

# Control for Suction Plants STW84V

with integrated control for dedusting of filters and volume flow

## General



The current relay STW84V monitors up to 8 alternating current sets on current flow yes/no. The inputs can analyse signals of current transformers type STWA1 or of potential-free contacts. For controlling of great dedusting plants several relays can be combined.

Applications: Controlling of dedusting 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. According slide valves in the suction ducts of the individual machines are opened. In addition, cleaning of a filter (vibration) and a cellular wheel/discharge can be controlled, an external cleaning (with compressed air) can be started or exceeding of max. volume flow can be reported.

The analog output 0...10 V can control a frequency-converter at the motor of the ventilator and thus optimize performance and save energy.

## Function and Characteristics

### Description:

- Monitoring of 8 machines (STWA1 or contact)
- input for "open all slide valves"
- 8 relays (with change-over contacts) for slide valves
- 1 relay for control ventilator
- 1 relay for filter-cleaning
- 1 relay for control of cellular wheel/discharge or report exceeding max. volume flow
- analog output for control of frequency-converter and combination of more STW
- terminals plugable

### Functions/adjustments:

- run-after last slide valve 0... 99 s
- turn-off delay ventilator 0...99 s
- minimum volume flow 1... 100%, (if necessary automatic opening of additional slide valves, beginning with K8)
- maximum volume flow 5... 100%

Individually adjustable per channel:

- turn-on delay I1... I8: 0... 20 s
- turn-off delay relay K1...K8: 0... 99 s
- operating value I1...I8: app. 0.5... 5A
- volume flow of slide valves 1...100%

Combination of more STW:  
Master-relay considers volume-flow of other relays for:

- control of ventilator (relay K9 and analog output 0-10 V)
- opening of additional slide valves
- adding time for filter-cleaning
- report of exceeding max. volume flow

### Control of cleaning of filters:

The run time of the ventilator is added with consideration of the volume flow. The dedusting of the filters is started after achieving the programmed run time (only with switched off ventilation).

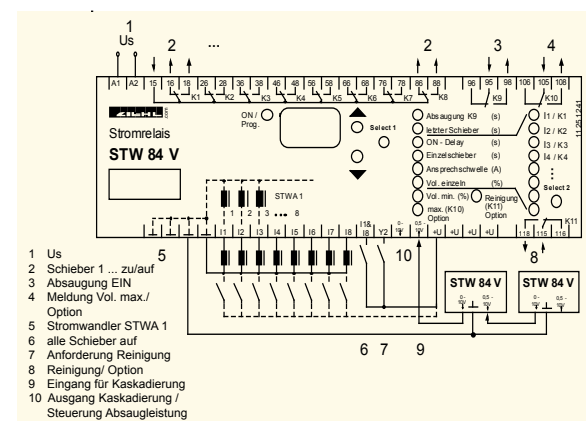
- time for addition: 0... 99 min.
- added time stored permanently even at loss of power (power failure or upon completion of work)
- delay before start of cleaning: 0... 990 s
- number of dedusting impulses: 0... 20
- impulse on-time: 1... 30 s
- impulse off-time: 1... 990 s
- time of continuous dedusting: 0... 990 s
- alternatively impulse shaking 0.1... 9.9 s (square)
- alternatively dedusting request (with running suction)
- input for external dedusting command
- controlling a cellular wheel / discharge during dedusting

### 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
- 9 LEDs for function selection
- easy programming

Order-number:

**S225103**



## Technical Data STW84V

Power Supply	rated supply voltage $U_s$ other voltages voltage tolerance power consumption frequency	AC 230 V on request +10...-15% < 12 VA 50/ 60 Hz
Relay output	contact elements type of contact (see with " general information " under relays)	11 change-over contacts (co) <b>type 3</b> max. 5 A/ 1250 VA
Test conditions	rated insulation voltage $U_i$ contamination level rated impulse voltage element interference transmission interference resistance  rated ambient temperature range	EN 50178/60947 AC 415 V 2 4000 V EN 61000-6-4 EN 61000-6-2  -20°C...+45°C
Voltage output		DC 17...21 V, max. 120 mA (max. 8 x Current Sensor S1)
Inputs	Overload cap. continuous/max.10s current overload capacity operating value tolerance	1...8 STWA 1, floating contact or AC/DC 24 V, STWA 1 H or current-sensor S1 100 A/300 A ca.15 kΩ adjustable 0.5... 5 A ±20%
Command inputs	Y2, external dedusting command I1&I8, command all valves open internal resistance of inputs	+ DC 24 V + DC 24 V approx.15 kΩ
Housing	design dimensions (h x w x d) mm wire connections  installation position attachment housing protection terminal protection vibration resistance  shock resistance  weight	V 8 (installation) 90 x 140 x 58 mm, mounting height 55 mm 1 x 2.5 mm <sup>2</sup> for each pole  any on 35 mm DIN rail or M4 screws IP 30 IP 20 1 mm 25 cycles per second / 10 g 25 - 100 cycles per second of 10 g 20 ms 20 g 4 ms approx. 460g