



## **Basic safety instructions**

**For use during installation, repairs and when making settings**

**For qualified technicians only**

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# 1 Target group

## Minimum requirements for installation and repairs

Installation and repair instructions are directed toward qualified technicians, i. e. fitters.

Qualified technicians must have good technical skills, either due to formal training in a trade or because of extensive experience with WAREMA product. Qualified technicians must be able to read the instructions in the local language, understand them and apply them when installing and/or commissioning the equipment.

### Basic knowledge

- ▶ Work protection,
- ▶ Accident prevention regulations,
- ▶ Working with ladders and scaffolding,
- ▶ Handling and transport of long and heavy components,
- ▶ Handling tools and machines,
- ▶ Evaluating the building substance,
- ▶ Introduction of fixing materials, especially following instructions on mounting dowel anchors

### Technical knowledge

- ▶ Commissioning of the product
- ▶ Operation of the product

## Minimum requirements for connecting drives

Setting instructions and wiring diagrams are directed toward certified electricians.

Qualified certified electricians must have good technical skills due to formal training in a trade and because of extensive experience with WAREMA product. Qualified technicians must be able to read the instructions in the local language, understand them and apply them when installing and/or commissioning the equipment.

### Basic knowledge

- ▶ Specific knowledge of VDE 0100 or the legal standards and regulations that apply in the country of use

### Technical knowledge

- ▶ Commissioning of the product
- ▶ Operation of the product

### 2 External venetian blind

The safety instructions and warnings described here are intended to safeguard your health and to protect the product. These instructions must be read carefully and followed.

Damage resulting from inappropriate use or the failure to follow these instructions is not covered by the warranty. Liability will not be accepted for secondary damage.

#### General information

Improper installation may impair the safety, function and service life of the product. It may result in injury to persons and/or cause damage to the product and adjacent parts.

- ▶ Comply with the specified installation steps and their sequence.
- ▶ Install the product only if it is in technically perfect condition.
- ▶ Before installation, check the mounting substructure to make sure it can bear the loads.
- ▶ The installation location and the range of movement of the product must be cordoned off.

#### General information: installation location

Installation of the product in escape routes is prohibited. In the event of an emergency (e. g. a fire), it may not be possible to clear the escape route and persons may be seriously injured or killed.

- ▶ The national regulations on the installation of products in front of safety systems (e. g. emergency exits, escape doors and emergency windows) must be complied with.

#### General information: Operation in the event of a power supply failure

An electrically-operated product cannot be operated without power. A lowered/extended product may be subjected to impermissible loads when bad weather fronts pass over and during power failures. This may also result in serious injury to persons and/or damage to the product.

- ▶ Manual emergency operation or an emergency power supply should be considered for windy regions with frequent power failures.

#### General information: Fixation and fixing material

Improper fixation may impair the safety, function and service life of the product. The product may detach from the wall. This may result in injury to persons and/or cause damage to the product and adjacent parts.

- ▶ The fixing material used must be suitable for the mounting substructure.
- ▶ The fitter is responsible for the correct selection of fixing materials and adhering to the installation specifications of the fixing material manufacturer.
- ▶ The specified number of fixations and fixing points must be adhered to.

#### General information: Electrical connection

Improper handling of live parts or the failure to follow the supplied instructions may impair the safety and function of the product. Persons may come into contact with potentially live parts and become injured. The electrical installation in buildings may be affected.

- ▶ The instructions of the supplied drives, control units, light rails, etc., must be followed.
- ▶ The electronic component should only be connected if the specifications in instructions match the power supply.
- ▶ Before installation, deactivate all lines and control systems that are not essential for installation.
- ▶ All lines must be kept away from the drive and/or movable parts.

#### General information: Position of operating element for electrically operated products

An operating element that is in the wrong position can impair the ability to operate the product. The operating element must be accessible to all operators.

- ▶ The national regulations in regard to disabled persons must be observed.
- ▶ Attach the operating element outside of the projection area of the product but within view (ideally at a height of less than 1300 mm).

#### General information: Possible hazards during commissioning

Due to incorrect operation, limbs can become crushed while the unit is moving. In addition, objects may be damaged.

- ▶ Do not reach into the movable parts while commissioning the product.
- ▶ Do not reach into openings on the product while commissioning the product.
- ▶ Keep people and animals out of the projection area.
- ▶ Remove obstacles from the projection area.

