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The Products

PRODUCT OVERVIEW CONTROL UNITS 12.2016

Valid from 01.12.2016

IMPORTANT NOTE

Although we have done everything we can to ensure that the date and information within this document is correct and up-to-date as possible, we cannot guarantee that there are not any errors. Be aware that the information and data contained in this document can be altered without prior and notice.

The publication of this document supersedes all previous editions.
In pursuance of our policy of continuing product improvement, the equipment described in this publication is subject to changes without notification.

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Aumüller Aumatic GmbH
Gemeindewald 11
86672 Thierhaupten / Germany

Tel.: +49(0)8271–81 85 0
Fax: +49(0)8271-81 85 250
E-Mail: info@aumueller-gmbh.de
Internet: www.aumueller-gmbh.de

LIST OF ABBREVIATIONS

aP	Surface mounting
WxHxD	Width x Height x Depth
CAN	CAN-Bus
CM	Control Module
DIN	German Institute for Standardisation
DM	Drive Module
EN	European Standard
LZ	Time of delivery
PG	Price group
PM	Power Module
net	Prices not discountable
RAL	Central European Colour Standard
RAS	Aspirating smoke detector
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

FIGURES

€	Euro
AC	Alternating current (50Hz / 60Hz)
DC	Direct current
I	Electric current
L	Length
ME	Module space unit (1 ME = 23 mm)
NO	Normal open switch
NC	Normal close switch
P	Electric power
U	Electric voltage
Um	Change over switch

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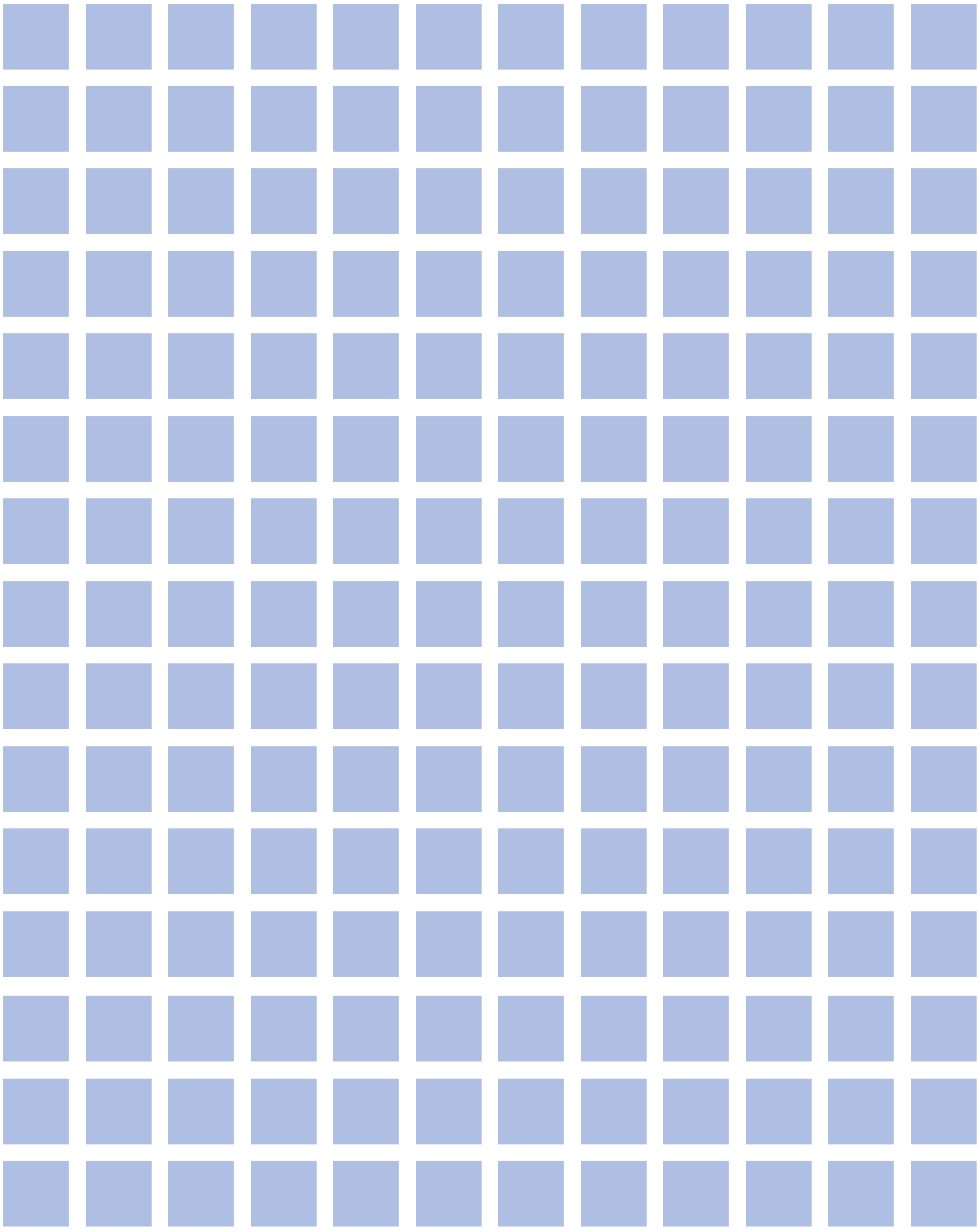
1 SHEV – Compact Control Units



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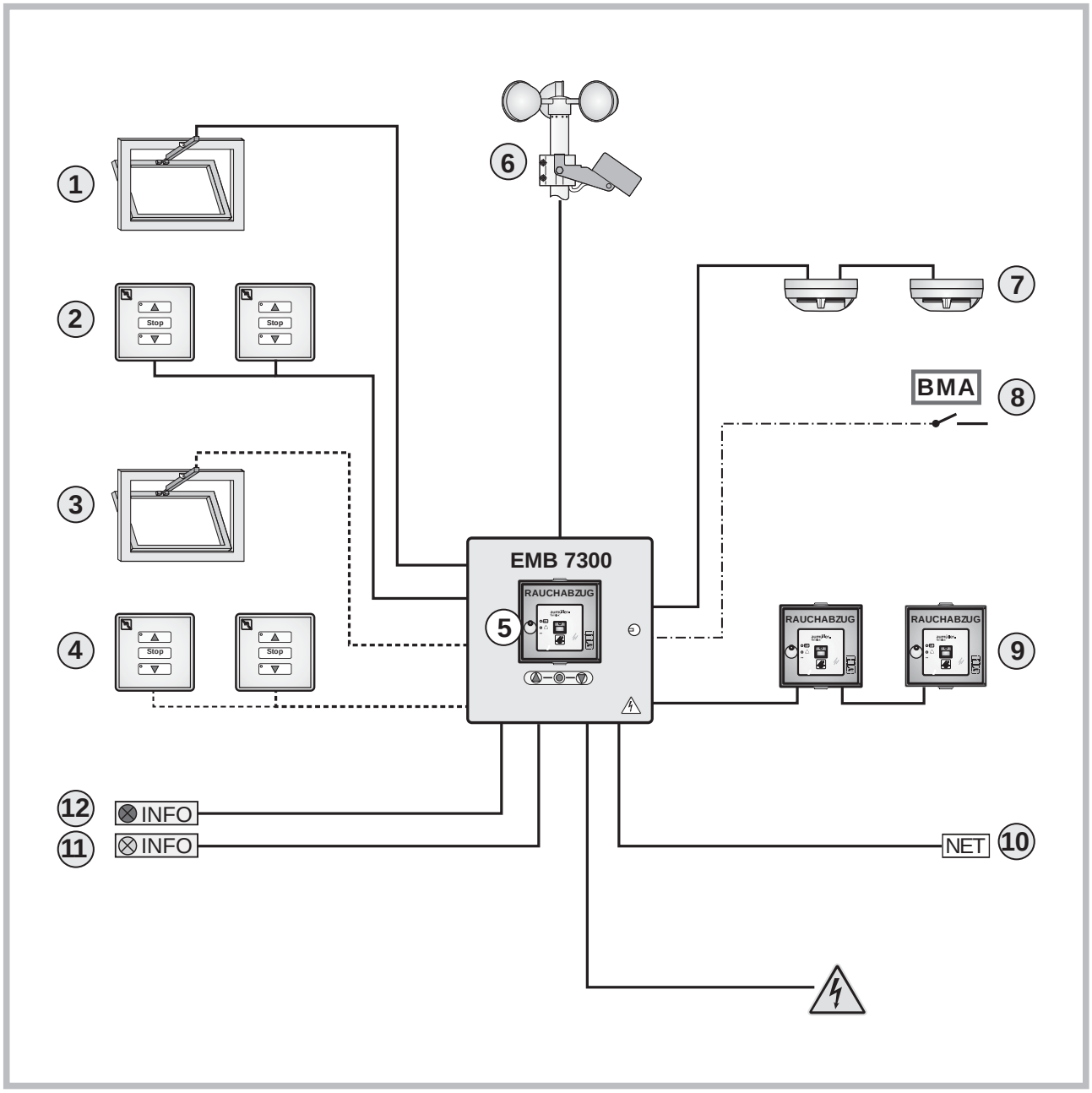
PRODUCT FEATURES EMB7300

- Controls 24 V DC drives for smoke and heat exhaust in case of fire and for natural ventilation
- Control panel compliant with prEN 12101-9
- Power supply compliant with EN 12101-10
- Low ripple voltage output (< 2 Vpp) - compatible with all common drives
- 1 SHEV-Group output with 1 (optional 2) monitored ventilation line(s)
- Removable terminals for easy connection of signal lines
- Connection of electric motors, compressed gas generator and retention magnets
- 2 detector line inputs with line monitoring to connect:
  - Manual break-glass units (HSE)
  - Automatic smoke and heat detectors
- 1 Ventilation line input (optionally 2) with OPEN-STOP-CLOSE function
- 2 Plug-in-Module slots for signal monitoring and transduction (emergency open, fault)
- 1 Network port for connection and integration in building management systems (LON, KNX)
- Direct connection input for wind and rain sensors
- Clear operating and display elements
- Extensive setting options of basic functions via „EMB compact“ software
- Housing (optional) with integrated break-glass unit and ventilation button (2,5 A / 5 A)
- Lead frame usable for flash mounting (2,5 A / 5 A)
- Cable entry from above, below or behind of the housing
- Prepared for connection of backup batteries (72 hours)
- VdS certification no.: G 514001

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**.

SOFTWARE FUNCTIONS

Functions	Standard	License
Set ventilation inputs from dead-man to jog-switch mode (in OPEN and/or CLOSE direction)	✓	✓
Set failures of drive line monitoring as alarm signal	✓	✓
Disable alarm function caused by failures of detector line monitoring	✓	✓
Adjust switching threshold of wind sensor	✓	✓
Set drive run time and opening stroke limit for ventilation purpose	✓	✓
Enable and set automatic time-controlled drive line closing mode for ventilation purpose	✓	✓
Enable drive line closing mode on primary power loss	✓	✓
Set accoustic or optical warning signals (additional hardware required)	✓	✓
Display, save and print the status of the system	✓	✓
Firmware update	✓	✓
Set emergency close button from jog-switch mode to dead-man mode	✓	✓
Set next service and maintenance date (password protected)	--	✓
Set switch-on delay time for wind sensor	--	✓
Set switch-off delay time for wind sensor	--	✓
Disable retriggering of drive lines in alarm mode	--	✓
Active / disable manual breakglass unit lines (HSE)	--	✓
Active / disable smoke detector lines	--	✓
Enable smoke detector line input to be controlled by fire alarm systems “FAS”	--	✓
Set automatic switch-off time for drive lines	--	✓
EMERGENCY-CLOSE button while the smoke detector is active / disable	--	✓
Set drive running direction in alarm mode from open to close	--	✓
Set options of relay card REL65 (not in package)	--	✓
Set alarm functions for faults caused by each individual drive line (only 2 drive line version)	--	✓
Reset switch positions to the status before the weather control were activated	--	✓
Integration into digital networks with additional Plug-in Interface-Modules (LON, CAN)	--	✓
Function natural ventilation contol unit	--	✓
Setting operatingmodus (retention magnet / standard drive / pressure gas)	--	✓
SHEV dead-man	--	✓
Ventilation push button setting parallel operation	--	✓
Maintenance timer adjust	--	✓
OPEN case of line failure	--	✓
Activate with Reset button EMERGENCY-CLOSE	--	✓
Configure Content collective fault	--	✓



CAPTION

① Output for drive line 1, 24 V DC for smoke and heat exhausting and 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 EMB 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)
⑫ Output for signal transduction 2 (Plug-in-Module REL65 required)
----- only available for EMB 7300 5 A – 0102; 10 A – 0102; 20 A – 0102

ORDER DATA

	Part.-No.			
EMB7300 2,5 A 0101	**683020-0101**			

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

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Max. power consumption:	115 W
Output voltage:	24 V DC (20 – 28 V DC / 2 Vpp)
Output current:	**2,5 A**
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 mm² / drive line: 4 mm² (rigid wire)
VdS certification no.:	G 514001 (without or with orange SHEV button)
Motherboard:	**1 SHEV group / 1 Vent groups**

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** maintanance-free back-up batteries **2x 12 V / 2,3 Ah** (Part. Nr. 541000)

OPTIONS

Version with break-glass unit (HSE) and ventilation button on the front of the housing			Part.-No.			
EMB7300 2,5 A 0101-T	HSE red	(similar to RAL 3000)	**683021-0101**			
EMB7300 2,5 A 0101-T	HSE yellow	(similar to RAL 1018)	**683022-0101**			
EMB7300 2,5 A 0101-T	HSE grey	(similar to RAL 7035)	**683023-0101**			
EMB7300 2,5 A 0101-T	HSE blue	(similar to RAL 5009)	**683024-0101**			
EMB7300 2,5 A 0101-T	HSE orange VdS certification no.: G 514001	(similar to RAL 2011)	**683025-0101**			

ORDER DATA

	Part.-No.				
EMB7300 5 A 0101	**683050-0101**				

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

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Max. power consumption:	460 W
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)
Output current:	**5,0 A**
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 mm² / Drives: 6 mm² (rigid wire)
VdS certification no.:	G 514001 (without or with orange SHEV button)
Motherboard:	**1 SHEV group / 1 Vent group**

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** maintanance-free backup batteries **2x 12 V / 2,3 Ah** (Part. Nr. 541000)

OPTIONS

Available with brea kglass unit and,ventilation button on housing cover			Part.-No.
EMB7300 5 A 0101-T	HSE red	(similar to RAL 3000)	**683051-0101**
EMB7300 5 A 0101-T	HSE yellow	(similar to RAL 1018)	**683052-0101**
EMB7300 5 A 0101-T	HSE grey	(similar to RAL 7035)	**683053-0101**
EMB7300 5 A 0101-T	HSE blue	(similar to RAL 5009)	**683054-0101**
EMB7300 5 A 0101-T	HSE orange VdS certification no.: G 514001	(similar to RAL 2011)	**683055-0101**

EMB7300 5 A 0102		**683050-0102**	

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

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Max. power consumption:	460 W
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)
Output current:	**5,0 A**
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 mm² / Drives: 6 mm² (rigid wire)
VdS certification no.:	G 514001
Motherboard:	**1 SHEV group / 2 Vent groups**

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** maintanance-free backup batteries **2x 12 V / 2,3 Ah** (Part. Nr. 541000)

ORDER DATA

	Part.-No.			
Flash housing EMB7300 2,5 A / 5 A	**683111**			

Application: Housing for flush mouting of EMB7300 2,5 A or 5 A in its own housing 225 x 285 x 111 mm.

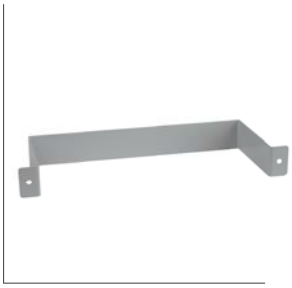
TECHNICAL DATA

Material:	Steel sheet
Colour:	RAL7035 (grey)
Flush housing:	
Dimensions (WxHxD):	254 x 314 x 96 mm
Plaster frame:	
Dimensions (WxHxD):	282 x 314 x 48 mm
PE-Connecting cable:	160 mm with blade terminals 6,3 mm
Polystyrene plate:	240 x 320 x 93 mm

Feature/Equipment
- Plaster frame with 4x rounded head screws M3x6, 4x plain washer A4
- Flush housing with 4 bolt spacer and nuts M5, 4x stainless steel mounting brackets 13 x 13 x 1,4 mm, 8x metal sheet screws ST3, 5x6,5
- Polystyrene plate to avoid damage during plastering of the wall

Accumulator battery holder	**683250**				

Application: Holder to fix the back-up Prepared for batteries 12V / 2,3 Ah within the housing of control units.



TECHNICAL DATA

Material:	Steel
Colour:	RAL9016 (white)

Feature/Equipment
- Suitable for **EMB7300 2,5 A** and **EMB7300 5 A**

OPTIONS

Configuration software for extended scope of functions	Part.-No.			
First software license (3 years) with training	**683260**			
Follow-up software license (3 years)	**683261**			
Configuration of customized functions at the factory	**683262**			

ORDER DATA

	Part.-No.			
EMB7300 10 A 0101	**683010-0101**			

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

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**
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 mm² / Drives: 6 mm² (rigid wire)
VdS certification no.:	G 514001
Motherboard:	**1 SHEV group / 1 Vent group**

Feature/Equipment
- Further settings (e.g. maintenance period) only available with extra cost software license
- Cable entry from above / below
- Prepared for **2** maintanance-free backup batteries **2x 12 V / 7 Ah** (Part. Nr. 542000)

EMB7300 10 A 0102	**683010-0102**			

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

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**
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 mm² / Drives: 6 mm² (rigid wire)
VdS certification no.:	G 514001
Motherboard:	**1 SHEV group / 2 Vent groupss**

Feature/Equipment
- Further settings (e.g. maintenance period) only available with extra cost software license
- Cable entry from above / below
- Prepared for **2** maintanance-free backup batteries **2x 12 V / 7 Ah** (Part. Nr. 542000)

ORDER DATA

	Part.-No.			
EMB7300 20 A 0102	**683220-0102**			

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

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:	**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 mm² / Drives: 6 mm² (rigid wire)
VdS certification no.:	G 514001
Motherboard:	**1 SHEV group / 2 Vent groups**

Feature/Equipment

- Further settings (e.g. maintenance period) only available with extra cost software license
- Cable entry from above / below
- Prepared for **2** maintanance-free backup batteries **2x 12 V / 7 Ah** (Part. Nr. 542000)

ORDER DATA

	Part.-No.
REL65	**650200**

Application: Plug-in card for EMB7300 with relay for forwarding the alarm or fault signal to external devices.

TECHNICAL DATA

Rated voltage:	24 V DC
Ambient temperature range:	-5°C … + 40°C
Housing:	w/o (assembled PCB)
Dimensions (WxHxD):	20 x 40 x 13 mm
Volt free contac:	1 Change-over switch, max. 48 V / 1A
Connection terminals:	3x 1,5 mm² (rigid wire)

Feature/Equipment
- Connector for plugging the relay card to the motherboard

BI-K - KNX Interface LZ1 / LZ6 / EMB 7300	**683999**

Application: Plug-in card for communication between the controllers Aumüller LZ1, LZ6 and EMB 7300 to the KNX BUS system.

TECHNICAL DATA

Rated voltage:	24 V DC
Ambient temperature range:	-5°C … + 40°C
Relative humidity:	(no condensate) 5% … 90%
Data points:	up to 16 pieces per drive line
BUS current:	9mA
Housing:	without (assembled PCB)
Dimensions (WxH):	51 x 42 mm
Connection terminals:	2 x 2 x 0,8 mm (KNX-BUS-Terminal)

Feature/Equipment
- Data of the control (e.g. drive position) are sent on the KNX-BUS.
- The controls received direct orders from the KNX-BUS (e.g. position information, weather data).

LON73	**683243**

Application: Plug-in network card for EMB7300 for connection and integration in LON-networks.

TECHNICAL DATA

Rated voltage:	24 V DC
Ambient temperature range:	-5°C … + 40°C
Relative humidity:	(no condensate) 5% … 90%
Housing:	w/o (assembled PCB)
Dimensions (WxHxD):	40 x 50 x 13 mm
LON-Transceiver:	LPT10
Connection terminals:	Clamping range 0,6 – 0,8 mm (rigid wire) (included in delivery)

Feature/Equipment
- Connector for plugging the network card to the motherboard
- Plastic holder for fixing the plug-in card on the motherboard
- Configuration of the functional performances of connected control units via LON-Maker or compatible software

OPTIONS

LON programming	
Programming the LON73 - 2x EMB7300 master / slave	**683270**

ORDER DATA

	Part.-No.			
WR-Set Type 7x/8x – Wind and Rain Sensor Set	**482100**			

Application: Sensors for wind and rain to work with an evaluation unit WRAG2 or Typ IV, a WM Weather-Module or directly with a SHEV control unit, for closing and blocking the natural ventilation under bad weather conditions.

TECHNICAL DATA (Rated values)

Rated voltage:	24 V DC (+/- 20%)
Rain sensor Type III – heated sensor surface, switch-off delay approx. 5 min.	
Contact:	1 Change-over switch, max. 48 V / 5A
Current consumption:	<150 mA
Housing:	Surface mounting, ABS black with stainless steel bracket
Dimensions (WxHxD):	100 x 85 x 172 mm
Connection cable:	Non-halogen cable, approx. 4 m
Volt free contac:	1 Change-over switch, max. 48 V / 1A
Wind sensor Type III – Anemometer with 3 impact resistant wind cups (PA6)	
Measuring principle:	Pulse generator
Dimensions:	250 x 250 x 80 mm
Connection cable:	Non-halogen cable, approx. 4 m

Feature/Equipment

- Set including: Wind sensor Type III (Part.-No. 482021), rain sensor Type III (Part.-No. 480210), clamp ring (Part.-No. 515950), aluminium bracket for pole or wall mounting (Part.-No. 482093), without mounting screws

USB-Cable	**683253**			

Application: USB-Cable for connecting a PC with EMB7300 to configurate basic and special functions.

TECHNICAL DATA

USB-Standard:	USB2
Cable length:	3 m

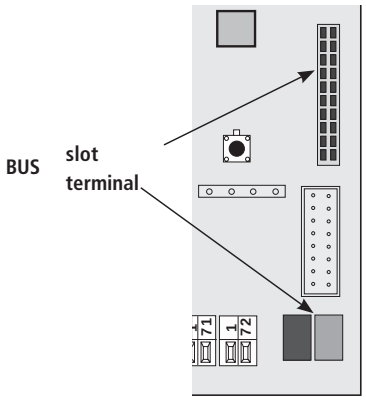
Feature/Equipment

- Software „EMB-Compact“ required!

OPTIONS

Configuration software for extended scope of functions	Part.-No.
First software license (3 years) with training	**683260**
Follow-up software license (3 years)	**683261**
Configuration of customized functions at the factory	**683262**
Backup batteries for EMB7300	
2,2 / 2,3 Ah, 12 V 1 pcs.	**541000**
7 Ah, 12 V 1 pcs.	**542000**

Connection:
BI-K to compact control Unit EMB 7300



ORDER DATA

	Part.-No.			
7xPSB	**683256**			

Application: Plug-in card for EMB7300 for connection and powering of external consumers with **24 V DC voltage**.

TECHNICAL DATA

Rated voltage:	24 V DC
Ambient temperature range:	-5°C … + 40°C
Output current:	**0,5 A**
Housing:	w/o (assembled PCB)
Dimensions (WxHxD):	20 x 32 x 13 mm
Connection terminals:	Screw terminals 1,5 mm² (rigid wire)
Voltage tap:	2 terminals 24 V DC backup voltage supplied 2 terminals 24 V DC mains voltage supplied

Feature/Equipment
- Connector for plugging the card to the motherboard
- Screw-type-terminal 4 x 1,5 mm²

NOTE: The overall power consumption of connected external consumers is to be considered!

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2 SHEV – Modular Control Units

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PRODUCT FEATURES EMB8000

- 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
- 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 transsmision 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 funktions 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

IMPORTANT NOTES

The modular design of EMB8000 in combination which digital network technology make it possible for our customers to size, assemble and configures the control units by themselves. For this AUMÜLLER is providing the required hardware and software.

AUMÜLLER also offers factory fitted standard control units with preprogrammed basic functions. These control units and control devices are marked accordingly in this list.

