FA39, FA32

PANEL POWER FACTOR METERS with built-in trandsucers



APPLICATION

FA39 and FA32 panel power factor meters are destined for measurements of the phase angle between the voltage and current in single-phase or three-phase AC power networks.

These meters are calibrated to correspond to the cosine of the angle, i.e. the power factor.

These meters can be mounted on panels of any kind of materials.

TECHNICAL DATA

Measuring ranges: 0.5 cap ...1...0.5 ind
0.8 cap ...1...0.3 ind
0.8 cap ...1...0.8 ind

Input voltage (one of the series):

- for single-phase meters	60, 100, 110, 230, 400 V
- for meters working in symmetrically loaded three-phase networks	100, 110, 230, 400, 415, 440, 500 V
Input current	1 A or 5 A
Accuracy class	1.5

Rated operating conditions:

- ambient temperature	-10...23...55°C
- air relative humidity	25...85%
- input voltage	Un ±15%
- input current	20 ...40 ...100 ...120% In
- frequency of the input voltage	49...51 Hz for 1 phase 45...65 Hz for 3 phases
- working position	acc. order ±5° (table 1)
Additional errors	acc. EN 60051-1 standard

Power consumption

- in voltage circuit	≤ 8 VA
- in current circuit	≤ 0.2 VA

Protection Grade acc. to EN60529

- front protection grade:
  - IP52
  - **IP65** only for **F39 meters**
- terminal protection: IP20

Electromagnetic compatibility:
The meter fulfils CE mark requirements:

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

Safety requirements

- installation category	III
- level of polution	2
- maximal working voltage in relation to the earth	660 V

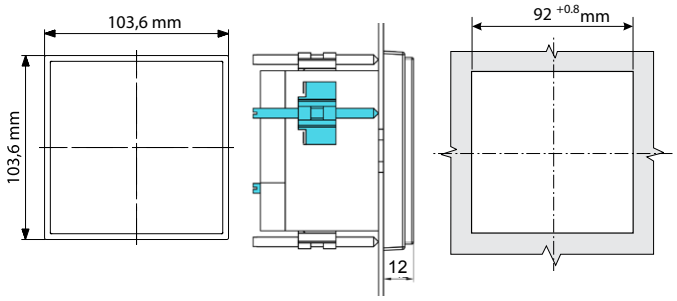
Housing material	thermoplastic, self-extinguishing plastic (UL 94V-O)
Glass material	glass (in standard) anti-reflective glass on request

ACCESSORIES

We deliver with the meter:

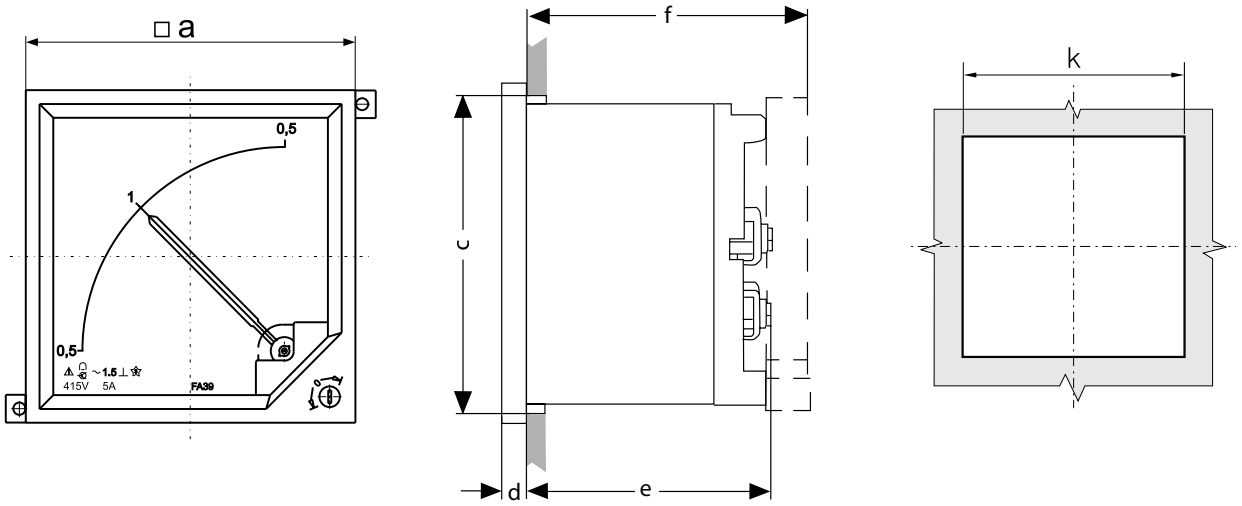
- screw holders .....2 pcs
- terminal protection cover.....1 pc
- user's manual.....1 pc

EXTERNAL DIMENSIONS OF FA39 FOR IP65 PROTECTION GRADE





EXTERNAL DIMENSIONS OF F32 AND FA39 FOR IP52 PROTECTION GRADE



Type	a	c	d	e	f	k
	mm					
FA39	96	$92^{+0.8}$	5,5	51.5	63.5	$92^{+0.8}$
FA32	144	$138^{+1.0}$	5,5	53	63.5	$138^{+1.0}$