#### Product mounted inside: Potential danger from pull cords/chains

Children can become injured when using the operating elements carelessly. Young children can become strangled

by loops in pull cords, chains, belts and inner cords used to operate the product.

- ▶ To avoid strangulation and entanglement, keep cords out of reach of young children. Cords may become wrapped around the neck of a child.
- ▶ Move beds, cots and furniture away from the cords of window coverings.
- ▶ Do not tie cords together. Make sure cords do not twist and create a loop.
- ▶ Pull cords/chains/belts/cords must be attached high enough that there is a clearance of 1500 mm below them, or a fixed tension system must be installed.

### 3 Roller shutters

The safety instructions and warnings described here are intended to safeguard your health and to protect the product. These instructions must be read carefully and followed.

Damage resulting from inappropriate use or the failure to follow these instructions is not covered by the warranty. Liability will not be accepted for secondary damage.

#### General information

Improper installation may impair the safety, function and service life of the product. It may result in injury to persons and/or cause damage to the product and adjacent parts.

- ▶ Comply with the specified installation steps and their sequence.
- ▶ Install the product only if it is in technically perfect condition.
- ▶ Before installation, check the mounting substructure to make sure it can bear the loads.
- ▶ The installation location and the range of movement of the product must be cordoned off.

#### General information: installation location

Installation of the product in escape routes is prohibited. In the event of an emergency (e. g. a fire), it may not be possible to clear the escape route and persons may be seriously injured or killed.

- ▶ The national regulations on the installation of products in front of safety systems (e. g. emergency exits, escape doors and emergency windows) must be complied with.

#### General information: Operation in the event of a power supply failure

An electrically-operated product cannot be operated without power. A lowered/extended product may be subjected to impermissible loads when bad weather fronts pass over and during power failures. This may also result in serious injury to persons and/or damage to the product.

- ▶ Manual emergency operation or an emergency power supply should be considered for windy regions with frequent power failures.

#### General information: Fixation and fixing material

Improper fixation may impair the safety, function and service life of the product. The product may detach from the wall. This may result in injury to persons and/or cause damage to the product and adjacent parts.

- ▶ The fixing material used must be suitable for the mounting substructure.
- ▶ The fitter is responsible for the correct selection of fixing materials and adhering to the installation specifications of the fixing material manufacturer.
- ▶ The specified number of fixations and fixing points must be adhered to.

#### General information: Electrical connection

Improper handling of live parts or the failure to follow the supplied instructions may impair the safety and function of the product. Persons may come into contact with potentially live parts and become injured. The electrical installation in buildings may be affected.

- ▶ The instructions of the supplied drives, control units, light rails, etc., must be followed.
- ▶ The electronic component should only be connected if the specifications in instructions match the power supply.
- ▶ Before installation, deactivate all lines and control systems that are not essential for installation.
- ▶ All lines must be kept away from the drive and/or movable parts.

#### General information: Position of operating element for electrically operated products

An operating element that is in the wrong position can impair the ability to operate the product. The operating element must be accessible to all operators.

- ▶ The national regulations in regard to disabled persons must be observed.
- ▶ Attach the operating element outside of the projection area of the product but within view (ideally at a height of less than 1300 mm).

#### General information: Possible hazards during commissioning

Due to incorrect operation, limbs can become crushed while the unit is moving. In addition, objects may be damaged.

- ▶ Do not reach into the movable parts while commissioning the product.
- ▶ Do not reach into openings on the product while commissioning the product.
- ▶ Keep people and animals out of the projection area.
- ▶ Remove obstacles from the projection area.

## 4 Awnings

The safety instructions and warnings described here are intended to safeguard your health and to protect the product. These instructions must be read carefully and followed.

Damage resulting from inappropriate use or the failure to follow these instructions is not covered by the warranty. Liability will not be accepted for secondary damage.

### General information

Improper installation may impair the safety, function and service life of the product. It may result in injury to persons and/or cause damage to the product and adjacent parts.

- ▶ Comply with the specified installation steps and their sequence.
- ▶ Install the product only if it is in technically perfect condition.
- ▶ Before installation, check the mounting substructure to make sure it can bear the loads.
- ▶ The installation location and the range of movement of the product must be cordoned off.

### Patio roof with glazing: installation requirement

Improper installation may impair the safety, function and service life of the product. It may result in injury to persons and/or cause damage to the product and adjacent parts.

