



## *Analogue Meters FQ1x08 series*

### FQ - Moving-iron Panel instruments FQ1108 & FQ1208

- For measurement of AC voltages
- Good read-out survey on larger distance
- Resistance to mechanical vibrations
- Protective cover for terminals (optional)

## PROPERTIES

- For measurement of AC voltages
- Good read-out survey on larger distance
- Resistance to mechanical vibrations
- Protective cover for terminals (optional)

## APPLICATION

Instruments are intended for installation in supervision panels of power distribution stations and transformer stations or wherever two AC voltages are to be measured.

The incorporated moving-iron mechanism measures r.m.s. values of AC currents in frequency range 15 to 100 Hz, independent of curve shape, on requests and voltages.

## CONSTRUCTION

The mechanism is a sprung pivot bearing type with silicon oil damping.

Non-linear graduations at the beginning of the scale allows reading from approximately 15 % of measuring range onwards.

Voltage transformers (x kV/100 V, x kV/110 V).

## SHIP'S VERSION

Special versions are available for panel mounting into ships. These are mechanically resistant and additionally sealed instruments which comply with the requirements of Lloyd registers. The instrument case is marked by an anchor: ⚓ and a capital letter L at the end of the type designation.

## MEASURING RANGE:

### VOLTMETERS:

Measuring range (V)	60	100	110	150	230	250	400
						500	600

Measuring range (V)	X kV / 100 V	x kV / 110 V	for connection to transformer
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Instruments for connection to instrument transformers have the following measuring ranges:

1 – 1.2 – 1.5 – 2 – 2.5 – 3 – 4 – 5 – 6 – 7.5 (8) and decade multiples.

## TECHNICAL DATA

### ACCURACY:

accuracy class 1.5

### DESIGN:

Material of housing: PC  
unflammable, according to **UL 94 V-0**

Enclosure protection: Case IP 52, terminal contacts IP 00  
(IP 20 for connection **terminals**)  
according to **EN 60529**

Operating position Vertical

Installation category (Vrms): CAT III 600V

Consumption: Voltmeters 1.5 ... 4 VA

### AMBIENT CONDITIONS

### JVF (DIN 40 040)

Climatic conditions:

Standards **EN 60051-1**

**EN 60051-2**

**EN 60051-9**

Temperature:

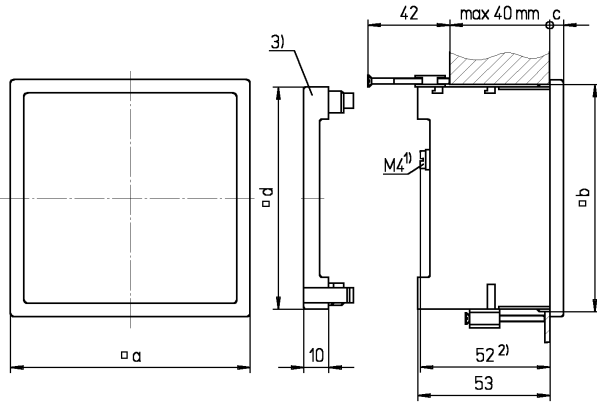
Reference range of operation +18 ... +28°C

Nominal range of operation -25 ... +55°C

Storing -40 ... +70°C

Humidity up to 80% (without condensing)

## DIMENSIONAL DRAWING



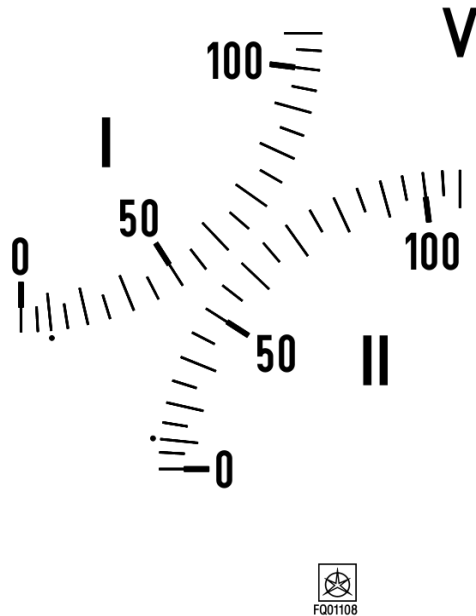
Picture 1: Dimensional drawing FQ1108 & FQ1208 (all dimensions are in mm)

3) Protective cover (on special request)

Type		FQ1108	FQ1208
Bezel (mm)	□ a	144	96
Panel cut-out (mm)	□ b	138 <sup>+1.0</sup>	92 <sup>+0.8</sup>
Bezel height (mm)	c	8.0	5.5
Protect cover (mm)	□ d	90	90
Scales length (mm)		135	92
Weight approx. (kg)		0.4	0.2

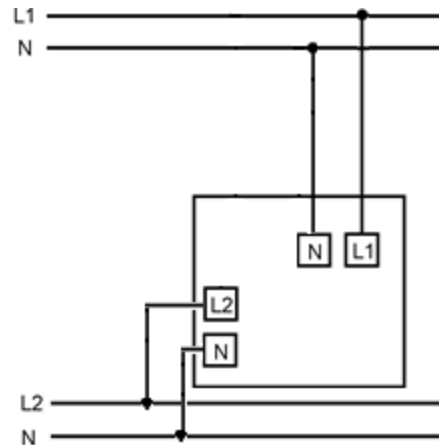
Table 1: Dimensions and weight

## SCALE



Picture 2: Drawing of scale: FQ1108

## CONNECTION DIAGRAM



Picture 3: Connection diagram: FQ1208

## DATA FOR ORDERING

- Instrument type,
- Measuring range and scale,
- Transmission ratio of instrument transformer.

## ORDERING EXAMPLE:

- Voltmeter ZQ1208 0 - 600 V
- Voltmeter ZQ1208 110/0.1 kV - 150 kV

When ordering scales, state same data as when ordering the instrument.