

General information about this product

- Product features EMB8000+
- Scope of the configuration software
- Application example of a complete system
- Basic versions expandable:
Planning notes / expansion limitation / configuration / parameter of modules

To the information



EMB8000+ Basic versions expandable

- EMB8000+ 5 A
- EMB8000+ 10 A
- EMB8000+ 24 A
- EMB8000+ 48 A
- EMB8000+ 72 A
- EMB8000+ 96 A

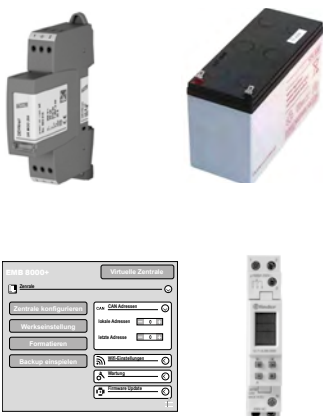
To the product



EMB8000+ module

- | | |
|-------------------|--------------|
| ■ DM | ■ IM-K - KNX |
| ■ + 230 V-DM Vent | ■ WM |
| ■ DMX | ■ CM |
| ■ IDM | ■ PM |
| ■ SM | ■ PME |
| ■ RM6 | |

To the product



EMB8000+ accesories

- Terminals
- Service
- Surge arrester Type 3
- Automatic circuit breaker
- Software licence EMB 8000+ Alpha
- Accumulators
- Relay interface + Wall fixing brackets
- Time switch
- Temperature sensor

To the product





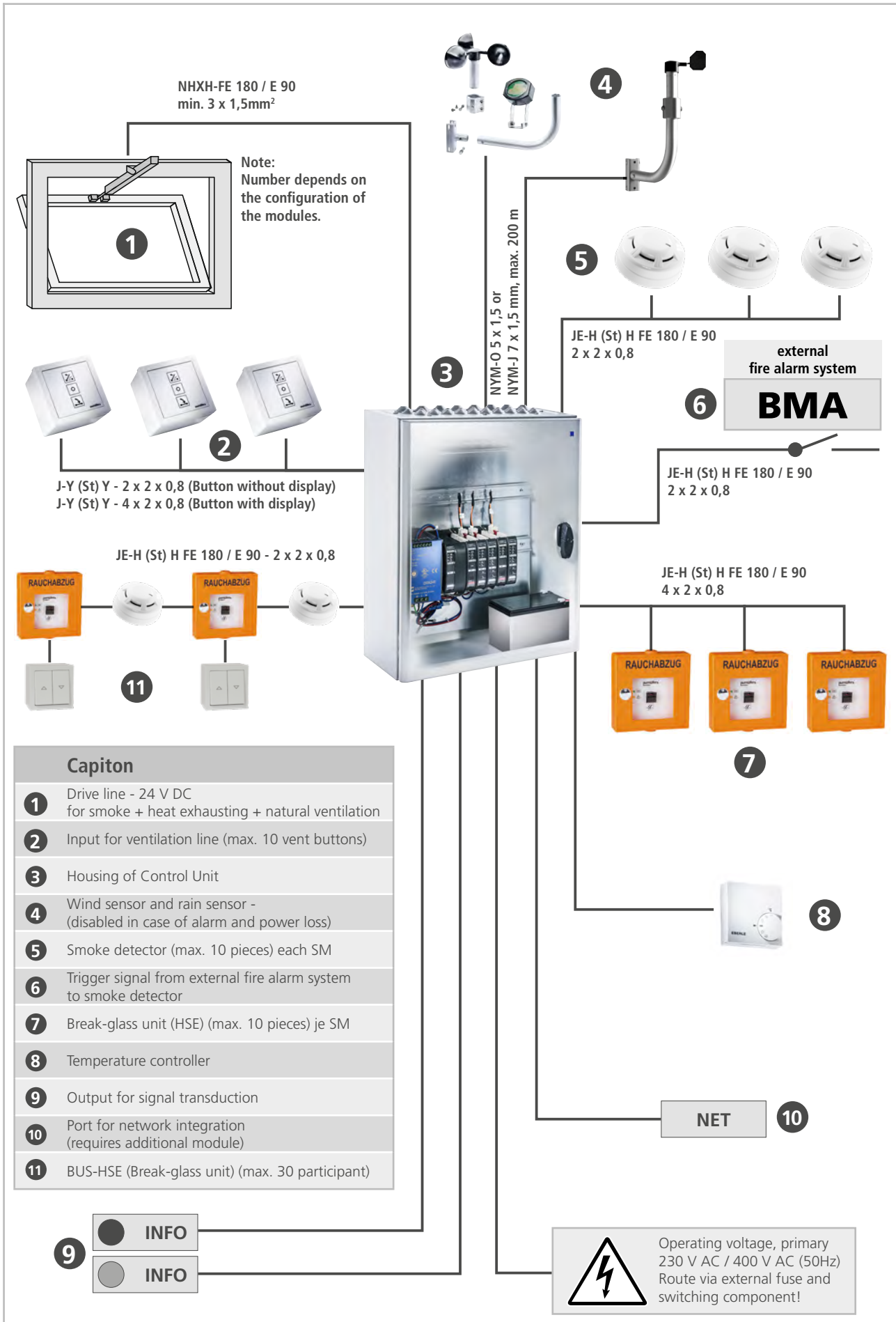
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804.

The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumuller-gmbh.de.