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 Backup Prepared for batteries 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 batteries – 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 or DMX for connection of 24 V DC drives with a total current consumption of 10 A respectively 20 A and 1 ventilation button input line

PLANNING NOTES

The Build-in-Modules of EMB8000 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 felxibel 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 2 or 3 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 sizing and equipment of the control units EMB8000 depend on:

- Number of smoke detectors per CM / SM or per control unit
- Number of break-glass units per CM / SM or per contrul unit
- Number of networked control units via CAN-BUS
- Maximum equipment with modules according to the internal power comsumption, the size of main power supply and the capacity of back-up batteries
- Number of cable entries according to the size of housing and the use of the inputs and ouputs of the modules

LIMITATION OF FACTORY FITTED STANDARD CONTROL UNITS

On the pages in the following you will find a variety of factory fitted standard control units. The selection was made under consideration of all design aspects which are neccessary for planning as: maximum module equipment depending on the current consumption, size of the power supply, capacity of the backup batteries, maximum number of the cable entries which are depending on the dimensions of the housing and the use of the module inputs and outputs. When using factory fitted standard control units please note the limitations as in the following:

- Number of smoke detectors per CM / SM 10
- Number of break-glass units per CM / SM 10
- Number of smoke detectors per control unit 60
- Number of break-glass units per control unit 60
- Number of networked control units via CAN-BUS 35

1. The order of the module assembly is pre-specified
2. The factory expension of these control units with additional modules is not possible
3. The customer-side installation of additional modules within the limitations of the control unit is possible

ORDER DATA

	Part.-No.
EMB8000 5 A – 0101	**680305-0101**

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	400 x 500 x 200 mm
SHEV groups:	1 (1 CM)
Vent groups:	1 (1 DM)
Prepared for batteries:	2 x 12 V / 7 Ah (Part.-No. 542000)

Module order PM – CM – 1xDM

EMB8000 5 A – 0102	**680305-0102**

SHEV groups:	1 (1 CM)
Vent groups:	2 (2 DM)
Prepared for Prepared for batteries:	2 x 12 V / 7 Ah (Part.-No. 542000)

Module order PM – CM – 2xDM

EMB8000 5 A – 0103	**680305-0103**

SHEV groups:	1 (1 CM)
Vent groups:	3 (3 DM)
Prepared for batteries:	2 x 12 V / 12 Ah (Part.-No. 542200)

Module order PM – CM – 3xDM

EMB8000 5 A – 0105	**680305-0105**

SHEV groups:	1 (1 CM)
Vent groups:	5 (5 DM)
Prepared for batteries:	2 x 12 V / 12 Ah (Part.-No. 542200)

Module order PM – CM – 5xDM

EMB8000 5 A – 0202	**680305-0202**

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	2 (2 DM)
Prepared for batteries:	2 x 12 V / 12 Ah (Part.-No. 542200)

Module order PM – CM – 1xDM – SM – 1xDM

EMB8000 5 A – 0203	**680305-0203**

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	3 (3 DM)
Prepared for batteries:	2 x 12 V / 12 Ah (Part.-No. 542200)

Module order PM – CM – 2xDM – SM – 1xDM

ORDER DATA

	Part.-No.
EMB8000 10 A – 0101	**680310-0101**

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	400 x 500 x 200 mm
SHEV groups:	1 (1 CM)
Vent groups:	1 (1 DM)
Prepared for batteries:	2 x 12 V / 12 Ah (Part.-No. 542200)
VdS certification no.:	G 512005

Module order PM – CM – 1xDM

EMB8000 10 A – 0102	**680310-0102**

SHEV groups:	1 (1 CM)
Vent groups:	2 (2 DM)
Prepared for batteries:	2 x 12 V / 12 Ah (Part.-No. 542200)

Module order PM – CM – 2xDM

EMB8000 10 A – 0103	**680310-0103**

SHEV groups:	1 (1 CM)
Vent groups:	3 (3 DM)
Prepared for batteries:	2 x 12 V / 12 Ah (Part.-No. 542200)

Module order PM – CM – 3xDM

EMB8000 10 A – 0104	**680310-0104**

SHEV groups:	1 (1 CM)
Vent groups:	4 (4 DM)
Prepared for batteries:	2 x 12 V / 12 Ah (Part.-No. 542200)

Module order PM – CM – 4xDM

EMB8000 10 A – 0202	**680310-0202**

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	2 (2 DM)
Prepared for batteries:	2 x 12 V / 12 Ah (Part.-No. 542200)

Module order PM – CM – 1xDM – SM – 1xDM

EMB8000 10 A – 0204	**680310-0204**

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	4 (4 DM)
Prepared for batteries:	2 x 12 V / 12 Ah (Part.-No. 542200)

Module order PM – CM – 2xDM – SM – 2xDM

ORDER DATA

Part.-No.

EMB8000 24 A – 0102	680324-0102

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 600 x 250 mm
SHEV groups:	1 (1 CM)
Vent groups:	2 (2 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)
VdS certification no.:	G 512005

Module order PM – CM – 2xDM

EMB8000 24 A – 0103	680324-0103

SHEV groups:	1 (1 CM)
Vent groups:	3 (3 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)

Module order PM – CM – 3xDM

EMB8000 24 A – 0104	680324-0104

SHEV groups:	1 (1 CM)
Vent groups:	4 (4 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)

Module order PM – CM – 4xDM

EMB8000 24 A – 0105	680324-0105

SHEV groups:	1 (1 CM)
Vent groups:	5 (5 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)

Module order PM – CM – 5xDM

EMB8000 24 A – 0106	680324-0106

SHEV groups:	1 (1 CM)
Vent groups:	6 (6 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)

Module order PM – CM – 6xDM

EMB8000 24 A – 0109	680324-0109

SHEV groups:	1 (1 CM)
Vent groups:	9 (9 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)

Module order PM – CM – 9xDM

ORDER DATA

	Part.-No.
EMB8000 24 A – 0202	**680324-0202**

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 600 x 250 mm
SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	2 (2 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)
VdS certification no.:	G 512005

Module order PM – CM – 1xDM – SM – 1xDM

EMB8000 24 A – 0203	**680324-0203**

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	3 (3 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)

Module order PM – CM – 2xDM – SM – 1xDM

EMB8000 24 A – 0204	**680324-0204**

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	4 (4 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)

Module order PM – CM – 2xDM – SM – 2xDM

EMB8000 24 A – 0205	**680324-0205**

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	5 (5 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)

Module order PM – CM – 3xDM – SM – 2xDM

EMB8000 24 A – 0206	**680324-0206**

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	6 (6 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)

Module order PM – CM – 3xDM – SM – 3xDM

EMB8000 24 A – 0208	**680324-0208**

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	8 (8 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order PM – CM – 4xDM – SM – 4xDM

ORDER DATA

Part.-No.

EMB8000 24 A – 0303	680324-0303

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 600 x 250 mm
SHEV groups:	3 (1 CM + 2 SM)
Vent groups:	3 (3 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)
VdS certification no.:	G 512005

Module order PM – CM – 1xDM – SM – 1xDM – SM – 1xDM

EMB8000 24 A – 0304	680324-0304

SHEV groups:	3 (1 CM + 2 SM)
Vent groups:	4 (4 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order PM – CM – 2xDM – SM – 1xDM – SM – 1xDM

EMB8000 24 A – 0305	680324-0305

SHEV groups:	3 (1 CM + 2 SM)
Vent groups:	5 (5 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order PM – CM – 2xDM – SM – 2xDM – SM – 1xDM

EMB8000 24 A – 0309	680324-0309

SHEV groups:	3 (1 CM + 2 SM)
Vent groups:	9 (9 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order PM – CM – 3xDM – SM – 3xDM – SM – 3xDM

EMB8000 24 A – 0404	680324-0404

SHEV groups:	4 (1 CM + 3 SM)
Vent groups:	4 (4 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order PM – CM – 1xDM – SM – 1xDM – SM – 1xDM – SM – 1xDM

EMB8000 24 A – 0406	680324-0406

SHEV groups:	4 (1 CM + 3 SM)
Vent groups:	6 (6 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order PM – CM – 2xDM – SM – 2xDM – SM – 1xDM – SM – 1xDM

ORDER DATA

Part.-No.

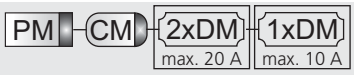
EMB8000 48 A – 0103 — 680348-0103

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 600 x 250 mm
SHEV groups:	1 (1 CM)
Vent groups:	3 (3 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)
VdS certification no.:	G 512005

Module order



EMB8000 48 A – 0104 — 680348-0104

SHEV groups:	1 (1 CM)
Vent groups:	4 (4 DM)
Prepared for batteries:	2 x 12 V / 17 Ah (Part.-No. 543000)

Module order

EMB8000 48 A – 0105 — 680348-0105

SHEV groups:	1 (1 CM)
Vent groups:	5 (5 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 48 A – 0106 — 680348-0106

SHEV groups:	1 (1 CM)
Vent groups:	6 (6 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 48 A – 0109 — 680348-0109

SHEV groups:	1 (1 CM)
Vent groups:	9 (9 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 48 A – 0112 — 680348-0112

Housing:	**600 x 800 x 250 mm**
SHEV groups:	1 (1 CM)
Vent groups:	12 (12 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

ORDER DATA

Part.-No.

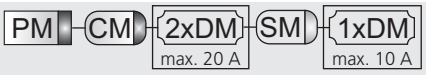
EMB8000 48 A – 0203 — 680348-0203

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 600 x 250 mm
SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	3 (3 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)
VdS certification no.:	G 512005

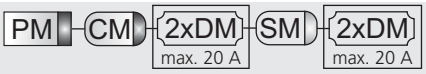
Module order



EMB8000 48 A – 0204 — 680348-0204

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	4 (4 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order



EMB8000 48 A – 0205 — 680348-0205

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	5 (5 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 48 A – 0206 — 680348-0206

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	6 (6x DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 48 A – 0207 — 680348-0207

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	7 (7 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 48 A – 0209 — 680348-0209

SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	9 (9 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

ORDER DATA

Part.-No.

EMB8000 48 A – 0303	680348-0303

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 600 x 250 mm
SHEV groups:	3 (1 CM + 2 SM)
Vent groups:	3 (3 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)
VdS certification no.:	G 512005

Module order

EMB8000 48 A – 0304	680348-0304

SHEV groups:	3 (1 CM + 2 SM)
Vent groups:	4 (4 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 48 A – 0305	680348-0305

SHEV groups:	3 (1 CM + 2 SM)
Vent groups:	5 (5 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 48 A – 0306	680348-0306

SHEV groups:	3 (1 CM + 2 SM)
Vent groups:	6 (6 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 48 A – 0307	680348-0307

SHEV groups:	3 (1 CM + 2 SM)
Vent groups:	7 (7 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 48 A – 0310	680348-0310

Housing:	**600 x 800 x 250 mm**
SHEV groups:	3 (1 CM + 2 SM)
Vent groups:	10 (10 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

ORDER DATA

Part.-No.

EMB8000 48 A – 0404	680348-0404

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 600 x 250 mm
SHEV groups:	4 (1 CM + 3 SM)
Vent groups:	4 (4 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)
VdS certification no.:	G 512005

Module order

EMB8000 48 A – 0406	680348-0406

SHEV groups:	4 (1 CM + 3 SM)
Vent groups:	6 (6 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 48 A – 0408	680348-0408

Housing:	**600 x 800 x 250 mm**
SHEV groups:	4 (1 CM + 3 SM)
Vent groups:	8 (8 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 48 A – 0505	680348-0505

SHEV groups:	5 (1 CM + 4 SM)
Vent groups:	5 (5 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 48 A – 0508	680348-0508

Housing:	**600 x 800 x 250 mm**
SHEV groups:	5 (1 CM + 4 SM)
Vent groups:	8 (8 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 48 A – 0510	680348-0510

Housing:	**600 x 800 x 250 mm**
SHEV groups:	5 (1 CM + 4 SM)
Vent groups:	10 (10 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

ORDER DATA

	Part.-No.
EMB8000 72 A – 0105	**680372-0105**

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 800 x 250 mm
SHEV groups:	1 (1 CM)
Vent groups:	5 (5 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)
VdS certification no.:	G 512005

Module order

EMB8000 72 A – 0106	**680372-0106**

SHEV groups:	1 (1 CM)
Vent groups:	6 (6 DM)
Prepared for batteries:	2 x 12 V / 24 Ah (Part.-No. 544000)

Module order

EMB8000 72 A – 0107	**680372-0107**

SHEV groups:	1 (1 CM)
Vent groups:	7 (7 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 72 A – 0108	**680372-0108**

SHEV groups:	1 (1 CM)
Vent groups:	8 (8 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 72 A – 0109	**680372-0109**

SHEV groups:	1 (1 CM)
Vent groups:	9 (9 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 72 A – 0110	**680372-0110**

SHEV groups:	1 (1 CM)
Vent groups:	10 (10 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

ORDER DATA

Part.-No.

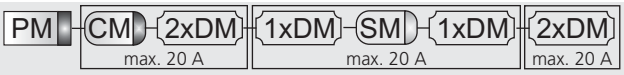
EMB8000 72 A – 0206 — 680372-0206

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 800 x 250 mm
SHEV groups:	2 (1 CM + 1 SM)
Vent groups:	6 (6 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)
VdS certification no.:	G 512005

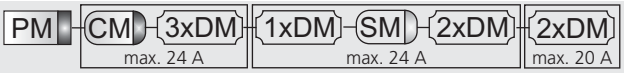
Module order



EMB8000 72 A – 0208 — 680372-0208

SHEV groups: 2 (1 CM + 1 SM)
Vent groups: 8 (8 DM)
Prepared for batteries: 2 x 12 V / 38 Ah (Part.-No. 545000)

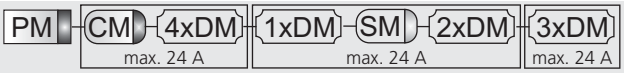
Module order



EMB8000 72 A – 0210 — 680372-0210

SHEV groups: 2 (1 CM + 1 SM)
Vent groups: 10 (10 DM)
Prepared for batteries: 2 x 12 V / 38 Ah (Part.-No. 545000)

Module order



EMB8000 72 A – 0306 — 680372-0306

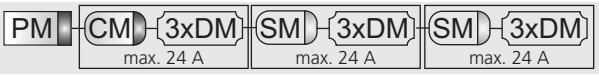
SHEV groups: 3 (1 CM + 2 SM)
Vent groups: 6 (6 DM)
Prepared for batteries: 2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 72 A – 0309 — 680372-0309

SHEV groups: 3 (1 CM + 2 SM)
Vent groups: 9 (9 DM)
Prepared for batteries: 2 x 12 V / 38 Ah (Part.-No. 545000)

Module order



EMB8000 72 A – 0310 — 680372-0310

SHEV groups: 3 (1 CM + 2 SM)
Vent groups: 10 (10 DM)
Prepared for batteries: 2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

ORDER DATA

Part.-No.

EMB8000 72 A – 0407	680372-0407

Application: SHEV modular control unit EMB8000 factory fitted and fully wired.

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:	please see descriptions of modules installed
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	600 x 800 x 250 mm
SHEV groups:	4 (1 CM + 3 SM)
Vent groups:	7 (7 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)
VdS certification no.:	G 512005

Module order

EMB8000 72 A – 0410	680372-0410

SHEV groups:	4 (1 CM + 3 SM)
Vent groups:	10 (10 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 72 A – 0505	680372-0505

SHEV groups:	5 (1 CM + 4 SM)
Vent groups:	5 (5 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 72 A – 0510	680372-0510

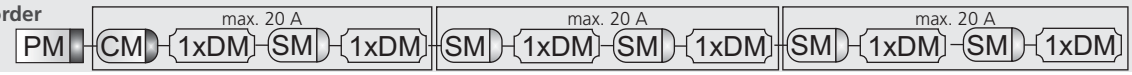
SHEV groups:	5 (1 CM + 4 SM)
Vent groups:	10 (10 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order

EMB8000 72 A – 0606	680372-0606

SHEV groups:	6 (1 CM + 5 SM)
Vent groups:	6 (6 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

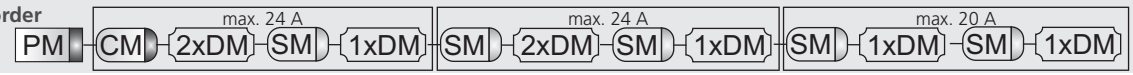
Module order



EMB8000 72 A – 0608	680372-0608

SHEV groups:	6 (1 CM + 5 SM)
Vent groups:	8 (8 DM)
Prepared for batteries:	2 x 12 V / 38 Ah (Part.-No. 545000)

Module order



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**.

PRODUCT FEATURES EMB8000

- 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
- 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 transsmision 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 funktions 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 EMB8000		
Functions	Standard	Lizenz
Load configuration / Safe / Safe as	✓	✓
Print settings / Print / Create PDF	✓	✓
Set Password for control unit	--	✓
System configuration / Load settings / Save settings	✓	✓
Read RealTime LOG-Data	✓	✓
Edit RealTime LOG-Data	--	✓
Firmware update	--	✓
Show system-status / Save / Print	✓	✓
Get thresholds and on-off delay of wind sensor	✓	✓
Set thresholds and on-off delay of wind sensor	--	✓
Set 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 with additional Plug-in Interface-Modules (CAN, KNX)	--	✓

IMPORTANT NOTES

The modular design of EMB8000 in combination which digital network technology make it possible for our customers to size, assemble and configures 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 Backup Prepared for batteries 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 batteries – 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 or DMX for connection of 24 V DC 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 preprogrammed 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 EMB8000 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 felxibel 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 2 or 3 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 6.

LIMITATIONS OF EXPANDABLE BASIC VERSIONS

Please note the data in the following when sizing control units:

▪ Number of smoke detectors per CM / SM	10
▪ Number of break-glass units per CM / SM	10
▪ Number of smoke detectors per control unit	60
▪ Number of break-glass units per control unit	60
▪ Number of networkable control units via CAN-BUS	35
▪ Maximum no. of modules per control unit	see chart 4
▪ Internal current consumption of modules	see chart 3
▪ Battery capacity / max. power consumption per control unit	see chart 3
▪ Dimensions of housing	see chart 4
▪ No. of cable entries	see chart 4

The values in the charts are referring to the use of all module inputs and outputs. The current values are calculated to ensure the backup power supply for 72 hours. Further calculation criteria on request.

The internal current consumption of all used modules may not exceed the maximum current value of the control unit. Please add the current values of all modules to receive the total consumption.

All information of outside diameters of the cables are referring to the cable types used in Germany. The wire cross sections are indicated in mm². To obtain the electric protection rating of the housing is per cable entry only one cable allowed. The total numbers of the needed cables is to be calculated (see chart 1) and to be compared with the number of cable entries (see chart 4).

CONFIGURATION

The basic configuration software for EMB8000 control units is available download on www.aumueller-gmbh.de free of charge for.
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	20,6	5	2	1			1	1		
SM	23	1	12,6	5	2	1			1	1		
DM	23	1	5,3	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	
CAN			6,0	2					2			
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 POWERD DETECTORS

Break-glass main unit (HSE)	1,2 mA
Break-glass seccondary unit (HSE-N)	0,0 mA
Smoke detector	0,1 mA
Wind direction sensor (WRG)	7,1 mA

CHART 3: MAXIMUM CURRENT CONSUMPTION PER CONTROL UNIT

PS / Battery	7 Ah	12 Ah	17 Ah	24 Ah	38 Ah
10 A	42 mA	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: PARAMETERS OF THE HOUSINGS

Housing dimensions		400 x 500 x 200	600 x 600 x 250	600 x 800 x 250	800 x 800 x 250
Number of cable entries		29 pcs.	48 pcs.	48 pcs.	58 pcs.
Maximum battery capacity		12 Ah	38 Ah	38 Ah	38 Ah
Module units / mounting rail	EMB8000 5 A	8 ME / 300 mm	19 ME / 500 mm		
Module units / mounting rail	EMB8000 10 A	7 ME / 300 mm	19 ME / 500 mm		
Module units / mounting rail	EMB8000 24 A		19 ME / 500 mm	19 ME / 1000 mm	
Module units / mounting rail	EMB8000 48 A		9 ME / 500 mm	17 ME / 500 mm	
Module units / mounting rail	EMB8000 72 A			15 ME / 500 mm	24 ME / 700 mm

CHART 5: DIMENSIONS OF CONNECTION TERMINALS (pull spring feed through terminal blocks)

Terminal size [mm]	6 mm²	10 mm²	16 mm²	End bracket
Cross section of the wire (rigid wire)	0,13–6 mm²	2,5–10 mm²	4–16 mm²	
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 6: CALCULATION OF DRIVE CABLES

$A = 2 * L * I / (56 * \Delta U)$

A	Cross section of wire [mm²]
L	Length of the line [m]
I	Current of the drives [A]
ΔU	Voltage drop on the line [V] = max. 2 V

1. Calculation of the output current

How big is the current consumption of all the drives within the system?

Example:
There are 12 facade windows each with 2 drives 1 A and 3 roof windows each with 1 drive 2 A.
Solution:
Required current: 6 * 2 * 1 A + 3 * 2 A = 30 A.
Used control unit: **EMB8000 with 48 A**

2. Number of vent groups / current per group

1. How many vent groups are required?
2. Which vent group need more than 10 A, which less than 10 A?

Example:
The windows are partitioned in 3 groups:
2 facade groups each with 6 windows * 2 A = 12 A
1 roof group with 3 windows * 2 A = 6 A
Solution:
There are 2 DMX und 1 DM required.
When a **basic control unit with 48 A and DMX** should be used, in additional **1 DMX** and **1 DM** are required.

⚠ In each basic control unit 1 DM or 1 DMX is included!

3. Number of SHEV groups

How manz fire groups / SHEV groups are required?

Example:
in case of fire all 3 window groups should open simultanously within one SEV group.
Solution:
No additional **SM** is required.

⚠ In each basic control unit 1 CM is included for 1 SHEV group!
Any further SHEV group (or fire sector) requires 1 SM.

4. Wind/Rain detection

1. Should the windows to be closed automatically in case of wind/rain ?
2. In the case of a fire alarm should the windows be controlled wind direction dependent ?

Example:
All 3 window groups should be closed in case of wind/rain. No wind direction control is required.
Solution:
1 WM is required

⚠ For the configuration of the wind dependent control, a subject to charges licence for the configuration software EMB8000 is required and a training by AUMÜLLER is strongly recommend!
The wind/rain sensores are to be ordered separately.

5. Transmission of status messages

Are volt free contacts required for the transmission of status messages to external devices?

Example:
A possible malfunction of the control unit should be transmitted to the building management system.
Solution:
1 RM6 is required.

⚠ Every RM6 has 6 volt free change over contacts.
For the configuration of RM6 a subject to charges licence for the configuration software EMB8000 is required and a training by AUMÜLLER is strongly recommend!

6. Calculation of the cable cross section

Which cross section (A) will be needed for single wires due to the formula from chart 5?

Example:
Cable length between control unit and junction box:
Window group 1 = 35 m (12 A)
Window group 2 = 45 m (12 A)
Window group 3 = 75 m (6 A)
Solution:
Window group 1: A = 2 * 35 m * 12 A / (56 * 2) = 7,5 mm²
Window group 2: A = 2 * 45 m * 12 A / (56 * 2) = 9,7 mm²
Window group 3: A = 2 * 75 m * 6 A / (56 * 2) = 8,0 mm²
For all the drive cables **10 mm² terminals** are required.

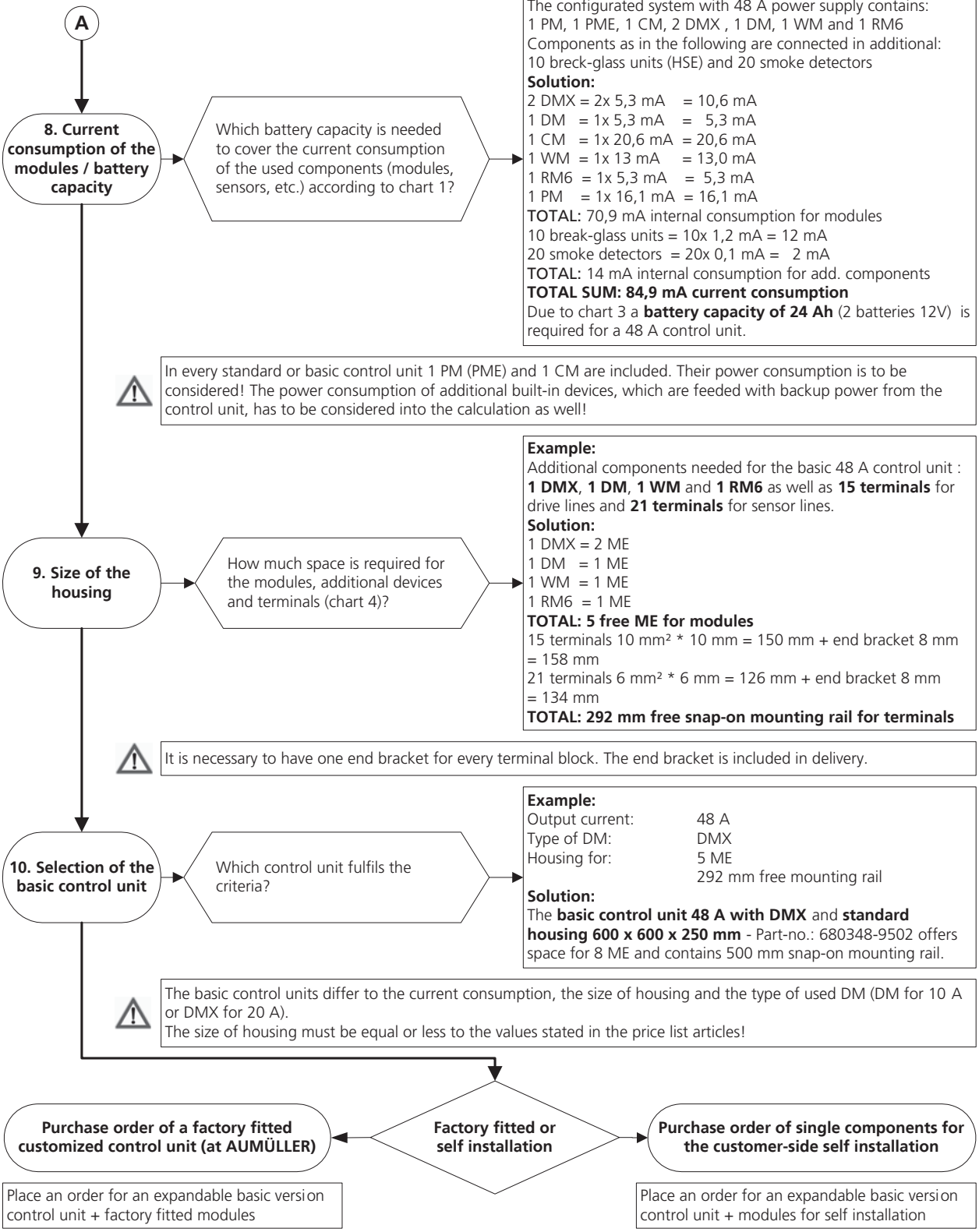
⚠ The wire cross sections depends on the drive current, the cable length and the voltage drop (max. 2 V allowed).
The cables to the drives of SHEV systems must be fire resistant.
It is not allowed to use the green and yellow protective conductor for other purposes!
The next larger cross section is always to be chosen!
If the cross section of the cables are too large, the drives must be partitioned onto additonal DM(X) modules.

