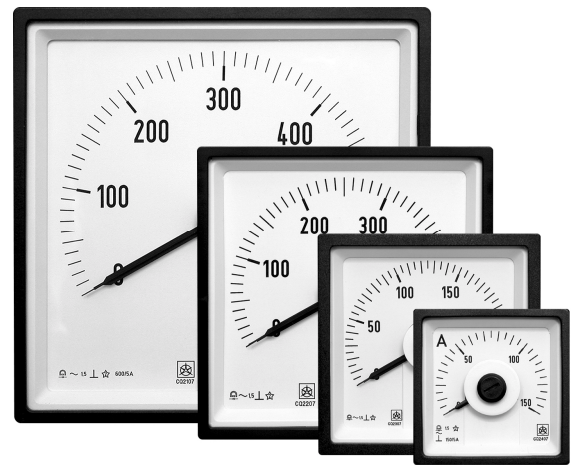


⚡ - CQ - INSTRUMENTS WITH A MOVING COIL AND A RECTIFIER

FEATURES:

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



Picture 1: Instrument with 240° scale CQ2107, CQ2207, CQ2307, CQ2407

APPLICATION

Measuring instruments with a moving coil CQ... are intended for measurement of AC currents and voltages in the frequency range 40...50...5000 Hz. Average value of rectified current and voltage is measured. The scale is drawn in r.m.s. values at sine curve form. Distortion and deviation, respectively, from the sine current and voltage forms, entails additional errors.

CONSTRUCTION

The measuring system, made by light and quality materials is not sensitive to external electromagnetic fields and is resistant to mechanical impacts and vibrations. The meters with exchangeable dial and linear 240° scale have the standardised square casing. The scale length is much longer as the pointer is placed in the centre of the instrument.

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: 1989**
- Operating position Vertical
- Test voltage 2 kV rms
according to **EN 61010-1: 1990**

AMBIENT CONDITIONS JVF (DIN 40 040)

- Climatic conditions:
 - Standards **EN 60051-1: 1995/01**
 - EN 60051-2: 1984**
 - EN 60051-9: 1988**
- 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)

MEASURING RANGE:

Microammeters

Measuring rating (μA)	100	120	150	200	250	300	400	500	600	800
Voltage drop	$1,2 \text{ V} \dots 1,5 \text{ V}$									

Milliammeters

Measuring rating (mA)	1	1,2	1,5	2	2,5	3	4	5	6	8	10
Voltage drop	$1,2 \text{ V} \dots 1,5 \text{ V}$										

Ammeters

Measuring rating					$\text{A} / 1 \text{ A}^{\text{D}}$				$\text{A} / 5 \text{ A}^{\text{D}}$			
Consumption					$0,1 \text{ VA}$				$0,15 \text{ VA}$			

Voltmeters

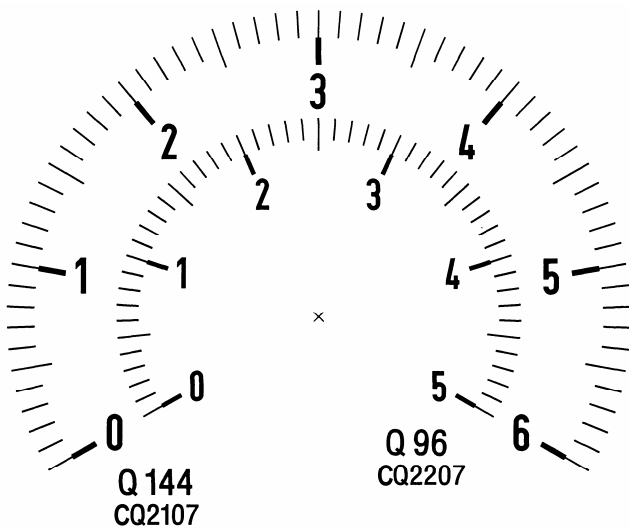
Measuring rating (V)	2,5	3	4	5	6	8	10	12	15	20	25	30	40
	50	60	80	100	120	150	200	250	300	400	500	600	
	$/ 100 \text{ V}^{\text{D}}$						$/ 110 \text{ V}^{\text{D}}$						