PRODUCT FEATURES EMB 8000+

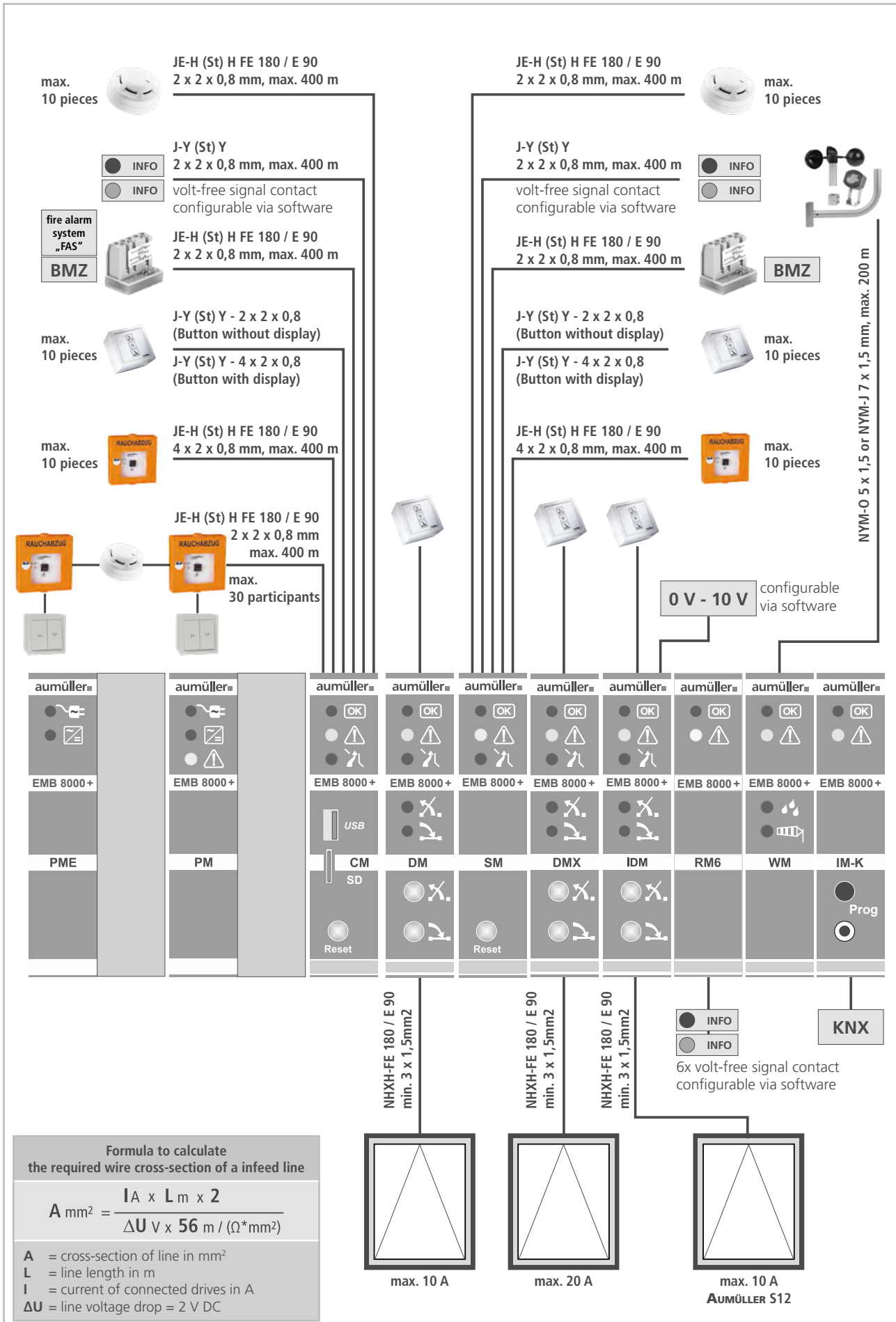
- Modular control panel with digital bus technology and power supply for 24 V DC drives for use in smoke and heat exhausting ventilation (SHEV) and in controlled natural ventilation systems
- Control panel compliant with prEN 12101-9 / ISO 21927-9
- Power supply compliant with EN 12101-10
- Low residual ripple output voltage (<2 Vpp) - compatible with all common drives
- Easy and space saving installation on 35-mm snap-on mounting rail with many combination options
- Easy configuration of SHEV and ventilation groups by selective lining up of the modules
- Control- and Sensor-Module with 3 monitored detector lines with different priorities for connecting with:
 - Manual break-glass unit (HSE)
 - Automatic smoke and heat detectors
 - Control signal from fire alarm system (FAS)
- Drive-Module with monitored line outputs for connection of drives up to 20 A
- Relay-Module for the evaluation and transmission of events (emergency open signal, fault signal, feedback signals)
- Weather-Module for connection with wind speed sensors, wind direction sensors and rain sensors
- Network-Modules for connection and integration with building management systems (CAN, KNX)
- All ventilation button inputs with OPEN-STOP-CLOSE function and adjustable priorities
- Clear operating and display elements
- Extensive settings of the basic functions via software offered by download free of charge
- Special functions programmable via extra costs software license as in the following:
 - Service and maintenance intervals
 - Changes of priorities, switching-thresholds and switch-off times
 - Deactivation of the detector lines or of their monitoring
 - Control of the alarm functions by a volt-free contact of the fire alarm system (FAS)
 - Network integration
- Steel sheet housing, protection class IP40 / IP54 alternatively available with wall fixing brackets, cable exit from above
- Prepared for connection of backup batteries (72 hours)
- VdS certification no.: G 512005
- In the state of delivery, the interconnection of SHEV and ventilation groups can be configured
 - by targeted lining up of the modules - without software.
- System components for individual assembly consisting of functional basic control units each with one SHEV and one ventilation group, as well as a variety of modules and components that can be ordered either as factory-installed or for customer-side yourself installation.
- Software licences for enabling and configuration of complex integrated special functions as well as for the interconnection of multiple control units to a network with higher-ranking functions for SHEV, ventilation and weather groups
- Fully assembled and configured - at the factory or by self-expansion.
- Fully assembled and configured from the factory or for self-removal
- Individual customization through extensive software options

SCOPE OF THE CONFIGURATION SOFTWARE EMB 8000+		
Functions	Standard	Lizenz
Load configuration / Safe / Safe as	✓	✓
View, save and print system status	✓	✓
Set thresholds and on-off delay of wind sensor	--	✓
Create PDF of the configuration	✓	✓
System configuration / Load settings / Save settings	✓	✓
Read RealTime LOG-Data	✓	✓
Set Password for control unit	--	✓
Edit RealTime LOG-Data	--	✓
Firmware update	--	✓
Configure switching thresholds and on-off delay of the wind sensor	--	✓
Configure switching thresholds of wind direction sensor	--	✓
System time synchronisation / updating	--	✓
Backup battery monitoring: Performance and fault indications (active, windows OPEN / CLOSE)	--	✓
Set backup battery type and charging characteristics (temperature dependent / constant)	--	✓
Power supply loss: Performance and fault indication (Energy saving mode, CLOSE, ventilation mode)	--	✓
Ventilation push button in dead-man or jog-switch mode (OPEN or/and CLOSE direction)	--	✓
Ventilation push button as one rocker push-button (OPEN/STOP or CLOSE/STOP with one button)	--	✓
Set step-automatic in OPEN-direction (Automatic enabled / Time setting)	--	✓
Enable reset of smoke detector lines with emergency-CLOSE button	--	✓
Enable control of smoke detector line by fire alarm system „FAS“	--	✓
Disable alarms caused by detector line monitoring failures (Automatic and manual detectors)	--	✓
Disable fault detection of detector lines (Automatic and manual detectors)	--	✓
Set functions of PM, CM and SM relay contact	--	✓
Set service and maintenance interval and system behaviour	--	✓
Set drive line mode for use with motors, magnets or gas pressure generators	--	✓
Disable retriggering of drive line in alarm mode	--	✓
Set switch-off time of drive lines	--	✓
Enable and set automatic time-controlled drive line closing mode for ventilation purpose	--	✓
Enable drive closing mode on primary power loss	--	✓
Set drive run time and opening stroke limit for ventilation purpose	--	✓
Set failures of drive line monitoring as alarm signal	--	✓
Set drive running direction in alarm mode from open to close	--	✓
Set signal input of DM drive line (feedback input / inhibiting input)	--	✓
Set wind direction dependent OPENING / CLOSING of drive lines	--	✓
Reset switch positions to the status before the weather control were activated	--	✓
Set emergency close button from jog-switch mode to dead-man mode	--	✓
Set functions of RM6 relays	--	✓
Set assignment of detector and drive lines to SHEV, ventilation and weather groups	--	✓
Interconnection of several control units to a network with higher-ranking functions	--	✓
Integration into digital networks (CAN, KNX) (requires additional modules)	--	✓



Capiton

- 1 Drive line - 24 V DC for smoke + heat exhausting + natural ventilation
- 2 Input for ventilation line (max. 10 vent buttons)
- 3 Housing of Control Unit
- 4 Wind sensor and rain sensor - (disabled in case of alarm and power loss)
- 5 Smoke detector (max. 10 pieces) each SM
- 6 Trigger signal from external fire alarm system to smoke detector
- 7 Break-glass unit (HSE) (max. 10 pieces) je SM
- 8 Temperature controller
- 9 Output for signal transduction
- 10 Port for network integration (requires additional module)
- 11 BUS-HSE (Break-glass unit) (max. 30 participant)



IMPORTANT NOTES

The modular design of EMB 8000+ in combination with digital network technology make it possible for our customers to size, assemble and configure the control units by themselves.

For this **AUMÜLLER** is providing the required hardware and software.

The minimum equipment of a fully functional Control Unit:

- 1x Switch mode power supply PS 5 A up to 24 A – the installation up to 3 identical power supplies up to a maximum of 72 A is possible
- 2x Accumulators 12 V DC from 7 Ah to 38 Ah to ensure the emergency power supply for 72 hours
- 1x Power-Module PM for the charging control of accumulators – completed with up to 2 Power-Module-Extensions PME
- 1x Control-Module CM with 3 detector input lines for automatic and manual smoke detectors and 1 ventilation button input line
- 1x Drive-Module DM, IDM or DMX for connection of drives with a total current consumption of 10 A respectively 20 A and 1 ventilation button input line

The control units on the following pages are intended for individual configuration and are prepared for 1 SHEV group with 1 ventilation line (10 A or 20 A) and are pre-programmed for basic functions.

