

SIRAX BM150

Analog Meters with Moving-Iron measuring mechanism, change-over switch and 90° scale

Description

The analog display measuring devices with moving iron movement and change-over switch SIRAX BM400 in a polycarbonate housing and 90 ° scale are suitable for measuring alternating currents in the frequency range of 15 ... 400 Hz and alternating voltages in the frequency range of 15 ... 100 Hz..

They show the rms value regardless of the shape of the curve, even with a high harmonic content. Only with extreme curve shapes (e.g. phase gating controls) and frequencies >100 Hz can the class accuracy no longer be maintained.

With the built-in switch with 4 or 6 positions, voltages in 1-phase, 3-phase 3 or 4-wire networks can be displayed.

The measuring devices are designed for installation in control panels, machine consoles or mosaic grids up to a panel thickness of no more than 25mm.

The bezel, the glass window and the dial can be easily exchanged on site.



Features

- 3-phase 3- and 4-wire current and voltage measurement possible
- Robust polycarbonate housing with high flammability class UL94-V0
- Simple assembly using swivel screw
- Quick and easy connection using screws and clamps
- Full-surface rear wall cover as protection against accidental contact
- 90° scale
- Near linear scale
- Easy replacement of the glass window, the front bezel and the scale

Scale characteristics

practically linear
above 10% of rated full-scale value
Coarse-fine

Scale division

Scale length

□72	□96
54mm	97mm

Overload scaling
Ammeter

2 times the nominal current

Voltmeters

1.2 times the nominal voltage

Technical Data

Mechanical Data

Case details	Moulded square case suitable to be mounted in control / switchgear panels, machine tool consoles or mosaic panels
Material of case	Polycarbonate
Flammability class	UL94 V-0, self-extinguishing, non-dripping, halogen-free
Material of window	Glass
Front frame (bezel)	Polycarbonate black
Position of use	Vertical ±5°
Mounting	stackable next to each other
Panel thickness	≤25mm
Panel fixing	Swivel Screw

Connections

Voltmeter or Ammeter M4 screws and wire clamps form E3

Scaling

Pointer knife-edge pointer
Pointer deflection 0 ... 90°

Electrical Data

Measuring unit	AC Voltage and AC Current
Frequency range	AC Voltage 15 ... 100 Hz AC Current 15 ... 400 Hz
Power consumption Voltmeters	<4.5 VA
Ammeters	<0.5 VA
Overload capacity	acc. to DIN EN 60 051
Continuously	120% In, 120% Un
Short time voltage measurement	2 x for 0.5s: 9 overloads 2 x for 5s: 1 overload
Short time current measurement	10 x for 0.5s: 9 overloads 10 x for 5s: 1 overload
External magnetic field	0.4 kA/m

Reference conditions

Accuracy class	1.5% acc. to DIN EN 60 051
Reference temperature	23 °C / ± 2 °C
Position of use	Nominal position ±1°
Input variable	Rated measuring value

SIRAX BM150

Analog Meters with Moving-Iron measuring mechanism, change-over switch and 90° scale

Wave form	Sinusoidal, distortion factor <5%
Frequency	45 ... 65 Hz
Other conditions	DIN EN 60 051-1

Environmental conditions

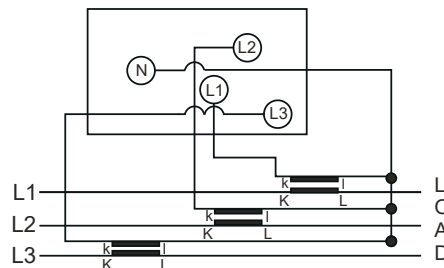
Climatic suitability	Climate category 2 acc. to DIN EN 60 051 Climate category 3 acc. to VDE/VDI 3540
Operating temperature	-10 ... +55 °C
Storage temperature	-25 ... +65 °C
Relative humidity	≤75% annual average, non condensation
Shock	150 m/s ² (15g) / 11 ms
Vibration	10 ... 55 ... 10 Hz, 0.15 mm amplitude (correspond to 1.5g at 50 Hz)

Safety

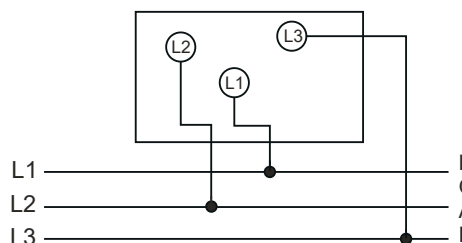
EMC resistance	acc. to EN 61 000-6-2
EMC emission	acc. to EN 61 000-6-4
Safety	acc. to EN 60 010-1
Installation category	600 V CATIII
Pollution degree	2
Rated insulation voltage	1 kV
Insulation resistance	> 50 MΩ at 500 V DC
Insulation class	A (acc. to VDE 0110)
Insulation test voltage	3 kV
Housing protection class	IP40 Housing on the front IP00 Connections without contact protection IP20 Connections with contact protection
Safety terminal protection	Full sized polycarbonate back cover to provide protection against accidental contact (hand and fingers) acc. to VDE 0410

