



PA39 PANEL POWER METER

 $C \in$

APPLICATION

The PA39 power meter is a mowing-coil meter with a built-in measuring transducer. It is destined to measure active or reactive power in a.c. power networks. The measured power is indicated by a magnetoelectric (moving-coil) measuring system.

These meters are delivered in following versions:

- for measuring the active power in single-phase systems,
- for measuring the active or reactive power in three-phase three-wire or four-wire symmetrically or asymmetrically loaded systems,
- with the zero graduation on the left side of the scale for measuring the unidirectional power flow,
- with the zero graduation in the middle of the scale for measuring the bidirectional power flow.

TECHNICAL DATA

Measuring

ranges acc. the series 1, 1.2, 1.5, 2, 2.5, 3, 4, 5, 6, 7.5, 8,

or the decimal multiplication of one of these numbers

Input voltage $100 \sqrt{3} (x/100/\sqrt{3}), 100 (x/100),$

133, 230, 280, 400, 500, 690 V

Input current 1 A (x/1 A) or 5 A (x/5 A)

Active power factor $\cos \phi$: $1...0.5_{ind}$ Reactive power factor $\sin \phi$: $1...0.5_{ind}$

Accuracy class 1.5

Rated operating conditions:

- ambient temperature -10...<u>23</u>...55°C

- relative humidity ≤ 75%

- frequency of the

input quantities acc. order (table 2) - working position acc. order \pm 5° (table 3)

Additional errors acc. EN 60051-1 standard

Power consumption:

- voltage circuit \leq 4.3 VA - current circuit \leq 0.2 VA Protection Grade acc. to EN60529

- front protection grade: IP 52

- terminal protection: IP00

Housing material thermoplastic,

self-extinguishing plastic (UL 94V-O)

Glass material glass (in standard)

anti-reflective glass on request

Electromagnetic compatibility:

- emission acc. EN 61000-6-4 standard - immunity acc. EN 61000-6-2 standard

The meter fulfils CE mark requirements.

Safety requirements acc. EN 61010-1:

- installation category III - level of pollution 2

- working voltage

in relation to the earth 660 V a.c. **Weight** 650-750 g

ACCESSORIES

We deliver with the meter:

CHOICE OF MEASURING RANGE

1. Calculate the power from the formulas:

P = Un x Infor single-phase networks

 $P = \sqrt{3} \times U_n \times I_n$ for three-phase networks

where:

U - network rated voltage:

• for three-phase networks - phase-to-phase voltage,

• when connected through transformers-primary rated voltage.

In - rated current:

• 5 A or 1 A,

• when connected through transformers-primary rated voltage.

Round the calculated power value to the nearest value from the given sequence of numbers for the measuring range.

3. Example of measuring range choice.

Three-phase network; rated values of transformers:

15 000/100 V and 400/5 A

 $P = \sqrt{3} \times 15000 \text{ V} \times 400 \text{ A} = 10{,}39 \text{ MW (Mvar)}$

Selected measuring range: 10 MW (Mvar)



EXTERNAL DIMENSIONS

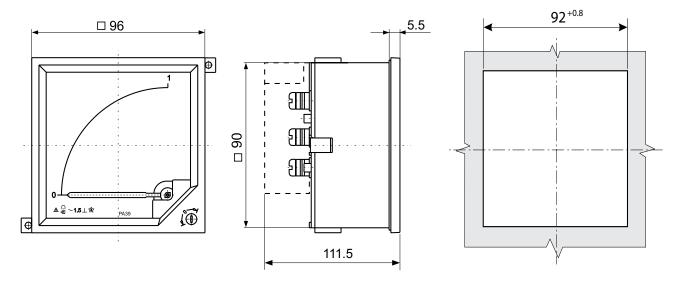


Fig 1. External dimensions of PA39 meter.

WAY OF THE METER FIXATION ON THE PANEL

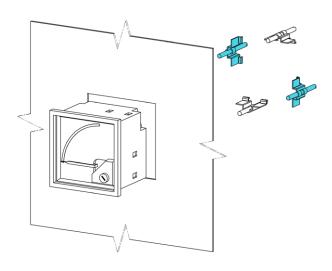


Fig. 2. Fixing of meters PA39in the panel.

