Abbreviations  
Warning and Safety symbols  
Target groups, Intended use  
Safety Instructions, Directives and Standards  

Data Sheet for EMB 7300 Radio RWA System  

Installation of the EMB 7300 Radio RWA System  

Storage and Disassembly  
Disposal  
Warranty and Customer Service  
Liability  
Certificate  

Contents
### ABBREVIATIONS

**Index of abbreviations**

The following abbreviations are used throughout these instructions. All units of measurement in the instructions are in mm, unless otherwise stated. General tolerances according to DIN ISO 2768-m.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>aP</td>
<td>Surface mounted</td>
</tr>
<tr>
<td>WxHxD</td>
<td>Width x Height x Depth</td>
</tr>
<tr>
<td>CAN</td>
<td>CAN-BUS</td>
</tr>
<tr>
<td>CM</td>
<td>Control-Module</td>
</tr>
<tr>
<td>COM</td>
<td>Common connection</td>
</tr>
<tr>
<td>DIN</td>
<td>German Institute for Standardisation</td>
</tr>
<tr>
<td>DM</td>
<td>Drive-Module</td>
</tr>
<tr>
<td>EN</td>
<td>European Standard</td>
</tr>
<tr>
<td>IN</td>
<td>Input</td>
</tr>
<tr>
<td>LON</td>
<td>Local Operating Network</td>
</tr>
<tr>
<td>OUT</td>
<td>Output</td>
</tr>
<tr>
<td>PG</td>
<td>Price group</td>
</tr>
<tr>
<td>PM</td>
<td>Power-Module</td>
</tr>
<tr>
<td>PS</td>
<td>Power supply</td>
</tr>
<tr>
<td>RM6</td>
<td>Relay-Module</td>
</tr>
<tr>
<td>RWA</td>
<td>Smoke and heat exhaust</td>
</tr>
<tr>
<td>SM</td>
<td>Sensor-Module</td>
</tr>
<tr>
<td>uP</td>
<td>Flush mounted</td>
</tr>
<tr>
<td>WM</td>
<td>Weather-Module</td>
</tr>
<tr>
<td>WRG</td>
<td>Wind direction transmitter</td>
</tr>
</tbody>
</table>

### Scale Units

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>°C</td>
<td>Degree Celsius</td>
</tr>
<tr>
<td>A</td>
<td>Ampere</td>
</tr>
<tr>
<td>Ah</td>
<td>Ampere hour</td>
</tr>
<tr>
<td>kg</td>
<td>Kilogramme</td>
</tr>
<tr>
<td>m</td>
<td>Metre</td>
</tr>
<tr>
<td>min</td>
<td>Minute</td>
</tr>
<tr>
<td>mm</td>
<td>Millimetre</td>
</tr>
<tr>
<td>s</td>
<td>Seconds</td>
</tr>
<tr>
<td>V</td>
<td>Volt</td>
</tr>
<tr>
<td>VE (PU)</td>
<td>Packaging Unit</td>
</tr>
<tr>
<td>Vpp</td>
<td>Residual Ripple (Voltage peak-to-peak)</td>
</tr>
<tr>
<td>W</td>
<td>Watts</td>
</tr>
<tr>
<td>Ω / kΩ</td>
<td>Ohm / Kilo-Ohm</td>
</tr>
</tbody>
</table>

### General Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>Alternating Current (50Hz / 60Hz)</td>
</tr>
<tr>
<td>DC</td>
<td>Direct Current</td>
</tr>
<tr>
<td>I</td>
<td>Electric Current</td>
</tr>
<tr>
<td>L</td>
<td>Length</td>
</tr>
<tr>
<td>ME</td>
<td>Module Space Unit (1 ME = 23 mm)</td>
</tr>
<tr>
<td>NC</td>
<td>Contact „closed” (normally closed)</td>
</tr>
<tr>
<td>NO</td>
<td>Contact „opened” (normally opened)</td>
</tr>
<tr>
<td>P</td>
<td>Electric Power</td>
</tr>
<tr>
<td>R</td>
<td>Electrical Resistance</td>
</tr>
<tr>
<td>U</td>
<td>Electric voltage</td>
</tr>
<tr>
<td>Um</td>
<td>Change-over switch</td>
</tr>
</tbody>
</table>

