

Standstill monitoring S1SW P




The standstill monitoring relay S1SW P monitors for standstill on DC and three-phase AC motors.

Features

- Standstill monitoring without and with run-down time
- Standstill threshold can be set
- Run-down monitoring time can be set
- Normally de-energised mode
- Measuring circuits are galvanically isolated
- No speed sensor required
- Suitable for use with frequency converter

Approvals

	S1SW P
	●

Technical Details	S1SW P
Electrical data	
Supply voltage	AC/DC: 24 ... 240 V
Tolerance	85 ... 110 %
Power consumption	Approx. 5 VA
Switching capability to EN 60947-4-1, 10/91	AC1: 240 V/0.1 ... 5 A/1200 VA DC1: 24 V/0.1 ... 5 A/120 W
EN 60947-5-1, 10/91	AC15: 230 V/2 A; DC13: 24 V/1.5 A
Output contacts	2 auxiliary contacts (C/O)
Contact material	AgCdO, 3 µm hart gold-plating for low load range 1-50 V/1-100 mA
Contact fuse protection to EN 60947-5-1, 10/91	Max. 6 A quick or max. 4 A slow
Measuring circuit	
Frequency range	0 ... 1000 Hz
Adjustable measuring range limit values	0.02 ... 3 V 0.04 ... 6 V
Max. input voltage	AC/DC: 690 V
Impedance of measuring inputs	5 MΩ
Run-down monitoring time	0 ... 30 s
Environmental data	
Ambient temperature	-10 ... +55 °C
Mechanical data	
Max. cross section of external conductor	
Single-core conductor	flexible without crimp connector: 0.2 ... 2.5 mm ² flexible with crimp connector: 0.25 ... 2.5 mm ²
Multi-core conductor (2 conductors with identical cross section)	flexible with crimp connector without plastic sleeve: 0.25 ... 1 mm ² flexible with TWIN crimp connector with plastic sleeve: 0.5 ... 1.5 mm ²
Dimensions (H x W x D)	94 x 22,5 x 121 mm
Weight	200 g

Description

The standstill monitoring relay is enclosed in a S-99 slimline housing with plug-in terminals.

Features:

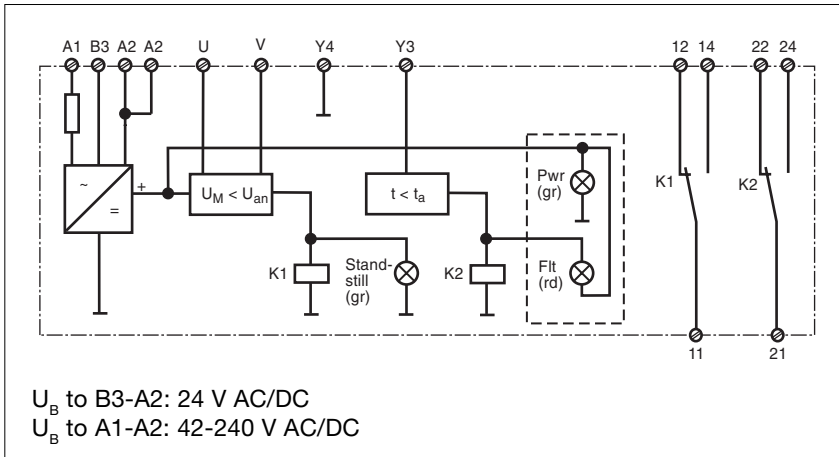
- Operating modes:
Standstill: 1 auxiliary contact (C/O)
Fault: 1 auxiliary contact (C/O)
- Operating modes:
 - Standstill monitoring without run-down monitoring
 - Standstill and run-down monitoring
- Potentiometers for adjusting the switch-on threshold and monitoring time
- Slide switch for doubling the measuring range

