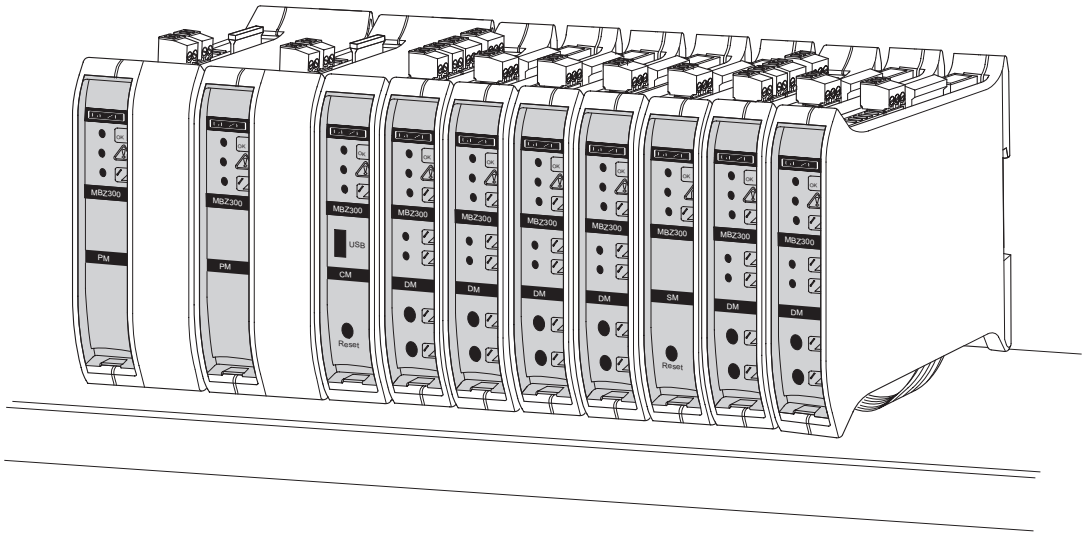


MBZ 300 Configuration software

Configuration program for
the RWA system comprising
components of the MBZ 300 series
Software version 3.2

153427-02

EN User manual

GEZE

Contents

1 About this document

This user manual describes operation of the GEZE MBZ 300 configuration software.

1.1 Symbols and illustrations

Warning notices

Warning notices are used in these instructions to warn you of property damage and personal injury.

- ▶ Always read and observe these warning notices.
- ▶ Follow all measures that are labelled with the warning symbol and warning word .

Warning symbol	Warning word	Meaning
	**ATTENTION**	Danger to persons. Non-compliance can result in death or serious injuries.

More symbols and illustrations

Important information and technical notes are highlighted to explain correct operation.

Symbol	Meaning
	means "important note" Information to prevent property damage, to understand or optimise the workflows
	means "additional Information"
▶	Symbol for an action: there is something you must do here. If there are several actions to be taken, keep to the given order.

2 System requirements

The program can be installed on a computer with at least the following properties:

CPU	Recommended processor: 1 GHz or faster. If the processor is slower, at least a version with MMX is required.
Operating system	Microsoft Windows 2000 Server with Service Pack (SP) 4 or higher; Windows 2000 Professional Edition with SP 4 or higher; Windows XP with SP 2 or higher; Windows Server 2003 Standard Edition, Enterprise Edition, or Datacenter Edition with SP 1 or higher; Windows Small Business Server 2003 with SP 1 or higher, Windows Vista, Windows Server 2008, Windows 7, Windows 8, Windows 8.1, Windows 10.
Memory	512 MB RAM or more; 1 GB or more is recommended, at least 100 MB free RAM is required.
Hard drive space	At least 100 MB free hard drive space is required.
Drive	At least 1 drive with a "C" partition is required
Graphic card / monitor	Super VGA (1,024x768) or higher
Accessories	Microsoft or compatible mouse
Other requirements	.NET 2.0 Runtime and the Visual C 2008 redistribution package. These packages are installed automatically by the installer package if they are not already in the system.
USB cable	Connector type Mini-B
Optional	Acrobat Reader for displaying the help file and the configuration data export in PDF format

2.1 Compatibility table:

Version of configuration software	2.8	3.0*	3.1*	3.2*
CM	0.5.80	1.0.5	1.1.0	1.2.1
DM/DME	0.0.6	1.0.0	1.0.0	1.0.0
SM	0.0.7	1.0.0	1.0.0	1.0.0
PM	0.0.17	1.0.0	1.0.0	1.0.0
ERM	0.0.0	0.0.0	0.0.0	0.0.0
WM	0.0.6	0.0.6	0.0.6	0.0.6

* 3.X versions are upward-compatible to a certain extent

3 General information

3.1 Software installation

After MBZ 300 software training you are registered in the user list. Please make sure you always work with the latest software. You will find the latest software at the GEZE customer portal: www.geze-partnerlogin.de or on the GEZE website geze.de in the MBZ 300 product area under Downloads/Software.
Please install the software on a laptop which is used for commissioning the MBZ 300:

- you need administrator rights for installation.
- Install the program in a folder with writing rights for the user
- Make sure that the driver is also installed. (If this is not done automatically, the driver can be installed later from the directory "...\Programme\GEZE\MBZ300\Driver" when an MBZ 300 control unit is connected.)

3.2 Licence levels

The program can be cleared on different user levels by means of an authorisation system. Pre-condition for licensing is the acceptance of a licence contract with GEZE GmbH.

3.2.1 View licence

This level does not have to be cleared. After installation the software is automatically in the view level. The following possibilities are available:

- Display of system or module status
- Display log entries
- Setting of the charging current on the basis of the battery capacity
- When a weather module is installed: Setting of the type of peripherals connected + wind speed + delay values
- Setting of the system time

3.2.2 Basic licence (partner level)

This level must be licensed. The following additional possibilities are then available:

- Modification of various module properties (see the chapters on the various modules)
- Configuration of ventilation groups and weather groups.
- Activation of deluxe ventilation properties
- All module properties can be configured.
- Creation / configuration of fire sections
- Configuration of extended networking of several MBZ 300 via CAN
- Firmware update of individual modules
- Resetting to factory setting
- Password protection
- Emulator

3.2.3 All licence (exclusively GEZE internal)

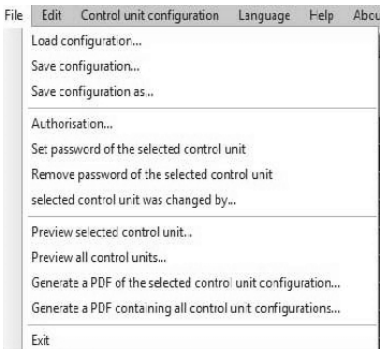
This level must be licensed. The following additional possibilities are then available:

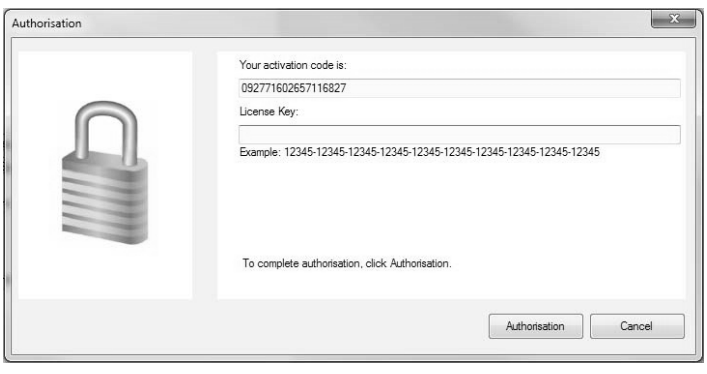
- Smoke detector reset period
- Smoke detector recovery period
- Delete system log.

3.3 Authorisation (licensing)

3.3.1 Reading out the "activation code"

First of all the program must be started. In the menu bar, click "File" and then "Authorisation". A connection to the system is not necessary. The following window is displayed:





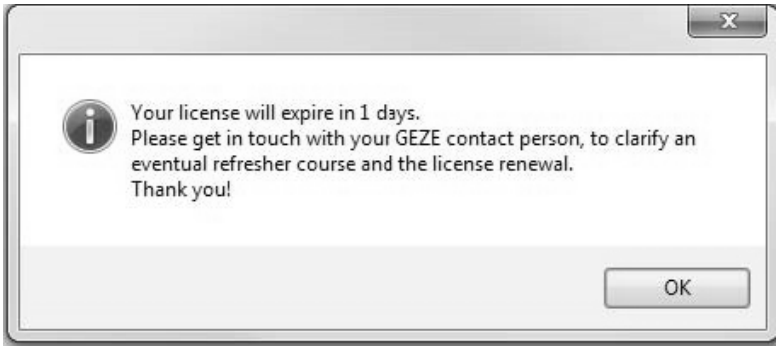
3.3.2 Request licence key

As a registered software user, go to the GEZE customer portal: www.geze-partnerlogin.de.
There, click "Authorisation", enter the activation code and request the key. Your contact responsible will send you the suitable licence key by mail as soon as possible. You can highlight the key e.g. with the mouse, copy it to the clipboard using <strg>+<c> and paste it to the respective field using <strg>+<v>.
Alternatively to the portal, a new licence can also be requested by mail. To do this, please send the activation key to MBZ300@geze.com.
If you have any questions, please contact MBZ300@geze.com.

3.3.3 Entering a licence key

If the authorisation window has been closed in the meantime, request it again as described above. Enter the licence key in the "Licence key" field. After you have clicked "Authorisation" the extended functionality will be available.

90 days before the licence expires, the following window will appear as a reminder when you start the software:



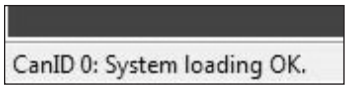
3.4 Notes on the software

A firmware update is not necessary for existing configured MBZ 300 control units.
For new installations always use the latest configuration software together with the latest firmware. Update the firmware as required (see the chapters "Firmware update" and "Procedure for configuration of a control unit").

MBZ 300 control units are reset to the factory settings by the firmware update.

3.4.1 What happens after the system has been connected via USB

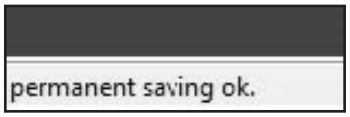
As soon as the system has been connected to the PC, the settings and the current system configuration are read out. Depending on the size of the system, this procedure can take a few seconds.
The software is ready when the info-area of the main window (bottom left) displays "System loading OK":



The program has to be terminated before the USB connection cable between the PC and MBZ 300 is removed.

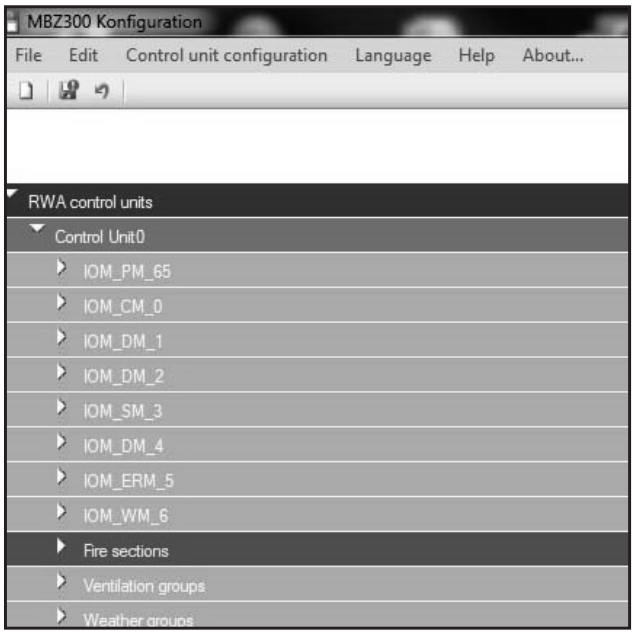
3.4.2 Status bar

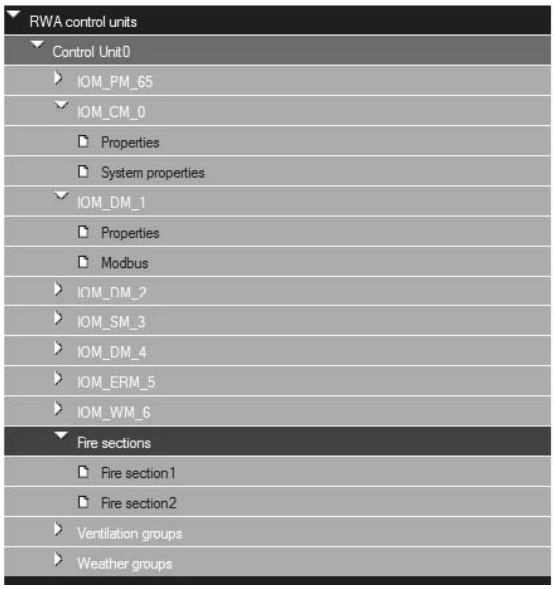
In the status bar (info-area of the main window) at the bottom left you can see whether the control unit is ready and whether the configuration has been successfully saved to the control unit, for example.



3.4.3 Navigation bar

All the modules connected in the system are displayed in a tree view, and from the basic licence onwards the groups are listed:

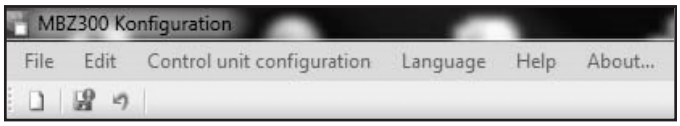




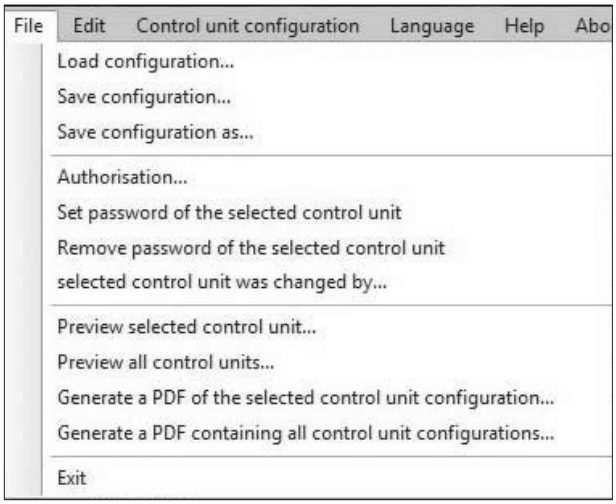
The properties of each module can be reached by clicking the symbol on the left of the respective module.

3.4.4 Menu functions

A wide range of different software functions can be executed via the menu in the header. Navigation is by left mouse click, analogue to familiar programs.

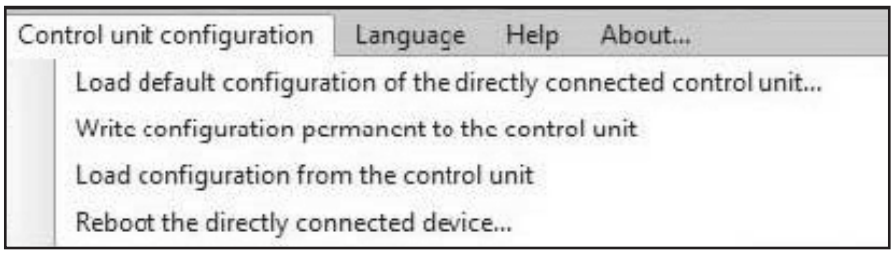


File



Load configuration...	A saved configuration (*.MBZ) is loaded to the software interface. It is not yet written into the system. ▶ Check settings after loading. ▶ Adapt the following settings manually, since these are not saved in the file. ▫ PM: ▫ Size of the battery ▫ Number of PMEs ▫ WM: ▫ Sensors ▫ Wind thresholds ▫ CM: ▫ Maintenance time ▫ Time ▫ Password ▶ See the chapter "System configuration" for how to write the configuration in the system.
Save configuration...	The current configuration is saved in a file (*.MBZ) on the PC.
Save configuration as ...	Like "Save configuration..." but under a new file name.
Authorisation...	See the chapter "Authorisation"
Set password of the selected control unit	Protect the system by means of a password.
Remove password of the selected control unit	Delete the system password
selected control unit was changed by...	Display of hard drive ID and date of the last change
Preview selected control unit...	
Preview all control units...	
Generate a PDF of the selected control unit configuration...	
Generate a PDF containing all control unit configurations...	
Exit	Terminates the program.

System configuration



Load default configuration of the directly connected control unit...	The system configuration is reset to factory settings. The self-teaching function is re-activated. Refer also to the chapter ""Buttons" on the interface" **Note: All the settings are lost!** **(The data memory of the control module is deleted).**
Write settings permanently to the control unit	The configuration on the software interface is transmitted to the control unit. Refer also to the chapter ""Buttons" on the interface".
Load configuration from the control unit	Reads the existing configuration out of the system and displays it on the software interface. If a configuration on the software interface is not saved it is lost.
Reboot the directly connected device...	Reboots the connected system. It is necessary to reboot the system when all the required changes have been written into the system and a check on system behaviour is to be made. = equivalent to: switching the control unit voltage-free for at least 30 seconds (without rechargeable battery).

Language

The following languages can be selected:

- German
- English
- French
- Turkish
- Chinese

Help

Help (in German or English) is started directly from the software, the respective PDF document is saved in the software project directory. The help file with the specific language is automatically loaded with the Acrobat Reader.

About

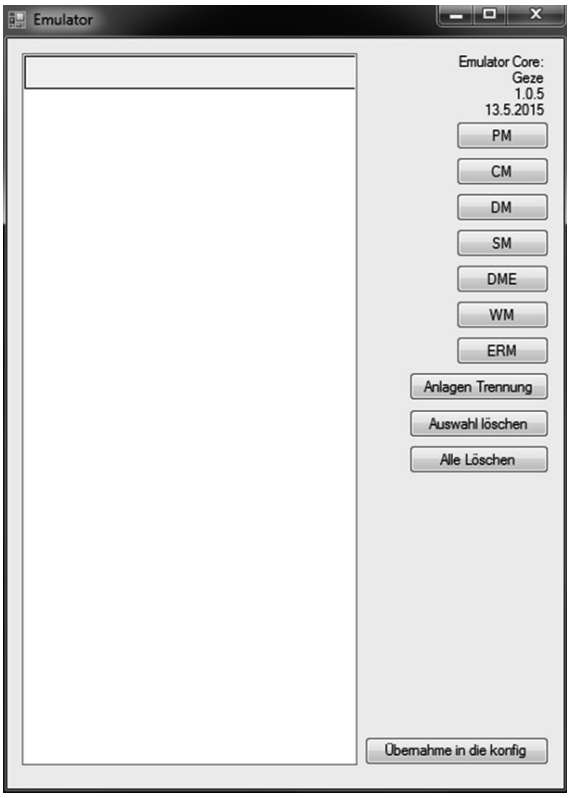
3.4.5 "Buttons" on the interface

As an alternative to items from the header menu, some functions are available as buttons. The functions of the buttons is described below.

