

Phase sequence monitoring S1PN





The S1PN phase sequence monitoring relay detects the phase field of a three-phase supply.

Features

- Measuring voltage up to 690 V AC
- Detects asymmetry
- Monitors phase sequence
- Monitors phase failure
- Fuse monitoring
- LEDs
- Extensive voltage range

Approvals

	S1PN
	●*
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* for versions up to 240 V AC

Technical Details	S1PN
Electrical data	
Supply voltage	AC: 200 ... 240, 400 ... 500, 550 ... 690 V
Tolerance	85 ... 110 %
Power consumption	200 ... 240 V: 8 VA; 400 ... 500 V: 15 VA; 550 ... 690 V: 20 VA
Switching capability in accordance with EN 60947-4-1	
	AC1: 240 V/0.1 ... 5 A/1200 VA DC1: 24 V/0.1 ... 5 A/120 W
EN 60947-5-1	AC15: 230 V/2 A; DC13: 24 V/1.5 A
Output contacts	2 auxiliary contacts (2 C/O)
Contact material	AgCdO, 3 µm gold plating for low-load range 1-50 V/1-100 mA
Contact fuse protection in accordance with EN 60947-5-1, 10/91	
	max. 6 A quick or max. 4 A slow
Times	
Delay-on energisation	Max. 300 ms (with correct phase sequence)
Delay-on de-energisation	Max. 700 ms (after phase failure)
Environmental data	
Ambient temperature	-15 ... +55 °C
Mechanical data	
Max. cable cross-section of ext. conductor	2 x 1.5 mm ² or 1 x 4 mm ² single-core or multi-core with crimp connector
Dimensions (H x W x D)	87 x 22.5 x 122 mm
Weight	Approx. 130 g

Description

The phase sequence monitoring relay is enclosed in an S-95 slimline housing. There are 3 versions available.

Features:

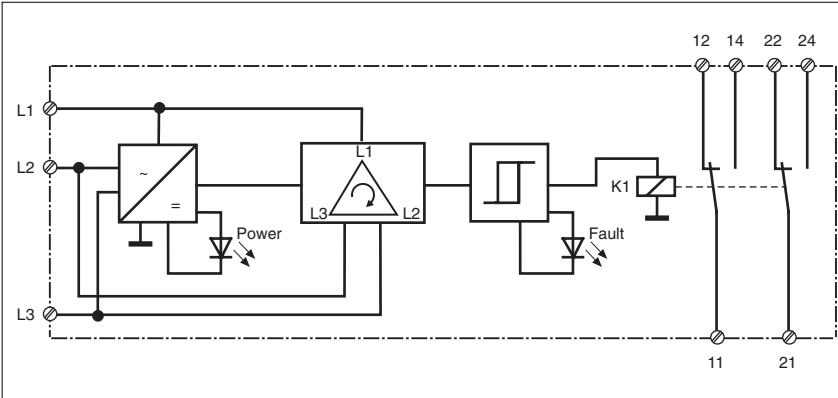
- Relay output: 2 auxiliary contacts (C/O)
- Rotary field direction monitor
- Detects defective fusing and phase failure, provided there is no voltage feedback via connected motors
- LEDs for faults and supply voltage.

The phase sequence monitoring relay detects the timed sequence of individual phases in a three phase supply. In a clockwise phase sequence, contacts 11-12 and 21-22 are open, contacts 11-14 and 21-24 are closed. In an anticlockwise phase

sequence, contacts 11-12 and 21-24 are open, contacts 11-14 and 21-22 are closed. When the system is at standstill (load isolated from measurement inputs) the S1PN can detect phase failure.

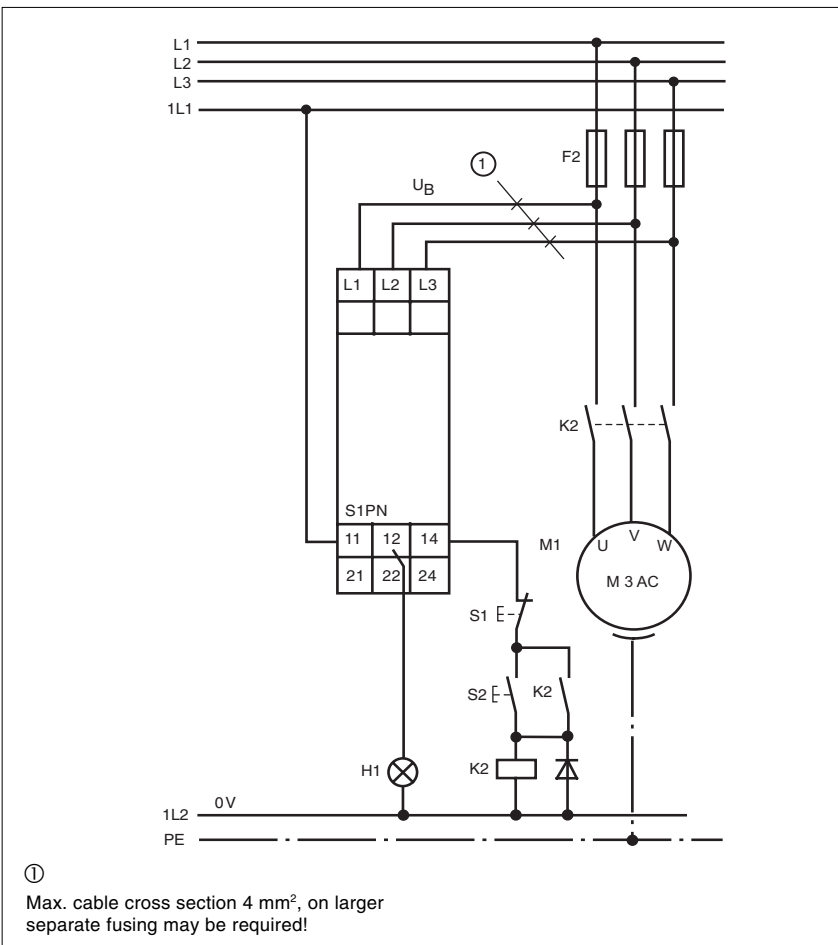
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Internal wiring diagram



Connection example

Monitoring phase failure and phase sequence



Phase sequence monitoring S1PN

General Details

Unless stated otherwise in the technical details for the specific unit.

Electrical data

AC frequency range	50 ... 60 Hz
DC residual ripple	160 %
Contact material	AgCdO
Continuous duty	100 %

Environmental data

EMC	EN 50081-1, 01/92; EN 50082-2, 03/95
Vibration in accordance with EN 60068-2-6, 04/95	Frequency: 10 ... 55 Hz, Amplitude: 0.35 mm
Climatic suitability	IEC 60068-2-3, 1969
Airgap creepage	DIN VDE 0110-1 (04/97), 4 kV/3
Ambient temperature	-10 ... +55 °C
Storage temperature	-40 ... +85 °C

Mechanical data

Torque setting for connection terminals	0.6 Nm (screws)
Mounting position	Any
Housing material	Thermoplastic Noryl SE 100
Protection types	Mounting: IP 54 Housing: IP 40 Terminals: IP 20

Order references

Type	U_B/U_M	Order no.
S1PN	200-240 V	890 200
S1PN	400-500 V	890 210
S1PN	550-690 V	890 220

Order references key

U_B Supply voltage
 U_M Measuring voltage