.1	1.6.2
Terminals		2	3	4	4	5	6	6
Approx. weight	kg.	0,23	0,23	0,24	0,31	0,50	0,25	0,40

Models		2.2.1	2.3.1	2.4.1	2.4.2	2.5.2	2.6.1	2.6.2	2.6.3	2.7.1	2.8.1	2.8.2
Terminals		2	3	4	4	5	6	6	6	7	8	8
Approx. weight	kg.	0,31	0,31	0,31	0,31	0,32	0,32	0,55	0,74	0,40	0,60	0,77

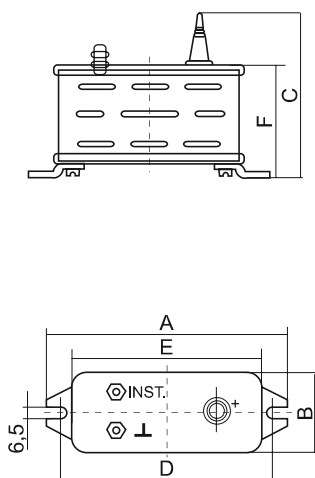
Models		3.3.1	3.3.2	4.2.1	4.3.1	4.4.1	4.5.1	4.6.1	4.8.1
Terminals		3	3	2	3	4	5	6	8
Approx. weight	Kg.	0,27	0,70	0,90	0,90	0,95	1,00	1,00	1,00

Dimensions (mm)



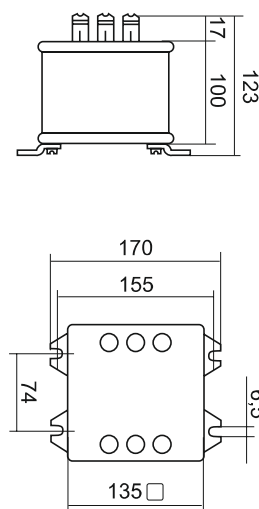
Models	1..1	2..1
A	64	99
B	86	121

Dimensions (mm)



Models	3.3.1	3.3.2
A	155	270
B	50	100
C	101	148
D	135	235
E	120	220
F	69	102

Dimensions (mm)



Models
4.5.1
4.6.1
4.8.1