Included are two screw holders which should be fixed on arbitrary, opposite case corners



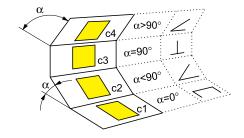
MEASURING RANGES Table 3

	Single p			Α	<u>100</u> √3	100	230	280	400															
	3-phase 3-wire active power symmetrically loaded		В						000	400	500	000	3000	6000	10000	15000	20000	30000	40000	60000	110000	220000	400000	
	3-phase 3-wire active power asymmetrically loaded		С						230	400	500	690	100	100	100	100	100	100	100	100	100	100	100	
	3-phase 4-wire active power symmetrically loaded		D						133	230	280	400	3000	6000	10000	15000	20000	30000	40000	60000	110000	220000	400000	
Un	3-phase 4-wire active power asymmetrically loaded		E						230	400	500	690	100√3	100√3	100√3	100√3	100√3	100√3	100√3	100√3	100√3	100√3	100√3	
[V]	3-phase reactive symme	e powei	•	F						230	400	F00	600	3000	6000	10000	15000	20000	30000	40000	60000	110000	220000	400000
	3-phase 3-wire reactive power asymmetrically loaded		G						230	400	500	690	100	100	100	100	100	100	100	100	100	100	100	
	3-phase 4-wire		н						<u>133</u>	<u>230</u>	<u>280</u>	<u>400</u>	3000	6000				30000						
			K						230	400	500	690	100√3	100√3	100√3	100√3	100√3	100√3	100√3	100√3	100√3	100√3	100√3	
	ln/x	IN C	ode	Power unit										Uı	n Code	;								
		x=5	x=1	Po	Т	U	Α	٧	W	В	С	D	Е	F	G	Н	ı	K	L	М	N	Р	R	S
			٠, ١			400	200	امحما	400	400	600	800	1.2	E	40	4-	0.5	20	EΩ	00	100	000	400	000
	1	_	A1		50	100	200		400	400	000	000	1.2	5	10	15	25	30	50	80	100	200	400	800
	5; 5/x	- В5	В1	W	250	500	1	1.2	2	2	3	4	6	25	50	60	120	150	250	400	500	1	2	4
	5; 5/x 10/x	C5	B1 C1	W	250 500	500 1	1	1.2 2.5	2	2 4	3 6	4 8	6 12	25 50	50 100	60 150	120 250	150 300	250 500	400 800	500 1	1 2	2 4	4 8
	5; 5/x 10/x 15/x	C5 D5	B1 C1 D1	W	250 500 800	500 1 1.5	1 2 3	1.2 2.5 4	2 4 6	2 4 8	3 6 10	4 8 12	6 12 15	25 50 80	50 100 150	60 150 250	120 250 400	150 300 500	250 500 800	400 800 1.2	500 1 1.5	1 2 2.5	2 4 5	4 8 12
	5; 5/x 10/x 15/x 20/x	C5 D5 E5	B1 C1 D1 E1	W	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8	3 6 10 12	4 8 12 15	6 12 15 20	25 50 80 100	50 100 150 200	60 150 250 300	120 250 400 500	150 300 500 600	250 500 800	400 800 1.2 1.5	500 1 1.5 2	1 2 2.5 4	2 4 5 8	4 8 12 15
	5; 5/x 10/x 15/x 20/x 30/x	C5 D5 E5 F5	B1 C1 D1 E1 F1	W	250 500 800	500 1 1.5	1 2 3	1.2 2.5 4	2 4 6	2 4 8 8 12	3 6 10 12 20	4 8 12 15 25	6 12 15 20 30	25 50 80 100 150	50 100 150 200 300	60 150 250 300 500	120 250 400 500 800	150 300 500 600	250 500 800 1 1.5	400 800 1.2 1.5 2	500 1 1.5 2 3	1 2 2.5 4 5	2 4 5 8 10	4 8 12 15 20
	5; 5/x 10/x 15/x 20/x	C5 D5 E5	B1 C1 D1 E1	W	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8	3 6 10 12	4 8 12 15	6 12 15 20	25 50 80 100	50 100 150 200	60 150 250 300	120 250 400 500	150 300 500 600	250 500 800	400 800 1.2 1.5	500 1 1.5 2	1 2 2.5 4	2 4 5 8	4 8 12 15
