

(K)PQ - Moving Coil Instruments

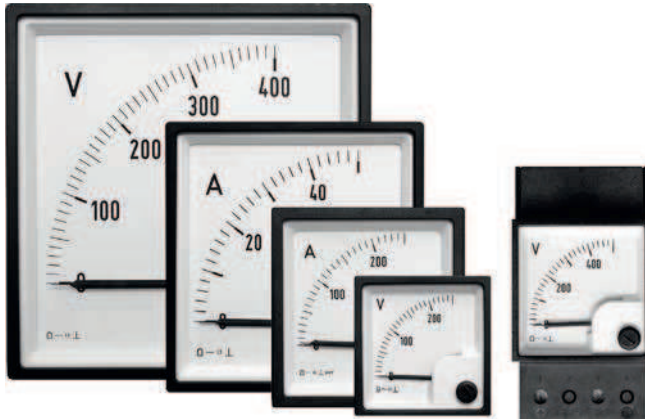


Figure 04: PQ 48...144, PQ 45¹⁾ -
DC ammeter and voltmeter with 90°-Scale

Features

- For measurement of DC currents and voltages
- Linearer Skalenverlauf: PQ 90°, KPQ 240°
- Exchangeable dial
- higher resistance to mechanical vibrations (optional)
- Protective cover for terminals (optional)
- DIN-rail version available

Application

These instruments are designed for mounting into supervision panels of power distribution or transformer stations where DC current and voltage measuring instrument is required. The measuring system includes a core magnet, which is insensitive to external fields. The moving-coil is mounted on spring bearings, therefore the measuring system is highly resistive to mechanical shocks and vibrations. The scale graduation is practically linear throughout the whole range.

Technical Data

Accuracy:

- Accuracy class 1,5

Housing:

- Material of housing: PC non-flammable, 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

Further Information

For general information e.g. dimensions, ambient conditions, type of connection and information for the exchange of the dials, please see page 25 ff. and our website.

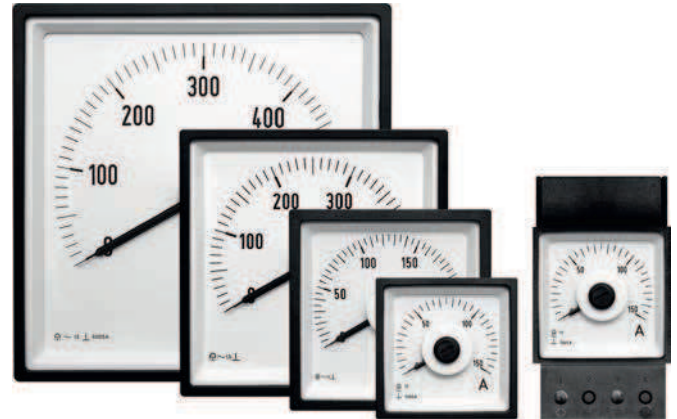


Figure 05: KPQ 48...144, KPQ 45¹⁾ -
DC ammeter and voltmeter with 240°-Scale

Measuring Ranges - Sample Values

Ammeters

	PQ	KPQ
Nominal value [μ A]	40 μ A ¹⁾ up to 600 μ A	100 μ A up to 800 μ A
Nominal value [mA]	1 mA up to 600 mA or 4-20 mA	1 mA up to 20 mA and 4-20 mA
Nominal value [A]	1 A up to 100 A ²⁾ , 60mV, 5mA ³⁾	1 A up to 60 A ²⁾
Current measuring via external shunt	60 mV or 150 mV	60 mV or 150 mV

¹⁾ PQ instruments: 40 μ A and 60 μ A for horizontal mounting only

²⁾ Ranges above 60 A, only with with separate shunt. (K)PQ 45 up to 10A max., (K)PQ 48 max. 25A

³⁾ For connectin to separate shunt, calibrated for 0,035 Ω wire resistivity
For instruments (K)PQ 45 respectively (K)PQ 48 over voltage class CAT III applies, max. 300 V nominal voltage against earth

Voltmeters

	PQ	KPQ
Nominal value [mV]	100 mV up to 600 mV	60 mV up to 300 mV
Nominal value [V]	1 V up to 600V	1 V up to 600 V

other ranges and interim values available

Ordering Data

For ordering it is necessary to specify:

- Instrument type
- Measuring range and scale

Ordering example:

- PQ 96 voltmeter, 150 V, 0 ... 150 V scale
- PQ 96 ammeter, 10 mA, 0 ... 10 mA scale
- PQ 96 ammeter, 60 mV, for connection to separate 1,5kA/60 mV shunt, 0 ... 1500 A scale

¹⁾ PQ 45 for DIN-rail mounting according to DIN 46277 and EN 50022. Bezel 45x45 mm. technical data refer to PQ 48.