	"Clear" The control unit configuration is reset to factory settings. Refer also to the chapter "System configuration". **Note: All the settings are lost!**
	"Save to CM" The configuration on the software interface is transmitted to the control unit. Refer also to the chapter "System configuration".
	"Undo" Changes to the configuration on the software interface are reversed. **Note: This only affects the current view on the PC, not the control unit. For this, the configuration has to be re-transmitted to the control unit.**

Whether or not a property can be modified depends on the user level.

3.4.6 EMU (emulator)



The emulator is used to simulate system set-up when the PC is no longer connected to an MBZ 300 control unit. To simulate the system set-up, the various modules are added to a list in descending order. The modules can be moved in the list by drag-and-drop. Then the system set-up is loaded to the configuration program, where the settings can be made.

PM, CM, DM, SM, DME, WM, ERM	Adds the corresponding module to the list.
System separation	Allows a new control unit to be started in the list in order to map several control units connected via CAN-bus. (This function only becomes effected when the "Networked control units" program version is used.)
Delete selection	Deletes the module selected in the list
Delete all	Deletes all the modules from the list
Apply to SW config	Loads the list as system set-up into the configuration program.

When configuration has been completed it can be saved (*.MBZ) in order to be exported to an actually existing control unit locally at a later date.
The configuration file of an actually existing system can also be loaded into an identical, emulated system.

The configuration can only be loaded to an identical control unit (same module sequence). The set-up must be known.
Tip: Always save the *.PDF file in addition to the configuration file (*.MBZ).

- ▶ Please check the settings on the real control unit!
  The following settings are not saved in the *.MBZ file and must be adapted manually:
  - PM: Battery size and number of PMEs
  - WM: Sensors and wind thresholds
  - CM: Maintenance time and time
  - Password

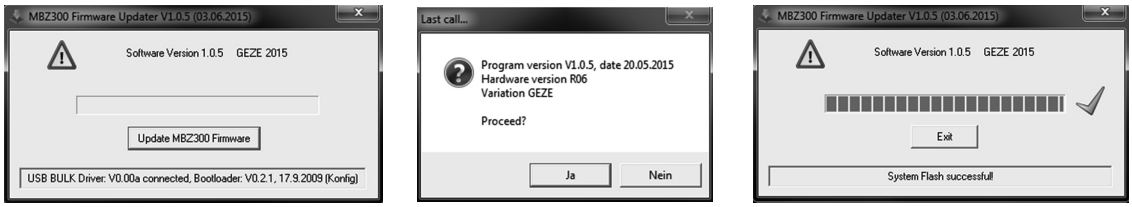
3.5 Firmware update

Please note the compatible PC software and firmware versions (see chapter 2.1).
Before updating a control unit that has already been configured, please check whether the required functions are available / realised in the same way in the other firmware

Changing the firmware to an earlier version is possible and works in the same way as an update.

Carry out the firmware update using the "Update" program. You will find the program in the Start menu. Please proceed as follows:

- Connect the control unit via USB.
- Save the configuration as .mbz file and as .pdf export.
- Start the update program.
  Path for pre-installed software installation:
  START -> All programs -> GEZE -> MBZ 300 -> Update -> Update
  The update program contains the following:
  - Updating of all firmware statuses of the modules installed



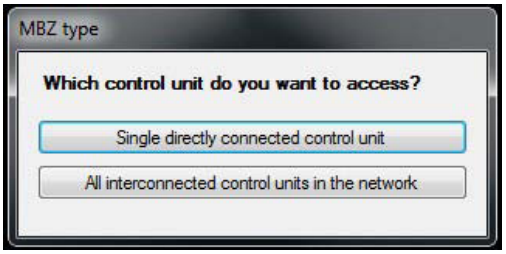
  - Delete the EEPROM memory (optional)
- Start the software "Individual control unit".
- Load the saved configuration or restore the configuration.
  The following settings must be adapted manually:
  - PM: Battery size and number of PMEs
  - WM: Sensors and wind thresholds
  - CM: Maintenance time and time
  - Password

4 Procedure for configuration of a control unit

Please note the following steps when commissioning or modifying an MBZ 300:

4.1 Preparation of an individual control unit

- [1] Ensure the system is voltage-free (no 230 V connection, no rechargeable battery).
- [2] Insert further modules if appropriate.
- [3] Check cabling between the modules.
  - Power supply
  - Bus cable (**Caution: NEVER connect or disconnect with the control unit switched on!**)
  - Ensure that the cables are fitted correctly.
  - Connect drives, push buttons etc. (can also be done later)
  - Make sure that all line monitoring devices are connected properly
- [4] Activate 230 V supply.
- [5] Connect rechargeable battery.
- [6] Keep the reset push button on the CM pressed for 20 s (until all modules are flashing - not longer!). This ensures the modules are addressed correctly. This process is essential when the hardware (modules and order) has been changed.
- [7] Connect USB cable to CM and connect to the laptop.
- [8] Start software.



Select access to single directly connected or all interconnected control units.
Make sure that you always use the latest version (see the chapter "Software installation").

- [9] (Only for initial start-up) Check firmware version of the control unit to make sure it is up-to-date.
- [10] (Only for initial start-up or when necessary) Carry out firmware update if appropriate (see the chapter "Firmware update").
- [11] (Only for initial start-up or when necessary) Load default settings (see the chapter "System configuration"). Standard groups (alarm / ventilation / weather groups) are formed along module settings through the self-learning function (connection of modules) or default loading.
  Caution: all previous settings are deleted!
- [12] Adapt battery size and number of PMEs (see the chapter "Rechargeable battery settings").
- [13] Set individual configuration (either directly or by loading a saved *.MBZ file with the same module set-up).
- [14] Transmit to the control unit.
- [15] Reboot the directly connected control unit.
- [16] Check settings.
- [17] Test functions (please note interactions with building managment system, BMA, relaying!)
- [18] Save central configuration as *.MBZ and *.PDF and archive for the project.
- [19] In the control unit, note that the configuration has been adapted by software (user, date and rough description – print out PDF and enclose if appropriate).
- [20] Terminate software, then remove USB cable

4.2 Several control units networked via CAN

For this, establish the USB connection to each individual control unit and start the software each time (refer also to the chapter "CAN parameters"). The procedure is in addition to / instead of the above points as follows:

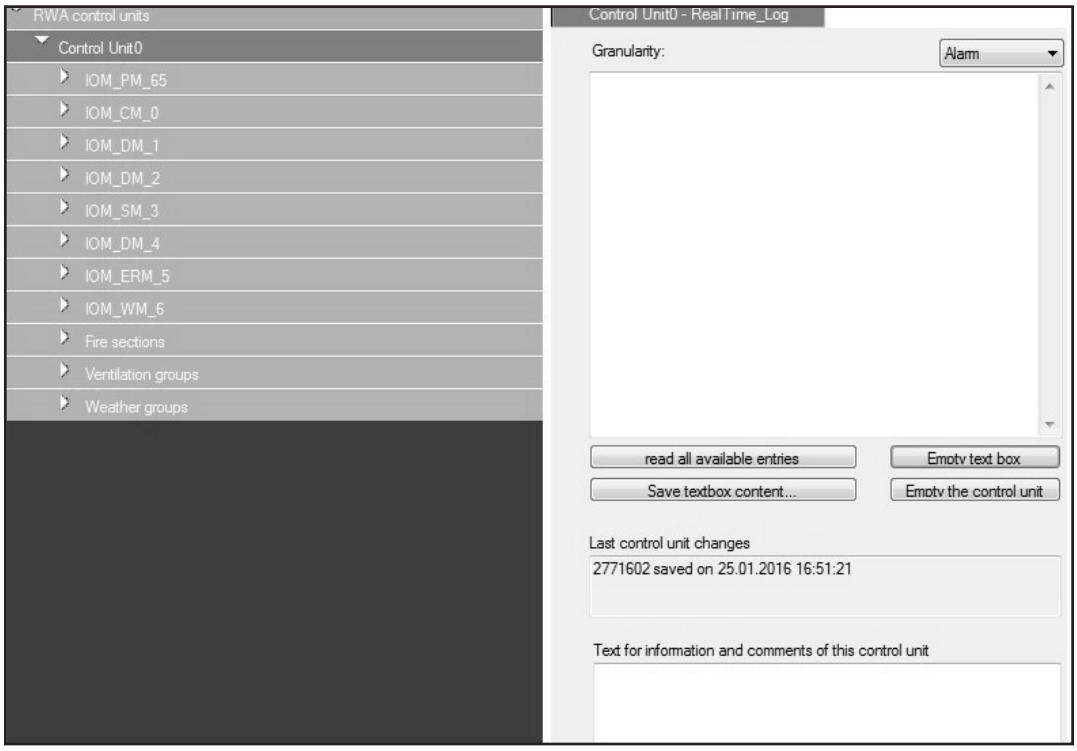
- [12a]: Set the address and number of control units for each individual control unit under CM CAN parameters.
  - Transmit to the control unit.
  - Reboot the directly connected control unit.
  - It is advisable to mark the control units according to their addresses.
- [12b]: At this point at the latest, make sure that the CAN cables incl. terminator jumper are correctly connected between the control units
  - Establish a USB connection to any control unit.
  - Open the "Networked control units" software.
- Re [13]: Set the configurations and comprehensive functions in particular now and transmit to the control units.
- Re [18]: Save the configuration file as *.MBZ (several files) and *.PDF.

5 Control unit

The individual adjustment options for the various modules are described below. The standard value is always in bold type.

5.1 RealTime_Log - control unit

The program displays the entries in the "RealTime_Log" memory. This lists events which have had at least alarm or fault status.



Various selection possibilities can be used to set which events and messages are to be recorded. The setting does not represent a filter of the view, rather it specifies what is actually to be saved.

Granularity:	Fine (everything)	All events are saved e.g. including ventilation control
	Information	All messages are saved
	Alarm	Alarm and fault messages are saved
	Fault	Fault messages are saved

Note: **The granularity settings must be written into the system for the changes to take effect.**

read all available entries	All the messages available for the control unit are read. **Please note: This can take a very long time!**
Empty text box	Only deletes the display on the software interface.
Save text box content...	Saves the fault memory to a file (.TXT).
Empty the control unit	Deletes the fault memory of the control unit.

The log is a circular buffer (the oldest data are overwritten) with sufficient capacity (depending on granularity).
Tip: Use the log memory for trouble shooting and for functional test (granularity "Fine").
Refer also to the chapter "Meaning of the log entries".

Info: **The log memory is large enough to comprise around 1500 entries. The setting is irrelevant.**

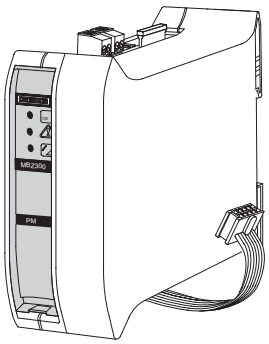
Last control unit changes	The date and the drive serial number of the computer which made the most recent change are displayed here. The drive serial number is part of the authorisation key.
Text for information and comments of this control unit	A text describing the control unit can be entered, e.g. what work a service technician has most recently done on the control unit.

6 PM - Power module

6.1 Purpose

- Provision of a non-interrupted power supply.
- Battery charging.
- Provision of secondary voltages.

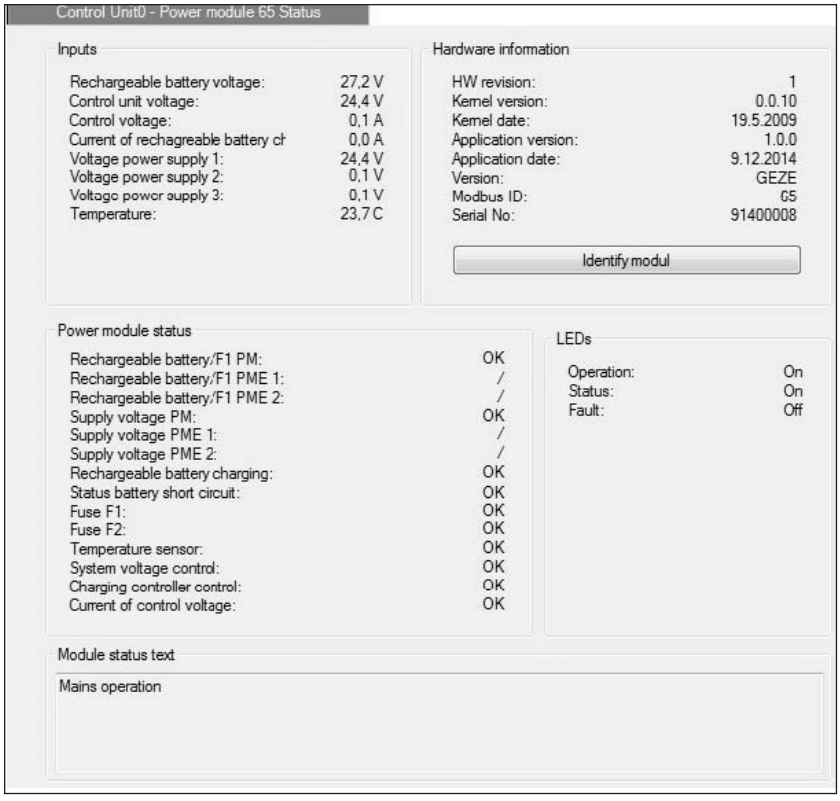
6.2 Electrical properties



Possible battery sizes	2 ... 38 Ah, 24 V
Battery types	Lead
Load bearing capacity voltage outputs	0.5 A, SELV

6.3 Status - PM

The current status can be compared with the target value table shown below in order to evaluate the status



6.3.1 PM target value table

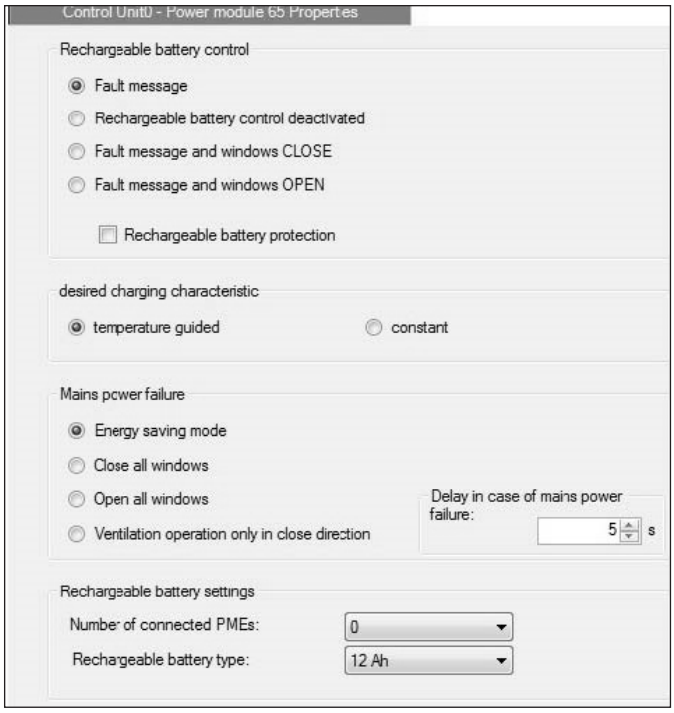
Inputs	Minimum value	Standard value	Maximum value
Rechargeable battery voltage	approx. 24 V (depending on the battery charge status)	27.4 V (depending on the temperature, if configured this way)	28.8 V (depending on the temperature, if configured this way)
Control unit voltage	23 V	Mains operation: as voltage power supply	28 V
Current of control voltage	Approx. 6 mA/module depending on control unit version		0.5 A
Current of rechargeable battery charge	Between 0.22 A and 1.8 A depending on the battery capacity configured		1.8 A
Voltage power supply 1	23.5 V	26 V	28 V
Voltage power supply 2	23.5 V *)	26 V *)	28 V *)
Voltage power supply 3	23.5 V *)	26 V *)	28 V *)
Temperature	0 °C	25 °C	40 °C

*) if the corresponding number of PMEs has been configured, otherwise display is "0.1 V"

6.3.2 Module status text

The current operating mode is displayed here. The current status and faults are displayed, as described in the installation instructions.

6.4 Properties – PM



Rechargeable battery control

[•]	**Fault message**	A fault message is outputted via the fault LED or e.g. via the messaging relay with corresponding parameter settings.
[ ]	Rechargeable battery control deactivated	No reaction in the event of a fault. For ventilation application only or operation without rechargeable battery
[ ]	Fault message and windows CLOSE	A fault message is outputted and all drive modules are actuated to CLOSE.
[ ]	Fault message and windows OPEN	A fault message is outputted and all drive modules are actuated to OPEN.

[ ]	Rechargeable battery protection	In battery operation the control unit does not run with all modules until the rechargeable battery is completely discharged (deep discharge). All modules apart from the PM are switched off beforehand to protect the rechargeable battery (this protection triggers at approx. 20.5 V) e.g. if mains failure lasts for more than 72 h. The drawing current is reduced to the minimum of approx. 14 mA for the PM. The system voltage of the other modules is switched off. This extends the standby time of the rechargeable battery. Once the mains voltage has been restored, the rechargeable battery is charged again and the rest of the modules are switched on again with the system voltage.

Desired charging characteristic

[•]	**temperature guided**	The charging voltage is adapted depending on the temperature. This setting should always be used.
[ ]	constant	The charging voltage is independent of the ambient temperature.

Mains power failure

[•]	**Energy-saving mode**	Ventilation and weather signals are suppressed and not evaluated. In the event of an alarm the wind sensor is evaluated and opened or closed depending on the wind direction.
[ ]	Close all windows	All drive modules are actuated to CLOSE in the event of a power failure. The unit changes to energy-saving mode
[ ]	Open all windows	All drive modules are actuated to OPEN in the event of a power failure. The unit changes to energy-saving mode
[ ]	Ventilation operation only in close direction	One-off activation of all drive modules in the CLOSE direction is permitted. The delay in case of mains power failure is deactivated. The unit does not change to energy-saving mode
[ ]	Delay in case of mains power failure	If a power failure is detected, the unit switches to mains failure mode / energy-saving mode after the set time. The delay can be set from 5 s (default) to 60 s **Note:** **The ERM relays switch without delay when PM fault is configured.**

Rechargeable battery settings

Number of connected PMEs	0...2 **(standard: 0)**	Adaptation of the number of PMEs if any changes have been made to the power supply

If the system has been extended by further power supplies, a corresponding number of PME modules have also been added. This number must be configured here (range 0..2) so that fault evaluation works correctly.

