

Operating Manual STWA1SH

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- Electronic Current-Transformer with fix limit

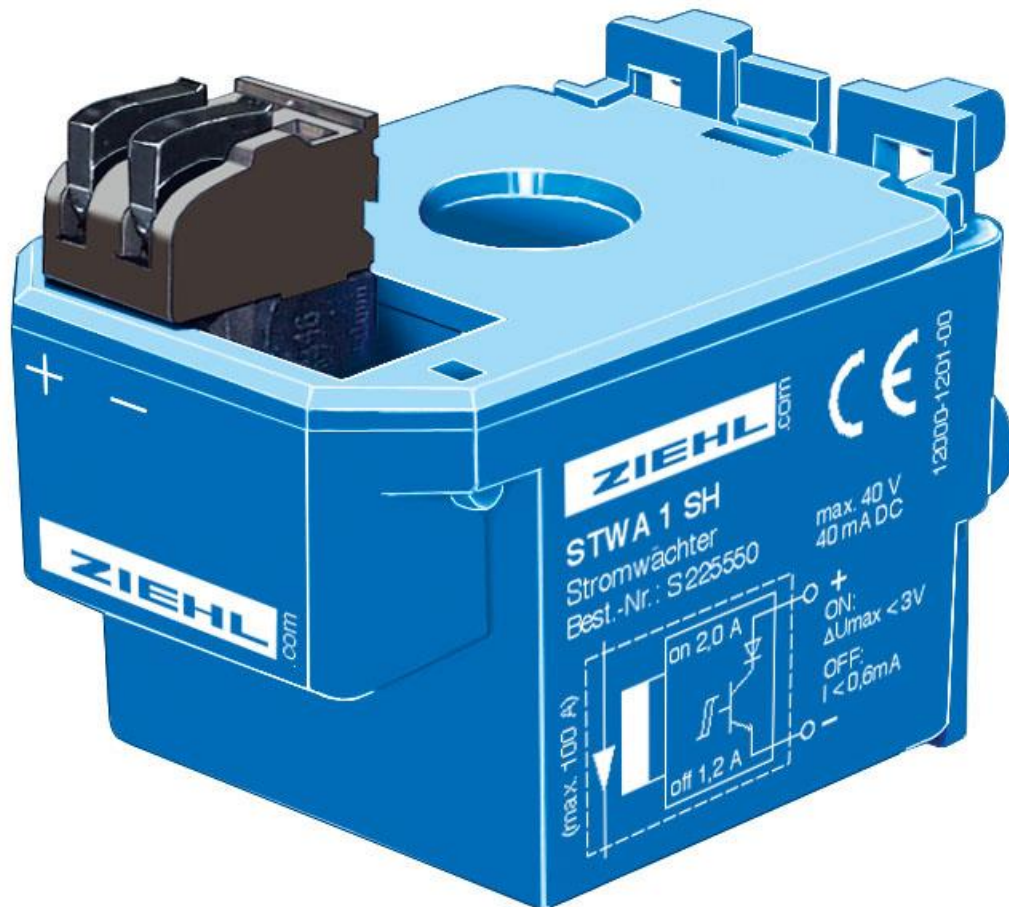


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1 Application and Short Description

The STWA1SH is used where current flow has to be detected, with the exact value of the current either known from the power consumption of the connected consumer or does not matter for the evaluation. The STWA1SH has an integrated electronics with transistor-output

2 Overview of Functions

- isolated transistor-output max. DC 40 V / 40 mA
- output can be directly connected to a digital input of a PLC
- integrated diode for reverse voltage protection
- electrical connection via screwless pluggable terminals
- 2-wire, no supply voltage required
- DIN-rail-mount or with screws
- plug-in current transformer (Ø 11 mm)
- max. overload 100 A continuously, 300 A max. 10 s

3 Detailed Description

Electronic current transformers type STWA1SH are simply pushed over the conductor. At the output a transistor switched and can be easily evaluated with a digital input of a PLC. The switching-point is 1,2 to 2 A. Above 2 A, the transistor is conductive, below app. 1,2 A it cuts off. As a switching element it complies with a switch with a diode in series..

Multiple loops of the conductor through the transformer reduces the limit accordingly, for instance to 2 A with 4 loops.

The electronics in the transformers is supplied from the signal of the transformer. Thus no extra supply-voltage is required.

For simultaneous evaluation of the current flow in several conductors, the STWA1SH can be connected in series (AND-circuit, pay attention to the voltage drop) or in parallel (OR-circuit, pay attention to the leak current).

Attention!

There may only one conductor be lead through the transformer!

4 Assembly

The STWA1SH can be assembled as follows:

- just push it over the monitored conductor without fixing it
- with the included mounting clip:
 - on 35 mm DIN-rail according to EN 60 715
 - surface-mount with 2 screws (M4)

NOTE:

The devices may only be mounted by skilled workers. The according rules have to be obeyed. The connection has to be made assorting to the connection-plan or the type plate.

