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Operating Manual STWA1SH

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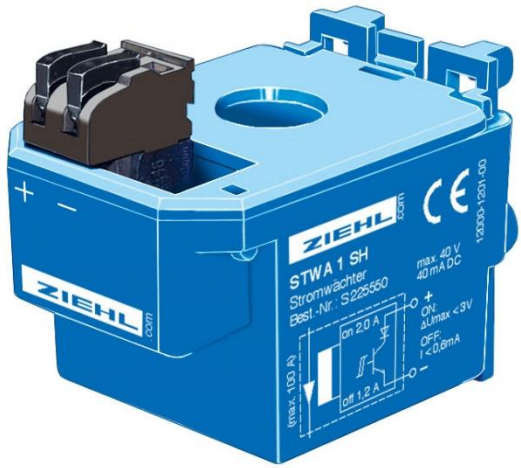
For more information and help about this product please scan the QR-Code or choose the following link: STWA1SH

Operating manual, Quick guide, Datasheet, Connection diagram, CAD Data
Firmwareupdates, FAQ, Videos about installation and settings, Certificates

- Elektronic Current-Transformer with fix limit



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1 General Notes

Compliance with the following instructions is mandatory to ensure the functionality and safety of the product. If the following instructions given especially but not limited for general safety, transport, storage, mounting, operating conditions, commissioning and disposal / recycling are not observed, the product may not operate safely and may cause a hazard to the life and limb of users and third parties.

Deviations from the following requirements may therefore lead both to the loss of the statutory material defect liability rights and to the liability of the buyer for the product that has become unsafe due to the deviation from the specifications.

2 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

3 Overview of Funktions

- isolated transistor-output max. DC 40 V / 40 mA
- output van 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

4 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!

5 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.

6 Technical Data

Output	Transistor (Open Kollektor)
Switching voltage	max. DC 40 V
Switching current	max. DC 40 mA
Possible connections	Relay max. 40V / 40 mA
	Digital, directly to a PLC
Voltage drop (ON)	max. 3 V
Leak current (OFF)	max. 0,6 mA
Switching Point	
Einschaltwert	AC 2 A -40%...+20%

Hysteresis	app. 6 %
Repeat accurancy	± 5 %
Temperature faktor	0...55 °C: < 0,5 %/K
	(-20...0 °C: <2,5 %/K)
Switch-on delay	app. 50 ms
Switch-off delay	app. 50 – 200 ms

Frequency

Funktional range	30 ... 70 Hz
Nominal frequency	50 Hz
Error	≤ 1 % / Hz

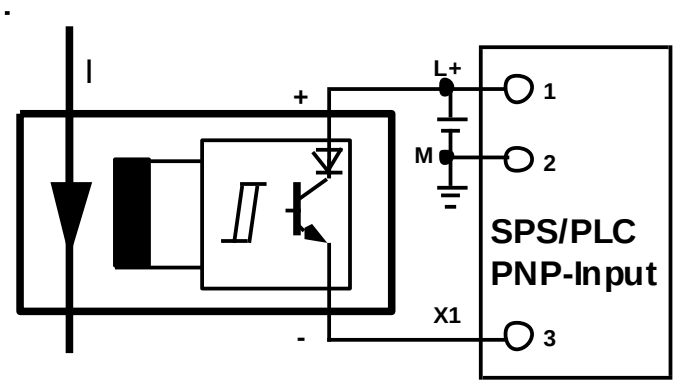
Overload Capacity

continuously	100 A
max. 10 s	300 A

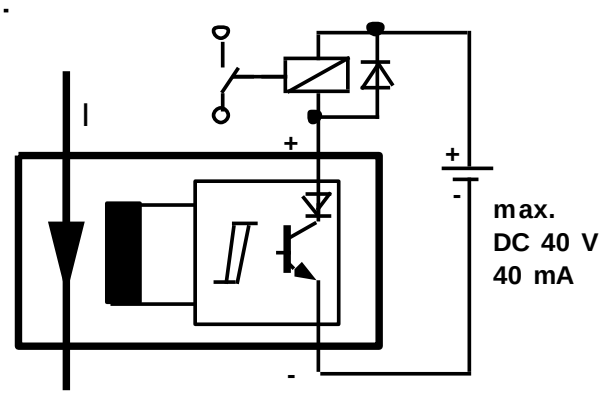
Test Conditions	EN 61010-1 EN 61326
Test voltage	2,7 kV
On-period	100 %
Rated ambient temerature range	-20 - 55 °C
Protection class	IP 54
Mounting position	any
Weight	app. 50 g
Order-Number:	S 225195

