

SYNCHRONOSCOPE / DIGITAL SYNCHRONIZING RELAY

Allows both the phase and parameters of the two voltages from two systems to be displayed and their synchronization.

ALTERNATING CURRENT - NAVAL SERIES

- Input: 110, 230, 400 or 440 V ± 20 %
- Frequency range: 45 a 65 Hz
- Phase-difference range: $\pm 180^\circ$
- Voltage-difference range: ± 100 %
- Accuracy: 0,5 %
- Accuracy: 0,1 %
- Accuracy: 1 %
- Accuracy: 1 %



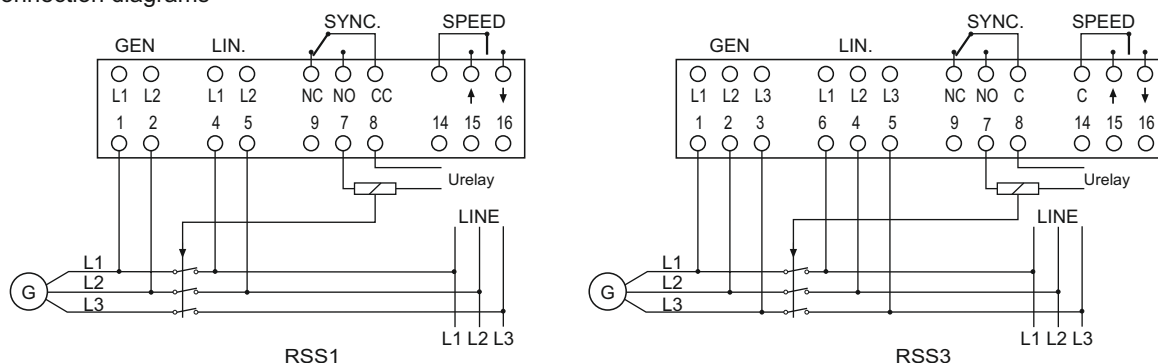
Model		RSS1 (2 wire)	RSS3 (3 wire)
Dimensions	mm	96x96	96x96
Approx. weight	Kg.	0,85	0,85
SYNCHRONOSCOPE/DIGITAL SYNCHRONIZING RELAY			
	V	110 or 230 V	110, 230, 400, or 440 V

Has a rotating display showing the phase between two voltages and two number indicators which display their module.
Allows the current module difference, phase difference and trip time to be set. Once the enable conditions have been met, the output relay closes, either for a fixed time (300 ms) or continuously while the condition lasts.
Receives power from the bus/bars signal. When operating as an automatic synchronizer it supplies acceleration/delay pulses for the alternator speed. LEDs on the front display the operation of the 8 output relays.

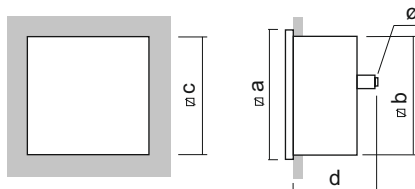
The front keypad programs:

- Voltage difference: ± 10 %
- Phase difference: $\pm 20^\circ$
- Permanent time: 0,1 - 5 s.
- Operate enable relay: Pulse, 300 msg. - Continuous (SYNC)
- Operate control relays (SPEED)

Connection diagrams



Dimensions (mm)



Model	Ranges	a	b	c	d	ø
RSS-	110÷440 V	96	89	92 $\pm$ 0,8	78	Term.

