



## *Analogue Meters BQ2x07 series*

### **🔌 BQ - Instruments with a moving coil BQ2107, BQ2207, BQ2307 & BQ2407**

- For measurement of DC currents and voltages
- Linear scale
- Good read-out survey on larger distance
- Moving-coil Panel instruments with exchangeable scales
- Panel mounted instruments with 240° scale
- Resistance to mechanical vibrations
- Protective cover for terminals

## PROPERTIES

- For measurement of DC currents and voltages
- Linear scale
- Good read-out survey on larger distance
- Moving-coil Panel instruments with exchangeable scales
- Panel mounted instruments with 240° scale
- Resistance to mechanical vibrations
- Protective cover for terminals (optional)

## APPLICATION

Measuring instruments with a moving coil BQ... are intended for measurement of direct currents and voltages. They are intended for incorporation into switchboards, consoles and measuring devices where maximum quantity of instruments can be applied at limited area and where good survey and read-out accuracy on larger distances are kept as well.

## 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.

<sup>1)</sup> For assembly rail mounting according to DIN 46277 and EN 50022. Bezel measures are 52x45 mm. Technical data are the same as for BQ2407.

<sup>2)</sup> At reference conditions for size 96x96 (BQ2207) and 144x144 mm (BQ2107) only.

## MEASURING RANGE:

### MICROAMMETERS:

Measuring range ( $\mu\text{A}$ )	100	120	150	200	250	300	400	500	600	800
Internal resistance ( $k\Omega$ ) <sup>3)</sup>	5.9	6.4	5.1	3.9	4	4	2.4	1.5	1.3	0.7

### MILLIAMMETERS

Measuring rating (mA)	1	1.2	1.5	2	2.5	3	4	5	6	8	10	15	20	4-20
Internal resistance ( $k\Omega$ ) <sup>3)</sup>	370	310	200	97	78	46	25	8.4	15	10	7	5	3.9	75
Measuring range (mA)	25	40	50	60	100	150	250	400	600					
Voltage drop														60mV

### AMMETERS:

Measuring range (A)	1	1.2	1.5	2	2.5	3	4	5	6	8	10	12	15	20	25	30	40	50	60	
Voltage drop																				60 mV
Measuring range																				A / 60 mV <sup>3)</sup>

<sup>3)</sup> For the connection to separated shunts.

### MILIVOLTMETERS:

Measuring rating (mV)	60	100	150	200	300					
Current						cca. 5mA				

### AMMETERS:

Measuring range (V)	1	1.2	1.5	2	2.5	3	4	5	6	8	10	12	15	20	25	30	40	50	60	
Internal resistance	100	120	150	200	250	300	400	500	600											
																				1 k $\Omega$ /V

<sup>3)</sup> Internal resistance ( $k\Omega$  - 25%)

## TECHNICAL DATA

### ACCURACY:

Accuracy class	1.5
	(standard)
Accuracy – on request	1.0 <sup>2)</sup>
	(optional)

### DESIGN:

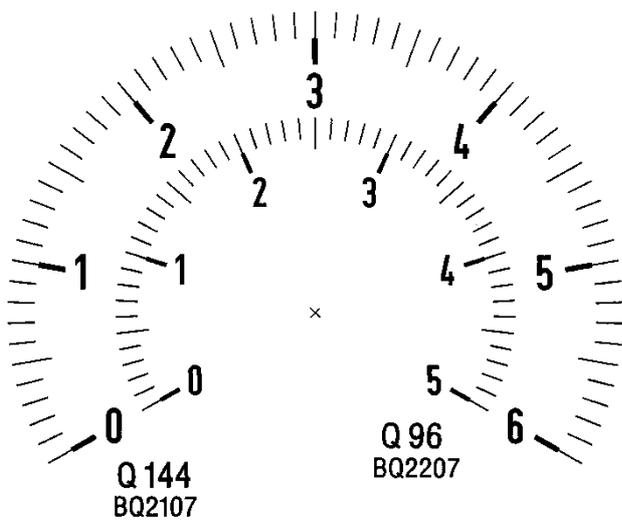
Material of housing:	PC
	unflammable, according to <b>UL 94 V-0</b>
Enclosure protection:	Case IP 52, terminal contacts IP 00
	(IP 20 for connection terminals)
	according to <b>EN 60529</b>
Operating position	Vertical
Installation category (Vrms)	(V-m 300 V-600 V) CAT III 600 V
	(All other types) II 600 V/III 300 V

### AMBIENT CONDITIONS

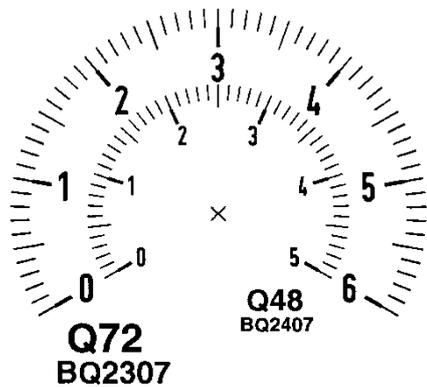
### JVF (DIN 40 040)

Climatic conditions:	Standards <b>EN 60051-1</b>
	<b>EN 60051-2</b>
	<b>EN 60051-9</b>
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)

