

ANALOGUE MEASURING INSTRUMENTS

PQ / PAQ - Moving coil instruments



- For DC voltage / current
- Class 1.5
- PQ scale 90°
- PAQ scale 240°

Description

Moving-coil panel meters are suitable for measuring DC currents and voltages. Their main feature is their low power consumption. Connected to measuring transducers and with suitable dial, they can be used for measurement in other quantities. For currents above 100A they must be connected through a shunt. In this case, the instruments are adjusted for a copper twin-wire connection cable. Self-shielding moving-coil system, with core magnet and hair-springs for the creation of the restoring torque. Pivot suspension with spring loaded jewel bearings for vibration and shock resistance.

Electrical data

Continuously 1.2 times
Short duration $10 \times I_N$ 5 s for am instruments
 $2 \times U_N$ 5 s for volt instruments

Scales

90° (PQ..n) or 240° (PAQ..n) scales, practically linear. Coarse-fine division.

Internal resistance, consumption approx. in Ohm				
Measuring range		PQ35p	PQ ..n	PAQ ...n
μA	25		240 mV	
	40		374 mV	
	60	200 mV	600 mV	
	100	200 mV	400 mV	
	150	200 mV	600 mV	
	250	200 mV	140 mV	810 mV
mA	400	200 mV	540 mV	900 mV
	600	200 mV	540 mV	900 mV
	1	200 mV	37 mV	490 mV
	1,5	200 mV	60 mV	425 mV
	2,5	200 mV	60 mV	760 mV
	4	200 mV	60 mV	950 mV
A	6	200 mV	60 mV	60 mV
	4-20	200 mV	1,5 V	1,5 V
	10-800	200 mV	60-70 mV	60-125 mV
V	1-100	15A 200 mV	60-100 mV	60 mV
	.../60...150mV	12 Ω	5 mA	67/200 Ω /V
mV	15-40	1000 Ω /V	200 Ω /V	67 Ω /V
	15-40	1000 Ω /V	200 Ω /V	67 Ω /V
	60-100	1000 Ω /V	1000 Ω /V	67 Ω /V
	150-600	1000 Ω /V	1000 Ω /V	200 Ω /V
	750	1000 Ω /V	1000 Ω /V	200 Ω /V
V	1	1000 Ω /V	1000 Ω /V	200 Ω /V
	1,5-600	1000 Ω /V	1000 Ω /V	1000 Ω /V

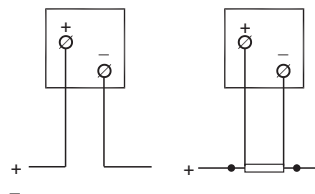
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Standard Measuring Ranges

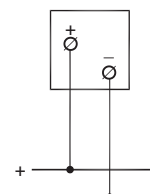
DC Voltage	DC Current
15 mV	100 μ A
25 mV	150 μ A
40 mV	250 μ A
60 mV	400 μ A
100 mV	600 μ A
150 mV	1 mA
250 mV	1,5 mA
400 mV	2,5 mA
600 mV	4 mA
1 V	6 mA
1,5 V	10 mA
2,5 V	15 mA
4 V	20 mA
6 V	25 mA
10 V	40 mA
15 V	60 mA
25 V	100 mA
40 V	150 mA
60 V	250 mA
100 V	400 mA
150 V	500 mA
250 V	600 mA
300 V	1 A
400 V	1,5 A
500 V	2,5 A
600 V	4 A
	6 A
	10 A
	15 A
	25 A (except PQ35n)
	40 A (except PQ35n)
	60 A (except PQ35n)
	100 A (except PQ48n/PQ35n)
For connection to shunt	Standard signals
.../60 mV secondary	20 mA
.../150 mV secondary	4-20 mA
.../300 mV secondary	1 mA

Connection diagrams

Ammeter



Voltmeter



Dimensions in mm / Weight in gramme

Type		a	c	d	e	g	h	Ø	Weight
PQ 48n	< 5... 60 A	48	70	73	45 ^{+0,6}	28	5	M6	205
	others	48	55	62	45 ^{+0,6}	28	5	M4	150
PQ 72n	> 60 A	72	81	-	68 ^{+0,7}	8 ¹	5	M8	285
	5... < 60 A	72	70	75	68 ^{+0,7}	8 ¹	5	M6	265
	others	72	55	75	68 ^{+0,7}	8 ¹	5	M4	210
PQ 96n	> 60 A	96	81	-	92 ^{+0,8}	8 ¹	5	M8	350
	5... < 60 A	96	70	75	92 ^{+0,8}	8 ¹	5	M6	330
	others	96	55	75	92 ^{+0,8}	8 ¹	5	M4	275
PQ 144n	> 60 A	144	81	-	138 ⁺¹	40	8	M8	505
	5... < 60 A	144	70	75	138 ⁺¹	40	8	M6	485
	others	144	53	64	138 ⁺¹	40	8	M4	430
PAQ 48n	10... 40 A	48	70	73	45 ^{+0,6}	26	5	M6	230
	others	48	53	64	45 ^{+0,6}	26	5	M4	210
PAQ 72n	> 60 A	72	78	-	68 ^{+0,7}	40	5	M8	320
	6... < 60 A	72	68	-	68 ^{+0,7}	40	5	M6	385
	others	72	53	64	68 ^{+0,7}	40	5	M4	290
PAQ 96n	> 60 A	96	78	-	92 ^{+0,8}	40	5	M8	395
	6... < 60 A	96	68	-	92 ^{+0,8}	40	5	M6	460
	others	96	53	64	92 ^{+0,8}	40	5	M4	370
PAQ 144n	> 60 A	144	78	-	138 ⁺¹	40	8	M8	680
	6... < 60 A	144	68	-	138 ⁺¹	40	8	M6	720
	others	144	53	64	138 ⁺¹	40	8	M4	650

