

M8100 SERIES

Synchroscope



Description

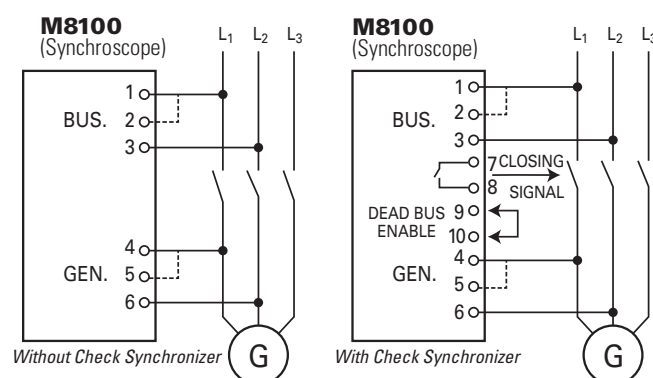
The M8100 Synchroscope provides illuminated indication of the phase and frequency difference between voltages on two separate AC systems, e.g. a generator and a busbar. The M8100 will also indicate whether or not the two systems are on voltage.

The M8100 is also available in a version with a built-in relay for automatic closure of the circuit breaker (Synchro Check Relay). The voltage and frequency are adjusted by the operator to roughly match the values required, and the unit will provide a closing signal to the circuit breaker at phase accordance.

Features & Benefits

FEATURES	BENEFITS
High resolution visual indication by 38 LEDs	Phase and frequency difference; Bus and generator voltage and phase accordance. Provides quick, concise status information; steady viewing of the synchronization process.
Available with check synchronizer relay	Enables use as manual synchronizing unit, or as auto-synchronizer back-up
Versions available with dead bus closure	Enables use as dead bus monitor in back-up power installation
Galvanic isolated inputs	Protects the unit against high AC voltage and currents from the installation including spikes
Sturdy casing for flush-mount installation, Q96 standard, with protection class IP52 on the front	Easy installation, allowing use in harsh environments

Simplified Circuit Diagram



Ordering Information

ORDERING NUMBER	TERMINALS		FUNCTION
	1-3 4-6	2-3 5-6	
M8100.0010	450 V	400 V	
M8100.0020	230 V		
M8100.0030	480 V	415 V	
M8100.0040	110 V	100 V	
M8100.0050	450 V	400 V	With check synchronizer relay
M8100.0060	230 V		With check synchronizer relay
M8100.0070	480 V	415 V	With check synchronizer relay
M8100.0080	110 V	100 V	With check synchronizer relay

Other voltages are available on request.

Specifications

Max. Voltage	480 V
Voltage Range	70-110%
Consumption	2 x 3 VA max.
Frequency Range	35-70 Hz
Pull-in/Drop-out	
Diff. Frequency	±9 Hz
Operating Temperature	-20°C to +70°C
EMC	CE according to EN50081-1, EN50082-1, EN50081-2, EN50082-2
Approvals	Certified by major marine classification societies
Burn-in	50 hours before final test
Enclosure Material	Flame retardant
Weight	0.7 kg
Dimensions	H 96 mm (3.8"); W 96 mm (3.8"); D 80 mm (3.1")
Panel Cut-out	H 92 mm (3.6"); W 92 mm (3.6")
Unit with check synchronizer relay	
Voltage Difference	10-20%
Frequency Difference	0.15-0.3 Hz
Phase Difference	6-12°
Dead-bus Delay	1s-5s
Dead-bus Voltage Offset	20%-40%
Min. Generator Voltage for DB Closure	80% of nominal voltage
Contact Rating	AC: 250 V, 1.2 V, 125 VA; DC: 30 V, 1 A, 30 W