Dimensions: Analogue Panel Meters

		Size				
		45	48	72	96	144
Front (mm)	□ a	45	48	72	96	144
Cutout (mm)	□ b	-	45 ^{+0,6}	68 ^{+0,8}	92 ^{+0,8}	138 ^{+1,0}
Bezel height (mm)	c	-	5,0	5,5	5,5	8,0
Terminal cover (mm)	□ d ³⁾	-	42,5	66,5	90	90
Weight (kg)	BEQ	-	-	0,22	0,25	0,45
	EQ (K)PQ BQ	0,14	0,14	0,18	0,20	0,40
	EQDd	-	-	-	0,30	0,50
	EQtri	-	-	0,24	0,30	-
	FQ	-	-	0,20	0,25	0,40
	FQD	-	-	-	0,38	0,52
	(K)PQFe	-	0,10	0,19	0,25	0,32
	(K)PQg	0,15	0,15	0,19	0,25	0,39
	PQFe	-	0,10	0,14	0,19	0,25
	PQFeDd	-	-	-	0,25	0,32
	SQ	-	-	-	0,63	0,80
	SDQ	-	-	0,15	0,20	-

Table 03: Dimensions and weight

- not available

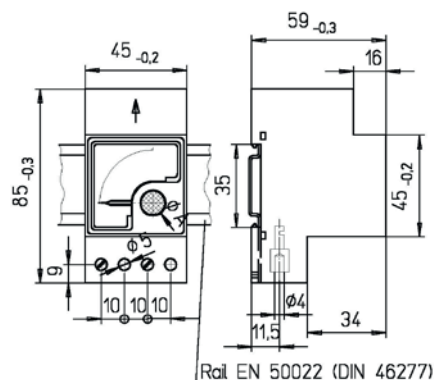


Figure 27: Dimensions EQ/(K)PQ/BQ 45 (in mm)

PQFeDd

		Size				
		45	48	72	96	144
Front (mm)	□ a	-	-	-	96	-
Cutout (mm)	□ b	-	-	-	92 ^{+0,8}	-
Bezel height (mm)	c	-	-	-	5,5	-
Terminal cover (mm)	□ e ¹⁾	-	-	-	90	-
Weight (kg)		-	-	-	0,35	-

Table 04: Dimensions and weights PQFeDd

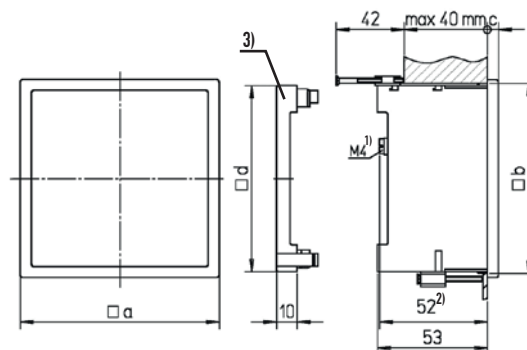


Figure 28: Dimensions EQ/PQ 48...144 (in mm)

¹⁾ Range from 30 to 40 A - M6 terminals

²⁾ Range from 30 to 40 A - depth 59 mm

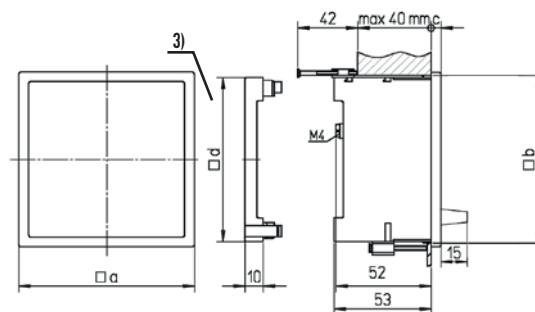


Figure 29: Dimensions EQtri 96 (in mm)

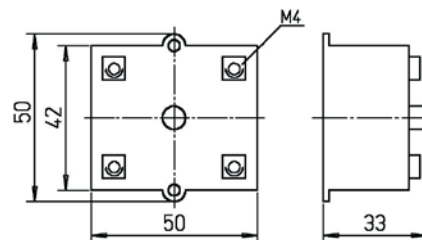


Figure 30: Separate Current Transformer for KPQg 48 (1A/5mA or 5A/5mA)
all dimensions in mm

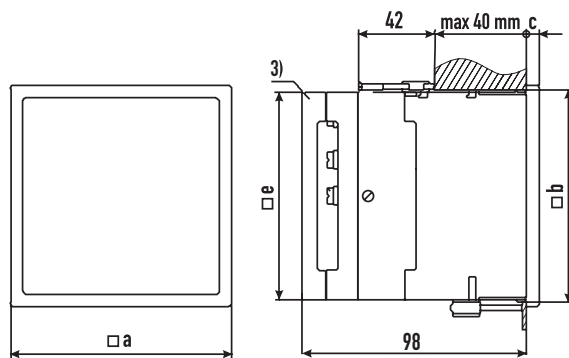


Figure 31: Dimensions PQFeDd

³⁾Terminal Cover (Option)
subject to alterations