Electrical connections

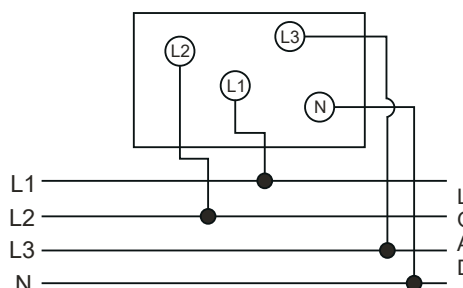
AC Ammeters with Selector Switch



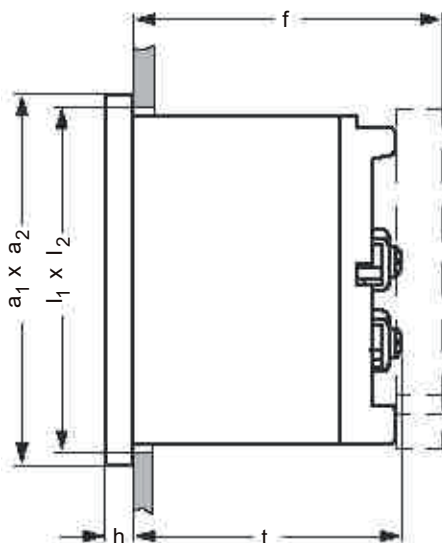
AC Voltmeters 3 Phase 3 Wire



AC Voltmeters 3 Phase 4 Wire



Dimensions

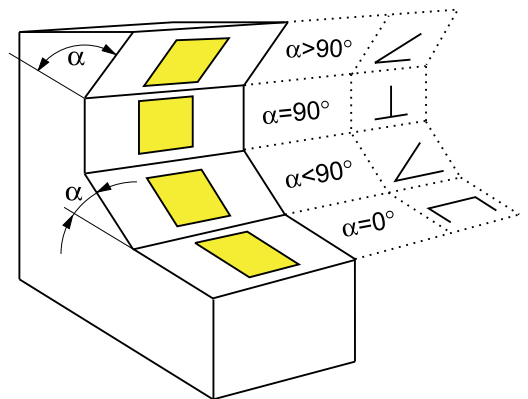


Front [mm]	Nominal Dimensions [mm]		Cutout [mm]	Installation depth (t) including terminal [mm]	Installation depth (f) including back cover [mm]
	a ₁ x a ₂	h	l ₁ x l ₂		
□72	72 x 72	5.5	68 ^{+0.7} x 68 ^{+0.7}	53	64
□96	96 x 96	5.5	92 ^{+0.8} x 92 ^{+0.8}	53	64

Analog Meters with Moving-Iron measuring mechanism, change-over switch and 90° scale

Working position

Code	Working position	Code	Working position	Code	Arbeitsposition
A	$\alpha = 0^\circ$	D	$\alpha = 45^\circ$	G	$\alpha = 90^\circ$
B	$\alpha = 15^\circ$	E	$\alpha = 60^\circ$	H	$\alpha = 105^\circ$
C	$\alpha = 30^\circ$	F	$\alpha = 75^\circ$	I	$\alpha = 120^\circ$



Measurement ranges

Dimensions frontframe [mm]	72 x 72	96 x 96
Scale length [mm]	63	97
Weight [kg]	0.22	0.26
Type	□72	□96
AC voltage	100 V, 120 V, 150 V, 300 V, 500 V, 600 V	
AC current	1 A, 5 A	

Change-over switch position

Network	Number Switch positions	Switch position
1-Phase	4	OFF / L1 / L2 / L3
3-Phase, 3-Wire	4	OFF / L1-L2 / L2-L3 / L3-L1
3-Phase, 4-Wire	6	L1-L3 / L2-L3 / L1-L2 / L1-LN / L2-LN / L3-LN

Order details

Description	Blockingcode	No-go with blockingcode	Article No. / Feature
SIRAX BM150, Analog meter with moving-iron measuring mechanism, change-over switch and 90° scale			BM150-
Features, Selection			
01 Dimensions Frontframe			
□72 (72 x 72 mm)			1
□96 (96 x 96 mm)			2
02 Change-over switch position			
1-Phase (OFF / L1 / L2 / L3)			1
3-Phase, 3-wire (OFF / L1-L2 / L2-L3 / L3-L1)			2
3-Phase, 4-wire (L1-L3 / L2-L3 / L1-L2 / L1-LN / L2-LN / L3-LN)			3
03 Measuring input			
AC Current			1
AC Voltage			2
04 Measuring range			
AC current			
1 A			1
5 A			2
AC voltage			
100 V			3
120 V			4
150 V			5
300 V			6
500 V			7
600 V			8

Analog Meters with Moving-Iron measuring mechanism, change-over switch and 90° scale

05 Working position	$\alpha = 0^\circ$			A
	$\alpha = 15^\circ$			B
	$\alpha = 30^\circ$			C
	$\alpha = 45^\circ$			D
	$\alpha = 60^\circ$			E
	$\alpha = 75^\circ$			F
	$\alpha = 90^\circ$ (vertical)			G
	$\alpha = 105^\circ$			H
	$\alpha = 120^\circ$			I
06 Front window				
Glass				1
07 Scalefactor				
Standard				1
Non Standard (customized)				2
08 Contact protection				
without back cover				1
with back cover				2
09 Color of Dial, pointer and letters				
Standard (dial white / pointer black / letters black)				1
Non Standard (dial / pointer / letters customized)				2



Camille Bauer Metrawatt AG
Aargauerstrasse 7
CH-5610 Wohlen / Switzerland
Telefon: +41 56 618 21 11
Telefax: +41 56 618 21 21
info@camillebauer.com
www.camillebauer.com