

# Ventilation and Smoke Extraction Load Unit AES-SS



## Application

The exhaust air + smoke extraction control system AES-SS is designed in connection with the control unit AES-ST3.1 for the operation of stage-level fans in SEPARATE WINDINGS (SS) for ventilating in normal operation and for emergency smoke extraction.

## Function

The functionality of the control system corresponds to VDMA 24177.

The main switch, which can be shut off, is horizontally placed on the outside of the control unit. It can be used as an emergency-off switch if the control unit is attached in visual proximity to the fan motor. The main switch can also be locked in the On position or sealed to prevent unintentional shut-down of the system.

At 7.5 kW and higher fan stage 2 is always switched on via stage 1 to minimise loading of the on-site power supply.

The spin time for switching up and back can be adjusted.

On the front of the operating and display module, the ventilation system can only be switched to SMOKE EXTRACTION or READY mode or to ON. OFF switching is not possible. The operating conditions are displayed optically. The overcurrent triggering must be unlocked on the motor protection device after the disturbance is eliminated.

When air is being exhausted, all motor protection devices are functioning to prevent motor damage. Fan stage 1 or 2 can be freely chosen.

During smoke extraction, all motor protection devices are bypassed so that the longest possible function duration can be achieved before the fan motor is destroyed. The fan motor is forcibly switched to stage 2.

## Notes

**The AES switching** device should be installed as closely as possible to the associated fan outside of the area from which smoke is to be extracted and be accessible via escape and rescue routes.

**The power supply** for smoke extraction fans must be connected directly on the NSHV and designed to maintain function.

**In the case of smoke extraction**, fan motors may not be operated by frequency converters or similar control devices.

**Observe the permissible** motor switch-on speed / h when starting up in smoke extraction mode. Otherwise the fan motor can be destroyed due to the bypassed motor protection devices!