7 Examples for connection

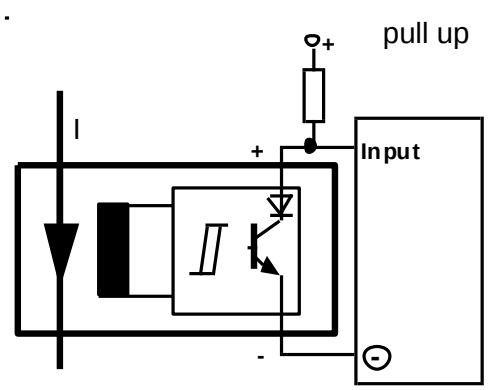
Connection to a PLC

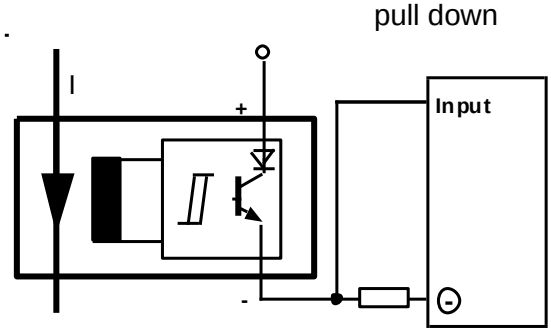


Connection to a relay



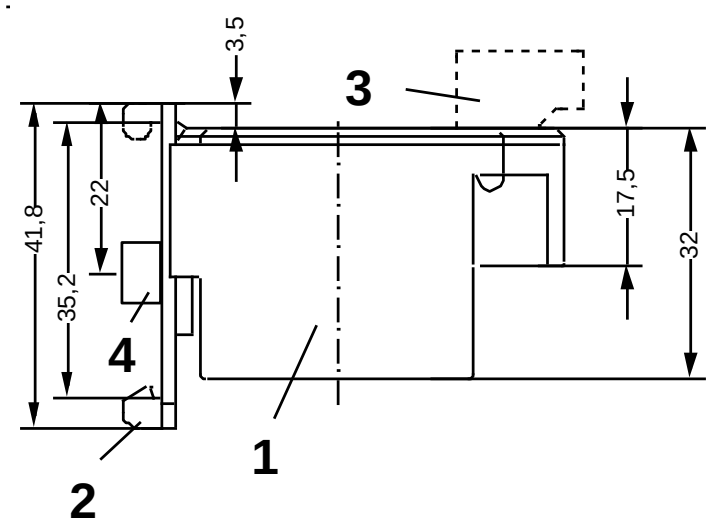
Connection to a digital input

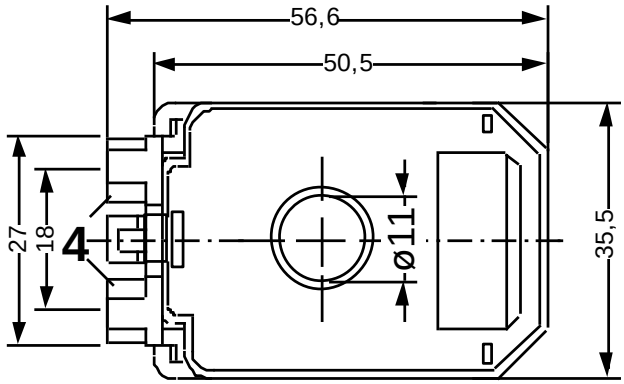




8 Housing design H

Dimensions in mm





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

9 Disposal

Disposal should be carried out properly and in an environmentally friendly manner in accordance with legal provisions.
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