

# MOVING COIL INSTRUMENTS

PQ

## Moving Coil Instruments



PQ96n

- for DC voltage / DC current
- Class 1.5



PQ35p



PQ48n



PQ72n



PAQ72n



PAQ96n

### Description

The system of our instruments is a moving coil movement with sprung toe bearing which is insensitive to external magnetic fields. The movable organs of the movements are stored in sprung jewels in order to protect them against crushes and vibrations. These instruments only measure DC current or DC voltage.

By using core magnets of high quality the moving coil instruments have a almost linear scale course. That's why and due to their low consumption they are especially suited for the application with shunts, impulse transmitters, thermo couples and for the connection to our electronic transducers. The instruments can be delivered for direct connection up to 100 A with a built-in shunt.

Overload capacity according to DIN 43780  
Is valid for all moving coil instruments

Continuously 1.2 times  
Short duration  $10 \times I_N$  5 s for amstruments  
 $2 \times U_N$  5 s for voltinstruments

### Interchangeable scales

All plastic executions (n-line) have interchangeable scales. This execution enables easy exchange or fit of the changing scale (not during operating).

### Execution for DIN rail mounting (PQ35P)

For measuring current and voltage in distribution systems with 35 mm DIN rail according to DIN 50 022.

The instruments of this line are adapted by their dimensions to common installation devices. The installation width of the instruemnts is 45 mm. They can be snapped easily on a 35 mm DIN rail.

The clamps are covered shockproof.

### Execution PAQ...n with round scale 240°

The movements are working for the same principle as the PQ devices. The advantage of these devices is the large scale length (better resolution). These instruments only measure DC current or DC voltage.

These devices also have interchangeable scales.

Internal resistance, consumption approx. in Ohm

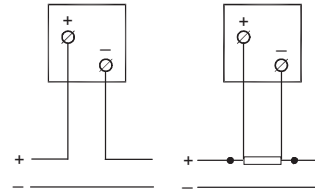
Measuring range		PQ 35G	PQ ..n	PAQ ...n
µA	25		240 mV	
	40		374 mV	
	60	200 mV	600 mV	
	100	200 mV	400 mV	
	150	200 mV	600 mV	
	250	200 mV	140 mV	810 mV
	400	200 mV	540 mV	900 mV
mA	600	200 mV	540 mV	900 mV
	1	200 mV	37 mV	490 mV
	1,5	200 mV	60 mV	425 mV
	2,5	200 mV	60 mV	760 mV
	4	200 mV	60 mV	950 mV
	6	200 mV	60 mV	60 mV
	4-20	200 mV	1,5 V	1,5 V
A	10-800	200 mV	60-70 mV	60-125 mV
	1-100	to 15A 200 mV	60-100 mV	60 mV
	.../60...150mV	12 Ω	5 mA	67/200Ω/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

## Standard Measuring Ranges

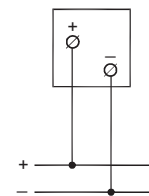
DC Voltage	DC Current
15 mV	15 µA
25 mV	25 µA
40 mV	40 µA
60 mV	60 µA
100 mV	100 µA
150 mV	150 µA
250 mV	250 µA
400 mV	400 µA
600 mV	600 µA
1 V	1 mA
1,5 V	1,5 mA
2,5 V	2,5 mA
4 V	4 mA
6 V	6 mA
10 V	10 mA
15 V	15 mA
25 V	20 mA
40 V	25 mA
60 V	40 mA
100 V	60 mA
150 V	100 mA
250 V	150 mA
300 V	250 mA
400 V	400 mA
500 V	500 mA
600 V	600 mA
800 V (except PQ48n/PQ35P)	1 A
	1,5 A
	2,5 A
	4 A
	6 A
	10 A
	15 A
	25 A (except PQ35P)
	40 A (except PQ35P)
	60 A (except PQ35P)
	100 A (except PQ48n/PQ35P)
For connection to shunt	Standar signals
.../60 mV secondary	20 mA
.../150 mV secondary	4-20 mA
.../300 mV secondary	1 mA

## Connection diagrams

Ammeter

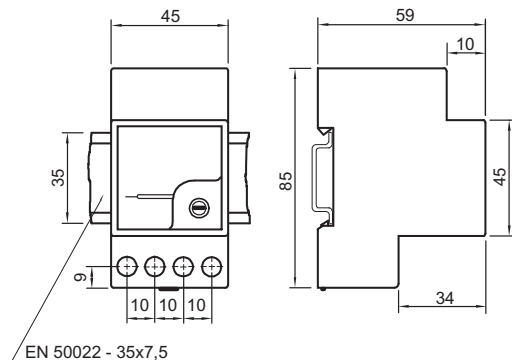


Voltmeter

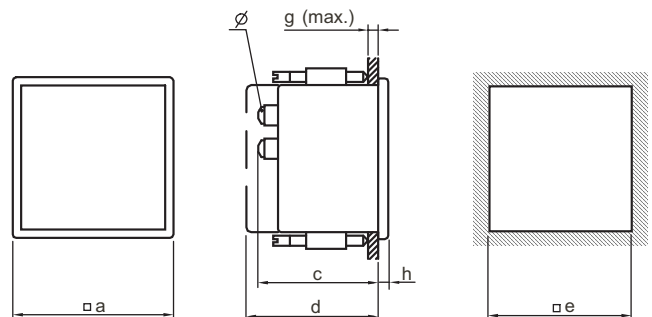


## Housing dimensions

PQ35P



PQ / PAQ



## Dimensions in mm / Weight in gramme

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

<sup>1</sup> 26 mm with fixing screws