7. Mounting of additional clamps

Are the terminal clamps of the modules big enough to connect the required cable cross sections or are additonal clamps required?

Example:
All 3 DM(X) modules should be equipped with 10 mm² terminals. The feedback contact of the WM module and all 6 RM6 outputs should be wired on 6 mm² terminals.
Solution:
In total are required:
3 DM(X) * 5 = **15 terminals** for the drive lines and
(1 + 6 contacts) * 3 = **21 terminals** for the sensor lines.

A ⚠ When mounting a DMX, output terminals for the drive lines are absolutely neccessary!
The terminals are available for 6/10/16 mm². For each drive line the use of 5 terminals is reccomended, to connect all the cable cores. Clamps up to 6 mm² are needed for the detection lines and for the feedback contacts. The number of the clamps is to be determinated due to the EMB8000 description or due to the installed cables.



1 Basic EMB8000 48 A, DMX, standard housing	680348-9502
1 DMX	680255-9
1 DM	680250-9
1 WM	680180-9
1 RM6	680200-9
15 Terminals for drive line (10 mm²)	659903
21 Terminals for sensor line (6 mm²)	659902
2 Batteries	544000
Factory fitted configutation	680930

1 Basic EMB8000 48 A, DMX, standard housing	68348-9502
1 DMX	680255
1 DM	680250
1 WM	680180
1 RM6	680200
3 Terminal sets 5x 10 mm² for drive line	659908
5 Terminal sets 5x 6 mm² for sensor lines	659906
2 Batteries	544000
Configuration software is required to configurate RM6!	

ORDER DATA

Part.-No.

EMB8000 5 A – 9501 — 680305-9501

Application: Expandable basic version of modular control unit EMB8000, 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)
Expension options:	
Module units:	8 free ME
35-mm mounting rail:	300 mm space for terminals, etc.

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.

EMB8000 5 A – 9503 — 680305-9503

Application: Expandable basic version of modular control unit EMB8000, factory fitted and fully wired for customer-side self-configuration.

Note: There is an **I-COM** needed for operation.

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, **IDM**
Prepared for batteries:	max. 2 x 12 V / 12 Ah (Capacity acc. to equipment)
Expension options:	
Module units:	8 free ME
35-mm mounting rail:	300 mm space for terminals, etc.

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

EMB8000 5 A – 9601 — 680305-9601

Application: Expandable basic version of modular control unit EMB8000, 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
Module equipment:	PM, CM, **DM**
Prepared for batteries:	max. 2 x 12 V / 12 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	19 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

ORDER DATA

Part.-No.

EMB8000 5 A – 9603 — 680305-9603

Application: Expandable basic version of modular control unit EMB8000, factory fitted and fully wired for customer-side self-configuration.

Note: There is an **I-COM** needed for operation.

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
Module equipment:	PM, CM, **IDM**
Prepared for batteries:	max. 2 x 12 V / 12 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	19 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

EMB8000 10 A – 9501 — 680310-9501

Application: Expandable basic version of modular control unit EMB8000, 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:	**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**
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 equipmet)
Expension options:	
Module units:	7 free ME
35-mm mounting rail:	300 mm space for terminals, etc.

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

EMB8000 10 A – 9503 — 680310-9503

Application: Expandable basic version of modular control unit EMB8000, factory fitted and fully wired for customer-side self-configuration.

Note: There is an **I-COM** needed for operation.

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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, CM, **IDM**
Prepared for batteries:	max. 2 x 12 V / 12 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	7 free ME
35-mm mounting rail:	300 mm space for terminals, etc.

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

ORDER DATA

	Part.-No.
EMB8000 10 A – 9601	**680310-9601**

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, CM, **DM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	19 free ME
35-mm mounting rail:	500 mm top rail

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

EMB8000 10 A – 9603	**680310-9603**

Application: Expandable basic version of modular control unit EMB8000, factory fitted and fully wired for customer-side self-configuration.

Note: There is an **I-COM** needed for operation.

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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, CM, **IDM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	19 free ME
35-mm mounting rail:	500 mm top rail

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

EMB8000 24 A – 9501	**680324-9501**

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, CM, **DM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	19 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

ORDER DATA

Part.-No.

EMB8000 24 A – 9601	680324-9601

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, CM, **DM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	19 free ME
35-mm mounting rail:	1000 mm space for terminals, etc.

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

EMB8000 24 A – 9502	680324-9502

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, CM, **DMX**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	18 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

EMB8000 24 A – 9602	680324-9602

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, CM, **DMX**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	18 free ME
35-mm mounting rail:	1000 mm space for terminals, etc.

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

ORDER DATA

	Part.-No.
EMB8000 24 A – 9503	**680324-9503**

Application: Expandable basic version of modular control unit EMB8000, factory fitted and fully wired for customer-side self-configuration.

Note: There is an **I-COM** needed for operation.

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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, CM, **IDM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	19 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

EMB8000 24 A – 9603	**680324-9603**

Application: Expandable basic version of modular control unit EMB8000, factory fitted and fully wired for customer-side self-configuration.

Note: There is an **I-COM** needed for operation.

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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, CM, **IDM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	19 free ME
35-mm mounting rail:	1000 mm space for terminals, etc.

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

EMB8000 48 A – 9501	**680348-9501**

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, PME, CM, **DM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	9 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

ORDER DATA

Part.-No.

EMB8000 48 A – 9601 — 680348-9601

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, PME, CM, **DM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	17 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

EMB8000 48 A – 9502 — 680348-9502

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, PME, CM, **DMX**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	8 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

EMB8000 48 A – 9602 — 680348-9602

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, PME, CM, **DMX**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	16 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

ORDER DATA

	Part.-No.
EMB8000 48 A – 9503	**680348-9503**

Application: Expandable basic version of modular control unit EMB8000, factory fitted and fully wired for customer-side self-configuration.

Note: There is an **I-COM** needed for operation.

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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, PME, CM, **IDM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	9 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

EMB8000 48 A – 9603	**680348-9603**

Application: Expandable basic version of modular control unit EMB8000, factory fitted and fully wired for customer-side self-configuration.

Note: There is an **I-COM** needed for operation.

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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, PME, CM, **IDM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	17 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

EMB8000 72 A – 9501	**680372-9501**

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, 2 PME, CM, **DM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	15 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

ORDER DATA

Part.-No.

EMB8000 72 A – 9601 — 680372-9601

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, 2 PME, CM, **DM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	24 free ME
35-mm mounting rail:	700 mm space for terminals, etc.

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

EMB8000 72 A – 9502 — 680372-9502

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, 2 PME, CM, **DMX**
Prepared for batteries:	2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	14 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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.

EMB8000 72 A – 9602 — 680372-9602

Application: Expandable basic version of modular control unit EMB8000, 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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, 2 PME, CM, **DMX**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	23 free ME
35-mm mounting rail:	700 mm space for terminals, etc.

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

ORDER DATA

	Part.-No.
EMB8000 72 A – 9503	**680372-9503**

Application: Expandable basic version of modular control unit EMB8000, factory fitted and fully wired for customer-side self-configuration.

Note: There is an **I-COM** needed for operation.

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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, 2 PME, CM, **IDM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	15 free ME
35-mm mounting rail:	500 mm space for terminals, etc.

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

EMB8000 72 A – 9603	**680372-9603**

Application: Expandable basic version of modular control unit EMB8000, factory fitted and fully wired for customer-side self-configuration.

Note: There is an **I-COM** needed for operation.

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**
Delivery state:	
SHEV groups:	1
Vent groups:	1
Module equipment:	PM, 2 PME, CM, **IDM**
Prepared for batteries:	max. 2 x 12 V / 38 Ah (Capacity acc. to equipmet)
Expension options:	
Module units:	24 free ME
35-mm mounting rail:	700 mm space for terminals, etc.

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

ORDER DATA

Part.-No.

DM – Drive-Module — 680250-9

Application: Factory Fitted-Module installed into an EMB8000 and fully wired, for the controlling of drives, gas-pressure generators and magnetic locks.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
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 mm² (rigid wire), Drives: 2,5 mm², Blade terminals 6,3 mm: Power supply, socket and plug with cable for internal BUS

Feature/Equipment

- 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 EMB8000

DMX – Drive-Module — 680255-9

Application: Factory Fitted-Module installed into an EMB8000 and fully wired, for the controlling of drives, gas-pressure generators and magnetic locks.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
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. button (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 mm² (rigid wire), Blade terminals 6,3 mm: Drives + power supply, socket and plug with cable for internal BUS

Feature/Equipment

- 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 EMB8000

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

IDM - Intelligent-Drive-Module — 680257-9

Application: Factory Fitted-Module installed into an EMB8000 and fully wired, for operating intelligent **Aumüller S12 / S3** drives up to max. **10 A** total current.

Note: There is an **I-COM** needed for operation.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
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. button (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 mm² (rigid wire), Drives: 2,5 mm², Blade terminals 6,3 mm: Power supply, socket and plug with cable for internal BUS 0-10 V analog input

Feature/Equipment

- 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 EMB8000

ORDER DATA

	Part.-No.				
SM – Sensor-Module	**680150-9**				

Application: Factory Fitted-Module installed into an EMB8000 and fully wired, 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) Vent. push button line (max. 10 pcs.)
Outputs:	1 feedback contact (change-over switch, 42 V / 0.5A)
Display:	Power, fault, alarm
Control elements:	Front push button: Reset
Connections:	Plug-in terminals1 mm² (rigid wire), socket and plug with cable for internal BUS

Feature/Equipment

- Detector line monitoring, fixing on 35-mm mounting rail, configuration of the functional and performance features which deviates from the standard systems via configuration software EMB8000

RM6 – Relay-Module	**680200-9**				

Application: Factory Fitted-Module installed into an EMB8000 and fully wired, for the transmitting of signals via volt free relay contacts.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Intrenal 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, 42V / 0,5A)
Display:	Operating, Fault
Connections:	Plug-in terminals 1 mm² (rigid wire), Socket and plug with cable for internal BUS

Feature/Equipment

- Fixing on 35-mm mounting rail, configuration of the functional and performance features via configuration software EMB8000

IM-K KNX-Module	**680265-9**				

Application: Factory Fitted-Module installed into an EMB8000 and fully wired, 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(plastic), black
Module units:	1 ME
Inputs:	6 analog inputs KNX sided, 3 x potential free Relay contacts via KNX
Outputs:	**KNX-BUS terminal**
Display:	Operation, fault, KNX-programming LED
Control elements:	KNX-programming button
Connections:	Plug-in terminals 1 mm² (rigid wire), socket and plug with cable for internal BUS

Feature/Equipment

- Fixing on 35-mm mounting rail, configuration of the functional and performance features via configuration software EMB8000 and an ETS-Software for KNX programming

ORDER DATA

	Part.-No.
WM – Weather-Module	**680180-9**

Application: Factory Fitted-Module installed into an EMB8000 and fully wired, for the connecting of weather sensors.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Detector line voltage:	24 V DC
Intrenal 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 contac (change-over switch, 42 V / 0.5A)
Display:	Power, fault, wind / rain activ
Connections:	Plug-in terminals 1,5 mm² (rigid wire)

Feature/Equipment
- Fixing on 35-mm mounting rail, configuration of the functional and performance features via configuration software EMB8000

I-COM – Intelligent Drive Connection-Module	**680260**

Application: Module for the self installation on customer side - in site-supplied flush mounting junction box.
Is required to connect **Aumüller S12** drives to the Intelligent Drive-Module **IDM** mandatory.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Detector line voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)
Drive current max.:	**10 A**
Housing (WxHxD):	44 x 73 x 29 mm
Inputs:	1 x 24 V + LK3 from **IDM**
Outputs:	2 x motor output **Aumüller S12** drive
Display:	status display
Connections:	Plug-in terminals 4,0 mm² (rigid wire) (motor output), core stone 6,0 mm² (rigid wire)

Note: Can only be used in conjunction with the EMB8000 **IDM**.

Feature/Equipment
- Module without housing, for the self installation in site-supplied flush mounting junction box.

CAN-Module	**680190-9**

Application: Factory fitted plug-in card installed in the Control-Module (CM) of an EMB8000, for the integrating of various EMB8000 into a **CAN-BUS network**.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/- 20%)
Ambient temperature range:	-5°C … + 40°C
Housing:	w/o (assembled PCB)
Dimensions (WxHxD):	20 x 32 x 13 mm
Connections:	Plug-in terminals 6 x 1,0 mm² (rigid wire)

Feature/Equipment
- Connector for plugging the network card into the Control-Module (CM),
- Configuration of the functional and performance features via configuration software EMB8000,
- Module is required in every networking control unit
- 6 pcs. of terminals 1,5 mm² installed and fully wired on 35-mm mounting rail

ORDER DATA

	Part.-No.
DM – Drive-Module	**680250**

Application: Module for the self installation on customer side into an EMB8000 for the controlling of drives, gas-pressure generators and magnetic locks.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
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 mm² (rigid wire), Drives: 2,5 mm², Blade terminals 6,3 mm: Power supply, socket and plug with cable for internal BUS

Feature/Equipment

- 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 EMB8000

DMX – Drive-Module	**680255**

Application: Module for the self installation on customer side into an EMB8000 for the controlling of drives, gas-pressure generators and magnetic locks.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
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. button (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 mm² (rigid wire), Blade terminals 6,3 mm: Drives + power supply, socket and plug with cable for internal BUS

Feature/Equipment

- 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 EMB8000

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

IDM - Intelligent-Drive-Module	**680257**

Application: Module for the self installation on customer side into an EMB8000 for operating intelligent **Aumüller S12 / S3** drives up to max. **10 A** total current.

Note: There is an **I-COM** needed for operation.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
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. button (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 mm² (rigid wire), Drives: 2,5 mm², Blade terminals 6,3 mm: Power supply, socket and plug with cable for internal BUS 0-10 V analog input

Feature/Equipment

- 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 EMB8000

ORDER DATA

	Part.-No.			
SM – Sensor-Module	**680150**			

Application: Module for the self installation on customer side into an EMB8000 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) Vent. push button line (max. 10 pcs.)
Outputs:	1 feedback contact (change-over switch, 42 V / 0.5A)
Display:	Power, fault, alarm
Control elements:	Front push button: Reset
Connections:	Plug-in terminals1 mm² (rigid wire), socket and plug with cable for internal BUS

Feature/Equipment

- Detector line monitoring, fixing on 35-mm mounting rail, configuration of the functional and performance features which deviates from the standard systems via configuration software EMB8000

RM6 – Relay-Module	**680200**			

Application: Module for the self installation on customer side into an EMB8000 for the transmitting of signals via volt free relay contacts.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Intrenal 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, 42V / 0,5A)
Display:	Operating, Fault
Connections:	Plug-in terminals 1 mm² (rigid wire), Socket and plug with cable for internal BUS

Feature/Equipment

- Fixing on 35-mm mounting rail, configuration of the functional and performance features via configuration software EMB8000

IM-K - KNX-Module	**680265**			

Application: Module for the self installation on customer side into an EMB8000, 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(plastic), black
Module units:	1 ME
Inputs:	6 analog inputs KNX sided, 3 x potential free Relay contacts via KNX
Outputs:	**KNX-BUS terminal**
Display:	Operation, fault, KNX-programming LED
Control elements:	KNX-programming button
Connections:	Plug-in terminals 1 mm² (rigid wire), socket and plug with cable for internal BUS

Feature/Equipment

- Fixing on 35-mm mounting rail, configuration of the functional and performance features via configuration software EMB8000 and an ETS-Software for KNX programming

ORDER DATA

	Part.-No.			
WM – Weather-Module	**680180**			

Application: Module for the self installation on customer side into an EMB8000 for the connecting of weather sensors.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Detector line voltage:	24 V DC
Intrenal 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 contac (change-over switch, 42 V / 0.5A)
Display:	Power, fault, wind / rain activ
Connections:	Plug-in terminals 1,5 mm² (rigid wire)

Feature/Equipment
- Fixing on 35-mm mounting rail, configuration of the functional and performance features via configuration software EMB8000

I-COM – Intelligent Drive Connection-Module	**680260**			

Application: Module for the self installation on customer side - in site-supplied flush mounting junction box.
Is required to connect **Aumüller S12** drives to the Intelligent Drive-Module **IDM** mandatory.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Detector line voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)
Drive current max.:	**10 A**
Housing (WxHxD):	44 x 73 x 29 mm
Inputs:	1 x 24 V + LK3 from **IDM**
Outputs:	2 x motor output **Aumüller S12** drive
Display:	status display
Connections:	Plug-in terminals 4,0 mm² (rigid wire) (motor output), core stone 6,0 mm² (rigid wire)

Note: Can only be used in conjunction with the EMB8000 **IDM**.

Feature/Equipment
- Module without housing, for the self installation in site-supplied flush mounting junction box.

CAN-Module	**680190**			

Application: Plug-in card for self installation on customer side in the Control-Module (CM) of an EMB8000, for the integrating of various EMB8000 into a **CAN-BUS network**.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/- 20%)
Ambient temperature range:	-5°C … + 40°C
Housing:	w/o (assembled PCB)
Dimensions (WxHxD):	20 x 32 x 13 mm
Connections:	Plug-in terminals 6 x 1,0 mm² (rigid wire)

Feature/Equipment
- Connector for plugging the network card into the Control-Module (CM),
- Configuration of the functional and performance features via configuration software EMB8000,
- Module is required in every networking control unit

ORDER DATA

	Part.-No.				
WR-Set Type 7x/8x – Wind und Rain Sensor Set	**482100**				

Application: Sensors for wind and rain to work with an evaluation unit WRAG2 or Typ IV, a WM Weather-Module or directly with a SHEV control unit, for closing and blocking the natural ventilation under bad weather conditions.

TECHNICAL DATA (Rated values)

Rated voltage:	24 V DC (+/- 20%)
Rain sensor Type III – heated sensor surface, switch-off delay approx. 5 min.	
Contact:	1 Change-over switch, max. 48 V / 5A
Current consumption:	<150 mA
Housing:	Surface mounting, ABS black with stainless steel bracket
Dimensions (WxHxD):	100 x 85 x 172 mm
Connection cable:	Non-halogen cable, approx. 4 m
Volt free contac:	1 Change-over switch, max. 48 V / 1A
Wind sensor Type III – Anemometer with 3 impact resistant wind cups (PA6)	
Measuring principle:	Pulse generator
Dimensions:	250 x 250 x 80 mm
Connection cable:	non-halogen cable, approx. 4 m

Feature/Equipment

- Set including: Wind sensor Type III (Part.-No. 482021), rain sensor Type III (Part.-No. 480210), clamp ring (Part.-No. 515950), aluminium bracket for pole or wall mounting (Part.-No. 482093), without mounting screws

WRG-Set – Wind direction sensor	**482120**				

Application: Sensor for wind direction detecting to work with an evaluation unit or a WM Weather-Module for the wind direction depending OPENING / CLOSING of windows in case of fire.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/- 20%)
Wind direction sensor – ball beared measuring element with wind vane	
Measuring range:	8 wind directions
Material:	Revolving head: PA6 black, wind vane: stainless steel
Connection cable:	Non-halogen 6 x 0,34 mm², length ca. 3 m
Junction box with circuit board and screw terminals	
Connections:	WRG, wind sensor Type III, rain sensor TYP III
Housing (WxHxD):	110 x 110 x 66 mm, IP54
Connections:	Screw terminals 1,5 mm² (rigid wire),

Feature/Equipment

- Set including: Wind direction sensor (Part.-No. 482120), Junction box (Part.-No. 482110), clamp ring (Part.-No. 515950), aluminium bracket for pole or wall mounting (Part.-No. 482093), without mounting screws

ORDER DATA

	Part.-No.			
Software licence EMB8000				
Application: Software licence for configuration, integration in networks and maintenace of EMB8000.				

System requirements: Vista™ / 7™

Feature/Equipment
- Free updates within licence period
- AUMÜLLER grants licences only after attending a product training

OPTIONS

Standard Permanent Basic (licence linked to control unit)				
SPB-1M – Licence for 1 month	**680921**			
SPB-3J – Licence for 3 years	**680923**			
Technician Permanent Basic (licence not linked to control unit)				
TPB-1M – Licence for 1 month	**680911**			
TPB-3J – Licence for 3 years	**680913**			

OPTIONS

Factory fitted assembly and wiring of additional terminals in control units	**Part.-No.**			
Single terminals 6 mm² (pull spring feed through terminal blocks 0,13 – 6 mm2)				
specify at order stage:	**659902**			
Single terminals 10 mm² (pull spring feed through terminal blocks 2,5 – 10 mm2)				
specify at order stage:	**659903**			
Single terminals 16 mm² (pull spring feed through terminal blocks 4 – 16 mm2)				
specify at order stage:	**659904**			
Terminal sets (includes connection cable / BUS cables to module) for customer-side self installation				
Set 5 feed through terminals 6 mm² + end bracket (w/o installation)	**659907**			
Set 5 feed through terminals 10 mm² + end bracket (w/o installation)	**659908**			
Factory fitted preprogramming of EMB8000				
Customer specific configuration of EMB8000 at factory	**680930**			

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.				

TECHNISCHE DATEN

Type:	Lead storage battery
Output voltage:	12 V DC
Capacity:	see order data
Lifetime:	4 years (normal conditions)
Connections:	1,2 – 12 Ah: blade terminals 4,8 mm 17 – 38 Ah: screw terminals M5
Housing:	plastic, impact- and break-resistent

Feature/Equipment

- Maintenance free operation, long lasting durability, hight 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					
1,2 Ah, 12 V	**1 Pcs.**	**540000**			
2,2/2,3 Ah, 12 V	**1 Pcs.**	**541000**			
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**			

NOTES

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3 SHEV – Accessories for Control Units

ORDER DATA

	Part.-No.			
HSE – Break-glass unit main control panel				

Application: Break-glass unit with indicators and buttons for the manual control of the emergency open and close functions of a SHEV group, for connection in the detector line of a control unit.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Ambient temperature range:	-5°C … + 40°C
Housing:	**Surface mounting, plastic (ABS)**
Dimensions (WxHxD):	130 x 130 x 32 mm
Connections:	Screw terminal, 1,0 mm² (rigid wire)
Protection rating:	IP41
Display:	Emergency OPEN, power, fault
Control elements:	Buttons for emergency OPEN / CLOSE

Feature/Equipment
- Lockable, glazed door (including key)
- **Connection to the detector line input**
- HSE orange: **VdS certifcation no. G 501006**

VERSIONS

HSE red	(similar to RAL 3000)	**528691**
HSE yellow	(similar to RAL 1018)	**528692**
HSE grey	(similar to RAL 7035)	**528693**
HSE blue	(similar to RAL 5010)	**528694**
HSE orange	(similar to RAL 2011)	**528695**

HSE-N – Break-glass unit secondary control panel					

Application: Break-glass unit with indicator and button for the manual control of the emergency open function of a SHEV group, for connection in the detector line of a control unit.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Ambient temperature range:	-5°C … + 40°C
Housing:	**Surface mounting, plastic (ABS)**
Dimensions (WxHxD):	130 x 130 x 32 mm
Connections:	Screw terminal, 1,0 mm² (rigid wire)
Protection rating:	IP41
Display:	Emergency OPEN
Control elements:	Button for emergency OPEN

Feature/Equipment
- Lockable, glazed door (including key)
- **Connection to the detector line input**
- HSE orange: **VdS certifcation no. G 501006**

VERSIONS

HSE-N red	(similar to RAL 3000)	**525001**
HSE-N yellow	(similar to RAL 1018)	**525002**
HSE-N grey	(similar to RAL 7035)	**525003**
HSE-N blue	(similar to RAL 5010)	**525004**
HSE-N orange	(similar to RAL 2011)	**525005**

ORDER DATA

		Part.-No.			
HSE – Break-glass unit main control panel (aluminium housing)					
Application: Break-glass unit with indicators and buttons for the manual control of the emergency open and close functions of a SHEV group, for connection in the detector line of a control unit.					