	5; 5/x 10/x 15/x 20/x 30/x 50/x	C5 D5 E5 F5 G5	B1 C1 D1 E1 F1	W	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20	3 6 10 12 20 30	4 8 12 15 25 40	6 12 15 20 30 50	25 50 80 100 150 250	50 100 150 200 300 500	60 150 250 300 500 800	120 250 400 500 800	150 300 500 600 1 1.5	250 500 800 1 1.5 2.5	400 800 1.2 1.5 2 4	500 1 1.5 2 3 5	1 2 2.5 4 5	2 4 5 8 10 20	4 8 12 15 20 40
	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x	C5 D5 E5 F5 G5 H5	B1 C1 D1 E1 F1 G1		250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30	3 6 10 12 20 30 50	4 8 12 15 25 40 60 80	6 12 15 20 30 50 80 100	25 50 80 100 150 250 400	50 100 150 200 300 500 800	60 150 250 300 500 800	120 250 400 500 800 1.2	150 300 500 600 1 1.5 2.5	250 500 800 1 1.5 2.5 4	400 800 1.2 1.5 2 4 5	500 1 1.5 2 3 5	1 2 2.5 4 5 10	2 4 5 8 10 20 25	4 8 12 15 20 40 50
	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x	C5 D5 E5 F5 G5 H5	B1 C1 D1 E1 F1 G1 H1	kvar	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40	3 6 10 12 20 30 50 60	4 8 12 15 25 40 60 80 120	6 12 15 20 30 50 80 100 150	25 50 80 100 150 250 400	50 100 150 200 300 500 800	60 150 250 300 500 800 1.2 1.5	120 250 400 500 800 1.2 2 2.5	150 300 500 600 1 1.5 2.5	250 500 800 1 1.5 2.5 4 5	400 800 1.2 1.5 2 4 5	500 1 1.5 2 3 5 8 10	1 2 2.5 4 5 10 15 20	2 4 5 8 10 20 25 40	4 8 12 15 20 40 50 80
	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x 100/x 150/x 200/x 300/x	C5 D5 E5 F5 G5 H5 J5 K5 L5	B1 C1 D1 E1 F1 G1 H1 J1 K1 L1		250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40 60 80 120	3 6 10 12 20 30 50 60 100 120 200	4 8 12 15 25 40 60 80 120 150 250	6 12 15 20 30 50 80 100 150 200 300	25 50 80 100 150 250 400 500 800 1	50 100 150 200 300 500 800 1 1.5 2	60 150 250 300 500 800 1.2 1.5 2.5 3	120 250 400 500 800 1.2 2 2.5 4 5	150 300 500 600 1 1.5 2.5 3 5 6	250 500 800 1 1.5 2.5 4 5 8 10	400 800 1.2 1.5 2 4 5 8 12 15 20	500 1 1.5 2 3 5 8 10 15 20 30	1 2 2.5 4 5 10 15 20 25 40	2 4 5 8 10 20 25 40 50 80	4 8 12 15 20 40 50 80 120 150 200
	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x 100/x 150/x 200/x 300/x 400/x	C5 D5 E5 F5 G5 H5 J5 K5 L5 M5	B1 C1 D1 E1 F1 G1 H1 J1 K1 L1	kvar	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40 60 80 120 150	3 6 10 12 20 30 50 60 100 120 200 250	4 8 12 15 25 40 60 80 120 150 250 300	6 12 15 20 50 80 100 150 200 300 400	25 50 80 100 150 250 400 500 800 1 1.5 2	50 100 150 200 300 500 800 1 1.5 2 3	60 150 250 300 500 800 1.2 1.5 2.5 3 5	120 250 400 500 800 1.2 2 2.5 4 5 8	150 300 500 600 1 1.5 2.5 3 5 6 10	250 500 800 1 1.5 2.5 4 5 8 10 15 20	400 800 1.2 1.5 2 4 5 8 12 15 20 30	500 1 1.5 2 3 5 8 10 15 20 30 40	1 2 2.5 4 5 10 15 20 25 40 50 80	2 4 5 8 10 20 25 40 50 80 100 150	4 8 12 15 20 40 50 80 120 150 200 300