### Colour Codes according to IEC 60757

<table>
<thead>
<tr>
<th>Colour</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>BK</td>
<td>black</td>
</tr>
<tr>
<td>BN</td>
<td>brown</td>
</tr>
<tr>
<td>BU</td>
<td>blue</td>
</tr>
<tr>
<td>GN</td>
<td>green</td>
</tr>
<tr>
<td>GY</td>
<td>grey</td>
</tr>
<tr>
<td>OG</td>
<td>orange</td>
</tr>
<tr>
<td>PK</td>
<td>pink</td>
</tr>
<tr>
<td>RD</td>
<td>red</td>
</tr>
<tr>
<td>VT</td>
<td>violet</td>
</tr>
<tr>
<td>WH</td>
<td>white</td>
</tr>
<tr>
<td>YE</td>
<td>yellow</td>
</tr>
</tbody>
</table>

### Warning and Safety Symbols in These Instructions:

The symbols used in the instructions must be strictly observed and have the following meanings:

- **DANGER**
  - Failure to comply with these warnings may result in permanent injury or death.

- **WARNING**
  - Failure to comply with these warnings may result in permanent injury or death.

- **CAUTION**
  - Failure to comply with these warnings may result in minor or moderate (reversible) injuries.

- **NOTE**
  - Failure to comply with these notes may result in property damage.

**Useful Note**

- for optimal installation.

**Note regarding system configuration**

- setting options via the „Alpha“ configuration software.
TARGET GROUP

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

WARNING

This device is not intended for use by persons (including children) with limited physical, sensory or mental abilities or lack of experience and/or knowledge.

INTENDED USE

Area of Application / Scope of Application

This control device is intended for the supply and control of electrically operated windows in façade and roof areas. The main task of this product, in combination with the electromotive window, is to remove hot smoke and fumes in case of a fire in order to save human lives and protect material assets. In addition, the electromotive window ensures the supply of fresh air for natural ventilation of the building.

Intended use according to the Declaration of Conformity

The control device is designed for fixed installation and electrical connection as part of a building.

In accordance with the attached Declaration of Conformity the control device, in combination with electromotive drives from Aumüller, is approved for proper use on a power-operated window:

- Application for natural ventilation
  - installation height of the drive and the bottom side of the sash at least 2.5m above the floor, or
  - opening width at the HSK of the operating unit < 200 mm with a simultaneous speed of the HSK in closing direction of < 15 mm/s.
- Application as NRWG (natural smoke and heat exhaust ventilator) according to EN12101-2 without dual function for natural ventilation.

By connecting the window drives with a control device and commissioning them, the installer of the entire system becomes the manufacturer of the electric window!

The installer may be required to carry out a risk assessment of the entire system in accordance with the Machinery Directive 2006 / 42 / EC if the use or operation of the control unit or the connected window drives deviates from the intended use!

NOTE

We recommend the exclusive use of Aumüller system components, as their compatibility is carefully checked at the factory. Aumüller does not assume any liability for the proper functioning of third-party components. For applications and connections other than those explicitly stated in these instructions, the express written consent of Aumüller is required. The use of applications and components not expressly authorised by Aumüller shall also be considered as not in accordance with the regulations even if their proper functioning can be proved when they are put into operation (e.g. by approval under building law).
SAFETY INSTRUCTIONS

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

Scope of application
The control device shall only be used according to its intended use. For additional applications, please contact the manufacturer or their authorised dealer.

Installation
These instructions are intended for competent and safety-conscious electrical installers and/or qualified personnel with knowledge of the electrical and mechanical installation of drives and control systems.

