Moving-coil measuring instruments

for standard signals and connection to shunts

resistors

Type:

DQX 48

DQX 72

DQX 96

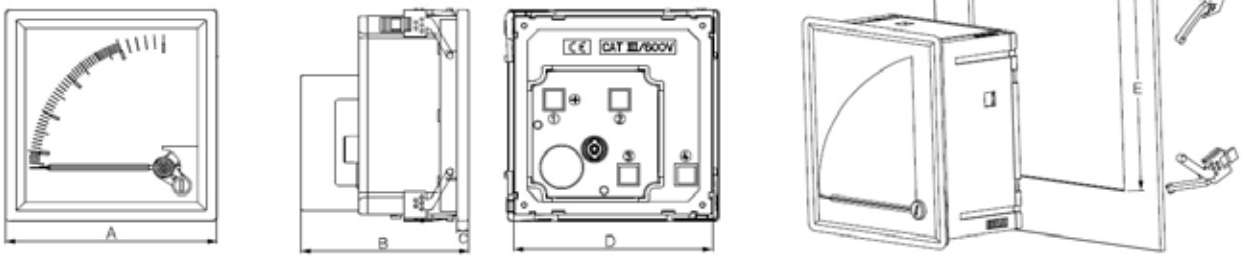
Application

Moving-coil measuring instruments are used to measure direct current and direct voltage. Shunts, series resistors, voltage dividers and measuring transducers are used to extend the measuring range. The internal consumption of the moving-coil measuring instruments is very low, they are therefore suitable for connection to shunts, speed sensors, thermocouples, measuring transducers and similar.

Function / Design

The moving-coil measuring instruments are equipped with a core magnet measuring system. The zero point adjustment is located centrally. The measuring instruments are manufactured in accordance with DIN EN 60051 and the other applicable VDE and DIN regulations. The accuracy is 1.5% (size 48 accuracy 2.5%), based on the full scale value; instruments with accurarcy class 1.0 possible on request. The scale progression is linear. The instruments can be permanently overloaded by a factor of 1.2; Ammeters can be overloaded up to 50 times for a short time, Voltmeters up to 2 times. For the rest, DIN EN 60051 applies.

Dimensions



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

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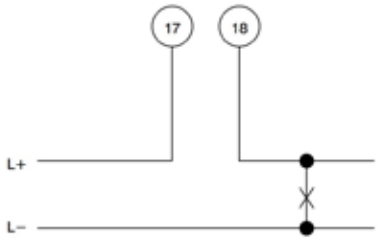
Technical data

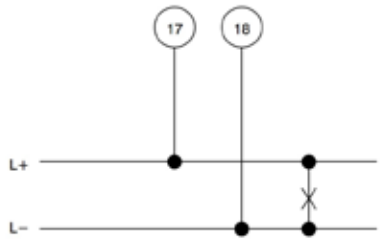
Front frame	Dimensions acc. to DIN 43 718. The front frames are delivered als light frames in black colour for all types.
Scale, pointer	Execution acc. to DIN 43 802. The graduation is carried out as coarse graduation, the pointers as knife bar pointers.
Front glass	low glare glass
Zero point correction	All types have a zero point correction.
Connection	Screw connection with clambs
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
Internal resistance	DC-voltmeters: 1000 Ω / V, higher internal resistance possible on request
	DC-ammeters: 0,6 to 250 Ω
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
Lighting	Lighting 24V DC with lightbulb 2W possible on request (not for size 48!)

Connection

Direct current



Direct voltage



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Measuring ranges

Type	DQX 48	DQX 72	DQX 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
Length of scale	42 mm	62 mm	90 mm
Pointer deflection	90 °	90 °	90 °
Accuracy class *	2,5	1,5	1,5
Front glas	low-glare glas	low-glare glas	low-glare glas
Weight	0,1 kg	0,2 kg	0,25 kg

Standard signal connection				
Measuring range				
V - Zero at left side	0-10	X	X	X
V - Central zero	10-0-10	--	X	X
mA - Zero at left side	0-20	X	X	X
mA - Central zero	20-0-20	--	X	X
mA	4-20	X	X	X
Scale value to be specified with order. If no value is specified the scale is executed with 0-100 %!				

Nebenwiderstände (Shunts)				
Messbereichsendwert				
mV - Nullpunkt links	60 100 150 250	X	X	X
mV - Nullpunkt mitte	60-0-60 100-0-100 150-0-150 250-0-250	--	X	X
Scale value to be specified with order. If no value is specified the scale is executed with the measuring range!				

Typing

DQX 72 0-20 mA Scale 0-100%

- Moving-coil instrument
- Size
- Measuring range
- Scale value
- Measuring value

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