

PANEL POINTER FREQUENCY METERS

CA37 TYPE - 72 × 72 mm

CA39 TYPE - 96 × 96 mm

CA32 TYPE - 144 × 144 mm



Power consumption ≤ 2VA

Protection Grade acc. to EN60529

- front protection grade:
 - IP50 for CA37, CA39 and CA32 meters
 - IP54 for CA32 meters
 - **IP65 for C37 and C39 meters** (on request)
- IP20 terminal protection (with a terminal protection cover)

Electromagnetic compatibility:

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

Safety requirements

- installation category III
- level of pollution 2

Maximal working voltage in relation to the earth

600 V AC

Weight

- CA37 300 g
- CA39 350 g
- CA32 520 g

ACCESSORIES

We deliver with the meter:

- screw holders for IP 50 or IP 54 option 2 pcs
- screw holders for IP 65 option 4 pcs
- terminal protection cover 1 pc
- user's manual 1 pc

APPLICATION

CA37, CA39 and CA32 pointer frequency meters are moving-coil meters with built-in measuring transducers intended for measuring voltage frequency in AC electrical networks.

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

We deliver together the meters:

- two screw holders to fix the meter on the panel,
- a terminal shroud (on request),
- a service manual.

BASIC REQUIREMENTS, USER'S SAFETY

CA series meters are destined to be installed on panels or switchboards.

They are in conformity with EN 61010-1 standard requirements.

TECHNICAL DATA

Measuring ranges and accuracy classes: Table 1

Measuring ranges	Accuracy class
45...55 Hz	0.5
45...65 Hz	0.5
48...52 Hz	0.2
55...65 Hz	0.5
58...62 Hz	0.2
140...160 Hz	0.2
180...220 Hz	0.2
360...440 Hz	0.5
380...420 Hz	0.2

Input voltages

60, 100, 110, 230, 400, 415, 440, 500, 690 V ±20%

Rated operating conditions

- ambient temperature 5...23...40°C
5...35...55°C
- relative air humidity 25...85%
- working position acc. order (±5°), Table 2
- vibrations inadmissible

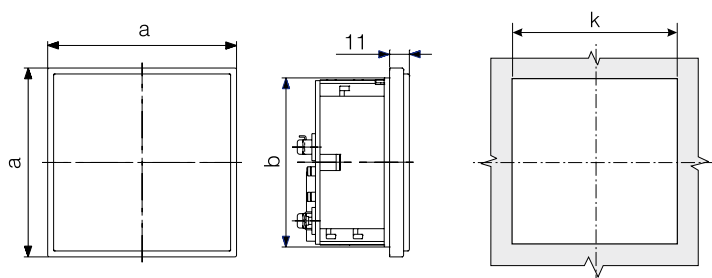
Working temperature range:

These meters operates satisfactorily without damage in the temperature range from -25°C...to +55°C.