AUMÜLLER does not assume any liability for further changes and configurations of these control units.

PLANNING NOTES

The build-in modules of EMB 8000+ are connected to each other and communicate via the digital network bus. On delivery respectively as long as the delivered software configuration is not changed, the modules are self-learning. SHEV groups can be easily and flexibly configured by selective lining up of the modules. A new SHEV group is created by adding a Sensor-Module (SM) into the row. All following Drive-Modules (DM / DMX) belong to the new SHEV group.

In the Control Units with several switch mode power supplies in one housing (48 A and 72 A), the interconnection of Drive-Modules (DM / DMX) and their total current consumption has to be adapted to the current consumption of the individual switch mode power supply at which they are connected. This can be done by replugging the power supply of the modules. The SHEV group to which the DM / DMX belongs is irrelevant. To ensure the optimum of safety in case of a failure of a switch mode power supply, it is recommended to power the DM/DMX of one SHEV group from only one switch mode power supply. The maximum switching capacity of the DM-modules is to be noted.

Due to the compact design of the modules, the module connection terminals for peripheral devices are limited to 1 mm² and for drive lines to 2,5 mm² rigid wire conductors. The cross sections of the wires between control unit and drives depend on the cable length, the current consumption as well as the voltage drop on the line. A 35-mm snap-on mounting rail is provided inside the housing, for additional bigger connection terminals if the required cable cross section is larger than the module-own connection terminals. Suitable connection terminals will be found under „accessories“. The cross sections of the cables may be calculated with the formula indicated in chart 5.

EXPANSION LIMITATIONS / SYSTEM LIMITS

The following key data must be taken into account when dimensioning SHEV Control Units:

- Number of smoke detectors per CM / SM 10 piece
- Number of break-glass units per CM / SM 10 piece
- Number of digital trigger units per CM 30 piece
- Number of smoke detectors per control unit 60 piece
- Number of break-glass units per control unit 60 piece
- Own power consumption per Control Unit (see chart 3 at the following page)
- Accumulator capacity / max. power consumption per Control Unit (see chart 3 at the following page)
- Dimensions of housing
- Cable entries

All values in the tables refer to the maximum assignment of the module inputs / outputs. The current values are given for maintaining the emergency power supply over a period of 72 hours. Other calculation bases on request.

The sum of the self-consumption of all modules in a Control Unit must not exceed the maximum permissible current of the Control Unit. To calculate the total power consumption, the individual consumption of the installed modules must be added.

The details of the outer diameter of cables refer to the cable types common in Germany. The wire cross-sections are given in mm². To maintain the electrical protection class of the Control Unit housing, only one cable is permitted per cable entry.

For checking purposes, the total number of cables required must be determined in accordance with Table 1 and coordinated with the number of cable entries in the Control Units from Table 4.

Due to the hardware and software, the EMB8000 + is limited by the following points. Configuration using the software is guaranteed within these limits.

1. A maximum of 50 modules per Control Unit (including CM, excluding PM and PMEs).
The following maximum number of modules of the same type are supported per control center (in the network).

Module	Maximum per Control Unit	Maximum per network
PME	2	60
PM	1	30
CM+	1	30
SM	20	570
DM	40	570
DMX	10	300
IDM	30	300
230 V DM Vent	20	570
RM6	20	570
WM	1	2
IMK	2	5

2. A maximum of 30 Control Unit in the network.
3. A maximum of 600 modules in the network (including CMs, excluding PMs and PMEs) e.g.: 30 Control Units with 20 modules or 12 Control Units with 50 modules.
4. 150 Can actuators (*) are supported without blocking the triggering CMs. Each additional Can actuator results in a recording delay of 9 ms.
(*) Can actuator is an actuator in another Control Unit than the one in which the sensor is located.

CONFIGURATION AND PARAMETERIZATION

The basic configuration software for EMB 8000+ Control Units is available download on (free of charge for):

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

For the configuration of special functions or integration of Control Units into networks, a software license (with extra costs) is required.

CHART 1: PARAMETER OF MODULES EMB8000+

Features					Cables for inputs and outputs								
Module	Module width [mm]	Module units [ME]	Internal current consumption [mA]	Cable entries when using all inputs/outputs [pcs.]	Smoke detectors, FAS	Manual detectors Break-glass units	Drive line	Ventilation button with display	Ventilation button w/o display, other inputs	Volt free contact, drive feedback signal	Wind/Rain/Wind direction	Power supply	
PM	46	2	16,0	1								1	
PME	46	2	0,0	0									
CM+	23	1	34,1	5	2	1			1	1			
SM	23	1	12,6	5	2	1			1	1			
DM	23	1	5,3	3			1	1		1			
230 V DM	23	1	7,0	3			1	1		1			
DMX	46	2	5,3	3			1	1		1			
IDM	23	1	6,0	5			1	1		1			
RM6	23	1	5,3	1						1-6			
IM-K	23	1	6,0	10									
WM	23	1	13,0	4					2	1	1		
Rec. Number of wires (w/o protective earth conductor)						4	8	4	8	4	4	7	3

CHART 2: INTERNAL CURRENT CONSUMPTION OF BACKUP BATTERY POWERED DETECTORS

Break-glass main unit	HSE	1,2 mA
Break-glass secondary unit	HSE-N	0,0 mA
Smoke detector	ORM	0,1 mA
Wind direction sensor	WRG	7,1 mA
BUS Break-glass main unit	BUS-HSE	2,8 mA
BUS Smoke detector	BUS-RM	1,0 mA