	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x 100/x 150/x 200/x 300/x 400/x 600/x	C5 D5 E5 F5 G5 H5 I5 J5 K5 L5 M5 N5	B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 M1	kvar	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40 60 80 120 150 200	3 6 10 12 20 30 50 60 100 120 200 250 400	4 8 12 15 25 40 60 80 120 150 250 300 500	6 12 15 20 30 50 80 100 150 200 300 400 600	25 50 80 100 150 250 400 500 800 1 1.5 2	50 100 150 200 300 500 800 1 1.5 2 3 4	60 150 250 300 500 800 1.2 1.5 2.5 3 5 6	120 250 400 500 800 1.2 2 2.5 4 5 8 10	150 300 500 600 1 1.5 2.5 3 5 6 10 12	250 500 800 1 1.5 2.5 4 5 8 10 15 20 30	400 800 1.2 1.5 2 4 5 8 12 15 20 30 40	500 1 1.5 2 3 5 8 10 15 20 30 40 60	1 2 2.5 4 5 10 15 20 25 40 50 80 100	2 4 5 8 10 20 25 40 50 80 100 150 200	4 8 12 15 20 40 50 80 120 150 200 300 400
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	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x 100/x 150/x 200/x 300/x 400/x 600/x 800/x 000/x	C5 D5 E5 F5 G5 H5 J5 K5 L5 M5 P5 R5	B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 M1 N1 P1 R1	kvar	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40 60 80 120 200 300 400	3 6 10 12 20 30 50 60 120 200 250 400 500 600	4 8 12 25 40 60 80 120 250 300 500 600 800	6 12 15 20 30 50 80 100 150 200 300 400 600 800	25 50 80 100 150 250 400 500 800 1 1.5 2 3 4	50 100 150 200 300 500 800 1 1.5 2 3 4 6 8	60 150 250 300 500 800 1.2 1.5 2.5 3 5 6 10 12	120 250 400 500 800 1.2 2 2.5 4 5 8 10 15 20 25	150 300 500 600 1 1.5 2.5 3 5 6 10 12 20 25 30	250 500 800 1 1.5 2.5 4 5 8 10 15 20 30 40 50	400 800 1.2 1.5 2 4 5 8 12 15 20 30 40 60 80	500 1 1.5 2 3 5 8 10 15 20 30 40 60 80 100	1 2 2.5 4 5 10 15 20 25 40 50 80 100 150 200	2 4 5 8 10 20 25 40 50 80 100 150 200 300 400	4 8 12 15 20 40 50 80 120 150 200 300 400 600 800
2	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x 100/x 150/x 200/x 300/x 400/x 600/x 800/x	C5 D5 E5 F5 G5 H5 I5 L5 K5 L5 M5 P5	B1 C1 D1 E1 F1 G1 H1 I1 J1 K1 L1 M1 N1 P1 R1	kvar	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40 60 80 120 150 200 300 400 500	3 6 10 12 20 30 50 60 120 200 250 400 500 600 800	4 8 12 15 40 60 80 120 250 300 500 600 800	6 12 15 20 30 50 80 100 150 200 300 400 600 800 1	25 50 80 100 150 250 400 500 800 1 1.5 2 3 4	50 100 150 200 300 500 800 1 1.5 2 3 4 6	60 150 250 300 500 800 1.2 1.5 2.5 3 5 6 10	120 250 400 500 800 1.2 2 2.5 4 5 8 10 15	150 300 500 600 1 1.5 2.5 3 5 6 10 12 20 25	250 500 800 1 1.5 2.5 4 5 8 10 15 20 30 40	400 800 1.2 1.5 2 4 5 8 12 15 20 30 40 60	500 1 1.5 2 3 5 8 10 15 20 30 40 60 80 100 120	1 2 2.5 4 5 10 15 20 25 40 50 80 100 150	2 4 5 8 10 20 25 40 50 80 100 150 200 300	4 8 12 15 20 40 50 80 120 150 200 300 400 600
