

SIRAX BM400

Analog Meters for clamping to 35mm DIN rails and 90° scale

Description

The analog meters SIRAX BM400 are designed for clamping to 35 mm DIN rails and have a mounting width of 45 mm. The meters are suitable for the measurement of current and voltage in distribution installations.

Functional Principle

- Moving-iron movements with shell-type system, silicon oil damping and spring loaded jewel bearings, pivot suspension.
- Moving-coil movement with core-type magnetic system, dual spring loaded jewel bearings, pivot suspension.

Features

- Robust thermoplastic housing with high flammability class UL94-V0
- Quick assembly to 35 mm DIN rail and easy connection using screws and clamps
- Near linear scale for AC current and AC voltage
- Linear scale for DC current and DC voltage



Technical Data

Mechanical Data

Case details	Projecting case clamping to 35mm mounting rail complying with DIN EN 50022
Material and color of case	Thermoplastic / Ivory
Flammability class	UL94 V-0, self-extinguishing, non-dripping, halogen-free
Material of window	Polycarbonate
Position of use	Vertical $\pm 5^\circ$
Terminals	Brass Hexagon studs, M4 screw and self lifting wire clamps E3
Dimensions	85mm x 45mm x 65mm (L x W x H)
Weight	0.1kg (applies to all options)

Scaling

Pointer	knife-edge pointer
Dial	white
Pointer deflection	0 ... 90°
Scale characteristics	near linear above 10% of nominal full-scale value for AC current or voltage Linear for DC current or voltage
Scale division	Coarse-fine
Scale length	38mm
Overload scaling	
Ammeter	2 times rated current
Voltmeters for use on voltage transformer	1.2 times rated voltage

Electrical Data

Measuring unit	AC current or AC voltage DC current or DC voltage
Power consumption	
Voltmeters	approx. 1.5 ... 3 VA
Ammeters	approx. 0.5 ... 1 VA
Overload capacity	acc. to DIN EN 60 051
Continuously	1.2 times rated current/voltage (5s max.)
Short duration (5s max.)	
Voltmeters	2 times rated voltage max. 1000V
Ammeters	10 times rated current
Frequency	15 ... 400Hz (current) 15 ... 100Hz (voltage)
Stray magnetic field	0.5 mT

Reference conditions

Accuracy class	1.5% acc. to DIN EN 60 051
Reference temperature	23 °C / $\pm 2^\circ$ C
Position of use	Nominal position $\pm 1^\circ$
Input quantity	Rated value of measured quantity
Wave form	Sinusoidal, distortion factor <5%
Frequency	45 ... 65 Hz
Other conditions	DIN EN 60 051-1

Environmental conditions

Climatic suitability	Climate category 3 acc. to VDE/VDI 3540
Operating temperature	-10 ... +55 °C
Storage temperature	-25 ... +65 °C
Relative humidity	$\leq 75\%$ 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)

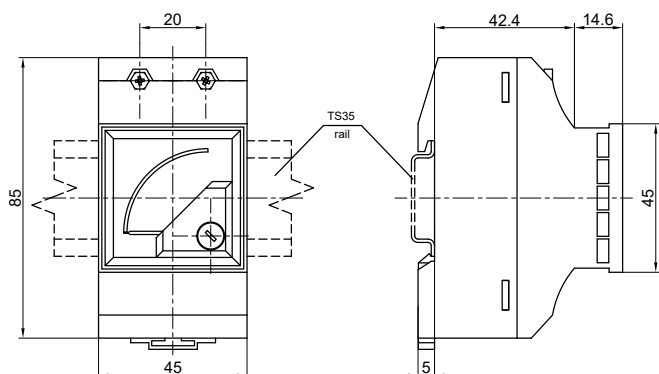
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Safety

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
Protection class	I
Installation category	CATIII
Pollution degree	2
Operating voltage	600 V (for AC current/voltage) 300 V (for DC current/voltage)
Insulation class	A (acc. to VDE 0110)
Insulation test voltage	3 kV
Housing protection class	IP52 Housing on the front IP00 Connections without contact protection

Dimensions



Measurement ranges

Dimensions [L x W x H]	85mm x 45mm x 65mm	
Scale length [mm]	38	
Weight [kg]	0.1	
Measuring range current and voltage		
AC current ¹⁾	AC voltage	
1 A	100 V	
1.5 A	120 V	
2.5 A	150 V	
4 A	250 V	
5 A	300 V	
6 A	400 V	
10 A ³⁾	500 V	
15 A ³⁾	600 V	
25 A ³⁾		
For use on current transformer	For use on voltage transformer ²⁾	
.../1 A	.../100 V	
.../5 A	.../110 V	