Mounting Material
The required mounting material must be modified to fit the applied load.

Routing cables and electrical connection
The laying or installation of electrical cables and connections may only be carried out by approved specialist companies. Never operate the drives, controls, operating elements or sensors on operating voltages and connections contrary to the manufacturer’s specifications.

The planning and calculation of the line network is the responsibility of the building owner, their agents or the commissioned installer, and must be carried out in accordance with the statutory regulations.

All relevant regulations must be observed during installation, particularly:

- VDE 0100  Installation up high-voltage systems up to 1000 V
- VDE 0815  Installation cables and - / conductors
- Model Cable Systems Directive (MLAR).

The mains supply line of the Control Unit must be secured separately by the customer and provided with an all-pole disconnecting device. After opening the system housing, live parts are exposed. The system must be disconnected from the power supply and batteries before any work can be carried out on the Control Unit.

The cable types, cable lengths and cross-sections must be selected in accordance with the manufacturer’s technical specifications. If necessary, the cable types must be approved by the responsible local authorities and power supply companies.

Cables must be laid in such a way that they are not sheared off, twisted or bent during operation. It is recommended to carry out an insulation measurement of the line network of the system and to document it.

Clamping points must be checked for tightness of screw connections and cable ends. The accessibility of junction boxes, terminal points and external drive controls for maintenance work must be ensured.

Commissioning, operation and maintenance
After installation and after every change to the setup, all functions must be checked by a test run. After completion of the installation, the end user must be instructed in all important operating steps. If necessary, they must be informed of any remaining risks / dangers.

The end user must be informed about the intended use of the system and, if necessary, about the safety instructions.

NOTE
Put up warning signs!

Before working on the system, it must be completely disconnected from the power supply and emergency power supply (e.g. batteries) and secured against accidental reconnection. When working in the Control Unit, the workplace must be secured against unauthorised access. It must be ensured that unauthorised persons cannot open the Control Unit.

The installation instructions of system components (smoke detector, natural smoke and heat exhaust ventilators, drives, etc.) are part of the documentation of the overall system and, like the installation and operating instructions for the control unit, must be kept accessible to authorised specialists throughout the service life of the system.

WARNING
Carefully check all functions of the system before releasing it for operation.

Software terms and conditions
The Control Unit is configured at the factory for its intended use (standard configuration). With the software specially developed for this Control Unit, the factory setting can be quickly and easily adapted to suit specific requirements. In addition, the system status can be saved, recalled and printed out.

Changeable standard configurations are highlighted in these instructions. The range of functions of the unlicensed version can be extended by license activation payment.
Preliminary Remarks

The system requirements (see chapter „Systems Configuration of Software“) must be checked before installation. The „Software clause for the provision of standard software as part of deliveries“ of the ZVEI (Central Association of the Electrical Engineering and Electronics Industry) is considered to be legally binding upon installation. See our website: Aumüller Aumatic GmbH (www.aumueller-gmbh.de)

The configuration software of the control device largely excludes damage due to incorrect settings. As a precaution, we would like to emphasise that Aumüller, as manufacturer, cannot be held liable for damages resulting from the use of Aumüller software, because Aumüller itself has no influence on a perfect systems environment or object-specific systems configuration.

Therefore, we recommend protecting the operating system and the software from unauthorised access (e.g. by use of a password) and attending the training provided by the manufacturer.

Spare Parts
System components should only be replaced with spare parts of the same manufacturer. The manufacturer’s liability, warranty and customer service are considered void if third-party products are used. Only original spare parts from the manufacturer are to be used for system extensions.

Ambient Conditions
The product must not be exposed to impacts or falls, vibrations, humidity, aggressive vapours or other harmful environments unless approved by the manufacturer for one or more of these environmental conditions.