- ▶ Before installing the glazing, check that the stipulated requirements have been met.
  - The maximum distance between the rafters must not exceed 1000 mm.
  - In products with a snow load  $> 85 \text{ kg/m}^2$ , additional steel inserts are required in the purlin and, if necessary, in the rafters.
- ▶ Glazing is only permitted to be retrofitted later using the profiles approved by WAREMA as glass supports. The use of L-brackets or similar as glass supports is not permitted.

### Window awnings with ZIP guidance: installation location

Installation of the product in escape routes is prohibited. In the event of an emergency (e. g. a fire), it may not be possible to clear the escape route and persons may be seriously injured or killed.

- ▶ The national regulations on the installation of products in front of safety systems (e. g. emergency exits, escape doors and emergency windows) must be complied with.

### General information: Operation in the event of a power supply failure

An electrically-operated product cannot be operated without power. A lowered/extended product may be subjected to impermissible loads when bad weather fronts pass over and during power failures. This may also result in serious injury to persons and/or damage to the product.

- ▶ Manual emergency operation or an emergency power supply should be considered for windy regions with frequent power failures.

### General information: Fixation and fixing material

Improper fixation may impair the safety, function and service life of the product. The product may detach from the wall. This may result in injury to persons and/or cause damage to the product and adjacent parts.

- ▶ The fixing material used must be suitable for the mounting substructure.
- ▶ The fitter is responsible for the correct selection of fixing materials and adhering to the installation specifications of the fixing material manufacturer.
- ▶ The specified number of fixations and fixing points must be adhered to.

### Conservatory awning, patio awnings, markisolettes and drop-arm awnings: potential for danger from partially mounted products

Premature removal of the lock on the product may put persons at risk. If the product is partly assembled at the works, then any parts under spring tension are secured against accidental opening. If the lock is removed prematurely, the parts move suddenly and persons may become injured.

- ▶ This protection must not be removed until the product has been completely installed.

### General information: Electrical connection

Improper handling of live parts or the failure to follow the supplied instructions may impair the safety and function of the product. Persons may come into contact with potentially live parts and become injured. The electrical installation in buildings may be affected.

- ▶ The instructions of the supplied drives, control units, light rails, etc., must be followed.
- ▶ The electronic component should only be connected if the specifications in instructions match the power supply.
- ▶ Before installation, deactivate all lines and control systems that are not essential for installation.
- ▶ All lines must be kept away from the drive and/or movable parts.

### **General information: Position of operating element for electrically operated products**

An operating element that is in the wrong position can impair the ability to operate the product. The operating element must be accessible to all operators.

- ▶ The national regulations in regard to disabled persons must be observed.
- ▶ Attach the operating element outside of the projection area of the product but within view (ideally at a height of less than 1300 mm).

### **General information: Possible hazards during commissioning**

Due to incorrect operation, limbs can become crushed while the unit is moving. In addition, objects may be damaged.

- ▶ Do not reach into the movable parts while commissioning the product.
- ▶ Do not reach into openings on the product while commissioning the product.
- ▶ Keep people and animals out of the projection area.
- ▶ Remove obstacles from the projection area.

### **Pergola awning P50: Possible endangerment from control systems (only with P50)**

Products with electrical control units may start moving at any time and without prior notice. When the movement is in the extension direction, limbs may be crushed.

- ▶ The control must be set such that it is not possible for the product to extend automatically. This can be accomplished, for example, by switching off the photo sensor.
- ▶ The setting of the control unit should not be changed in such a way that the product is able to extend.

### **General information: Special features of fabric**

Fabrics can become electrically charged. Contact with persons or objects may result in electrostatic discharge from electrostatically charged fabric.

### **Radiant heater: installation location**

The radiant heater must not be mounted on awnings with a valance, valance roller blind, turning gear or with crossing articulated arms (LB model).

- ▶ The radiant heater must be installed under the awning on the wall using wall holders under adherence to the safety distances.
- ▶ The radiant heater must not be installed underneath power sockets, junction boxes or similar. Access to the plug-in connection must be ensured (power plug and power socket or extension cable).

### **Radiant heater: Distance to danger area**

It is not permissible for the minimum clearance between the heat source and the floor or another continuously accessible area to be undercut, nor may the minimum clearance to other boundaries or flammable materials be undercut. Persons may become injured from contact with hot surfaces.

- ▶ The radiant heater must be mounted at least 2000 mm above the floor. The minimum distances to the top and side of 300 mm and to the front toward flammable materials of 1000 mm must be maintained.

### **Radiant heater: Risks posed by the product**

- ▶ Do not gaze directly into the radiant heater while it is switched on. Extended eye contact may lead to eye damage.