## SCALE



Picture 1: Drawing of scale BQ2107, BQ2207

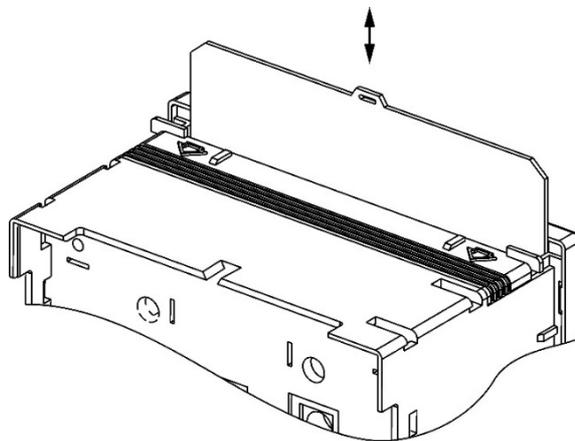


Picture 2: Drawing of scale BQ2307, BQ2407

## EXCHANGING OF SCALES

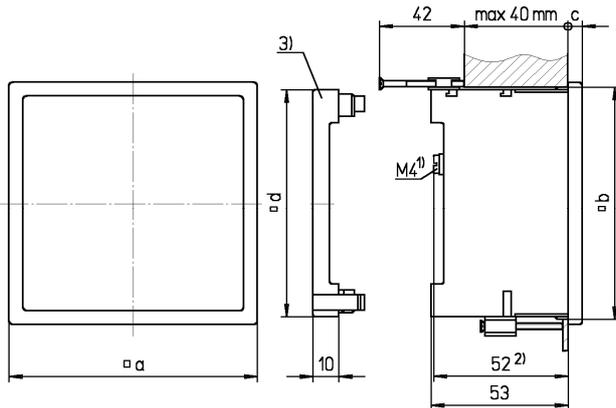
The instrument must be switched off during the exchange procedure.

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 3: Exchanging of scales

## DIMENSIONAL DRAWING



Picture 4: Dimensional drawing BQ2107, BQ2207, BQ2307 and BQ2407 (all dimensions are in mm)

3) Protective cover (on special request)

## 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.

### ORDERING EXAMPLE FOR STANDARD VERSION:

- Milliammeter BQ2207, 10 mA
- Voltmeter BQ2307, range 60 mV, scale 100 A

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

Type: BQ2307  
 Range: 60 mV  
 Scale: 100 A

Type		BQ2107	BQ2207	BQ2307	BQ2407
Bezel (mm)	□ a	144	96	72	48
Panel cut-out (mm)	□ b	138 <sup>+1.0</sup>	92 <sup>+0.8</sup>	68 <sup>+0.8</sup>	45 <sup>+0.6</sup>
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

### WITH CODE:

**BQ2307SL\_A7D5AASNSSSYS**

**BQ2307** Type  
**S** Class 1.5  
**L** Left zero position  
**\_A** Unit  
**7D5** Rating  
**A** Standard finish  
**A** Standard window  
**S** Standard dial  
**N** Without illuminated  
**S** Single scale  
**S** Black zero adjuster  
**S** Black frame  
**Y** With protection cover  
**S** Vertically mounting position

**ORDERING CODE**

\*Standard version.

Type	Class	Zero Position	Unit	Rating	Finish	Window	Dial	Illuminated Scale	Index Type	Zero Adjuster Colour	Frame Colour	Protection Cover	Mounting Position
<b>BQ2x07</b>	X	X	X	X	X	X	X	X	X	X	X	X	X
													<b>A</b> 30° <b>B</b> 60° <b>C</b> 0° - Horizontally <b>S</b> 90° - Vertically *
													<b>N</b> No <b>Y</b> Yes*
													<b>S</b> Black *
													<b>S</b> Black * <b>W</b> White
													<b>D</b> Double Scale <b>S</b> Single Scale *
													<b>N</b> No *
													<b>N</b> Bianco Dial <b>S</b> Standard with Scale * <b>W</b> Black, White Scale <b>X</b> No Dial <b>Y</b> Black, Yellow Scale
													<b>A</b> Clear Glass * <b>B</b> Clear Glass + Red Adj. Index <b>D</b> Anti-Glare + Red Adj. Index <b>L</b> Anti-Glare Glass <b>P</b> Polycarbonate Panel <b>R</b> Polycarbonate + Red Adj. Index
													<b>A</b> Standardna * <b>G</b> HVE + IP54 <b>H</b> HVE (Tropical Seal) <b>M</b> Inc. Mech. Resistance <b>P</b> IP54 <b>R</b> Ship Ver. + IP54 <b>S</b> Ship Ver. <b>T</b> Ship Ver. + HVE
													1 1.2 1.5 2 3 4 5 6 7.5 8 10 12 15 20 25 30 40 50 60 75 80 100 120 150 200 250 300 400 500 600 800
													<b>uA</b> rating selection limits 100 ... 800 <b>mA</b> " 1 ... 800 <b>_A</b> " 1 ... 7.5 <b>_V</b> " 1 ... 600
													<b>Left Hand Zero *</b>
													<b>H</b> cl. 1 <b>S</b> cl. 1.5 *

- BQ2107** Front frame (mm) 144x144
- BQ2207** Front frame (mm) 96x96
- BQ2307** Front frame (mm) 72x72
- BQ2407** Front frame (mm) 48x48

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**Iskra, d.d.**

Stegne 21

SI-1000 Ljubljana

Slovenia

Tel.: +386 1 51 31 000

Fax: +386 1 51 11 532

[www.iskra.eu](http://www.iskra.eu)

[info@iskra.eu](mailto:info@iskra.eu)