

Operating Manual STW1000V2

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

- Current relay for monitoring almost any measured variable in connection with measuring transducers, e.g. in systems and controls

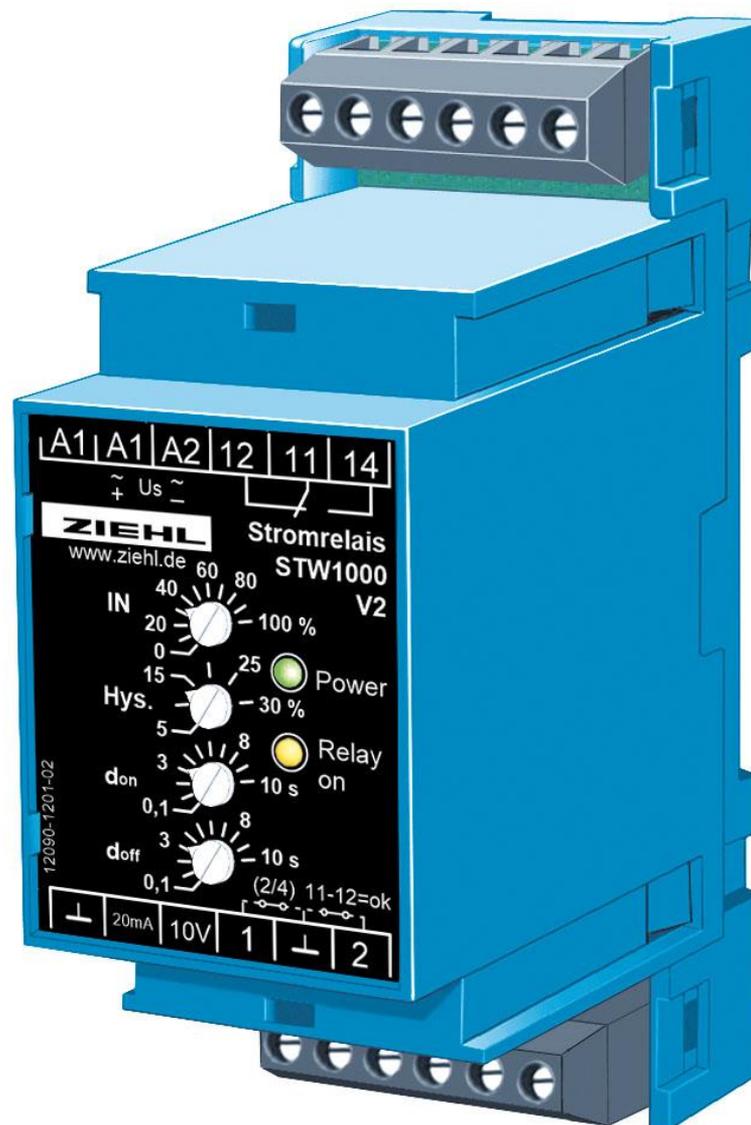


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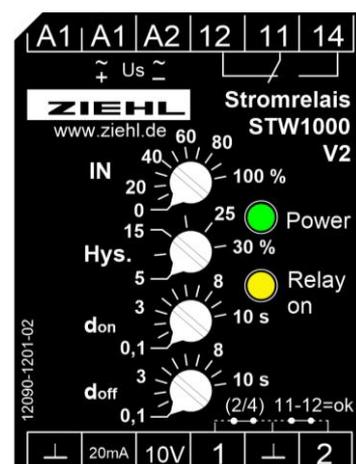
1 General Notes

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 Display and controls

- Potentiometer „IN“ for limit
- LED Power
- Potentiometer „Hys“ for hysteresis
- LED Relays an
- Potentiometer „don“ for switch-on delay
- Potentiometer „doff“ for switch-off delay



