

Synchronisation and marine applications equipment

SMC / STC / UC / CUC



Description

SMC / STC Synchrosopes

- Does not need an auxiliary power supply
- DIN box with dimensions: 96 and 144 mm
- Class 1
- For single and three-phase circuits

UC / CUC Sequence-meters

- Does not need an auxiliary power supply
- DIN box with dimensions: 72 and 96 mm
- Class 1.5
- Built-in voltage relay
- Low consumption

Features

	SMC	STC	UC	CUC
Input circuit				
Consumption	Line: 5 V-A Generator: 15 mA	Line: 20 mA per circuit Generator: 15 mA per circuit	3 mA	4 V-A
Frequency	20 ... 100 Hz		50 Hz	
Overloads	1.2 U_n permanent 2 U_n during 5 s			
Measurement voltage	Standard 230 Vac Optional 100-120 Vac380-440 Vac			
Accuracy	1.5 % FE			
Ambient conditions				
Operating temperature	+ 10 ... + 30 °C		0 ... 70 °C	
Front panel	- 25 ... + 40 °C		- 40 ... + 70 °C	
Altitude	2000 m			
Build features				
Dimensions	See the following table			
Weight	See the following table			
Type of box	panel			
Degree of protection:				
Front panel terminals	IP 52 IP 00		IP 52 IP 00	
Insulation voltage	2 kV, during 1 min, between the mechanism and the box			
Standards	BS 89, EN 60051, IEC 144, UL 94, DIN 43780, IEC 51, UNE 21318			

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Application

SMC / STC Synchrosopes

To provide a correct reading of the difference between the frequency and phase angle between two generators or a generator and the network, when connected in parallel. When the difference is zero, the instrument's needle does not move from the synchronisation mark located in the centre of the scale.

The instrument scale is divided in two areas marked with the (+) and (-) signs. These signs indicate whether the machine being connected has a higher or lower frequency than the other one, respectively.

Synchronism is achieved when the needle is on the (-) side, slowly turning towards (+).

The needle of the instrument starts to turn in the correct direction when the difference in frequencies is 1.5 Hz for three-phase systems or 0.5 Hz for single-phase systems.

References

SM / STC: Single-phase synchrosopes



Type	SMC 96	SMC 144	
Class	1,5		
Dimensions (mm)			
	a	96	144
	b	96	144
	c	101,2	102
Weight (g)	1700	2250	
V			
110	M14431	M14441	
230	M14432	M14442	
400	M14433	M14443	
500	M14434	M14444	

SM / STC: Three-phase synchrosopes



Type	STC 96	STC 144	
Class	1,5		
Dimensions (mm)			
	a	96	144
	b	96	144
	c	101,2	102
Weight (g)	1410	1960	
V			
110	M14435	M14445	
230	M14436	M14446	
400	M14437	M14447	
500	M14438	M14448	

UC / CUC Sequence-meters

The UC 72 and UC 96 types indicate the order of three-phase systems.

The CUC 96 type indicates the sequence of phases and it has a built-in relay with a switched and voltage-free contact. The relay is deactivated in the absence of voltage or when the order of phases is incorrect.

A fully electronic circuit, with no moving parts, for the activation of neon indicators.

● Scales:

A GREEN and RED display indicate whether the phase sequence is CORRECT or INCORRECT, respectively.

UC / CUC: Sequence-meters



Type	UC 72	UC 96	CUC 96	
Control relay	NO		YES	
Dimensions (mm)				
	a	72	96	96
	b	72	96	96
	c	62,9	62,9	62,9
Weight (g)	200	275	375	
V				
100...500 V	M13721	M13731	-	
230	-	-	M13734	
400	-	-	M13735	

Synchronisation and marine applications equipment SMC / STC / UC / CUC

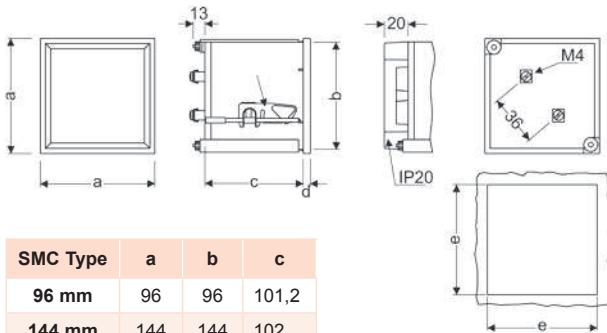


Coding table

Synchronscopes and sequence-meters	M	1	X	X	X	X	0	0	X
	Code						Internal Code		↑
	Frequency		Standard (50 Hz)						0
			60 Hz						1

Dimensions

SMC / STC



SMC Type	a	b	c
96 mm	96	96	101,2
144 mm	144	144	102

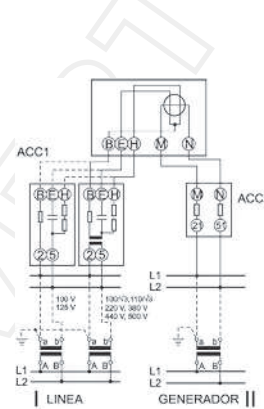
Dimensions (mm)

STC Type	a	b	c
96 mm	96	96	101,2
144 mm	144	144	102

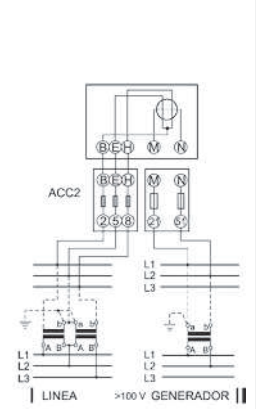
Dimensions (mm)

Connections

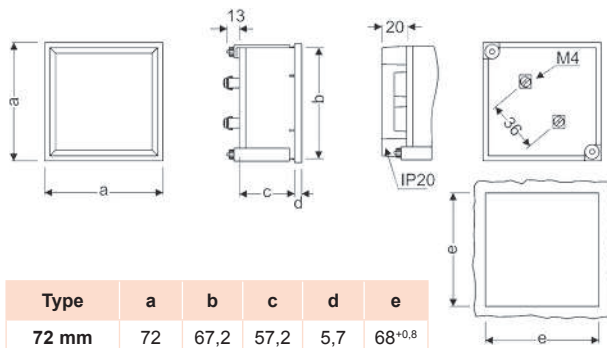
SMC



STC



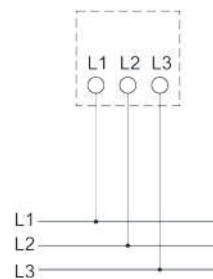
UC / CUC



Type	a	b	c	d	e
72 mm	72	67,2	57,2	5,7	68 ^{+0,8}
96 mm	96	91	57,2	5,7	92 ^{+0,8}

Dimensions (mm)

UC



CUC