	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x 100/x 150/x 200/x 300/x 400/x 600/x 800/x 000/x 200/x	C5 D5 E5 F5 G5 H5 I5 K5 K5 K5 R5 R5 R5 S5	B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 M1 N1 P1 R1	kvar	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40 60 80 120 200 300 400 500 600	3 6 10 12 20 30 50 60 120 200 250 400 500 600 800	4 8 12 15 25 40 60 80 120 250 300 500 600 800 1	6 12 15 20 30 50 80 100 150 200 300 400 600 800 1	25 50 80 100 150 250 400 500 800 1 1.5 2 3 4 5	50 100 150 200 300 500 800 1 1.5 2 3 4 6 8 10	60 150 250 300 500 800 1.2 1.5 2.5 3 5 6 10 12 15 20	120 250 400 500 800 1.2 2 2.5 4 5 8 10 15 20 25 30	150 300 600 1 1.5 2.5 3 5 6 10 12 20 25 30 40	250 500 800 1 1.5 2.5 4 5 8 10 15 20 30 40 50 60	400 800 1.2 1.5 2 4 5 8 12 15 20 30 40 60 80 100	500 1 1.5 2 3 5 8 10 15 20 30 40 60 80 100	1 2 2.5 4 5 10 15 20 25 40 50 80 100 150 200 250	2 4 5 8 10 20 25 40 50 80 100 150 200 300 400 500	4 8 12 15 20 40 50 80 120 150 200 300 400 600 800
2 3 4 1 1 1 1 2 2	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x 100/x 150/x 200/x 300/x 400/x 600/x 800/x 000/x 200/x 500/x	C5 D5 E5 F5 G5 H5 I5 J5 K5	B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 M1 N1 P1 S1	kW; kvar	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40 60 80 120 200 300 400 500 600	3 6 10 12 20 30 50 60 120 250 400 500 600 800	4 8 12 15 25 40 60 80 120 250 300 500 600 800 1	6 12 15 20 30 80 100 200 300 400 600 800 1.2 1.5	25 50 80 100 150 250 400 500 800 1 1.5 2 3 4 5 6	50 100 150 200 300 500 800 1 1.5 2 3 4 6 8 10 12	60 150 250 300 500 800 1.2 1.5 2.5 3 5 6 10 12 15 20 25	120 250 400 500 800 1.2 2 2.5 4 5 8 10 15 20 25 30 40	150 300 600 1 1.5 2.5 3 5 6 10 12 20 25 30 40	250 500 800 1 1.5 2.5 4 5 8 10 15 20 30 40 50 60 80	400 800 1.2 1.5 2 4 5 8 12 15 20 30 40 60 80 100 120	500 1 1.5 2 3 5 8 10 15 20 30 40 60 80 100 120 150	1 2 2.5 4 5 10 15 20 25 40 50 80 100 150 200 250 300	2 4 5 8 10 20 25 40 50 80 100 150 200 300 400 500 600	4 8 12 15 20 40 50 80 120 150 200 300 400 600 800
2 4 4 1 1 1 1 1 2 2 3 3	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x 100/x 150/x 200/x 300/x 400/x 600/x 800/x 000/x 200/x 500/x	C5 D5 E5 F5 G5 H5 I5 J5 K5 L5 M5 N5 P5 R5 S5 T5 U5	B1 C1 D1 E1 F1 G1 H1 I1 J1 K1 L1 M1 N1 P1 R1 T1 U1	kW; kvar	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40 60 80 120 300 400 500 600 800 1.2	3 6 10 12 20 50 60 100 250 400 500 600 800 1	4 8 12 15 25 40 60 80 120 250 300 500 600 800 1 1.2 1.5	6 12 15 20 30 80 100 150 200 300 400 600 800 1.2 1.5 2	25 50 80 100 150 250 400 500 800 1 1.5 2 3 4 5 6 8	50 100 150 200 300 500 800 1 1.5 2 3 4 6 8 10 12 15 20	60 150 250 300 500 800 1.2 1.5 2.5 3 5 6 10 12 15 20 25 30	120 250 400 500 800 1.2 2 2.5 4 5 8 10 15 20 25 30 40 50	150 300 600 1 1.5 2.5 3 5 6 10 12 20 25 30 40 60	250 500 800 1 1.5 2.5 4 5 8 10 15 20 30 40 50 60 80 100	400 800 1.2 1.5 2 4 5 8 12 15 20 30 40 60 80 100 120 150	500 1 1.5 2 3 5 8 10 15 20 30 40 60 80 100 120 150 200	1 2 2.5 4 5 10 15 20 25 40 50 80 100 150 250 300 400	2 4 5 8 10 20 25 40 50 80 100 150 200 300 400 500 600 800	4 8 12 15 20 40 50 80 120 150 200 300 400 600 800