• Operation:
  Ambient Temperature:  
  < -5 °C up to +40°C
  Relative Humidity:  
  < 90% up to 20°C;
  < 50% up to 40°C;
  no condensation

• Transport / Storage:
  Storage Temperature:  
  0°C … +30°C
  Relative Humidity:  
  < 60%

Accident prevention regulations and employer’s liability insurance association guidelines
When working on, in or on top of a building or part of a building, the specifications and instructions of the respective Accident Prevention Regulations (UVV) and Employers’ Liability Insurance Associations (BGR / ASR) must be observed and complied with.

Declaration of Conformity
The control device is manufactured and tested for its specific intended use according to European guidelines. The respective Declaration of Conformity is available. If the use or operation of the control unit or the connected window drives deviates from this, a risk assessment must be carried out for the entire power operated window system and a declaration of conformity must be issued in accordance with the Machinery Directive 2006/42/EC and the CE mark attached.

Directives and Standards
During installation and electrical connection, the latest country-specific laws, ordinances, regulations and standards must be adhered to without fail.

These are, for example:

State building code with special building regulations such as:
- Industry Building Directive
- Ordninance on Places of Assembly etc.

MLAR - Model Piping Systems Directive

Regulations of the Fire Protection Authorities TAB (technical connection conditions) of the Energy Supply Companies

Trade Association Regulations, such as:
- ASR A1.6 and 1.7 (substitute for BGR 232)

Further standards and guidelines, such as:
EN 60335-2-103 Safety of electrical appliances
EN 60730-1 Automatic electrical controls
EN 12101-10 / prEN 12101-9 (ISO 21927-9/10) Smoke and heat control systems
DIN 4102-12 Functional maintenance of electric cable systems
VDE 0100 Installation of high-voltage systems up to 1000 V
VDE 0298 Use of Cables
VDE 0815 Installation cables and lines
VDE 0833 Alarm systems

Accident Prevention Regulations, in particularly:
- VBG 1 „General Regulations“ and
- VBG 4 „Electrical Systems and Equipment“. The relevant national laws, regulations, standards and safety provisions apply to the marketing, installation and commissioning outside of Germany.

The installer is responsible for the proper installation, operation and the issuing of a Declaration of Conformity according to European Guidelines.
EMB 7300 Radio RWA System: Radio HSE (Transmitter) and Radio Receiver

Application: The Radio HSE is used to control the EMERGENCY OPEN and EMERGENCY CLOSE functions via a Radio Receiver in the detector line of the EMB 7300 RWA Control Unit.

Radio: FM narrow bandwidth
Frequency: 433.100 to 434.600

Radio HSE VARIANTS
1. Radio HSE Plastic red (similar to RAL 3000) 528731
2. Radio HSE Plastic yellow (similar to RAL 1018) 528732
3. Radio HSE Plastic grey (similar to RAL 7035) 528733
4. Radio HSE Plastic blue (similar to RAL 5015) 528734
5. Radio HSE Plastic orange (similar to RAL 2011) 528735

Inclusive: 3.6 V Lithium-Battery, > 2000mAh, Typ: 14500

Additional Equipment
2. Radio Receiver 528738
3. Radio Antenna including holder 528737

For the use of Radio RWA, an EMB 7300 firmware V0.1.9 or higher is required.

Radio HSE and Radio Receiver
The Radio HSE are connected to the Radio Receiver by radio (ISM band) and exchange a data packet (Ping) every 96 seconds to signal the “life status”. If a signal is generated on the Radio HSE (trigger button, reset button or fault) an encrypted data packet is immediately sent back to the Radio Receiver with a confirmation packet.

The radio system uses 6 frequencies for the Radio HSE. The total number of all Radio HSE must not exceed 10 detectors per system.

