ZIEHL industrie-elektronik GmbH+Co, Daimlerstr.13, D-74523 Schwäbisch Hall, Tel.: +49 791 504-0, Fax: -56, e-mail: info@ziehl.de

Operating manual

Control for suction plants STW 82 V

The current relay STW 82 V monitors up to 6 alternating current sets on current flow yes/no. The inputs can analyse signals of current transformers type STWA 1 or of potential-free contacts.

Applications:
The current relay STW 82 V is suitable for the control of suction plants in the timber and plastic processing industry according to the technical rules for dangerous materials TRGS 553.
The central suction is switched on, as soon as any machine is put into operation. Slide valves in the suction ducts of the individual machines are opened automatically. After reaching a selected run time, the option „Filter cleaning“ either allows direct triggering of a vibration action or starting of an external cleaning.
The control of the volume flow and its various possibilities of adjustment enable the STW 82 V to be adapted to the system at an optimum.

Description:
- Single analysis of 8 electric circuits (STWA 1 or contact)
- input for "open all slide valves"
- 8 relays (with change-over contacts) for slide valves
- 1 relay for control suction
- 1 relay for exceeding max. volume flow
- integrated control for dedusting

Functions / adjustments:
- turn-off delay suction K9, 0...99 s
- run-after last slide valve 0... 99 s
- minimum volume flow, 5... 100%, (if necessary automatic opening of additional slide valves, beginning with K8)
- maximum volume flow, 5... 100% (relay K10 announces exceeding) alternatively with or without barrier for the opening of further slide valves (no switching of K10 when controlling of cellular wheel / discharge by K10 is activated)

Individually adjustable for each channel:
- turn-on delay I1... I8: 0... 20 s
- turn-off delay relay K1...K8: 0... 99 s
- operating value I1...I8: 0.5... 5A
- volume flow of slide valves 5...100%

Controlling of dedusting of filters:
The run time of the suction is added with consideration of the volume flow. The dedusting is started after achieving the programmed run time. Vibration actions are executed only with switched off suction.

- time for addition: 0... 99 min.
- addition time stored permanently at loss of power (power failure, upon completion of work)
- delay before start of vibration: 0... 990 s
- number of dedusting impulses: 0... 20
- impulse on-time: 1... 30 s
- impulse off-time: 1... 990 s
- time of continous dedusting: 0... 990 s
- alternatively impulse shaking during pulsing and continous dedusting 0.1... 9.9 s (rectangle)
- alternatively dedusting request (with running suction)
- input for external dedusting command
- controlling during dedusting of the delay of the cellular wheel / discharge

Displays and operation:

- 7-segment-display for settings during programming, in operation display of the volume flow
- 8 LEDs for input/output selection and display of the active inputs/outputs
- 8 LEDS for function selection
- easy programming

Technical Data

Rated supply voltage Us	AC 230 V
frequency	50 / 60 Hz
power consumption	<8 VA
voltage tolerance	- 15 ... + 10 %
frequency tolerance	48 ... 62 Hz
internal resistance of inputs	ca. 15 kΩ
current overload capacitiy	with STWA 1 unlimited

Switching points

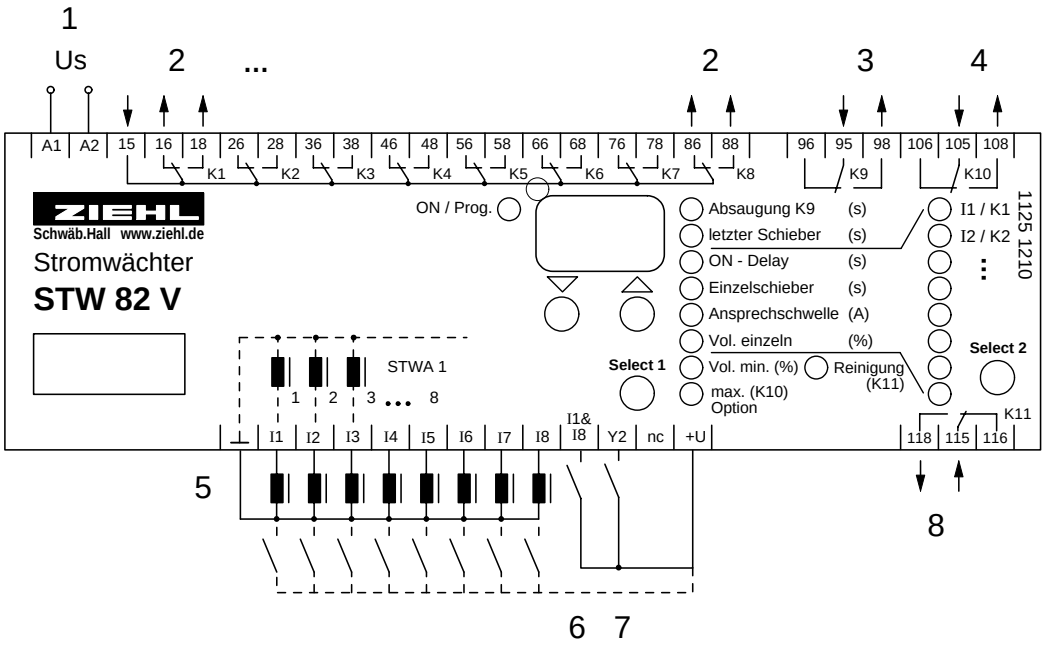
Operating value	adjustable 0,5 … 5 A
tolerance	±20 %
hysteresis	ca. 2 %