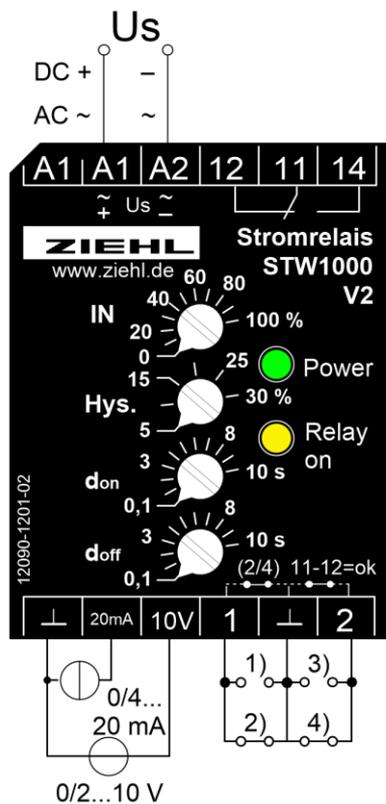
3 Application and short description

ZIEHL STW1000V2 current relays monitor standard signals from instrument transformers for compliance with a limit value. Units can be wired in series (current) or in parallel (voltage) to monitor multiple limits. Measurement inputs for 0/4-20 mA and 0-10 V, adjustable hysteresis and switching delays plus the selection facility to choose between the normally closed current and normally opened current principle for the relay make it a universal limit switch.

4 Overview of functions

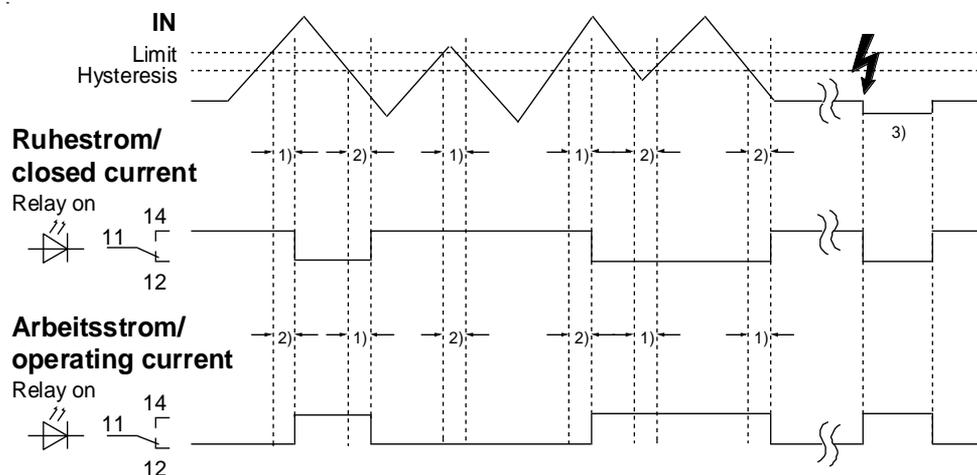
- Measurement inputs 0-20 mA / 0-10 V
- switchable to 4-20 mA / 2-10 V
- Limit adjustable 0-100 %
- Hysteresis adjustable 5-30 %
- On-delay adjustable 0.1... 10 s
- Response-delay adjustable 0.1... 10 s
- Output relay 1 change-over contact
- Operating or close-circuit current with bridge selectable
- LEDs for service condition display
- Universal power supply AC/ DC 24-240 V
- Panel mounted distributor housing 35 mm wide (2 TE), Installation height 55 mm

5 Application



- 1) 0...20 mA, 0...10 V
- 2) 4...20 mA, 2...10 V
- 3) closed current
- 4) operating current

6 Connecting diagram



1) doff, 2) don, 3) short at 4...20 mA / 2...10 V

7 Important Information



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



Before connecting the power supply Us, check if the connected supply voltage matches the defined supply voltage on the type of plate.

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 VDE/EN/IEC 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.

To maintain this status, you must observe the safety regulations entitled "caution" in this operating manual. Failures to follow the safety regulations can result in death, personal injury, or property damage to the device itself and to other devices and facilities.