Rechargeable battery type:	2 Ah	The corresponding rechargeable battery type must be set
	7 Ah (default)	
	10 Ah	
	12 Ah	
	17 Ah	
	24 Ah	
	38 Ah	

After the default values have been loaded, this setting must always be checked and adapted if necessary!

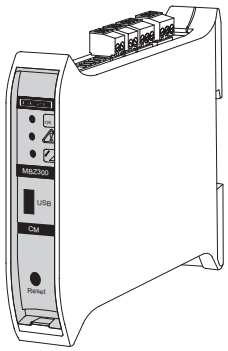
ATTENTION If the rechargeable battery type is set incorrectly this can lead to excessively high charging current. Excessively high charging current can damage the rechargeable battery. The rechargeable battery will become very hot: Risk of explosion! The parameters must always be checked following a software update on a control unit.

7 CM - Control module

7.1 Purpose

- Control and operation of the complete system.
- The configuration settings of the control unit are mainly saved in the CM.
- Evaluation/monitoring of manual detectors.
- Evaluation/monitoring of automatic fire detectors or external alarm contacts.
- Evaluation of ventilation signals.
- Provision of a potential-free contact (messaging relay).
- Connection possibility with a PC via USB.
- Connection of several MBZ 300 systems via CAN (additional CAN module required).

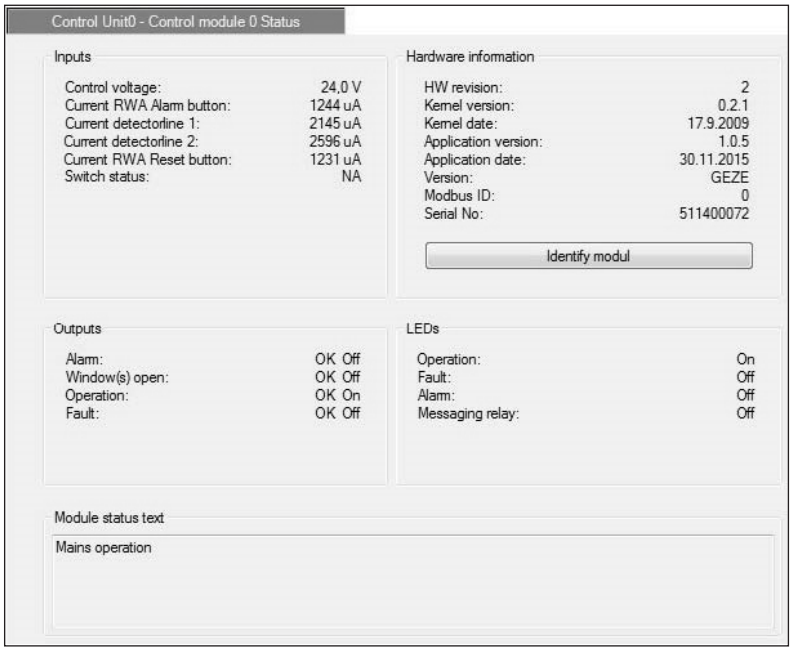
7.2 Electrical properties



Alarm voltage	24 V DC
Input switching voltage	24 V DC
Load bearing capacity messaging relay	0.5 A, SELV

7.3 Status - CM

The current status can be compared with the target value table shown below in order to evaluate the status.



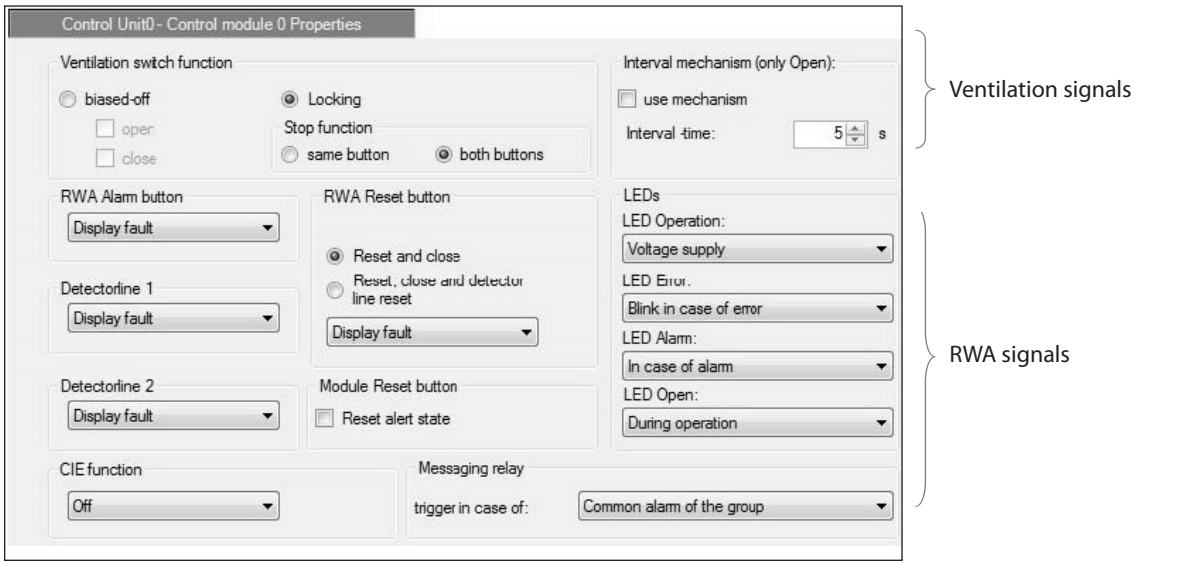
7.3.1 Target value table

Inputs	Minimum value	Standard value	Maximum value
Control voltage	22 V	25.3 V	28 V
Current RWA Alarm button	900 µA (standby)	1250 µA (standby)	3000 µA (standby)
Current detector line 1	1000 µA (standby)	2550 µA (standby)	6000 µA (standby)
Current detector line 2	1000 µA (standby)	2550 µA (standby)	6000 µA (standby)
Current RWA Reset button	1000 µA (standby)	1250 µA (standby)	3000 µA (standby)
Switch status	Depending on the switched status NA (not actuated), OPEN, CLOSE or STOP		

7.3.2 Module status text

The current operating mode is displayed here. The current status and faults are displayed, as described in the installation instructions.

7.4 Properties – CM



In the standard configuration the CM forms the first fire section. All the following DMs (up to the next SM) are assigned to this fire section. For other fire section assignment see the chapter "Fire sections".

7.5 Configuration possibilities

(partner level)

7.5.1 Vent switch function

In the standard configuration the push button input of the control module in the first ventilation group is linked with all drive modules in the system. This ventilation group has a higher priority than the push buttons connected directly to the drive modules (= central push button for the whole control unit). Other ventilation group assignment (see the chapter "Ventilation groups").

Function setting		Behaviour with button OPEN pressed	Behaviour with button CLOSE pressed	Stop by
[ ]	Biased-off (switch function)	**<u>Note:</u>** **The default setting is OPEN and CLOSE** **The interval mechanism is then deactivated.**		
[ ]	OPEN	The DMs switch to "OPEN" as long as the button is pressed. If the button is released, the DMs switch off again.	If "CLOSE" is not set to biased-off, the DMs switch to the "CLOSE" direction of travel permanently.	In biased-off direction: Release the push button If only one is active, the other is in self-locking mode: STOP = both push buttons at the same time
[ ]	CLOSE	If "OPEN" is not set to biased-off, the DMs switch to the "OPEN" direction of travel permanently.	The DMs switch to "CLOSE" as long as the button is pressed. If the button is released, the DMs switch off again.	
[•]	**Locking**	Modules switch permanently to "OPEN" direction of travel.	Modules switch permanently to "CLOSE" direction of travel.	
[ ]	Stop function same button	Modules switch permanently to "OPEN" direction of travel.	Modules switch permanently to "CLOSE" direction of travel.	Pressing the same push button again
[ ]	Stop function both buttons			Pressing both buttons again

"Permanently" means the set "drive line switch-off time" is at maximum.

7.5.2 Interval mechanism

[ ]	Use mechanism	When this option is activated the drives are only actuated in the "OPEN" direction for the time step set. This has no influence on the RWA function. If actuation is in the "CLOSE" direction, the motor line is active over the whole drive line switch-off time. **Note:** **If biased-off is deactivated.** **The drive line switch-off time of the controlled DMs is automatically set to 300 s so that it is possible to close the window under any circumstances.**
Interval time:	0 ... 120 s **(standard: 5 s)**	Movement interval of the interval time.

Pressing the push button again during movement increases the overall interval time by the respectively set interval time.
(Example: First time push button pressed = 5 s, second time = 10 s, third time = 15 s etc.)

7.5.3 RWA Reset button

(Concerns the green push button "CLOSE/RESET" in the connected RWA button)

[ ]	Display fault	This activates fault evaluation (line monitoring) of the reset line. Cable break and short-circuit (after 30 s) are detected.
[ ]	Suppress fault	This deactivates the fault evaluation (line monitoring) of the reset line. Line break and short-circuit are no longer detected. This means setting a terminating resistance is superfluous.
[ ]	Alarm triggering in the event of a fault	An alarm is triggered on a reset line in the event of cable break or short-circuit (after 30 s).
[•]	**Reset and close**	When the emergency-CLOSE push button of the manual detector is actuated, all DMs of the fire section are switched to "CLOSE" and the alarm status in the control unit is reset. If a smoke detector reset should be necessary, this must be carried out directly at the module via the "RESET" push button.
[ ]	Reset, close and detector line reset	When the emergency-CLOSE push button of the manual detector is actuated, all DMs of the local fire section are switched to "CLOSE" and the alarm status in the control unit is reset. The smoke detectors are also reset.

"Emergency-CLOSE" always has the effect of triggering a "CLOSE" movement and (partly) resets the alarm status, no matter whether alarm signals (e.g. fire alarm system) are pending or not.
All pending alarm signals must be removed for complete alarm reset.

7.5.4 RWA Alarm button

[ ]	Display fault	The fault evaluation and display (line monitoring) of the RWA button line is thus activated. Cable break and short-circuit are detected.
[ ]	Suppress fault	Fault detection (line monitoring) of the RWA button line is thus deactivated. Line break and short-circuit are no longer detected. This means setting a terminating resistance is superfluous. This setting can be used when a normal closer switching contact is connected. A closed contact triggers an alarm.
[ ]	Alarm triggering in the event of a fault	The fault evaluation and display (line monitoring) of the RWA button line is thus activated. An alarm is triggered in the event of a line break or short-circuit on a RWA button line.

7.5.5 Detector line 1

[ ]	Display fault	Fault evaluation and display (line monitoring) of detector line 1 are thus activated. Cable break and short-circuit are detected.
[ ]	Suppress fault	Fault detection (line monitoring) of the detector line 1 is thus deactivated. Line break and short-circuit are no longer detected. This means setting a terminating resistance is superfluous. This setting can be used when a normal closer switching contact is connected. A closed contact triggers an alarm.
[ ]	Alarm triggering in the event of a fault	Fault evaluation and display (line monitoring) of detector line 1 are thus activated. An alarm is triggered in the event of a line break or short-circuit on detector line 1.

7.5.6 Detector line 2

[ ]	Display fault	Fault evaluation (line monitoring) of detector line 2 can be activated, cable break and short-circuit are detected.
[ ]	Suppress fault	Fault detection (line monitoring) of detector line 2 can be deactivated, line break and short-circuit are no longer detected. This means setting a terminating resistance is superfluous. This setting can be used when a normal closer switching contact is connected. A closed contact triggers an alarm.
[ ]	Alarm triggering in the event of a fault	Fault evaluation and display (line monitoring) of detector line 2 are thus activated. An alarm is triggered in the event of a line break or short-circuit on detector line 2.

7.5.7 Module Reset button

(Concerns the reset push button directly on the CM module)

[ ]	Reset alert status	In the standard setting, pressing the button briefly will only reset the smoke detectors of the module detector lines (for smoke detector reset -> see the chapter "Operating parameters"). When the option is activated, the alarm is also reset in the assigned fire sections and all the drive modules are actuated to "CLOSE".

- Please check how meaningful this function is if the module detector lines are used for different fire sections.
- If "Reset alert status" is activated, the alarm status is only reset and the drive modules actuated to "CLOSE" when all pending alarm signals have been removed.

7.5.8 CIE function

Automatic remote resetting of the alarm status via fire detector system

[•]	**Off**	-
[ ]	Detector line 1	When this option is activated, opening the fire detector system status contact on detector line 1 will automatically reset the control unit. Detector line 1 must be activated accordingly in the specific fire section.
[ ]	Detector line 2	When this option is activated, opening the fire detector system status contact on detector line 2 will automatically reset the control unit. Detector line 2 must be activated accordingly in the specific fire section.

- The CIE function covers resetting the alarm status and CLOSING the drives.
- If "Reset, close and detector line reset" is activated in combination with the CIE function, the detector lines are switched voltage-free for the time set for "smoke detector reset period" if the CIE signal drops (see the chapter CM "Operating parameters").

7.5.9 Messaging relay

Selection of the message which leads to the messaging relay switching.

trigger in case of:	Never	No reaction. **Note:** **Should be set if the relay is used to report expiry of maintenance time**.
	Rechargeable battery fault	The closer contact is closed when the rechargeable battery monitoring is in fault-free status. If the mains voltage fails, the relay is switched off after a delay. See the chapter "PM mains failure"
	Mains voltage fault	The closer contact is closed when the mains voltage monitoring is in fault-free status. If the mains voltage fails, the relay is switched off after a delay. See the chapter "PM mains failure"
	Control unit fault	The messaging relay switches in the event of a fault within the control unit group (concerns faults on modules of the control unit). Closer is closed in the fault-free status. If the mains voltage fails, the relay is switched off after a delay (see the chapter "PM mains failure").

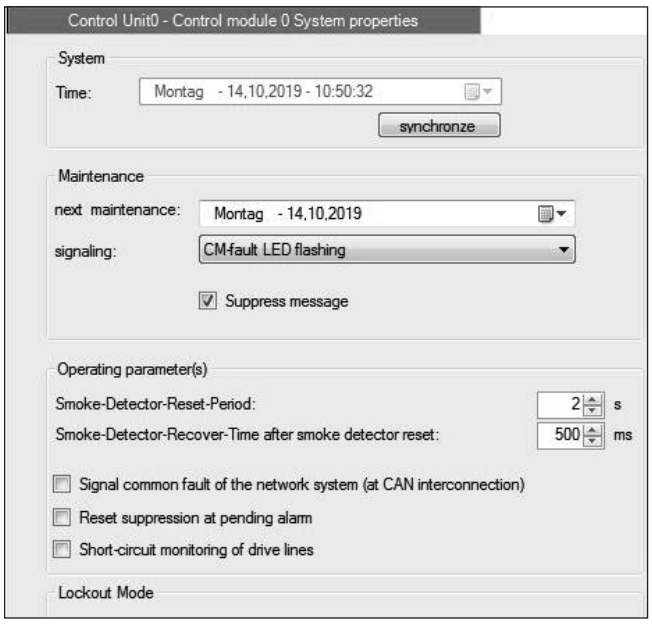
Common alarm of the group	The messaging relay switches following a common fault. The closer contact is closed in the fault-free status. When a common fault has been eliminated, the fault status is reset after a delay of 60 s. The fault status is reset immediately on the control unit where the fault occurred. If the mains voltage fails, the relay is switched off after a delay (see the chapter "PM mains failure").
General alarm (default)	The messaging relay switches when there is an alarm within the group (fire section). The closer is closed in the alarm status. **Note: Changeover contact NC/NO is inverted!** **If all alarm groups are deleted, the setting "Never" will appear after the next charging cycle.**
Restricted group alarm	The messaging relay switches on for 300 s in the event of an alarm within the group (fire section). The closer is closed in the alarm status. **Note: Changeover contact NC/NO is inverted!**
Delayed group alarm	The messaging relay switches on after a 5 s delay in the event of a group alarm (fire section). The closer is closed in the alarm status. **Note: Changeover contact NC/NO is inverted!**
Impulse for alarm reset	The messaging relay switches on for a period of 1-2 s in the event of alarm reset. The closer is closed for this period.

7.5.10 LEDs

The function of the LEDs on the RWA button are shown here. If "alternative function" is selected, the display of the LEDs depends on the special system functions set.

7.6 System properties – CM

The system settings are made here.

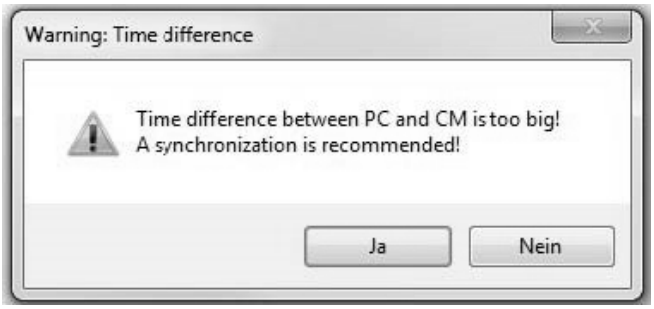


7.6.1 System

Time:	Set the system time. (No distinction is made between summer and winter time)
synchronize	The system time can be compared with the time on the PC connected by pressing the "synchronize" button. Please make sure that the PC time is correct.

The system time is used for the time stamp for messages in the RealTime log.

Note: If the system is too different, a warning window will appear when the software is started.



7.6.2 Maintenance

next maintenance	The date for the next routine system maintenance check can be set here using a date selection list. **Note: There is no date set as standard.**

Signalling	[•]	**CM fault LED flashing**	Any maintenance due is signalled by the fault LED flashing on the CM.
	[ ]	CM fault LED flashing and messaging relay set	Maintenance due is signalled by the fault LED flashing on the CM and by the messaging relay being switched. The messaging relay is switched off when the maintenance time has expired. The closer is opened. Maintenance has priority. In this case, the messaging relay must not indicate an alarm. Indication of the additional fault is permitted.
	[ ]	Ventilation OPEN blocked on all DMs	When maintenance is due, ventilation movement in the OPEN direction is blocked on all DMs.
	[ ]	Flashing + ventilation OPEN blocked	Maintenance due is signalled by the fault LED on the CM flashing and ventilation movement in the OPEN direction being blocked on all DMs.
	[ ]	Flashing + relay + ventilation OPEN blocked	Maintenance due is signalled by the fault LED on the CM flashing, by the messaging relay being switched and ventilation movement in the OPEN direction being blocked on all DMs. The messaging relay is switched off when the maintenance time has expired. The closer is opened.
	Note: GEZE recommends variant 1 or 2.		

[•]	**Suppress message**	The maintenance message can be suppressed completely here.

Note: The messaging relay should be set to "Never" so that a fault or an alarm can be signalled. The system must be rebooted after a change has been made to the maintenance setting.

