

Operating Manual STWA1H

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- Current-Transformer

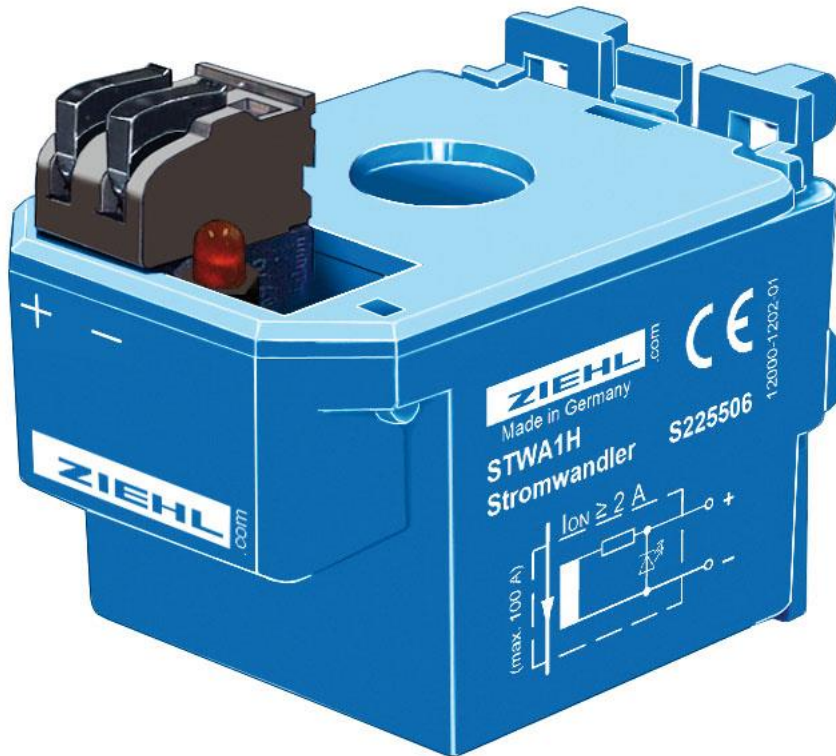


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1 Application and Short Description

The STWA1H current transformer is made to match the current-relays for recognition of AC-current and for controls for deducting plants type STW. Above app. 2 A the built-in LED lights and indicates a current. A current-relay type STW or a LED can be connected to the terminals.

The STWA1H has been designed for mounting in a switchgear cabinet. The housing can be fixed on a DIN-rail or with 2 screws.

The maximum diameter of the monitored line is 11 mm. The current is only limited by the diameter that can be lead through the transformer. The electrical connection is made via screwless pluggable terminals.

2 Overview of Functions

- connection to current-relays type STW
- indication with LED from app. 2 A
- indication of shortest current-pulses
- Built-in resistor to protect LED
- no supply-voltage required
- electrical connection via screwless pluggable terminals
- plug-in current transformer (\varnothing 11 mm)

3 Important Information

To use the equipment flawless and safe, transport and store properly, install and start professionally and operate as directed.

Only let persons work with the equipment who are familiar with installation, start and use and who have appropriate qualification corresponding to their function. They must observe the contents of the instruction's manual, the information which are written on the equipment and the relevant security instructions for the setting up and the use of electrical units.

The equipment is built according to DIN / EN and checked and leave the plant according to security in perfect condition. If, in any case the information in the instruction's manual is not sufficient, please contact our company or the responsible representative.

Instead of the industrial norms and regulations written in this instruction manual valid for Europe, you must observe out of their geographical scope the valid and relevant regulations of the corresponding country.



DANGER!

Hazardous voltage!

Will cause death or serious injury. Turn off and lock out all power supplying this device before working on this device.



DANGER!

In a non-loaded (open) secondary circuit of the current transformer STWA1H high voltages are induced at the secondary terminals.

For primary currents > 16 A, this voltage can be dangerous for human beings.

An "open mode", i.e. operation of the current transformer without secondary wiring, should be avoided.



Attention!

There may only one conductor be lead through the transformer!



Attention!

The connecting cable can be extended up to 50 m. When laying parallel to power cables use twisted or shielded cables.

4 Detailed Description

Electronic current transformers type STWA1H are simply pushed over the conductor. A built-in and if connected a external LED lights up at an AC-current > app. 2 A. With these LEDs shortest current-pulses can be indicated.

At the terminals a ZIEHL current-relay type STW or an external LED can be connected. A built in resistor protects the LED from overload.

Multiple loops of the conductor through the transformer reduces the limit accordingly, for instance to 0,5 A with 2 loops.

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

Hints:

STWA1H too insensitive (current too low):

- Multiple loops of the conductor through STWA1H reduces limit accordingly

STWA1H too sensitive (current of a base load shall be suppressed):

- Connect resistor (0,25 W / 200 V) in parallel to the input of the affected transformer
 - Resistance 750 Ω = increase by factor 2
 - Resistance 330 Ω = increase by factor 4
 - Resistance 120 Ω = increase by factor 10

It is recommended to find out the optimal value by testing.