To maintain this condition, you must observe the safety instructions in this instruction manual titled "Important Information". Failure to follow the safety instructions may result in death, personal injury, or property damage to the equipment itself and other equipment and facilities.

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.

8 Installation

- mount on 35 mm mounting rail according to EN 60715
- wall-mount with 3 x screws M4
- connecting wires refer to the connection plan to prevent miss-operation and malfunction.

9 Commissioning

Apply control voltage and voltage/current signal according to the wiring diagram.

Select the range and relay function by connecting the optional jumpers to terminals 1 – GND and 2 – GND.

Set limit values and delay times on the potentiometers.

10 Technical data

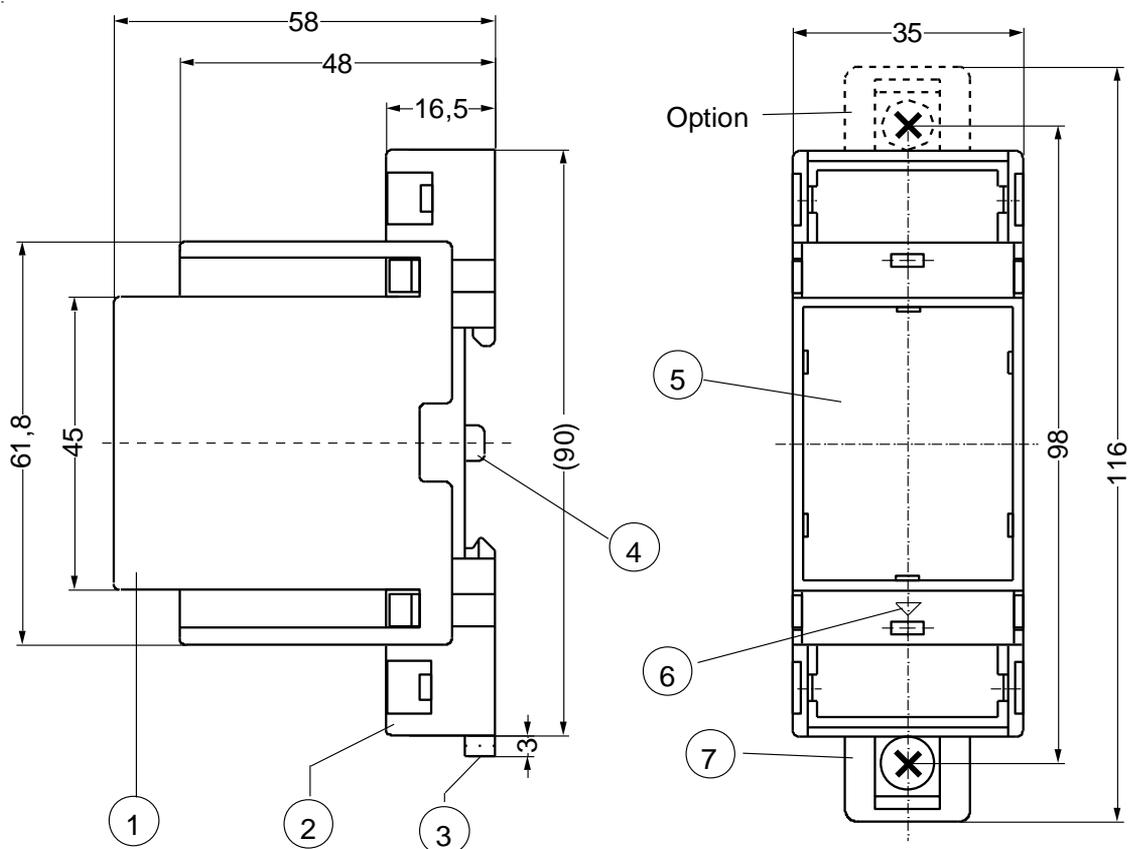
Rated supply voltage U_s:		DC/AC 24 – 240 V	0/50/60 Hz
Tolerance		DC 20,4 - 297 V	AC 20 - 264 V
Power consumption		< 2 W	< 3 VA
Output relay K1:		1 changer	
Switching voltage		max. AC 250 V; DC 300 V	
min. voltage / current		12 V 10 mA	
conventional thermal current I_{th}		max. 3 A	
Switching power max. AC $\cos \varphi = 1$		750 VA	
Contact life electrical		2 x 10 ⁵ switching cycles at AC 250 V / 3 A 5 x 10 ⁵ switching cycles at AC 250 V / 2 A 1 x 10 ⁶ switching cycles at AC 250 V / 0,8 A	
switching capacity utilization category		AC-15 $I_e = 2$ A $U_e = 250$ V DC-13 $I_e = 2$ A $U_e = 24$ V	
rated operational current		DC-13 $I_e = 0,8$ A $U_e = 60$ V	
rated operational voltage		DC-13 $I_e = 0,4$ A $U_e = 120$ V DC-13 $I_e = 0,2$ A $U_e = 240$ V	
Inputs:			
power input		DC 0/4...20 mA, 20 Ω	
voltage input		DC 0...10 V, 63 Ω	
switching point / limit value:			
limit I_N		Adjustable 0...100 %	
Hysteresis Hsy.		Adjustable 5...30 % from the set limit	
setting error		< 10 % from the final value	
