

# aumüller

## Installation and Commissioning Instructions

Power supply according to EN12101-10 and control panel according to prEN12101-9



**SHEV - CONTROL UNIT EMB 7300 - 2,5 A / 5 A / 10 A / 20 A** **CE**



tested electrical control device EMB 7300  
with recognition number G 514001

01	<p>Abbreviations  Warning and Safety Symbols  Target Groups, Intended Use  Safety Instructions</p>	3 - 8
02	<p><b>2,5 A</b> Data sheet SHEV Control Unit EMB 7300 - <b>2,5 A</b>  <b>5 A</b> Data sheet SHEV Control Unit EMB 7300 - <b>5 A</b>  <b>10 A</b> Data sheet SHEV Control Unit EMB 7300 - <b>10 A</b>  <b>20 A</b> Data sheet SHEV Control Unit EMB 7300 - <b>20 A</b></p>	9 - 10
03	<p>Technical Data  Preparing assembly  Connection Facilities / Cabling</p>	11 - 12
04	<p><b>INSTALLATION STEP 1:</b> Connecting drives and ventilation  <b>INSTALLATION STEP 2:</b> Connecting Thermo-Maximal detector in drive line  <b>INSTALLATION STEP 3:</b> Connection of automatic and manual smoke detectors  <b>INSTALLATION STEP 4:</b> Connecting wind and rain sensors</p>	13 - 17
05	<p><b>INSTALLATION STEP 5</b> Installing relay plug-in card REL and BUS connection  <b>INSTALLATION STEP 6:</b> Connecting power supply</p>	18 - 20
06	<p><b>INSTALLATION STEP 7:</b> System configuration using software „EMB Kompakt“  <b>INSTALLATION STEP 8:</b> Enabling operation / completing installation</p>	21 - 22
07	<p>Troubleshooting and repair, Fuses  Indicator and control elements  Maintenance and Modification  Storage, dismantling and Disposal</p>	23 - 25
08	<p>Warranty and After-Sales Service  Liability  Certificates  Overview on all external connections to be completed</p>	26 - 31

## ABBREVIATIONS

Index of abbreviations	
These abbreviations are used consistently throughout these assembly & operating instructions. Unless stated differently, all dimensions indicated in this document are in mm. General tolerances in accordance with DIN ISO 2768-m.	
aP	Surface mounting
WxHxD	Width x Height x Depth
CAN	CAN-BUS
CM	Control Module
COM	Common connection
DIN	German Institute for Standardisation
DM	Drive Module
EN	European Standard
IN	Input
LON	Local Operating Network
OUT	Output
PG	Price group
PM	Power Modul
PS	Power supply
RAL	Central European Colour Standard
RM6	Relay Module
RWA	SHEV – smoke and heat exhaust ventilation
SM	Sensor Module
uP	Flash mounting
WM	Weather Module
WRG	Wind direction sensor

Scale units	
°C	Degree Celsius
A	Amps
Ah	Amp-hours
kg	Kilogram
m	Metres
min	Minutes
mm	Millimeters
N	Newtons
s	Seconds
Pcs.	Pieces
V	Volts
PU	Packaging Units
Vpp	Residual ripple (Voltage Peak-Peak)
W	Watts
Ω / k Ω	Ohm / kilo-Ohm

Figures	
AC	Alternating current (50Hz / 60Hz)
DC	Direct current
I	Electric current
L	Length
ME	Module space unit (1 ME = 23 mm)
NC	Contact „close“ (normally close)
NO	Contact „open“ (normally open)
P	Electric power
R	Electrical resistance
U	Electric voltage
Um	Change over switch

## WARNING AND SAFETY SYMBOLS IN THESE INSTRUCTIONS:

The symbols used in the instructions shall be strictly observed and have the following meaning:

 <b>DANGER</b>	Failure to comply with the warning notes results in irreversible injuries or death.
 <b>WARNING</b>	Failure to comply with the warning notes can result in irreversible injuries or death.
 <b>CAUTION</b>	Failure to comply with the warning notes can result in minor or moderate (reversible) injuries.
<b>NOTE</b>	Failure to comply with the warning notes can lead to damage to property.
	<b>Useful note</b> for an optimum installation.
	<b>Note regarding the system configuration</b> using the free software of the Control Unit manufacturer (USB connection).



**Caution / Warning**  
Danger due to electric current.



**Caution / Warning**  
Risk of crushing and entrapment during device operation.



**Attention / Warning**  
Risk of damage to / destruction of drives and / or windows.



Once the assembly and commissioning has been completed, the installer of a machine „power-operated window and door“ shall hand these instructions over to the end-user. The end-user shall store these instructions in a safe place for further reference and use, if required.

## TARGET GROUP

These instructions are intended for personnel trained in electrical engineering and skilled operators of systems for natural smoke ventilation (NRA / SHEV) (natural smoke exhaust system / smoke and heat exhaust system) and natural ventilation via windows, who are knowledgeable of operating modes and remaining risks of the system.

### WARNING

This device is not intended for use by persons (including children) with physical, sensory or mental limitations or lacking experience and / or knowledge, unless they are supervised by a person who is responsible for the safety or were instructed by him on the usage of this equipment. Children should be supervised to ensure that they are not playing with this device. Cleaning and operator's maintenance may not be performed by children without supervision.

## INTENDED USE

### Area of application / Scope of application

This control device is intended for power-feeding and controlling electromotive operated windows in facade and roof areas. **The prime task of this product, in combination with the electromotive window, is to evacuate hot smoke and combustion gases in case of fire** to save human lives and protect material assets. **Furthermore**, the electromotive operated window ensures **fresh air supply for the natural ventilation** of the building.

By installing the drive to a movable element of the window a so-called "**power-operated window**" is created which, according to the Machinery Directive 2006/42/EG, represents a machine. The control device is designated for driving such a window. Where it seems reasonable, these installation instructions point out sensibly predictable hazards and risks resulting from a power operated window.

### NOTE

### Intended use according to the Declaration of Conformity

The control device is intended for stationary installation and electrical connection as part of a building.

In accordance with the attached Declaration of Conformity the control device, in combination with electromotive drives from **AUMÜLLER**, is released for its proper use at a power-operated window for the following use:

- Application for natural ventilation
  - with an installation height of the drive and the bottom side of sash of at least 2,5 m above the floor, **or**
  - with an opening width at the HSK of the driven part of < 200 mm by a simultaneous speed of < 15 mm/s at the HSK in closing direction.
- Application as NSHEV (natural smoke and heat exhaust ventilator(s) for ventilation without dual purpose for ventilation in accordance with EN12101-2.

### WARNING

Attention must be paid to possible hazards when used with tilting or rotating windows, whose secondary closing edges are located at less than 2,5 m installation height above the floor, under consideration of the Control Unit and usage!

We as manufacturers are well aware of our duties and responsibilities regarding the development, manufacturing and placing of safe window drives on the market and consistently implement them. Ultimately, however, we have no direct influence on the usage of our drives. Therefore, as a precaution, we point out the following:

- The **constructor or his agent** (architect, specialist planner) **are obligated** by law **to evaluate the hazards to persons**, originating from the usage, installation position, opening parameters as well as the planned type of installation of the power operated window and the external Control Unit, **already in the planning phase and to establish necessary protective measures.**
- The **constructor / manufacturer** of the machine "power-operated window" **must implement** the planned **protective measures** at the installation site or, if not yet established, **determine them** by their own responsibility and detect or **minimize possible remaining risks.**

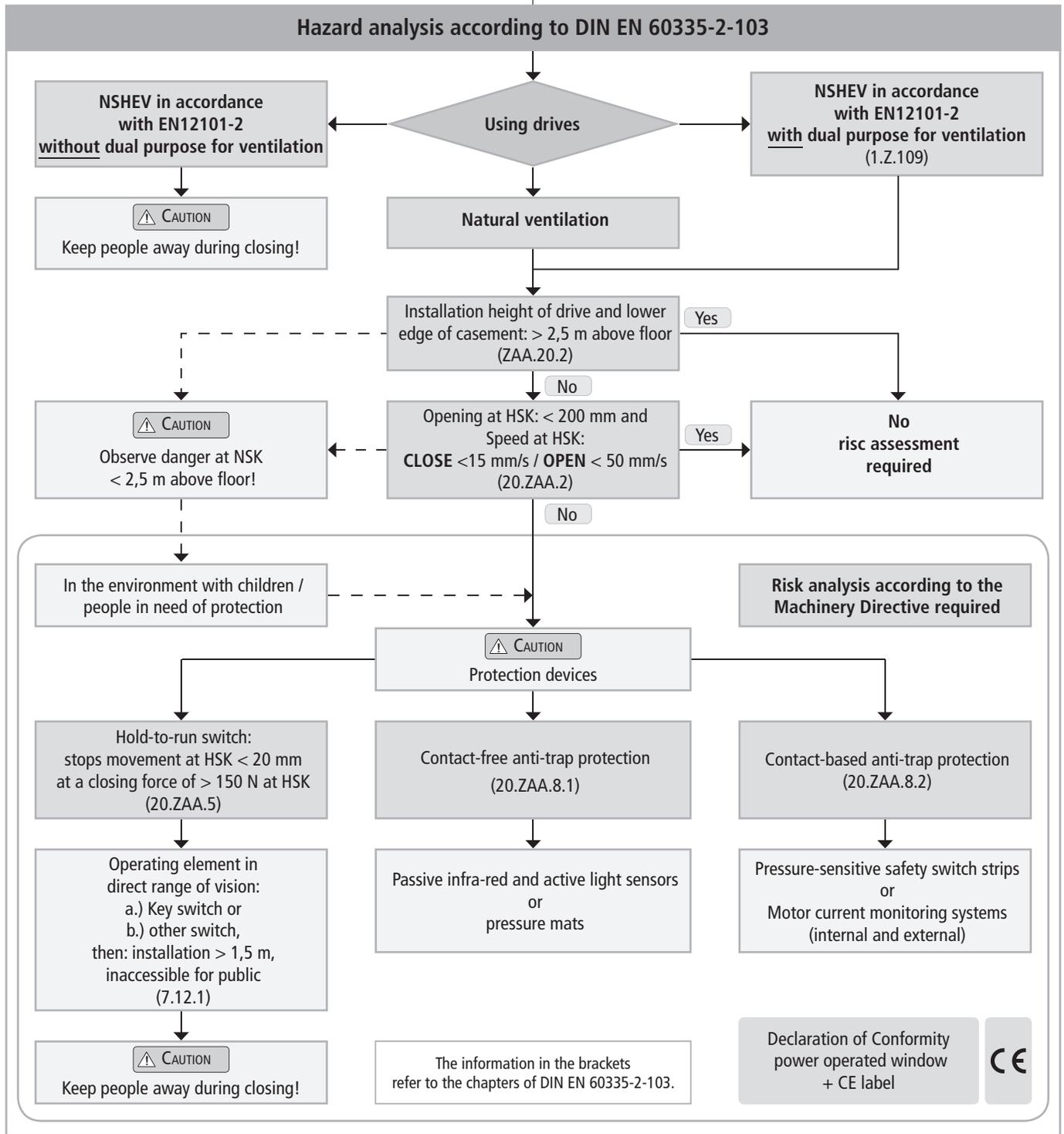
By connecting the window drives with a control device and their operation the constructor of the complete system becomes the manufacturer of the power-operated window! If necessary, he is obligated to perform a risk assessment of the complete system in accordance with the Machinery Directive 2006/42/EG when the utilization or operation of the control device or the connected window drives deviate from their intended use!

### NOTE

The need for a risk assessment at the installation site due to the reasonably foreseeable misuse. A risk assessment in accordance with the Machinery Directive 2006 / 42 / EG by activation of the power-operated window for natural ventilation is absolutely necessary under the following conditions:

- the installation height of the drive and lower edge of casement < 2,5 m above the floor and one of the following conditions:
  - the opening width at the HSK > 200 mm, or
  - the closing speed at the HSK is > 15 mm/s, or
  - the opening speed at the HSK is > 50 mm/s, or
  - the closing force at the HSK is > 150 N

The following flow chart can be applied, which also includes the protective measures in accordance with EN 60335-2-103/2016-05.