DC current		DC voltage	
1 mA	60 mV	100 mV ³⁾	1000 Ω/V
1.5 mA	60 mV	150 mV	1000 Ω/V
2.5 mA	60 mV	250 mV	1000 Ω/V
4 mA	60 mV	400 mV	1000 Ω/V
5 mA	60 mV	600 mV	1000 Ω/V
6 mA	60 mV	1 V	1000 Ω/V
10 mA	60 mV	1.5 V	1000 Ω/V
15 mA	60 mV	2.5 V	1000 Ω/V
20 mA	60 mV	4 V	1000 Ω/V
25 mA	60 mV	6 V	1000 Ω/V
40 mA	60 mV	10 V	1000 Ω/V
60 mA	60 mV	15 V	1000 Ω/V
100 mA	60 mV	25 V	1000 Ω/V
150 mA	60 mV	40 V	1000 Ω/V
250 mA	60 mV	60 V	1000 Ω/V
400 mA	60 mV	100 V	1000 Ω/V
600 mA	60 mV	150 V	1000 Ω/V
1 A ³⁾	60 mV	250 V	1000 Ω/V
1.5 A ³⁾	60 mV	400 V	1000 Ω/V
2.5 A ³⁾	60 mV	500 V	1000 Ω/V
4 A ³⁾	60 mV	600 V	1000 Ω/V
6 A ³⁾	60 mV		
For use with external shunt			
		60 mV	1000 Ω/V
		100 mV	1000 Ω/V
		150 mV	1000 Ω/V
a total lead resistance of 0.05 Ω is considered in the calibration of the indicator for connecting leads 1 m, 2 x 0.75 mm ²			

¹⁾ full-scale value = 2 times rated current (overload scaling)

²⁾ full-scale value = 1.2 times rated voltage (overload scaling)

³⁾ the resistance values are limited to a tolerance of ±20%

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Order details

Description	Blockingcode	No-go with blockingcode	Article No. / Feature
SIRAX BM400, Analog Meters for clamping to 35mm DIN rails and 90° scale			BM400-
Features, Selection			
01 Measuring input			
AC Current	A		1
DC Current	B		2
AC Voltage	C		3
DC Voltage	D		4
02 Measuring range			
AC or DC Current			
1 mA		A, C, D	01
1.5 mA		A, C, D	02
2.5 mA		A, C, D	03
4 mA		A, C, D	04
5 mA		A, C, D	05
6 mA		A, C, D	06
10 mA		A, C, D	07
15 mA		A, C, D	08
20 mA		A, C, D	09
25 mA		A, C, D	10
40 mA		A, C, D	11
60 mA		A, C, D	12
100 mA		A, C, D	13
150 mA		A, C, D	14
250 mA		A, C, D	15
400 mA		A, C, D	16
600 mA		A, C, D	17
Special range AC or DC current			
0 ... >1 mA ... <600 mA		A, C, D	18
1 A		C, D	19
1.5 A		C, D	20
2.5 A		C, D	21
4 A		C, D	22
5 A		C, D	23
6 A		C, D	24
10 A		C, D	25

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12 A		C, D	26
15 A		C, D	27
Special range AC or DC current			
0 ... >1 A ... <15 A		C, D	28
AC Current for transformer			
.../1A		B, C, D	29
.../5A		B, C, D	30
AC or DC Voltage			
100 mV		A, B, D	31
150 mV		A, B, D	32
250 mV		A, B, D	33
400 mV		A, B, D	34
600 mV		A, B, D	35
Special range AC or DC voltage			
0 ... >100 mV ... <600 mV		A, B, D	36
1 V		A, B, D	37
1.5 V		A, B, D	38
2.5 V		A, B, D	39
4 V		A, B, D	40
6 V		A, B, D	41
10 V		A, B, D	42
15 V		A, B, D	43
25 V		A, B, D	44
40 V		A, B, D	45
60 V		A, B, D	46
100 V		A, B	47
120 V		A, B, D	48
150 V		A, B	49
250 V		A, B	50
300 V		A, B, D	51
400 V		A, B	52
500 V		A, B	53
600 V		A, B	54
Special range AC or DC voltage			
0 ... >1 V ... <600 V		A, B	55
AC Voltage for transformer			
.../100V		A, B, D	56
.../110V		A, B, D	57

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03	Scalefactor			
	Standard (like scale division and measuring range)			1
	Non Standard (Customized)			2



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