### **Halogen light rail: Risk posed by the product**

- ▶ The safety distance of 300 mm to flammable materials must be adhered to.
- ▶ Do not gaze directly into the halogen floodlight while it is switched on. Extended eye contact may lead to eye damage due to the high level of UV radiation.
- ▶ During and shortly after operation, do not touch the halogen floodlights. The halogen floodlights become hot through use. Do not touch the halogen floodlights until they have cooled, and wear protection.

### **Patio roof with glazing: Roof avalanches in winter**

Heavy snowfall and sleet are possible in winter. As temperatures rise, accumulated snow may slide off of unprotected areas (e. g. glass surfaces) and drop down on people, cars, plants, etc. This may result in injury to persons and/or damage to property.

- ▶ If falling snow cannot be prevented entirely, suitable measures must be taken to protect passersby.
- ▶ Installation of a snow guard is recommended (for awnings: outside of the range of movement).
- ▶ "CAUTION Roof Avalanche" warning signs should be erected for passersby.
- ▶ Patio roofs must be cleared of snow regularly.

### **Patio roof: Freezing of drainage channels in winter**

In winter, snowfall may occur. Heat from the sun will begin to melt the snow. In cold and shady areas, melt water will refreeze. Down pipes may freeze and burst open.

- ▶ In areas where temperatures are frequently below freezing, the installation of an antifreeze device (e. g. gutter heating) is recommended in gutters and/or pipes.



### **Patio roof: Incorrect connection of the drain to the sewer**

Gases are emitted from sewers. These gases may damage the built-in HT pipes in the posts.

- ▶ A siphon should be installed between the drainage pipe and the sewer.

### **Patio roof: Dirty drainage pipes**

Gutters may clog with leaves, moss and dirt. This may cause the gutters to overflow when it rains.

- ▶ Installation of a leaf guard is recommended to prevent the accumulation of debris in the down pipe.
- ▶ Gutters without or with an insufficient gradient must be inspected and cleaned more frequently.

### 5 Internal sun shading systems

The safety instructions and warnings described here are intended to safeguard your health and to protect the product. These instructions must be read carefully and followed.

Damage resulting from inappropriate use or the failure to follow these instructions is not covered by the warranty. Liability will not be accepted for secondary damage.

#### General information

Improper installation may impair the safety, function and service life of the product. It may result in injury to persons and/or cause damage to the product and adjacent parts.

- ▶ Comply with the specified installation steps and their sequence.
- ▶ Install the product only if it is in technically perfect condition.
- ▶ Before installation, check the mounting substructure to make sure it can bear the loads.
- ▶ The installation location and the range of movement of the product must be cordoned off.

#### Black-out blind: wrong installation location

Installation of the product in escape routes is prohibited. In the event of an emergency (e. g. a fire), it may not be possible to clear the escape route and persons may be seriously injured or killed.

- ▶ The national regulations on the installation of products in front of safety systems (e. g. emergency exits, escape doors and emergency windows) must be complied with.

#### General information: Fixation and fixing material

Improper fixation may impair the safety, function and service life of the product. The product may detach from the wall. This may result in injury to persons and/or cause damage to the product and adjacent parts.

- ▶ The fixing material used must be suitable for the mounting substructure.
- ▶ The fitter is responsible for the correct selection of fixing materials and adhering to the installation specifications of the fixing material manufacturer.
- ▶ The specified number of fixations and fixing points must be adhered to.

#### Ceiling roller blind/horizontal black-out blind: Risks posed by partially installed products

Premature removal of the lock on the product may put persons at risk. If the product is partly assembled at the works, then any parts under spring tension are secured against accidental opening. If the lock is removed prematurely, the parts move suddenly and persons may become injured.

- ▶ This protection must not be removed until the product has been completely installed.

#### General information: Possible hazards during commissioning

Due to incorrect operation, limbs can become crushed while the unit is moving. In addition, objects may be damaged.

- ▶ Do not reach into the movable parts while commissioning the product.
- ▶ Do not reach into openings on the product while commissioning the product.
- ▶ Keep people and animals out of the projection area.
- ▶ Remove obstacles from the projection area.

#### General information: Electrical connection

Improper handling of live parts or the failure to follow the supplied instructions may impair the safety and function of the product. Persons may come into contact with potentially live parts and become injured. The electrical installation in buildings may be affected.