7.6.3 Operating parameters
(GEZE internal All Licence)

Smoke detector reset period	0..60 s **(standard: 2 s)**	Smoke detectors are reset by switching off the supply voltage to the detector for the period set here.
Smoke detector recovery time after smoke detector reset	0...1000 ms **(standard: 500 ms)**	The detector line evaluation is deactivated for the time given here following reset of a smoke detector line.

During the smoke detector reset no detector line evaluation takes place, including on the RWA button lines.

[ ]	Common fault of the network system (with CAN network)	The system-wide output of faults is activated. Faults are shown on all RWA buttons in the network system (all control unit modules and control units networked via CAN). **Note:** ▫ **When the common fault is activated, the LED setting "Fault" in the CM and SM properties is set to "Alternative functions" and the drop-down menu is deactivated.** **Please note:** ▫ **When the common fault is subsequently deactivated the function of the LED must be restored manually. (-> see the chapters "LEDs" on CM and SM)**
[ ]	Reset suppression when alarm is queued	The reset function via FT4 push button is disabled as long as an alarm e.g. fire alarm system is queued.
[ ]	Short-circuit monitoring drive lines	The drive lines are energised constantly for short-circuit monitoring. A short-circuit is detected by the monitoring of the DM fuse. **Please note:** ▫ **The vent switch function must be set to latching. Dead man, automatic step and limiting the run time all disable short-circuit monitoring with windows opened.**

7.6.4 Lockout mode

For smoke extraction in stairwells via a central smoke extraction shaft. An alarm in one fire section blocks the other fire sections. All the fire sections can be opened or closed via an FT4 central unit.

No lockout	Lockout function disabled
Smoke detector / fire alarm system lockout	In the event of an alarm in a fire section, the smoke detector / fire alarm system lines of the other fire sections are disabled.
FT4 and smoke detector / fire alarm system lockout	In the event of an alarm in a fire section, the FT4 and smoke detector / fire alarm system lines of the other fire sections are disabled.

7.6.5 CAN parameters

In the case of control units networked via CAN-bus, an individual address must be entered here for each control unit. The setting remains "0 of 0" for individual control units.

CAN address:	0 ... 30 **(standard: 0)**	(starting with 1) is increased by 1 for every control unit so that each control unit is assigned an unambiguous sequential number in the system.
of	0 ... 30 **(standard: 0)**	Number of all control units in the network.

(Refer also to the chapter "Several control units networked via CAN")

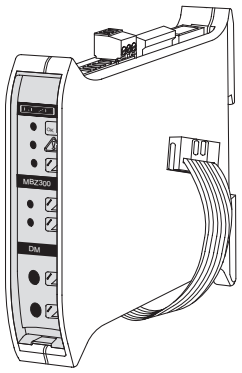
The CAN-bus is an MBZ 300-internal bus and is exclusively used for the networking of several control units.

8 DM - Drive module

8.1 Purpose

- Activation of 24V drives for RWA and/or ventilation purposes.
- Evaluation of ventilation signals and status contacts.
- Monitoring of the drive cable (see MBZ 300 installation instructions).

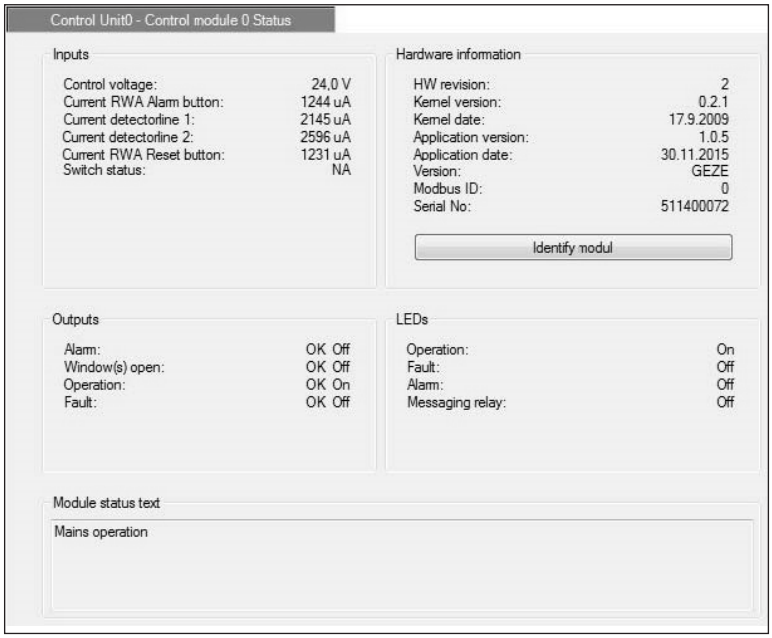
8.2 Electrical properties



Max. drive current:	10 A
Input switching voltage:	24 V DC

8.3 Status - DM

The current status can be compared with the target value table shown below in order to evaluate the status.



8.3.1 Target value table DM

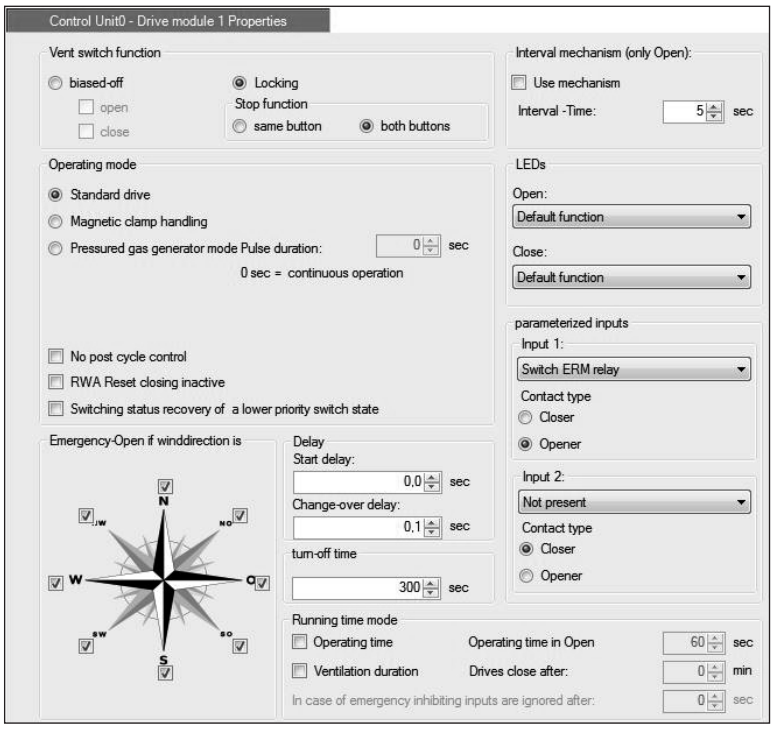
Inputs	Minimum value	Standard value	Maximum value
24V supply +	23.5 V	26 V	28 V
24V supply -	0 V (without load)	0.1 V (without load)	0.4 V (with load)
Control voltage	21 V	25.3 V	28 V
Terminal 1 drive line	OPEN or stopped when switched: 0 ... 0.1 V (without load), max. 0.4. V (with load). CLOSE when switched: 23.5 V ... 28 V		
Terminal 2 drive line	OPEN when switched: 23.5 V ... 28 V CLOSE or stopped when switched: 0 ... 0.1 V (without load), max. 0.4. V (with load)		
Drive monitoring	0.8 V	1 V	3 V
Switch status	Depending on the switched status NA (not actuated), L_L_OPEN, L_L_CLOSE or L_L_STOP		
Drive end position	Concerns the signal inputs: Depending on the switched status NA (not actuated), E_A_OPEN (status contact 1) or E_A_CLOSE (status contact 2)		

Number of cycles	Counts how often the line has been switched open and closed
Input 1:	When the configured input 1 is activated, the status of the contact is displayed here. Closed / opened.
Input 2:	When the configured input 2 is activated, the status of the contact is displayed here. Closed / opened.
Window status:	The current window status is displayed here. The window is: ▫ opened, as soon as it has been actuated in the "OPEN" direction. ▫ closed, as soon as the complete **drive line switch-off time** in the "CLOSE" direction has expired.

8.3.2 Module status text

The current operating mode is displayed here. The current status and faults are displayed, as described in the installation instructions.

8.4 Properties – DM



8.5 Configuration possibilities
(partner level)

8.5.1 Vent switch function

In the standard configuration the push button input of the drive module in a ventilation group is linked this drive module itself. Other ventilation group assignment -> see the chapter "Ventilation groups".

Function setting			Behaviour with button OPEN pressed	Behaviour with button CLOSE pressed	Stop by
[ ]	Biased-off (switch function)		**<u>Note:</u>** **The default setting is OPEN and CLOSE** **The interval mechanism is then disabled.**		
	[ ]	OPEN	The DMs switch to "OPEN" as long as the button is pressed. If the button is released, the DMs switch off again.	If "CLOSE" is not set to biased-off, the DMs switch to the "CLOSE" direction of travel permanently*.	In biased-off direction: Release the push button If only one is active, the other is in self-locking mode: STOP = both push buttons at the same time
	[ ]	CLOSE	If "OPEN" is not set to biased-off, the DMs switch to the "OPEN" direction of travel permanently*.	The DMs switch to "CLOSE" as long as the button is pressed. If the button is released, the DMs switch off again.	

[•]	**Locking**		Modules switch permanently* to "OPEN" direction of travel.	Modules switch permanently* to "CLOSE" direction of travel.	
	[ ]	Stop function same button	Modules switch permanently* to "OPEN" direction of travel.	Modules switch permanently* to "CLOSE" direction of travel.	Pressing the same push button again
	[ ]	Stop function both buttons			Pressing both buttons again

*) "permanently" means the set "drive line switch-off time" at the most

8.5.2 Interval mechanism

[ ]	Use mechanism	When this option is activated the drives are actuated in the "OPEN" direction for the time interval set. This has no influence on the RWA function. If actuation is in the CLOSE direction, the motor line is active over the whole drive line switch-off time. **Note: (with biased-off deactivated)** **The drive line switch-off time is automatically set to 300 s so that it is possible to close the window under any circumstances.**
Interval time	0..120 s **(standard: 5 s)**	Movement interval of the interval time.

Pressing the push button again during movement increases the overall interval time by the respectively set interval time. (Example: First time push button pressed = 5 s, second time = 10 s, third time = 15 s etc.).

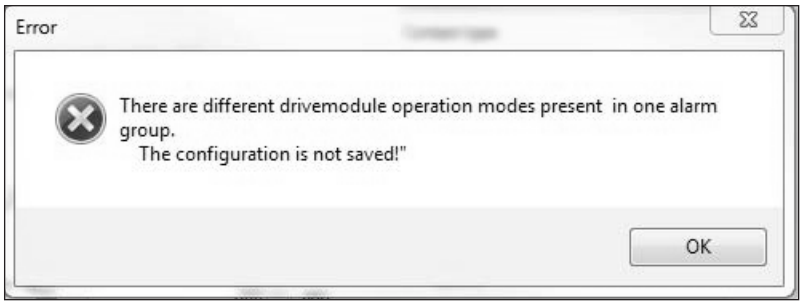
If actuation is in the "CLOSE" direction, the motor line is active over the whole drive line switch-off time.

8.5.3 Mode of operation

[•]	**Standard motor**	This mode is designated for standard 24V drives on ventilation flaps and windows. The change in direction is achieved by reversing the polarity of the supply voltage. The drive lines are only supplied (for the duration of the drive line switch-off time) when an OPEN or CLOSE signal is pending. In the event of an alarm, post cycle control is also active unless it has been deactivated.
[ ]	Hold-open magnet operation	This mode is designated for the connection of hold-open magnets. The module only reacts to alarm commands. The LED "Window OPEN" on the module and on any vent switch connected (without function!) lights up red in idling status. The LED indicator "Window OPEN" on the fire button is not active. **Note:** ▫ **In hold-open magnet mode of operation the maximum current must be taken into account (30% of the power supply). The rechargeable battery running time must be calculated separately. When current is permanently tapped, a back-up time of 72 h can no longer be achieved. Mixed designs (drives and hold-open magnets) must be given special attention.** ▫ **This setting requires the alarm direction of travel "Emergency-OPEN".** **IMPORTANT:** ▫ **If a DM with hold-open magnet mode is connected to a control unit, the LED indicator "Window OPEN" is not active on the fire buttons connected. We recommend using separate control units for standard drives and hold-open magnets.** **Note:** **The vent switch function, interval mechanism, restoring a switched status for a lower priority, runtime and ventilation duration are disabled**
		Idling status: Drive line actuated ("OPEN")
		Alarm status: Drive line off

[ ]	Pressure gas generator operation	This mode is designated for the connection of pressure gas generators. The module only reacts to alarm commands. **Note:** ▫ **If "Impulse duration" = 0 is set, the drive line remains on permanently in alarm status.** ▫ **The vent switch function, interval mechanism, restoring a switched status for a lower priority, runtime and ventilation duration are disabled.** With pressure gas generator configuration, the DM can be deactivated/activated using the external CLOSE button. The LED alarm on the DM then flashes quickly. Idling status: Drive line off Alarm status: Drive line actuated ("OPEN") for the set "impulse duration" Impulse duration: 0 ... 100 s **(standard: 0 s)** 0 s = Permanent operation
[ ]	No post cycle control	With the MBZ 300, post cycle control means CLOSE for 2 s every 2 min and then OPEN signal again for a total of 30 min. All GEZE window drives have been designed for this post cycle control. **Note:** **The motor line is still activated for the drive line switch-off time after the last post cycle control.**
[ ]	Smoke and heat extraction system reset close inactive	Following an alarm, the alarm is reset by smoke and heat extraction system reset, but the windows are not closed automatically. The windows must be closed manually using the assigned vent switches.
[ ]	Restoring a switched status of lower priority	After a higher priority signal has dropped, the drive line is returned to the status of a pending lower priority signal again. **Example:** A ventilation signal OPEN is pending due to a temperature sensor, the windows are open. A higher priority ventilation signal CLOSE transmitted by a weather station closes the windows. If the ventilation signal of the weather station drops further and the ventilation signal of the temperature sensor is still pending, the windows open again.

Note:
It is not possible to use motor lines with different modes of operation in one joint alarm group.
However, new alarm groups with the same sensor lines and different motor lines can be formed, so that only the same modes of operation are always present in one group.



8.5.4 Emergency-OPEN for wind directions (for SHEV according to EN 12101-2)

Specifies the evaluated wind directions for which the system activates the drive line of the DM in the event of an alarm.

[x]	N	The wind direction is evaluated according to VdS 3122. In the event of an alarm and a wind direction during which the windows should not be opened, the windows close if they have been opened by ventilation. This function guarantees a wind direction dependant activation of SHEVs (natural smoke and heat exhaust ventilators) in the event of an alarm according to EN 12101-2.
[x]	NO	
[x]	O	
[x]	SO	
[x]	S	
[x]	SW	
[x]	W	
[x]	NW	

This function is only possible when a weather module is available and the wind direction sensor (wind direction finder) is connected. -> see the chapter "WM weather module".

8.5.5 Delays

Switch-on delay	0..10 s **(standard: 0 s)**	Response time to a control command (for cascading of the DMs with several drives with high switch-on peak currents) **Note:** ▫ **The switch-on delay serves to map delayed sequence control.**
Changeover delay	0..2.5 s **(standard: 0.1 s)**	Voltage-free phase during changeover.
Drive line switch-off time	10..3600 s **(standard: 300 s)**	Maximum operating period for a drive line following a switching command. This time applies for ventilation OPEN and CLOSE but not for an alarm. The drive line switch-off time for RESET-CLOSE cannot be set.

8.5.6 Runtime mode

[ ]	Runtime	The maximum ventilation stroke can be limited with this option activated ("gap ventilation"). A "Ventilation OPEN" command activates the drive line in OPEN direction. The line stops automatically after the set "opening time". A further "Ventilation OPEN" command is then ignored. Operation can also be stopped during movement. A further OPEN command then only activates the line for the residual time. The runtime is ignored in the alarm case.
	Runtime in OPEN direction:	0...1799 s **(standard: 60 s)** 0 s – Drives are not actuated (line blocked) **Note:** **The max. run time is automatically restricted by the drive line switch-off time. Otherwise a CLOSE movement of the window is always guaranteed.**
[ ]	Ventilation duration	If "Ventilation duration" ... "drives close after" is activated, the ventilation line automatically switches to "CLOSE" after the set time.
	Drives close after:	0...6000 min **(standard: 0 min)** 0 min – Drives never closed (permanently open)

- The runtime mode is only available in the operating mode "standard motor".
- If "Runtime in OPEN direction" has been activated, the drive line of the DM is initially automatically actuated to "CLOSE" (initialisation). The ventilation "OPEN" commands are blocked for the double runtime so that the drives can move to "CLOSE" in a defined manner.
- The runtime functions are inactive for alarm. After "Reset CLOSE" the ventilation commands are blocked for the double runtime again.

8.5.7 LEDs

The function of the LEDs on the vent switch are shown here.
If "alternative function" is selected, the display of the LEDs depends on the function of the status contacts.

8.5.8 Status contacts

The drive module has two inputs for which parameters can be set and at which status contacts can be connected.

The type of contact can be selected:
- Closer contact
- Opener contact

How to process the pending status contacts is set under this menu item.

	Selection	Function
Status contact 1:	**Not available**	The status contact is ignored.
	End position status CLOSE	The "CLOSE" end position is indicated by the green LED on the vent switch. During closing movement the LED is dark. The yellow LED "Window OPEN" on the RWA button is switched off permanently.
	End position status flashes CLOSE	As "End position status CLOSE". The yellow LED "Window OPEN" on the RWA button is switched off permanently. The specific LED flashes during closing movement.
	Disable input OPEN	Movement "OPEN" is blocked.
	Disable input CLOSE	Movement "CLOSE" is blocked.
	Disable input OPEN CLOSE	Movement in the "OPEN" and in the "CLOSE" direction is blocked.
	Switch ERM	If an ERM is used, this input appears in the ERM properties for selection of the relay. If this input is active (contact closed), the selected relay is switched.
Status contact 2:	**Not available**	The status contact is ignored.
	End position status OPEN	The "OPEN" end position is indicated by the red LED on the vent switch. During opening movement the LED is dark. The yellow LED "Window OPEN" on the RWA button is switched on permanently.
	End position status flashes OPEN	As "End position status OPEN" The yellow LED "Window OPEN" on the RWA button is switched on permanently. The specific LED flashes during opening movement.
	Disable input OPEN	Movement "OPEN" is blocked.
	Disable input CLOSE	Movement "CLOSE" is blocked.
	Disable input OPEN CLOSE	Movement in the "OPEN" and in the "CLOSE" direction is blocked.
	Switch ERM	If an ERM is used, this input appears in the ERM properties for selection of the relay. If this input is active (contact closed), the selected relay is switched.

