



Moving-iron measuring instruments

for alternating current and alternating voltage

Type:
EQX 48 / EQX 72 / EQX 96



Application

Moving-iron measuring instruments are mainly used in heavy-current installation for the measurement of alternating currents and alternating voltages (direct measurement or via current or voltage transformer). Moving-iron measuring instruments also indicate the rms value in case of non-sinusoidal quantities within a frequency range of 50 - 60 Hz. With direct current and direct voltage, additional indication errors of approx. 1 % may occur due to magnetization errors inside the iron. As compared to moving-coil measuring instruments, the energy consumption is relatively high ranging between 0.6 VA and 2 VA.

Advantages of the X-series

- Robust plastic housing made of polycarbonate, self-extinguishing acc. to UL 94-V0
- Easily exchangeable scale
- Front frame and front glass easily to exchange
- Low glare front glass (clear glass optionally)
- Screw connections with clamps
- Simple mounting and fastening with lock clips
- Screw fastening with screw clamps form B, DIN 43 835 possible
- Overall terminal cover included
- Protection class IP 52 on the front, IP 54 possible with accessories

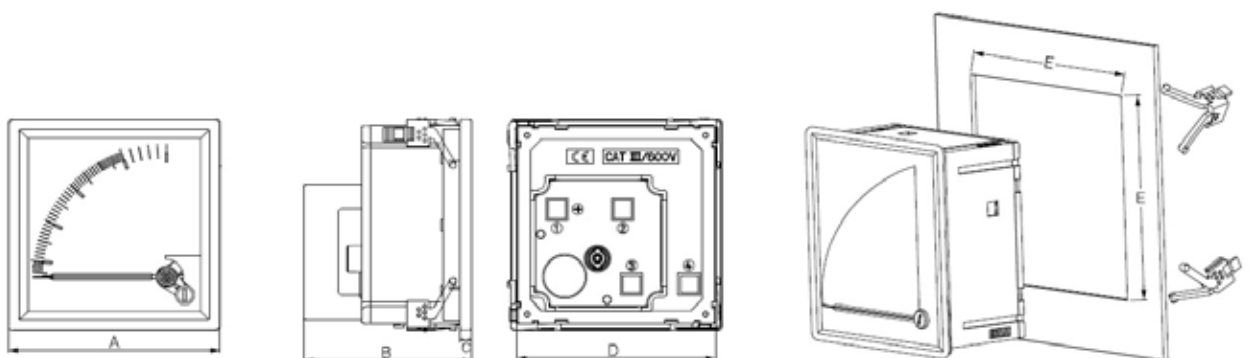
Accessories

Cover frame for degree of protection IP 65 acc. to TYN EN 60 529 for sizes 48/72/96 available.



Dimensions

for square measuring instruments



Types	Size	„A“ mm	„B“ mm	„C“ mm	„D“ mm	„E“ mm
EQX	48	48	71	5,5	44,2	45,0
EQX	72	72	76	5,5	67,0	68,5
EQX	96	96	76	5,5	90,5	92,0

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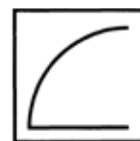
Technical data

Front frame	Dimensions acc. to DIN 43 718. The front frames are delivered als light frames in black colour for all types.
Scale, pointer	Execution acc. to DIN 43 802. The graduation is carried out as coarse graduation, the pointers as knife bar pointers.
Front glass	low glare glass
Zero point correction	All types have a zero point correction.
Connection	Screw connection with clamps
Accuracy	Acc. to DIN EN 60 051. It is defined under reference conditions, based on the measuring range end value. If the zero point is offset, the sum of the two full-scale values applies. In the case of power factor measuring devices and resistance measuring devices (scale curve strongly non-linear), the measurement error is related to the scale length.
Reference conditions	Temperature 20°C ± 2K, nominal position of use ± 1°
Influencing variables	Usage position normal vertical ± 5°, if the usage position deviates, the angle from the horizontal must be indicated. Influence of temperature, unless otherwise stated, the additional error is ≤ 1.5% at 20 °C ± 10 K ambient temperature. Ferromagnetic switchboards have no influence on the measurement accuracy.
Operating temperatur	All types work in a temperature range from -25 °C to + 55 °C (if not otherwise specified, trouble-free).
Relative humidity	75% annual mean, no condensation
Installation location	Interior, max. height of 2000 m above sea level
IP code	IP 52 on front side, IP 20 at terminals with terminal cover acc. to DIN EN 60529
Test voltage	5,3 kV AC for 1 min at 50 Hz acc. to IEC 61010-1
Vibrating resistance	1,5 g at 50 Hz
Impact resistance	15 g for 11 ms
EMC	EMC acc. to DIN EN 61 326