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Ambient temperature range:	-5°C … + 40°C
Housing:	**Surface mounting, aluminium**
Dimensions (WxHxD):	125 x 125 x 33 mm
Connections:	Screw terminal, 1,0 mm² (rigid wire)
Protection rating:	IP41
Display:	Emergency OPEN, power, fault
Control elements:	Buttons for emergency OPEN / CLOSE

Feature/Equipment
- Lockable, glazed door (including key)
- **Connection to the detector line input**

VERSIONS

HSE-Alu red	(similar to RAL 3001)	**527550**			
HSE-Alu yellow	(similar to RAL 1012)	**527551**			
HSE-Alu grey	(similar to RAL 7035)	**527552**			
HSE-Alu blue	(similar to RAL 5012)	**527553**			
HSE-Alu orange	(similar to RAL 2011)	**527554**			
Protective housing IP54 for break-glass unit HSE-Alu grey – add-on kit		**527559**			

HSE – Break-glass unit for gas-pressure generators					
Application: Break-glass unit with indicators and button for the manual control of the emergency open functions of a SHEV group with gas-pressure generators, for connection in the detector line of a control unit.					

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Ambient temperature range:	-5°C … + 40°C
Housing:	**Surface mounting, plastic (ABS)**
Dimensions (WxHxD):	130 x 130 x 32 mm
Connections:	Screw terminal, 1,0 mm² (rigid wire)
Protection rating:	IP41
Display:	Emergency OPEN, power, fault
Control elements:	Button for emergency OPEN

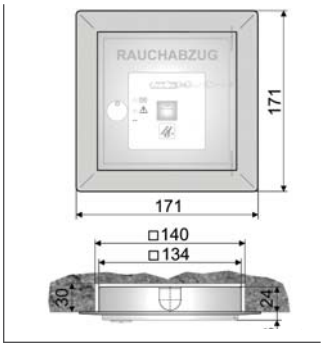
Feature/Equipment
- Lockable, glazed door (including key)
- **Connection to the detector line input**

VERSIONS

HSE-DG red	(similar to RAL 3000)	**528655**			
HSE-DG yellow	(similar to RAL 1018)	**528656**			
HSE-DG grey	(similar to RAL 7035)	**528657**			
HSE-DG blue	(similar to RAL 5010)	**528658**			
HSE-DG orange	(similar to RAL 2011)	**528659**			

ORDER DATA

	Part.-No.				
HSE – Frame for flush mounting	**528015**				
Application: Flush mounting of breakglass units.					



TECHNICAL DATA

Housing:	Surface mounting, steel sheet
Dimensions (WxHxD):	171 x 171 x 26 mm
Surface:	powder-coated in light grey w/o structure
Installation Dimensions:	140 x 140 x 30 mm

Feature/Equipment
- Suitable for break glass units with plastic housing 130 x 130 x 32 mm

HSE – Labels in foreign languages – Version 1	**9000004000**				
Application: Stick on break-glass units.					

TECHNICAL DATA

Raw material:	Bonding sheet
Colour:	white
Languages:	English French Danish Dutsch Chinese Russian Norwegian

Feature/Equipment

HSE – Labels in foreign languages – Version 2	**9000004200**				
Application: Stick on break-glass units.					

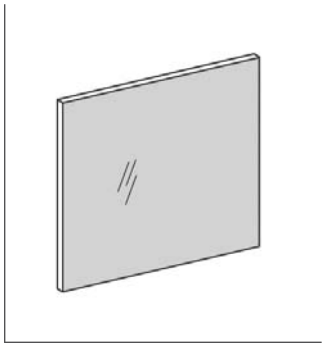
TECHNICAL DATA

Raw material:	Bonding sheet
Colour:	white
Languages:	Swedish Portugese Czech Hungarian Polish Turkish Hebrew

Feature/Equipment

ORDER DATA

	Part.-No.
HSE – Glass pane	**527002**
Application: Replacement glass pane for all breakglass units.	



TECHNICAL DATA

Material:	Glass
Dimensions (WxHxD):	80 x 80 x 0,8 mm

Feature/Equipment
- Packaging unit (PU) containing 10 glass panes

OPTIONS

	Part.-No.
Installation of break-glass unit into control unit housing	**528022**
Protective housing IP54 for break-glass unit HSE-Alu grey – add-on kit	**527559**

ORDER DATA

	Part.-No.			
Optical smoke detector				

Application: Smoke detector for the automatic early detection of fire for controlling of the emergency open function of a SHEV group, for connection in the detector line of a control unit.

TECHNICAL DATA (Rated values)

Measuring element:	photo electric / scattered light principle
Operating voltage:	8,5 – 33 V DC
Standby current:	< 100 µA
Housing:	Surface mounting, plastic (ABS), pearl white
Dimensions (WxHxD):	∅100 x 50 mm
Connections:	Screw terminals 1,0 mm² (rigid wire)
Protection rating:	IP23D
Display:	Alarm LED

Feature/Equipment
- Fire algorithms for avoiding false alarms, automatic alarm threshold tracking
- According to EN 54-7, Connection to the **detector line input**

VERSIONS

Detector with surface mounting base		**531520**			
Detector		**531518**			
Surface mounting base		**531519**			

ACCESSORIES

Ball protection (chromed steel grid) e.g. use in sporthalls		**513546**			

Head sensitive fire detector					

Application: Heat detector for the automatic control of the emergency open function of a SHEV group of a SHEV control unit.

TECHNICAL DATA (Rated values)

Measuring element:	Bimetal switch
Operating voltage:	24 V DC
Contact load:	40 V DC / 0,5 A
Standby current:	< 10 mA
Housing:	Surface mounting, plastic (ABS), white
Dimensions (WxHxD):	∅56 x 77 mm
Connections:	Screw terminals 1,0 mm² (rigid wire)
Protection rating:	IP20

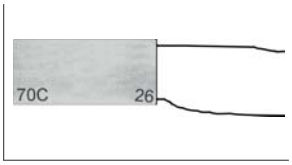
Feature/Equipment
- With base for surface mounting

VERSIONS

Connection in detector line	NO switch 70°C	**533205**			
Connection in drive line	NC switch 70°C	**533200**			

Head sensitive detector clip 70°C		**533201**			

Application: Heat detector for controlling of the emergency open function of a SHEV group, for connection in the drive line.



Measuring element:	Bimetal switch with ceramic housing
Operating voltage:	24 V DC
Contact type:	NC switch at 70°C
Contact load:	40 V DC / 0,5 A
Standby current:	< 10 mA

Feature/Equipment
- No housing, connection in the **monitoring line of the drive output** of a SHEV control unit

ORDER DATA

	Part.-No.			
Ventilation button (with foil push buttons and displys)				

Application: Ventilation button for connection to the ventilation inputs of SHEV or natural ventilation control units.

TECHNICAL DATA (Rated values)

Contact type:	2 NO switches
Switching capacity:	max. 42V / 50 mA
Current consumption display:	< 10 mA
Housing:	plastic, white (similar to RAL 9016)
Dimensions (WxHxD)	Surface mounting: 81 x 81 x 44 mm Flush mounting: 81 x 81 x 11 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP20
Functions:	OPEN-STOP-CLOSE
Display:	LED for OPEN, CLOSE

Feature/Equipment
- Push buttons **without** mechanical locking

VERSIONS

Surface mounting	**529020**				
Flush mounting (in box ∅60 mm)	**529050**				

Ventilation button					

Application: Ventilation button for connection to the ventilation inputs of SHEV or natutal ventilation control units.

TECHNICAL DATA (Rated values)

Contact type:	2 NO switches
Switching capacity:	230 V AC / 10 A
Housing:	plastic, white (similar to RAL 9016)
Dimensions (WxHxD):	Surface mounting: 81 x 81 x 54 mm Flush mounting: 81 x 81 x 11 mm
Connections:	Plug-in terminal 1,5 mm² (rigid wire)
Protection rating:	IP20
Functions:	OPEN / CLOSE

Feature/Equipment
- Push buttons **without** mechanical locking, stop function when both buttons are pushed

VERSIONS

Surface mounting	**529030**				
Flush mounting (in box ∅60 mm)	**529230**				

Ventilation key switch					

Application: Ventilation button for connection to the ventilation inputs of SHEV or natural ventilation control units.

TECHNICAL DATA (Rated values)

Contact type:	2 NO switches
Switching capacity:	230 V AC / 10 A
Housing:	plastic, white (similar to RAL 9016)
Dimensions (WxHxD):	Surface mounting: 81 x 81 x 54 mm Flush mounting: 81 x 81 x 11 mm
Connections:	Plug-in terminal 1,5 mm² (rigid wire)
Protection rating:	IP20
Functions:	OPEN-STOP-CLOSE

Feature/Equipment
- Switch with semicylinder (DIN 19525) and 3 keys

VERSIONS

Surface mounting	**529350**				
Flush mounting (in box ∅60 mm)	**529450**				

ORDER DATA

	Part.-No.			
Room temperature controller	**483200**			

Application: Thermostat as on-off controller for room temperature detection.

TECHNICAL DATA (Rated values)

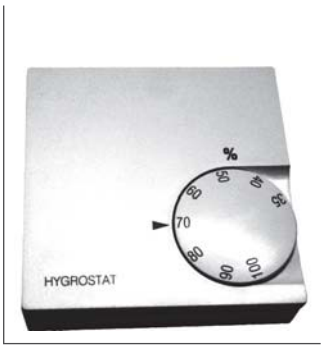
Measuring element:	Bimetal switch
Contact type:	1 change-over switch
Switching capacity:	230 V AC / 5 A
Settings:	0 – 30 °C
Housing:	Surface mounting, plastic, white
Dimensions (WxHxD):	74,5 x 74,5 x 25 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP30

Feature/Equipment

- Connection to **ventilation inputs** of SHEV or natural ventilation control units

Hygrostat	**483050**			

Application: Hygrostat as on-off controller for room humidity detection.



TECHNICAL DATA (Rated values)

Measuring element:	Bimetal switch
Contact type:	1 Change-over switch
Switching capacity:	230 V AC / 5 A
Settings:	35 – 10% humidity
Housing:	Surface mounting, plastic, white
Dimensions (WxHxD):	74,5 x 74,5 x 25 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP30

Feature/Equipment

- Connection to **ventilation input** of SHEV or natural ventilation control units

CO2 – Air quality sensor	**483710**			

Application: Sensor for the detection and evaluation of the CO2 concentration inside rooms.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/-5%)
Measuring element:	electronic
Contact type:	2 Normal open switch
Pulse duration:	3,5 sec.
Switching capacity:	230 V AC / 0,5 A
Measuring range:	0 – 3000 ppm CO2
Housing:	Surface mounting, plastic, white
Dimensions (WxHxD):	78 x 78 x 35 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP30
Display:	3 LED (green, yellow, red)

Feature/Equipment

- Connection to **ventilation input** of SHEV or natural ventilation control units

ORDER DATA

	Part.-No.
Conservatory Control WG 3006	**484001**

Application: Control of 230 V drives. For opening and closing of conservatories, terraces and balconies canopies - manually and depends on the internal temperature. It may be a 230 V rain sensor can be connected.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC
Contact type:	1 change-over switch
Switching capacity:	230 V AC / 3 A
Settings:	5 – 30 °C
Housing:	Surface mounting, plastic, white
Dimensions (WxHxD):	127 x 74 x 24 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP30

Feature/Equipment

- Thermostat with switch hand/automatic and rocker-switch OPEN/CLOSE

Time switch	**722374**

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 mm² (rigid wire)
Protection rating:	IP20

Feature/Equipment

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

OPTIONS

Cabinet mounting (a larger housing may be required)	**500113**

REL1 – Relay for status forwarding	**659950**

Application: For the transmission of various functions or status of a SHEV or natural ventilation control unit to external devices.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Contact type:	3 Change-over switch
Switching capacity:	230 V / 10 A
Connections:	Screw terminal 1,5 mm² (rigid wire)

Feature/Equipment

- With base for installation at 35-mm mounting rail and surpressor diode

OPTIONS

Cabinet mounting (a larger housing may be required)	**500113**

ORDER DATA

	Part.-No.				
Relay interface for 230 V drives	**670071**				

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 mm² (rigid wire)
Protection rating:	IP54

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

FAS Interface-Module	**670053**				

Application: Module for the automatic control of the emergency open function via volt free contact of a fire alarm system.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Standby consumption:	<10 mA
Ambient temperature range:	0 ... +40 °C
Housing:	w/o, equipped circuit board
Dimensions (WxHxD):	27 x 19 x 13 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
FAS contact:	Normal open switch at alarm status

Feature/Equipment:
- For connection to **detector line input** of SHEV control units, with line monitoring between control unit and module

Drive line end module	**670052**				

Application: For installation in the last or only junction box for the line monitoring of drive line.

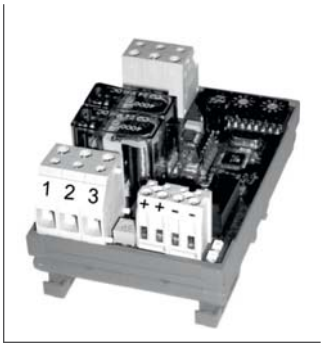
TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/-5%)
Standby consumption:	<10 mA
Ambient temperature range:	0 ... +70 °C
Housing:	w/o, equipped circuit board
Dimensions (WxHxD):	27 x 19 x 13 mm
Connections:	3 single cores

Feature/Equipment
- For connection into **drive line** of SHEV control units

ORDER DATA

	Part.-No.			
GLT-LZM3 – Runn Time-Module 0 – 10 V for ventilation	**500119**			
Application: For the stroke control with 0 – 10 V signal (0 – 100%) of one drive line.				



TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Control voltage:	0 – 10 V DC
Drive run time range:	5 – 999 sec.
Contact load:	30 V / < 0,5 A
Housing:	plastic, for 35-mm mounting rail
Dimensions (WxHxD):	74,5 x 74,5 x 25 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)

Feature/Equipment

- For the connection to **drive line** of SHEV or natural ventilation control units
- Cabinet mounting requires free space within housing
- The setting of the drive run time (for the stroke limitation) corresponds to 10 V (100% open). The ventilation line is closed at 0 V (0% open)
- The intermediar positions correspond to the applied 0 – 10 V voltage
- Operating voltage polarised in close direction: Drives are following the 0 – 10 V signal
- Operating voltage polarised in open direction: 0 – 10 V signal is overdriven, drives run to end limit OPEN (Emergency-open function)

OPTIONS

Cabinet mounting (a larger housing may be required)	**500113**				

ORDER DATA

	Part.-No.			
Wind sensor Type III	**482021**			

Application: Anemometer with 3 impact resistant wind cups (PA6) for wind speed detection.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/- 20%)
Measuring principle:	Pulse generator, ball beared
Housing:	Aluminium ∅36 mm, untreated
Wind cups:	PA6, black
Dimensions:	250 x 250 x 80 mm
Connection cable:	non-halogen cable, approx. 4 m

Feature/Equipment

- For connection with: EMB7300 control units, WM Weather-Module (EMB8000), wind/rain controls WRAG2 and Type IV. With clamp ring for fixing on all the wall/pole brackets with outer diameter ∅36mm

COMPONENTS

Cups for wind sensor Type III	**490601**				
Clamp ring for wind sensor Type III	**515950**				

Rain sensor Typ III 24 V DC	**480210**			

Application: Rain sensor with heated sonsor surface and internal control with volt free output contact.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/- 20%)
Standby current:	<150 mA
Measuring principle:	Conductivity measurement, heated sensor
Hysteresis:	5 min
Display:	Output active
Output:	Change-over switch, 5 A / max. 48 V
Protection rating:	IP65
Housing:	Surface mounting, ABS black with bracket (stainless steel)
Dimensions:	100 x 85 x 172 mm
Connection cable:	non-halogen cable, approx. 4 m

Feature/Equipment

- For connection with: EMB7300 control units, WM Weather-Module (EMB8000), wind / rain controls WRAG2 and Type IV

Rain sensor Typ III 230 V AC	**480110**			

Application: Rain sensor with heated sonsor surface and internal control with volt free output contact.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (50 Hz)
Power consumption:	<1,5 VA
Measuring principle:	Conductivity measurement
Display:	Output active
Output:	Change-over switch, 5 A / max. 230 AC
Protection rating:	IP65
Housing:	Surface mounting, ABS black with bracket (stainless steel)
Dimensions:	100 x 85 x 172 mm
Connection cable:	non-halogen cable, approx. 4 m

Feature/Equipment

- Single device for the feed from electric mains power supply

ORDER DATA

	Part.-No.				
WR-Set Type 7x/8x – Wind und Rain Sensor Set	**482100**				

Application: Sensors for wind and rain to work with an evaluation unit WRAG2 or Typ IV, a WM Weather-Module or directly with a SHEV control unit, for closing and blocking the natural ventilation under bad weather conditions.

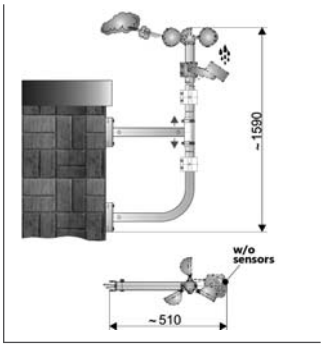
TECHNICAL DATA (Rated values)

Rated voltage:	24 V DC (+/- 20%)
Rain sensor Type III – heated sensor surface, switch-off delay approx. 5 min.	
Contact:	1 Change-over switch, max. 48 V / 5A
Current consumption:	<150 mA
Housing:	Surface mounting, ABS black with stainless steel bracket
Dimensions (WxHxD):	100 x 85 x 172 mm
Connection cable:	Non-halogen cable, approx. 4 m
Volt free contac:	1 Change-over switch, max. 48 V / 1A
Wind sensor Type III – Anemometer with 3 impact resistant wind cups (PA6)	
Measuring principle:	Pulse generator
Dimensions:	250 x 250 x 80 mm
Connection cable:	non-halogen cable, approx. 4 m

Feature/Equipment
- Set including: Wind sensor Type III (Part.-No. 482021), rain sensor Type III (Part.-No. 480210), clamp ring (Part.-No. 515950), aluminium bracket for pole or wall mounting (Part.-No. 482093), without mounting screws

Wall bracket for wind and rain sensor	**491200**				

Application: Wall bracket with dual fixings for wind and rain sensors.



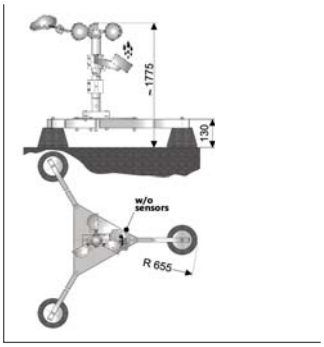
TECHNICAL DATA

Height:	app. 1500 mm
Outreach:	app. 510 mm
Material:	Aluminium ∅36mm

Feature/Equipment
- w/o fixing screws and sensors

Pole bracket for wind and rain sensors	**491101**				

Application: Pole bracket for the fixing of wind and rain sensors at flat roofs.



TECHNICAL DATA

Height:	app. 1775 mm
Base area:	app. ∅1300 mm
Material:	Aluminium ∅36mm with 3 stable concrete feet

Feature/Equipment
- w/o sensors

ORDER DATA

Part.-No.

WRAG2 – Wind / Rain evaluation unit	482005			

Application: For the evaluation of wind and rain signals from wind and rain sensors Type 7x/8x or rain sensors operating with 24 V DC and their transmission via 2 volt free contacts, with additional input for connecting of ventilation buttons (or time switches etc.).

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC, 50 Hz
Standby consumption:	<100 mA
Inputs:	Rain senso 24 V DC, wind sensor, ventilation button
Display:	Power, wind, rain
Wind speed range:	2,5 – 20 m/s, adjustable
Outputs:	2 Change-over switches, 230 V AC / 5 A
Housing:	plastic, surface RAL 7035, bottom RAL 7021
Dimensions (WxHxD):	105 x 86 x 58 mm
Installation:	35-mm mounting rail
Connections:	Screw terminals 1,5 mm² (rigid wire)
Protection rating:	IP40

Feature/Equipment
- Signal transmission for wind or/and rain (separately or together) adjustable via 4 DIP switches, direct connection of drives up to max. 5 A, switch-on time delay for wind and rain signal, and switch-off time delay for wind signal

REL-WRAG2 – Relay for contact multiplier	487020			

Application: Relay as contact multiplier of output signals of wind and rain evaluation unit WRAG2.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC, 50 Hz
Contact type:	2 Change-over switches
Switching capacity:	230 V / 8 A
Connections:	Screw terminal 1,5 mm² (rigid wire)

Feature/Equipment
- With base for installation on 35-mm mounting rail

Compact distributor housing for WRAG2	482011			

Application: Surface mounting distributor housing for the installation and wiring of wind and rain evaluation WRAG2 and max. 2 relays.

TECHNICAL DATA

Material:	plastic (ABS)
Type of installation:	Surface mounting
Protection rating:	IP30
Dimensions (WxHxD):	182 x 180 x 82 mm
Reserve space:	2 REL-WRAG2

Feature/Equipment
- w/o fixing screws

ORDER DATA

	Part.-No.
Distributor housing for WRAG2	**482015**

Application: Surface mounting distributor housing for the installation and wiring of wind and rain evaluation WRAG2 and max. 6 relays.

TECHNICAL DATA

Material:	plastic (ABS)
Type of installation:	Surface mounting
Protection rating:	IP30
Dimensions (WxHxD):	303 x 245 x 95 mm
Reserve space:	6 REL-WRAG2

Feature/Equipment
- w/o fixing screws

Wind and rain evaluation Type IV	**482008**

Application: For the evaluation of wind and rain signals from wind and rain sensors Type 7x/8x or rain sensors operating with 24 V DC and their transmission via 3 volt free contacts.

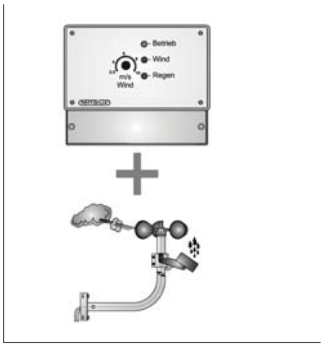
TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC, 50 Hz
Standby current:	<100 mA
Inputs:	Rain sensor 24 V DC, wind sensor
Display:	Power, wind, rain
Wind speed range:	2,5 – 10 m/s, adjustable
Outputs:	3 Change-over switches, 5 A / 230 V AC
Housing:	plastic, surface RAL 7035, bottom RAL 7021
Dimensions (WxHxD):	212 x 180 x 80 mm
Installation:	Surface mounting
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP40

Feature/Equipment
- Direct connection of drives up to max. 5 A, switch-on time delay for wind and rain signal, and switch-off time delay for wind signal
- Suitable for surface mounting

Wind and rain sensor set Typ IV	**481990**

Application: Set consisting of wind and rain evaluation Type IV with wind and rain sensor set Type 7x/8x, for the evaluation of wind and rain signals and their transmission via 3 volt-free contacts.



TECHNICAL DATA

See wind and rain control unit Type IV
and wind and rain sensor set Type 7x/8x.

Feature/Equipment
- Set including: Wind sensor Type III (Part.-No. 482021), rain sensor Type III (Part.-No. 480210), clamp ring (Part.-No. 519950), bracket for pole or wall mounting (Part.-No. 482093), without mounting screws

NOTES

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**.