2 6 8 10 11 11 20 30 40 60	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x 100/x 150/x 200/x 300/x 400/x 600/x 800/x 200/x 500/x 000/x 000/x 000/x 000/x	C5 D5 E5 F5 G5 H5 I5 K5 L5 M5 N5 P5 R5 S5 T5 U5 V5 X5	B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 W1 S1 U1 W1 X1	kW; kvar	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40 60 80 120 300 400 500 600 800 1.2	3 6 10 12 20 30 50 60 120 250 400 500 600 800 1 1.2 2	4 8 12 15 25 40 60 80 120 250 500 600 800 1 1.2 1.5 2.5	6 12 15 20 30 50 80 100 150 200 300 400 600 800 1.2 1.5 2	25 50 80 100 150 250 400 500 800 1 1.5 2 3 4 5 6 8 10 15	50 100 150 200 300 500 800 1 1.5 2 3 4 6 8 10 12 15 20 30	60 150 250 300 500 800 1.2 1.5 2.5 3 5 6 10 12 15 20 25 30 50	120 250 400 500 800 1.2 2 2.5 4 5 8 10 15 20 25 30 40 50 80	150 300 600 1 1.5 2.5 3 5 6 10 12 20 25 30 40 50 60 100	250 500 800 1 1.5 2.5 4 5 8 10 15 20 30 40 50 60 80 100 150	400 800 1.2 1.5 2 4 5 8 12 15 20 30 40 60 80 100 120 150 200 300 400	500 1 1,5 2 3 5 8 10 15 20 30 40 60 80 120 150 200 300 400 600	1 2 2.5 4 5 10 15 20 25 40 50 80 100 250 300 400 600 800 1000	2 4 5 8 10 20 25 40 50 80 100 150 200 300 400 500 600 800	4 8 12 15 20 40 50 80 120 150 200 300 400 600 800
100 100 100 100 100 100 100 100 100 100	5; 5/x 10/x 15/x 20/x 30/x 50/x 75/x 100/x 150/x 200/x 300/x 400/x 600/x 800/x 200/x 500/x 000/x 000/x 000/x 000/x	C5 D5 E5 F5 G5 H5 I5 K5 K5 K5 K5 K5 V5 V5 W5	B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 M1 R1 S1 T1 U1 W1 W1	kvar	250 500 800 1.2	500 1 1.5 2	1 2 3 4	1.2 2.5 4 6	2 4 6 8	2 4 8 8 12 20 30 40 60 80 120 300 400 500 600 800 1.2 1.5	3 6 10 12 20 30 50 60 120 250 400 500 600 800 1 1.2 2 2	4 8 12 15 25 40 60 80 120 250 300 500 600 800 1 1.2 1.5 2.5 3 5	6 12 15 20 30 50 80 100 150 200 400 600 800 1 1.2 1.5 2 3	25 50 80 100 150 250 400 500 800 1 1.5 2 3 4 5 6 8 10 15	50 100 150 200 300 500 800 1 1.5 2 3 4 6 8 10 12 15 20 30 40	60 150 250 300 500 800 1.2 1.5 2.5 3 5 6 10 12 15 20 25 30 50 60	120 250 400 500 800 1.2 2 2.5 4 5 8 10 15 20 25 30 40 50 80 100	150 300 600 1 1.5 2.5 3 5 6 10 12 20 25 30 40 50 60 100 120	250 500 800 1 1.5 2.5 4 5 8 10 15 20 30 40 50 60 80 100 150 200	400 800 1.2 1.5 2 4 5 8 12 15 20 30 40 60 80 120 150 200 300 400 800	500 1 1.5 2 3 5 8 10 15 20 30 40 60 80 100 120 150 200 300 400	1 2 2.5 4 5 10 15 20 25 40 50 80 100 250 300 400 600 800 1000	2 4 5 8 10 20 25 40 50 80 100 150 200 300 400 500 600 800	4 8 12 15 20 40 50 80 120 150 200 300 400 600 800