**NOTE**

We recommend using exclusively system components by AUMÜLLER, because their compatibility is carefully checked in the factory. AUMÜLLER shall not assume liability for the system-compatible functioning of third party components. Applications and connections other than explicitly described in these instructions require the express written consent of AUMÜLLER. Utilization of applications and components not expressly authorized by AUMÜLLER are considered as unintended use even if their perfect functioning is proven at commissioning (e.g. approval under building law).

**Basic functions of SHEV (smoke and heat exhaust system) control devices:**

- Control of electromotive window drives for smoke and heat exhaust in case of fire and for "natural ventilation".
- Evaluation of trigger signals of manual and automatic smoke detectors as well as of fire alarm systems.
- Emergency power supply provided by batteries for maintaining safety functions if power supply is interrupted in case of fire.
- Monitoring the power supply of all important connections for malfunctions.
- Diverse automatic and manual control options for controlling natural ventilation (e.g. via wind and rain sensors).
- Transmission of signals of all essential operating states for external evaluation (may require additional components).
- Comfortable configuration and parameterization of control via PC software.
- Optional integration into external data bus systems via dd-on modules.

**SAFETY INSTRUCTIONS**



It is important to follow these instructions for the safety of persons. These instructions shall be kept in a safe place for the entire service life of the products.



**Risk of crushing and entrapment!**  
**Electromotive operated windows can close automatically!**  
**The compressive force is absolutely sufficient to crush fingers in case of carelessness.**

**Area of application**

The control device shall only be used according to its intended use. For additional applications consult the manufacturer or his authorized dealer.

**Installation**

These instructions address expert and safety-conscious electricians and / or qualified personnel knowledgeable of the electrical and mechanical installation of drives and control systems.

**Mounting material**

The required mounting material must be modified to fit the occurring load.

**Crush and shear points**

To avoid injuries, **crushing and shear points** between casement and frame must be secured **against entrapment up to an installation height of 2,5 meters above the floor** with appropriate measures. This can be achieved e.g. by using contact-based or contactless protective devices against entrapment, which stop the motion through contact or through interruption by a person. A warning symbol at the opening element must indicate this clearly.

**Routing cables and electrical connection**

Routing or installing electrical lines and connections may be performed only by approved specialist companies. Never operate drives, Control Units, operating elements and sensors at operating voltages and connections contrary to the specifications of the manufacturer.

**NOTE**

The planning and calculation of the wiring system is the responsibility of the builder or his agent or the authorized constructor and must be performed according to the statutory provisions.

All relevant instructions shall be observed for the installation, specifically:

- VDE 0100 Setting up high-voltage systems up to 1000 V
- VDE 0815 Wiring cables
- Specimen Guideline on Conduits German designation (MLAR).



The power line on-site must be secured separately and provided all poles separators. After opening of the system housing voltage carrying parts are exposed. The system must be separated from the power supply and battery voltage before each intervention in the Control Unit of the system.

The types of cable, cable lengths and cross-sections shall be selected in accordance with the manufacturer's technical data. If necessary, the cable types shall be coordinated with the competent local authorities and energy supply companies. Low-voltage lines (24 V DC) shall be routed separate from the high-voltage lines. Flexible cables may not be flush-mounted. Freely suspended cables shall be equipped with strain reliefs.



Cables must be laid such way that they cannot be sheared off, twisted or bent during operation. It is recommended to perform an insulation measurement of the system's line network and to document this.

Clamping points shall be checked for tightness of threaded connections and cable ends. Access to junction boxes, clamping points and external drive control systems shall be ensured for maintenance work.

### Commissioning, operation and maintenance

After the installation and after each modification in the set up all functions shall be checked with a trial run. After the installation of the system is completed the end-user shall be introduced to all important operating steps. If necessary, he must be advised of all remaining risks / dangers.

The end-user shall be instructed in intended use of the drives and, if necessary, the safety instructions. The end-user shall be specifically instructed that no additional forces, except for the pressure and tension in the opening and closing direction of the casement, may be applied to the spindle, chain or lever of the drive.

#### NOTE

Post warning signs!

During the proper assembly of drives with mounting elements at a window, and the connection to an external Control Unit, the interfaces resulting from mechanical and electrical performance characteristics of single elements shall be observed.



#### WARNING

It is imperative that the information provided in the installation instructions of the controlled window drives are observed and adhered to!



#### CAUTION

Other persons must be kept away from the casement when a hold-to-run switch (pushbutton) is operated or when a window, which has been opened by a smoke and heat exhaust system, is closing!



#### CAUTION

The operating element of hold-to-run switches must be installed within direct view from the window, but apart from moving elements. If the switch is not a key-operated switch it must be installed at a minimum height of 1,5 m and inaccessible to the public!



#### CAUTION

Do not allow children to play with permanently mounted control devices and keep remote controls out of reach for children!



Before working on the system it must be completely disconnected from the power supply and emergency power supply (e.g. batteries) and secured against unintentional reactivation. While working in the Control Unit the workplace must be secured to prevent unauthorized access. It must be ensured that unauthorized personnel are unable to open the Control Unit.

The installation instructions of system components (smoke detector, natural smoke and heat exhaust ventilators, drives, etc.) are part of the documentation for the complete system and must be kept accessible for authorized qualified personnel, together with the installation and operating instructions, for the entire service life of the system.



#### WARNING

Check all functions of the system before releasing it for operation.

### Software terms and conditions

The Control Unit is configured by the factory for the intended use (standard configuration). The software, especially developed for this Control Unit, allows a quick and easy adjustment of the factory setting to the respective requirements. Furthermore, the system status can be saved, retrieved and printed.



Modifiable standard configurations are particularly emphasized in these instructions. The software is part of the shipment of the Control Unit. The functional range of this unlicensed version can be expanded by activation against payment (license).



**DATA SHEET SHEV - CONTROL UNIT EMB 7300 - 2,5 A****Feature/Equipment**

- Further settings (e.g. maintenance period) only available with extra cost software license
- Cable entry from above / below / behind
- Optional housing for flash mounting
- Prepared for **2** maintenance-free back-up batteries **2x 12 V / 2,3 Ah** (Part. No. 541000)

**Application:** Compact Control Unit for smoke and heat exhaust ventilation systems operating with 24V DC voltage, suitable for staircases.

**TECHNICAL DATA (Rated values)**

Operating voltage:	230V AC (195 – 253 V AC, 50/60 Hz)
Max. power consumption:	115 W
Output voltage:	24V DC (20 – 28 V DC / 2 Vpp)
Output current:	<b>2,5 A</b>
Ambient temperature range:	-5°C ... + 40°C
Protection rating:	IP30
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	225 x 285 x 122 mm
Connection terminals:	1,5 mm <sup>2</sup> / drive line: 4 mm <sup>2</sup> (rigid wire)

Motherboard: **1 SHEV group / 1 Vent groups**

**DATA SHEET SHEV - CONTROL UNIT EMB 7300 - 5 A****Feature/Equipment**

- Further settings (e.g. maintenance period) only available with extra cost software license
- Cable entry from above / below / behind
- Optional housing for flash mounting
- Prepared for **2** maintenance-free back-up batteries **2x 12 V / 2,3 Ah** (Part. No. 541000)

**Application:** Compact Control Unit for smoke and heat exhaust ventilation systems operating with 24V DC voltage, suitable for staircases.

**TECHNICAL DATA (Rated values)**

Operating voltage:	230V AC (195 – 253 V AC, 50/60 Hz)
Max. power consumption:	460 W
Output voltage:	24V DC (20 – 28 V DC / 0,5 Vpp)
Output current:	<b>5,0 A</b>
Ambient temperature range:	-5°C ... + 40°C
Protection rating:	IP30
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	225 x 285 x 122 mm
Connection terminals:	1,5 mm <sup>2</sup> / Drives: 6 mm <sup>2</sup> (rigid wire)

Motherboard: **1 SHEV group / 1 Vent group**

**Application:** Compact Control Unit for smoke and heat exhaust ventilation systems operating with 24V DC voltage, suitable for staircases.

**TECHNICAL DATA (Rated values)**

Operating voltage:	230V AC (195 – 253 V AC, 50/60 Hz)
Max. power consumption:	460 W
Output voltage:	24V DC (20 – 28 V DC / 0,5 Vpp)
Output current:	<b>5,0 A</b>
Ambient temperature range:	-5°C ... + 40°C
Protection rating:	IP30
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	225 x 285 x 122 mm
Connection terminals:	1,5 mm <sup>2</sup> / Drives: 6 mm <sup>2</sup> (rigid wire)

Motherboard: **1 SHEV group / 2 Vent groups**

**DATA SHEET SHEV - CONTROL UNIT EMB 7300 - 10 A**

**Feature/Equipment**

- Further settings (e.g. maintenance period) only available with extra cost software license
- Cable entry from above / below / behind
- Prepared for **2** maintenance-free backup batteries **2x 12 V / 7 Ah** (Part. No. 542000)

**Application:** Compact Control Unit for smoke and heat exhaust ventilation systems operating with 24V DC voltage, suitable for staircases.



**TECHNICAL DATA (Rated values)**

Operating voltage: 230V AC (195 – 253 V AC, 50/60 Hz)  
 Max. power consumption: 506 W  
 Output voltage: 24V DC (20 – 28 V DC / 0,5 Vpp)  
 Output current: **10 A**  
 Ambient temperature range: -5°C ... + 40°C  
**Protection rating:** IP40  
 IP54 with alternatively fixing brackets  
 Housing: Surface mounting, steel sheet, RAL 7035 (light grey)  
 Dimensions (WxHxD): 400 x 300 x 150 mm  
 Connection terminals: 1,5 mm<sup>2</sup> / Drives: 6 mm<sup>2</sup> (rigid wire)

Motherboard: **1 SHEV group / 1 Vent group**

**Application:** Compact Control Unit for smoke and heat exhaust ventilation systems operating with 24V DC voltage, suitable for staircases.



**TECHNICAL DATA (Rated values)**

Operating voltage: 230V AC (195 – 253 V AC, 50/60 Hz)  
 Max. power consumption: 506 W  
 Output voltage: 24V DC (20 – 28 V DC / 0,5 Vpp)  
 Output current: **10 A**  
 Ambient temperature range: -5°C ... + 40°C  
**Protection rating:** IP40  
 IP54 with alternatively fixing brackets  
 Housing: Surface mounting, steel sheet, RAL 7035 (light grey)  
 Dimensions (WxHxD): 400 x 300 x 150 mm  
 Connection terminals: 1,5 mm<sup>2</sup> / Drives: 6 mm<sup>2</sup> (rigid wire)

Motherboard: **1 SHEV group / 2 Vent groups**

**DATA SHEET SHEV - CONTROL UNIT EMB 7300 - 20 A**

**Feature/Equipment**

- Further settings (e.g. maintenance period) only available with extra cost software license
- Cable entry from above / below / behind
- Prepared for **2** maintenance-free backup batteries **2x 12 V / 7 Ah** (Part. No. 542000)

**Application:** Compact Control Unit for smoke and heat exhaust ventilation systems operating with 24V DC voltage, suitable for staircases.



**TECHNICAL DATA (Rated values)**

Operating voltage: 230V AC (195 – 253 V AC, 50/60 Hz)  
 Max. power consumption: 805 W  
 Output voltage: 24V DC (20 – 28 V DC / 0,5 Vpp)  
 Output current: **20 A**  
 Ambient temperature range: -5°C ... + 40°C  
**Protection rating:** IP40  
 IP54 with alternatively fixing brackets  
 Housing: Surface mounting, steel sheet, RAL 7035 (light grey)  
 Dimensions (WxHxD): 400 x 400 x 200 mm  
 Connection terminals: 1,5 mm<sup>2</sup> / Drives: 6 mm<sup>2</sup> (rigid wire)

Motherboard: **1 SHEV group / 2 Vent groups**

## TECHNICAL DATA

Electrical data and connected loads	
Operating voltage, primary:	195...253 V AC
Frequency:	50...60 Hz
Nominal current (secundär) / Current consumption (primär):	Version 2,5 A / 0,4 A Version 5 A / 0,8 A Version 10 A / 1,3 A Version 20 A / 2,6 A
Current output (short-time duty): Constant current consumption:	Nominal current 30% max. duty ratio 30 % max. of nominal current (depending on version)
Output voltage, drives: Residual ripple:	24V DC nominal (20...28 V DC) max. 2,0 Vpp (Version 2,5 A) max. 0,5 Vpp (Version 5 A, 10 A, 20 A)
Number of detectors (manual / automatic):	10 units per detector line
Line output:	18...26 V (detector voltage)
Battery voltage:	2 x 12 V
Battery nominal capacity:	2,3 or 7,0 Ah (depending on version)



The available internal emergency power supply (back-up batteries), if correctly rated and serviced at regular intervals, ensures that the controller of the Control Unit moves the connected drives open at least twice and close at least once after 72 hours of mains power supply loss.