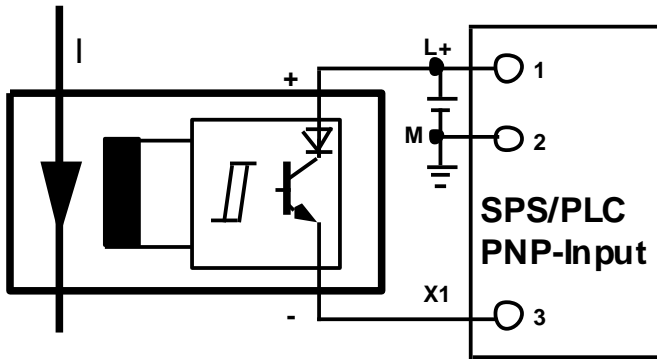
5 Technical Data

Output	transistor
Switching voltage	max. DC 40 V
Switching current	max. DC 40 mA
Voltage drop (ON)	max. 3 V
Leak current (OFF)	max. 0,6 mA
possible connections	Relay max. 40V / 40 mA Digital, directly to a PLC
Switching Point	AC 2 A -40%...+20%
Hysteresis	app. 6 %
Repeat accuracy	± 5 %
Temperature factor	< 0.5 % / K
Switch-on delay	app. 50 ms
Switch-off delay	app. 50 – 200 ms
Frequency	
Functional range	30 ... 70 Hz
Nominal frequency	50 Hz
Error	≤ 1 % / Hz
Overload Capacity	
continuously	100 A
max. 10 s	300 A
Test Conditions	EN 61010-1
Rated impulse withstand voltage	4000 V
Overvoltage category	III
Pollution degree	2
Rated insulation voltage U_i	250 V
On-period	100 %
Rated ambient temperature range	0 ... 55 °C
EMV-immunity	EN 61326-1 industrial environments
Vibration resistance EN 60068-2-6	2...25 Hz ±1,6 mm 25...150 Hz 5 g
Housing	design H
Mounting height	54 mm
Mounting width	2 TE
Wire connection, single wire	1 x 0,08 mm ² - 1,0 mm ² / AWG 28 - 16
Stranded wire with insulated ferrules	1 x 0,08 mm ² – 1,0 mm ² / AWG 28 - 16
Stripping length min.	4 mm
Protection class housing / terminals	IP 30 / IP 20
Installation	Snap mounting on mounting rail 35 mm according to EN 60715 or with screws M 4
Mounting position	any
Weight	app. 90 g

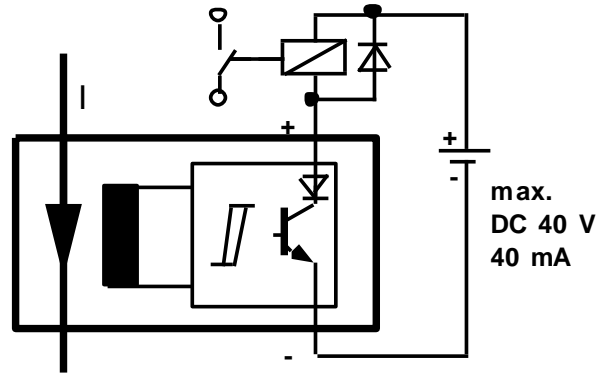
Subject to technical changes

6 Examples for connection

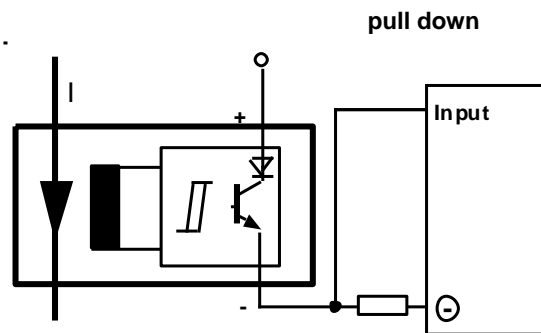
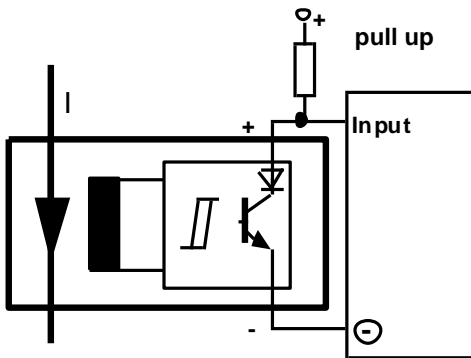
Connection to a PLC



Connection to a relay

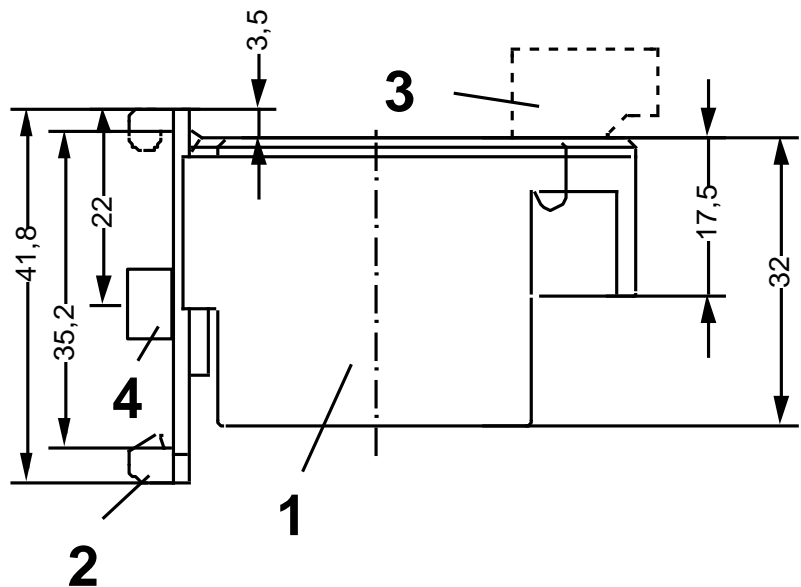


Connection to a digital input



7 Housing design H

Dimensions in mm



- 1 - Base
- 2 - Clip for DIN-rail
- 3 - Terminal (pluggable)
- 4 - Surface-mount (M4)