CHART 3: MAXIMUM CURRENT CONSUMPTION PER CONTROL UNIT

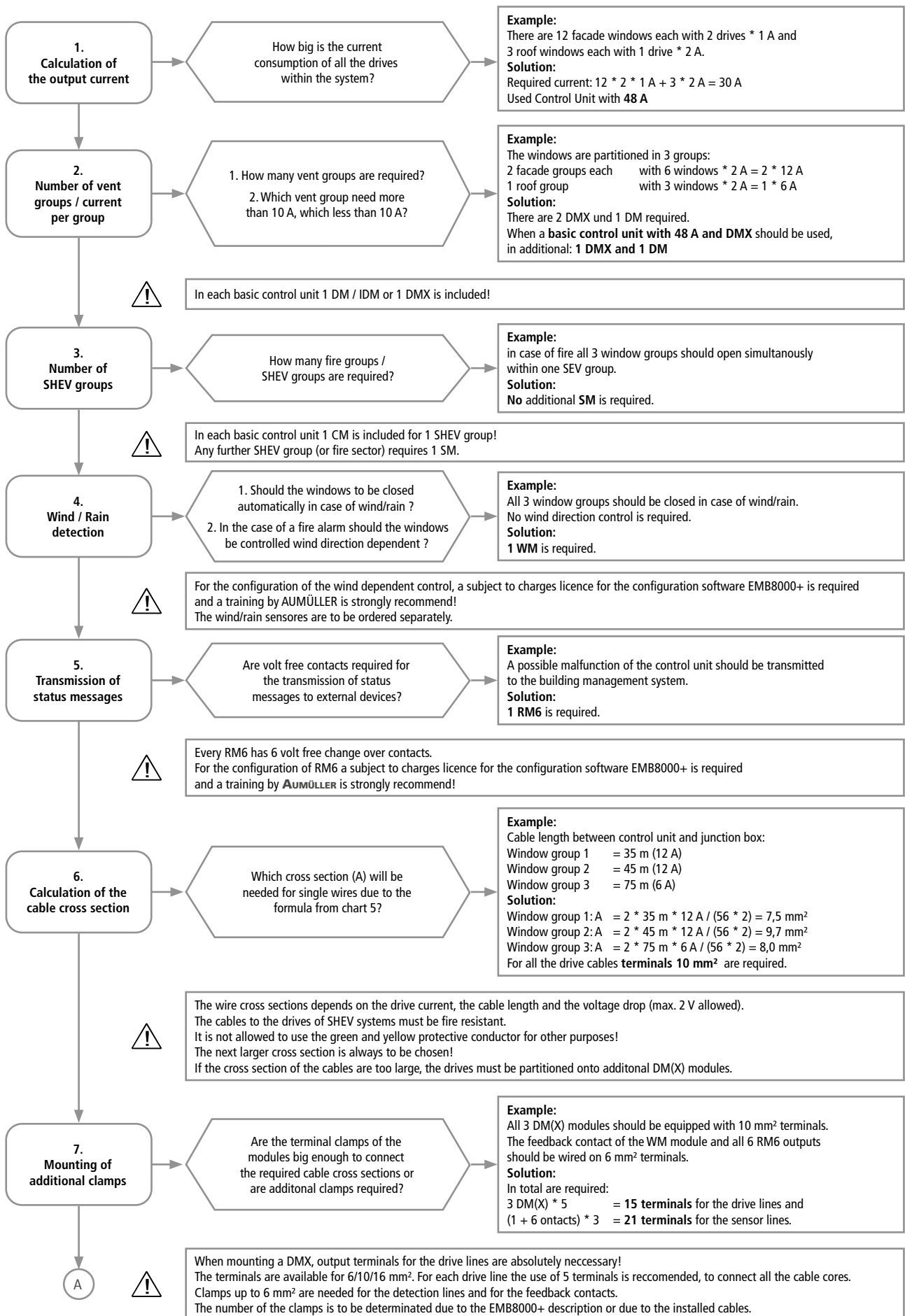
PS / Battery	7 Ah	12 Ah	17 Ah	24 Ah	38 Ah
10 A	✗	120 mA	140 mA	240 mA	350 mA
24 A	✗	70 mA	120 mA	200 mA	300 mA
48 A	✗	✗	80 mA	170 mA	300 mA
72 A	✗	✗	✗	100 mA	300 mA

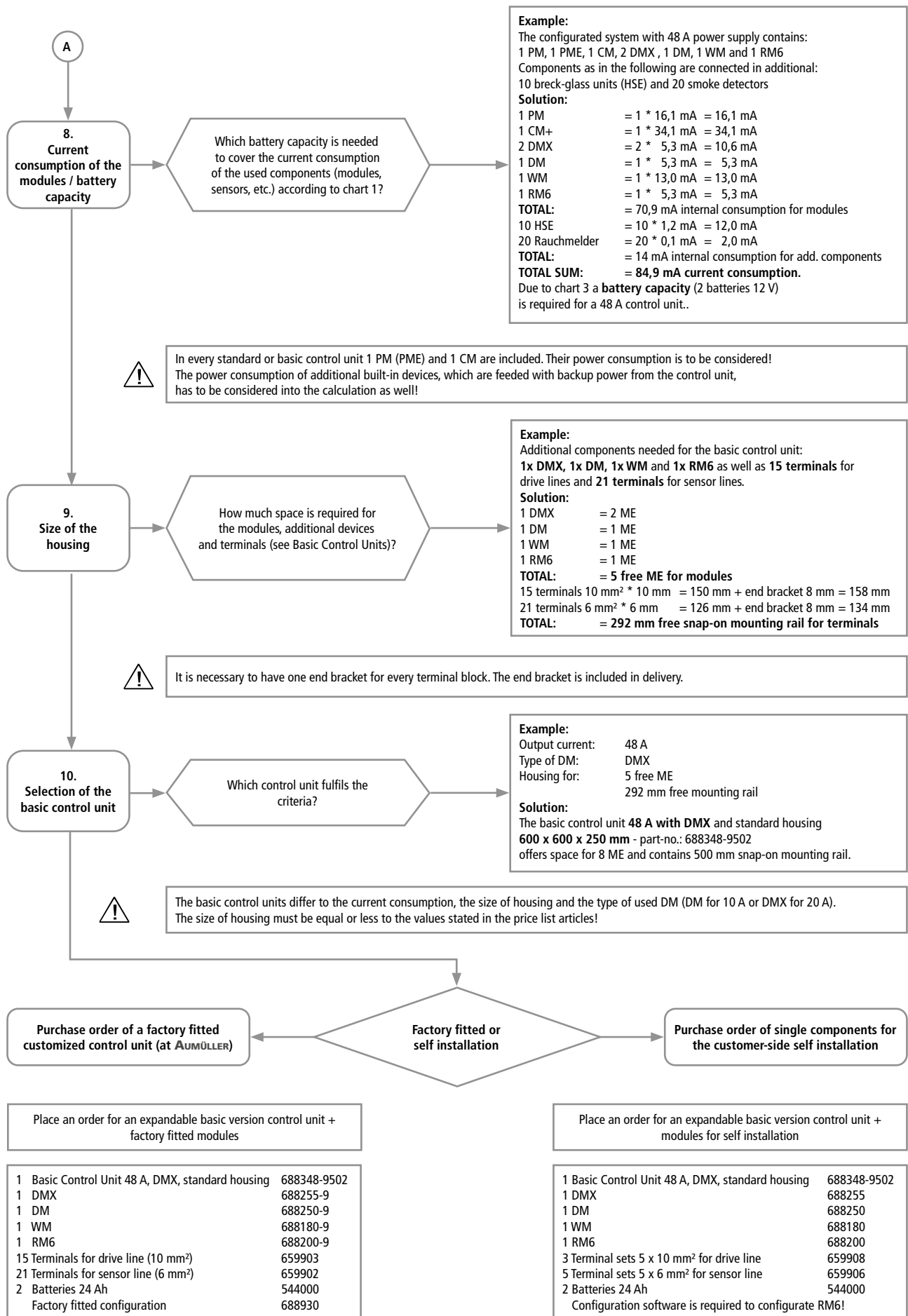
CHART 4: DIMENSIONS OF CONNECTION TERMINALS (pull spring feed through terminal blocks)

Terminal size [mm]	6 mm ²	10 mm ²	16 mm ²	End bracket
Cross section of the wire (rigid wire)	0,13–6 mm ²	2,5–10 mm ²	4–16 mm ²	✗
External width (feed through terminal)	6 mm	10 mm	12 mm	8 mm
Width of set with 5 terminals + end bracket	38 mm	58 mm	✗	✗

CHART 5: CALCULATION OF DRIVE CABLES

$A = 2 * L * I / (56 * \Delta U)$	
A	Cross section of wire [mm ²]
L	Length of the line [m]
I	Current of the drives [A]
ΔU	Voltage drop on the line [V] = max. 2 V





ORDER DATA

EMB 8000+ 5 A (400 x 500 x 200 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Max. power consumption:	322 W
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)
Output current:	5 A
Housing:	surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	400 x 500 x 200 mm
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, CM, DM
Prepared for batteries:	max. 2 x 12 V / 12 Ah (Capacity acc. to equipment)

5 A

Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space			
688305-9501	PM, CM, DM	ME 8	HS 300 mm			
688305-9503	PM, CM, IDM	ME 8	HS 300 mm			

EMB 8000+ 5 A (600 x 600 x 250 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Max. power consumption:	322 W
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)
Output current:	5 A
Connections and functions:	depends on extension
Housing:	surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 600 x 250 mm
Delivery state:	
SHEV groups:	1
Vent groups:	1
Prepared for batteries:	max. 2x 12 V / 12 Ah (Capacity acc. to equipment)

5 A

Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space			
688305-9601	PM, CM, DM	ME 19	HS 500 mm			
688305-9603	PM, CM, IDM	ME 19	HS 500 mm			