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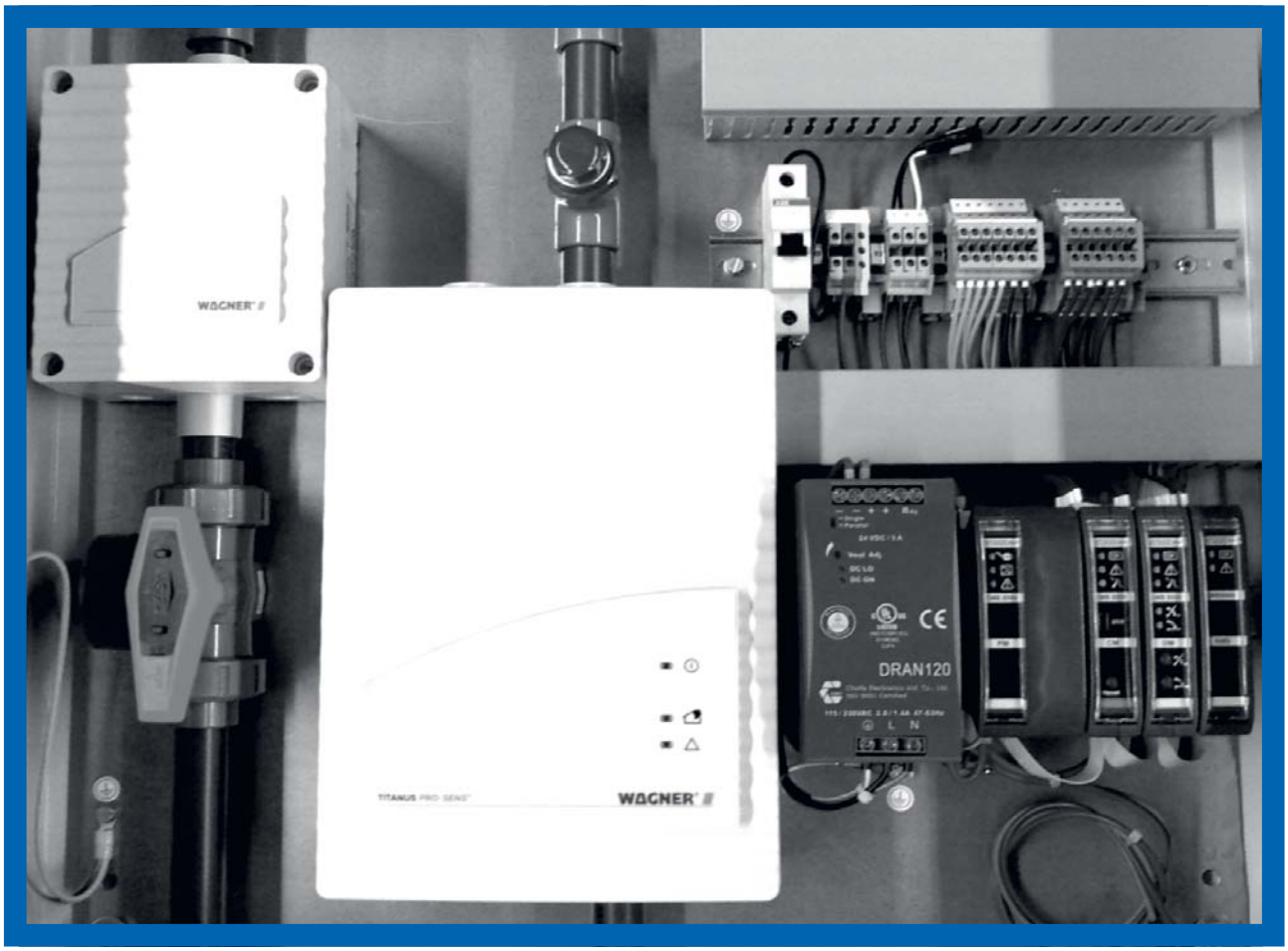
4 ASE – Lift Shaft Smoke Control with Accessories



PRODUCT FEATURES ASE

- Modular designed system including control units with digital bus technology and power supply, detectors, control elements and drives for SHEV in lift shafts in case of fire, according to the German Energy Saving Regulation (EnEV)
- Control panel compliant with prEN 12101-9
- Power supply compliant with EN 12101-10
- Opening ventilators as NSHEV according to EN 12101-2
- Smoke detection via aspirating smoke detector (RAS) or via point-type smoke detectors (ORM)
- RAS selectable for pipe length up to 40 m or to 80 m
- Control units with integrated RAS or for the connection of an external RAS
- Easy to maintain and tamper-proof due to the integration of control units in lockable steel sheet housings
- RAS with high quality air filters, 2-way ball valve with union nuts for quick removal, test adapter and quick connect coupling for compressed air connection
- Aspiration non-halogen plastic pipe (ABS) in various length with various moulded parts and mounting brackets
- Various display and control elements
- Connections for wind and rain sensors and transmission of events (emergency open signal, fault signal, feedback signals)
- BUS Network-Modules (LON, KNX)
- Ventilation button inputs with OPEN-STOP-CLOSE function and adjustable priorities
- Special functions programmable via extra costs software license as in the following:
  - Service and maintenance intervals
  - Control of the alarm functions by a volt-free contact of the fire alarm system (FAS)
  - Network integration
- Cable entries from above, connections for aspiration pipe from below
- Prepared for connection of backup batteries (standby app. 2 hours)

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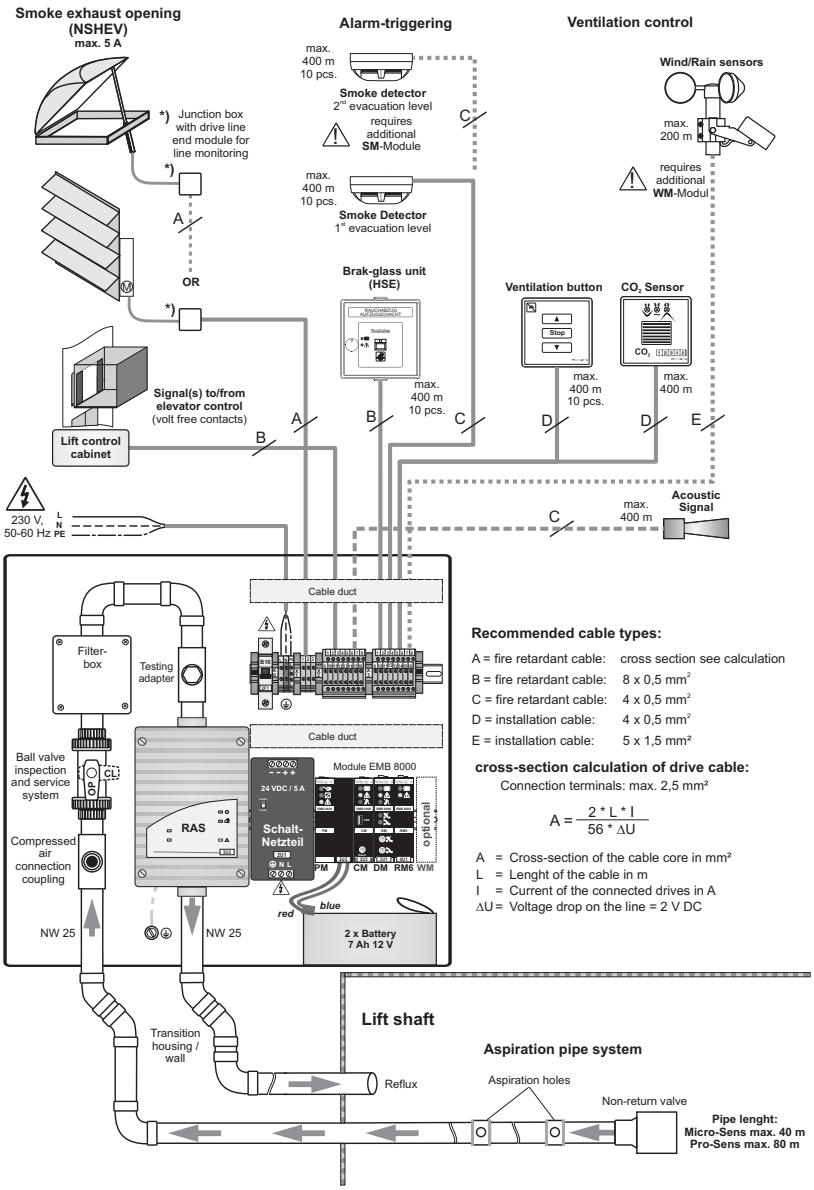
SYSTEM OVERVIEW ASE8000



Recommended cable types:

A = fire retardant cable:	cross section see calculation
B = fire retardant cable:	8 x 0,5 mm²
C = fire retardant cable:	4 x 0,5 mm²
D = installation cable:	4 x 0,5 mm²
E = installation cable:	5 x 1,5 mm²

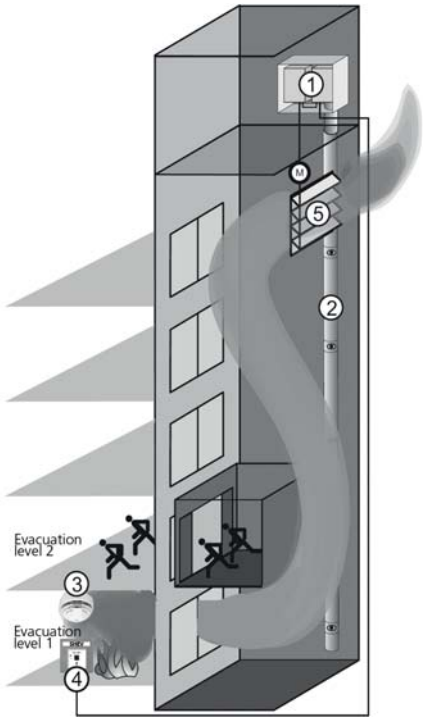
cross-section calculation of drive cable:

Connection terminals: max. 2,5 mm²

$$A = \frac{2 * L * I}{56 * \Delta U}$$

A = Cross-section of the cable core in mm²
L = Lenght of the cable in m
I = Current of the connected drives in A
ΔU = Voltage drop on the line = 2 V DC

PRINCIPLE ASE8000



① Control unit
② Aspirating smoke detector system with accessories
③ Optical smoke detector
④ Break-glass unit
⑤ NSHEV opening

RECOMMENDED SYSTEM CONFIGURATION / MATERIAL	
ASE8000 with integrated RAS up to 40 m	2 Aspiration pipe 25 m length
	1 Connection set for aspiration pipe
	1 Aspiration reducing film set set for pipe length of 40 m
	Cleaner and glue if necessary
ASE8000 with integrated RAS up to 80 m	4 Aspiration pipe 25 m length
	1 Connection set for aspiration pipe
	1 Aspiration reducing film set for pipe length of 80 m
	Cleaner and glue if necessary
ASE8000 with external RAS up to 40 m	1 Aspiration smoke detector Micro Sens (40 m) or Pro Sens (80 m)
	1 Connection set for external RAS
	2 or rather 4 aspiration pipe 25 m length
	1 Connection set for aspiration pipe
	1 Aspiration reducing film set for pipe length of 40 m or rather 80 m
	Cleaner and glue if necessary

ORDER DATA

	Part.-No.				
ASE8000 PRO40 (EMB8000 5 A – 0101)	**511133**				

Application: Control unit for lift shaft SHEV control with smoke detection via integrated aspirating smoke detector (RAS) for pipe length of 40 m.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Power consumption:	120 W
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)
Output current:	**5 A**
Control unit:	**EMB8000 5 A 0101**
Smoke detection:	**Integrated RAS type Titanus Micro Sens**
Pipe:	max. 40 m, ABS, ∅25 mm
Components:	RM6 Relay-Module RM6 2-way ball valve for maintenance Air filter and testing adapter, Quick connect coupling for compressed air connection
Inputs:	Optical smoke detectors for evacuation level HSE break-glass units Ventilation buttons, CO2 sensor Feedback signal for NSHEV OPEN/CLOSE
Outputs:	Feedback of alarm signal Fault EMB8000 and RAS Smoky evacuation level
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	**600 x 600 x 200 mm**
Connection terminals:	Peripheral devices: 1 mm² / drives: 4 mm² (rigid wire)
SHEV groups:	1 (1x CM)
Vent groups:	1 (1x DM)
Prepared for backup-battery:	2 x 12 V / 7 Ah (Part.-No. 542000)

Feature/Equipment

- Reserve space for 2 module units e. g. for the installation of Sensor-Module (SM) for the monitoring of other evacuation levels or adjacent staircases, Drive-Module (DM) for further drive lines (staircase), Weather-Module (WM), additional components (e. g. time switch)
- Configuration of the functional and performance features via software EMB8000

ASE8000 PRO80 (EMB8000 5 A – 0101)	**511134**				

Application: Control unit for lift shaft SHEV control with smoke detection via integrated aspirating smoke detector (RAS) for pipe length of 80 m.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Power consumption:	120 W
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)
Output current:	**5 A**
Control unit:	**EMB8000 5 A 0101**
Smoke detection:	**Integrated RAS type Titanus Pro Sens**
Pipe:	max. 80 m, ABS, ∅25 mm
Components:	RM6 Relay-Module 2-way ball valve for maintenance Air filter and testing device, Quick connect coupling for compressed air connection
Inputs:	Optical smoke detectors for evacuation level HSE break-glass units Ventilation buttons, CO2 sensor Feedback signal for NSHEV OPEN/CLOSE
Outputs:	Feedback of alarm signal Fault EMB8000 and RAS Smoky evacuation level
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	**600 x 600 x 200 mm**
Connection terminals:	Peripheral devices: 1 mm² / drives: 4 mm² (rigid wire)
SHEV groups:	1 (1x CM)
Vent groups:	1 (1x DM)
Prepared for backup-battery:	2 x 12 V / 12 Ah (Part.-No. 542200)

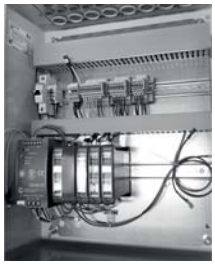
Feature/Equipment

- Reserve space for 2 module units e. g. for the installation of Sensor-Module (SM) for the monitoring of other evacuation levels or adjacent staircases, Drive-Module (DM) for further drive lines (staircase), Weather-Module (WM), additional components (e. g. time switch)
- Configuration of the functional and performance features via software EMB8000

ORDER DATA

	Part.-No.
ASE8000 TOP (EMB8000 5 A – 0101)	**511135**

Application: Control unit for lift shaft SHEV control with smoke detection via external aspirating smoke detector (RAS).



TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Power consumption:	120 W
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)
Output current:	**5 A**
Control unit:	**EMB8000 5 A 0101**
Smoke detection:	**external RAS type Titanus Micro / Pro Sens** (Not included in delivery)
Pipe:	Micro Sens max. 40 m, Pro Sens max. 80 m
Components:	Relay-Module RM6
Inputs:	External RAS optical smoke detectors for evacuation level HSE breakglass units Ventilation button, CO2 sensor Indication exhaust opening OPEN/CLOSE
Outputs:	Indication SHEV emergency OPEN Fault EMB8000 and RAS Evacuation level full of smoke
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	**400 x 500 x 200 mm**
Connection terminals:	Peripheral devices: 1 mm² / Drives: 4 mm² (rigid wire)
SHEV groups:	1 (1x CM)
Vent groups:	1 (1x DM)
Prepared for backup-battery:	2 x 12 V / 7 Ah (Part.-No. 542000)

Feature/Equipment
- Reserve space for 6 module units e. g. for the installation of Sensor-Module (SM) for the monitoring of other evacuation levels or adjacent staircases, Drive-Module (DM) for further drive lines (staircase), Weather-Module (WM), additional components (e. g. time switch)
- Configuration of the functional and performance features via software EMB8000

Accumulators	

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

TECHNISCHE DATEN

Type:	Lead storage battery
Output voltage:	12 V DC
Capacity:	see order data
Lifetime:	4 years (normal conditions)
Connections:	1,2 – 12 Ah: blade terminals 4,8 mm 17 – 38 Ah: screw terminals M5
Housing:	plastic, impact- and break-resistent

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

NOTE: Always 2 batteries are required per control unit!

VERSIONS

7 Ah, 12 V	1 Pcs.	**542000**
12 Ah, 12 V	1 Pcs.	**542200**

ORDER DATA

	Part.-No.				
ASE Aspiration pipes DN25 ABS – 25 m	**511047**				

Application: Plastic pipes (ABS) for air aspiration from the lift shaft and feeding to the aspirating smoke detector (RAS).

TECHNICAL DATA

Material:	ABS, grey
Outer nominal diameter (DN):	25 mm
Tube wall thickness:	1,8 mm
Single pipe length:	2,5 m
Packaging unit:	10 Pcs. single pipes
Total pipe length:	**25 m**

Feature/Equipment
- Pipes w/o accessories for mounting, connection and bonding
- Requires connection-set DN25 ABS for the connection of the pipes with aspirating smoke detector (RAS)

ASE Connection-set for aspiration pipes DN25 ABS		**511144**			

Application: Accessories for the mounting and the connecting of aspiration pipes DN25 ABS with aspirating smoke detector (RAS).

TECHNICAL DATA

Set consisting of:
1 non-return valve ND25, spring loaded
10 pipe bends 90 degree ABS
5 pipe bends 45 degree ABS
10 bushes ABS
50 clamps NG 25
1 glue for ARS
1 cleaner for ABS

Feature/Equipment
- While assembling, the parts have to be degreased with Tangit cleaner and sticked with Tangit glue to avoid entry of false air

ACCESSORIES

ASE Tangit cleaner for ABS	650 ml	**511186**			
ASE Tangit glue for ABS	125 ml	**511187**			

ASE Connection-set for external RAS ABS	**511145**				

Application: Service components for the connection of external aspirating smoke detectors (RAS) to ASE control units.

TECHNICAL DATA

Set consisting of:
1 air filter for aspirating smoke detectors
1 testing adapter ABS PG21
1 quick connect coupling with fittings ABS
1 2-way ball valve type 546 ABS D25
1 end cap ABS
1 aspiration pipe 25 x 1,8 mm, length ~ 1 m

Feature/Equipment
- Despatch of service components
- Installation provided by customer
- Requires connection-set DN25 ABS for the connection of the pipes with aspirating smoke detector (RAS)

ORDER DATA

	Part.-No.				
ASE Aspiration reducing film for aspiration pipes 40 m	**511086**				

Application: Foils with different orifice diameter to reduce the air intake according to the tube length so that at all the suction openings the same amount of air is sucked.

TECHNICAL DATA
18 foils with black letters (∅3,0 – ∅5,0 mm)
10 fixing banderole for aspiration reducing

Feature/Equipment
- The diameter and hole spacing for the required length of pipe, is shown in the technical documentation

ASE Aspiration reducing film for aspiration pipe 80 m	**511087**				

Application: Foils with different orifice diameter to reduce the air intake according to the tube length so that at all the suction openings the same amount of air is sucked.

TECHNICAL DATA
18 foils with black letters (∅2,5 – ∅4,4 mm)
10 fixing banderole for aspiration reducing

Feature/Equipment
- The diameter and hole spacing for the required length of pipe, is shown in the technical documentation

Connectors DN25 ABS for aspiration pipe DN25					

Application: Additional connectors and moulded parts for bonding and redirecting of aspiration pipes.

TECHNICAL DATA

Material:	ABS, grey
Outer nominal diameter (DN):	25 mm

Feature/Equipment
- Tangit cleaner and Tangit glue are required

OPTIONS

ASE Bush straight – ABS	PU containing 10 items	**511074**				
ASE Angle 45 degee – ABS	PU containing 5 items	**511075**				
ASE Elbow 90 degee – ABS	PU containing 5 items	**511076**				

Spare parts for service and maintenance					

Application: Spare parts and auxiliary materials for service and maintenance and timesaving commissioning.

TECHNICAL DATA

Feature/Equipment

OPTIONS

ASE Filter element for air filter (Filter mat)	**511183**				
ASE Replacement smoke stick for RAS testing	**511184**				

ORDER DATA

	Part.-No.				
ASE Micro Sens – Aspirating smoke detector up to 40 m pipe length	**511160**				

Application: Aspirating smoke detector for detecting of smoke particles in the sucked air on the principle of scattered light.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (16 – 30 V DC
Standby current:	105 mA
Operating temperature range:	-20° ... +60° C
Contact load:	max. 30 W
Protection rating:	IP42
Smoke detection:	Light source technology
Display:	Power, fault, alarm, smoke level
For pipe length:	**max. 40 m**
Pipe connections:	Aspiration pipe / air return ∅25 mm, conical
Housing:	Surface mounting, plastic (ABS), RAL 9018
Dimensions (LxWxH):	222 x 140 x 70 mm
Connection terminals:	Screw terminals 2,5 mm²
Certifcation:	EN 54-20, VdS: G206004, CPD: 0786-CPD-20322

Feature/Equipment

- High deception alarm reliability, communication data port, optionally diagnostics tool for comprehensive service and maintenance information, basic device with mounting base, front foil and detector module

ASE Pro Sens – Aspirating smoke detectorup up to 80 m pipe length	**511161**				

Application: Aspirating smoke detector for detecting of smoke particles in the sucked air on the principle of scattered light.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (14 – 30 V DC
Standby current:	210 mA
Operating temperature range:	-20° ... +60° C
Contact load:	max. 30 W
Protection rating:	IP42
Smoke detection:	Light source technology
Display:	Operating, Fault Alarm, Smoke level
Fot pipe length:	**max. 80 m**
Pipe connections:	Aspiration pipe / air return ∅25 mm, conical
Housing:	Surface mounting, plastic (ABS), RAL 9018
Dimensions (LxWxH):	292 x 200 x 115 mm
Connection terminals:	Screw terminals 2,5 mm²
Certifcation:	EN 54-20, VdS: G202064, CPD: 0786-CPD-20685

Feature/Equipment

- High deception alarm reliability, communication data port, optionally diagnostics tool for comprehensive service and maintenance information, basic device with mounting base, front foil and detector module

Ventilation button (with foil push buttons and displys)					

Application: Ventilation button for connection to the ventilation inputs of SHEV or natural ventilation control units.

TECHNICAL DATA (Rated values)

Contact type:	2 NO switches
Switching capacity:	max. 42V / 50 mA
Current consumption display:	< 10 mA
Housing:	plastic, white (similar to RAL 9016)
Dimensions (WxHxD)	Surface mounting: 81 x 81 x 44 mm Flush mounting: 81 x 81 x 11 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP20
Buttons:	OPEN-STOP-CLOSE
Display:	LED for OPEN, CLOSE

Feature/Equipment

- Push buttons **without** mechanical locking

VERSIONS

Surface mounting	**529020**				
Flush mounting (in box ∅60 mm)	**529050**				

ORDER DATA

	Part.-No.			
Optical smoke detector				

Application: Smoke detector for the automatic early detection of fire for controlling of the emergency open function of a SHEV group, for connection in the detector line of a control unit.

TECHNICAL DATA (Rated values)

Measuring element:	photo electric / scattered light principle
Operating voltage:	8,5 – 33 V DC
Standby current:	< 100 µA
Housing:	Surface mounting, plastic (ABS), pearl white
Dimensions (WxHxD):	∅100 x 50 mm
Connections:	Screw terminals 1,0 mm² (rigid wire)
Protection rating:	IP23D
Display:	Alarm LED

Feature/Equipment
- Fire algorithms for avoiding false alarms, automatic alarm threshold tracking
- According to EN 54-7, Connection to the **detector line input**

VERSIONS

Detector with surface mounting base	**531520**
Detector	**531518**
Surface mounting base	**531519**

ACCESSORIES

Ball protection (chromed steel grid) e.g. use in sporthalls	**513546**

ASE-HSE (orange) – Break-glass unit main control panel	**511042**

Application: Break-glass unit with indicators and buttons for the manual control of the emergency open and close functions of a SHEV group, for connection in the detector line of a control unit ASE8000.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Ambient temperature range:	-5°C … + 40°C
Housing:	**Surface mounting, plastic (ABS)**
Dimensions (WxHxD):	130 x 130 x 32 mm
Connections:	Screw terminal, 1,0 mm² (rigid wire)
Protection rating:	IP41
Display:	Emergency OPEN, power, fault
Control elements:	Buttons for emergency OPEN / CLOSE

Feature/Equipment
- Lockable, glazed door (including key)
- **Connection to the detector line input**

ASE CO2 – Air quality sensor	**511043**

Application: Automatic detector for controlling the OPEN functions, for use with control unit ASE8000.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/-5%)
Measuring element:	electronic
Contact type:	2 Normal open switch
Pulse duration:	3,5 sec.
Switching capacity:	230 V AC / 0,5 A
Measuring range:	0 – 3000 ppm CO2
Housing:	Surface mounting, plastic, white
Dimensions (WxHxD):	78 x 78 x 35 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP30
Display:	3x LED (green, yellow, red)

Feature/Equipment
- Connection to **ventilation input** of SHEV or natural ventilation control units

ORDER DATA

	Part.-No.				
DM – Drive-Module	**680250-9**				

Application: Factory Fitted-Module installed into an ASE8000 and fully wired for the controlling of drives.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
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 mm² (rigid wire), Drives: 2,5 mm², Blade terminals 6,3 mm: Power supply, socket and plug with cable for internal BUS

Feature/Equipment

- 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 EMB8000

SM – Sensor-Module	**680150-9**				

Application: Factory Fitted-Module installed into an ASE8000 and fully wired, 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) Vent. push button line (max. 10 pcs.)
Outputs:	1 feedback contact (change-over switch, 42 V / 0.5A)
Display:	Power, fault, alarm
Control elements:	Front push button: Reset
Connections:	Plug-in terminals1 mm² (rigid wire), socket and plug with cable for internal BUS

Feature/Equipment

- Detector line monitoring, fixing on 35-mm mounting rail, configuration of the functional and performance features which deviates from the standard systems via configuration software EMB8000

WM – Weather-Module	**680180-9**				

Application: Factory Fitted-Module installed into an ASE8000 and fully wired, for the connecting of weather sensors.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Detector line voltage:	24 V DC
Intrenal 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 contac (change-over, 42 V / 0.5A)
Display:	Power, fault, wind / rain activ
Connections:	Plug-in terminals 1,5 mm² (rigid wire)

Feature/Equipment

- Fixing on 35-mm mounting rail, configuration of the functional and performance features via configuration software EMB8000

ORDER DATA

	Part.-No.				
DM – Drive-Module	**680250**				

Application: Module for the self installation on customer side into an ASE8000 for the controlling of drives.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
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 mm² (rigid wire), Drives: 2,5 mm², Blade terminals 6,3 mm: Power supply, socket and plug with cable for internal BUS

Feature/Equipment

- 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 EMB8000

SM – Sensor-Module	**680150**				

Application: Module for the self installation on customer side into an ASE8000 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) Vent. push button line (max. 10 pcs.)
Outputs:	1 feedback contact (change-over switch, 42 V / 0.5A)
Display:	Power, fault, alarm
Control elements:	Front push button: Reset
Connections:	Plug-in terminals1 mm² (rigid wire), socket and plug with cable for internal BUS

Feature/Equipment

- Detector line monitoring, fixing on 35-mm mounting rail, configuration of the functional and performance features which deviates from the standard systems via configuration software EMB8000

WM – Weather-Module	**680180**				

Application: Module for the self installation on customer side into an ASE8000 for the connecting of weather sensors.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Detector line voltage:	24 V DC
Intrenal 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 contac (change-over switch, 42 V / 0.5A)
Display:	Power, fault, wind / rain activ
Connections:	Plug-in terminals 1,5 mm² (rigid wire)

Feature/Equipment

- Fixing on 35-mm mounting rail, configuration of the functional and performance features via configuration software EMB8000

ORDER DATA

	Part.-No.
Louvre window TG24 600 x 750 x 65 mm	**511050**

Application: Louvre window as NSHEV according to EN 12101-2, prepared for installation into walls of lift shafts, to reduce the energy consumption during the normal operation time of the elevator and to ensure the SHEV in case of fire.