- LEDs for switching status of the relay, fault status and supply voltage

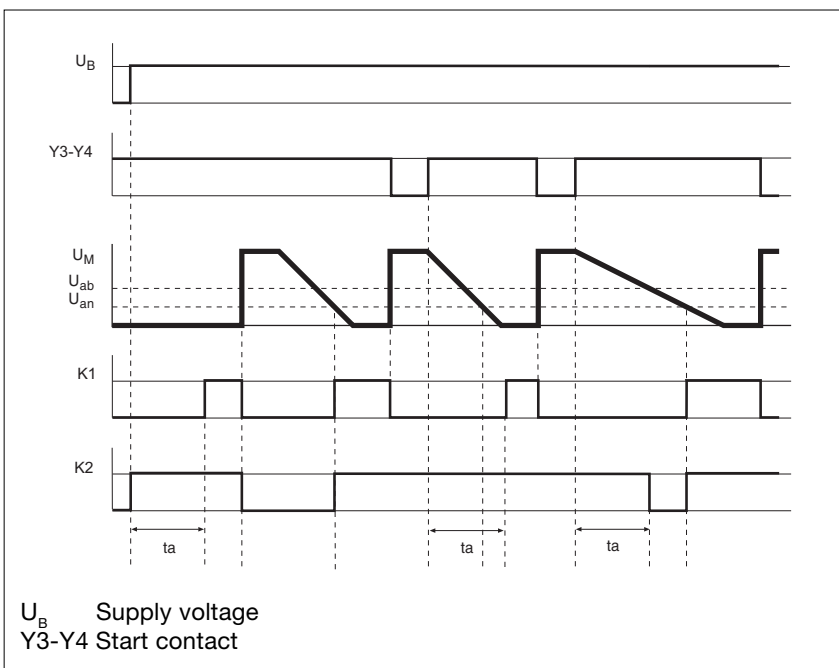
The standstill monitoring relay S1SW P monitors the run-down on a three-phase AC asynchronous machine using standstill detection. In this process, the residual-induced voltage of the motor winding is measured and, if it falls below the set threshold, standstill is signalled (relay contact). A second relay signals a fault if the voltage does not fall below the set threshold within the run-down monitoring time. Time monitoring when the volt-free start contact closes (N/C contact of motor contactor at Y3, Y4).