Relay output	1 change-over (co) contact	
Switching voltage	max. AC 415 V	
Switching current	max. 5 A	
Switching power cos ____1	max. 1250 VA (ohmic load)	
	max.48 W at DC 24 V	
Rated operational current Ie		
AC15	Ie = 1,5 A	Ue = 400 V
	Ie = 3 A	Ue = 250 V
DC13	Ie = 2 A	Ue = 24 V
	Ie = 0,2 A	Ue = 125 V
	Ie = 0,1 A	Ue = 250 V
Recommended fuse for contacts	T 3,15 A (gL)	
Expected life mechanical	3×10^7 operations	
Expected life electrical	1×10^6 operations with AC 250 V / 5 A	
	2×10^6 operations with AC 250 V / 3A	
	2×10^7 operations with AC 250 V / 1A	
Derating factor cos__ = 0,7	0,5	

Testing conditions:	VDE 0160 / VDE 0660
Rated insulation voltage Ui	AC 415 V
Contamination level	2 / VDE 0110
Check	3 / VDE 0435 part 303
Impulse voltage	5000 V
Interference voltage	2500 V
Insulation voltage	2500 V
Testing voltage open contact element	1000 V
Interference transmission	EN 50 081
Interference resstance	EN 50 082
Climatic resistance category F	DIN 40 040
Max. ambient temperature	-20 … +45 °C

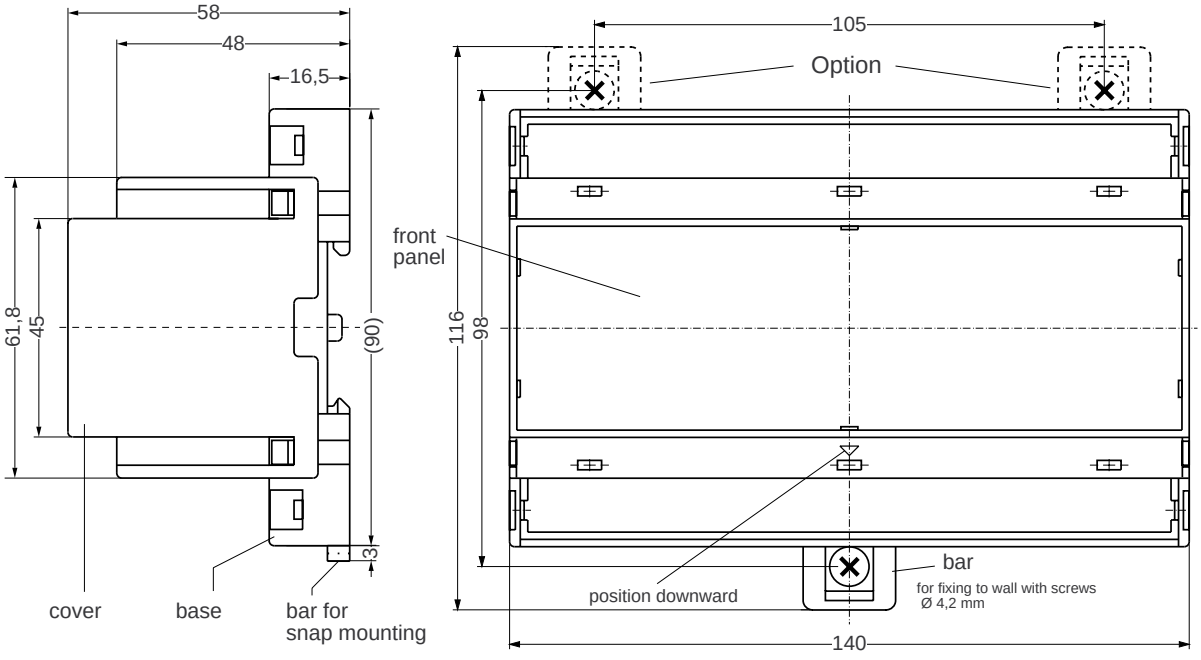
Housing	design V8, dimensions: 140 x 90 x 58 mm
wire connection	41- poles, 1 x 2,5 mm^2 per pole
protection housing/terminals	IP 30 / IP 20
fittting position	any
mounting	snap mounting on 35 mm standard rail
	DIN EN 50 022 or screws M4
weight:	approx. 460 g