ORDER DATA

EMB 8000+ 10 A (400 x 500 x 200 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage: 230 V AC (195 – 253 V AC, 50/60 Hz)
 Max. power consumption: 506 W
 Output voltage: 24 V DC (20 – 28 V DC / 0,5 Vpp)
 Output current: **10 A**
 Connections and functions: depends on extension
 Housing: surface mounting, steel sheet, RAL 7035 (light grey)
 Dimensions (WxHxD): **400 x 500 x 200 mm**

10 A

Delivery state:

SHEV groups: 1
 Vent groups: 1
 Prepared for batteries: max. 2x 12 V / 12 Ah (Capacity acc. to equipment)

Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space
688310-9501	PM, CM, DM	ME 7	HS 300 mm
688310-9503	PM, CM, IDM	ME 7	HS 300 mm

EMB 8000+ 10 A (600 x 600 x 250 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage: 230 V AC (195 – 253 V AC, 50/60 Hz)
 Max. power consumption: 506 W
 Output voltage: 24 V DC (20 – 28 V DC / 0,5 Vpp)
 Output current: **10 A**
 Connections and functions: depends on extension
 Housing: surface mounting, steel sheet, RAL 7035 (light grey)
 Dimensions (WxHxD): **600 x 600 x 250 mm**

10 A

Delivery state:

SHEV groups: 1
 Vent groups: 1
 Prepared for batteries: max. 2x 12 V / 38 Ah (Capacity acc. to equipment)

Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space
688310-9601	PM, CM, DM	ME 19	HS 500 mm
688310-9603	PM, CM, IDM	ME 19	HS 500 mm

ORDER DATA

EMB 8000+ 24 A (600 x 600 x 250 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage: 230 V AC (195 – 253 V AC, 50/60 Hz)
 Max. power consumption: 805 W
 Output voltage: 24 V DC (20 – 28 V DC / 0,5 Vpp)
 Output current: **24 A**
 Connections and functions: depends on extension
 Housing: surface mounting, steel sheet, RAL 7035 (light grey)
 Dimensions (WxHxD): **600 x 600 x 250 mm**

24 A

Delivery state:

SHEV groups: 1
 Vent groups: 1
 Prepared for batteries: max. 2x 12 V / 38 Ah (Capacity acc. to equipment)

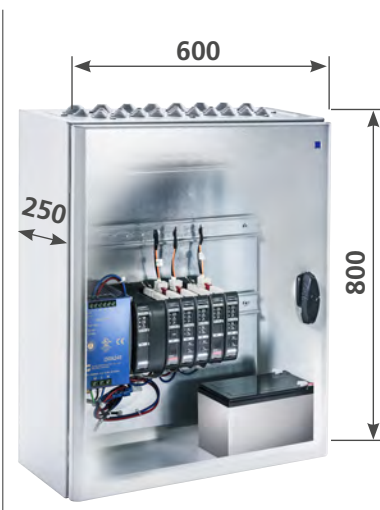
Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space			
688324-9501	PM, CM, DM	ME 19	HS 500 mm			
688324-9502	PM, CM, DMX	ME 18	HS 500 mm			
688324-9503	PM, CM, IDM	ME 19	HS 500 mm			

EMB 8000+ 24 A (600 x 800 x 250 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage: 230 V AC (195 – 253 V AC, 50/60 Hz)
 Max. power consumption: 805 W
 Output voltage: 24 V DC (20 – 28 V DC / 0,5 Vpp)
 Output current: **24 A**
 Connections and functions: depends on extension
 Housing: surface mounting, steel sheet, RAL 7035 (light grey)
 Dimensions (WxHxD): **600 x 800 x 250 mm**

24 A

Delivery state:

SHEV groups: 1
 Vent groups: 1
 Prepared for batteries: max. 2x 12 V / 38 Ah (Capacity acc. to equipment)

Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space			
688324-9601	PM, CM, DM	ME 26	HS 500 mm			
688324-9602	PM, CM, DMX	ME 25	HS 500 mm			
688324-9603	PM, CM, IDM	ME 26	HS 500 mm			

ORDER DATA

EMB 8000+ 48 A (600 x 600 x 250 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage: 230 V AC (195 – 253 V AC, 50/60 Hz)
 Max. power consumption: 1610 W
 Output voltage: 24 V DC (20 – 28 V DC / 0,5 Vpp)
 Output current: **48 A**
 Connections and functions: depends on extension
 Housing: surface mounting, steel sheet, RAL 7035 (light grey)
 Dimensions (WxHxD): **600 x 600 x 250 mm**

48 A

Delivery state:

SHEV groups: 1
 Vent groups: 1
 Prepared for batteries: max. 2x 12 V / 38 Ah (Capacity acc. to equipment)

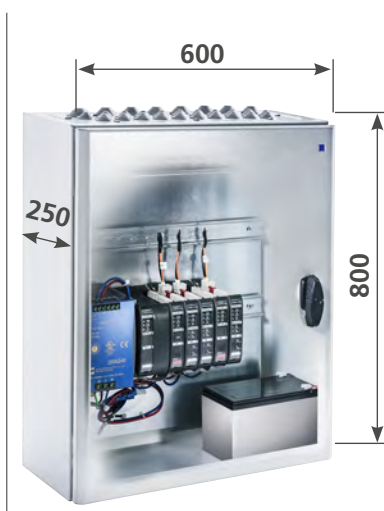
Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space			
688348-9501	PM, PME, CM, DM	ME 9	HS 500 mm			
688348-9502	PM, PME, CM, DMX	ME 8	HS 500 mm			
688348-9503	PM, PME, CM, IDM	ME 9	HS 500 mm			

EMB 8000+ 48 A (600 x 800 x 250 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage: 230 V AC (195 – 253 V AC, 50/60 Hz)
 Max. power consumption: 1610 W
 Output voltage: 24 V DC (20 – 28 V DC / 0,5 Vpp)
 Output current: **48 A**
 Connections and functions: depends on extension
 Housing: surface mounting, steel sheet, RAL 7035 (light grey)
 Dimensions (WxHxD): **600 x 800 x 250 mm**

48 A

Delivery state:

SHEV groups: 1
 Vent groups: 1
 Prepared for batteries: max. 2x 12 V / 38 Ah (Capacity acc. to equipment)

Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

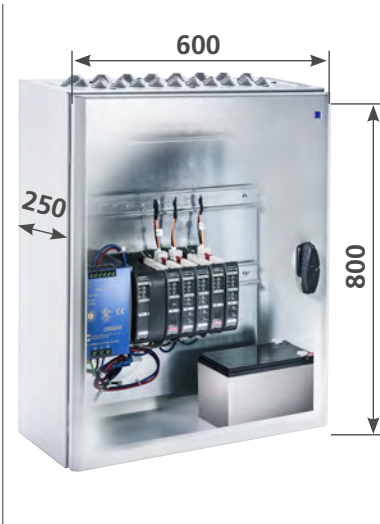
VERSIONS

Part.-No.	equip module	free module units	free space			
688348-9601	PM, PME, CM, DM	ME 17	HS 500 mm			
688348-9602	PM, PME, CM, DMX	ME 16	HS 500 mm			
688348-9603	PM, PME, CM, IDM	ME 17	HS 500 mm			

ORDER DATA

EMB 8000+ 72 A (600 x 800 x 250 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage: 230 V AC (195 – 253 V AC, 50/60 Hz)
 Max. power consumption: 2415 W
 Output voltage: 24 V DC (20 – 28 V DC / 0,5 Vpp)
 Output current: **72 A**
 Connections and functions: depends on extension
 Housing: surface mounting, steel sheet, RAL 7035 (light grey)
 Dimensions (WxHxD): **600 x 800 x 250 mm**

72 A

Delivery state:

SHEV groups: 1
 Vent groups: 1
 Prepared for batteries: max. 2x 12 V / 38 Ah (Capacity acc. to equipment)