- ▶ The instructions of the supplied drives, control units, light rails, etc., must be followed.
- ▶ The electronic component should only be connected if the specifications in instructions match the power supply.
- ▶ Before installation, deactivate all lines and control systems that are not essential for installation.
- ▶ All lines must be kept away from the drive and/or movable parts.

#### General information: Position of operating element for electrically operated products

An operating element that is in the wrong position can impair the ability to operate the product. The operating element must be accessible to all operators.

- ▶ The national regulations in regard to disabled persons must be observed.
- ▶ Attach the operating element outside of the projection area of the product but within view (ideally at a height of less than 1300 mm).

#### General information: Special features of fabric

Fabrics can become electrically charged. Contact with persons or objects may result in electrostatic discharge from electrostatically charged fabric.

### **Potential danger from pull cords/chains/belts/cords**

Children can become injured when using the operating elements carelessly. Young children can become strangled by loops in pull cords, chains, belts and inner cords used to operate the product.

- ▶ To avoid strangulation and entanglement, keep cords out of reach of young children. Cords may become wrapped around the neck of a child.
- ▶ Move beds, cots and furniture away from the cords of window coverings.
- ▶ Do not tie cords together. Make sure cords do not twist and create a loop.
- ▶ Pull cords/chains/belts/cords must be attached high enough that there is a clearance of 1500 mm below them, or a fixed tension system must be installed.

### 6 Electric drives

The safety instructions and warnings described here are intended to safeguard your health and to protect the product. These instructions must be read carefully and followed.

Damage resulting from inappropriate use or the failure to follow these instructions is not covered by the warranty. Liability will not be accepted for secondary damage.

#### General information: Preparations for installation

Improper installation may impair the safety, function and service life of the product. This may result in injury to persons and/or cause damage to the product and adjacent parts.

- ▶ Comply with the specified setting steps and the sequence.
- ▶ The setting procedure must always be performed in its entirety.
- ▶ Before installation, deactivate all lines and control systems that are not needed for installation. The lines must be kept away from the drive and/or movable parts.
- ▶ Before the motor setting is changed, the product must be checked for other functional problems.
- ▶ One person must be assigned to monitor the operating element.
- ▶ Watch the product while it is moving and keep people away until the movement has stopped.

#### Drive with integrated radio receiver: Preparatory measures

- ▶ The range of radio controls is restricted by legal regulations for radio systems and through structural factors. Adequate radio reception must be ensured when planning the project. This applies especially if the radio signal must penetrate through walls and ceilings. The control unit should not be installed in the immediate vicinity of metal surfaces (steel beam, fire door, etc.).
- ▶ Strong local radio transmitters (e. g. baby monitor or neighbouring transmitters) with a transmission frequency identical to that of the control unit may interfere with the reception.

#### Drives (230 V, or 12 or 24 V): Electrical connection

Improper connection of electrically operated products may lead to personal injury and impair the operating safety of the product.

- ▶ Adhere to the wiring diagram.
- ▶ In parallel connections, observe the maximum switch contact load of the switching device.
- ▶ When using a bus system, the drive must be connected via suitable bus actuators.

#### 230-V drive: Electrical connection

- ▶ An on-site disconnecting and isolating switch must be provided to switch off the entire product.
- ▶ When installing, an all-pole disconnection of the drive from the mains is required with at least a 3 mm contact opening gap.
- ▶ The line of the drive may only be replaced by the same line type as supplied by WAREMA. If this is not possible, the drive must be replaced.
- ▶ Do not connect other devices or power consumers directly to the lines of the drives.

#### 230-V drive without integrated radio receiver: Electrical connection

- ▶ Do not connect other devices or power consumers directly to the lines of the drives. The drives and the additional devices must be decoupled by means of relay controls.
- ▶ Use mechanically or electrically locked switching elements with a marked zero position.
- ▶ Use switching elements with an integrated switchover delay that prevents a direct reversal of the direction of movement (minimum pause during directional change is 0.5 s). The switching elements must not perform move commands simultaneously in different directions.

#### Drive with incremental encoder: Electrical connection

- ▶ The incremental encoder may become destroyed if the equipment is connected incorrectly.

#### General information: Distance to danger zone (only important for initial deliveries)

If used as intended (drive for a sun shading product), the following section is not applicable.

It is not permissible for the minimum clearance between the drive and the floor or another continuously accessible area to be undercut. Persons may reach into movable parts. Limbs may be crushed.

- ▶ Movable parts of the drive must be installed more than 2500 mm above the floor or another level that enables access to the drive.