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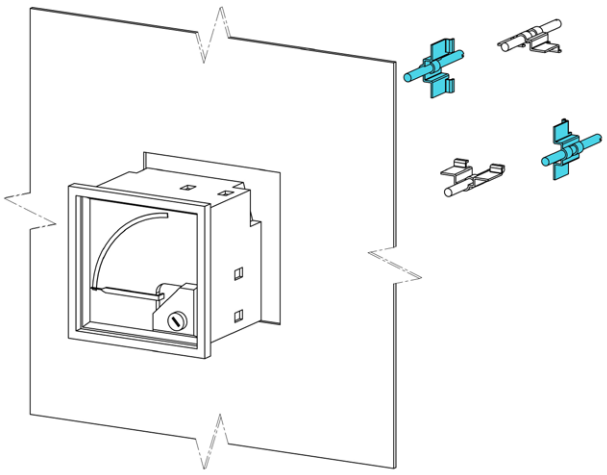


Fig. 2. Fixing of meters FA39 in the panel (version with IP52) [1]

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

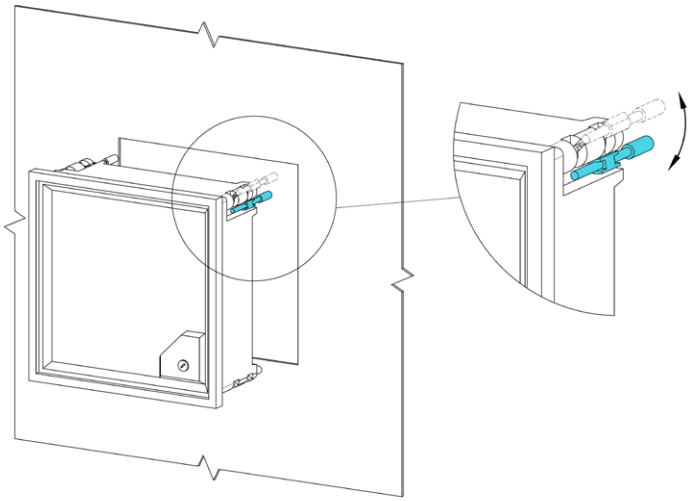


Fig. 3. Fixing of FA32 meters (version with IP52)[2]

[2]The meter is fixed to the panel by two screw holders situated on opposite corners of the case.

WORKING POSITION

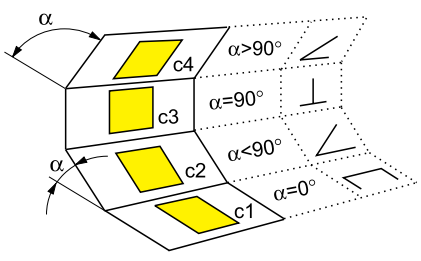
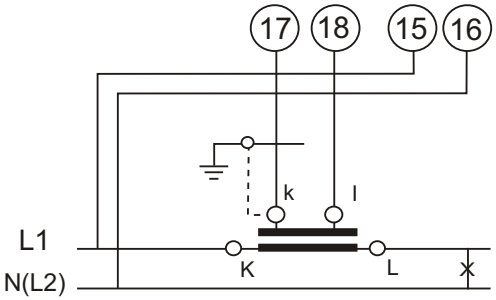


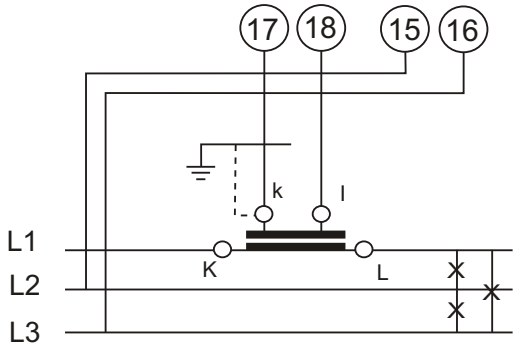
Table 1

Code	Working position
0	c3
A	c1
B	c2 α = 15°
C	c2 α = 30°
D	c2 α = 45°
E	c2 α = 60°
F	c2 α = 75°
H	c4 α = 105°
I	c4 α = 120°

ELECTRICAL CONNECTIONS OF EXTERNAL CIRCUITS



single phase



thre phase wire balanced load

ORDERING PROCEDURE

POWER FACTOR METERS FA39, FA32	X	X	X	XX	X	XX	X

Measurement of power factor in:
Single phase networks.....**1**
Three-phase, three-wire symmetrically loaded networks **3**

Measuring range:
0.5 cap ...1 ...0.5 ind .....**A**
0.8 cap ...1 ...0.3 ind .....**B**
0.8 cap ...1 ...0.8 ind .....**C**

Input current:
1 A.....**1**
5 A.....**5**

Input voltage:
60V (only for measurement in a single-phase network) **01**
100 V **02**
110 V.....**03**
230 V **04**
400 V **05**
415 V (only for measurement in a three-phase network) **06**
440 V (only for measurement in a three-phase network) **07**
500 V (only for measurement in a three-phase network) **08**
On request after agreement.....**XX**

Working position
Write in the code acc. table 1 .....**X**

Version:
Standard **00**
Custom-made. The code must be agreed with the manufacturer.....**XX**

Acceptance tests:
Without additional requirements **8**
With a quality inspection certificate **7**
Other requirements.....**X**

EXAMPLE OF ORDER

Code: FA39-1-A-5-04-O-00-8, means:
The version of a power factor meter FA39 type, for measurement in a single-phase network, range: 0.5cap ...1 ...0.5ind, input current: 5 A, input voltage: 230 V, working position: c3 (90° - vertical), standard version, without additional test requirements.

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