Table 2

Input voltage frequency fn (Hz)	Codes
50	0
60	1

OPERATING POSITIONS

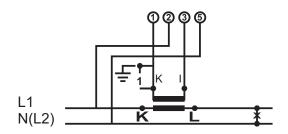


Code	Position
Α	c1 α = 0°
В	$c2 \alpha = 15^{\circ}$
С	c2 α = 30 $^{\circ}$
D	c2 α = 45 $^{\circ}$
E	c2 α = 60 $^{\circ}$
F	c2 α = 75°
0	c3 α = 90 $^{\circ}$
Н	c4 α = 105 $^{\circ}$
I	c4 α = 120°

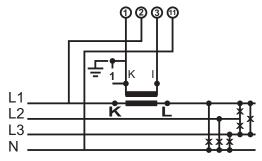
Table 3



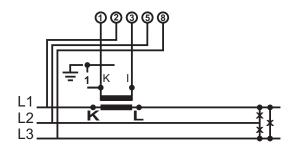
ELECTRICAL CONNECTIONS



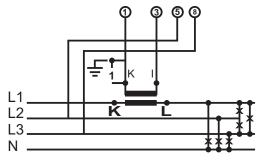
Active/reactive power mesurement in single phase AC network



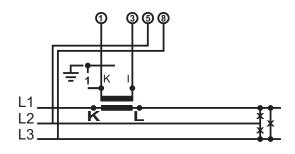
Active power mesurement in 3-phase, 4-wire network balanced load



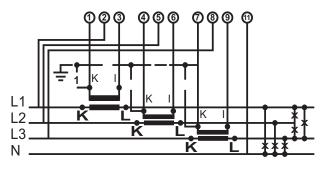
Active power mesurement in 3-phase, 3-wire network balanced load



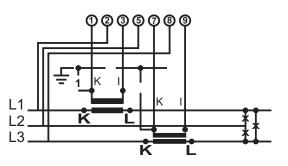
Reactive power mesurement in 3-phase, 4-wire network balanced load



Reactive power mesurement in 3-phase, 3-wire network balanced load



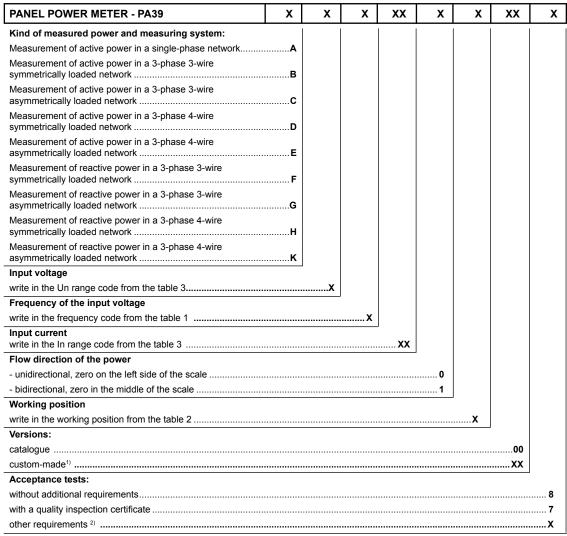
Active/reactive power measurement in 3-phase, 4-wire network unbalanced load



Active/reactive power measurement in 3-phase, 3-wire network unbalanced load



ORDERING CODES Table 4



¹⁾ The ordering code is given by the manufacturer after agreement.

In any order one must specify the name and the ordering code of the power meter using the tables: 1, 2, 3, and 4.

Order example: PA39 - H - F - 0 - L5 - 0 - 00 - 8, means:

- Reactive PA39 power meter adapted to a three-phase four-wire symmetrically loaded network.
- Network rated voltage: 3000 V (from table 3).
- Frequency of the input voltage: 50 Hz (from table 1).
- L5 Network rated current: 300 A (from table 3).
- Unidirectional power flow.
- Working position: C3, vertical (from table 2).
- 00 Catalogue version.
- 8 without additional requirements concerning acceptance tests.

This power meter is destined to co-operate with 300 A/5 A transformers and a 3000 V/100/ $\sqrt{3}$ V voltage transformers.

Note: concerning casing protection grade IP. When ordering, please precise the required grade option: IP50 or IP65



²⁾ The number code is given acc. customer's agreement.