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Internal wiring diagram



Timing diagram

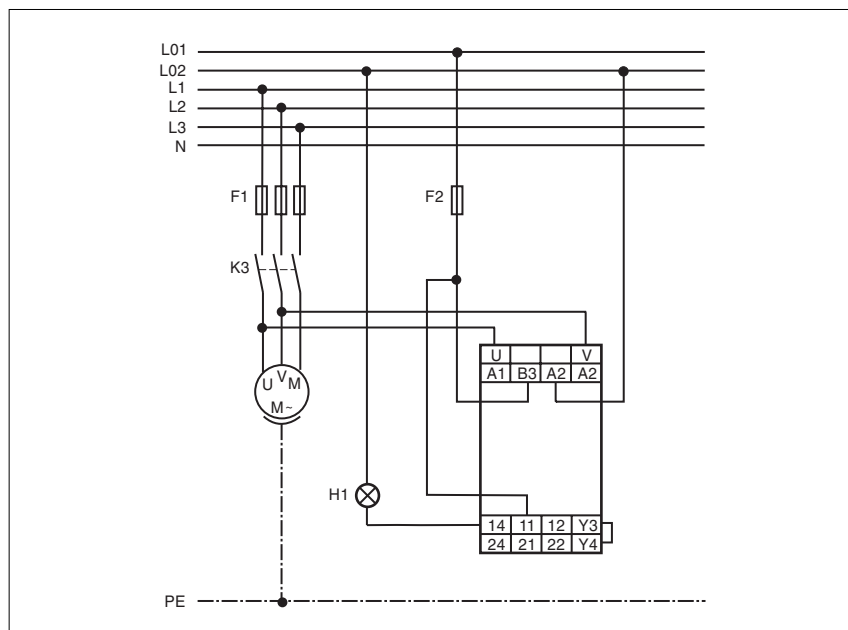


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Connection examples

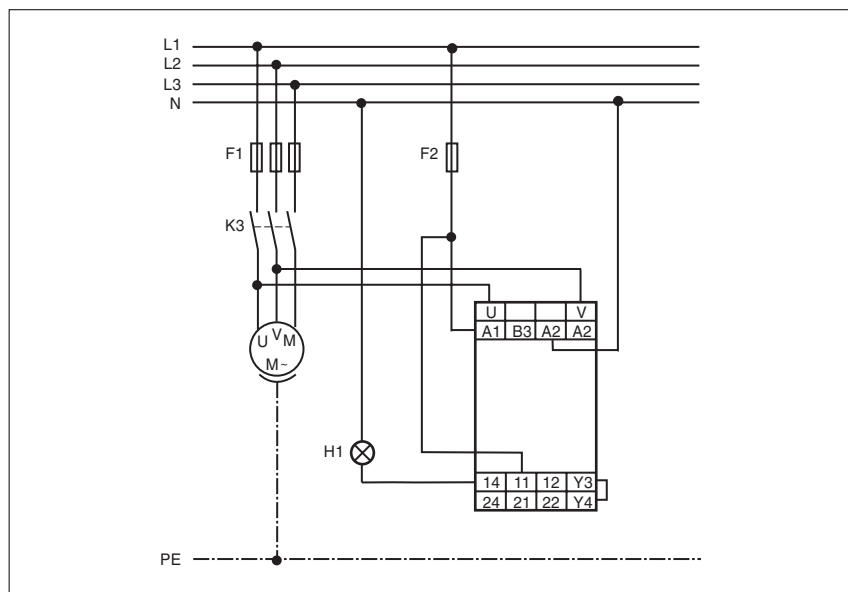
● Example 1

No run-down time monitoring,
supply voltage 24 V



● Example 2

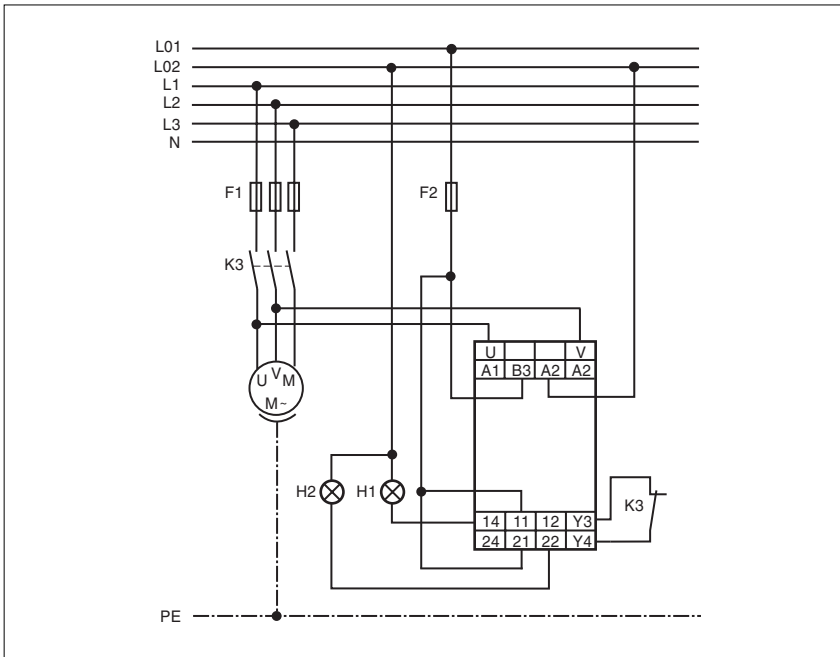
No run-down time monitoring, supply
voltage 42 V and higher



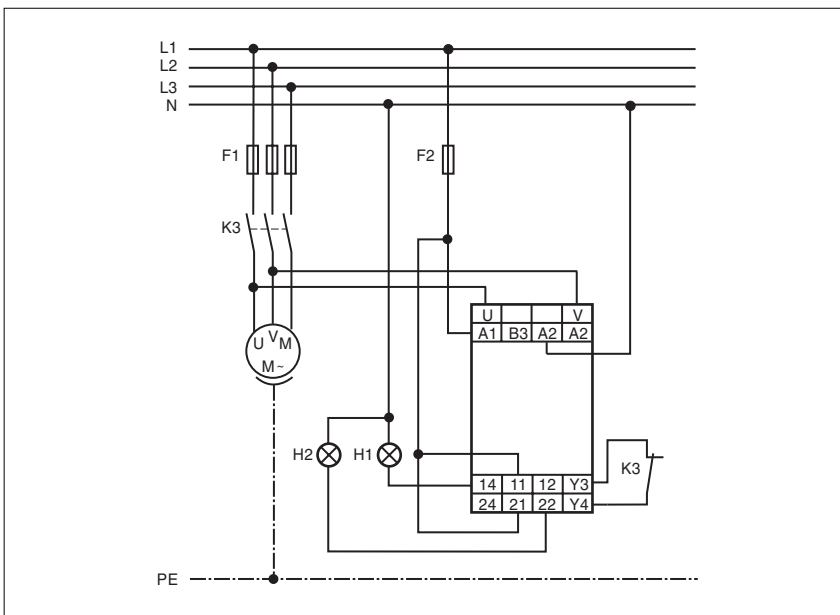
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Connection examples

- Example 3
With run-down time monitoring,
supply voltage 24 V



- Example 4
With run-down time monitoring,
supply voltage 42 V and higher



Standstill monitoring S1SW P

General Details

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

Electrical data

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

Environmental data

EMC	EN 50081-1, 01/92; EN 50082-2, 03/95
Vibration to 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
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

The units were tested in accordance with the standards applicable at the time of development.

Order reference

Order references key

U_B	Supply voltage
U_M	Measuring voltage
t_a	Run-down time

Type	U_B	U_M	t_a	Order
S1SW P	24 ... 230 V AC/DC	690 V AC/DC	30 s	407 710