Using the end position statuses

The end position statuses are used as a clear indicator of end positions on the vent switch and RWA button. End position contacts must be available on the window / from the drive.

Special features with only one end position status:
If only one of the end position statuses is used, only the respective LED on the vent switch reacts to the status. The other LED behaves as in operation without end position statuses.

- When "end position status OPEN" or "end position status CLOSE" is selected, the respective selection is automatically set to "alternative function" and the drop-down menu is deactivated.
- **Please note: If a different selection is made afterwards, the respective LED function must be set manually to "standard function".**

Using the disable inputs

Use of the status contacts as disable inputs temporarily blocks movement in order to avoid collisions between windows and shade systems, for example.
The inputs are active both in ventilation and alarm mode. (However, please refer to the special features of alarm mode.) As long as a disable input is active, no movement takes place in the respective direction. When the input disable has been deactivated, movement begins automatically.
Special features of alarm mode:
If a disable input is not disabled until after an alarm has been triggered, it is ignored. This is to avoid a broken cable occurring in an alarm case preventing the window opening.

The connection of the disable input to a relay which is actuated by the control unit in the event of an alarm is not possible since disabling would be too late due to the switching time of the status input relay.

Special features of hold-open magnet mode:
In hold-open magnet mode only "Disable input OPEN" has a function. Since the hold-open magnet transmits "OPEN" permanently in idling status and is switched off in the event of an alarm, the disable input disables switch-off in this case. Otherwise the function corresponds to the behaviour in standard motor mode.

Influence on times:

Drive line switch-off time:	Is restarted after every release.
Switch-on and changeover delay:	Is restarted after release.
Runtime:	Is interrupted after disable.
Ventilation duration:	Is restarted after disable as long as necessary until a release is available when the time
Interval mechanism:	expires.
	Interval time is not interrupted by disable.

Special features for power failure "Close all windows":
If the disable input is disabled, closing movement remains disabled despite subsequent release until mains power is restored.

When disable input OPEN, CLOSE or OPEN CLOSE is selected, "Disable mode active" appears in the operating mode menu. In the runtime menu the line "Disable inputs will be ignored in the emergency-OPEN case after ...sec" is released for setting.

ATTENTION Please make sure when using the disable inputs (particularly for sequence control) that you use the switching contacts correctly and proceed with corresponding care during testing. The reliability of the RWA system must be safeguarded.
There is a residual risk: if the disable input is not cleared in the alarm case the windows cannot be opened. If for sequence control a time is set after which the disable inputs are ignored, collisions can occur between e.g. windows and shade systems.
The system must be coordinated with the fire protection planner responsible.

Ignore disable inputs
The disabling of emergency-OPEN movement by a faulty contact in the event of an alarm should be avoided, or if release is given after a delay in the alarm case you can set that the disable input can be overridden after a certain time here and the movement is still started.

[ ]	Disable inputs are ignored in emergency-OPEN cases after:	0...999 s **(standard: 0 s)** 0 s = never (remain disabled)

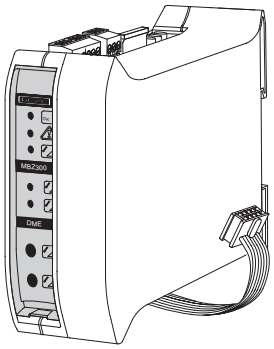
Special features:
If a disabled disable input is ignored during emergency-OPEN and remains disabled following reset, it is immediately ignored the next time an alarm is given.
Note:
If the reset direction is blocked, it behaves in the same way as ventilation in the "CLOSE" direction.
The behaviour during automatic CLOSE and disable input in the "CLOSE" direction is identical to ventilation in the "CLOSE" direction.

9 DME drive module - extended version

9.1 Purpose

- Activation of 24V drives for RWA and/or ventilation purposes.
- Evaluation of ventilation signals and status contacts.
- Monitoring of the drive cable (see MBZ 300 installation instructions).

9.2 Electrical properties



Max. drive current:	20 A
Input switching voltage:	24 V DC

9.3 Status - DME

See the chapter "Status - DM"

9.4 Properties - DME and configuration possibilities

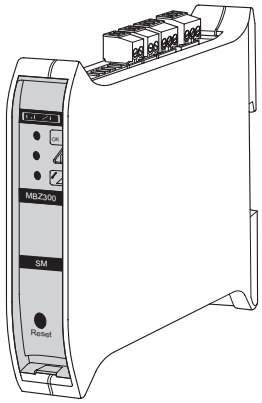
(partner level)
See the chapter "DM drive module/configuration possibilities"

10 SM Sensor module

10.1 Purpose

- Evaluation/monitoring of manual detectors.
- Evaluation/monitoring of automatic fire detectors or external alarm contacts.
- Evaluation of ventilation signals.
- Provision of a potential-free contact (messaging relay).

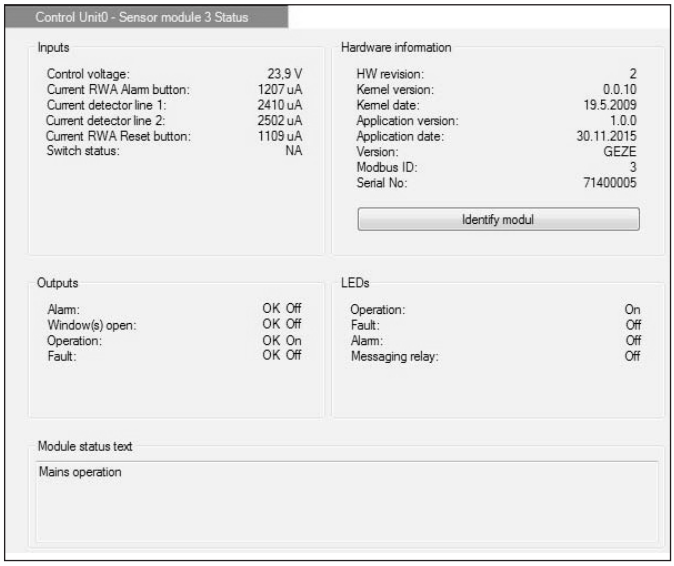
10.2 Electrical properties



Alarm voltage	24 V DC
Input switching voltage	24 V DC
Load bearing capacity messaging relay	0.5 A, SELV

10.3 Status - SM

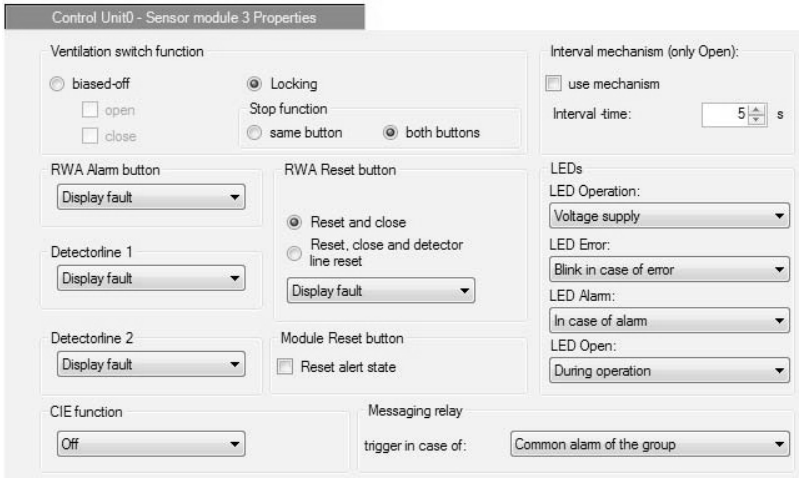
The current status can be compared with the target value table shown below in order to evaluate the status.



10.3.1 Target value table SM

Inputs	Minimum value	Standard value	Maximum value
Control voltage	22 V	25.3 V	28 V
Current RWA button open	900 µA (standby)	1250 µA (standby)	3000 µA (standby)
Current smoke detector line 1	1000 µA (standby)	2550 µA (standby)	6000 µA (standby)
Current smoke detector line 2	1000 µA (standby)	2550 µA (standby)	6000 µA (standby)
Current RWA button close	1000 µA (standby)	1250 µA (standby)	3000 µA (standby)
Switch status	Depending on the switched status NA (not actuated), OPEN, CLOSE or STOP		

10.4 Properties – SM



In the standard configuration the SM forms a new fire section. All the following DMs (up to the next SM) are assigned to this fire section.
For other fire section assignment see the chapter “Fire sections”.

10.5 Configuration possibilities

(partner level)

10.5.1 Vent switch function

In the standard configuration the push button input of the control module in the first ventilation group is linked with all drive modules in the system. This ventilation group has a higher priority than the push buttons connected directly to the drive modules (= central push button for the whole control unit). Other ventilation group assignment (see the chapter "Ventilation groups").

Function setting		Behaviour with button OPEN pressed	Behaviour with button CLOSE pressed	Stop by
[ ]	Biased-off (switch function)	**Note:** **The default setting is OPEN and CLOSE** **The interval mechanism is then deactivated.**		
[ ]	OPEN	The DMs switch to "OPEN" as long as the button is pressed. If the button is released, the DMs switch off again.	If "CLOSE" is not set to biased-off, the DMs switch to the "CLOSE" direction of travel permanently.	In biased-off direction: Release the push button If only one is active, the other is in self-locking mode: STOP = both push buttons at the same time
[ ]	CLOSE	If "OPEN" is not set to biased-off, the DMs switch to the "OPEN" direction of travel permanently.	The DMs switch to "CLOSE" as long as the button is pressed. If the button is released, the DMs switch off again.	
[•]	**Locking**	Modules switch permanently to "OPEN" direction of travel.	Modules switch permanently to "CLOSE" direction of travel.	
[ ]	Stop function same button	Modules switch permanently to "OPEN" direction of travel.	Modules switch permanently to "CLOSE" direction of travel.	Pressing the same push button again
[ ]	Stop function both buttons			Pressing both buttons again

"Permanently" means the set "drive line switch-off time" is at maximum.

10.5.2 Interval mechanism

[ ]	Use mechanism	When this option is activated the drives are only actuated in the "OPEN" direction for the time step set. This has no influence on the RWA function. If actuation is in the "CLOSE" direction, the motor line is active over the whole drive line switch-off time. **Note:** **If biased-off is deactivated.** **The drive line switch-off time of the controlled DMs is automatically set to 300 s so that it is possible to close the window under any circumstances.**
Interval time:	0 ... 120 s **(standard: 5 s)**	Movement interval of the interval time.

Pressing the push button again during movement increases the overall interval time by the respectively set interval time.
(Example: First time push button pressed = 5 s, second time = 10 s, third time = 15 s etc.)

10.5.3 RWA Reset button

(Concerns the green push button "CLOSE/RESET" in the connected RWA button)

[ ]	Display fault	This activates fault evaluation (line monitoring) of the reset line. Cable break and short-circuit (after 30 s) are detected.
[ ]	Suppress fault	This deactivates the fault evaluation (line monitoring) of the reset line. Line break and short-circuit are no longer detected. This means setting a terminating resistance is superfluous.
[ ]	Alarm triggering in the event of a fault	An alarm is triggered on a reset line in the event of cable break or short-circuit (after 30 s).
[•]	**Reset and close**	When the emergency-CLOSE push button of the manual detector is actuated, all DMs of the fire section are switched to "CLOSE" and the alarm status in the control unit is reset. If a smoke detector reset should be necessary, this must be carried out directly at the module via the "RESET" push button.
[ ]	Reset, close and detector line reset	When the emergency-CLOSE push button of the manual detector is actuated, all DMs of the local fire section are switched to "CLOSE" and the alarm status in the control unit is reset. The smoke detectors are also reset.

"Emergency-CLOSE" always has the effect of triggering a "CLOSE" movement and (partly) resets the alarm status, no matter whether alarm signals (e.g. fire alarm system) are pending or not.
All pending alarm signals must be removed for complete alarm reset.

10.5.4 RWA Alarm button

[ ]	Display fault	The fault evaluation and display (line monitoring) of the RWA button line is thus activated. Cable break and short-circuit are detected.
[ ]	Suppress fault	Fault detection (line monitoring) of the RWA button line is thus deactivated. Line break and short-circuit are no longer detected. This means setting a terminating resistance is superfluous. This setting can be used when a normal closer switching contact is connected. A closed contact triggers an alarm.
[ ]	Alarm triggering in the event of a fault	The fault evaluation and display (line monitoring) of the RWA button line is thus activated. An alarm is triggered in the event of a line break or short-circuit on a RWA button line.

10.5.5 Detector line 1

[ ]	Display fault	Fault evaluation and display (line monitoring) of detector line 1 are thus activated. Cable break and short-circuit are detected.
[ ]	Suppress fault	Fault detection (line monitoring) of the detector line 1 is thus deactivated. Line break and short-circuit are no longer detected. This means setting a terminating resistance is superfluous. This setting can be used when a normal closer switching contact is connected. A closed contact triggers an alarm.
[ ]	Alarm triggering in the event of a fault	Fault evaluation and display (line monitoring) of detector line 1 are thus activated. An alarm is triggered in the event of a line break or short-circuit on detector line 1.

10.5.6 Detector line 2

[ ]	Display fault	Fault evaluation (line monitoring) of detector line 2 can be activated, cable break and short-circuit are detected.
[ ]	Suppress fault	Fault detection (line monitoring) of detector line 2 can be deactivated, line break and short-circuit are no longer detected. This means setting a terminating resistance is superfluous. This setting can be used when a normal closer switching contact is connected. A closed contact triggers an alarm.
[ ]	Alarm triggering in the event of a fault	Fault evaluation and display (line monitoring) of detector line 2 are thus activated. An alarm is triggered in the event of a line break or short-circuit on detector line 2.

10.5.7 Module Reset button

(Concerns the reset push button directly on the CM module)

[ ]	Reset alert status	In the standard setting, pressing the button briefly will only reset the smoke detectors of the module detector lines (for smoke detector reset -> see the chapter "Operating parameters"). When the option is activated, the alarm is also reset in the assigned fire sections and all the drive modules are actuated to "CLOSE".

- Please check how meaningful this function is if the module detector lines are used for different fire sections.
- If "Reset alert status" is activated, the alarm status is only reset and the drive modules actuated to "CLOSE" when all pending alarm signals have been removed.

10.5.8 CIE function

Automatic remote resetting of the alarm status via fire detector system

[•]	**Off**	-
[ ]	Detector line 1	When this option is activated, opening the fire detector system status contact on detector line 1 will automatically reset the control unit. Detector line 1 must be activated accordingly in the specific fire section.
[ ]	Detector line 2	When this option is activated, opening the fire detector system status contact on detector line 2 will automatically reset the control unit. Detector line 2 must be activated accordingly in the specific fire section.

- The CIE function covers resetting the alarm status and CLOSING the drives.
- If "Reset, close and detector line reset" is activated in combination with the CIE function, the detector lines are switched voltage-free for the time set for "smoke detector reset period" if the CIE signal drops (see the chapter CM "Operating parameters").

10.5.9 Messaging relay

Selection of the message which leads to the messaging relay switching.

trigger in case of:	Never	No reaction. **Note:** **Should be set if the relay is used to report expiry of maintenance time**.
	Rechargeable battery fault	The closer contact is closed when the rechargeable battery monitoring is in fault-free status. If the mains voltage fails, the relay is switched off after a delay. See the chapter "PM mains failure"
	Mains voltage fault	The closer contact is closed when the mains voltage monitoring is in fault-free status. If the mains voltage fails, the relay is switched off after a delay. See the chapter "PM mains failure"
	Control unit fault	The messaging relay switches in the event of a fault within the control unit group (concerns faults on modules of the control unit). Closer is closed in the fault-free status. If the mains voltage fails, the relay is switched off after a delay (see the chapter "PM mains failure").
	Common alarm of the group	The messaging relay switches following a common fault. The closer contact is closed in the fault-free status. When a common fault has been eliminated, the fault status is reset after a delay of 60 s. The fault status is reset immediately on the control unit where the fault occurred. If the mains voltage fails, the relay is switched off after a delay (see the chapter "PM mains failure").

General alarm (default)	The messaging relay switches when there is an alarm within the group (fire section). The closer is closed in the alarm status. **Note: Changeover contact NC/NO is inverted!** **If all alarm groups are deleted, the setting "Never" will appear after the next charging cycle.**
Restricted group alarm	The messaging relay switches on for 300 s in the event of an alarm within the group (fire section). The closer is closed in the alarm status. **Note: Changeover contact NC/NO is inverted!**
Delayed group alarm	The messaging relay switches on after a 5 s delay in the event of a group alarm (fire section). The closer is closed in the alarm status. **Note: Changeover contact NC/NO is inverted!**
Impulse for alarm reset	The messaging relay switches on for a period of 1-2 s in the event of alarm reset. The closer is closed for this period.

10.5.10 LEDs

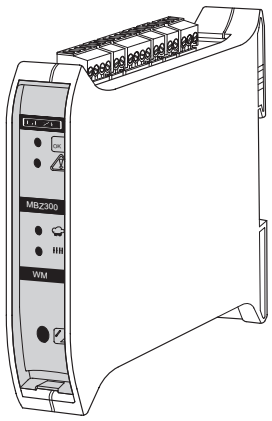
The function of the LEDs on the RWA button are shown here. If "alternative function" is selected, the display of the LEDs depends on the special system functions set.