TECHNICAL DATA

Louvre drive LLA10-60	
Operating voltage:	24 V DC (+/-20%), max. 2 Vpp
Rated current:	0,6 A
Cut-off current:	1,0 A
Rated power consumption:	15 W
Louvre window TG24	
Outer frame dimensions (WxHxD):	600 x 750 x 65 mm
Material:	Aluminium (E6/C-0)
Number of louvres:	3 glass louvres
Glass structure:	Float 4 mm – air 16 mm – float 4 mm
Heat insulation glazing:	Climaplus N, K-value 1.1
Louvre position:	0° – 90°, stepless

Feature/Equipment

- Louvre window with pre-installed drive as NSHEV according to EN12101-2

OPTIONAL ACCESSORIES

ASE Surface mounting frame for louvre 600 x 750 mm	**511051**

Louvre window TG24 400 x 610 x 65mm	**511056**

Application: Louvre window as NSHEV according to EN 12101-2, prepared for installation into walls of lift shafts, to reduce the energy consumption during the normal operation time of the elevator and to ensure the SHEV in case of fire.

TECHNICAL DATA (Rated values)

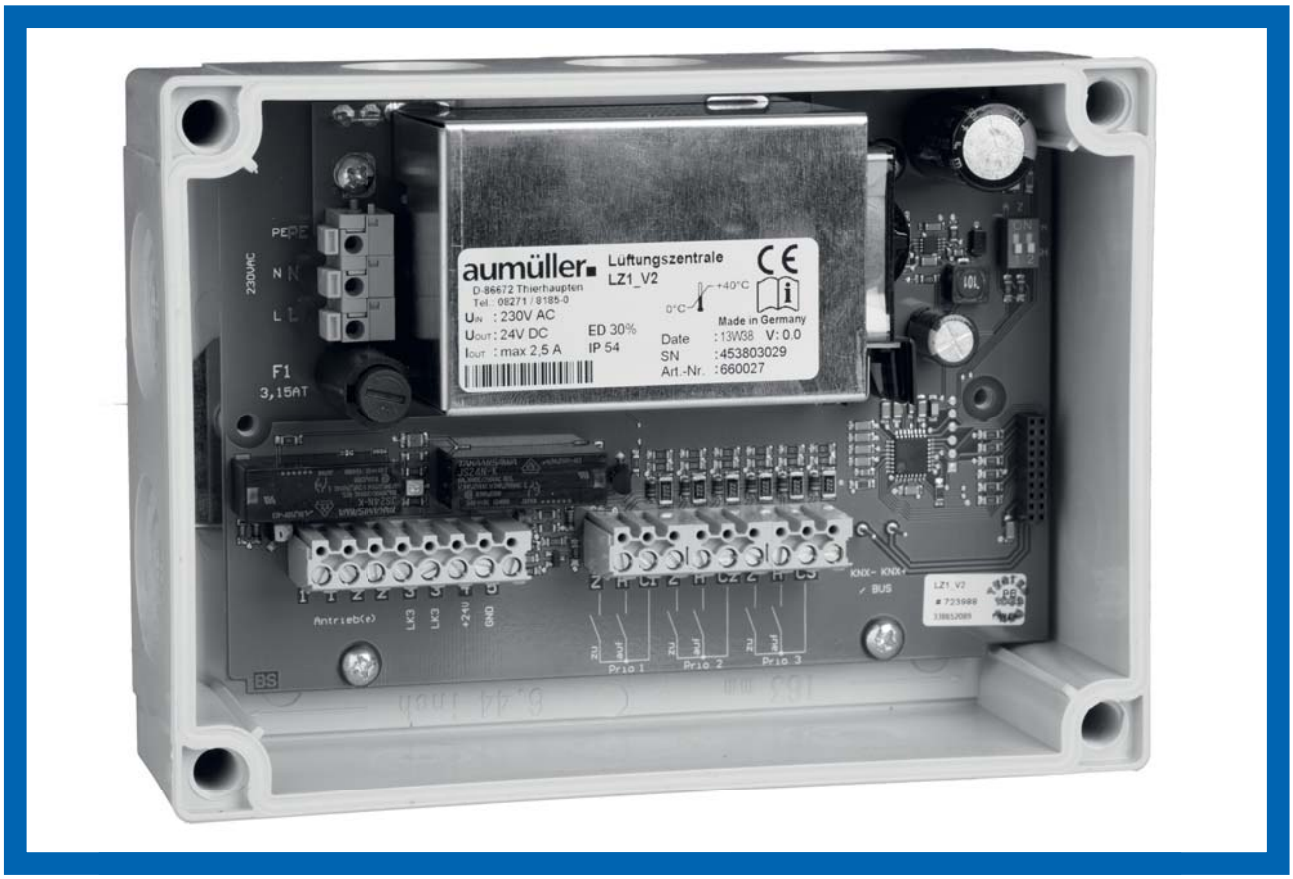
Louvre drive LLA10-60	
Operating voltage:	24 V DC (+/-20%), max. 2 Vpp
Rated current:	0,6 A
Cut-off current:	1,0 A
Rated power consumption:	15 W
Louvre window TG24	
Outer frame dimensions (WxHxD):	400 x 610 x 65 mm
Material:	Aluminium (E6/C-0)
Number of louvres:	2 glass louvres
Glass structure:	Float 4 mm – air 16 mm – float 4 mm
Heat insulation glazing:	Climaplus N, K-value 1.1
Louvre position:	0° – 90°, stepless

Feature/Equipment

- Louvre window with pre-installed drive as NSHEV according to EN12101-2

aumüller

5 Natural Ventilation – Control Units + Accessories

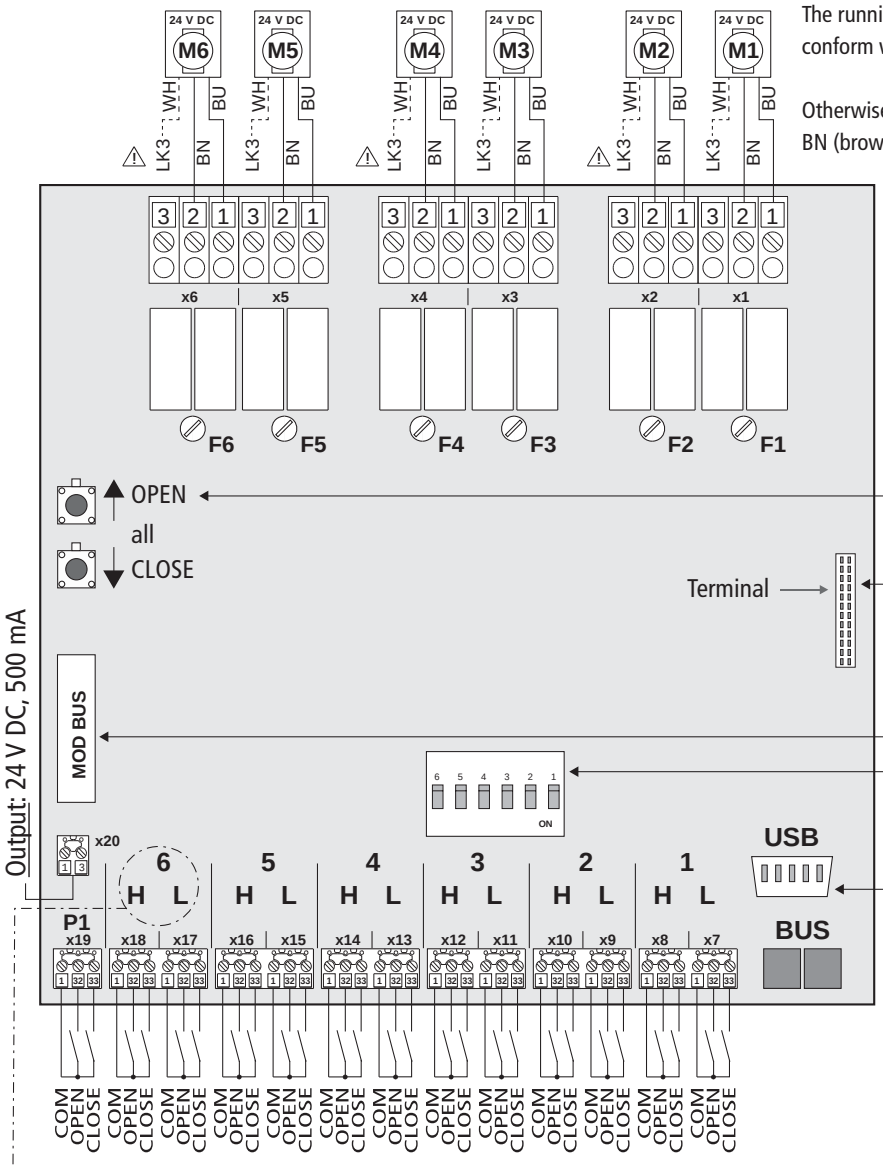


FEATURES OF NATURAL VENTILATION – CONTROL UNITS AND POWER SUPPLIES

- Control units with accessories like weather sensors and control panels for the control of drives
- 24 V DC for natural ventilation purpose within rooms or buildings
- Low residual ripple output voltage (<2 Vpp)
- Inputs of two or more control units may be switched in parallel
- Connection of various control units in one ventilation group
- Ventilation button inputs with OPEN-STOP-CLOSE function and 2 or 3 priorities
- Vent. push button inputs configurable in dead-man or jog-switch mode
- All drive line outputs are fused
- Input for higher-ranked e.g. volt free wind and rain signals
- Suitable for the use in controlled natural ventilation systems
- Various display and control elements
- Flat surface mounted housings, suitable for the installation in false floor or suspended ceilings
- Optional BUS interface for integration into GLT systems via LON and KNX
- Digital interface for Aumüller S12 drives

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**.

SIMPLIFIED DIAGRAMM – LZ6



The running direction of the drives has to be conform with the indicated direction.

Otherwise exchange the leads:
BN (brown) and BU (blue)

Using ↑**OPEN and** ↓**CLOSE button** on the board, all the lines can be opened and closed together.

Terminal

On the **BUS slot**, depending on the configuration of the control unit, a KNX or LON field BUS-Module can be plugged, to bind the ventilation control unit LZ6 to a building management system.

WM connection or **external DM**

On the **DIP switch** can be set for each ventilation groups, if the button in latching (ON) or in dead-man (OFF) operation works.

The **USB port** can using LZ6 configuration software various functions for the respective ventilation groups are set.

P1 - Input
common control

H (P2) = HIGH - higher priority
L (P3) = LOW - lower priority
for switching process

Plug in of ventilation button, as well as weather, time and tempreature controls or singnals of building management system.

ORDER DATA

	Part.-No.
LZ1 2,5 A – Natural ventilation control unit 24 V DC	

Application: Natural ventilation control panel with power supply for the controlling of 24 V DC drives in one ventilation group.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Power consumption:	60 W
Output voltage:	24 V DC (20 – 28 V DC / 2 Vpp)
Output current:	**2,5 A**
Inputs:	1 Ventilation button line with 3 prorities
Outputs:	1 Drive line 24 V DC / 500 mA (e.g. rain sensor)
Display:	Power, output voltage switched in OPEN/CLOSE direction
Slot:	BUS-Module (LON, KNX)
Connections:	S12 drives (for communication with BUS-Modules)
Housing:	Surface mounting, plastic (ABS)
Dimensions (WxHxD):	**180 x 130 x 60 mm**
Connection terminals:	Screw terminals 2,5 mm² (rigid wire)
Protection rating:	IP54

Feature/Equipment

- DIP switch for the configuration of the inputs with low priority in jog-switch or dead-man mode
- Inputs of various LZ1 and/or LZ6 are switchable in parallel
- With the BUS-Module it is possible to control drives with internal intelligent cut-off switch S12 for controlled natural ventilation via the bus protocol

VERSIONS		
LZ1 2,5 A	**without** BI-K - KNX-Interface-Module	**660027**
LZ1 2,5 A	**including** BI-K - KNX-Interface-Module (Part.-No.: 683999)	**660028**

	Part.-No.
LZ6 – Natural ventilation control unit 24 V DC	

Application: Natural ventilation control panel with power supply for the controlling of 24 V DC drives in 6 ventilation groups.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Max. power consumption:	805 W / 1518 W
Output voltage:	24 V DC (20 – 28 V DC / 0,5 Vpp)
Output current:	**24 A / 30 A**
Inputs:	6 Ventilation button lines with 2 prorities (P3: LOW; P2: HIGH) 1 Input all outputs OPEN/CLOSE (P1)
Outputs:	6 Drive output lines 24 V DC / 500 mA (e.g. rain sensor)
Display:	Power, output voltage switched in OPEN/CLOSE direction
Slot:	for optional BUS-Module (LON / KNX)
Housing:	Surface mounting, steel sheet, RAL 7035 (light grey)
Dimensions (WxHxD):	**420 x 300 x 144 mm**
Connection terminals:	Screw terminals 2,5 mm² (rigid wire)
Protection rating:	IP30

Feature/Equipment

- DIP switch for the configuration of the inputs with low priority in jog-switch or dead-man mode
- Inputs of various LZ1 and/or LZ6 are switchable in parallel
- All outputs are fused

VERSIONS		
LZ6 10 A	Output current: 6 x 1,6 A	**660070**
LZ6 24 A	Output current: 6 x 4,0 A	**660071**
LZ6 30 A	Output current: 6 x 5,0 A	**660072**

ORDER DATA

Part.-No.

NT-T-2,5 – Power supply 230 V AC / 24 V DC, 2,5 A	660009			

Application: Power supply with transformer for the controlling of 24 V DC drives in one ventilation group.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (+/-10%)
Power consumption:	60 W
Output voltage:	24 V DC (21 – 28 V DC)
Output current:	**2,5 A**
Duty cycle:	ED20% (10 min)
Ambient temperature range:	-5 °C ... +40 °C
Housing:	Surface mounting, plastic (ABS)
Dimensions (WxHxD):	94 x 130 x 81 mm
Connection terminals:	Screw terminals 2,5 mm² (230 V) / 4 mm² (24 V) (rigid wire)
Protection rating:	IP54

Feature/Equipment
- Control of OPEN/CLOSE with the 230 V AC power supply voltage

NT-S-6,5 – Power supply 230 V AC / 24 V DC, 6,5 A	660007			

Application: Switch mode power supply for the controlling of 24 V DC drives in one ventilation group.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (195 – 253 V AC, 50/60 Hz)
Power consumption:	460 W
Output voltage:	24 V DC (2 Vpp)
Output current:	**6,5 A**
Duty ratio:	ED30% (10 min)
Ambient temperature range:	-5 °C ... +40 °C
Housing:	Surface mounting, plastic (ABS)
Dimensions (WxHxD):	160 x 250 x 55 mm
Connection terminals:	Screw terminals 4 mm² (rigid wire)
Protection rating:	IP54

Feature/Equipment
- Control of OPEN/CLOSE with the 230 V AC power supply voltage
- Max. 8 power supplies may be switched in parallel

PS5 – Switch mode power supply	680005			

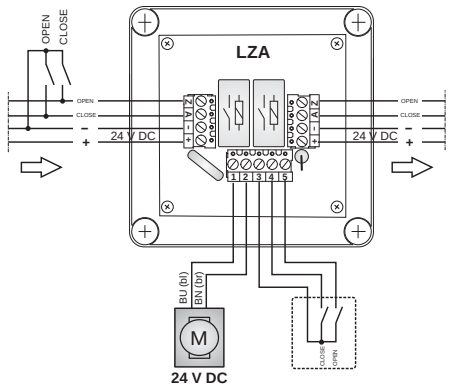
Application: Switch mode power supply for fixing on 35-mm mounting rail, for the external power supply of Ventilation-Modules LZA and LZH.

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**
Ambient temperature range:	-5 °C ... +40 °C
Housing:	suitable for 35-mm mounting rail
Dimensions (WxHxD):	65 x 95 x 123 mm
Connection terminals:	Screw terminals 4 mm² (rigid wire)

Feature/Equipment
- To be intagrated into housing or cabinet

SIMPLIFIED DIAGRAMM – LZA



ORDER DATA

Part.-No.

LZA – Ventilation-Module (external power supply required)	660020				

Application: Modular system for the single or group-wise control of 24 V DC drives via external power supply, Ventilation-Module in a surface-mounting junction box.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/- 20%)
Relay contact load:	6 A / 24 V DC
Duty cycle:	ED30% (10 min)
Connections:	1 Ventilation push button 1 Central OPEN/STOP/CLOSE (input / output) 1 Drives 24 V DC / 6 A
Ambient temperature range:	-5 °C ... +40 °C
Housing:	Surface mounting, plastic (ABS)
Dimensions (WxHxD):	94 x 94 x 81 mm
Connection terminals:	Screw terminals 4 mm² (rigid wire)

Feature/Equipment

- Inputs differentiate in between short-long-release commands. The drive output may be controlled by a short command as jog switch mode in on or off. With long and release command the drives may be operated in dead-man mode
- Every module has an inputs and outputs for looping through of a higher priority command (i.e. from ventilation buttons or time switch) and the power supply
- The external power supply shell be adapted to the summarized current consumption of the system

LZH – Ventilation-Module (external power supply)	660019				

Application: Modular system for the single or group-wise control of 24 V DC drives via external power supply, Ventilation-Module for fixing on 35-mm mountion rail.

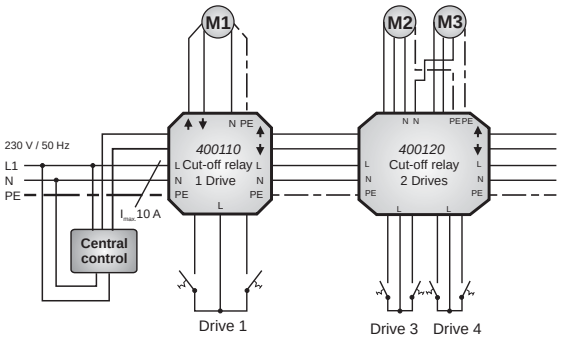
TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/- 20%)
Relay contact load:	6 A / 24 V DC
Duty ratio:	ED30% (10 min)
Connections:	1 Ventilation push button 1 Central OPEN/STOP/CLOSE (input / output) 1 Drives 24 V DC / 6 A
Ambient temperature range:	-5 °C ... +40 °C
Housing:	suitable for top rail 35 mm
Dimensions (WxHxD):	46 x 65 x 50 mm
Connection terminals:	Terminal screw 4 mm² (rigid wire)

Feature/Equipment

- Inputs differentiate in between short-long-release commands. The drive output may be controlled by a short command as jog switch mode in on or off. With long and release command the drives may be operated in dead-man mode
- Every module has an inputs and outputs for looping through of a higher priority command (i.e. from ventilation buttons or time switch) and the power supply
- The external power supply shell be adapted to the summarized current consumption of the system

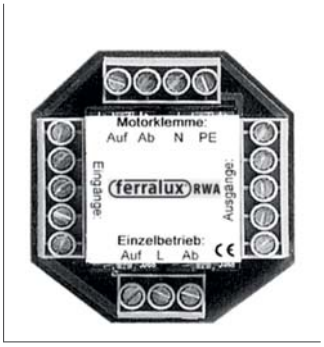
SIMPLIFIED DIAGRAMM – CONTROL RELAY



ORDER DATA

	Part.-No.
Universal control Relay-Module for 1 drive 230 V AC	**400130**

Application: Relay-Module for the single or group-wise control of 1 drive 230 V AC, suitable for the installation in a flush-mounted junction box behind the ventilation button.



TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (+/-10%), 50 Hz
Output voltage:	230 V AC
Current consumption relay:	10 mA
Operating capacity:	**5 A**
Duty cacle:	ED30% (10 min)
Ambient temperature range:	0 °C ... +60 °C
Connections:	1 Ventilation button 230 V AC 1 Central OPEN/CLOSE (input / output) 1 Drive 230 V AC / 5 A
Operating mode:	Dead-man
Housing:	Plastic (ABS), for flush mounting junction box ∅60 mm
Dimensions (WxHxD):	46 x 52 x 30 mm
Connection terminals:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP20

Feature/Equipment

- Every module has an inputs and outputs for looping through of a higher priority command (i.e. from ventilation buttons or time switch) and the power supply
- The ventilation input controls the modul-own drive output only

Universal control Relay-Module for 2 drives 230 V AC	**400120**

Application: Control relay for the single or group-wise control of 2 drives 230 V AC, suitable for the installation in a flush-mounted junction box behind the ventilation button.

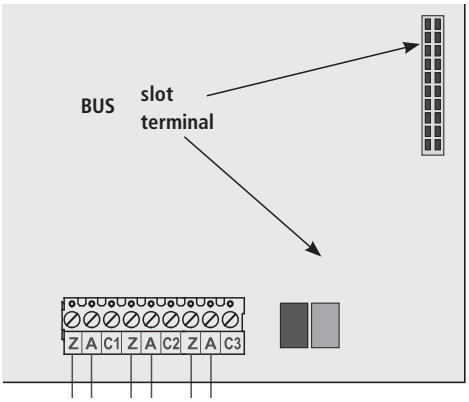
TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (+/-10%), 50 Hz
Output voltage:	230 V AC
Current consumption relay:	10 mA
Operating capacity:	**5 A per output**
Duty cycle:	ED30% (10 min)
Ambient temperature range:	0 °C ... +60 °C
Connections:	2 Ventilation buttons 230 V AC 1 Central OPEN/CLOSE (input / output) 2 Drive 230 V AC / 5 A
Operating mode:	Dead-man
Housing:	Plastic (ABS), for flush mounting junction box ∅70 mm
Dimensions (WxHxD):	60 x 60 x 30 mm
Connection terminals:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP20

Feature/Equipment

- Every module has an inputs and outputs for looping through of a higher priority command (i.e. from ventilation buttons or time switch) and the power supply
- Each ventilation input controls its own drive output only

Connection:
BI-K to natural ventilation control unit LZ1 (Part.-No.: 660028)



ORDER DATA

	Part.-No.				
BI-K - KNX Interface LZ1 / LZ6 / EMB 7300	**683999**				

Application: Plug-in card for communication between the controllers Aumüller LZ1, LZ6 and EMB 7300 to the KNX BUS system.

TECHNICAL DATA

Rated voltage:	24 V DC
Ambient temperature range:	-5°C … + 40°C
Relative humidity:	(no condensate) 5% … 90%
Data points:	up to 16 pieces per drive line
BUS current:	9mA
Housing:	without (assembled PCB)
Dimensions (WxH):	51 x 42 mm
Connection terminals:	2 x 2 x 0,8 mm (KNX-BUS-Terminal)

Feature/Equipment
- Data of the control (e.g. drive position) are sent on the KNX-BUS.
- The controls received direct orders from the KNX-BUS (e.g. position information, weather data).

ORDER DATA

	Part.-No.			
Ventilation button (with foil push buttons and displys)				
Application: Ventilation button for connection to the ventilation inputs of SHEV or natural ventilation control units.				

Picture: Surface mounting

TECHNICAL DATA (Rated values)

Contact type:	2 NO switches
Switching capacity:	max. 42V / 50 mA
Current consumption display:	< 10 mA
Housing:	plastic, white (similar to RAL 9016)
Dimensions (WxHxD)	Surface mounting: 81 x 81 x 44 mm Flush mounting: 81 x 81 x 11 mm (of visible surfaces)
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP20
Functions:	OPEN-STOP-CLOSE
Display:	LED for OPEN, CLOSE

Feature/Equipment
- Push buttons **without** mechanical locking

VERSIONS

Surface mounting	**529020**
Flush mounting (in box ∅60 mm)	**529050**

Ventilation button				
Application: Ventilation button for connection to the ventilation inputs of SHEV or natutal ventilation control units.				