Environmental Conditions (operation)	
Ambient temperature range:	-5...+40 °C (according to EN 12101 Class 1)
Maximum relative air humidity:	75 % (mean value over lifetime) 90 % (for max. 96 hours)
Mechanical Data	
Surface mounted housing: Protection class:	steel plate painted in RAL 7035 IP 30 (Version 2,5A and 5A) IP 54 (Version 10A and 20A), with wall mounting brackets and seal (not tested).
Housing dimensions (W x H x D): all dimensions given without lock	225 x 285 x 122 mm (Version 2,5A + 5A) 400 x 300 x 150 mm (Version 10A) 400 x 400 x 200 mm (Version 20A)

03

## PREPARING ASSEMBLY



**Important instructions for safe assembly:**  
Fully observe all instructions, incorrect assembly may lead to serious injuries.

Before starting the installation please check with the delivery note that the delivery is complete and correct, any complaints received later cannot be considered. It is required to keep a logbook for the EMB 7300 which must be accessible to authorized staff at all times.

### Scope of delivery: SHEV - Control Unit EMB 7300 without breakglass unit in the cover

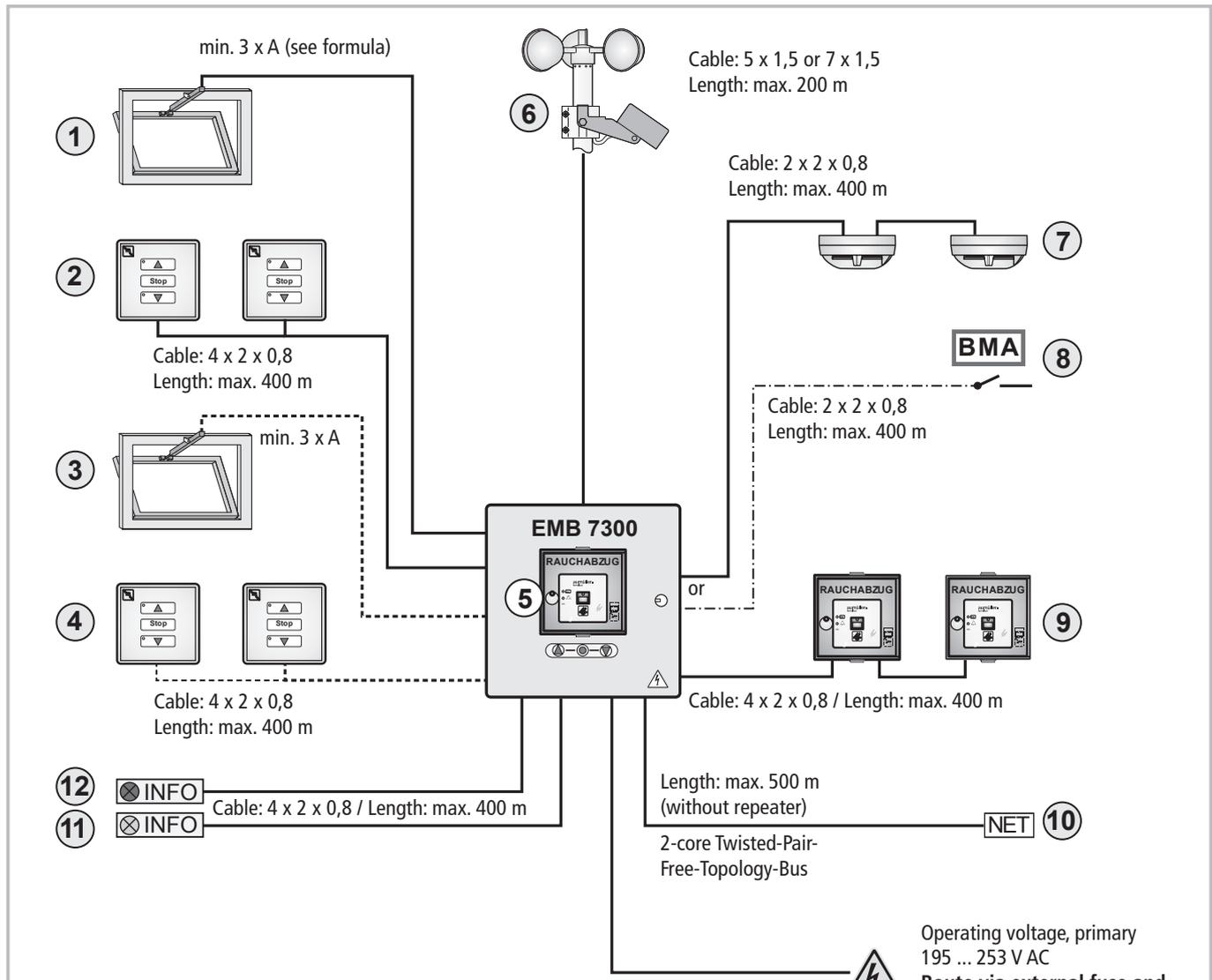
- Installation and Commissioning Instructions (german and english)
- Test report according to VDE 0113
- Label „Smoke Vent“
- Stickers „ maintenance instructions“
- Drive line end module
- Resistors
- Key

### Scope of delivery: SHEV - Control Unit EMB 7300 with breakglass unit in the cover

- Installation and Commissioning Instructions (german and english)
- Test report according to VDE 0113
- Label „Smoke Vent“
- Stickers „ maintenance instructions“
- Drive line end module
- Resistors
- Key (2 unit)

CONNECTION FACILITIES / CABLING

2,5 A    5 A    10 A    20 A



Capiton

- ① Output for drive line 1, 24V DC for smoke + heat exhausting + natural ventilation
  - ② Input for ventilation line 1 (max. 10 vent buttons)
  - ③ Output for drive line 2 (only for EMB 7300 5 A – 0102; 10 A – 0102; 20 A – 0102)
  - ④ Input for ventilation line 2 (max. 10 vent buttons) (only for MB 7300 5 A – 0102 / 10 A – 0102 / 20 A – 0102)
  - ⑤ Housing of Control Unit with or without integrated break-glass unit and ventilation button
  - ⑥ Connections for wind and rain sensor (disabled in case of alarm and power loss)
  - ⑦ Input for smoke detectors (max. 10)
  - ⑧ Input for signal from external fire alarm system (alternative connection)
  - ⑨ Input for break-glass units (HSE – max. 10)
  - ⑩ Port for network integration (requires additional module)
  - ⑪ Output for signal transduction 1 (plug-in module REL65 required) alarm release
  - ⑫ Output for signal transduction 2 (plug-in module REL65 required) collective fault
- only available for EMB 7300 5 A – 0102; 10 A – 0102; 20 A – 0102

These instructions include an overview as support (see chapter „OVERVIEW ON ALL EXTERNAL CONNECTIONS TO BE COMPLETED“) for all connection options in which the constructor can record all his connections.

Formula to calculate

the required wire cross-section of a infeed line

$$A \text{ mm}^2 = \frac{I \times L \times 2}{\Delta U \times 56 \text{ m} / (\Omega^* \text{mm}^2)}$$

- A = cross-section of line in mm<sup>2</sup>
- L = line length in m
- I = current of connected drives in A
- ΔU = line voltage drop = 2 V DC

**INSTALLATION STEP 1:**  
**CONNECTING DRIVES AND VENTILATION**

**2,5 A**   **5 A**   **10 A**   **20 A**



Only connect when disconnected from the mains power supply! Switch off power supply and secure against reconnection!



The system software can:

- of „dead-man mode“ (default) to „self be switched attitude“
- monitoring the drive line will be switched off (standard = on)
- a „automatic closing“ can be set.



Before changing the operating mode check and pay attention to danger zones at the window!

Cable installation must be in compliance with applicable legal requirements. The terminal cross-section for the drive connection is:



- |          |             |         |                                       |
|----------|-------------|---------|---------------------------------------|
| EMB 7300 | <b>2,5A</b> | -0101   | max. 2,5 mm <sup>2</sup> (flexible)   |
| EMB 7300 | <b>2,5A</b> | -0101-T | max. 4,0 mm <sup>2</sup> (rigid wire) |
| EMB 7300 | <b>5A</b>   | -0101   | max. 4,0 mm <sup>2</sup> (flexible)   |
| EMB 7300 | <b>5A</b>   | -0101-T | or                                    |
| EMB 7300 | <b>5A</b>   | -0102   | max. 6,0 mm <sup>2</sup> (rigid wire) |
| EMB 7300 | <b>10A</b>  | -0101   |                                       |
| EMB 7300 | <b>10A</b>  | -0102   |                                       |
| EMB 7300 | <b>20A</b>  | -0102   |                                       |

Line length and cross-section A (drives) depend on the type of drive and on the number of drives. Line length and cross-section can be determined according to the following formula:

**Formula to calculate**  
the required wire cross-section of a infeed line

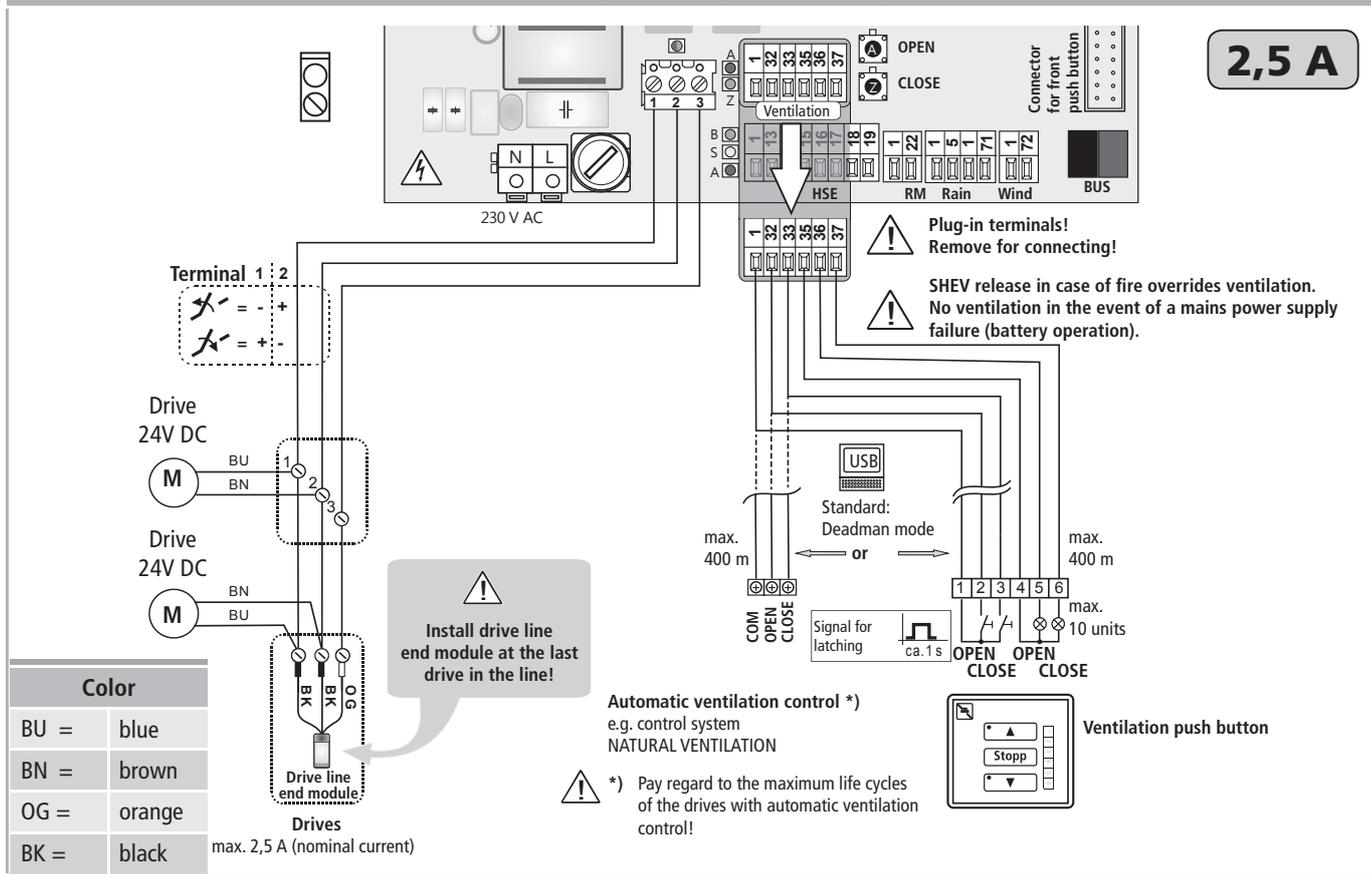
$$A \text{ mm}^2 = \frac{I A_{\text{(total)}} \times L \text{ m (length infeed line)} \times 2}{\Delta U \text{ V (voltage drop)} \times 56 \text{ m / } (\Omega^* \text{ mm}^2)}$$

A = cross-section of line in mm<sup>2</sup>  
L = line length in m  
I = current of connected drives in A  
ΔU = line voltage drop = 2 V DC



The drive line is monitored by drive line end module for line break and short circuit.