11 WM - Weather module

11.1 Purpose

- Evaluation of weather sensors
- Evaluation/monitoring of the main wind direction

11.2 Electrical properties



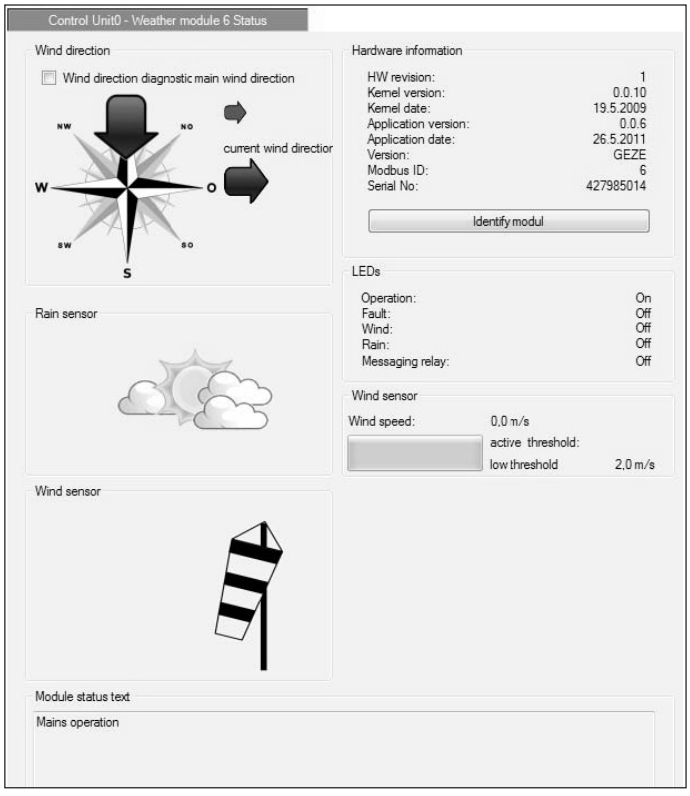
Switching voltage inputs / outputs:	24 V DC
Load bearing capacity messaging relay	0.5 A, SELV

11.3 Status – WM

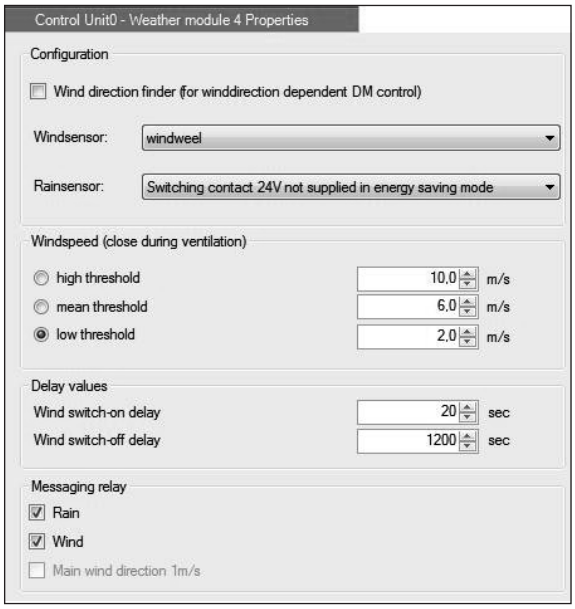
The following is displayed under the weather module tab:

- the evaluated current wind direction
- the evaluated main wind direction (average over 10 min!) The control unit only reacts depending on the wind direction when the red arrow is visible (depending on DM settings -> see the chapter "Emergency-OPEN for wind directions (for SHEV according to EN 12101-2)")
  The position of the wind vane can be adjusted correctly by activating the "wind direction diagnostics". The averaging of main wind direction is still active – it is necessary to wait for this average for a test.
- Rain / no rain
- Current wind speed and set threshold.
- Module status text

  The current operating mode is displayed here. The current status and faults are displayed, as described in the installation instructions.



11.4 Properties – WM



If a weather module is installed, a weather group is automatically generated which contains all the DMs in the control unit (see the chapter "Weather groups").

11.5 Configuration possibilities

(partner level)
The type of evaluation can be defined in the configuration.

11.5.1 Configuration

[ ]	Wind direction finder	Activate when the wind direction finder is used. Deactivates the configuration fields since the set of sensors to be used for wind direction dependant activation is pre-defined. (See installation instructions for MBZ 300)

Wind sensor:	none	When the "Wind direction finder" option is active.
	Switching contact closer	For connection of on-site sensors or the GEZE weather station. Potential-free contact required.
	Windwheel	Connection of the MBZ 300-specific sensors (See installation instructions for MBZ 300).

Rain sensor:	Switching contact 24 V, power-saving mode	The rain sensor is not heated in the event of a power failure
	Switching contact 24 V, permanently	Rain sensor is supplied with 24 V DC constantly. **Please note: Rechargeable battery back-up time is impaired.**

11.5.2 Wind speed (for ventilation)

Specifies the threshold for the wind speed from which the windows are closed in the ventilation case.

[ ]	high threshold	0.0...20.0 m/s **(standard: 6.0 m/s)**
[ ]	medium threshold value	0.0...20.0 m/s **(standard: 4.0 m/s)**
[•]	**low threshold**	0.0...20.0 m/s **(standard: 2.0 m/s)**

The threshold values can also be freely set. The default setting is "low threshold value" in order to guarantee maximum possible protection from wind damage.

11.5.3 Delay values (for ventilation)

Is used to delay the switching reaction to wind e.g. constant opening and closing is avoided in gusty wind conditions.

Wind switch-on delay	0...254 s **(standard: 20 s)**
Wind switch-off delay	0...3600 s **(standard: 1200 s)**

Notes on testing: Depending on the sensors connected there can be a changeover delay time. Rain sensors in particular have a pre-set drying time which may vary depending on the rain duration/intensity.

11.5.4 Messaging relay

Selection of the message which leads to the messaging relay switching.

trigger in case of:	Rain	The messaging relay switches off when the rain sensor detects "Rain". The closer is then open. **Note:** The setting is deactivated if no wind direction sensor or rain sensor has been selected. The closer is closed in the alarm status.
	Wind	The messaging relay switches off when the wind sensor detects "Wind". The closer is then open. **Note:** The setting is deactivated if no wind direction sensor or wind sensor has been selected.
	Main wind direction 1 m/s	The messaging relay switches when the wind direction sensor has detected the "Main wind direction". **Note:** The setting is deactivated if no wind direction sensor has been selected. The closer is closed in the alarm status.

Note: Either "Wind" or "Main wind direction" can be detected.

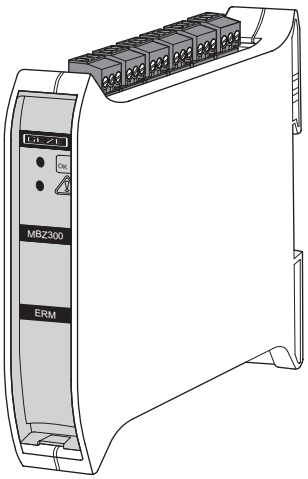
The messaging relay is switched off in rechargeable battery operation.

12 ERM relay module

12.1 Purpose

- Provision of six potential-free contacts for which parameters can be set
- Faults, alarm signals and ventilation signals (vent switch actuation) can be reported.

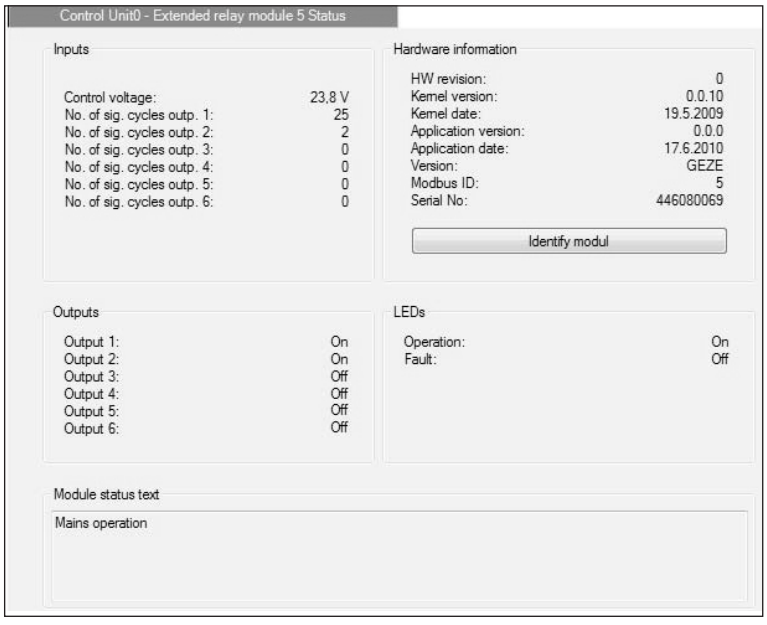
12.2 Electrical properties



Load bearing capacity messaging relay 0.5 A, SELV

12.3 Status – ERM

The current status can be compared with the target value table shown below in order to evaluate the status



12.3.1 Target value table ERM

Inputs	Minimum value	Standard value	Maximum value
Switch status		NA	
Control voltage	22 V	25.3 V	28 V
No. cycles output 1 – 6		Counts how often the relays have been switched.	

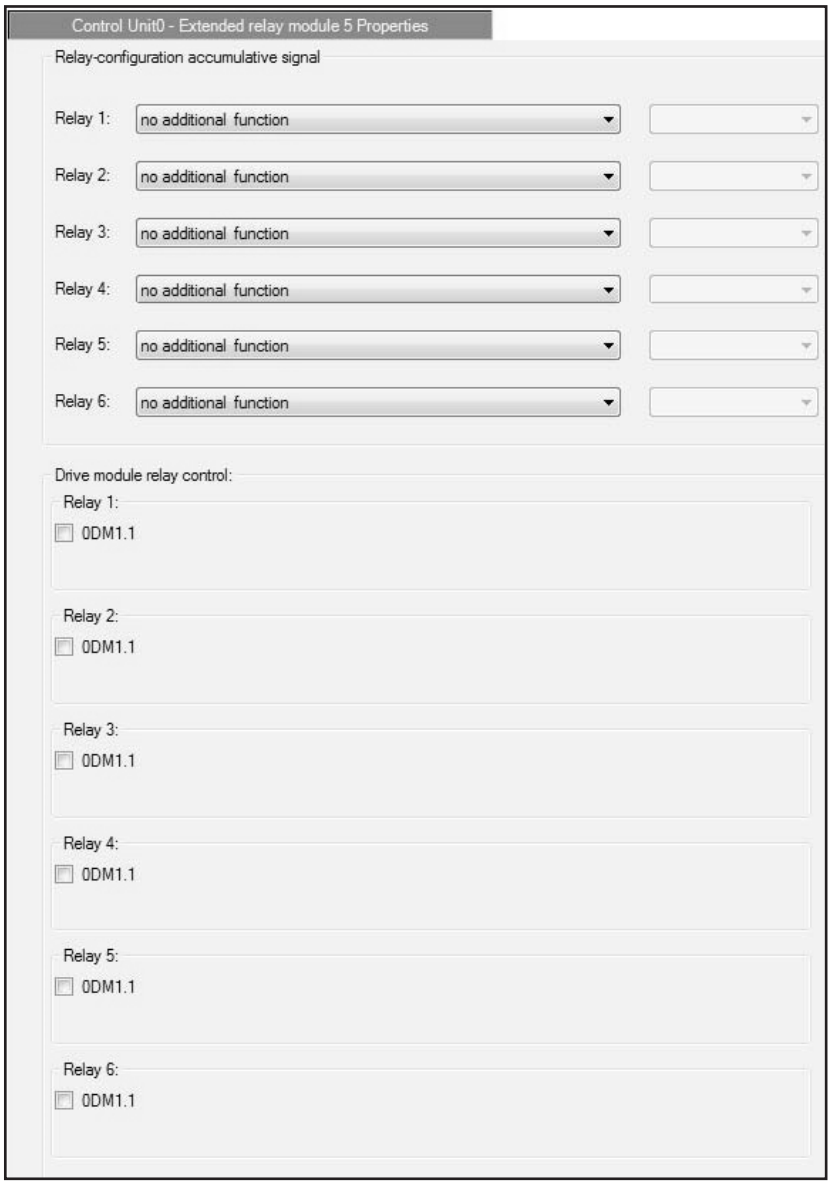
12.3.2 Outputs

The contact between connections 60 / 61 is closed in the "On" status.

12.3.3 Module status text

The current operating mode is displayed here. The current status and faults are displayed, as described in the installation instructions.

12.4 Properties – ERM



12.5 Configuration possibilities

The actual configuration of the relay module is carried out in the fire sections, ventilation groups and weather groups. In the properties, common faults which are displayed by the relays can be configured. This makes the multiple assignment of relay signals possible. However, for clear signalling GEZE recommends only assigning one function to each relay.

12.5.1 General relay configuration

Signals from ventilation and weather groups, fire sections as well as faults can be signalled at one relay.

- If the function of a relay is redefined by software, the relay remains in its current switched position until a switching signal occurs. This means that an incorrect status can be displayed before this first switching takes place.
- The relays are bi-stable. In other words, the status remains even if there is a drop in voltage.

12.5.2 Relay configuration common fault

Relay 1 to 6	No additional function	No common fault function is assigned to the relay.	Control unit 0-control unit x (in the case of control units networked via CAN)
	Common fault of all DMs on selected control units	Faults of all drive modules on the selected control units are displayed.	
	Common fault of all SMs on selected control units	Faults of all sensor modules* on the selected control units are displayed.	
	Common fault of all DMs+SMs on selected control units	Faults of all drive and sensor modules* on the selected control units are displayed.	
	Common fault of all PMs on selected control units	Faults of all power modules on the selected control units are displayed.	
	Common fault of all DMs+PMs on selected control units	Faults of all drive and power modules* on the selected control units are displayed.	
	Common fault of all SMs+PMs on selected control units	Faults of all sensor* and power modules on the selected control units are displayed.	
	Common fault of all SMs+PMs+DMs on selected control units	Faults of all sensor*, drive and power modules on the selected control units are displayed.	

* The "SM sensor modules" include the control module.

For a common fault to be outputted, at least one control unit must be selected, even if it is a single control unit.

12.5.3 Signals from a drive module

A relay can be switched with the help of the status contacts of the drive modules (see chapter 8.5.8) if the status contact is occupied with the function "Switch ERM".

Each input appears in the selection list of each relay. The corresponding input is coded as follows: XDMY.Z

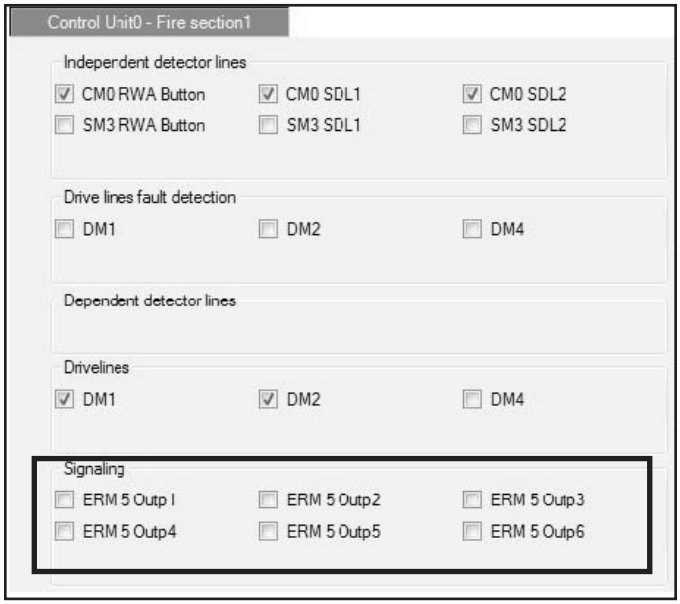
X: CAN ID of the drive module

Y: Drive module ID

Z: Input 1 or 2

12.5.4 Alarm relay configuration (fire sections)

As soon as a relay module is integrated in a control unit, additional configuration possibilities appear in the fire sections.

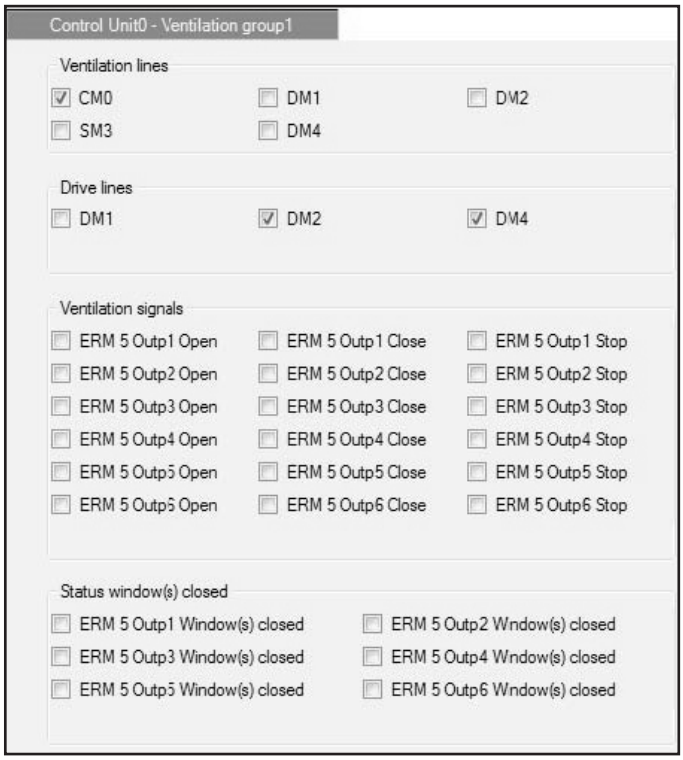


Here, selection can be made of the relays which are to be switched when an alarm occurs for this fire section.
A relay can also be assigned to different fire sections.
In higher-order fire sections relay modules are available for all control units.
With the aid of higher-order fire sections the alarm of another control unit can be displayed on a relay module, for example.

PLEASE NOTE:
A multiply assigned relay is switched off as soon as one of the fire sections is reset, even if other fire sections are still actuated.

12.5.5 Signalling ventilation signals (ventilation groups)

As soon as a relay module is integrated in a control unit, additional configuration possibilities appear in the ventilation groups.



Ventilation signals

Here, the statuses of the ventilation can be assigned to the relays. "OPEN", "CLOSE" and "Stop" are available for each relay.
If parameters are set for a relay to display OPEN or CLOSE, then OPEN or CLOSE is active until there is either a change in direction of movement or a "Stop" signal is issued. The stop signal is only pending when the system is stopped manually, i.e.

- stop caused by activating OPEN/CLOSE button at the same time
- stop caused by the active function "Start/stop OPEN/CLOSE button" or
- stop caused by active biased-off function.

- Automatic switch-off by the drive is not registered as "Stop".
- **Important:** This is an indicator of ventilation signals – not window statuses! Only the vent switch signals are shown. The opening of windows by alarm or closing by alarm resetting is not shown.

"Window OPEN" (status of a group)

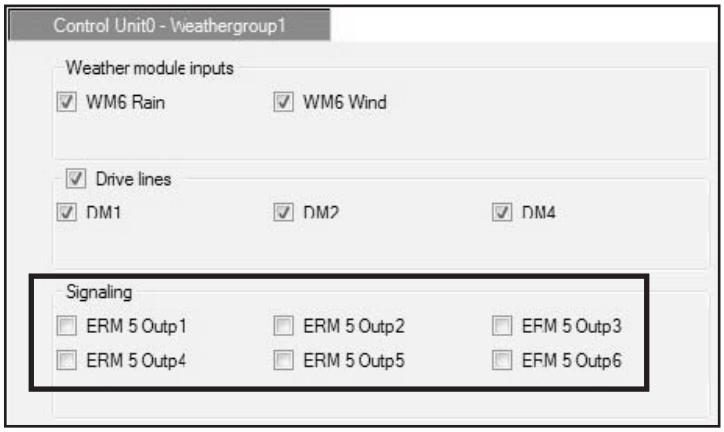
Which relay is to signal the group status for "Windows OPEN" can be selected here.

