

MOVING IRON PANEL INSTRUMENTS

EQ



Moving iron panel instruments

For alternating current 15 - 100 Hz

■ Class 1.5



EQ35p



EQ48n



EQ72n



EQ96n

Description

Moving iron panel instruments are predominantly used in the usual technical frequency range 15...100 Hz for alternating current and alternating voltage measurements in the ordinary technical frequency range 15...100 Hz.

Moving iron instruments practically show independently of the wave form - also at high harmonic content - the effective value of the alternating current.

In order to avoid overloads when starting the engines instruments are generally delivered with overload scales $2 \times I_n$ ($=100\%$ overload). The final scale values correspond in $\dots/5$ A and in $\dots/1$ V to those of the current transformers.

The scale course of our moving iron instruments is in the beginning a bit compact and almost linear between 10 and 100 % of the final scale value. The length of the overload scale amounts to about 10 % for a scale of 100 % overload referred to the scale length.

The setting time accounts for approximately 1 second.

Consumption of EQ moving iron panel instruments (quadratic)

Ammeter up to 15 A	0,5 VA
Ammeter exceeding 15 A	0,8 VA
Voltmeter between	1 - 4,5 VA

Moving iron instruments can be connected in any order without observation of polarity (k-l) of the current transformer.

Moving iron instruments

Jewelled. Most modern building class with silicon oil damping. The flexible parts of the moving iron instruments are stored in springy sapphire jewels in order to protect them against crushes.

Interchangeable scales

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

Type	EQ48n	EQ72n	EQ96n	EQ144n
Front frame (mm)	48x48	72x72	96x96	144x144
Scale length (mm)	41	61	97	146

Execution for DIN rail mounting (EQ35p)

For measuring current and voltage in panel boards with 35 mm DIN rails according to DIN 50 022.

The instruments of this line are adapted by their dimensions to common installations devices. The installation width of the instruments of 45 mm corresponds to approx. 3 units. They can easily be mounted on DIN rail bars by snap on mounting.

The terminals are protected against accidental contact.

The moving iron meter is jewelled with silicon oil damping.

Consumption of EQ35p

Ammeter between	max. 0,5 VA
Ammeter 5 A	max. 0,5 VA
Voltmeter between	max. 2,5 VA
Voltmeter 100 V	max. 2,5 VA
Voltmeter 110 V	max. 2,5 VA

Table for norm-scales of voltmeters for connection to voltage transformer

* Voltmeter for connection to voltage transformer:	sec. 100 V or 110 V	
	Prim. Rated Voltage	Scale
The final scale value is 1.2 times the rated voltage, for example:	500 V	0... 600 V
	600 V	0... 720 V
	1 KV	0... 1,2 KV
	3 KV	0... 3,6 KV
	5 KV	0... 6 KV
for connection to transformer sec. 100 V the measuring range is 0...120 V	6 KV	0... 7,2 KV
	10 KV	0... 12 KV
	10 KV	0... 18 KV
for connection to transformer sec. 110 V the measuring range is 0...132 V	15 KV	0... 18 KV
	20 KV	0... 24 KV
Please indicate primary voltage, scale and secondary voltage when ordering..	25 KV	0... 30 KV
	30 KV	0... 36 KV
	33 KV	0... 40 KV
	60 KV	0... 72 KV
	72 KV	0... 84 KV
	100 KV	0... 120 KV
	120 KV	0... 144 KV
	144 KV	0... 172 KV

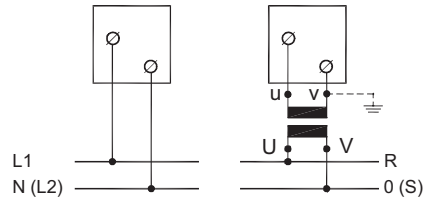
Standard Measuring Ranges

AC Voltages	AC Current
6 V	100 mA
10 V	150 mA
15 V	250 mA
25 V	400 mA
40 V	600 mA
60 V	1 A
100 V	1.5 A
120 V	2.5 A
132 V	4 A
150 V	5 A
250 V	6 A
300 V	10 A
400 V	15 A
500 V	20 A
600 V	25 A
750 V (except EQ48n/EQ35G)	30 A (except EQ35P)
	40 A (except EQ35P)
	50 A (except EQ35P)
	60 A (except EQ35P)
	100 A (except EQ48n/EQ35P)
For connection to voltage transformer .../100 V secondary .../110 V secondary	For connection to current transformer .../1 A secondary .../5 A secondary

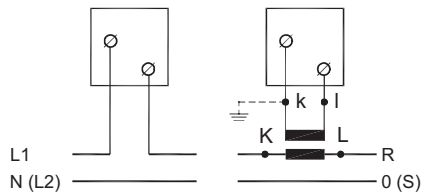
Other measuring ranges on request.

Connection diagrams

Voltmeter:

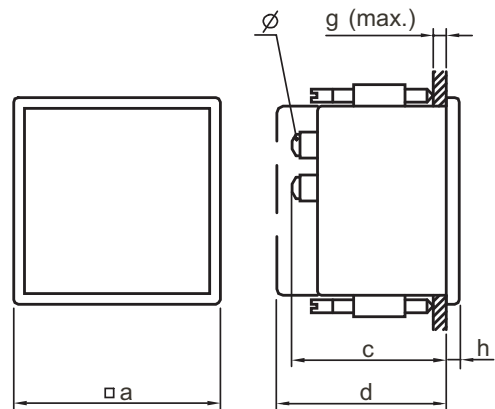


Ammeter:



Housing dimensions of square moving iron instruments

Dimensions in mm / Weight in gramme									
Type	Dimensions	a	c	d	e	g	h	Ø	Weight
EQ 48n	25 - 40 A	48	66	72	45 ^{+0,6}	28	5	M6	190
	All others	48	55	62	45 ^{+0,6}	28	5	M4	14
EQ 72n	> 60 A	72	69	77	65 ^{+0,7}	8 ¹	5	M6	23
	25 < 60 A	72	66	74	65 ^{+0,7}	8 ¹	5	M8	280
EQ 96n	> 60 A	96	69	77	92 ^{+0,8}	8 ¹	5	M6	320
	25 < 60 A	96	66	75	92 ^{+0,8}	8 ¹	5	M8	365
EQ 144n	> 60 A	144	69	77	138 ⁺¹	41	8	M6	605
	25 < 60 A	144	66	75	138 ⁺¹	41	8	M8	665
All others		144	53	74	138 ⁺¹	41	8	M4	590



Connection diagrams EQ35p

