

SIRAX BM930

Frequency Meters with Vibrating Reed Movement

Description

The reed frequency measuring devices with vibration measuring mechanism SIRAX BM930 in a polycarbonate housing are suitable for the measurement of frequencies in the range of 45 ... 65 Hz.

The devices are built with a mechanical resonance type consisting of an electro-magnet and a tuned steel tongue (reeds). The steel tongue consists of a series of thin steel strips that are attached to a steel plate.

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

- 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
- Easy replacement of the glass window, the front bezel and the scale

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 $\pm 5^\circ$				
Mounting	stackable next to each other				
Panel thickness	$\leq 25\text{mm}$				
Panel fixing	Swivel screw				
Weight	<table border="1" style="display: inline-table;"><tr><td>$\square 72$</td><td>$\square 96$</td></tr><tr><td>0.21 kg</td><td>0.28 kg</td></tr></table>	$\square 72$	$\square 96$	0.21 kg	0.28 kg
	$\square 72$	$\square 96$			
0.21 kg	0.28 kg				
Connections/terminals	M4 screws and wire clamps form E3				

Scaling

Display type	Reed movement
Reed arrangement	horizontal
Scale division	Coarse-fine

Electrical Data

Measuring unit	Frequency
Input quantity	Alternating voltage in sine waveform
Overload capacity	acc. to DIN EN 60 051
Continuously	1.2 times rated voltage
Short time voltage measurement	2 x für 0.5s
External magnetic field	0.5 mT
Permissible voltage fluctuation	$\pm 15\%$
Power consumption	$< 5\text{ VA}$

Reference conditions

Accuracy class	1.5% acc. to DIN EN 60 051
Reference temperature	$23\text{ }^\circ\text{C} \pm 2\text{ }^\circ\text{C}$
Position of use	Nominal position $\pm 1^\circ$
Input	rated measuring value rated voltage $\pm 2\%$
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	$-10 \dots +55\text{ }^\circ\text{C}$
Storage temperature	$-25 \dots +65\text{ }^\circ\text{C}$
Relative humidity	$\leq 75\%$ annual average, non condensation
Shock	$150\text{ m/s}^2 (15\text{g}) / 11\text{ ms}$
Vibration	$10 \dots 55 \dots 10\text{ Hz}$, 0.15 mm amplitude (correspond to 1.5g at 50 Hz)

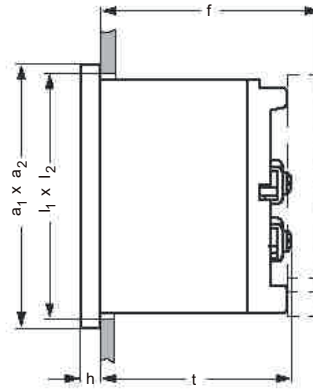
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Safety

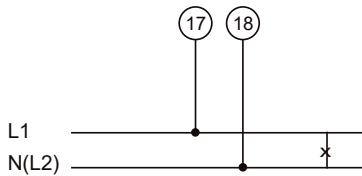
EMC resistance	acc. to EN 61 000-6-2
EMC emission	acc. to EN 61 000-6-4
Safety	acc. to EN 60 010-1
Installation category	600 V CATIII
Pollution degree	2
Rated insulation voltage	660 V
Insulation resistance	> 50 MΩ at 500 V DC
Insulation class	A (acc. to VDE 0110)
Insulation test voltage	2 kV
Housing protection class	IP52 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

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}		

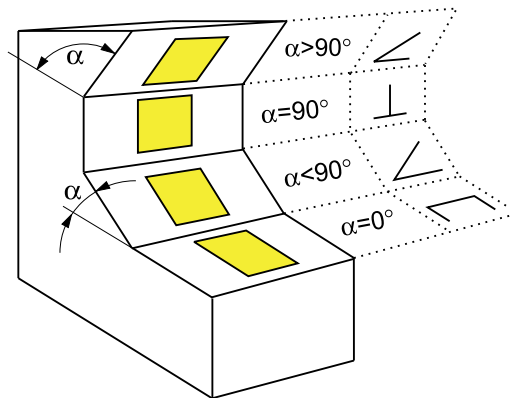
Electrical connections



Measurement ranges

Dimensions frontframe [mm]	72 x 72	96 x 96
Weight [kg]	0.21	0.28
Type	□72	□96
Frequency range	45...50...55 Hz 45...55...65 Hz 55...60...65 Hz 47...50...53 Hz	
Rated input voltage	100 V 110 V 220 V 230 V 240 V 400 V 415 V 440 V	

Working position



Code	orking position	Code	orking position	Code	orking position
A	α = 0°	D	α = 45°	G	α = 90° (vertical)
B	α = 15°	E	α = 60°	H	α = 105°
C	α = 30°	F	α = 75°	I	α = 120°

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Order details

Description	Blockingcode	No-go with blockingcode	Article No. / Feature
SIRAX BM930, Frequency Meters with Vibrating Reed Movement			BM930-
Features, Selection			
01 Dimensions Frontframe			
□72 (72 x 72 mm)			1
□96 (96 x 96 mm)			2
02 Frequency range			
45 ... 50 ... 55 Hz			1
45 ... 55 ... 65 Hz			2
55 ... 60 ... 65 Hz			3
47 ... 50 ... 53 Hz			4
03 Rated voltage			
100 V			01
110 V			02
220 V			03
230 V			04
240 V			05
400 V			06
415 V			07
440 V			08
Special range rated voltage 57.7 V ... 600 V			09
04 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
05 Front window			
Glass			1
06 Scalefactor			
Standard			1
Non Standard (Customized)			2

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07	Contact protection			
	without back cover			1
	with back cover			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