Picture: Surface mounting

TECHNICAL DATA (Rated values)

Contact type:	2 NO switches
Switching capacity:	230 V AC / 10 A
Housing:	plastic, white (similar to RAL 9016)
Dimensions (WxHxD):	Surface mounting: 81 x 81 x 54 mm Flush mounting: 81 x 81 x 11 mm (of visible surfaces)
Connections:	Plug-in terminal 1,5 mm² (rigid wire)
Protection rating:	IP20
Functions:	OPEN / CLOSE

Feature/Equipment
- Push buttons **without** mechanical locking, stop function when both buttons are pushed

VERSIONS

Surface mounting	**529030**
Flush mounting (in box ∅60 mm)	**529230**

Ventilation key button				
Application: Ventilation button for connection to the ventilation inputs of SHEV or natural ventilation control units.				

Picture: Surface mounting

TECHNICAL DATA (Rated values)

Contact type:	2 NO switches
Switching capacity:	230 V AC / 10 A
Housing:	plastic, white (similar to RAL 9016)
Dimensions (WxHxD):	Surface mounting: 81 x 81 x 54 mm Flush mounting: 81 x 81 x 11 mm (of visible surfaces)
Connections:	Plug-in terminal 1,5 mm² (rigid wire)
Protection rating:	IP20
Functions:	OPEN-STOP-CLOSE

Feature/Equipment
- With semicylinder (DIN 19525) and 3 keys

VERSIONS

Surface mounting	**529350**
Flush mounting (in box ∅60 mm)	**529450**

ORDER DATA

	Part.-No.			
Ventilation button 230 V AC				

Application: Ventilation button for connection to the push button input of 230 V AC power supplies or for direct control of 230 V AC drives.

Picture: Surface mounting

TECHNICAL DATA (Rated values)

Contact type:	2 NO switches
Switching capacity:	max. 230 V AC (10 A)
Housing:	plastic, white (similar to RAL 9016)
Dimensions (WxHxD)	Surface mounting: 81 x 81 x 54 mm Flush mounting: 81 x 81 x 11 mm (of visible surfaces)
Connections:	Plug-in terminal 1,5 mm² (rigid wire)
Protection rating:	IP20
Functions:	OPEN/CLOSE dead-man (push to run mode)

Feature/Equipment
- Push buttons **with** mechanical locking, the drive move as long as a button is pushed

VERSIONS

Surface mounting	**529530**
Flush mounting (in box ∅60 mm)	**529630**

Rotary ventilation switch 230 V AC				

Application: Rotary switch for connection to the push button input of 230 V AC power supplies or for direct control of 230 V AC drives.

Picture: Surface mounting

TECHNICAL DATA (Rated values)

Contact type:	2 NO switches
Switching capacity:	230 V AC / 10 A
Housing:	plastic, white (similar to RAL 9016)
Dimensions (WxHxD)	Surface mounting: 81 x 81 x 54 mm Flush mounting: 81 x 81 x 11 mm (of visible surfaces)
Connections:	Plug-in terminal 1,5 mm² (rigid wire)
Protection rating:	IP20
Functions:	OPEN-STOP-CLOSE

Feature/Equipment
- Switch **with** mechanical locking,

VERSIONS

Surface mounting	**529550**
Flush mounting (in box ∅60 mm)	**529650**

Room temperature controller	**483200**			

Application: Thermostat as on-off controller for room temperature detection.

TECHNICAL DATA (Rated values)

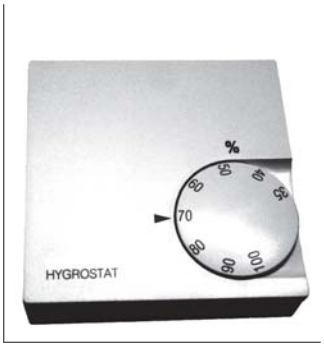
Measuring element:	Bimetal switch
Contact type:	1 change-over switch
Switching capacity:	230 V AC / 5 A
Settings:	0 – 30 °C
Housing:	Surface mounting, plastic, white
Dimensions (WxHxD):	74,5 x 74,5 x 25 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP30

Feature/Equipment
- Connection to **ventilation inputs** of SHEV or natural ventilation control units

ORDER DATA

	Part.-No.				
Hygrostat	**483050**				

Application: Hygrostat as on-off controller for room humidity detection.



TECHNICAL DATA (Rated values)

Measuring element:	Bimetal switch
Contact type:	1 Change-over switch
Switching capacity:	230 V AC / 5 A
Settings:	35 – 10% humidity
Housing:	Surface mounting, plastic, white
Dimensions (WxHxD):	74,5 x 74,5 x 25 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP30

Feature/Equipment
- Connection to **ventilation input** of SHEV or natural ventilation control units

CO2 – Air quality sensor	**483710**				

Application: Sensor for the detection and evaluation of the CO2 concentration inside rooms.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/-5%)
Measuring element:	electronic
Contact type:	2 Normal open switch
Pulse duration:	3,5 sec.
Switching capacity:	230 V AC / 0,5 A
Measuring range:	0 – 3000 ppm CO2
Housing:	Surface mounting, plastic, white
Dimensions (WxHxD):	78 x 78 x 35 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP30
Display:	3 LED (green, yellow, red)

Feature/Equipment
- Connection to **ventilation input** of SHEV or natural ventilation control units

Conservatory Control WG 3006	**484001**				

Application: Control of 230 V drives. For opening and closing of conservatories, terraces and balconies canopies - manually and depends on the internal temperature. It may be a 230 V rain sensor can be connected.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC
Contact type:	1 change-over switch
Switching capacity:	230 V AC / 3 A
Settings:	5 – 30 °C
Housing:	Surface mounting, plastic, white
Dimensions (WxHxD):	127 x 74 x 24 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP30

Feature/Equipment
- Thermostat with switch hand/automatic and rocker-switch OPEN/CLOSE

ORDER DATA

	Part.-No.				
Relay interface for 230 V drives	**670071**				

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 mm² (rigid wire)
Protection rating:	IP54

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

GLT-LZM3 – Runn Time-Module 0 – 10 V for ventilation	**500119**				

Application: For the stroke control with 0 – 10 V signal (0 – 100%) of one drive line.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC
Control voltage:	0 – 10 V DC
Drive run time range:	5 – 999 sec.
Contact load:	30 V / < 0,5 A
Housing:	plastic, for 35-mm mounting rail
Dimensions (WxHxD):	74,5 x 74,5 x 25 mm
Connections:	Screw terminal 1,5 mm² (rigid wire)

Feature/Equipment
- For the connection to **drive line** of SHEV or natural ventilation control units
- Cabinet mounting requires free space within housing
- The setting of the drive run time (for the stroke limitation) corresponds to 10 V (100% open). The ventilation line is closed at 0 V (0% open)
- The intermediar positions correspond to the applied 0 – 10 V voltage
- Operating voltage polarised in close direction: Drives are following the 0 – 10 V signal
- Operating voltage polarised in open direction: 0 – 10 V signal is overdriven, drives run to end limit OPEN (Emergency-open function)

OPTIONS

Cabinet mounting (a larger housing may be required)	**500113**				

Time switch	**722374**				

Application: Usable to open / close ventilation lines time controlled. Contains day-programm and week-programm (30 program locations).

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 mm² (rigid wire)
Protection rating:	IP20

Feature/Equipment
- Connection to the **ventilation input** of SHEV or natural ventilation control units

OPTIONS

Cabinet mounting (a larger housing may be required)	**500113**				

ORDER DATA

	Part.-No.				
Wind sensor Type III	**482021**				

Application: Anemometer with 3 impact resistant wind cups (PA6) for wind speed detection.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/- 20%)
Measuring principle:	Pulse generator, ball beared
Housing:	Aluminium ∅36 mm, untreated
Wind cups:	PA6, black
Dimensions:	250 x 250 x 80 mm
Connection cable:	non-halogen cable, approx. 4 m

Feature/Equipment

- For connection with: EMB7300 control units, WM Weather-Module (EMB8000), wind/rain controls WRAG2 and Type IV. With clamp ring for fixing on all the wall/pole brackets with outer diameter ∅36mm

COMPONENTS

Cups for wind sensor Type III	**490601**				
Clamp ring for wind sensor Type III	**515950**				

Rain sensor Typ III 24 V DC	**480210**				

Application: Rain sensor with heated sonsor surface and internal control with volt free output contact.

TECHNICAL DATA (Rated values)

Operating voltage:	24 V DC (+/- 20%)
Standby current:	<150 mA
Measuring principle:	Conductivity measurement, heated sensor
Hysteresis:	5 min
Display:	Output active
Output:	Change-over switch, 5 A / max. 48 V
Protection rating:	IP65
Housing:	Surface mounting, ABS black with bracket (stainless steel)
Dimensions:	100 x 85 x 172 mm
Connection cable:	non-halogen cable, approx. 4 m

Feature/Equipment

- For connection with: EMB7300 control units, WM Weather-Module (EMB8000), wind/rain controls WRAG2 and Type IV

Rain sensor Typ III 230 V AC	**480110**				

Application: Rain sensor with heated sonsor surface and internal control with volt free output contact.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC (50 Hz)
Power consumption:	<1,5 VA
Measuring principle:	Conductivity measurement
Display:	Output active
Output:	Change-over switch, 5 A / max. 230 AC
Protection rating:	IP65
Housing:	Surface mounting, ABS black with bracket (stainless steel)
Dimensions:	100 x 85 x 172 mm
Connection cable:	non-halogen cable, approx. 4 m

Feature/Equipment

- Single device for the feed from electric mains power supply

ORDER DATA

	Part.-No.				
WR-Set Type 7x/8x – Wind und Rain Sensor Set	**482100**				

Application: Sensors for wind and rain to work with an evaluation unit WRAG2 or Typ IV, a WM Weather-Module or directly with a SHEV control unit, for closing and blocking the natural ventilation under bad weather conditions.

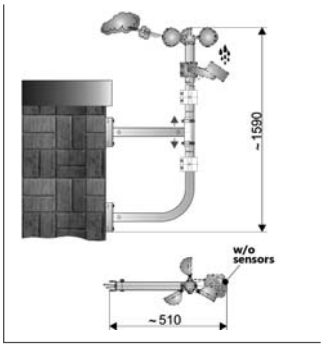
TECHNICAL DATA (Rated values)

Rated voltage:	24 V DC (+/- 20%)
Rain sensor Type III – heated sensor surface, switch-off delay approx. 5 min.	
Contact:	1 Change-over switch, max. 48 V / 5A
Current consumption:	<150 mA
Housing:	Surface mounting, ABS black with stainless steel bracket
Dimensions (WxHxD):	100 x 85 x 172 mm
Connection cable:	Non-halogen cable, approx. 4 m
Volt free contac:	1 Change-over switch, max. 48 V / 1A
Wind sensor Type III – Anemometer with 3 impact resistant wind cups (PA6)	
Measuring principle:	Pulse generator
Dimensions:	250 x 250 x 80 mm
Connection cable:	non-halogen cable, approx. 4 m

Feature/Equipment
- Set including: Wind sensor Type III (Part.-No. 482021), rain sensor Type III (Part.-No. 480210), clamp ring (Part.-No. 515950), aluminium bracket for pole or wall mounting (Part.-No. 482093), without mounting screws

Wall bracket for wind and rain sensor	**491200**				

Application: Wall bracket with dual fixings for wind and rain sensors.



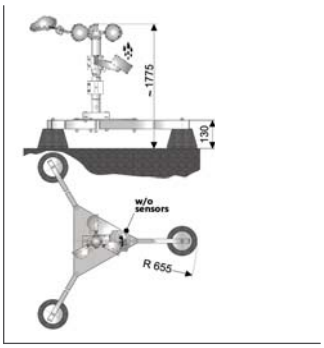
TECHNICAL DATA

Height:	app. 1500 mm
Outreach:	app. 510 mm
Material:	Aluminium ∅36mm

Feature/Equipment
- w/o fixing screws and sensors

Pole bracket for wind and rain sensors	**491101**				

Application: Pole bracket for the fixing of wind and rain sensors at flat roofs.



TECHNICAL DATA

Height:	app. 1775 mm
Base area:	app. ∅1300 mm
Material:	Aluminium ∅36mm with 3 stable concrete feet

Feature/Equipment
- w/o sensors

ORDER DATA

	Part.-No.				
WRAG2 – Wind / Rain evaluation unit	**482005**				

Application: For the evaluation of wind and rain signals from wind and rain sensors Type 7x/8x or rain sensors operating with 24 V DC and their transmission via 2 volt free contacts, with additional input for connecting of ventilation buttons (or time switches etc.).

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC, 50 Hz
Standby consumption:	<100 mA
Inputs:	Rain senso 24 V DC, wind sensor, ventilation button
Display:	Power, wind, rain
Wind speed range:	2,5 – 20 m/s, adjustable
Outputs:	2 Change-over switches, 230 V AC / 5 A
Housing:	plastic, surface RAL 7035, bottom RAL 7021
Dimensions (WxHxD):	105 x 86 x 58 mm
Installation:	35-mm mounting rail
Connections:	Screw terminals 1,5 mm² (rigid wire)
Protection rating:	IP40

Feature/Equipment
- Signal transmission for wind or/and rain (separately or together) adjustable via 4 DIP switches, direct connection of drives up to max. 5 A, switch-on time delay for wind and rain signal, and switch-off time delay for wind signal

REL-WRAG2 – Relay for contact multiplier	**487020**				

Application: Relay as contact multiplier of output signals of wind and rain evaluation unit WRAG2.

TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC, 50 Hz
Contact type:	2 Change-over switches
Switching capacity:	230 V / 8 A
Connections:	Screw terminal 1,5 mm² (rigid wire)

Feature/Equipment
- With base for installation on 35-mm mounting rail

Compact distributor housing for WRAG2	**482011**				

Application: Surface mounting distributor housing for the installation and wiring of wind and rain evaluation WRAG2 and max. 2 relays.

TECHNICAL DATA

Material:	plastic (ABS)
Type of installation:	Surface mounting
Protection rating:	IP30
Dimensions (WxHxD):	182 x 180 x 82 mm
Reserve space:	2 REL-WRAG2

Feature/Equipment
- w/o fixing screws

ORDER DATA

	Part.-No.				
Distributor housing for WRAG2	**482015**				

Application: Surface mounting distributor housing for the installation and wiring of wind and rain evaluation WRAG2 and max. 6 relays.

TECHNICAL DATA

Material:	plastic (ABS)
Type of installation:	Surface mounting
Protection rating:	IP30
Dimensions (WxHxD):	303 x 245 x 95 mm
Reserve space:	6 REL-WRAG2

Feature/Equipment
- w/o fixing screws

Wind and rain evaluation Type IV	**482008**				

Application: For the evaluation of wind and rain signals from wind and rain sensors Type 7x/8x or rain sensors operating with 24 V DC and their transmission via 3 volt free contacts.

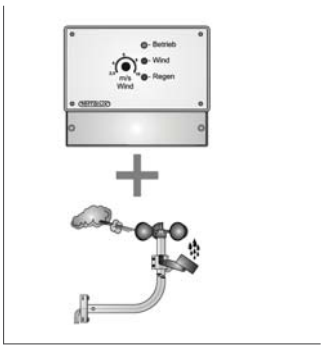
TECHNICAL DATA (Rated values)

Operating voltage:	230 V AC, 50 Hz
Standby current:	<100 mA
Inputs:	Rain sensor 24 V DC, wind sensor
Display:	Power, wind, rain
Wind speed range:	2,5 – 10 m/s, adjustable
Outputs:	3 Change-over switches, 5 A / 230 V AC
Housing:	plastic, surface RAL 7035, bottom RAL 7021
Dimensions (WxHxD):	212 x 180 x 80 mm
Installation:	Surface mounting
Connections:	Screw terminal 1,5 mm² (rigid wire)
Protection rating:	IP40

Feature/Equipment
- Direct connection of drives up to max. 5 A, switch-on time delay for wind and rain signal, and switch-off time delay for wind signal
- Suitable for surface mounting

Wind and rain sensor set Typ IV	**481990**				

Application: Set consisting of wind and rain evaluation Type IV with wind and rain sensor set Type 7x/8x, for the evaluation of wind and rain signals and their transmission via 3 volt-free contacts.

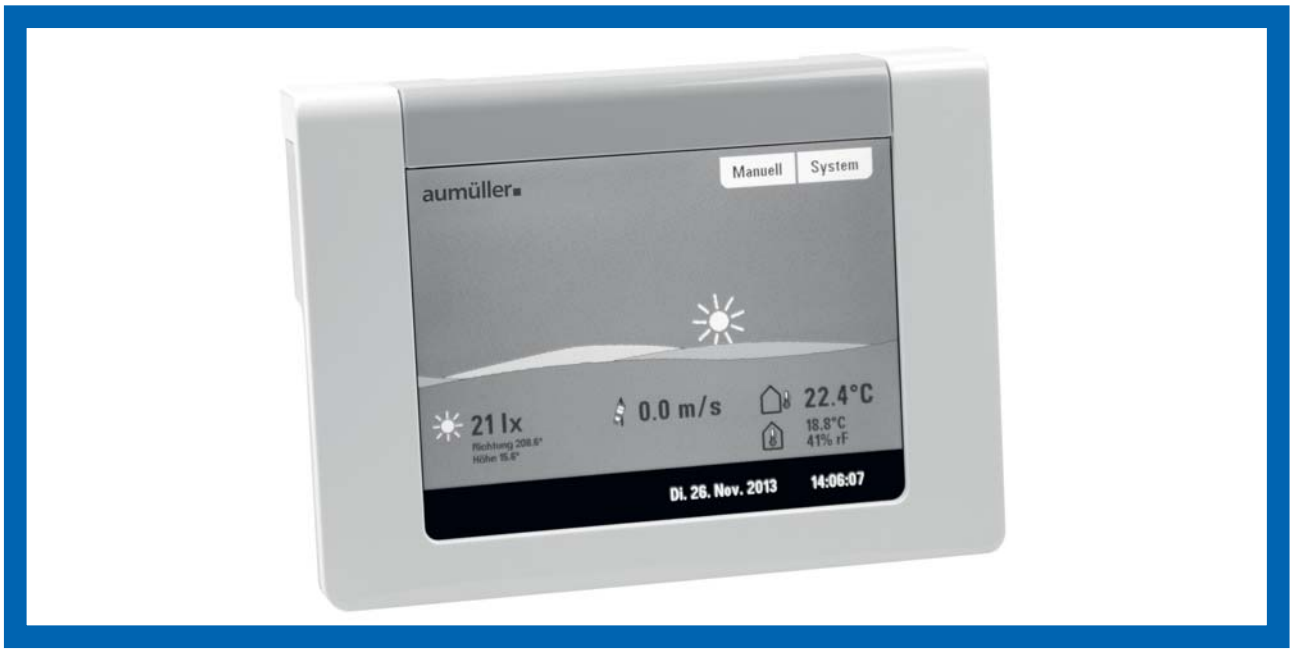


TECHNICAL DATA
See wind and rain control unit Type IV
and wind and rain sensor set Type 7x/8x.

Feature/Equipment
- Set including: Wind sensor Type III (Part.-No. 482021), rain sensor Type III (Part.-No. 480210), clamp ring (Part.-No. 515950), bracket for pole or wall mounting (Part.-No. 482093), without mounting screws

aumüller

6 Controlled Natural Ventilation

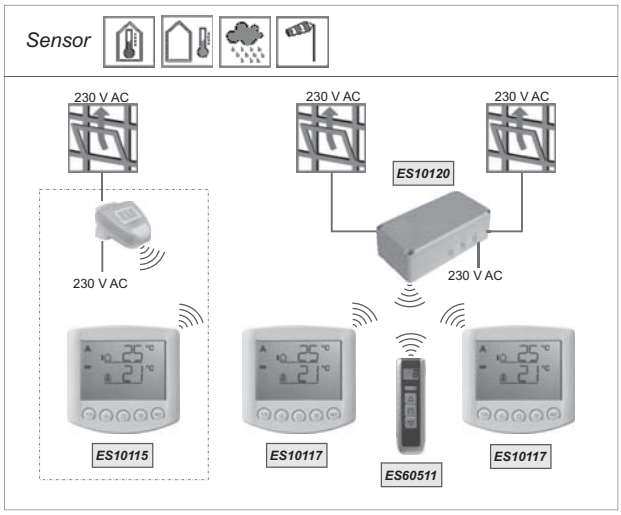


PRODUCT FEATURES

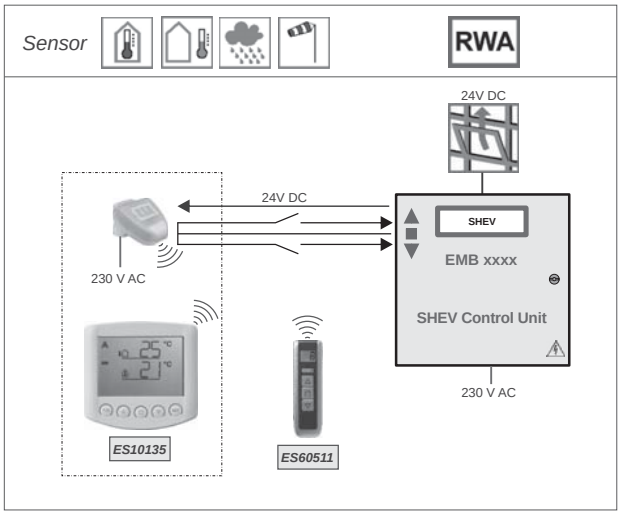
- Our controlled natural ventilation system offers solutions for modern buildings in the highest possible comfort level for the user
- Our controlled natural ventilation systems require careful planning and professional installation. The system provides:
  - supply of rooms with fresh air by having a low power demand
  - improves cooling of the building in the summer
  - it has an integrated night cooling system which saves energy in the summer, heat losses in the winter are prevented by short ventilation intervals
  - it prevents moisture damage and mould formation
- Controlled natural ventilation basics:
  - Single sided ventilation (windows are on one side of the room) – suitable for rooms with low public accordance and a room depth < 2,5x room height, with low air exchange rates
  - Cross ventilation (windows are on both sides of the room) – it occurs where there are ventilation openings on both sides of the room and where there are significant differences in wind pressure. It is suitable for rooms for high frequency rooms and a room depth < 5x room height
  - Atrium ventilation (windows are arranged into the facade or into the roof) – Windows which are suitated on different height levels are a trigger to the „chimney effect". Thus makes the warm air rise up and escape in the form of exhaust air through the roof windows. This produces an under pressure within the building and allows fresh air to enter freely through the facade windows
  - Hybrid ventilation – it uses the advantages of a controlled natural ventilation system and supports it with an additional added mechanical ventilation (e.g. extract air fan). A hybrid ventilation can be used in rooms which have a high public accordance (e. g. conference rooms)
- Due to the very extensive functions and tasks controlled ventilation systems have to fulfil, the components used within such systems are usually networked via wired bus systems like KNX, LON, CAN or via wireless radio sytems

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**.

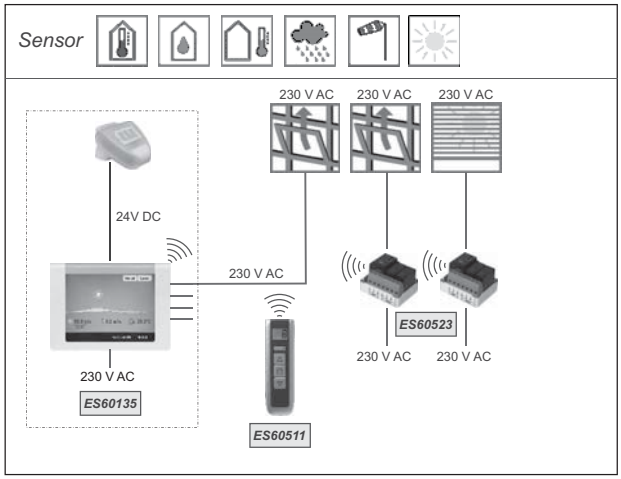
PRINCIPAL DIAGRAMM – AREXA 230 V RADIO CONTROL – VENTILATION



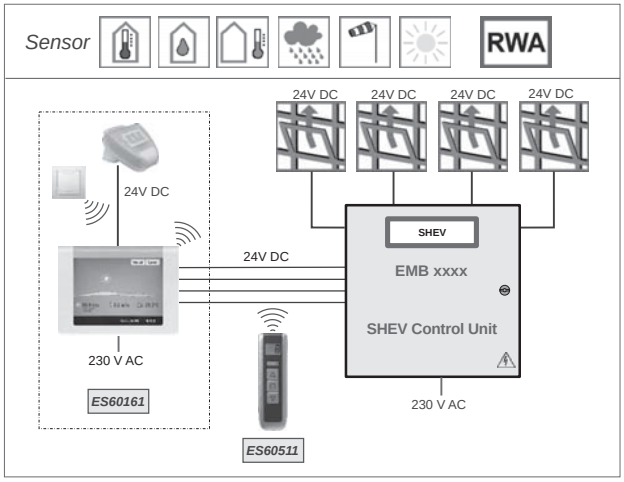
PRINCIPAL DIAGRAM – AREXA PF RADIO CONTROL – VENTIALTION AND SHEV



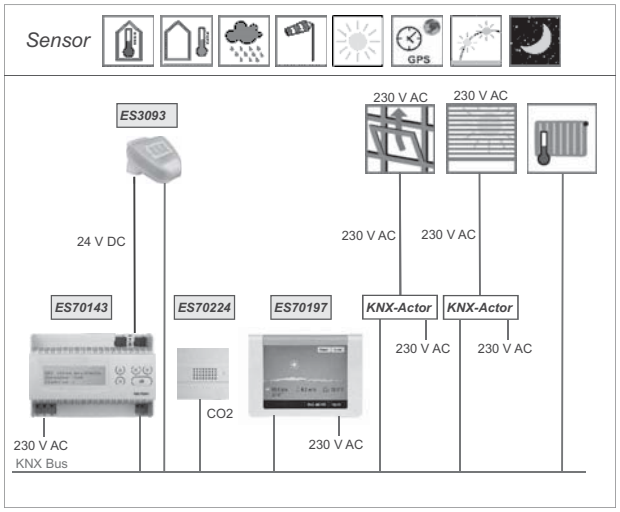
PRINCIPAL DIAGRAMM – WS1 COLOR 230 V RADIO CONTROL – VENTILATION



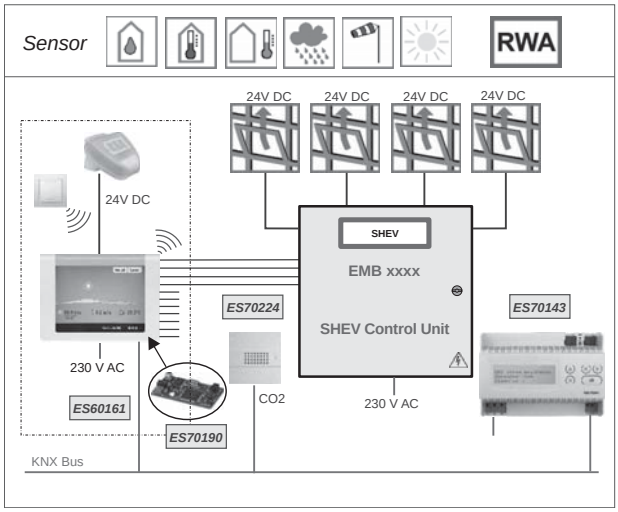
PRINCIPAL DIAGRAM – WS1000 COLOR PF RADIO CONTROL FOR VENTILATION AND SHEV



PRINCIPAL DIAGRAM – KNX TOUCH ONE STYLE FOR VENTILATION



PRINCIPAL DIAGRAM – WS1000 COLOR PF KNX RADIO CONTROL – VENTILATION AND SHEV



ORDER DATA

	Part.-No.			
Window control Arexa®				

Application: Room automation control unit for one drive 230 V AC or 24 V DC including a weather station with rain, temperature, sun and wind sensor and a radio control XS 1B-D with indoor temperature sensor.