repetitive error		< 0,2 % from the set limit	
temperature influence		< 0,05 %/K	
Power on suppression d_{on}		Adjustable 0,1...10 s	
response delay d_{off}		Adjustable 0,1...10 s	
Test conditions:		EN 61010-1	
Rated impulse voltage		4000 V	
Overvoltage category		III	
Pollution degree		2	
Rated insulation voltage U_i		300 V	
On-period		100 %	
EMC-tests:		EN 61326-1 industrial environment	
Emission		EN 61326-1; CISPR 11 Class B	
Immunity		EN 61326-1 industrial environment	
Electrical fast transient/Burst		EN 61000-4-4 ± 4 kV Pulse 5/50 ns, $f = 5$ kHz, $t = 15$ ms, $T = 300$ ms	
SURGE immunity		IEC 61000-4-5 ± 2 kV	
Installation conditions:			
Permissible ambient temperature		-20 °C ... +55 °C	
Permissible storage temperature		-40 °C ...+70 °C	
Installation height		< 2000 m over N.N.	
Climatic conditions		5-85% rel. F., no condensation	
Permissible wiring temperature		-5 °C ...+70 °C	
Vibration resistance EN 60068-2-6		2 ... 13,2 Hz	± 1 mm 13,2 ... 100 Hz 1 g
		2...25 Hz	$\pm 1,6$ mm 25 ... 150 Hz 5 g

Housing:	Type V2
installation depth	55 mm
Width	2 TE
Dimensions (W x H x D)	35 x 90 x 58 mm
Line connection solid wire	1 x 0,34 - 2,5 mm ² / AWG 22 - 12
Stranded wire with insulated ferrules	1 x 0,1 - 1,5 mm ² / AWG 27 - 14
stripping length / torque	8 mm / 0,5 Nm
Protection class housing / terminals	IP 30 / IP20
Mounting	Snap mounting on 35 mm standard rail EN60715 or M4 screws (additional bar not included)
Weight	app. 100 g

Subject to technical changes

11 Housing Type V2

All dimensions in mm



- 1 cover
- 2 base
- 3 bar for snap mounting
- 4 latch for sealing
- 5 front panel
- 6 position downward
- 7 for fixing to wall with screws \varnothing 4,2 mm

12 Disposal



Disposal should be carried out properly and in an environmentally friendly manner in accordance with legal provisions. ZIEHL is registered with the EAR Foundation under WEEE no.: DE 49 698 543.