**Connecting drives and ventilation:**  
**Version EMB 7300 2,5A-0101, EMB 7300 2,5A-0101-T**





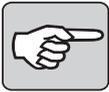
2,5 A    5 A    10 A    20 A

**INSTALLATION STEP 2:**

**CONNECTING THERMO-MAXIMAL DETECTOR (HEAD SENSITIVE FIRE DETECTOR) IN DRIVE LINE**



Only connect when disconnected from the mains power supply! Switch off power supply and secure against reconnection!



If the drive line is not correctly terminated with an end line module for line monitoring or if the fixed temperature heat detector is incorrectly connected, the yellow fault indicator „S“ will signal a fault after a short while, unless line monitoring was disabled via the licensed software.

If the line monitoring via the licensed software disabled, no fault displayed .

Cable installation must be in compliance with applicable legal requirements. The terminal cross-section for the drive connection is:



- EMB 7300 **2,5A** -0101 max. 2,5 mm<sup>2</sup> (flexible)
- EMB 7300 **2,5A** -0101-T max. 4,0 mm<sup>2</sup> (rigid wire)
- EMB 7300 **5A** -0101 max. 4,0 mm<sup>2</sup> (flexible)
- EMB 7300 **5A** -0101-T or
- EMB 7300 **5A** -0102 max. 6,0 mm<sup>2</sup> (rigid wire)
- EMB 7300 **10A** -0101
- EMB 7300 **10A** -0102
- EMB 7300 **20A** -0102

Line length and cross-section A (drives) depend on the type of drive and on the number of drives. Line length and cross-section can be determined according to the following formula:

**Formula to calculate**  
the required wire cross-section of a infeed line

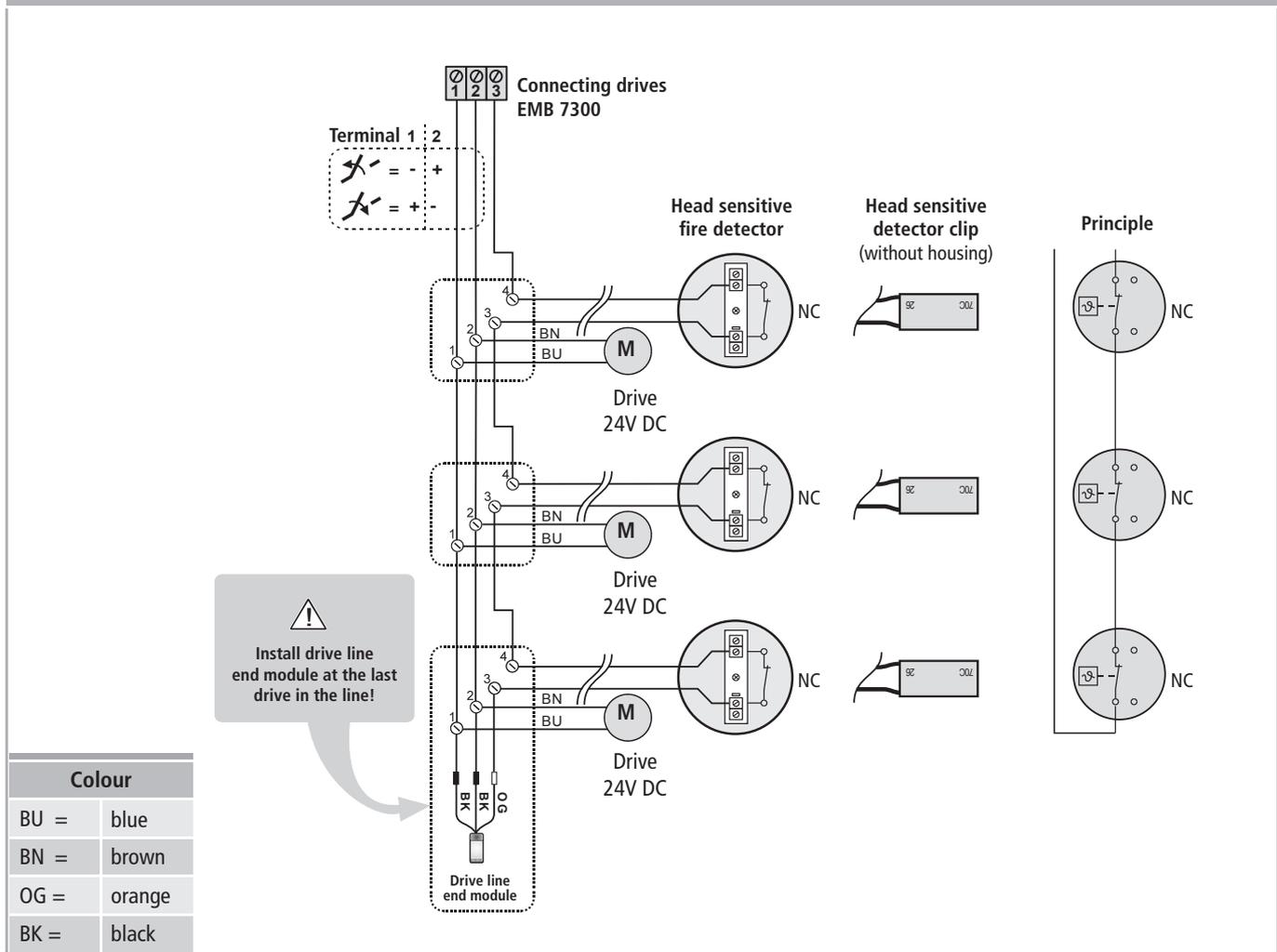
$$A \text{ mm}^2 = \frac{I_{A \text{ (total)}} \times L \text{ m (length infeed line)} \times 2}{\Delta U \text{ V (voltage drop)} \times 56 \text{ m} / (\Omega^* \text{ mm}^2)}$$

A = cross-section of line in mm<sup>2</sup>  
L = line length in m  
I = current of connected drives in A  
 $\Delta U$  = line voltage drop = 2 V DC



For this trigger method is a software programming required.

**Connecting Thermo-Maximal detectors in drive line**





2,5 A

5 A

10 A

20 A

## INSTALLATION STEP 4: CONNECTING WIND AND RAIN SENSORS



Only connect when disconnected from the mains power supply! Switch off power supply and secure against reconnection!



The system software offers the option to adapt the response threshold of the wind sensor to the local conditions. The factory default setting is 5 m/s. Further modifications of the standard configuration require a paid licence for the software.



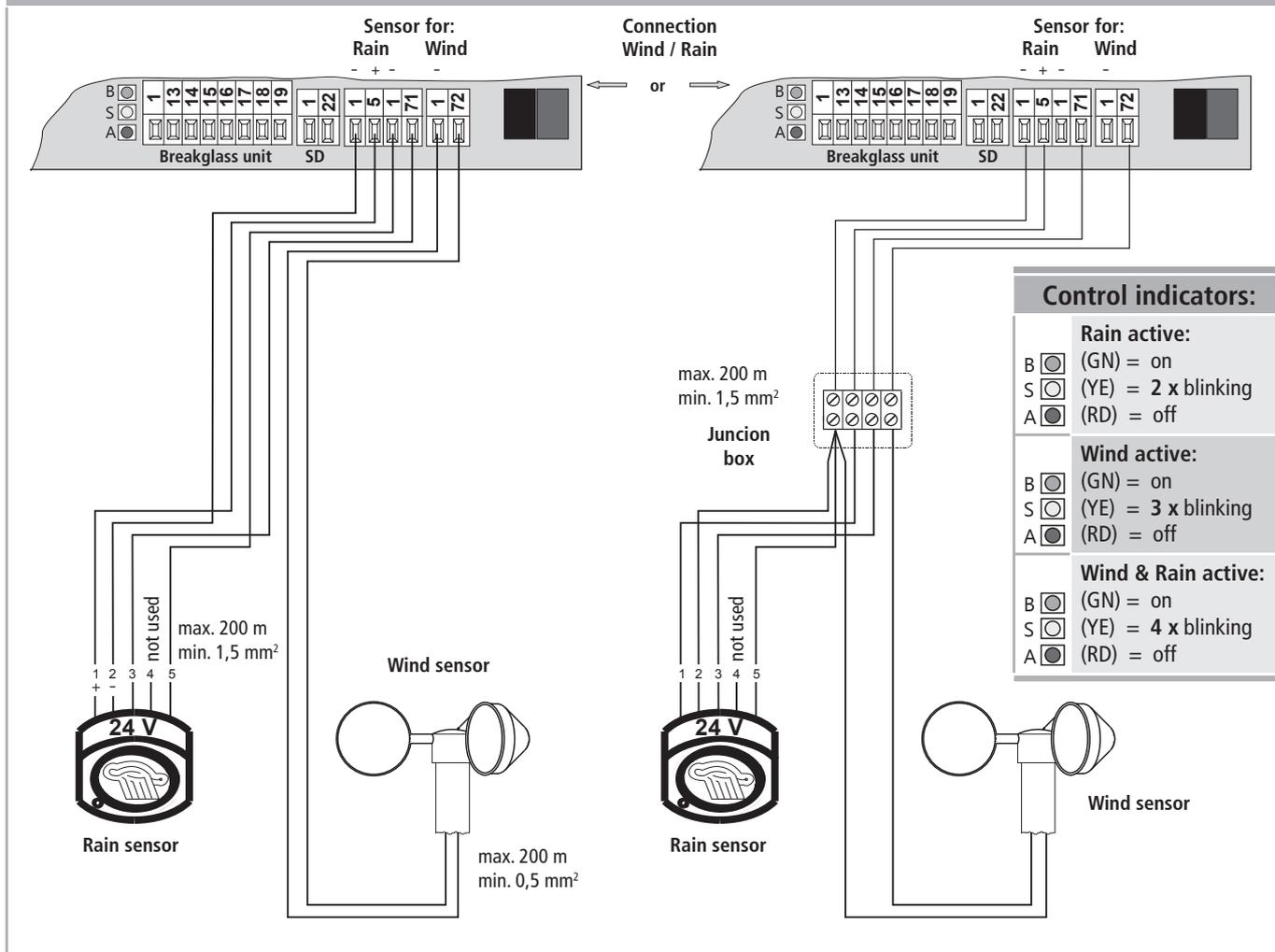
Cable installation must be in compliance with applicable legal requirements. The terminal cross section for the rain sensor must be minimum 1,5 mm<sup>2</sup>, for the wind sensor minimum 0,5 mm<sup>2</sup>.

In case of fire (EMERGENCY-OPEN) or failure of power supply (battery operation) the ventilation control via wind and rain sensors is deactivated.



Before mounting and positioning the wind/rain sensors carefully read the safety and assembly instructions provided with the products. They are part of the system documentation and must be adhered to and kept accordingly (e.g. for servicing purposes).

### Connecting wind and rain sensors



2,5 A

5 A

10 A

20 A

**INSTALLATION STEP 5:**

**INSTALLING RELAY PLUG-IN CARD REL AND BUS CONNECTION**



Only installation and connect when disconnected from the mains power supply! Switch off power supply and secure against reconnection!