Measuring ranges

Square cut-out
45-65 Hz
EQX 48 class 2,5
EQX 72 / 96 class 1,5
Ammeter with 2-fold overload scale



Type	EQX 48	EQX 72	EQX 96
Front frame	48 x 48 mm	72 x 72 mm	96 x 96 mm
Cut-out	45 x 45 mm	68 x 68 mm	92 x 92 mm
Scale length	42 mm	62 mm	90 mm
Weight	0,1 kg	0,2 kg	0,25 kg

Alternating current

Measuring range from to (detailed values see catalogue)

		EQX 48	EQX 72	EQX 96
mA	100 - 800	X	X	X
A	1 - 25	X	X	X
	40 - 60	--	X	X
use with current transformer (CT)	.../1 A	X	X	X
	.../5 A	X	X	X
use with CT	.../1 A	X	X	X
	5-fold overload	X	X	X
use with CT	.../1 A	X	X	X
	6-fold overload	X	X	X

Alternating voltage

		EQX 48	EQX 72	EQX 96
V	30 - 500	X	X	X
	600	--	X	X
use with voltage transformer	.../100 V	X	X	X
	.../110 V	X	X	X



Moving-coil measuring instruments

for standard signals, connection to shunts resistors and direct measurement

Type:
DQX 48 / DQX 72 / DQX 96



Application

Moving-coil measuring instruments serve for measuring direct current and direct voltage. For extending the measuring range, shunts, series resistors or voltage dividers are used. The energy consumption of moving-coil measuring instruments is very low; they may thus be connected to shunts, speed sensors, thermocouples, measuring transducers or similar. In case of non-sinusoidal variables, an rms-value rectifier is provided. It is able to still process crest factors of max. 8 without problem. The max. error amounts to less than 1% in this case.

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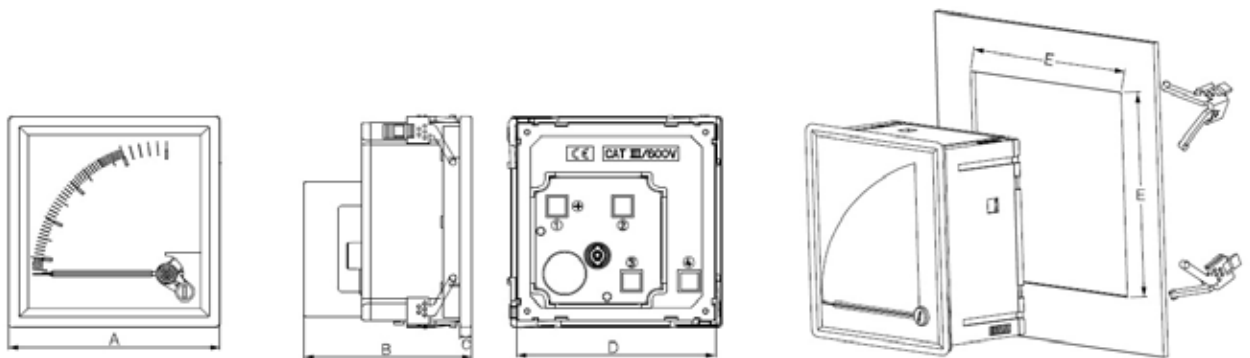
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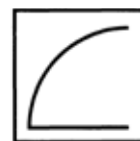
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Standard signals direct voltage and direct current

Measuring ranges from to (detailed values see catalogue)

V	0 - 10	X	X	X
mA	0 - 20	X	X	X
	4 - 20	X	X	X
use with shunt resistor .../mV	60 - 250	X	X	X
Direct current - direct measurement				
µA	50 - 600	X	X	X
mA	1 - 600	X	X	X
	1 - 40	X	X	X
A	50 - 60	--	X	X
Direct voltage - direct measurement				
mV	50 - 600	X	X	X
V	1 - 600	X	X	X