**Smoke extraction systems** must undergo a complete function check every 3 months and be serviced once a year.

**Project-related** smoke extraction switching systems, special switches, emergency power supply on request.



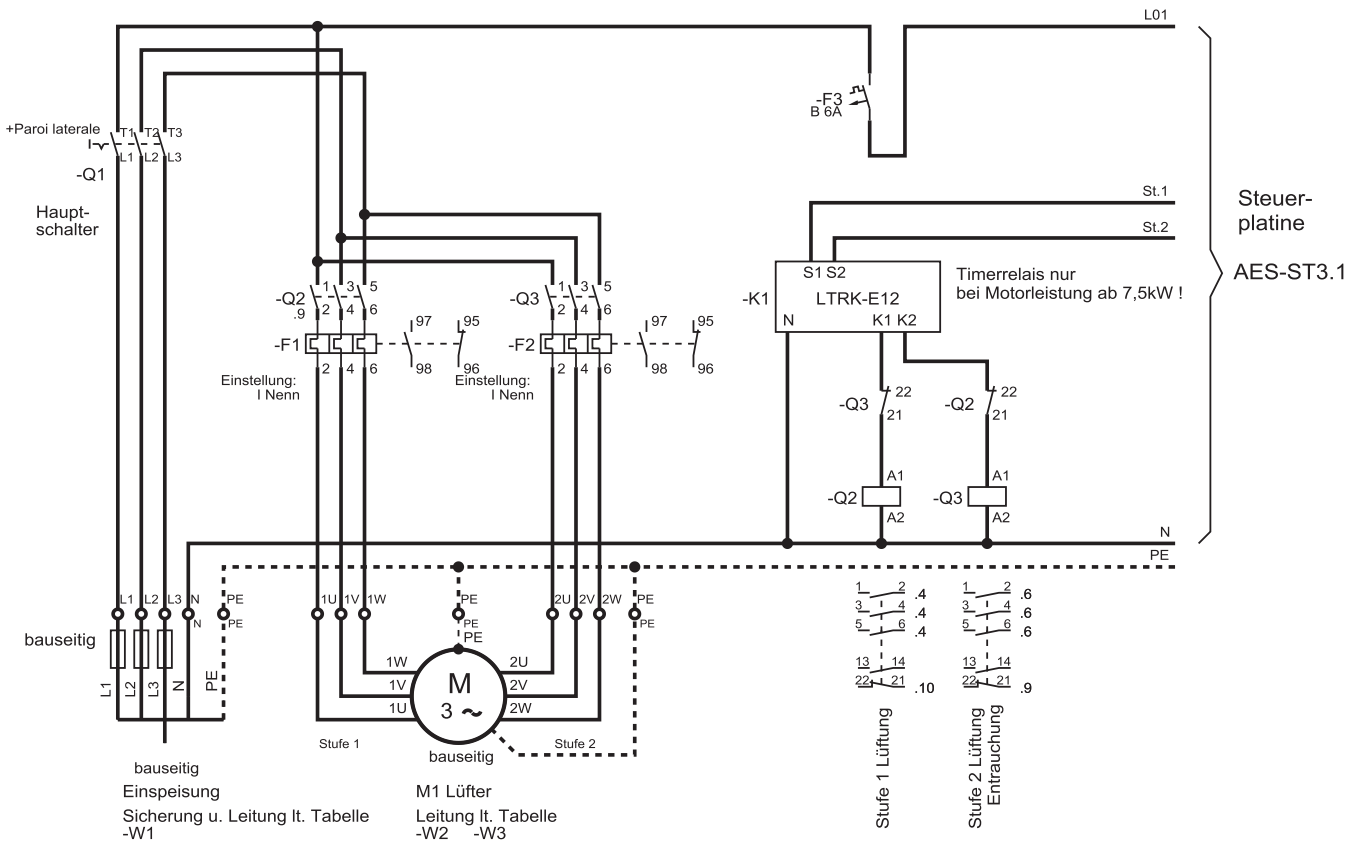
## Technical Data

Nominal voltage	V	400
Back-up fuse installed at the site	A	see connection diagram
on-site cable cross-sections	mm <sup>2</sup>	see connection diagram
Control fuse	A	6
Start-up time	sec.	1,5 - 30
Switch-back spin time	sec.	3,0 - 60
Cable entries	n	12
Ambient temperature	°C	0 to +40
Label		CE
Protection class	IP	54 interior

## Order code

Typ:	Artikel:	H x W x D (mm)
AES-4kW,SS	AES to 4 kW, 2 Windings	<b>ISO-Housing</b> 400 x 320 x 130
AES-5,5kW,SS	AES to 5,5kW, 2 Windings	400 x 320 x 130
AES-7,5kW,SS	AES to 7,5kW, 2 Windings	400 x 320 x 190
AES-11kW,SS	AES to 11kW, 2 Windings	400 x 320 x 190
AES-15kW,SS	AES to 15kW, 2 Windings	480 x 400 x 190
AES-18,5kW,SS	AES to 18,5kW, 2 Windings	480 x 400 x 190
AES-22kW,SS	AES to 22kW, 2 Windings	480 x 400 x 190
		<b>Sheet metal housing</b>
AES-30kW,SS	AES to 30 kW, 2 Windings	600 x 600 x 250
AES-45kW,SS	AES to 45 kW, 2 Windings	600 x 600 x 250

## Connection diagram **AES-SS** (For one fan only)



KW	Vorsicherung	Zuleitung -W1	Entrauchungsventilator	
			-W2	-W3
4	T 20 A	* 5x2,5 qmm	* 4x2,5 qmm	* 4x2,5 qmm
5,5	T 25 A	* 5x4 qmm	* 4x4 qmm	* 4x4 qmm
7,5	T 25 A	* 5x4 qmm	* 4x4 qmm	* 4x4 qmm
11	T 35 A	* 5x6 qmm	* 4x6 qmm	* 4x6 qmm
15	T 50 A	* 5x10 qmm	* 4x10 qmm	* 4x10 qmm
18,5	T 63 A	* 5x16 qmm	* 4x16 qmm	* 4x16 qmm
22	T 80 A	* 5x25 qmm	* 4x25 qmm	* 4x25 qmm
30	T 100 A	* 5x35 qmm	* 4x35 qmm	* 4x35 qmm
45	T 125 A	* 5x50 qmm	* 4x50 qmm	* 4x50 qmm

\* All specifications, minimum cross-sections without consideration of layout, cable length and network type for cables in the functional integrity design E90 or layout F90.

The connection of the auxiliary contacts of F1 and the cables L01, unit 1, N see data sheet AES-ST3.1

The current value of the motor protection relay has to be set before placing in operation.