The motherboard has two slots for using one relay plug-in card REL 65 each (order no. 650200) so that external processing of messages via floating relay contact (1 x change-over switch, 42 V max., 0.5 A) is possible.

Cable installation must be in compliance with applicable legal requirements. The terminal cross-section must be min. 0,5 mm<sup>2</sup> (max. 1,5 mm<sup>2</sup>). The line length is max. 400 m.



The function of the relay plug-in cards is factory-set:  
1. REL 65 = alarm activation / EMERGENCY-OPEN  
2. REL 65 = common alarm  
Any modification of these standard settings requires a paid licence for the software. Network integration also requires paid activation of the software.

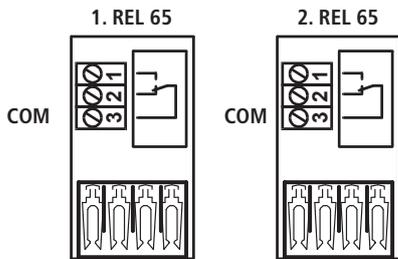
**Installation and exchange of relay plug-in card:**

Please proceed as follows:

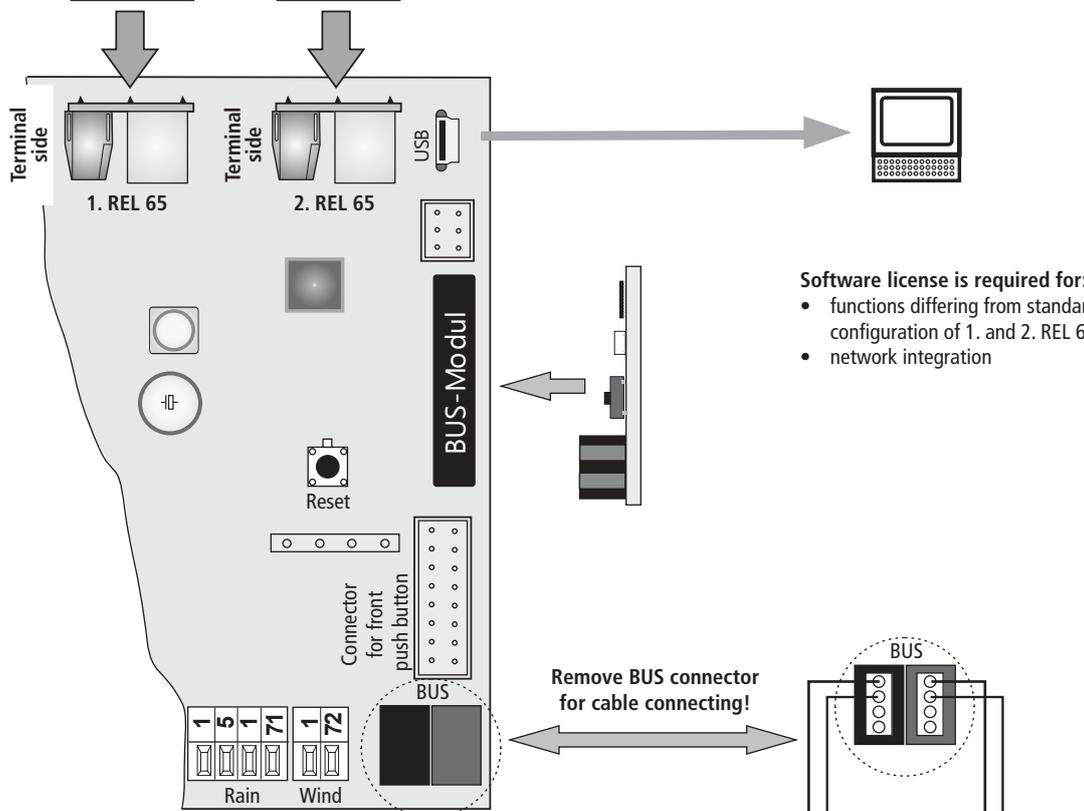
1. First disconnect Control Unit from mains and battery voltage.
2. Carefully insert plug-in card in correct direction.
3. Once correctly inserted, reconnect supply voltage and check for functionality

**Installing relay plug-in card REL and BUS connection**

Contact rating:  
max. 42 V  
0,5 A



Factory-set standard assignment  
(can only be modified via licensed software)  
1. REL 65 alarm activation / EMERGENCY-OPEN  
2. REL 65 common fault (inverted)



Software license is required for:

- functions differing from standard configuration of 1. and 2. REL 65
- network integration

Length: max. 500 m (without repeater)  
2-core Twisted-Pair-Free-Topology-BUS  
(twisted copper line)

**INSTALLATION STEP 6:**  
**CONNECTING POWER SUPPLY**

**2,5 A** **5 A** **10 A** **20 A**



Route line voltage supply via external fuse and switching component. Only connect supply voltage and battery set when disconnected from the mains power supply! Switch off power supply and secure against reconnection!



The system software includes the option to activate the automatic closing feature in the event of a power failure (standard = „no“).



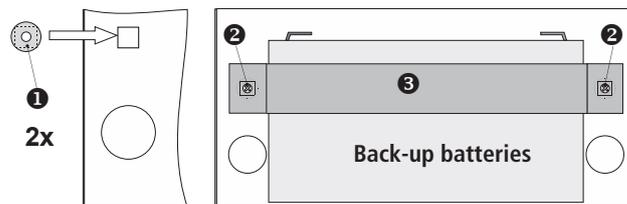
It is essential to ensure correct polarity when connecting the battery set! Incorrectly connected batteries will cause damage to the controller!

**Attachment of the batteries with the optional battery holder set (Part.-No.: 683250) only for compact housing** **2,5 A** **5 A**

The battery set may also be fastened to the housing with the optional battery holder set.

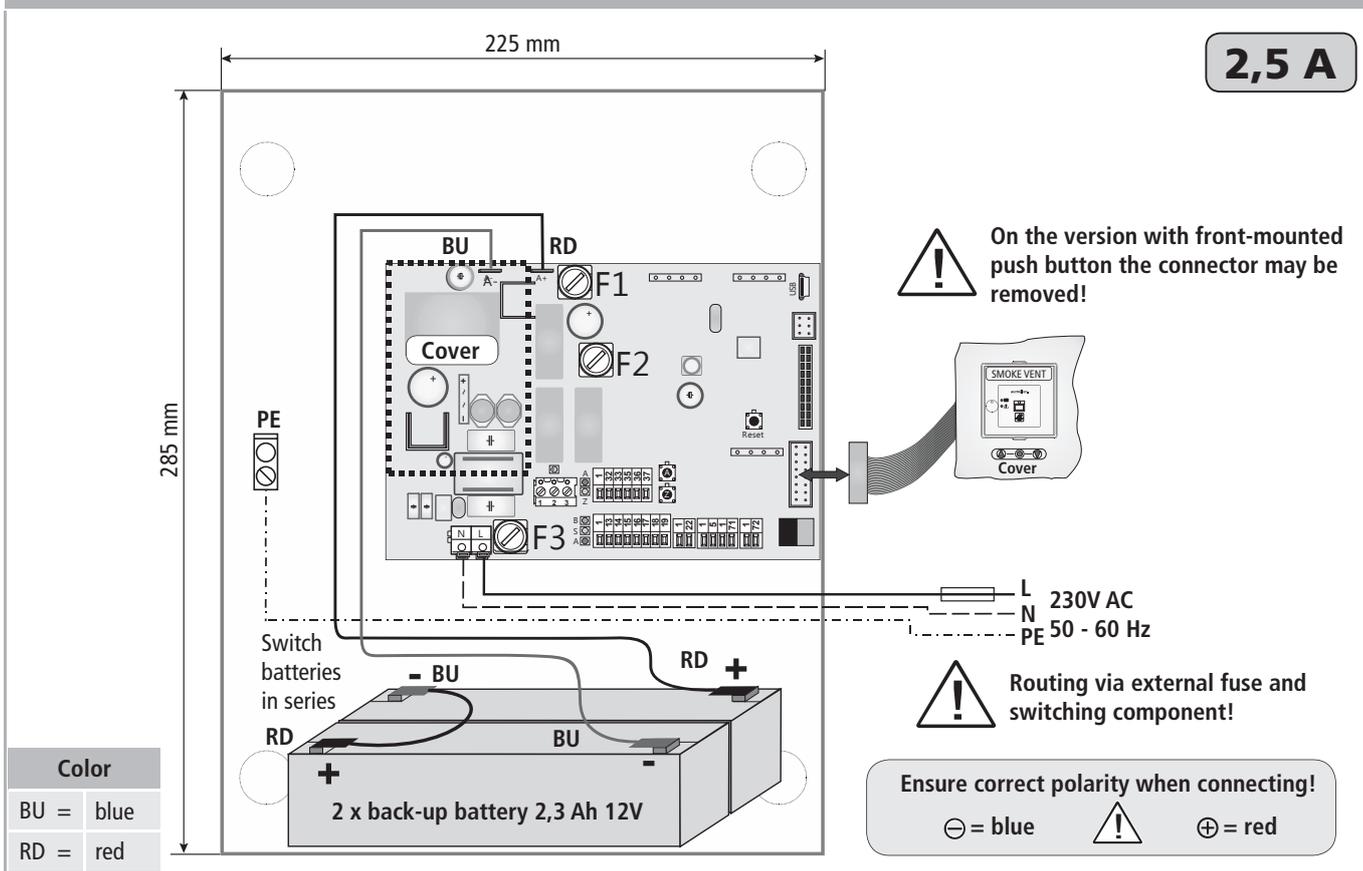
**Mounting the battery holder set:**

- Press 2 x (right and left) plastic screw-plug ① into the squares on the rear side of the housing.
- Fasten bracket ③ with screw ② in screw-plug ① on the right and on the left.

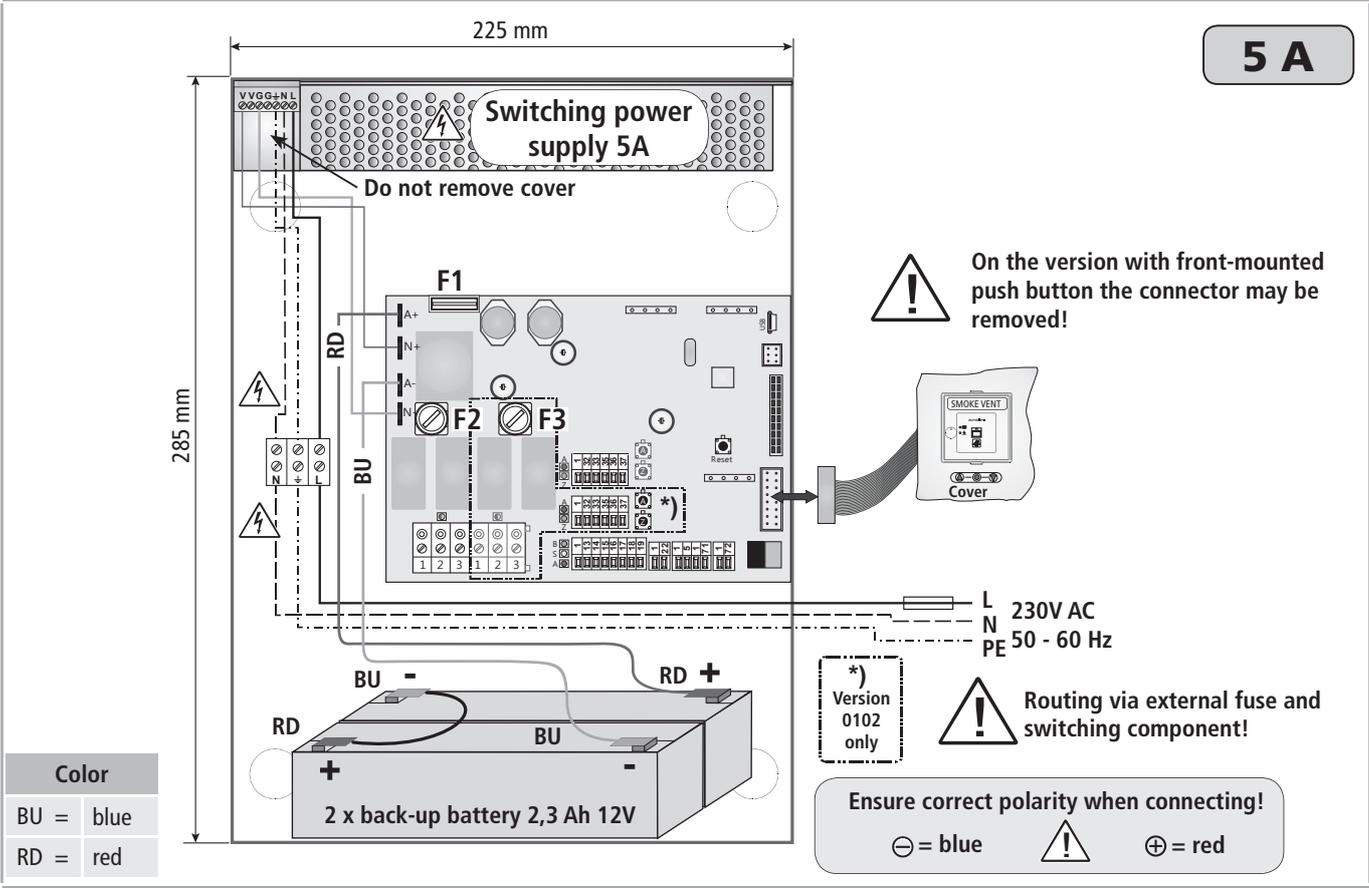


Battery holder set	
	Part.-No.: 683250
	Material: Steel
	Colour: RAL 9016 (white)
Suitable for:	EMB 7300 <b>2,5 A</b> EMB 7300 <b>5 A</b>