Internal resistance

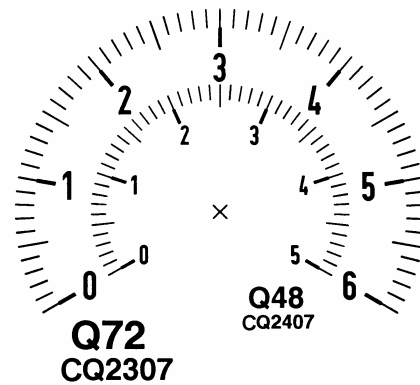
$1 \text{ k}\Omega / \text{V}$

¹⁾ For the connection to measuring transformer. State transformer ratio and rating at order. Ammeters CQ2407 are delivered with separated current transformer 1 A/5mA or 5 A/5mA.

SCALE (NATURAL SIZE):



Picture 2: Drawing of scale CQ2107, CQ2207

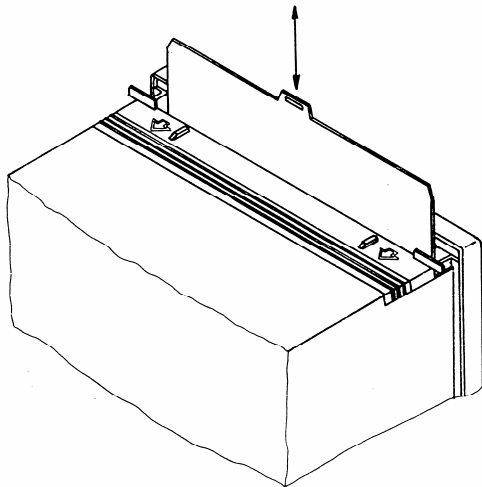


Picture 3: Drawing of scale CQ2307, CQ2407

EXCHANGING OF SCALE

The instrument must be disconnected during the exchange dial procedure.

Press the cover, on top of the instrument, in the direction of the arrow and extract the scale with a suitable tool. After exchanging the scale, carefully close the opening with the cover.



Picture 4: Exchanging of scale



Picture 5: Exchanging of scales

DATA FOR ORDERING:

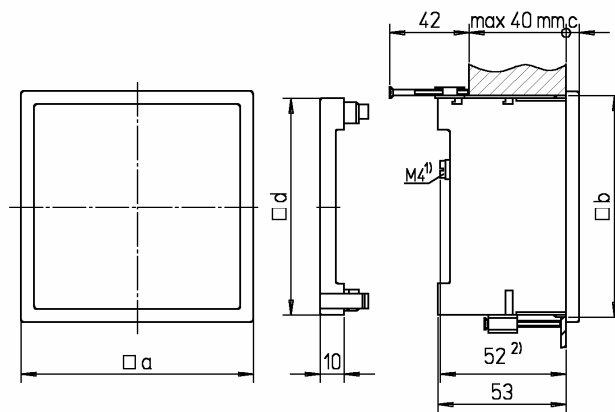
State the instrument type designation and rating. In case for connection to the measuring transformer, the transformer ratio should also be stated.

EXAMPLE FOR ORDERING

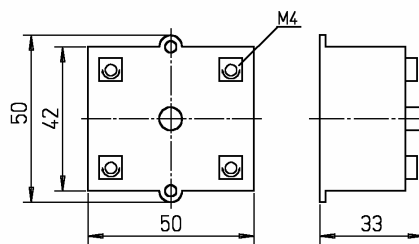
- Milliammeter CQ2207, 10 mA
- Voltmeter CQ2307, 120 kV, for the connection to voltage transformer 100/0,1 kV

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

DIMENSIONAL DRAWING:



Picture 6: Dimensional drawing (all dimensions are in mm)



Picture 7: Separated current transformer 1 A/5mA or 5 A/5mA only at CQ2407.

Type		CQ2107	CQ2207	CQ2307	CQ2407
Bezel (mm)	□ a	144	96	72	48
Panel cut-out (mm)	□ b	138 ^{+1,0}	92 ^{+0,8}	68 ^{+0,8}	45 ^{+0,6}
Bezel height (mm)	c	8,0	5,5	5,5	5,0
Protect cover (mm)	□ d	90	90	66,5	42,5
Scales length (mm)		235	155	113	71
Weight approx. (kg)		0,39	0,25	0,19	0,15

Table 1: Dimensions and weight



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