

## PANEL POINTER FREQUENCY METERS

**CA37** TYPE - 72 × 72 mm

**CA39** TYPE - 96 × 96 mm

**CA32** TYPE - 144 × 144 mm



### 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 IEC1010-1-A1 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 (on request  
for tropical executions)

- air relative 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.  
acc. IEC51/1 - 9 standard  
≤ 2VA

#### Additional errors

#### Power consumption

#### Protection grades

- case

IP 50 or IP54 (on request)

- terminals

IP 20 with a terminal shroud

#### Electromagnetic compatibility:

- emission

acc. EN50081-2 standard

- immunity

acc. EN50082-2 standard

#### Safety requirements

- installation category

acc. IEC1010-1 standard

- level of pollution

III

2

#### Maximal working voltage in relation to the earth

600 V AC

#### Weight

- CA37

300 g

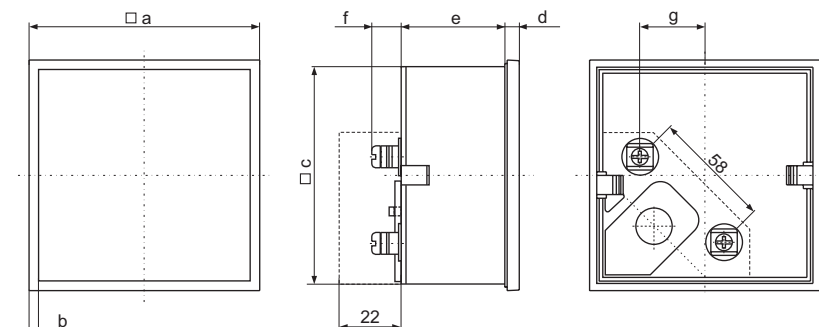
- CA39

350 g

- CA32

520 g

## EXTERNAL DIMENSIONS



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

Fig. 1. Overall and panel cut-out dimensions.

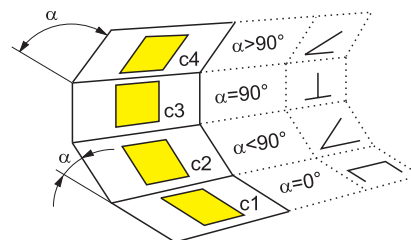


Table 2

Code	Working position
O	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°

## INSTALLATION

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

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.

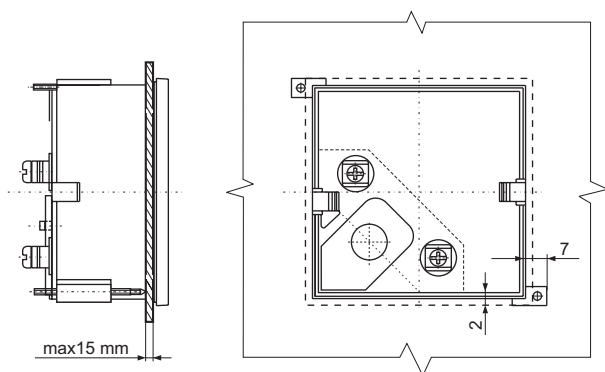


Fig. 2. Way of the meter fixation on the panel.

## ORDERING PROCEDURE

PANEL FREQUENCY METERS CA37, CA39, CA32		X	X	X	XX	X
<b>Frequency range:</b>	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					
<b>Rated voltage:</b>	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					
<b>Working position</b>	Write in the code acc. table 2 ..... X					
<b>Version:</b>	Standard ..... 00					
	Custom-made* ..... XX					
<b>Acceptance tests:</b>	Without additional requirements ..... 0					
	With a certificate delivered by the Technical Inspection Dept. .... 1					
	Other requirements ..... X					

\* The version number is settled by the manufacturer.

### Example of order

**Code: CA37-1-4-O-00-0, 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.