TECHNICAL DATA

Operating voltage:	Version 230 V AC: 230 V AC, 50 Hz, max. 22 mA Version 24 V DC: 12 – 40 V DC, max. 22 mA
Power consumption:	Version 230 V AC: max. 4 W Version 24 V DC: max. 2,4 W
Drive outputs:	Version 230 V AC: max. 1000 W (Micro fuse: T 6,3A) Version 24 V DC: volt free NO switch
Operation:	Display with key pad
Eff. range indoor temp. sensor:	-40 ... +80°C
Eff. range outdoor temp. sensor:	-40 ... +80 °C
Eff. range brightness sensor:	0 ... 99 kLux
Eff. range wind sensor:	0 ... 35 m/s
Rain sensor heating:	approx. 1,2 W
Housing:	Plastic, white translucent
Dimensions (WxHxD):	96 x 77 x 118 mm
Protection rating:	IP44
Ambient temperature range:	-30 ... +50°C
Mounting:	surface mounting

Feature/Equipment

- Setting of switching threshold via key pad, control possibilities via radio remote control Remo® 8

VERSIONS

Arexa® 230 V AC	**ES10115**				
Arexa® 24 V DC	**ES10135**				

Control unit WS1® Color					

Application: Room automation control unit including a weather station with temperature and moisture sensor and a weather station with rain, temperature, sun and wind sensor.

TECHNICAL DATA

Operating voltage:	230 V AC, 50 Hz
Number of radio channels:	max. 32 (868,2 MHz)
Operation:	animated graphical colour display 5,7“ (adjustable languages: German, English, French, Italian)
Drive outputs:	WS1 Color-1: 1 / WS1 Color-4: 4
Electric output Version 230V:	max. 400 W per output (max. 1500 W in total)
Electric output Version PF:	volt free NO switch
Input for ventilation button:	WS1 Color-1: 1 / WS1 Color-4: 4
Multifunctional outputs:	2 (e.g. Heating, lighting)
Multifunctional inputs:	2 (e.g. Motion detector)
Eff. range indoor temp. sensor:	-40 ... +80°C
Eff. range indoor humidity sensor:	0 ... 100% rF (avoid bedewing)
Eff. range outdoor temp. sensor:	-40 ... +80 °C
Eff. range brightness sensor:	0 ... 99 kLux
Eff. range wind sensor:	0 ... 35 m/s
Housing:	Plastic, white brilliant (similar to RAL 9003)
Dimensions (WxHxD):	164 x 121 x 29 mm
Protection rating:	IP40
Ambient temperature range:	0 ... +50°C
Mounting in flush-mounted box (WxHxD):	152 x 95 x 62 mm

Feature/Equipment

- Setting of switching threshold via touch screen menu and control options via radio remote control Remo® 8

VERSIONS

WS1® Color-1 (1 drive output 230 V)	**ES60135**				
WS1® Color-4 (4 drive outputs 230 V)	**ES60138**				
WS1® Color-1 (1 drive output PF)	**ES60171**				
WS1® Color-4 (4 drive output PF)	**ES60174**				

ORDER DATA

	Part.-No.			
Control unit WS1000® Color				

Application: Room automation control unit including a weather station with temperature and moisture sensor and a weather station with rain, temperature, sun and wind sensor and a radio controlled thermo hygrometer WGTH-UP.

TECHNICAL DATA

Operating voltage:	230 V AC, 50 Hz
Number of radio channels:	max. 32 (868,2 MHz)
Operation:	animated graphical colour display 8,4“ (adjustable languages: German, English, French, Italian)
Drive outputs:	WS1000 Color-4: 4 / WS1000 Color-10: 10
Electric output Version 230V:	max. 400 W per output (max. 1500 W in total)
Electric output Version PF:	volt free NO switch
Input for ventilation button:	WS1000 Color-4: 4 / WS1000 Color-10: 10
Multifunctional outputs:	4 (e.g. Heating, lighting)
Multifunctional inputs:	4 (e.g. Motion detector)
Eff. range indoor temp. sensor:	-40 ... +80°C
Eff. range indoor humidity sensor:	0 ... 100% rF
Eff. range outdoor temp. sensor:	-40 ... +80 °C
Eff. range brightness sensor:	0 ... 99 kLux
Eff. range wind sensor:	0 ... 35 m/s
Housing:	Plastic, white brilliant (similar to RAL 9003)
Dimensions (WxHxD):	250 x 182 x 43 mm
Protection rating:	IP40
Ambient temperature range:	0 ... +50°C
Mounting in flush-mounted box (WxHxD):	235 x 160 x 62 mm

Feature/Equipment

- Setting of switching threshold via touch screen menu and control options via radio remote control Remo® 8

VERSIONS

WS1000® Color-4 (4 drive outputs 230V)	**ES60121**				
WS1000® Color-10 (10 drive outputs 230V)	**ES60124**				
WS1000® Color-4 (4 drive outputs PF)	**ES60161**				
WS1000® Color-10 (10 drive outputs PF)	**ES60164**				

Wind and rain sensor RW-PF	**ES30155**				

Application: Wind and rain sensor for the detection and analysis of weather data with Volt free outputs.

TECHNICAL DATA

Operating voltage:	12 ... 40 V DC
Output rain:	1x NO switch, volt free
Output wind alarm:	1x NO switch, volt free
Display:	2x LED for wind and rain alarm
Eff. range wind sensor:	0 ... 35 m/s
Rain sensor heating:	approx. 1,2 W
Housing:	Plastic, white/translucent
Dimensions:	96 x 77 x 118 mm
Mounting:	On wall or polet
Ambient temperature range:	-30 ... +50°C

Feature/Equipment

- Electronic measurement of wind is very reliable when weather conditions change to hail, snow or if temperature drop to sub-zero
- Setting of wind threshold value via DIP switches. Heated rain sensor prevents false reports as a result of fog or dew

ORDER DATA

Part.-No.

Radio remote control XS 1B-D — ES10117

Application: Radio remote control for weather stations or motor control unit XS MSG2-AP, including display, key pad and integrated indoor and outdoor temperature sensor.

TECHNICAL DATA

Operating voltage:	2 Prepared for batteries 1,5 V (AA Mignon/LR6) or 2 rechargeable Prepared for batteries 1,2 V (AA Mignon/LR6)
Radio control frequency:	868,2 MHz
Operation:	Display with key pad
Display:	Weather data, indoor temperature, alarm state
Eff. range indoor temp. sensor:	-40 ... +80°C
Housing:	plastic, white matt
Dimensions (WxHxD):	103 x 98 x 28 mm
Protection rating:	IP40
Ambient temperature range:	0°C... +50°C
Ambient air humidity range:	max. 80% rF (avoid bedewing)

Feature/Equipment
- Manual setting of opening positions of the drive via key pad or via radio remote control Remo® 8, automatic opening depends on indoor and outdoor temperature, wind and rain protection

Radio controlled thermo-hygrometer SGTH-UP — ES20550

Application: Indoor sensor for temperature and humidity detection.

TECHNICAL DATA

Operating voltage:	7 ... 30 V DC
Power consumption:	max. 35 mA
Radio control frequency:	868,2 MHz
Eff. range indoor temp. sensor:	-40 ... +80°C
Eff. range indoor humidity sensor:	0 ... 100% rF
Housing:	Plastic, white translucent (similar to RAL 9016)
Dimensions (WxHxD):	71 x 71 x 15 mm
Protection rating:	IP40
Ambient temperature range:	-20 ... +70°C
Ambient air humidity range:	max. 95% rF (avoid bedewing)
Mounting in flush-mounted box:	∅60 mm, 42 mm tief

Feature/Equipment
- Integration into radio controlled systems with control unit WS1® Color and WS1000® Color (one sensor packed with control unit WS1000® Color)

Radio controlled motor control unit XS MSG2-AP (2x 230 V AC) — ES10120

Application: Radio controlled motor control unit with 2 separate drive outputs 230 V AC for electric motor driven windows or awnings, blinds and rolling shutters.

TECHNICAL DATA

Operating voltage:	230 V AC, 50 Hz
Radio control frequency:	868,2 MHz
Outputs:	2 drives 230 V AC
Switching capacity:	max. 1000 W / Output
Housing:	plastic, grey
Dimensions (WxHxD):	160 x 80 x 57 mm
Installation:	Surface mounting
Protection rating:	IP44
Ambient temperature range:	-20 ... +50°C

Feature/Equipment
- Radio communication with the weather station, with radio remote control XS 1B-D or with radio remote control Remo® 8

ORDER DATA

Part.-No.

Radio controlled motor control unit RF MSG (1x 230 V AC)	ES60532			

Application: Radio controlled motor control unit with 1 drive output 230 V AC for electric motor driven windows or awnings, blinds and rolling shutters.

TECHNICAL DATA

Operating voltage:	230 V AC, 50 Hz
Radio control frequency:	868,2 MHz
Outputs:	1 drives 230 V AC
Switching capacity:	max. 230 V AC / 4A
Housing:	w/o, for mounting in flush or surface mounted box
Dimensions (WxHxD):	38 x 47 x 29 mm
Protection rating:	IP20
Ambient temperature range:	-20 ... +70°C
Ambient air humidity range:	max. 95% rH (avoid bedewing)

Feature/Equipment
- Radio communication with WS1® Color and WS1000® Color or directly controlled by radio remote control Remo® 8

Radio controlled relay RF-REL UP	ES60534			

Application: Radio controlled relay with 1 NO contact for flush mounting.

TECHNICAL DATA

Operating voltage:	230 V AC, 50 Hz
Radio control frequency:	868,2 MHz
Outputs:	1 volt free NO switch
Switching capacity:	max. 230 V AC / 4A
Housing:	w/o, for mounting in flush or surface mounted box
Dimensions (WxHxD):	38 x 47 x 29 mm
Protection rating:	IP20
Ambient temperature range:	-20 ... +70°C

Feature/Equipment
- Radio communication with WS1® Color and WS1000® Color or directly controlled by radio remote control Remo® 8

Remote control Remo® 8	ES60511			

Application: Radio controlled hand-held transmitter with display for the manual control of WS1® Color, WS1000® Color, Arexa®, weather station, XS MSG2-AP, RF-MSG 230V or RF-REL UP.

TECHNICAL DATA

Operating voltage:	230 V AC, 50 Hz
Radio control frequency:	868,2 MHz
Number of radio channels:	max. 8
Total weight:	~ 95 g
Housing:	Plastic material, white/light gray
Dimensions of transmitter:	41 x 140 x 21 mm
Dimensions of wall holder:	54 x 150 x 11 mm
Protection rating:	IP20
Ambient temperature range:	0 ... +50°C
Ambient air humidity range:	max. 95% rH (avoid bedewing)

Feature/Equipment
- Magnetic wall holder included

ORDER DATA

	Part.-No.				
Operation panel KNX Touch-One® Style	**ES70197**				

Application: Touch panel for room automation, with KNX connection and integrated indoor sensors for temperature and humidity detection.

TECHNICAL DATA

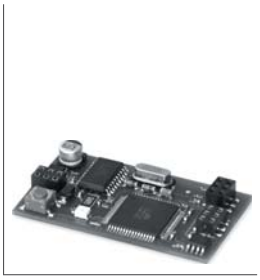
Operating voltage:	230 V AC, 50 Hz
Auxiliary supply:	12 ... 40 V DC
BUS current:	max. 10 mA
Operation:	animated graphical colour display 5,7“ (adjustable languages: German, English, French, Italian)
Multifunctional inputs:	4 binary inputs (e.g. for buttons)
Data output:	KNX +/- terminals
Group addresses:	max. 1024
Assignments:	max. 1024
Communication objects:	477 (Number 1 ... 532)
Eff. range indoor temp. sensor:	-40 ... +80°C
Eff. range indoor humidity sensor:	0 ... 100% rH (avoid bedewing)
Housing:	Glass, plastic, white / grey
Display Dimensions (WxHxD):	181 x 111 x 8 mm
Flush mounting housing (WxHxD):	172 x 122 x 81 mm
Protection rating:	IP20
Ambient temperature range:	0 ... +50°C

Feature/Equipment

- Internal automatic for shading (sun and view protected), room climate control (heating, cooling, ventilation), internal lightning control, BUS for time and scene control options, universal menu to display status information and use of function and object allocations

Interface KNX for WS1000® Color	**ES70190**				

Application: For plugging the circuit board on control unit WS1000® Color.



TECHNICAL DATA

Operating voltage:	KNX bus voltage
Data output:	KNX +/- BUS screw terminal
Communications object:	254
Housing:	w/o
Dimensions (WxHxD):	53 x 7 x 30 mm
Ambient temperature range:	0 … +50 °C
Ambient air humidity range:	max. 95 rH (avoid bedewing)

Feature/Equipment

- Transmission of KNX bus data from and back of control WS1000®

Control of KNX actuator via automated functions of WS1000®

Power supply KNX PS640 USB	**ES70143**				

Application: Power supply for KNX bus.

TECHNICAL DATA

Operating voltage:	230 V AC, 50 Hz
Display:	Display (adjustable languages: German, English, Spanish, Dutch)
Outputs:	KNX bus voltage 29 V (choked) max. 640 mA 24 V DC (not choked) max. 150 mA
Housing:	Plastic, white
Dimensions (WxHxD):	123 x 89 x 61 mm (7 TE)
Mounting:	serial mounting on top rail 35 mm
Protection rating:	IP20
Ambient temperature range:	-5 ... +45°C
Ambient air humidity range:	max. 95% rH (avoid bedewing)

Feature/Equipment

- Reset of one line possible
- Reporting of operating hours, overload, external overvoltage, internal overvoltage, short circuit and overtemperature
- Display of operating data, bus voltage, bus current and temperature of the device
- USB connection to grant bus access via PC

ORDER DATA

	Part.-No.				
Weather station KNX Suntracer GPS	**ES3093**				

Application: Weather station with KNX connection to report and analyse: outdoor temperature, wind speed, brightness. Suitable for GPS receiver (time and location settings), includes system to calculate the exact position of the sun (azimuth and elevation) on the basis of location coordinates and time. Contain an integrated week and calendar time controller.

TECHNICAL DATA

Operating voltage:	230 V AC, 50 Hz
Auxiliary supply:	12 ... 40 V DC, max. 81 mA at 24 V DC
BUS current:	max. 8 mA
Data output:	KNX +/- BUS screw terminal
Group addresses:	max. 254
Assignments:	max. 255
Communication objects:	254
Eff. range temperature sensor:	-30 ... +80°C
Eff. range wind sensor:	0 ... 35 m/s
Eff. range brightness sensor:	0 ... 150.000 Lux
Housing:	Plastic, white / translucent
Dimensions (WxHxD):	96 x 77 x 118 mm
Mounting:	surface mounting
Protection rating:	IP44
Ambient temperature range:	-30 ... +50°C

Feature/Equipment

- Shading for up to 6 facades with slat and shadow edge tracking
- The wind strength measurement takes place electronically and thus noiselessly and reliably, even during hail, snow and sub-zero temperatures
- Heated precipitation sensor prevents false reports as a result of fog or dew
- The weekly time switch switches up to 4 different periods per day
- Switching outputs for all measured and calculated values (threshold values can be set via parameters or communications objects) 8 AND + 8 OR logic gate with 4 for each input
- Configuration via KNX software ETS

CO2 indoor sensor KNX AQS-UP	**ES70224**				

Application: Indoor sensor for measuring of CO2 in the air, equipped with PI controller for ventilation: ventilation (single step or single and two stepped).

TECHNICAL DATA

Operating voltage:	KNX BUS voltage
BUS current:	max. 10 mA
Data output:	KNX +/- BUS screw terminal
Communication objects:	133
Eff. range CO2 sensor:	0 ... 2000 ppm
Housing:	Plastic, white translucent (similar to RAL 9016)
Dimensions (WxHxD):	71 x 71 x 15 mm
Protection rating:	IP20
Ambient temperature range:	-10 ... +50°C
Ambient air humidity range:	max. 95% rH (avoid bedewing)
Mounting in flush mounted box:	∅60 mm, 42 mm deep

Feature/Equipment

- 4 switching outputs with adjustable threshold values (Threshold values can be set by parameter or via communication objects), 2 actuating variable comparators for output of minimum, maximum or average values. Each with 5 inputs (for values received via communication objects), 8 AND + 8 OR logic gate with 4 for each input
- Configuration via KNX software ETS

ORDER DATA

	Part.-No.			
Hinge arm mounting GAW-G for weather station	**ES30109**			

Application: Suitable for walls, pole or beam mounting.

TECHNICAL DATA

Material:	Aluminium
Colour:	powder coated RAL 9016 (traffic white)
Number of hinges:	1
Length:	approx. 420 mm

Feature/Equipment
- Includes adjusting screw, w/o brackets

Mounting clamp BS-2	**ES30232**			

Application: Suitable for mounting on pipe pylons.

TECHNICAL DATA

Material:	Steel, galvanized
Diameter:	∅40 – 60 mm

Feature/Equipment
- 2 pcs.

	Primary energy – non-renewable	Primary energy – renewable	Global warming potential	Ozone depletion potential	Acidification potential	Eutrophication potential	Photochemical ozone creation potential	Abiotic depletion potential (elements)	Abiotic depletion potential (fossil)	Water consumption
	($PE_{n\ renw}$)	(PE_{renw})	(GWP 100)	(ODP)	(AP)	(EP)	(POCP)	($ADP_{el.}$)	(ADP_{fos})	(H_2O)
	MJ	MJ	kg CO_2-equivalent	kg R11-equivalent	kg SO_2-equivalent	kg PO_4^{3-}	kg C_2H_4-equivalent	kg Sb-equivalent	MJ	m^3
control units										
7300 2A	1,36E+5	2,88E+4	9,67E+3	1,84E-5	2,16E+1	2,00E+0	1,55E+0	3,10E-2	1,36E+5	2,56E+4
7300 5A	1,36E+5	2,88E+4	9,67E+3	1,84E-5	2,16E+1	2,00E+0	1,55E+0	3,10E-2	1,36E+5	2,56E+4
7300 10A	5,44E+5	1,15E+5	3,87E+4	7,36E-5	8,62E+1	8,02E+0	6,20E+0	1,24E-1	5,45E+5	1,02E+5
7300 20A	1,09E+6	2,30E+5	7,74E+4	1,47E-4	1,72E+2	1,60E+1	1,24E+1	2,48E-1	1,09E+6	2,05E+5
8000 5A	2,72E+5	5,75E+4	1,93E+4	3,68E-5	4,31E+1	4,01E+0	3,10E+0	6,20E-2	2,72E+5	5,12E+4
8000 10A	5,44E+5	1,15E+5	3,87E+4	7,36E-5	8,62E+1	8,02E+0	6,20E+0	1,24E-1	5,45E+5	1,02E+5
8000 24A	1,31E+6	2,76E+5	9,29E+4	1,77E-4	2,07E+2	1,92E+1	1,49E+1	2,98E-1	1,31E+6	2,46E+5
8000 48A	2,61E+6	5,52E+5	1,86E+5	3,53E-4	4,14E+2	3,85E+1	2,98E+1	5,95E-1	2,62E+6	4,91E+5
8000 72A	3,92E+6	8,29E+5	2,79E+5	5,30E-4	6,21E+2	5,77E+1	4,47E+1	8,93E-1	3,92E+6	7,37E+5
controllers										
WR-Set7x/8x	4,06E+2	8,01E+1	2,92E+1	7,67E-8	5,00E-2	6,48E-3	4,37E-3	1,76E-5	4,06E+2	6,35E+1
HSE	2,03E+2	4,01E+1	1,46E+1	3,83E-8	2,50E-2	3,24E-3	2,18E-3	8,79E-6	2,03E+2	3,17E+1
RS TIII 24	3,05E+2	6,01E+1	2,19E+1	5,75E-8	3,75E-2	4,86E-3	3,28E-3	1,32E-5	3,05E+2	4,76E+1
RS TIII 230	3,05E+3	6,01E+2	2,19E+2	5,75E-7	3,75E-1	4,86E-2	3,28E-2	1,32E-4	3,05E+3	4,76E+2
WRAG2	1,02E+3	2,00E+2	7,31E+1	1,92E-7	1,25E-1	1,62E-2	1,09E-2	4,40E-5	1,02E+3	1,59E+2
WRA TypIV	2,03E+3	4,01E+2	1,46E+2	3,83E-7	2,50E-1	3,24E-2	2,18E-2	8,79E-5	2,03E+3	3,17E+2
WR STIV	4,06E+3	8,01E+2	2,92E+2	7,67E-7	5,00E-1	6,48E-2	4,37E-2	1,76E-4	4,06E+3	6,35E+2
LZ1	1,22E+5	2,40E+4	8,77E+3	2,30E-5	1,50E+1	1,94E+0	1,31E+0	5,27E-3	1,22E+5	1,90E+4
LZ6 24	1,17E+6	2,31E+5	8,42E+4	2,21E-4	1,44E+2	1,87E+1	1,26E+1	5,06E-2	1,17E+6	1,83E+5
LZ6 30	1,46E+6	2,89E+5	1,05E+5	2,76E-4	1,80E+2	2,33E+1	1,57E+1	6,33E-2	1,46E+6	2,29E+5
NT-T2,5	1,22E+5	2,40E+4	8,77E+3	2,30E-5	1,50E+1	1,94E+0	1,31E+0	5,27E-3	1,22E+5	1,90E+4
NT-S 6,5	3,17E+5	6,25E+4	2,28E+4	5,98E-5	3,90E+1	5,05E+0	3,41E+0	1,37E-2	3,17E+5	4,95E+4
GLT LZM	2,03E+3	4,01E+2	1,46E+2	3,83E-7	2,50E-1	3,24E-2	2,18E-2	8,79E-5	2,03E+3	3,17E+2

Declaration code: **M-EPD-SVR-GB-001**
Programme operator: **ift Rosenheim GmbH**
Theodor-Gietl-Str. 7-9,
83026 Rosenheim, Germany
LCA prepared by: **Life Cycle Engineering Experts**
Berliner Allee 58,
64295 Darmstadt, Germany
Declaration holder: **Aumüller Aumatic GmbH.**

The declaration is based on the PCR (Product Category Rules) document „Building Components for Smoke and Heat Control Systems" No. PCR-RW-1.1:2013.

LCA calculations were based on the „cradle to grave" life cycle including all upstream processes (e.g. raw material extraction, etc.).

The reference service life has been specified to 25 years. The calculation of the life cycle scenarios is based on a service life of **50 years** per electrical device.

The life cycle was modelled using the sustainability software tool „GaBi6" for the development of Life Cycle Assessments. For the consideration of the impact categories the characterisation factors of the ELCD (European Reference Life Cycle Database) were used.

In accordance with the REACH candidate list, no substances of very high concern are contained.

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

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