5 Assembly

The STWA1H 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)

6 Technical Data

Output

Possible connectivity's: external LED
ZIEHL current-relay type STW

Switching Point LED

app. 2 A

Frequency

50 - 60 Hz

Test Conditions

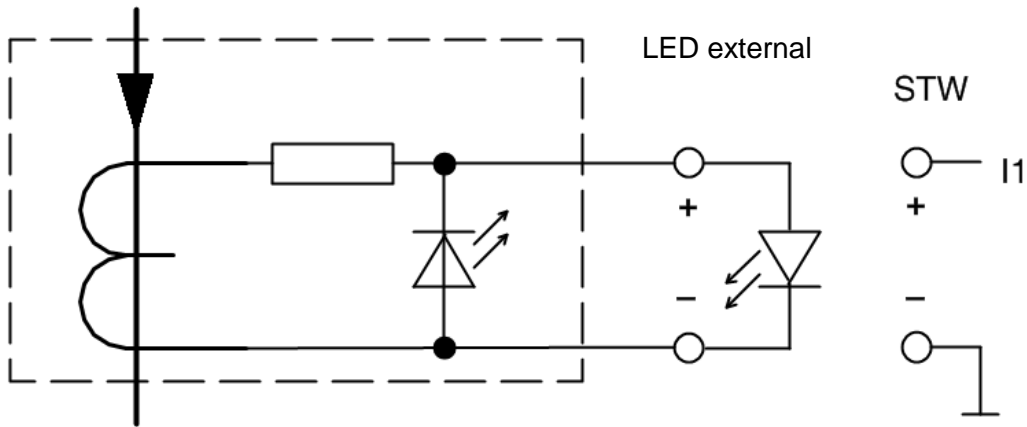
Rated impulse withstand voltage	EN 61010 4000 V
Overtoltage category	III
Pollution degree	2
Rated insulation voltage U_i	250 V
On-period	100 %
Rated ambient temperature range	0 ... 55 °C
EMC-immunity	EN 61326 (industrial electromagnetic environment)
EMC-emission	EN 61326 CISPR 11 class B
Vibration resistance EN 60068-2-6	2...25 Hz \pm 1.6 mm 25...150 Hz 5 g

Housing

Line connection	design H
protection terminals	each 1 x 0.08 mm ² to 1.5 mm ²
Mounting position	IP 20
Weight	any approx. 90 g

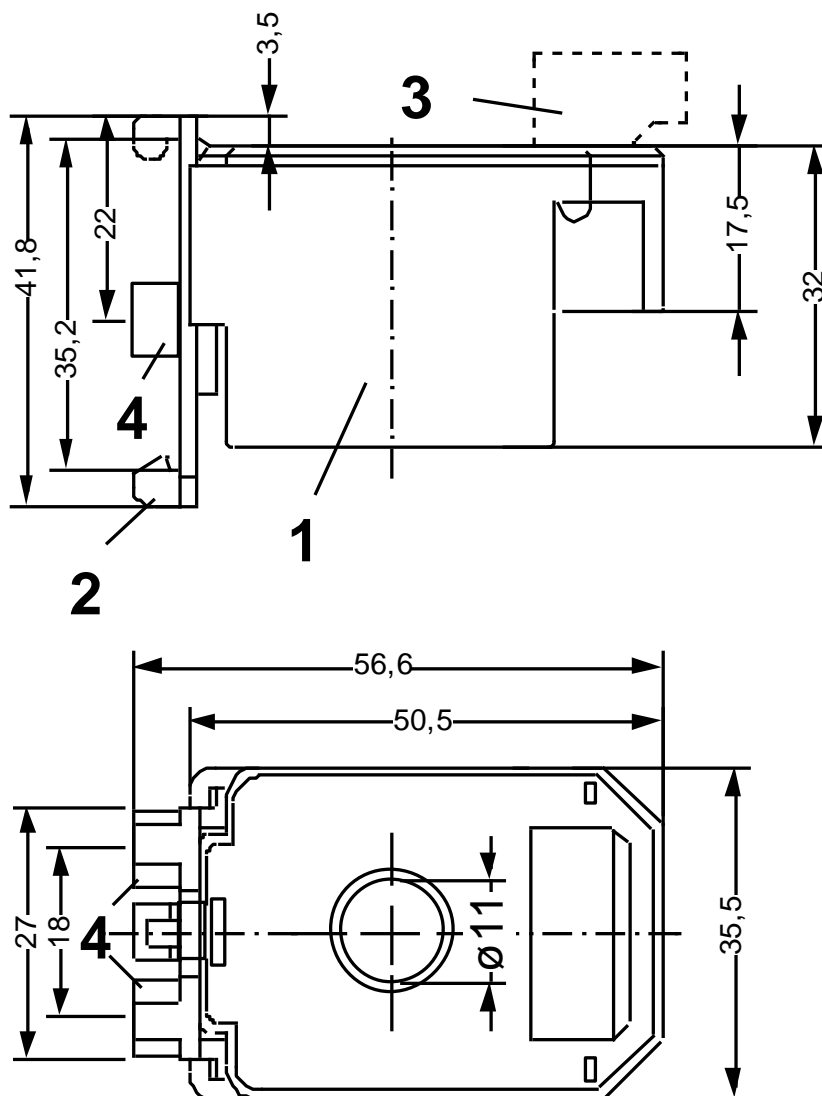
Subject to technical changes

7 Example for connection



8 Design H

Dimensions in mm



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