SPECIALITIES												
	48	72	96	144	80 x 64	105 x 80	130 x 100	MODULAR	48	72	96	144
Dimensions												
POINTERS												
Knife pointer + fine divisions	---	●	●	●	---			---	---			
Knife pointer + fine divisions + mirror	---	●	●	●	●			---	---			
Red pointer, set externally	●				●			---				
SCALE												
Non standard scale (*)	●				●			●	●			
Antiparallax scale	---				---			---	---	●	●	---
Black scale, white div., figures and pointer	---	●	●	●	●			---	---			
Black scale, yellow div., figures and pointer	---	●	●	●	---			---	---	●	●	●
Double scale	---	●	●	●	●			---	●			
Double numbering	---	●	●	●	●			---	---	●	●	●
Red line	●				●			●	●			
Colour arc (until 20 mm)	●				●			●	●			
Add text (<10 letters)	●				●			●	●			
Non electrical unit measuring												
PROTECTION												
Naval series or tropicalized	●				●			●	●			
Protection IP43	●				●			---	●			
Housing protection IP54	●				---			---	●			
Terminal cover (protection IP20)	●	●	●	---	---			---	●	---	---	
Movil equipment and critical damping	●				●			---	●			
Frontal protection (IP65)	---	●	●	---	---			---	---	●	●	---
MISCELLANEOUS												
Makrolon glass	●				●			---	●			
Antireflecting glass	●				●			---	●			
Lighting 12, 24 V (with white scale)	---	●	●	●	---	●	●	---	---	●	●	
Indirect Lighting 12, 24 V (with black scale)	---	●	●	●	---	●	●	---	---	●	●	
Non vertical working position	●				●			●	●			
Rubber gasket (Panel)	---	●	●	---	---			---	---			
MOVIN IRON METERS												
Non standard input (**)	●				●			●	---			
Calibrated for 150 or 400 Hz	●				●			●	---			
Calibrated in D.C.	●				●			●	---			
Accuracy 1%	●				●			●	---			
Insulation 3 kV	●				●			●	---			
750 to 1000V (with external box)	●				●			●	---			
Overload 200% (A, mA)	●				●			●	---			
Overload 500% (A, mA)	●				●			●	---			
Double range	●				●			●	---			
MOVING COIL AND MOVING COIL RECTIFIED METERS												
Non standard input (**)	●				●			●	●			
Insulation 3 kV	●				●			●	●			
Central zero	●				●			●	●			
Displaced zero	●				●			●	●			
Zero mechanically suppressed (max. 25%)	●				●			●	●			
Overload 200 or 500% (for Amm. A.C.)	●				●			●	●			
Non linear function scale (Ohm, db, etc.)	●				●			●	●			
Adjusted to specific internal resistance	●				●			●	●			
Accuracy	●				●			●	●			
600 up to 1000 V D.C.(with external box)	●				●			●	●			
>1.000÷2.000V D.C.(with external box)	●				●			●	●			
>2.000÷4.000V D.C (with external box)	●				●			●	●			
Full scale adjustable by potentiometer (±10%)	---	●	●	●	---			---	---	●	●	●
Double range	●				●			●	●			

(*) Scale: striped and numbered.

(**) Current or voltage required to move the needle at the end of the measurement zone.

SPECIALITIES

Dimensions									
	48	72	96	144	MODULAR	48	72	96	144
INDUCTION WATTMETERS AND VARMETERS									
Central zero		•			•		•		
Displaced zero		•			•		•		
Non standard voltage		•			•		•		
Current 1 A		•			•		•		
Calibrated between 0,4 and 0,5 of appa. power		•			•		---		
Calibrated between 0,6 and 0,8 of appa. power		---			---		•		
Calibrated between 1,3 and 1,5 of appa. power		•			•		•		
Accuracy 1%		•			•		•		
ELECTRONIC WATTMETERS AND VARMETERS									
Calibrated to 400 Hz		•			•		•		
Current 1 A		•			•		•		
Accuracy 1%		•			•		•		
INDUCTION POWER FACTOR METERS									
Non standard voltage (single phase)		•			•		•		
Non standard voltage (three phase)		•			•		•		
Current 1A		•			•		•		
ELECTRONIC POWER FACTOR METERS									
Non standard voltage		•			•		•		
Scale 0-1-0 (single phase), 0,1-1-0,1 (three phase)		•			•		•		
Current 1A		•			•		•		