



Synchronoscope digital

- without display
- with display

Type:

SQX 96



Application

The SQX 96 without display is a microprocessor-controlled synchronoscope. It is supplied purely as a display and is used for manual or semi-automatic synchronizations. The integrated enable relay is activated as soon as the set synchronizing conditions are met. The connection is made via a terminal strip on the back of the device.

The SQX 96 with display is also equipped with an LC display. The LC display is used to show the mains voltage and the generator voltage and their frequencies. This allows two separate voltmeters and two frequency meters to be replaced.



Function / Design

The instrument has 24 LEDs arranged in a circle, which are used to display the instantaneous phase difference with a resolution of 20°. In the synchronization range between -20° and +20° the resolution is increased (5° el. degrees).

The green SYNC. LED lights up when synchronization conditions are met. A red ΔU LED lights up when the voltage difference exceeds the set value.

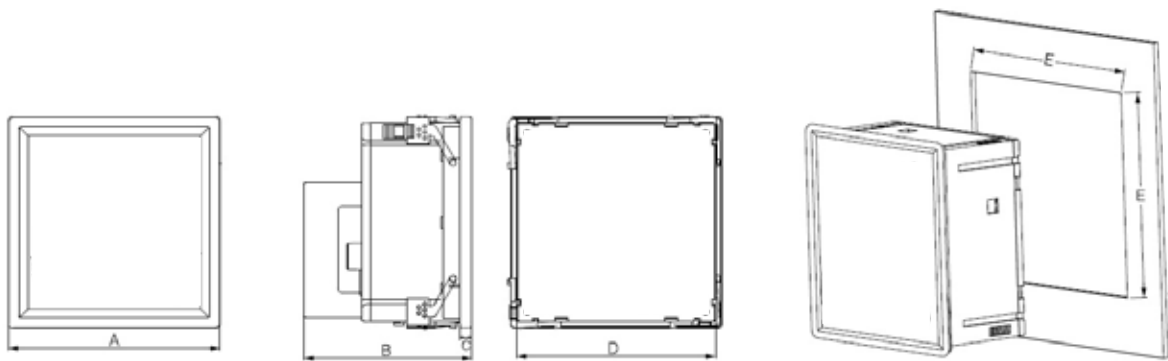
On the back of the instrument there are three potentiometers for setting the synchronization conditions:

- for setting the permissible phase difference $\Delta\phi$
- for setting the permissible voltage difference ΔU
- for setting the switch-on delay of the relay (DELAY)

The enabling relay is activated (permanent contact) when the phase difference and the voltage difference are within the set ranges for the duration of the set delay time. The permanent contact opens again if only one value is outside this range. Activation of the relay is indicated by the instrument's SYNC LED.



Dimensions



Size	„A“ mm	„B“ mm	„C“ mm	„D“ mm	„E“ mm
SQX 96	96	90	5,8	90	92

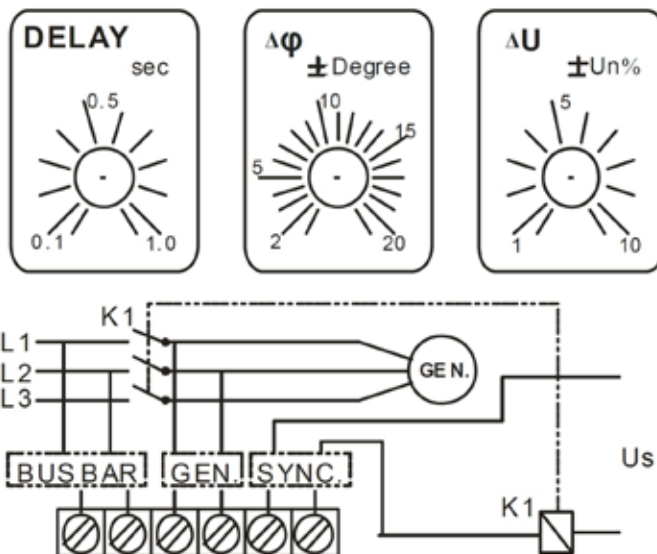


Technical data

Input values	
Rated voltage U_n	57 V (100 V/ $\sqrt{3}$), 63,5 V (110 V/ $\sqrt{3}$), 100 V, 110 V, 230 V, 400 V, 500 V, 600 V
Voltage range	+/- 10%
Frequency range	45 to 65 Hz
Power consumption (bus bar side)	< 4 VA
Overload conditions	1,2-fold U_n continuous 2-fold U_n up to 3 sec.
Accuracy	2,5 %
LED-Display	
Resolution phase difference display	20 °el. Grad
Loupe area	+/- 20 °el. Grad
Loupe area resolution	5 °el. Grad
Accuracy at $\Delta\varphi = 0$	+/- 3 °el Grad
Relay	
Switching function	Permanent contact
Contact rating	10A/125V AC or 3A/250V AC or 5A/30V DC
Reaction time	< 10 ms
Synchronization settings	
Voltage difference range ΔU	1 to 10%
Phase difference area $\Delta\varphi$	2 to 20 ° el. degrees
Switch-on delay of the relay	0,1 to 1,0 s
LC display	
Display line 1	Mains (bus bar) voltage and mains frequency
Display line 2	Generator voltage and generator frequency
General data	
Working temperature range	0 to 50 °C
Storage temperature range	-20 to 70 °C
Degree of protection	Housing IP52, terminals IP20
Position of use	vertical +/- 5°
Security	acc. to EN 61010-1, 400V CAT III, degree of pollution 2
Housing material	Hardly inflammable, self-extinguishing acc. to UL 94 V-0
Front dimensions	96 x 96 mm
Installation depth	80 mm
Panel cutout	90 x 90 mm +0,5 mm
Fixing	by snap-in clamps





Connection





Measuring ranges

Type			
Type		SQX 96 ohne Display	SQX 96 mit Display
Front frame		96 x 96 mm	96 x 96 mm
Cut-out		90 x 90 mm	90 x 90 mm
Accuracy class		2,5	2,5
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Weight		0,4 kg	0,4 kg

Input values				
Rated voltage +/- 10%	Frequency range			
100V/ $\sqrt{3}$ (57 V) 110V/ $\sqrt{3}$ (63,5 V) on voltage transf.	45 - 65 Hz		X	X
100 V 110 V on voltage transf.	45 - 65 Hz		X	X
230 V 400 V 500 V 600 V	45 - 65 Hz		X	X

Other voltages and frequency ranges on request!

Typing