- If all the drive lines are "CLOSED", the ERM relay is switched on.
- If at least one drive line is not "CLOSED", the ERM relay is switched off.

- If a relay is selected here, this relay must not be assigned an additional function.
- The status is checked and updated every 6 s.
- **Tip:** A real window position can only be mapped by end position contacts (e.g. reed-contacts)

12.5.6 Signalling of weather signals

As soon as a relay module is integrated in a control unit, additional configuration possibilities appear in the weather groups.



Here, the statuses of the weather signals can be assigned to the relays.
If a relay parameters are set for the display of "Wind" and/or "Rain", it is active in "Wind" and/or "Rain" until the weather signal(s) is no longer pending.
If the weather group is active, the ERM relay switches.

13 Fire sections

The term fire section (or "alarm group") is used in the context of the MBZ 300 for a group which is activated by specific alarm signals.

13.1 Fire sections

Add	Fire sections are added by clicking this button.
Edit	The fire section to be edited must be selected from the list. When this button is clicked, the program jumps to the view of the fire section selected.
Delete	The fire section to be deleted is selected from the list and deleted by clicking the button.

13.2 Fire section details

The fire sections can be formed flexibly.

13.2.1 Independent detector lines

You can select which detectors lines are to lead to triggering.

[ ]	CM/SM RWA push button	RWA button leads to the alarm being triggered
[ ]	CM/SM RMI1	Detector line 1 leads to the alarm being triggered
[ ]	CM/SM RMI2	Detector line 2 leads to the alarm being triggered

Please note:
A detector line may only occur in a maximum of one group!
Drive modules must not be in different groups with different directions of travel.
Different directions of travel lead to conflicts.

13.2.2 Drive line faults

Here you can select which drive lines are to trigger a fire section if a fault occurs (analogue to detector lines).

13.2.3 Drive lines

Here you can select which drive lines are assigned to this fire section.

13.2.4 Fire section options

The priority is used to define which fire section is to be triggered with the highest priority. If a DM is integrated in two fire sections with contradictory settings, the function of the higher priority fire section is executed if both fire sections are triggered.

Priority	0 ... 5	Setting the priority. 0 = very low, 5 = very high.

The priority of the fire sections is always higher than that of the ventilation groups / weather groups. The priority 0 ... 5 can thus be understood as priority 10 ... 15.

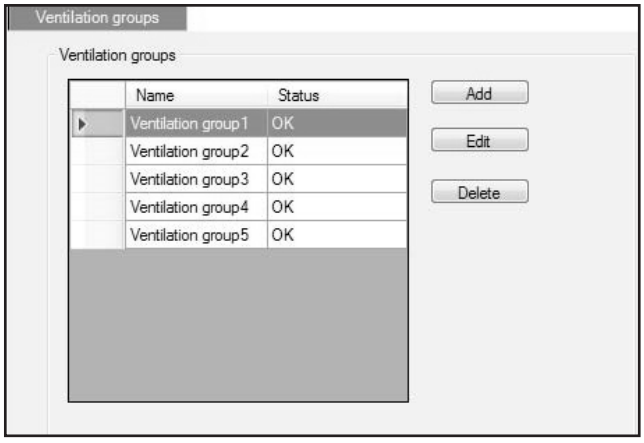
13.2.5 Direction of travel

[•]	**Emergency-OPEN**	The drives connected open in the event of an alarm
[ ]	Emergency-CLOSE	The drives connected close in the event of an alarm

13.2.6 Description

A text describing the fire section can be entered.

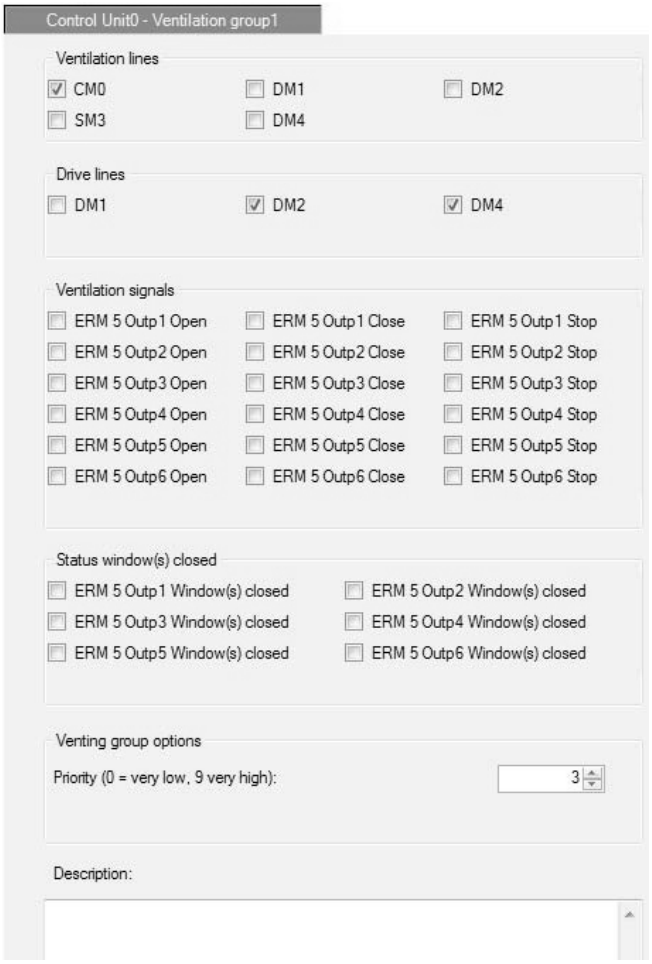
14 Ventilation groups



14.1 Ventilation groups

Add	Ventilation groups are added by clicking this button.
Edit	The ventilation group to be edited must be selected from the list. When this button is clicked, the program jumps to the view of the ventilation group selected.
Delete	The ventilation group to be deleted is selected from the list and deleted by clicking the button.

14.2 Details of ventilation group



The ventilation groups can be formed flexibly.

14.2.1 Ventilation lines

Which ventilation lines are to be used to activate the group can be defined here.

[ ]	CM	Vent switch input on the CM or SM.
[ ]	DM	Vent switch input on the DM.

Each vent switch input should be activated in one ventilation group.

14.2.2 Drive lines

Here you can select which drive lines are assigned to this ventilation group.

14.2.3 Ventilation group options

The priority is used to define which ventilation signal is to be treated with the highest priority.

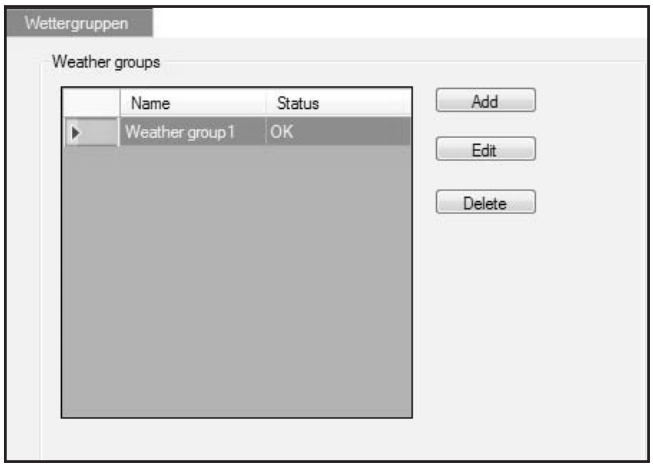
Priority	0 ... 9	Setting the priority. 0 = very low, 9 = very high.

Note: The same priority level applies as for the weather group.

14.2.4 Description

A text describing the ventilation group can be entered.

15 Weather groups

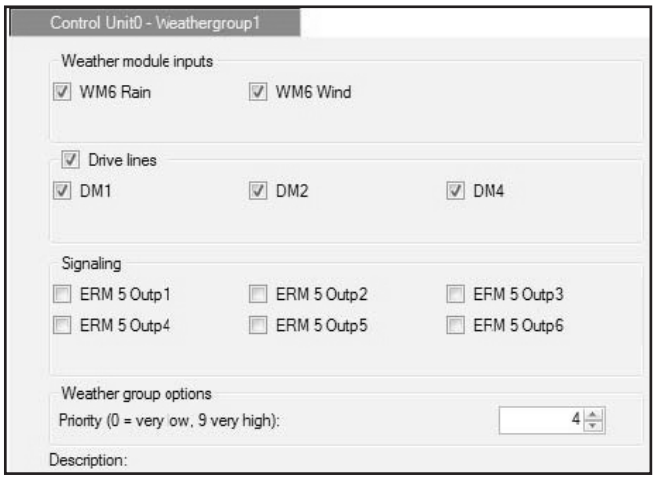


The weather group is only valid for the ventilation function.

15.1 Weather groups

Add	Weather groups are added by clicking this button.
Edit	The weather group to be edited must be selected from the list. When this button is clicked, the program jumps to the view of the weather group selected.
Delete	The ventilation group to be deleted is selected from the list and deleted by clicking the button.

15.2 Weather group details



15.2.1 Weather module inputs

Which inputs are to be used to activate the group can be defined here.

PLEASE NOTE:
An input may only occur in a maximum of one group! Multiple use is not possible otherwise behaviour is not predictable.

15.2.2 Drive lines

Here you can select which drive lines are assigned to this weather group.

15.2.3 Weather group options

The priority is used to define which weather input is to be treated with priority.

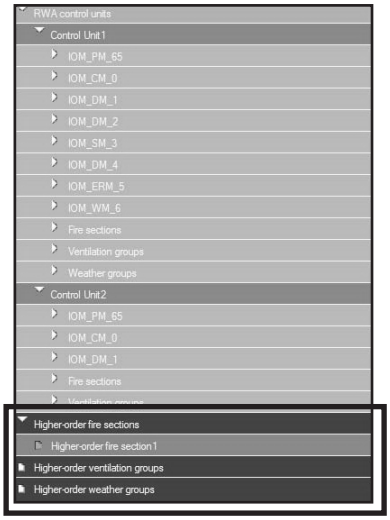
Priority	0 ... 9	Setting the priority. 0 = very low, 9 = very high.

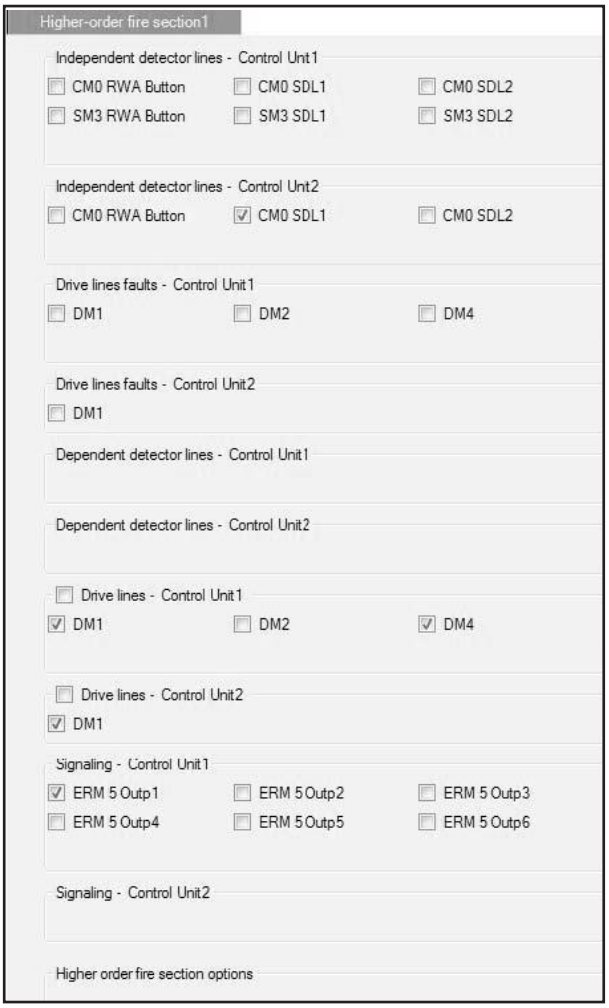
Note: The same priority level applies as for the ventilation group.

15.2.4 Description

A text describing the weather group can be entered.

16 Higher-order fire section / ventilation groups / weather groups





Example:

If several control units are networked via CAN, higher-order groups are available.
Here, inputs and drive lines from several control units can be summarised in groups.
(see the chapters “Fire sections” / “Ventilation groups” / “Weather groups”)

PLEASE NOTE:
An input signal (detector line, ventilation line or weather signal) may only occur in a maximum of one group!
Multiple use is not possible otherwise behaviour is not predictable.
Please check the local groups for the individual control units and delete if necessary!

17 General information

17.1 Settings by software and VdS

Please note:
Some settings which can be made by software lead to the VdS certificate no longer being valid, since monitoring functions which represent requirements according to VdS can be switched off specifically through configuration.

Settings affected:
- Disable post cycle control
- Lockout function enabled
- Disable line monitoring of the alarm lines
- Start-up delay (note specified smoke and heat extraction system opening time)
- Disable inputs are ignored in emergency open after > 0 seconds (note specified smoke and heat extraction system opening time)
- Alarm CLOSE
- Reset suppression when alarm is queued
- Smoke and heat extraction system reset close inactive

17.2 Cabling: Several fire sections, networking and inter-control unit functions

CAN networking allows fire sections to be defined where individual or several control units are assigned to several functional sections, in other words: the installation site of the control unit and the detector and drives may be distributed in different areas. This local distribution may lead to the basic requirement according to the guideline for circuit systems (MLAR) for monitoring the emergency power control unit no longer being given. If this is the case, suitable compensatory measures must be taken (e.g. E 30 cabling).

18 Testing the system

The configured MBZ 300 must be tested in such a way that neither people or the technical equipment are endangered.
Please confirm the commissioning / functional test and regular maintenance testing in the test log (GEZE material number 133761 (DE)).

19 FAQs

19.1 Sequence for commissioning and configuration by software

see the chapter "Procedure for configuration of a control unit"

19.2 What to do if...?

19.2.1 The USB port driver is missing after installation.

If the driver is not installed automatically, it can be installed later from the Windows directory "...\Programme\GEZE\MBZ300\Driver" when an MBZ 300 control unit is connected.

19.2.2 The control unit is not shown correctly in the software (modules missing etc.)

- ▶ Keep the reset push button on the CM pressed for 20 s (until all modules are flashing - not longer!). This ensures the modules are addressed correctly. This process is essential when the hardware (modules and order) has been changed.
- ▶ Connect USB cable to CM and connect to the laptop.
- ▶ Start the software "Individual control unit" (please make sure you always use the latest version (see the chapter "Software installation).)
- ▶ Check the firmware version of the control unit to make sure it is up-to-date
- ▶ Carry out firmware update if necessary (see the chapter "Firmware update")
- ▶ Load default settings (see the chapter "System configuration")

PLEASE NOTE:
All previous settings are deleted!

- ▶ Adapt rechargeable battery size and number of PMEs (see the chapter "Rechargeable battery settings").
- ▶ Set the individual configuration
- ▶ Transmit to the control unit

19.2.3 The software cannot be started completely. / The software "crashes" during loading of the control unit.

- ▶ Terminate the program using the task manager if necessary.
- ▶ Remove the USB cable
- ▶ Check the USB cable and the USB connection. If the cable or connection is faulty the connection cannot be established properly and the software cannot load the configuration completely.
- ▶ Check the capacity utilisation of your computer and the assignment of the correct driver (assign again if necessary -> see the chapter "Software installation").
- ▶ Reboot the software and connect the USB cable again.

19.3 Does the module sequence matter?

The software allows numerous different settings; nevertheless we recommend setting up the modules as closely as possible to standard configuration (better overview):

- ▫ A new fire section begins with CM / SM
- ▫ Do not set SM at the end
- ▫ WM in last position
- ▫ ERM does not have any restrictions but should also be set at the end for reasons of clarity.
- ▫ If there is a DM attached on the left-hand side of the respective SM, the DM fault is not indicated on the SM.

19.4 General trouble shooting

Use the different displays to find the faulty spot:

- ▫ LED code on the module (see MBZ 300 installation instructions)
- ▫ Log file
- ▫ Status pages of the modules with:
  - ▫ States and current values (target value comparison with this document)
  - ▫ Fault display
- ▫ Measurement of the various outputs and inputs and comparison with the display in the PC software

19.5 Trouble shooting where several control units are in one CAN network

- ▶ "Divide and rule": Only connect the local with the nearest control unit (check CAN terminals!).
  - ▫ Terminate this section.
  - ▫ Disconnect all other CAN connections.
  - ▫ Open the "networked control units" software.
  - ▫ Check whether both control units are available.
- ▶ The points must be repeated accordingly for the other sections.

19.6 How long are the motor follow-up times of the MBZ 300?

During the motor follow-up time the LEDs flash on the module and on the connected push buttons (with standard settings)

<table>
<tr><td>If the following is set on an MBZ 300:</td><td colspan="3">Alarm</td><td colspan="2">Ventilation</td></tr>
<tr><td>-> the follow-up time of the motor is as follows:</td><td>OPEN (with VdS post cycle control)</td><td>OPEN (without VdS post cycle control)</td><td>CLOSE (reset)</td><td>OPEN</td><td>CLOSE</td></tr>
<tr><td>Drive lines switch-off time = X (standard: 300 s)
Follow-up time restriction OPEN for ventilation = not active
Interval mechanism = not active</td><td rowspan="3">every 2 min for a total of 30 min:
3 s CLOSE - OPEN</td><td rowspan="3">120 s</td><td rowspan="3">X
(300 s)</td><td>X
(300 s)</td><td rowspan="3">X
(300 s)</td></tr>
<tr><td>Drive lines switch-off time = X (standard: 300 s)
Follow-up time restriction OPEN for ventilation = Y (e.g. 40 s)</td><td>Y
(40 s)</td></tr>
<tr><td>Drive lines switch-off time = X (standard: 300 s)
Interval mechanism = Z (e.g. 10 s)</td><td>Z each time (10 s)</td></tr>
</table>

20 Meaning of the log entries

See the chapter "RealTime_Log - control unit".
All possible log entries are listed here. During operation, only a limited selection of these will actually occur. The list also includes the logging level from which this type of message can occur. The logging levels are classified as follows. A lower (or finer) logging level automatically includes the higher-order logging level entries. This means that error entries are always included in the log when this is set to alarm. Here are the possible logging levels in order from the lowest to the highest.

