ZIEHL industrie – elektronik GmbH + Co KG
Daimlerstraße 13, D – 74523 Schwäbisch Hall
+ 49 791 504-0, info@ziehl.de, www.ziehl.de

Operating Manual STWA2AH

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- Electronic Current-Transducer with Analog Output

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1 Application and Short Description

The STWA2AH is a current-transducer for AC currents 0...20/100 A. With the STWA2AH the value of a current can be evaluated very economically and space-saving.
The output-signal 4...20 mA can be evaluated or displayed with components with analog inputs, e.g. PLCs or ZIEHL digital displays type MINIPAN ®

2 Overview of Functions

- current-proportional analog output DC 4...20 mA according to AC-measuring range
- measuring range (20/100 A) can be changed with bridge
- insulated analog output
- supply DC 9-30 V (via 4-20 mA-loop)
- electrical connection via screwless pluggable terminals
- 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

The current-transformer STWA2AH is a measuring-transducer in the housing of a transformer. It has an analog output 4...20 mA corresponding with AC 0...20 or 0...100 A current through the transformer. Multiple loops of the conductor through the transformer reduce the range accordingly, for instance to 0...5 A with 4 loops
For monitoring of currents of any value, the STWA2AH is simply looped into the secondary circuit of a big current-transformer (cable 4x through STWA2AH). The range corresponds to the primary current of the transformer, e.g. 0... 100 A at a transformer with 100/5 A.
The STWA2AH is a 2-wire transmitter and requires a supply voltage between DC 9 and 30 V. The analog output is insulated.

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

4 Assembly

The STWA2AH 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)

The connection has to be made assorting to the connection-plan or the type plate.

NOTE:
The devices may only be mounted by skilled workers. The according rules have to be obeyed.

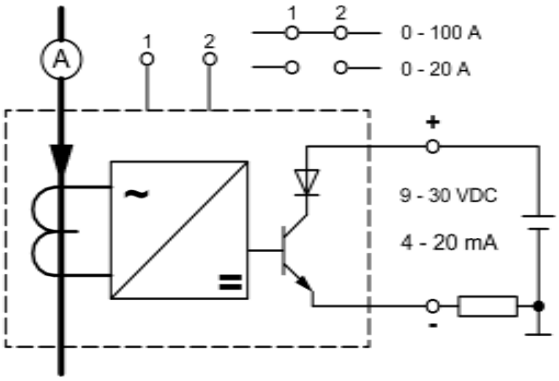
5 Technical Data

Supply Voltage	9...30 VDC (2-wire)
Analog Output	
Monitoring range	0...20 A / 0...100 A alterable with bridge
Analog output	DC 4...20 mA reverse-voltage protected, insulated
Load	depending on supply-voltage 9...30 VDC max. at 9 V: 100 Ω, at 24 V: 800 Ω, at 30 V: 1100 Ω output-current is limited to max. app.. 32 mA
Adjustment time	<0,5 s
Error (from 10 % / $I_{nominal}$)	<5% of FS
Temperature coefficient	...55 °C: < 0.06 %/K (-20...0 °C: <0.5 %/K)
Frequency	
Nominal frequency	50/60 Hz
Functional range	30 ... 400 Hz
Error	≤ 0.1 % / Hz (30 - 50 Hz) ≤ 0.05 % / Hz (60 - 400 Hz)
Overload Capacity	
continuously	range 0... 20 A max. 63 A AC range 0...100 A max. 100 A AC
Test Conditions	EN 61010
Rated impulse withstand voltage	4000 V
Overvoltage category	III
Contamination level	2
Rated insulation voltage Ui	250 V
On-period	100 %
Rated ambient temperature range	-20 ... 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 ±1.6 mm 25...150 Hz 5 g
Housing	design H
Line connection	each 1 x 0.08 mm^2 to 1.5 mm^2
protection terminals	IP 20
Mounting position	any
Weight	ca. 90 g

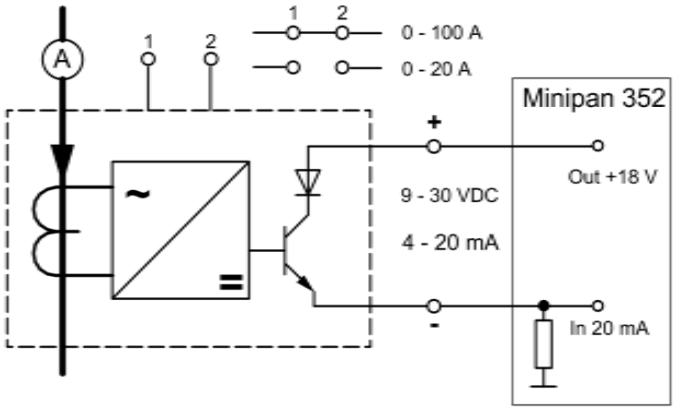
Subject to technical changes

6 Connection Plan

Connection Plan

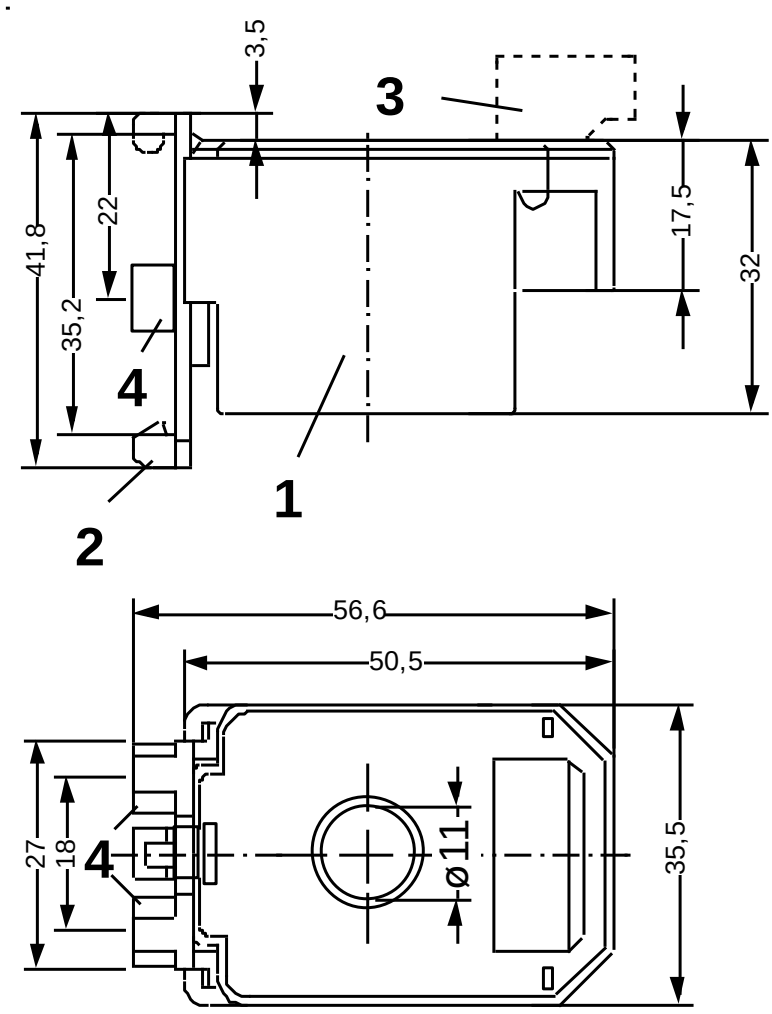


Connection Plan with Minipan SE 352



7 Design H

Dimensions in mm



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