

Operating Manual STWA1S

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For more information and help about this product please scan the [QR-Code](#) or choose the following link: [STWA1S](#)

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

- AC-Elektronic Current-Transformer with open collector output

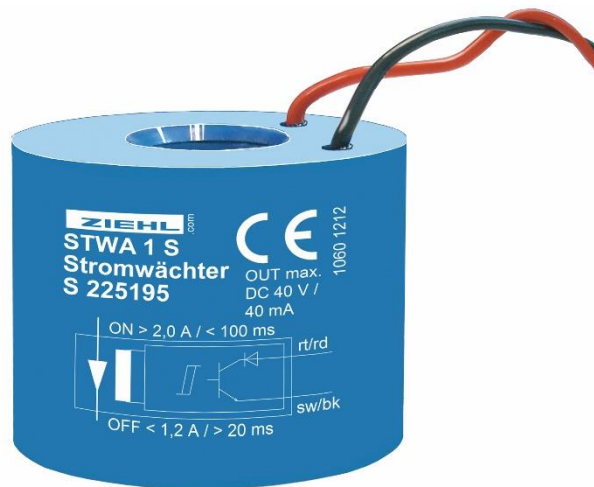


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1 General Notes

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 STWA1S 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 STWA1S has an integrated electronics with transistor-output

3 Overview of Funktionen

- 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
- Converter and electronics cast in a climate-proof housing
- plug-in current transformer (\varnothing 11 mm)
- max. overload 100 A continuously, 300 A max. 10 s

4 Detailed Description

The STWA1S has built-in electronics with a transistor output. The electronics are supplied from the output, so no additional external power supply is required. The voltage drop in the ON state is max. 3 V. In the OFF state, a residual current of max. 0.6 mA flows. If the current in the consumer circuit exceeds the value of approx. 2 A, the switching transistor of the electronics becomes conductive and switches the output (red wire) to low.

If the current in the load circuit falls below approx. 1.5 A, the switching transistor becomes high-impedance again and switches the output back to high.

As a switching element, the STWA1S corresponds to a switch (make contact) in series with a diode. The converter is simply pushed over the current-carrying conductor. Repeated looping through reduces the response threshold accordingly, e.g. B. to 0.5 A with 4-fold looping through.



Attention!
There may only one conductor be lead through the transformer!

5 Technical Data

Output

Switching voltage	Transistor (Open Kollektor) 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 accuracy	± 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

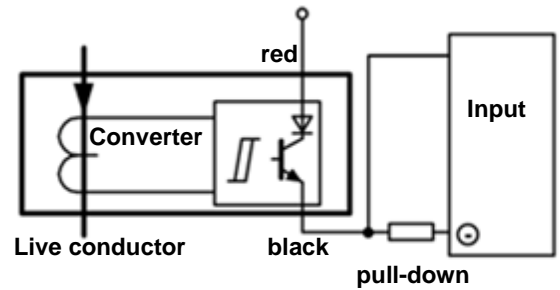
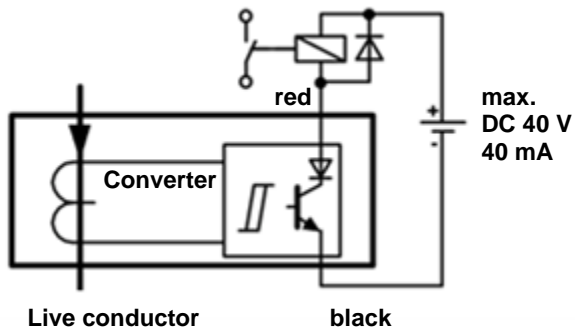
continuously	100 A
max. 10 s	300 A

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	

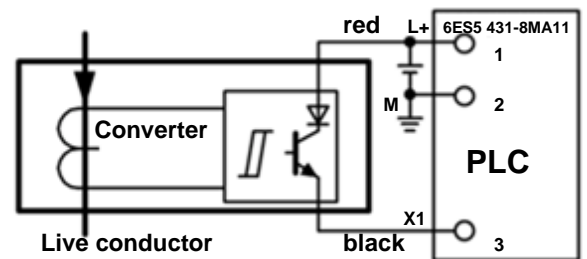
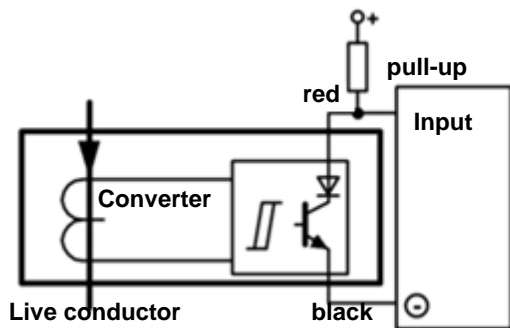
6 Examples for connection

connection of a relay

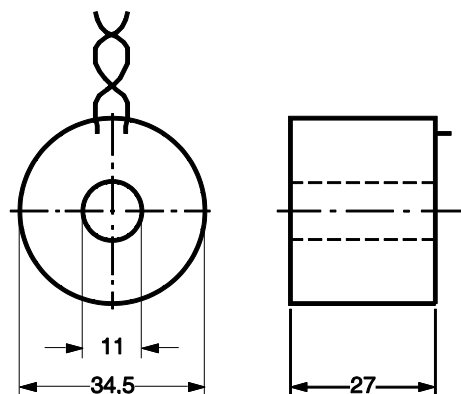


connection to a digital input

Connection to a digital built-in module of a PLC (e.g. Siemens 6ES5 431-8MA11)



7 Design



8 Disposal



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

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