- Long service life of the battery-powered Radio HSE
- High security for all transmission channels
  - AES encrypted packets in the event of triggering
  - Hand-shake for radio and serial data
  - Distribution on 6 frequencies against jamming transmitters
- High range in buildings
  - VNA optimised Radio HSE antennas for horizontal and vertical radio alignment
  - 433MHz ISM narrow bandwidth with 1.2kbps

Connection: Radio Receiver on EMB 7300

Slot for radio module
Plug-in direction: Antenna connection towards main board

For commissioning the licensed version of the configuration software EMB Compact is absolutely necessary!
EMB 7300 Radio RWA System

If the network option Radio SHEVs is selected under System Properties, the following tab appears in the left-hand menu: „Radio RWA“.

The licensed version of the „EMB Kompakt“ software is required in order to change the network options and to programme and configure the radio RWA buttons.

Installing step 1:
Select frequency group:
A predefined frequency group can be selected for the radio link of the EMB 7300 Radio RWA via the 4 selection fields under Frequency Group:

<table>
<thead>
<tr>
<th>Frequency Groups (MHz)</th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
<th>Group D</th>
</tr>
</thead>
</table>

Installing step 2:
Preparing the push-button:
- Remove the battery.
- Hold down the reset key.
- Insert the battery.
- The red LED flashes.
- When the red LED stops flashing, release the reset key.
- The push-button is reset.

Installing step 3:
Set the frequency group on the RWA buttons:
- Remove the battery.
- Press and hold the reset key and the release key simultaneously.
- Insert the battery.
- All LEDs light up until the keys are released.
- The red LED now flashes for the group number (1 x for Group A, 2 x for Group B, etc.).

Press the reset key to select the next group and the release key to accept the currently selected group.
**INSTALLING STEP 4:**
Startup Phase on the SHE button:
- After inserting the battery in the RWA button, the startup phase of the button (boot) begins.
  This lasts approx. 20 seconds and is completed as soon as the green and yellow LED flash simultaneously.
- The button is now ready to be programmed.

**INSTALLING STEP 5:**
Programming push-buttons in the system
- When Step 3 is completed, the push-buttons can be programmed on a Control Unit.
- Start the software and select the tab “Radio RWA”. There is a “Plus” button under the selection of frequency groups.
  - On all manual call points that do not have an assigned address
    - are in the correct frequency group and
    - are within reach
  the “Triggered LED” (red LED on the push button) now starts to flash.
- To complete the programming process, the “EMERGENCY OPEN” button in the RWA button must be pressed. After a few seconds the button is programmed and appears in the configurator.
  - When the “Plus” button is pressed, the system switches to search mode and sends a “Search Signal” to all manual call points.
  - The signal lasts for 3 minutes.
**Installing Step 6:**

**Edit Push-button**

To edit a programmed push-button, simply left-click with the mouse on the desired push-button – the push-button’s editing menu opens:

<table>
<thead>
<tr>
<th>Name:</th>
<th>11-61-04-00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adress:</td>
<td>11-61-04-00</td>
</tr>
<tr>
<td>Drive Line:</td>
<td>AL1, AL2</td>
</tr>
<tr>
<td>Status:</td>
<td>Pink ok</td>
</tr>
</tbody>
</table>

**Normal Operation:**

If all push-buttons have been properly programmed and the system is in normal operation (no fault is present), the green LED on the HSE push-button flashes, therefore signalling normal operation.

For energy-saving reasons, the LED on the radio HSE push-button flashes (on wired push-buttons, it is permanently lit).

All changes must be saved via the disk in the editing menu.

If you want to delete a key which has already been programmed, you can use the “Trash” icon in the software.

The respective indicators can be displayed with a delay of up to 30 seconds depending on the situation.

**Additional Displays**

<table>
<thead>
<tr>
<th>LED’s</th>
<th>Show the current status which the respective key reports back to.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery</td>
<td>Indicates the current battery charge level.</td>
</tr>
<tr>
<td>Reception</td>
<td>Displays the current signal strength of the button.</td>
</tr>
<tr>
<td>Blue Points</td>
<td>Shows which motor lines (1 or 2 or both) the button currently triggers.</td>
</tr>
</tbody>
</table>

**Resetting a Button**

To delete the addressing of a push-button (e.g. for programming to another installation), the following steps are necessary.