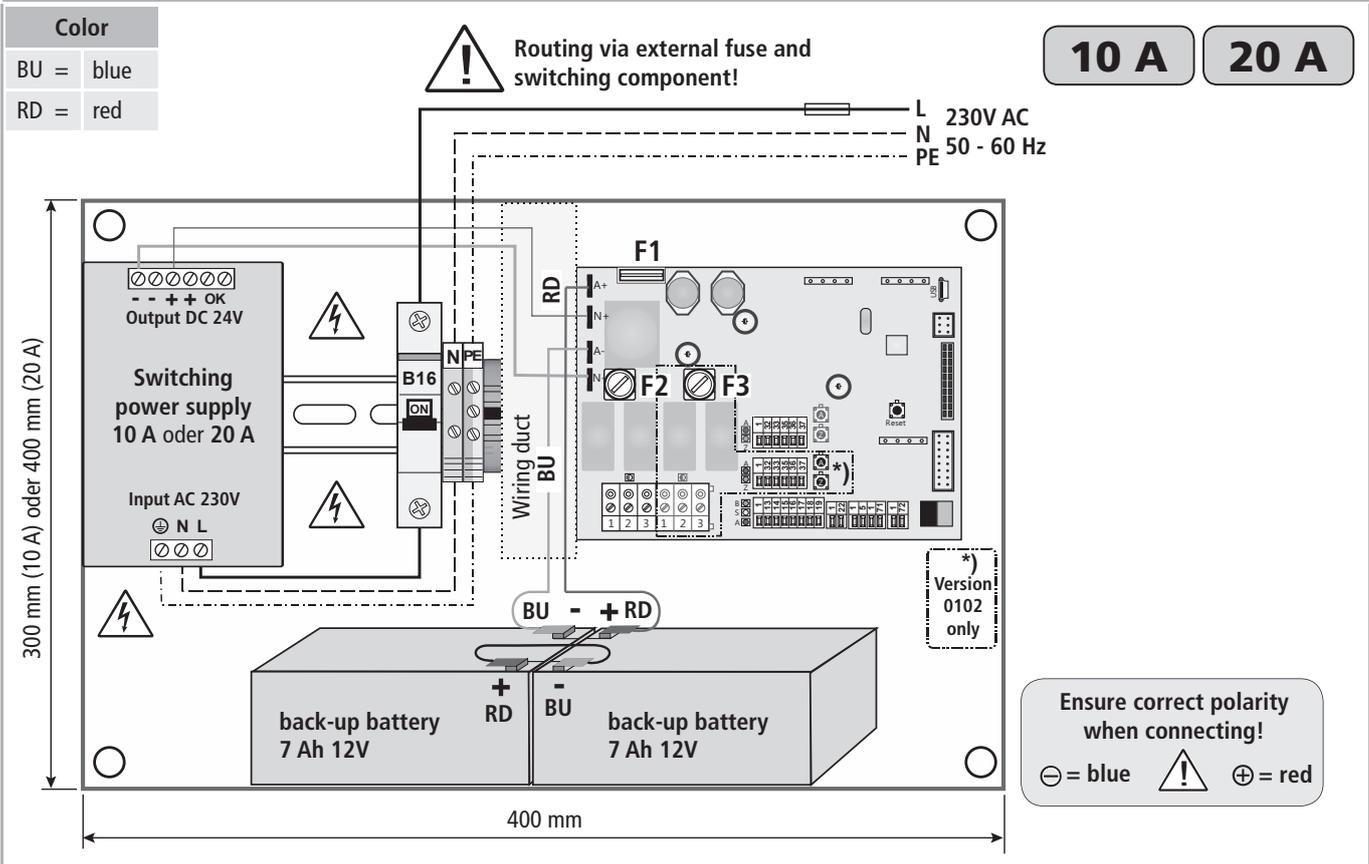
**Connecting power supply: Version EMB 7300 2,5A-0101, EMB 7300 2,5A-0101-T**



Connecting power supply: Version EMB7300 5A-0101, EMB 7300 5A-0101-T, EMB 7300 5A-0102



Connecting power supply: Version EMB 7300 10A-0101, EMB 7300 10A-0102, EMB 7300 20A-0102



## INSTALLATION STEP 7:

### SYSTEM CONFIGURATION USING SOFTWARE: EMB KOMPAKT

#### Installation

A free version of the system software (version VIEW) can be downloaded from the homepage [www.aumueller-gmbh.de](http://www.aumueller-gmbh.de). The software can be installed on a computer (notebook or netbook). Please pay regard to the hardware and system requirements (see below).

Follow the instructions displayed on the screen to install the program.



The software offers many features to adapt the system to your requirements. However, you should be aware that not all possible functions can be used without activating the software by purchasing a license.

If you wish to unlock the software, please contact us for a license code. After this code has been entered, you can use the paid functions as well.



With the installation the „Software clause in respect of the licensing of standard software as part of deliveries“ set out by the ZVEI (Zentralverband Elektrotechnik- und Elektronikindustrie e.V. - Central Association of the German Electrical and Electronics Industry) is deemed to be legally binding.

#### System Requirements

The software can be installed on a portable computer that has to meet the following system requirements:

<b>CPU:</b> 1 GHz or faster.
<b>Operating systems:</b> Microsoft® Windows 7 - (64 Bit) Microsoft® Windows 10 - (64 Bit)
<b>Memory:</b> 512 MB RAM or more
<b>Hard disk:</b> at least 100 MB free memory space required
<b>Accessories:</b> USB connection for connecting computer<->Control Unit, Internet connection for system installation and updates.



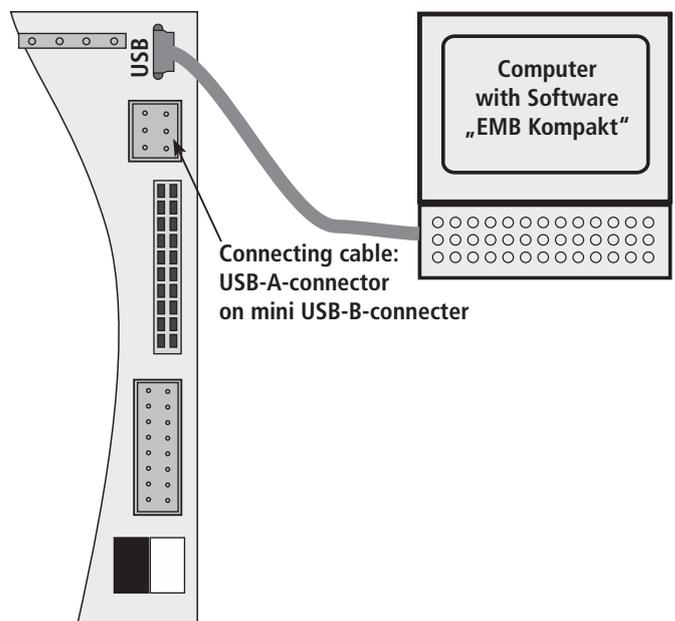
Our software requires NET 2.0 Runtime™ and the Visual C 2008™ Redistribution-Package for operation. These packages will be automatically installed by the set-up program without express installation note if they are not available in the system.

#### Connecting the computer with the Control Unit

- Switch on the computer and
- connect via USB to the Control Unit (see illustration).
- Then start the computer with the software already installed.



To avoid data losses the USB cable should not be longer than 5 meters. We advise against using a USB hub. Different to the usual USB connections it does not show up on the Windows toolbar



Connecting cable:  
USB-A-connector  
on mini USB-B-connector

#### Program Handling

The user interface of the program allows fast and intuitive working. A HELP-function provides all necessary information.



The Central EMB 7300 was tested in the default setting (factory setting) by VdS. Changes to the central configuration can only be performed by the approved installer (only with VdS systems).



Check for proper operation after each configuration of the Control Unit. We cannot assume liability for faults as a result of an incorrect system configuration and must exclude all warranty claims.

## Functions of the license-free software version

The following overview lists the functions that are available for free on **version VIEW**. We expressly reserve the right to make additions and alterations.

- Setting ventilation from dead-man mode to latching (OPEN / CLOSE / OPEN and CLOSE)
- Disabling monitoring of the drive line (factory default setting = active)
- Disabling EMERGENCY-OPEN in case of a failure (factory default setting = active)
- Selecting switching threshold of a wind sensor (factory default setting = 5 m/s)
- Setting time-controlled automatic closing (factory default setting = not active)
- Enabling closing in case of power failure (factory default setting = not active)
- Setting acoustic or optical warning signal (requires additional hardware)
- Indicating, saving and printing system status
- Update of firmware

## Functions of the software version subject to license

The following overview lists the functions that are only available after paid activation of the software. We expressly reserve the right to make additions and alterations.

- Setting service/maintenance date (setting protected by password)
- Setting switch-on delay WIND (factory default setting 20 s)
- Setting switch-off delay WIND (factory default setting 20 min)
- Restoring the switching state before wind/rain control
- Disabling drive retriggering function at SHEV EMERGENCY-OPEN
- Deactivating the line for breakglass units
- Deactivating the line for smoke detectors (or triggering of the external fire alarm system)
- Fire alarm system function for smoke detector line
- Smoke detector release overrides EMERGENCY-CLOSE
- Drive line(s) cut-off time (factory default setting 300 s)
- Drive run direction in case of alarm / EMERGENCY-OPEN (factory default setting = open)
- EMERGENCY-OPEN button in deadman mode
- Line-related EMERGENCY-OPEN in case of drive line failure (only reasonable with version 0102)
- Setting / selecting functions of relay plug-in card REL 65
- Integration into digital networks (LON or KNX) including network options

## INSTALLATION STEP 8: ENABLING OPERATION/COMPLETING INSTALLATION

Before the installer is allowed to enable the operation of the Control Unit, the complete performance range of the system must be checked with utmost care. The chapter „TROUBLESHOOTING AND REPAIR“ provides support for the localisation of possible faults and malfunctions.

On the last page you find an overview of all external connections where the current assignments can be entered.

Modifications of the system using the system software should take place after the complete installation of the Control Unit and all components being connected. When required, the system configuration and status can be saved or printed using the system software. In the case of faults or malfunctions of system components it might also be necessary to thoroughly check the system configuration (computer to be connected using system software).



For safety reasons the Control Unit is supplied with „deadman“ pre-setting for ventilation. You require the software for switching over to „latching“. It is absolutely necessary to ensure that all safety-relevant requirements for the „latching“ mode are guaranteed according to the information provided by the manufacturers of the connected opening components.



Before changing the operating mode check and pay attention to danger zones at the window!

SHEV systems require a logbook, in which all important master data have to be entered prior to operation enable and all operational events during the period in operation. The logbook is part of the system documents and must be stored and available to authorized staff at all times.



Follow the instructions in the chapter „SAFETY INSTRUCTIONS“.

We advise to perform an insulation measurement of the cable network before enabling operation of the plant and to keep a written record of this test.