Wiring scheme



1 power supply
2 8 outputs for slide valves (x6 = close, x8 = open)
3 suction on
4 max. volume flow exceeded / option
5 inputs for current transformers type STWA 1
6 open all slide valves
7 external dedusting command
8 dedusting / option

Design V8 (dimensions in mm)



Operation manual and overview for settings

date:

Choice with "Select 1"					Enter settings different from manufacturer´s settings here:		Choice with "Select 2"							
Function	Explanation	Unit	Scope for settings	Manufacturer´s setting (MS)	Setting	Factor M (MS=1)	I1/K1	I2/K2	I3/K3	I4/K4	I5/K5	I6/K6	I7/K7	I8/K8
Suction (K9)	turn-off delay cent. suction	s	0...99 s	60 s		*	-	-	-	-	-	-	-	-
Last valve	run-after time last valve	s	0...99 s	60 s		*	-	-	-	-	-	-	-	-
ON-Delay	turn-on delay single valves	s	0...20 s	3 s	-	-								
Single-valve	run-after time single valve	s	0...99 s	10 s	-	-								
Operating value	current in transmitter	A	0.5...5 A	1.0 A	-	-								
Vol.flow single valve	volume flow / valve	%	0...100%	10%	-	-								
Vol. min.	minimum volume flow	%	5...100%	10%		-	-	-	-	-	-	-	-	-
Vol. max. (K10)	maximum volume flow	%	5...100%	100%		-	**blinking**	barrier for the opening of further valves				-	-	-
(operating mode 0)	(selected operating modes valid also in other operating modes)					-	**lighting**	without barrier for the opening of further valves				-	-	-
Option (K10)	control of discharge	s	0...99 s	0 s			-	**X**	**M**	-	-	-	-	-
(operating mode 1)	(run-after time after K9)	-	-	-	-	-	-	-	-	-	-	-	-	-
dedusting (K11)	(dedusting) addition time	min	1...99 min	30 min			**X**	-	-	-	-	-	-	-
delay before start	after suction K9 switch off	s	0...99 s	50 s			-	**X**	-	-	-	-	-	-
impulse on-time		s	1...30 s	3 s		-	-	-	**X**	-	-	-	-	-
impulse off-time		s	1...99 s	10 s		-	-	-	-	**X**	-	-	-	-
number of dedusting impulses	repetitions	n	0...20 x	0 x		-	-	-	-	-	**X**	-	-	-
continous dedusting	time	s	0...99 s	50 s			-	-	-	-	-	**X**	-	-
impulse shaking	time of pulses (rectangle) 0 = OFF	s	0.0...9.9 s	0 s		-	-	-	-	-	-	-	**X**	-
P1 = impulse (1 s) = dedusting request (with suction on)			P1	-		-	-	-	-	-	-	-	**X**	-
factor M	(same factor for addition time, delay before start and time of continuous dedusting)						-	-	-	-	-	-	-	**M**

* Switch to choice of factor "M": "keep Select 1 pressed"

At unit "%" display of "99." means value 100.

Change of operating mode: keep "Select 1" pressed until LED blinks. Select operating mode with up/down.

Reset to manufacturerers settings (MS): Press buttons up and down simultaneously for 2s. All settings are set to MS. Operating mode of K10 remains unchanged.

Settings are multiplied by the factor entered in column "Factor" (MS = 1).

Z.Nr. : 1125 0720.1
Type : STW 82 V
EA -Nr. : 1119