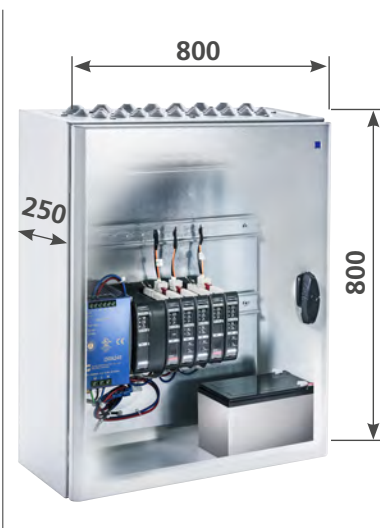
Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space			
688372-9501	PM, 2x PME, CM, DM	ME 15	HS 500 mm			
688372-9502	PM, 2x PME, CM, DMX	ME 14	HS 500 mm			
688372-9503	PM, 2x PME, CM, IDM	ME 15	HS 500 mm			

EMB 8000+ 72 A (800 x 800 x 250 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage: 230 V AC (195 – 253 V AC, 50/60 Hz)
 Max. power consumption: 2415 W
 Output voltage: 24 V DC (20 – 28 V DC / 0,5 Vpp)
 Output current: **72 A**
 Connections and functions: depends on extension
 Housing: surface mounting, steel sheet, RAL 7035 (light grey)
 Dimensions (WxHxD): **800 x 800 x 250 mm**

72 A

Delivery state:

SHEV groups: 1
 Vent groups: 1
 Prepared for batteries: max. 2x 12 V / 38 Ah (Capacity acc. to equipment)

Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space			
688372-9601	PM, 2x PME, CM, DM	ME 24	HS 700 mm			
688372-9602	PM, 2x PME, CM, DMX	ME 23	HS 700 mm			
688372-9603	PM, 2x PME, CM, IDM	ME 24	HS 700 mm			

ORDER DATA

EMB 8000+ 96 A (800 x 800 x 250 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage: 400 V AC (50/60 Hz)
 3 outer conductor

Max. power consumption: 3220 W

Output voltage: 24 V DC (20 – 28 V DC / 0,5 Vpp)

Output current: **96 A**

Connections and functions: depends on extension

Housing: surface mounting, steel sheet, RAL 7035 (light grey)

Dimensions (WxHxD): **800 x 800 x 250 mm**

96 A

Delivery state:

SHEV groups: 2

Vent groups: 12

Prepared for batteries: max. 4x 12 V / 38 Ah (Capacity acc. to equipment)

Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space			
688396-9501	2x PM, 2x PME, 2x CM, 2x DM	ME 10	HS 700 mm			
688396-9502	2x PM, 2x PME, 2x CM, 2x DMX	ME 9	HS 700 mm			
688396-9503	2x PM, 2x PME, 2x CM, 2x IDM	ME 10	HS 700 mm			

EMB 8000+ 96 A (800 x 1000 x 250 mm)

Application: Expandable basic version of modular control unit EMB 8000+, factory fitted and fully wired for customer-side self-configuration.



TECHNICAL DATA (Rated values)

Operating voltage: 400 V AC (50/60 Hz)
 3 outer conductor

Max. power consumption: 3220 W

Output voltage: 24 V DC (20 – 28 V DC / 0,5 Vpp)

Output current: **96 A**

Connections and functions: depends on extension

Housing: surface mounting, steel sheet, RAL 7035 (light grey)

Dimensions (WxHxD): **800 x 1000 x 250 mm**

96 A

Delivery state:

SHEV groups: 2

Vent groups: 2

Prepared for batteries: max. 4x 12 V / 38 Ah (Capacity acc. to equipment)

Features: The installer of the control unit has to examine and to respect on its sole responsibility that the total current consumption of the internal and external devices, the number of the used modules and cable entries match with the battery capacity and the system limitations.

VERSIONS

Part.-No.	equip module	free module units	free space			
688396-9601	2x PM, 2x PME, 2x CM, 2x DM	ME 17	HS 1000 mm			
688396-9602	2x PM, 2x PME, 2x CM, 2x DMX	ME 16	HS 1000 mm			
688396-9603	2x PM, 2x PME, 2x CM, 2x IDM	ME 17	HS 1000 mm			

ORDER DATA

DM – Drive-Module

Application: For the controlling of drives, gas-pressure generators and magnetic locks.



TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC	10 A
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)	
Internal consumption:	5,3 mA	
Output current:	10 A	
Housing (WxHxD):	100 x 120 x 22,5 mm, ABS, black	
Module units:	1 ME	
Inputs:	Vent. buttons (max. 10 pcs), feedback contact OPEN/CLOSE	
Outputs:	Drive line (gas-pressure generators / magnetic locks)	
Display:	Power, fault, alarm, running direction OPEN / CLOSE	
Control elements:	Front push button: OPEN / CLOSE	
Connections:	Plug-in terminals 1 mm ² (rigid wire), Drives: 2,5 mm ² , Blade terminals 6,3 mm: Power supply, socket and plug with cable for internal BUS	

Features: Drive line monitoring, fixing on 35-mm mounting rail. Configuration of the functional and performance features, which deviates from the standard systems via configuration software EMB 8000+.

VERSIONS

Part.-No.				
688250	Delivery in parcel	for customer self-installation		
688250-9	Module factory fitted	factory fitted and fully wired		

230 V-DM Vent – Drive-Modul Vent

Application: For the controlling of 230 V AC drives.



TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC	5 A
Output voltage:	230 V AC	
Internal consumption:	7,0 mA	
Output current:	5 A	
Housing (WxHxD):	100 x 120 x 22,5 mm, ABS, black	
Module units:	1 ME	
Inputs:	Vent. buttons (max. 10 pcs), feedback contact OPEN/CLOSE	
Outputs:	Drive line	
Display:	Power, fault, alarm, running direction OPEN / CLOSE	
Control elements:	Front push button: OPEN / CLOSE	
Connections:	Plug-in terminals 1 mm ² (rigid wire), Drives: 2,5 mm ² , socket and plug with cable for internal BUS	
Built-in fuse:	5AT 5x20 mm	

Features: Fixing on 35-mm mounting rail. Configuration of the functional and performance features, which deviates from the standard systems via configuration software EMB 8000+.

VERSIONS

Part.-No.				
688280	Delivery in parcel	for customer self-installation		
688280-9	Module factory fitted	factory fitted and fully wired		

ORDER DATA

DMX – Drive-Module

Application: For the controlling of drives, gas-pressure generators and magnetic locks.



TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC	20 A
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)	
Internal consumption:	5,3 mA	
Output current:	20 A	
Housing (WxHxD):	100 x 120 x 45 mm, ABS, black	
Module units:	2 ME	
Inputs:	Vent. buttons (max. 10 pcs), feedback contact OPEN/CLOSE	
Outputs:	Drive line (gas-pressure generators / magnetic locks)	
Display:	Power, fault, alarm, running direction OPEN / CLOSE	
Control elements:	Front push button: OPEN / CLOSE	
Connections:	Plug-in terminals 1 mm ² (rigid wire), Blade terminals 6,3 mm: Drives + power supply, socket and plug with cable for internal BUS	

Features: Drive line monitoring, fixing on 35-mm mounting rail.
Configuration of the functional and performance features, which deviates from the standard systems via configuration software EMB 8000+.

Note: Drive output for blade terminals 6,3 mm!
Purchased parts package: 3 wires 2,5 mm², 400 mm length with blade terminals.
Terminals always have to be ordered separately! (See options)

VERSIONS

Part.-No.				
688255	Delivery in parcel	for customer self-installation		
688255-9	Module factory fitted	factory fitted and fully wired		

IDM - Intelligent-Drive-Module

Application: For operating intelligent **AUMÜLLER S12 / S3** drives up to max. **10 A** total current.



TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC	10 A
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)	
Internal consumption:	6 mA	
Output current:	10 A	
Housing (WxHxD):	100 x 120 x 22,5 mm, ABS, black	
Module units:	1 ME	
Inputs:	Vent. buttons (max. 10 pcs), feedback contact OPEN/CLOSE 0 - 10 V analog input	
Outputs:	Drive line (AUMÜLLER S12 / S3)	
Display:	Power, fault, alarm, running direction OPEN / CLOSE	
Control elements:	Front push button: OPEN / CLOSE	
Connections:	Plug-in terminals 1 mm ² (rigid wire), Drives: 2,5 mm ² , Blade terminals 6,3 mm: Power supply, socket and plug with cable for internal BUS 0-10 V analog input	

Features: Drive line monitoring, fixing on 35-mm mounting rail.
Configuration of the functional and performance features, which deviates from the standard systems via configuration software EMB 8000+.

VERSIONS

Part.-No.				
688257	Delivery in parcel	for customer self-installation		
688257-9	Module factory fitted	factory fitted and fully wired		

ORDER DATA

SM – Sensor-Module

Application: For the connecting of automatic smoke detectors and break-glass units.



TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Detector line voltage:	24 V DC
Internal consumption:	12,6 mA
Housing (WxHxD):	100 x 120 x 22,5 mm, ABS, black
Module units:	1 ME
Inputs:	3 detector lines (max 10 detectors/line) Ventilation buttons (max. 10 pcs.)
Outputs:	1 feedback contact (change-over switch, 42 V / 0,5 A)
Display:	Power, fault, alarm
Control elements:	Front push button: Reset
Connections:	Plug-in terminals 1 mm ² (rigid wire), socket and plug with cable for internal BUS

Features: Überwachte detector lines, fixing on 35-mm mounting rail.
Configuration of the functional and performance features, which deviates from the standard systems via configuration software EMB 8000+.

VERSIONS

Part.-No.					
688150	Delivery in parcel	for customer self-installation			
688150-9	Module factory fitted	factory fitted and fully wired			

RM6 – Relay-Module

Application: For the transmitting of signals via volt free relay contacts.



TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Internal consumption:	5,3 mA
Housing (WxHxD):	100 x 120 x 22,5 mm, ABS, black
Module units:	1 ME
Outputs:	6 volt free relay contacts (change-over switch, 42 V / 0,5 A)
Display:	Operating, Fault
Connections:	Plug-in terminals 1mm ² (rigid wire), socket and plug with cable for internal BUS

Features: Fixing on 35-mm mounting rail.
Configuration of the functional and performance features, which deviates from the standard systems via configuration software EMB 8000+.

VERSIONS

Part.-No.					
688200	Delivery in parcel	for customer self-installation			
688200-9	Module factory fitted	factory fitted and fully wired			

ORDER DATA

IM-K – KNX-Module

Application: For communication between the **AUMÜLLER** control unit EMB 8000+ and the KNX-BUS-System.



TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Internal consumption:	6 mA
BUS current:	9 mA
Data points:	up to 16 lines with up to 16 data points
Housing (WxHxD):	100 x 120 x 22,5 mm, ABS, black
Module units:	1 ME
Inputs:	6 analog inputs KNX sided, KNX-BUS terminal
Outputs:	3 x potential free Relay contacts via KNX
Display:	Operation, fault, KNX-programming LED
Control elements:	KNX-programming button
Connections:	Plug-in terminals 1mm ² (rigid wire), socket and plug with cable for internal BUS

Features: Fixing on 35-mm mounting rail.
Configuration of the functional and performance features, which deviates from the standard systems via configuration software EMB 8000+, and an ETS-Software for KNX programming.

VERSIONS

Part.-No.					
688265	Delivery in parcel	for customer self-installation			
688265-9	Module factory fitted	factory fitted and fully wired			

WM – Weather-Module

Application: For the connecting of weather sensors.



TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Detector line voltage:	24 V DC
Internal consumption:	13,0 mA
Housing (WxHxD):	100 x 120 x 22,5 mm, ABS, black
Module units:	1 ME
Inputs:	Wind- and rain sensors, wind direction sensor, external signals
Outputs:	Volt free contact (change-over switch, 42 V / 0,5 A)
Display:	Power, fault, wind / rain activ
Connections:	Plug-in terminals 1,5 mm ² (rigid wire)


Features: Fixing on 35-mm mounting rail.
Configuration of the functional and performance features, which deviates from the standard systems via configuration software EMB 8000+.

VERSIONS

Part.-No.					
688180	Delivery in parcel	for customer self-installation			
688180-9	Module factory fitted	factory fitted and fully wired			

ORDER DATA

		Part.-No.	
Control-Module CM	688120		
Application: Module for customer self-installation into the SHEV Control Unit EMB 8000+ for the connecting of automatic smoke detectors and break-glass units. Monitors three fire alarm lines for triggering and malfunction. Processes signals from ventilation buttons.			



TECHNICAL DATA (Rated values)

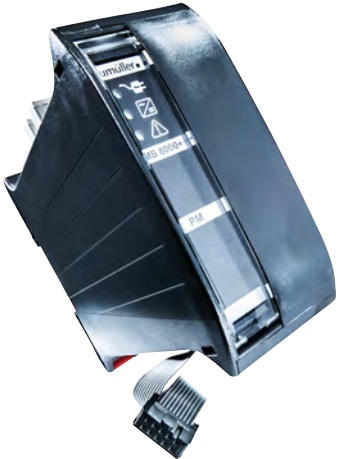
Operating voltage: 24 V DC
 Detector line voltage: 24 V DC
 Internal consumption: 34,1 mA

Housing (WxHxD): **100 x 120 x 22,5 mm**, ABS, black
 Module units: 1 ME
 Inputs: 3 Detector lines (max. 10 detectors / line)
 1 BUS-detector lines (max. 30 detectors)
 1 Ethernet port
 1 CAN interface
 Ventilation push buttons (max. 10 pieces)

Outputs: 1 Feedback contact (1x change-over switch, 42 V / 0,5 A)
 Display: Power, fault, alarm
 Control elements: Front push button: Reset
 Plug-in terminals 1 mm² (rigid wire),
 socket and plug with cable for internal BUS

- Feature/Equipment**
- Fixing on 35-mm mounting rail.
 - Parameterization of functional and performance features that differ from the standard via configuration software EMB 8000+.
 - Belongs to the basic equipment of a Control Unit and must be connected directly with the Power-Module **PM** via **BUS** cable.

Power-Module PM	688050		
Application: Module for customer self-installation into the SHEV Control Unit EMB 8000+ for monitoring of the main power supply. Monitors the main power supply. Checks the accumulator charging voltage. Switches to back-up accumulator operation during power failure.			



TECHNICAL DATA (Rated values)

Operating voltage: 24 V DC
 Internal consumption: 16,0 mA

Housing (WxHxD): **100 x 120 x 45 mm**, ABS, black
 Module units: 2 ME
 Display: Power, fault, status
 Connections: Plug-in terminals 1 mm² (rigid wire),
 Socket and plug with cable for internal BUS

- Feature/Equipment**
- Fixing on 35-mm mounting rail.
 - Parameterization of functional and performance features that differ from the standard via configuration software EMB 8000+.
 - Has a connection for a sensor „temperature-dependent charging of back-up accumulators“.

ORDER DATA

Part.-No.

Power-Module PME

688100

Application: Module for customer self-installation into the SHEV Control Unit EMB 8000+ for monitoring of the main power supply. Monitors the main power supply for more than one switching power supply. Switches to back-up accumulator operation during power failure.



TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Internal consumption:	0 mA
Housing (WxHxD):	100 x 120 x 45 mm, ABS, black
Module units:	2 ME
Display:	Power, status
Connections:	Socket and plug with cable for internal BUS

Feature/Equipment

- Fixing on 35-mm mounting rail.