Depending on the storage period the back-up batteries require some time to be fully charged. Therefore, bridging time (see chapter „DATA SHEET“) for the power failure might not be ensured after connecting the back-up batteries and the back-up batteries first need some charging time in mains operation to reach the maximum charge status (min. 8 hours).



The Control Unit must not be enabled for operation unless **all** system components work properly. This also applies to system components that do not come under our producer responsibility or whose installation had not been commissioned but are still components of the SHEV system. Upon completion of the installation, all functions of the Control Unit must be checked for correct functionality with utmost care. Even if there is no fault indication this does not mean that all components function faultlessly.

Provided that the factory default configuration has been changed using the system software, all alterations have to be taken into account in the operating manual. It might be required to prepare an operating manual for non-specialist users that is easy to follow and well understandable.



In case of fire the system saves lives. Therefore immediately remedy or have any fault or malfunction remedied by specialists!

## TROUBLESHOOTING AND REPAIR

All functions and system components that are important for the SHEVS operation are constantly monitored for faults. A fault indication signals the type of fault and, respectively, possible errors when connecting system components (such as back-up batteries, detectors, drives) during commissioning of the Control Unit.



The configuration of the Control Unit using the software has a significant impact on the functionality of the individual system components. Therefore, it might be necessary to connect a computer provided with the system software for precise testing.

The overview below details some of the possible faults and problem cases and their causes. „Indicator B“ means the green operating indicator which does not light up in case of a fault. The yellow „Indicator S“ signals the type of fault. You find a list of all indicators in chapter „INDICATOR AND CONTROL ELEMENTS“.

Fault / Malfunction	Possible cause and their solution
No indicator lights up	<ul style="list-style-type: none"> <li>no power supply available or fuse F1 / F2 defective</li> </ul>
Indicator „S“ flashes	<ul style="list-style-type: none"> <li>check power supply connection</li> </ul>
Indicator „S“ blinks quickly	<ul style="list-style-type: none"> <li>back-up batteries are not correctly connected or are not charged</li> </ul>
Indicator „S“ has steady light	<ul style="list-style-type: none"> <li>open circuit or short circuit in manual fire alarm</li> <li>faulty power monitoring</li> </ul>
Indicator „S“ blinks slowly	<ul style="list-style-type: none"> <li>open circuit or short circuit in smoke detector line</li> <li>faulty power monitoring</li> </ul>
Indicator „S“ blinks 2 times	<ul style="list-style-type: none"> <li>service required (indicator „B“ (green) lights up!)</li> </ul>
Indicator „S“ blinks 4 times	<ul style="list-style-type: none"> <li>open circuit or short circuit in drive line 1</li> <li>faulty power monitoring</li> </ul>
Indicator „S“ blinks 5 times	<ul style="list-style-type: none"> <li>only drive line 2, cause of fault analogue to drive line 1</li> </ul>
Indicator „S“ blinks 6 times	<ul style="list-style-type: none"> <li>EMERGENCY-CLOSE button (breakglass unit) does not work properly and/or is not recognized</li> </ul>
Drives do not respond	<ul style="list-style-type: none"> <li>check fuse F2 / F3</li> <li>check drive connections based on assembly instructions</li> <li>or, if the indicators (red / green) do not respond: check ventilation control</li> </ul>
Drives run incorrectly	<ul style="list-style-type: none"> <li>The indicators for the drive run direction (red / green) must comply with the actual running direction. Otherwise swap connections on terminal 1 and 2</li> <li>check drive connections based on their installation instructions</li> </ul>
Signal REL65 is not recognized	<ul style="list-style-type: none"> <li>check relay plug-in card REL 65 for correct installation and connection</li> </ul>



The system software offers the possibility to check the system behaviour in detail. Even when contacting our support team on the phone it is helpful to have available a computer with the system software installed.

## FUSES

Control Unit version			
EMB 7300 2,5A-0101	F1 3,15 AT (batteries)	F2 3,15 AT (drives)	F3 3,15 AT (primär)

Control Unit version			
EMB 7300 5A-0102	F1 5 AT (batteries)	F2 6,3 AT (drive 1)	F3 6,3 AT (drive 2)
EMB 7300 10A-0102	F1 10 AT (batteries)	F2 10 AT (drive 1)	F3 10 AT (drive 2)
EMB 7300 20A-0102	F1 25 AT (batteries)	F2 10 AT (drive 1)	F3 10 AT (drive 2)

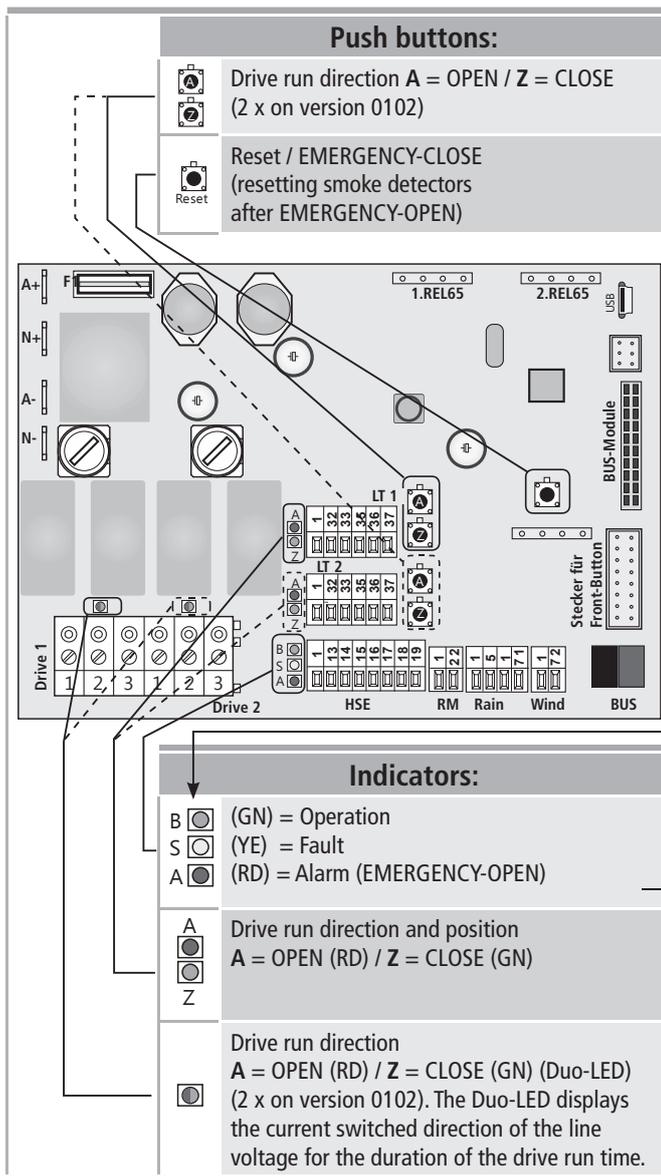
Control Unit version			
EMB 7300 5A-0101	F1 5 AT (batteries)	F2 6,3 AT (drives)	
EMB 7300 10A-0101	F1 10 AT (batteries)	F2 10 AT (drives)	

## INDICATOR AND CONTROL ELEMENTS

### Position in the Control Unit



The indicators and control elements (switches) are in the same position on all EMB 7300 versions. Only the number of ventilation lines varies. The versions EMB 7300 5A-0102, EMB 7300 10A-0102, EMB 7300 20A-0102 have two sets of indicators and control elements for the drive control (LT 1 and LT 2).



### Meaning of the Displays (overview)



Basically, the green indicator „B” signals that the Control Unit works properly. A yellow indicator „S” lighting up signals a fault to be eliminated immediately. Since the type of fault signal into the breakglass units may differ from the fault indicator „S” in the Control Unit, always pay regard to the indicators in the Control Unit for exact troubleshooting.

Drive run direction																																	
<b>Drives</b> <b>OPEN</b> <input checked="" type="checkbox"/> RD *)	<b>Drives</b> <b>CLOSE</b> <input checked="" type="checkbox"/> GN *)																																
<table border="1"> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> <td>A</td> </tr> <tr> <td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td> <td>on (RD)</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> <td>off</td> </tr> <tr> <td>1</td><td>2</td><td>3</td> <td>Z</td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	on (RD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	off	1	2	3	Z	<table border="1"> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> <td>A</td> </tr> <tr> <td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td> <td>off</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> <td>on (GN)</td> </tr> <tr> <td>1</td><td>2</td><td>3</td> <td>Z</td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on (GN)	1	2	3	Z
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A																														
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	on (RD)																														
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	off																														
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A																														
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on (GN)																														
1	2	3	Z																														
*) The Duo-LED only lights up for the duration of the drive run time.																																	

Alarm activation / EMERGENCY-OPEN													
<b>Mains operation</b> <b>EMERGENCY-OPEN</b>	<b>Battery operation (power failure)</b> <b>EMERGENCY-OPEN</b>												
<table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>B on (GN)</td> </tr> <tr> <td><input type="checkbox"/></td> <td>S out (YE)</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>A on (RD)</td> </tr> </table>	<input checked="" type="checkbox"/>	B on (GN)	<input type="checkbox"/>	S out (YE)	<input checked="" type="checkbox"/>	A on (RD)	<table border="1"> <tr> <td><input type="checkbox"/></td> <td>B off</td> </tr> <tr> <td><input type="checkbox"/></td> <td>S flashes (YE)</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>A on (RD)</td> </tr> </table>	<input type="checkbox"/>	B off	<input type="checkbox"/>	S flashes (YE)	<input checked="" type="checkbox"/>	A on (RD)
<input checked="" type="checkbox"/>	B on (GN)												
<input type="checkbox"/>	S out (YE)												
<input checked="" type="checkbox"/>	A on (RD)												
<input type="checkbox"/>	B off												
<input type="checkbox"/>	S flashes (YE)												
<input checked="" type="checkbox"/>	A on (RD)												

Faults		
Indicator	Meaning	Note
B <input type="checkbox"/> off S <input type="checkbox"/> flashes	Power failure / battery operation	
B <input type="checkbox"/> off S <input type="checkbox"/> fast blinking	Battery fault	
B <input type="checkbox"/> off S <input type="checkbox"/> on	Breakglass unit fault	
B <input type="checkbox"/> off S <input type="checkbox"/> slow blinking	Smoke detector fault	
B <input type="checkbox"/> off S <input type="checkbox"/> 2 x blinking	Service required	Licence software required for setting
B <input type="checkbox"/> off S <input type="checkbox"/> 4 x blinking	Fault drive line 1	
B <input type="checkbox"/> off S <input type="checkbox"/> 5 x blinking	Fault drive line 2	only on Control Unit version 0102
B <input type="checkbox"/> off S <input type="checkbox"/> 6 x blinking	Fault EMERGENCY-CLOSE button	Persistent contact
B <input checked="" type="checkbox"/> on S <input type="checkbox"/> A <input type="checkbox"/> slow blinking	System was closed via breakglass unit, smoke detectors are still activated.	