Additional errors

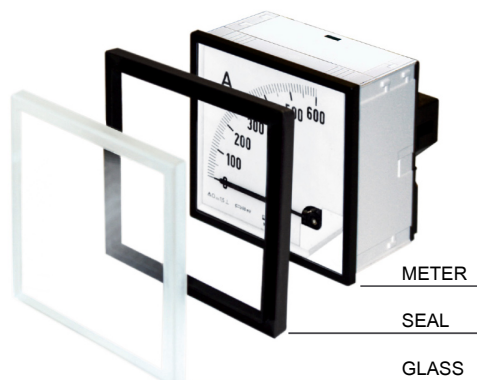
acc. EN 60051-1 standard

EXTERNAL DIMENSIONS OF CA37 AND CA39 METER FOR IP 65 PROTECTION GRADE

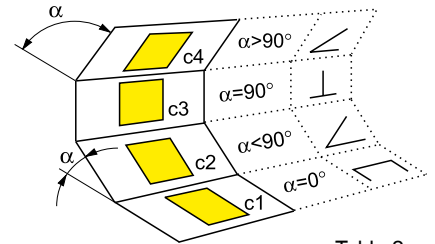
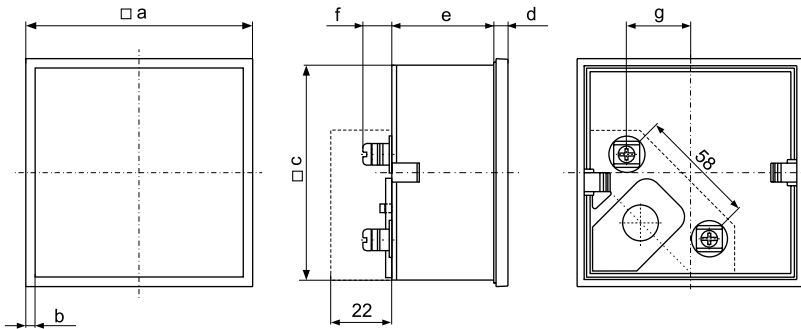


Typ	a	b	k
CA37	81	70	70,2 ^{+0,7}
CA39	105	94	94,2 ^{+0,8}

Fig.1



EXTERNAL DIMENSIONS OF CA37, CA39, CA32 FOR IP 50 OR IP 54 PROTECTION GRADE



Type	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Panel cut-out dimensions
CA37	72	4	68	5	45	10...20	20.5	68 ^{+0.7} × 68 ^{+0.7} mm
CA39	96	4	92	5	45	10...20	32.5	92 ^{+0.8} × 92 ^{+0.8} mm
CA32	144	4.5	137.3	6	48	10...20	55.5	138 ⁺¹ × 138 ⁺¹ mm

Fig. 2. Overall and panel cut-out dimensions.

Table 2

Code	Working position
O	c3, α = 90°
A	c1, α = 0°
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°

INSTALLATION

One should prepare in the panel an appropriate hole at dimensions depended on the meter type, acc. the fig. 1 and 2.

The thickness of the material of which the panel is made, cannot exceed 15 mm. The meter is fixed to the panel by two screw holders situated on opposite corners of the case.

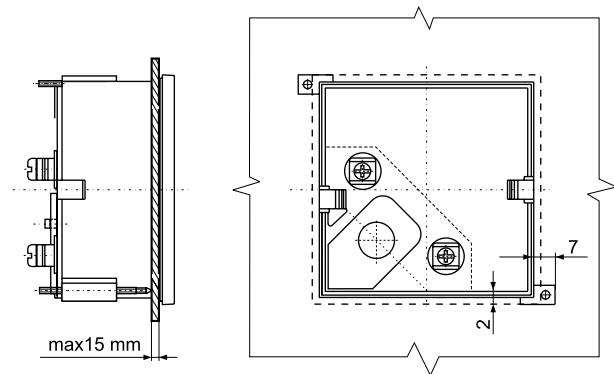


Fig. 3. Way of the meter fixation on the panel.

ORDERING PROCEDURE

PANEL FREQUENCY METERS CA37, CA39, CA32	X	X	X	XX	X
Frequency range: 45...55 Hz.....	1				
45...65 Hz.....	2				
48...52 Hz.....	3				
55...65 Hz.....	4				
58...62 Hz.....	5				
140...160 Hz.....	6				
180...220 Hz.....	7				
360...440 Hz.....	8				
380...420 Hz.....	9				
Rated voltage: 60 V.....	1				
100 V.....	2				
110 V.....	3				
230 V.....	4				
400 V.....	5				
415 V.....	6				
440 V.....	7				
500 V.....	8				
690 V.....	9				
Working position Write in the code acc. table 2.....				X	
Version: Standard					00
Custom-made*					XX
Acceptance tests: Without additional requirements					8
With a certificate delivered by the Technical Inspection Dept.					7
Other requirements					X

* The version number is settled by the manufacturer.

Example of order

Code: CA37-1-4-O-00-8, means:

The version of a frequency meter, CA37 type in a 72 × 72 mm case, for the frequency range: 45...55 Hz, rated voltage: 230 V, working position: c3 (90°- vertical), standard version, without additional requirements.

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