ORDER DATA

TERMINALS TO SEND					
Part.-No.					
659941	Terminals-Set 5 x 2,5 mm ²	for customer self-installation			
659942	Terminals-Set 5 x 6,0 mm ²	for customer self-installation			
659943	Terminals-Set 5 x 10 mm ²	for customer self-installation			
659944	Terminals-Set 5 x 16 mm ²	for customer self-installation			

TERMINALS TO BE INSTALLED FROM THE FACTORY					
Part.-No.					
659945-9	Single terminal DS	2,5 mm ²	factory fitted and fully wired		
659946-9	Single terminal	6 mm ²	factory fitted and fully wired		
659947-9	Single terminal	10 mm ²	factory fitted and fully wired		
659948-9	Single terminal	16 mm ²	factory fitted and fully wired		
669937-9	Terminals-Set ML	5 x 6 mm ²	factory fitted and fully wired		
669938-9	Terminals-Set ML	5 x 10 mm ²	factory fitted and fully wired		
669939-9	Terminals-Set ML	5 x 16 mm ²	factory fitted and fully wired		
669949-9	Terminals-Set ML 230 V	5 x 4 mm ²	factory fitted and fully wired		
669940-9	Terminals-Set HSE	2,5 mm ²	factory fitted and fully wired		
669941-9	Terminals-Set RM	2,5 mm ²	factory fitted and fully wired		
669942-9	Terminals-Set LT	2,5 mm ²	factory fitted and fully wired		
669943-9	Terminals-Set LT with display	2,5 mm ²	factory fitted and fully wired		
669944-9	Terminals-Set relays	2,5 mm ²	factory fitted and fully wired		
669945-9	Terminals-Set blocking contact	2,5 mm ²	factory fitted and fully wired		
669946-9	Terminals-Set BUS-HSE	2,5 mm ²	factory fitted and fully wired		
669947-9	Terminals-Set WM	2,5 mm ²	factory fitted and fully wired		
669948-9	Terminals-Set CAN	2,5 mm ²	factory fitted and fully wired		

SERVICE					
Part.-No.					
240	Plan creation	Wiring diagram per SHEV / ventilation group			
688930	Programming	Programming an EMB8000+ in the factory			
SL125	Online commissioning support	Price per hour			

ORDER DATA

Part.-No.

Surge arrester Type 3

Application: Surge arrester Type 3 for Control Unit output 1-phase or 3-phase - with additional detector contact.
For TS35; cross section of wire min. 1,5mm²



TECHNICAL DATA (Rated values)

Nominal voltage: 230 V AC
Version: Type 3 / Class III
Function display: green / red
Ambient temperature range: -40°C +80°C
Connection cross-section: max. 4 mm²
Protection rating: IP20

VERSIONS

Part.-No.					
659977-9	1-phase	Module factory fitted - factory fitted and fully wired			
659978-9	3-phase	Module factory fitted - factory fitted and fully wired			

Automatic circuit breaker

Application: Automatic circuit breaker for interrupting the circuit in the event of a short circuit or overload.
In the versions 6 A or 16 A or 25 A.



TECHNICAL DATA (Rated values)

Nominal voltage: 230 V AC / 400 V AC (depending on the versions)
Housing: Insulation group II, RAL 7035
Ambient temperature range: -25°C +55°C
Connection cross-section: flexible with wire end ferrule 0,75 ... 25 mm²
(depending on the versions)
Protection rating: IP20

VERSIONS

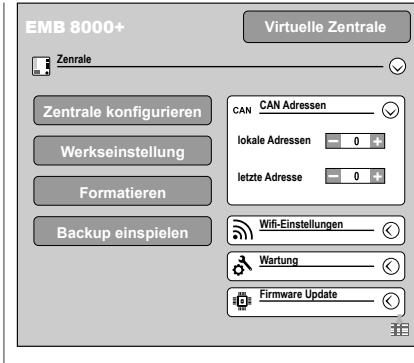
Part.-No.					
669970-9	B 6A 1-pole	Module factory fitted - factory fitted and fully wired			
669971-9	B16A 1-pole	Module factory fitted - factory fitted and fully wired			
669972-9	B25A 1-pole	Module factory fitted - factory fitted and fully wired			
669973-9	B16A 3-pole	Module factory fitted - factory fitted and fully wired			

ORDER DATA

Part.-No.

Software licence EMB8000+ Alpha

Application: Software licence for configuration, integration in networks and maintenance of EMB 8000+.



TECHNICAL DATA

System requirements:

Microsoft® Windows 10 - 64 Bit

Note

AUMÜLLER grants licences only after attending a product training

SOFTWARE / LICENSE / PROGRAMMING

Licence for 1 month		688911		
Licence for 3 years		688913		

ORDER DATA

Part.-No.

Accumulators

Application: Maintenance of standby operation of SHEV control units over a period of 72 hours of main power supply loss.



TECHNICAL DATA

Type:	Lead storage battery
Output voltage:	12 V DC
Capacity:	see order data
Lifetime:	4 years (normal conditions)
Connections:	7 – 12 Ah: blade terminals 4,8 mm 17 – 38 Ah: screw terminals M5
Housing:	plastic, impact- and break-resistant

Feature/Equipment

- Maintenance free operation, long lasting durability, high charging performance and long-cycle stability
- Disposal due to local, national or international rules (WEEE)

NOTE: Always 2 batteries are required per control unit!

OPTIONS

for control units with backup power supply

7 Ah, 12 V	1 Pcs.	542000			
12 Ah, 12 V	1 Pcs.	542200			
17 Ah, 12 V	1 Pcs.	543000			
24 Ah, 12 V	1 Pcs.	544000			
38 Ah, 12 V	1 Pcs.	545000			

Relay interface

Application: Relay for the connection of 230 V AC drives to a 24 V DC drive line, triggering by pole change of 24 V DC drive line.



TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC, +/-20% (max. 2 Vpp)
Standby consumption:	<100 mA
Switching capacity:	230 V AC / 3 A
Drive type:	S2, S3, S12, MP
Ambient temperature range:	0 ... +70 °C
Housing:	Surface mounting, plastic, white
Dimensions (WxHxD):	98 x 98 x 58 mm
Connections:	Screw terminals 4,0 mm ² (rigid wire)
Protection rating:	IP54

Feature/Equipment

- Connection to the **drive line** of SHEV or natural ventilation control units

VERSIONS

Part.-No.					
670071	Delivery in parcel	for customer self-installation			
670075-9	Module factory fitted	factory fitted and fully wired. Including 5 terminals 4,0 mm ²			

ACCESSORIES

Part.-No.		VE			
500001	Wall fixing brackets IP54	4 piece			

ORDER DATA

		Part.-No.		
Time switch		659927-9		
Application: For the time controlled opening / closing of ventilation lines, with 30 day- and week-programm steps.				



TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC
Contact type:	change-over switch
Switching capacity:	230 V AC / 16 A
Housing:	plastic, white, for 35 mm top rail
Dimensions (WxHxD):	17,6 x 63 x 90 mm
Connections:	Screw terminal 1,5 mm ² (rigid wire)
Protection rating:	IP20

Feature/Equipment

- Connection to the **ventilation input** of SHEV or natural ventilation Control Units
- Module factory fitted / factory fitted and fully wired

Temperature sensor				
Application: Temperature sensor PM - conductor with connection piece for the Control Unit EMB 8000+ .				



TECHNICAL DATA (Rated values)

Hardware:	REV.1
Bootloader:	BL V0.0.10
Application:	V0.0.17
Cable:	0,09mm ² - AWG28; RM1,27
Certification:	CE

Feature/Equipment

- Conductor with connection piece

VERSIONS

for SHEV Control Units of emergency power supply		Part.-No.		
1 piece	PM 0,4 m	680055		
1 piece	PM 0,9 m	680056		

For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.