### Notes

B  GN = green  
S  YE = yellow  
A  RD = red

only available on Control Unit version  
EMB 7300 5A-0102  
EMB 7300 10A-0102  
EMB 7300 20A-0102

LED display for breakglass unit (HSE)	
Display	State
B <input type="checkbox"/> on S <input type="checkbox"/> off A <input type="checkbox"/> off	Normal operation
B <input type="checkbox"/> on S <input type="checkbox"/> off A <input type="checkbox"/> on	EMERGENCY-OPEN / alarm (mains operation)
B <input type="checkbox"/> off S <input type="checkbox"/> flashes A <input type="checkbox"/> on	EMERGENCY-OPEN / alarm (back-up batteries mode)
B <input type="checkbox"/> off S <input type="checkbox"/> flashes A <input type="checkbox"/> off	power failure (highest priority)
B <input type="checkbox"/> off S <input type="checkbox"/> on A <input type="checkbox"/> off *	Fault to breakglass unit lines * depending on the configuration „EMERGENCY-OPEN Troubleshooting“ OPEN or CLOSE
B <input type="checkbox"/> off S <input type="checkbox"/> on A <input type="checkbox"/> off *	Fault to smoke detector lines * depending on the configuration „EMERGENCY-OPEN Troubleshooting“ OPEN or CLOSE
B <input type="checkbox"/> off S <input type="checkbox"/> blinks slowly A <input type="checkbox"/> off *	Fault in motor-line 1 * depending on the configuration „EMERGENCY-OPEN Troubleshooting“ OPEN or CLOSE
B <input type="checkbox"/> off S <input type="checkbox"/> blinks slowly A <input type="checkbox"/> off *	Fault in motor-line 2 * depending on the configuration „EMERGENCY-OPEN Troubleshooting“ OPEN or CLOSE
B <input type="checkbox"/> off S <input type="checkbox"/> blinks slowly A <input type="checkbox"/> off	Fault at EMERGENCY-CLOSE button
B <input type="checkbox"/> off S <input type="checkbox"/> blinks quickly A <input type="checkbox"/> off	Back-up batteries fault (lowest priority)
B <input type="checkbox"/> on S <input type="checkbox"/> 2x blinking A <input type="checkbox"/> off	Maintenance expired
B <input type="checkbox"/> on S <input type="checkbox"/> off A <input type="checkbox"/> off	Rain active
B <input type="checkbox"/> on S <input type="checkbox"/> off A <input type="checkbox"/> off	Wind active
B <input type="checkbox"/> on S <input type="checkbox"/> off A <input type="checkbox"/> off	Wind and rain active

B <input type="checkbox"/> Operation S <input type="checkbox"/> Fault A <input type="checkbox"/> EMERGENCY-OPEN LED display	 The functionalities of the external LED outputs are configurable.
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## MAINTENANCE AND MODIFICATION

To ensure continuous function and safety of the complete system periodic maintenance by a specialist company is required at least once a year (as mandated by law for smoke and heat exhaust systems). Operational readiness must be checked regularly, at least once a month.



After opening of the system housing voltage carrying parts are exposed! Each time, before performing maintenance work or making a modification of the structure (e.g. replacement of the window drive), the mains voltage and – as far as available – the batteries must be completely disconnected and secured against unintentional reactivation (lock in separation mode).

The information provided in these instructions for the maintenance must be observed. Malfunctions must be remedied immediately. Only spare parts made by the manufacturer may be used. Between maintenance intervals the operator shall carry out or order a visual inspection at least once and document it in writing in the log book. We recommend a maintenance contract with a specialist company authorized by the manufacturer. A sample maintenance contract can be downloaded from the homepage of

**FIRM AUMÜLLER AUTOMATIC GMBH**  
([www.aumueller-gmbh.de](http://www.aumueller-gmbh.de)).

### What has to be serviced?

- Check all **connections** (also the ones in the Control Unit) for tightness and for possible damage.
- Check all **fuse links**.
- Check charge level and installation date of back-up **batteries** and exchange the batteries, if necessary (batteries must be exchanged 4 years after installation). Note down the exchange date on the battery. Dispose of removed batteries in conformity with legal requirements.
- Check **drive control** for proper function. Also check drive run directions. If the actuation is correct but the drive is still not working properly, pay regard to the assembly and maintenance instructions of the drive manufacturer.
- Check all **breakglass units** and ventilation buttons for functionality (do the drives move in the direction indicated on the buttons?)
- Check all **smoke detectors** according to manufacturer's instructions using test gas.
- Remove dirty or faulty **detectors** and send them to the manufacturer for repair or cleaning.
- When connecting **wind and rain sensors** check for proper functionality of the sensors, readjust the wind response threshold, if necessary.
- Check the **configuration** with our system software and test if the system works with the stored configuration.

The service instructions for the connected components are decisive for their maintenance.

## IMPORTANT MAINTENANCE INFORMATION

- While working in the Control Unit the workplace must be secured against unauthorized access.
- The specialists performing the maintenance work are solely responsible for the maintenance.
- For smoke and heat exhaust systems a log book must be kept in which the maintenance work must be documented. Special attention must be paid to operating events (e.g. repeatedly occurring malfunctions) which may be recorded.
- These installation and operating instructions are part of the maintenance documents. The control device may be maintained only by considering the information provided therein. This affects also system supplements and the exchange of components. A separate maintenance protocol should be prepared and filed with the maintenance documents.
- Only original parts may be used. Otherwise the warranty obligation and product liability of the manufacturer shall no longer apply.
- For the maintenance of individual system components the installation and maintenance instructions of the manufacturer of these components shall be binding. If they are not available, they must be requested from the manufacturer. In case special maintenance instructions are prescribed (e.g. for natural smoke and heat exhaust ventilators pursuant to EN 12101-2), they must also be on hand.



The system configuration must be inspected and recorded each time maintenance work is performed. The next maintenance date can only be scheduled with the fee-based licensed software and protected against unauthorized access by using a password. The maintenance date is then signaled by the fault indicator "S" by flashing twice.

## DEMOUNTING AND DISMANTLING

The Control Unit shall be stored only in locations protected from moisture, severe contamination and temperature fluctuations (not beyond 30°C). The packaging shall not be removed until the control system is to be installed. Disconnect the batteries and store them separately after the control device has already been in operation.

**It is imperative that the following is observed for the storage of the batteries:**



Keep the storage time of lead-acid batteries short, because the batteries discharge as time passes. At the latest after seven months in storage batteries must be recharged. Use either a suitable battery charger or connect the batteries to an EMB Control Unit and supply same with mains voltage. In both cases the charging time requires a minimum of 8 hours (depending on the discharge).

In case the Control Unit is permanently decommissioned the statutory provisions for the destruction, recycling and disposal shall be observed. The control device contains plastic, metal, electrical components and batteries. Replaced batteries contain highly toxic pollutants and may therefore only be disposed of at collection points prescribed by the legislator.



Before dismantling the Control Unit separate same completely from the mains!

## WARRANTY AND CUSTOMER SERVICE

In principal apply our:

„General Terms for the Supply of Products and Services of the Electrical Industry (ZVEI)“.  
„Terms for the used software“.

The warranty corresponds with legal provisions and applies to the country in which the product has been acquired.

The warranty includes material and manufacturing defects incurred during normal use.

The warranty period for delivered material is twelve months.

Warranty and liability claims for personal injuries or material damages are excluded, if caused by one or more of the following:

- Improper use of the product.
- Improper installation, commissioning, operation, maintenance or repair of the product.
- Operating the product by defect and improper installed or not functioning safety and protection devices.
- Ignoring instructions and installation requirements in these instructions.
- Unauthorized constructional modifications at the product or accessories.
- Disaster situations due to effects of foreign bodies and Acts of God.
- Wear and tear.

Point of contact for possible warranty claims or for repair parts or accessories is the responsible branch office or the responsible person at

**Firm AUMÜLLER Automatic GmbH.**

Contact data are available at our homepage

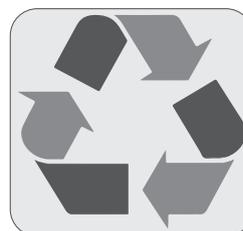
**([www.aumueller-gmbh.de](http://www.aumueller-gmbh.de))**

## LIABILITY

We reserve the right to change or discontinue products at any time without prior notice. Illustrations are subject to change. Although we take every care to ensure accuracy, we cannot accept liability for the content of this document.

## DISPOSAL

According to the European Directive 2012/19 / EU on Waste Electrical and Electronic Equipment (WEEE) and its transposition into national law, obsolete electrical appliances must be collected separately and sent for environmentally friendly recycling.



## KONFORMITÄTSERKLÄRUNG DECLARATION OF CONFORMITY

Hersteller  
Manufacturer

# aumüller

Aumüller Auma:ic GmbH  
Gemeindewald 11  
86672 Thierhaupten  
Germany

Produktart | *Product type*: **Elektrische Steuereinrichtungen / Control panels**  
Produktbaureihe | *Product series*: **EMB 7300 / EMB 7300 KNX**  
**EMB 8000 / EMB 8000 KNX**

Ab Seriennummer | *From serial number*: **XXXXXX-XXX**  
Ab Datum | *From date*: (Year-W-Week) **18W27**

Wir bestätigen die Konformität des oben bezeichneten Produktes mit folgend gelisteten EU-Richtlinien sowie Normen:  
*We herewith confirm the conformity of the above mentioned product with EC Directives and the standards listed below:*

### VERODNUNGEN / RICHTLINIEN REGULATIONS / DIRECTIVES

**Niederspannungsrichtlinie 2014/35/EU**  
*Low Voltage Directive 2014/35/EU*

**Richtlinie über elektromagnetische Verträglichkeit 2014/30/EU**  
*Directive relating to Electro-Magnetic Compatibility 2014/30/EU*

**Bauproduktenverordnung 2011/305/EU**  
*Construction Products Regulation 2011/305/EU*

### HARMONISIERTE NORMEN HARMONIZED STANDARDS

**DIN EN 60730-1:2012-10**

**DIN EN 12101-10:2006-01 + B1:2009-07**

**DIN EN 61000-6-1:2016-05; DIN EN 61000-6-2:2016-05**

**DIN EN 61000-6-3:2011-09+B1:2012-11; DIN EN 61000-6-4:2011-09**

### SONSTIGE TECHNISCHE NORMEN UND SPEZIFIKATIONEN FURTHER TECHNICAL STANDARDS AND SPECIFICATIONS

**prEN 12101-9:2004-12**

**DIN EN 50491-5-1:2010-11; DIN EN 50491-5-2:2010-11 (KNX)**

**DIN EN 50130-4:2015-04**

**VdS 2581:2002-09; VdS 2593:2002-09**

**Montageanweisung / Installation instructions**

Thierhaupten, 25.06.2018

*R. Meitzer*

Geschäftsführer / Verantwortlich für die technische Dokumentation  
Managing Director / Head of technical documentation



**Die Sicherheitshinweise der mitgelieferten Produktdokumentation sind zu beachten!**  
The safety instructions of the supplied product documentation are to be observed!





OVERVIEW ON ALL EXTERNAL CONNECTIONS TO BE COMPLETED

Pay regard to the individual connection diagrams in this manual for the position of the respective terminals as detailed for the different Control Unit versions.

Terminals		Remark
Drive 1	CLOSE + OPEN - <b>1</b>	
	- + <b>2</b>	
	Line monitoring <b>3</b>	
Drive 2 only version 0102	CLOSE + OPEN - <b>1</b>	
	- + <b>2</b>	
	Line monitoring <b>3</b>	
Ventilation 1	COM <b>1</b>	
	Buttons OPEN <b>32</b>	
	CLOSE <b>33</b>	
	Indicators COM <b>35</b>	
	OPEN <b>36</b>	
	CLOSE <b>37</b>	
Ventilation 2 only version 0102	COM <b>1</b>	
	Buttons OPEN <b>32</b>	
	CLOSE <b>33</b>	
	Indicators COM <b>35</b>	
	OPEN <b>36</b>	
	CLOSE <b>37</b>	
Breakglass unit	Buttons COM <b>1</b>	
	EMERGENCY-OPEN <b>13</b>	
	ZU <b>14</b>	
	COM - <b>15</b>	
	Indicators EMERGENCY-OPEN + <b>16</b>	
	+ <b>17</b>	
	Operation + <b>18</b>	
	Fault + <b>19</b>	
Smoke detectors or external fire alarm system	<b>1</b>	
	+ <b>22</b>	
Rain sensor	- <b>1</b>	
	+ <b>5</b>	
	- <b>1</b>	
	<b>71</b>	
Wind sensor	- <b>1</b>	
	<b>72</b>	
1. REL 65 (optional)	<b>1</b>	
	<b>2</b>	
	COM <b>3</b>	
2. REL 65 (optional)	<b>1</b>	
	<b>2</b>	
	COM <b>3</b>	

## TRANSLATION OF THE ORIGINAL INSTRUCTIONS (GERMAN)

### Important note:

We are aware of our responsibility, which is why we present life-supporting and value-preserving products with greatest possible conscientiousness. Although we make every effort to ensure that the data and information are as correct and up-to-date as possible, we still cannot guarantee that they are free from mistakes and errors.

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Basically the General Terms and Conditions of Aumüller Automatic GmbH apply to all offers, supplies and services.

The publication of these assembly and commissioning instructions supersedes all previous editions.

AUMÜLLER AUMATIC GMBH  
Gemeindewald 11  
86672 Thierhaupten

Tel. +49 8271 8185-0  
Fax +49 8271 8185-250  
info@aumueller-gmbh.de

[www.aumueller-gmbh.de](http://www.aumueller-gmbh.de)

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