- Remove the battery.
- Press and hold down „EMERGENCY CLOSE“.
- Insert the battery.
- Red LED flashes.
- When the LED stops flashing, release the push-button.

**Battery Change**

The battery of the manual call point must be changed at least every 2 years (in standard operation).

In case of frequent malfunctions / tripping, an annual change may also be necessary. The exact battery status can be monitored via the central software.
STORAGE AND DISMANTLING

The Control Unit should only be stored in places protected from moisture, heavy contamination and high temperatures (not above 30 °C). Do not remove the packaging until the control unit is ready to be installed. Disconnect the batteries and store them separately if the control unit has already been used.

When storing rechargeable batteries it is essential to observe the following:

Keep the storage time of the lead acid batteries as short as possible, as the batteries discharge over time. The batteries must be recharged after seven months of storage at the latest. For recharging, either use a suitable charger or connect the batteries to an EMB Control Unit and supply it with mains voltage. In both cases the charging time is at least 8 hours (depending on discharge).

If the Control Unit is to be permanently decommissioned, the legal regulations for destruction, recycling and disposal must be adhered to. The control unit contains plastic, metal and electrical components as well as batteries. Replaced batteries contain highly toxic pollutants and must therefore only be disposed of at the collection points stipulated by law.

Before removing the Control Unit, it must be disconnected from the mains at all poles!

DISPOSAL

Do not throw electrical appliances in the household waste! According to the European Directive 2012 / 19 / EU on Waste Electrical and Electronic Equipment (WEEE) and its implementation in national law, electrical equipment that is no longer usable must be collected separately and sent for environmentally friendly recycling.

WARRANTY AND CUSTOMER SERVICE

In principle, the following applies:

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

The warranty complies with the legal requirements and applies to the country in which the product was purchased. The warranty extends to material and manufacturing defects that occur under normal use.

The warranty period for material delivery is twelve months.

Warranty and liability claims for personal injury and damage to property are excluded if they are attributable to one or more of the following cause:

• Improper use of the product.
• Improper installation, commissioning, operation, maintenance or repair of the product.
• Operating the product with defective, incorrectly installed or non-functional safety and protective devices.
• Failure to observe the instructions and installation requirements in these instructions.
• Unauthorised structural changes to the product or accessories.
• Catastrophes caused by foreign bodies and Acts of God.
• Wear and tear.

The contact person for possible warranties or for spare parts or accessories is the branch office responsible for you or your responsible clerk at:

AUMÜLLER AUTOMATIC GMBH.

The contact details are available on our website

(www.aumueller-gmbh.de)

LIABILITY

Product changes and product adjustments can be made without prior notice. Illustrations are not binding. Despite the greatest possible care, no liability can be accepted for the content of these instructions.
This is a Translation of the Original German Instructions for Installation and Commissioning

Important Note:
We are aware of our responsibility to act with the greatest possible care in the presentation of products that save lives and preserve value. Although we make every effort to keep all data and information as up-to-date as possible, we cannot guarantee that it is free of errors. The information and data contained in this document are subject to change without notice. The distribution and reproduction of this document, as well as the use and communication of its contents are not permitted unless specifically authorised. Offenders will be held liable for the payment of damages. All rights reserved in the event of the granting of a patent or registration of a utility model. For offers, deliveries and services the terms of business and delivery of Aumüller Automatic GmbH shall exclusively apply.

With publication of these instructions all previous editions become invalid.

Note:
The proof of the application of a quality management system is for company: Aumüller Automatic GmbH according to the certification basis DIN EN 9001 as well as the installation and conformity declaration are available via the QR code below or directly on our website: (www.aumueller-gmbh.de)