LOG_FINE	The finest logging level: everything is logged. This provides a precise overview of the processes in the system, but the high memory requirements mean that the log does not extend far into the past.
LOG_INFO	The switching processes are entered in the log.
LOG_ALARM	Faults and alarm states and their triggering are reported.
LOG_ERROR	Only errors are recorded.
%d	Stands for any number, this is usually the module ID which this log entry refers to.
SM %d	SM_0 is the CM. CM and SM are equated here.

Log entry	Granularity	Fault pattern	Note
Bus Fault Exception, System HALT!	LOG_ERROR	A fault occurred during access to the system bus.	Hardware fault? Replace CM.
CAN Main: CANSendMsg() Error!	LOG_ERROR	The CAN interface of this control unit could not send a message.	Check the CAN module
CAN XmitQueue: Error %d!	LOG_ERROR	This control unit could not transmit a CAN message	Check the CAN module
CAN: buff emptyed!	LOG_ERROR	Attempt is being made to transmit something that isn't there.	Reboot CM
CAN: kfg fkt mismatch!	LOG_ERROR	A command has not been received completely.	Is compensated automatically.
CAN: MBOX_CAN buffer full	LOG_ERROR	The control unit cannot keep up with transmission.	Has the CAN system been configured properly, are there any "meaningless" rules?
CAN: mbusb, buffer processing problem!	LOG_ERROR	Buffer is overflowing during remote servicing of a control unit via CAN.	If one of the control units does not react, reboot this and start the configuration process again.
CAN: mbusb, eval_cmd buffer problem!	LOG_ERROR	This control unit does not understand a command that came via CAN.	Do all the control units have the same firmware version?
CAN: Modbus communication failure %d!	LOG_ERROR	CAN cannot be read properly.	CAN module OK?
CAN: rec array overflow!	LOG_ERROR	Can only occur when someone actively interferes with data transfer.	Do all the control unit have the same firmware version, what else is attached to the CAN cable?
CAN: rec queue full!	LOG_ERROR	Too many different commands have been sent to this control unit.	Has the CAN system been configured properly, are there any "meaningless" rules?
CAN: reception while processing!	LOG_ERROR	Unknown data were received during CAN command processing.	Do all the control units have the same firmware version?
canf_mbm_writeread(): too many resends!	LOG_ERROR	A message has been repeated too often without an answer being received.	Is a control unit switched off, disconnected? (Cable?)
canf_xmit_konf(): CANSendMsg timeout!	LOG_ERROR	A message could not be sent in time, possible data loss.	Should not occur. If it does occur during a saving process - repeat this.
canfi_eval_cmd, requesting resend...	LOG_ERROR	The command has not been received completely and is being requested again.	Is not really a fault in the strict sense, since it is compensated. If it occurs often, however, it is a sign that there is something wrong with the CAN-bus.

canfi_mbusb_received(): MBOX_CAN error %d!	LOG_ERROR	An unexpected error has occurred during reception of a CAN message.	Check the CAN module
CANSendMsgQ(): Queue full!	LOG_ERROR	This control unit could not send a CAN message due to buffer status.	Check the CAN module
Clock Source failure (Clock Security System)!!!	LOG_ERROR	The clock is faulty.	Hardware fault? Replace CM.
CM IWDG-RESET!!!	LOG_ERROR	If the system "crashes" or the watchdog thinks this is the case, it triggers a reboot.	Should not occur. Firmware update, otherwise replace CM.
Creating autoKonfig, eepCfg ver.> 3...	LOG_INFO	After the start an unknown configuration was found in the EEPROM, a new configuration which matches the modules found is being created and used.	...
Creating autoKonfig...	LOG_INFO	After the start a new configuration which matches the modules found is being created and used.	...
DM %d: Alarm AUF	LOG_ALARM	This DM is opening due to an RWA case.	...
DM %d: ALARM bei deaktiviertem DG!	LOG_ALARM	Alarm was/was to be triggered at this DM, but since the pressure gas generator was deactivated this did not work. (See "DM operating mode")	The pressure gas generator should have been activated.
DM %d: Alarm reset bei deaktiviertem DG!	LOG_ALARM	The alarm status of a DM has been reset but the pressure gas generator connected to the DM is still deactivated. (See DM operating mode)	Switch the pressure gas generator on.
DM %d: Alarm reset, DG spannungslos	LOG_ALARM	The alarm status of a DM has been reset but the pressure gas generator connected to the DM is without voltage.	Connect the pressure gas generator to the power supply.
DM %d: Alarm ZU	LOG_ALARM	This DM is being emergency-CLOSED due to an RWA case.	...
DM %d: ALARM, DG aktiviert	LOG_ALARM	This DM activates the pressure gas generator.	Analogue to opening a window.
DM %d: ALARM, HM freigegeben	LOG_ALARM	The hold-open magnet on this DM has been released (i.e. voltage supply interrupted)	...
DM %d: Alarm-Reset	LOG_ALARM	With this DM the alarm status has been cancelled, it is "OPEN" and can be closed by the ventilation.	...
DM %d: ALARM, Überschreiben des Sperrkontakts	LOG_ALARM	The block contact is ignored in the alarm case after the time set.	...
DM %d: AUF	LOG_INFO	This DM is now opening.	...
DM %d: AUF (LZM)	LOG_INFO	If this DM is not permitted to open further and its maximum OPEN runtime has been reached (follow-up time restriction).	...
DM %d: Auto-ZU	LOG_INFO	A DM closes automatically.	...
DM %d: Fenster ist offen	LOG_INFO	This window of the DM motor line is open	...
DM %d: Fenster ist geschlossen	LOG_INFO	This window of the DM motor line is closed. The drive line switch-off time has expired completely in the CLOSE direction	...
DM %d: HM aktiviert	LOG_INFO	The hold-open magnet of this DM has been activated due to an RWA case.	...
DM %d: HMinit AUF	LOG_INFO	A timer has been started for this DM.	...
DM %d: ist schon AUF	LOG_FINE	If this DM is not permitted to open further and its maximum OPEN runtime time has been reached.	...
DM %d: ist schon ZU	LOG_FINE	The hold-open magnet of this DM has been activated due to an RWA case. .	...
DM %d: Linie spannungslos	LOG_FINE	The voltage supply for the DM drive line has been switched off (after the drive line switch-off time has expired!)	...

DM %d: LT AUF	LOG_FINE	The push button of the DM has registered pressure on the OPEN push button.	...
DM %d: LT STOP	LOG_FINE	The push button of the DM has registered pressure on the Stop push button.	...
DM %d: LT ZU	LOG_FINE	The push button of the DM has registered pressure on the CLOSE push button.	...
DM %d: LZMinit ZU	LOG_FINE	The running time mode closes the DM.	...
DM %d: LZM-Stop	LOG_INFO	The runtime mode has "Stop pressed" on one DM.	...
DM %d: no key	LOG_FINE	The DM has registered a push button being released.	...
DM %d: NOTAUF	LOG_ALARM	The DM moves the motor into the emergency-OPEN position due to an RWA case.	...
DM %d: STOP	LOG_INFO	This DM is now stopping.	...
DM %d: STOP durch Sperrkontakt	LOG_INFO	The activated motor line of the DM has been stopped by the block contact.	...
DM %d: Sperrkontakt 1 AUF aktiviert	LOG_INFO	Block contact 1 has been activated in OPEN direction	...
DM %d: Sperrkontakt 1 AUF deaktiviert	LOG_INFO	Block contact 1 in OPEN direction has been deactivated	...
DM %d: Sperrkontakt 2 AUF aktiviert	LOG_INFO	Block contact 2 has been activated in OPEN direction	...
DM %d: Sperrkontakt 2 AUF deaktiviert	LOG_INFO	Block contact 2 in OPEN direction has been deactivated	...
DM %d: Sperrkontakt 1 ZU aktiviert	LOG_INFO	Block contact 1 has been activated in CLOSE direction	...
DM %d: Sperrkontakt 1 ZU deaktiviert	LOG_INFO	Block contact 1 in CLOSE direction has been deactivated	...
DM %d: Sperrkontakt 2 ZU aktiviert	LOG_INFO	Block contact 1 in CLOSE direction has been deactivated	...
DM %d: Sperrkontakt 2 ZU deaktiviert	LOG_INFO	Block contact 2 in CLOSE direction has been deactivated	...
DM %d: Sperrkontakt 1 ZU/AUF aktiviert	LOG_INFO	Block contact 1 has been activated in CLOSE and OPEN direction	...
DM %d: Sperrkontakt 1 ZU/AUF deaktiviert	LOG_INFO	Block contact 1 has been deactivated in CLOSE and OPEN direction	...
DM %d: Sperrkontakt 2 ZU/AUF aktiviert	LOG_INFO	Block contact 2 has been activated in CLOSE and OPEN direction	...
DM %d: Sperrkontakt 2 ZU/AUF deaktiviert	LOG_INFO	Block contact 2 has been deactivated in CLOSE and OPEN direction	...
DM %d: ZU	LOG_INFO	This DM is now closing.	...
Eeprom was erased...	LOG_INFO	Indicates that the log entries found are faulty and the log thus had to be deleted.	This can happen when power supply and rechargeable battery both fail and the voltage suddenly drops severely. In other words when there is not sufficient voltage available during log writing.
Funktion existiert nicht ID %d !	LOG_ERROR	This can happen if a configuration from a too recent configuration program is used by firmware that is too old. The configuration requires that functions which are not available in the firmware should be used.	CM Firmware update.
Hard Fault Exception System HALT!	LOG_ERROR	The CPU has jumped to a position where it is not allowed to land.	Fault in the CM firmware or hardware fault.
IOM Poll Error %d/%d missing	LOG_ERROR	No communication was possible with y of x modules in one cycle.	If this occurs sporadically it is not a problem, since it is compensated, but if it occurs permanently one or more module(s) is(are) faulty.

Loading Eeprom Konfig...	LOG_INFO	After the start the configuration was loaded from the EEPROM and is being used.	...
mbf_querysystem(): konfig present, %d IOM's are missing!	LOG_ERROR	Modules in the control unit have been reconnected or disconnected since the last start-up.	Re-establish the default configuration and address/ configure correctly.
Mem Manage Exception, System HALT!	LOG_ERROR	Fault in memory management:	Corrupt firmware, memory faulty, VDS self-test entries available? Replace CM.
NMI Exception	LOG_ERROR	No access to the clock.	Hardware fault? Replace CM.
PM Poll Error	LOG_ERROR	Communication with the PM not possible via the Modbus.	Hardware fault? Replace PM/CM?
PM(E): Akkufehler	LOG_ERROR	The PM is missing a rechargeable battery.	Check the rechargeable battery + cables, use the configuration software to check whether PMEs and battery capacity have been set properly. If this does not help, replace the PMEs or the PM on the basis of the values shown on the PM status page.
PME1 angeschlossen, aber nicht konfiguriert	LOG_ERROR	There is a PME1 available in the control unit but it has not been configured.	Start configuration software and set the correct number of PMEs.
PME2 angeschlossen, aber nicht konfiguriert	LOG_ERROR	There is a PME2 available in the control unit but it has not been configured.	Start configuration software and set the correct number of PMEs.
PM(E): Netzfehler	LOG_ERROR	The PM or the control unit is no longer drawing current from the power supply.	Check power supply, PM.
PM(E): OK	LOG_INFO	The PM has mains current and rechargeable battery again. (This message can of course only occur if one of these elements was missing.)	...
PM/IOM Poll ok!	LOG_ERROR	Only occurs in combination with IOM Poll Error %d/%d missing and means that the PM was OK in this context.	Not an error
PM: Netz und Akku fehlt	LOG_ERROR	A fault has occurred on the SM but there is no reaction on account of the energy-saving mode.	Desired behaviour...
RTC count lost!!!	LOG_ERROR	The CM no longer has the current time.	Synchronise with the PC.
Semaphore deadlock: %s, err: %d	LOG_ERROR	A resource of the CM operating system could not be released, as a result the CAN system can no longer function, for example.	Rebooting the CM can eliminate the problem.
SM %d: NOT_AUF BMZ1	LOG_ALARM	Reset has been triggered with the CIE1 at this SM.	...
SM %d: NOT_AUF BMZ2	LOG_ALARM	Reset has been triggered with the CIE2 at this SM.	...
SM %d: NOT_AUF RM1	LOG_ALARM	Reset has been detector line 1 at this SM.	...
SM %d: NOT_AUF RM2	LOG_ALARM	Reset has been triggered with detector line 2 at this SM.	...
SM %d LED Stoerung: %d	LOG_ERROR	Signals that the fault LED has been set at this DM, this can be caused by a lot of reasons. If it occurs in conjunction with e.g. "Fault DM %d: %d", then "Fault DM %d: %d" is the triggering element. It can also be a problem with the detector line of the SM, however.	If a "Fault DM %d: %d" precedes, please refer to this point, otherwise test for a line fault (test adapter?), in the event of a negative result replace the SM.
SM %d: Alarm-Reset	LOG_ALARM	Reset has been pressed and the alarm status reset on this SM.	...
SM %d: BMZ an RM1 NOT_ZU	LOG_ALARM	Reset has been triggered with detector line 1 at this SM.	...

SM %d: BMZ an RM2 NOT_ZU	LOG_ALARM	Reset has been triggered with detector line 2 at this SM.	...
SM %d: Linienfehler Handmelder!	LOG_ERROR	A line fault has been detected on the RWA alarm push button on this SM	Check the cable, if test negative replace the SM.
SM %d: Linienfehler Not-ZU!	LOG_ERROR	A line fault has been detected on the RWA alarm push button on this SM	Check the cable, if test negative replace the SM.
SM %d: Linienfehler RM1!	LOG_ERROR	A line fault has been detected on detector line 1 on this SM	Check the cable, if test negative replace the SM.
SM %d: Linienfehler RM2!	LOG_ERROR	A line fault has been detected on detector line 2 on this SM	Check the cable, if test negative replace the SM.
SM %d: LT AUF	LOG_INFO	An OPEN pressure on the vent switch has been detected on this SM.	...
SM %d: LT STOP	LOG_INFO	A STOP pressure on the vent switch has been detected on this SM.	...
SM %d: LT ZU	LOG_INFO	A CLOSE pressure on the vent switch has been detected on this SM.	...
SM %d: no key	LOG_INFO	A release, in other words no push button pressure in the actual sense, was detected on the vent switch of this SM.	...
SM %d: NOT_AUF HSE	LOG_ALARM	Emergency-OPEN with the RWA button has been detected on this SM.	...
SM %d: NOT_AUF RM 1	LOG_ALARM	An alarm has been triggered on this SM with one of detector line 1.	
SM %d: NOT_AUF RM 2	LOG_ALARM	An alarm has been triggered on this SM with one of detector line 2.	
SM %d: NOT_AUF Reset Failure	LOG_ERROR	A manual detector reset line fault has been detected on this SM.	Check the cable, if test negative replace the SM.
SM %d: NOT_ZU	LOG_ALARM	Emergency-CLOSE has been detected on this SM.	...
SM %d: NOT_ZU (res)	LOG_ALARM	Emergency-CLOSE has been detected on this SM.	...
SM%d: Mreset	LOG_INFO	The reset tester was detected on this SM. (Reset push button on the module)	...
STL: >>> RAM Error (March C- Run-time check)	LOG_ERROR	The self-test routines (VDS) have established a fault.	Hardware fault? Replace CM.
STL: Abnormal Clock Test routine termination	LOG_ERROR	The self-test routines (VDS) have established a fault.	Hardware fault? Replace CM.
STL: Class B variable error (clock test)	LOG_ERROR	The self-test routines (VDS) have established a fault.	Hardware fault? Replace CM.
STL: Clock Source failure (Run-time)	LOG_ERROR	The self-test routines (VdS) have established a fault on the clock.	Hardware fault? Replace CM.
STL: Control Flow Error (main loop)	LOG_ERROR	The self-test routines (VDS) have established a fault.	Hardware fault? Replace CM.
STL: Control Flow error in RAM-Test-ISR	LOG_ERROR	The self-test routines (VDS) have established a fault.	Hardware fault? Replace CM.
STL: Run-time FLASH CRC Error	LOG_ERROR	The self-test routines (VDS) have established a fault in the flash.	Hardware fault? Replace CM.
STL: Run-time FLASH CRC OK, %d cycles	LOG_FINE	The self-test routine flash check (VDS) has been carried out successfully x times.	...
STL: SRAM-Check OK, %d cycles	LOG_FINE	The self-test routine flash check (VDS) has been carried out successfully x times.	...
STL: Stack overflow	LOG_ERROR	The self-test routines (VDS) caused a fault.	Hardware fault? Replace CM.
STL: Start-up CPU Test Failure	LOG_ERROR	The CPU is no longer working properly	Hardware fault replace CM.
STL: TOO MANY REBOOT FAILURES, LOCKING UP!!!	LOG_ERROR	For some reason the CM has rebooted very often, a fault has been established.	Hardware fault? Replace CM.

Stoerung bei PF DM %d: %d	LOG_ERROR	A fault has occurred on the DM but there is no reaction on account of the energy-saving mode.	Desired behaviour...
Stoerung bei PF SM %d: %d	LOG_ERROR	A fault has occurred on the SM but there is no reaction on account of the energy-saving mode.	Desired behaviour...
Stoerung DM %d: %d	LOG_ERROR	Indicates a fault on this DM, usually a detector line fault, with some old DMs there was another fault here which made this occur briefly, but it was not actually a fault.	If a line fault can be excluded and the fault only occurs briefly, we recommend a DM firmware update. If neither of these approaches was successful, the DM affected should be replaced.
Stoerung ERM %d: %d	LOG_ERROR	Indicates a fault of the system voltage on this ERM	
Testmode initiated...	LOG_ERROR	This is not CM firmware in the actual sense. There is only a test program in the CM.	Firmware update with the boot loader.
Testmode: KonfigTask abgebrochen...	LOG_ERROR	This is not CM firmware in the actual sense. There is only a test program in the CM.	Firmware update with the boot loader.
Usage Fault Exception, System HALT	LOG_ERROR	The bits did not make sense to the CPU.	Firmware OK? Flash again? Hardware fault? Replace CM.
WM %d: kein Regen	LOG_INFO	A WM has recognised that it has stopped raining.	...
WM %d: REGEN	LOG_INFO	A WM has detected rain.	...
WM %d: WIND	LOG_INFO	A WM has detected wind from a certain direction.	...
WM %d: WIND T%d	LOG_INFO	Shows that the WM has detected wind.	...
WM %d: Wind unterhalb Schwelle	LOG_INFO	The wind has fallen under the threshold on one of the WMs.	...
WM %d: WRG fehlt!	LOG_ERROR	There is a wind direction finder configured in a WM but the WM cannot detect it.	Is the sensor/WM, cable working? WM / test sensor => replace.

If you have any support requests, always submit the “Error log” of the configuration SW with your request. You will find the “ErrorLog.txt” in the licence key directory.

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