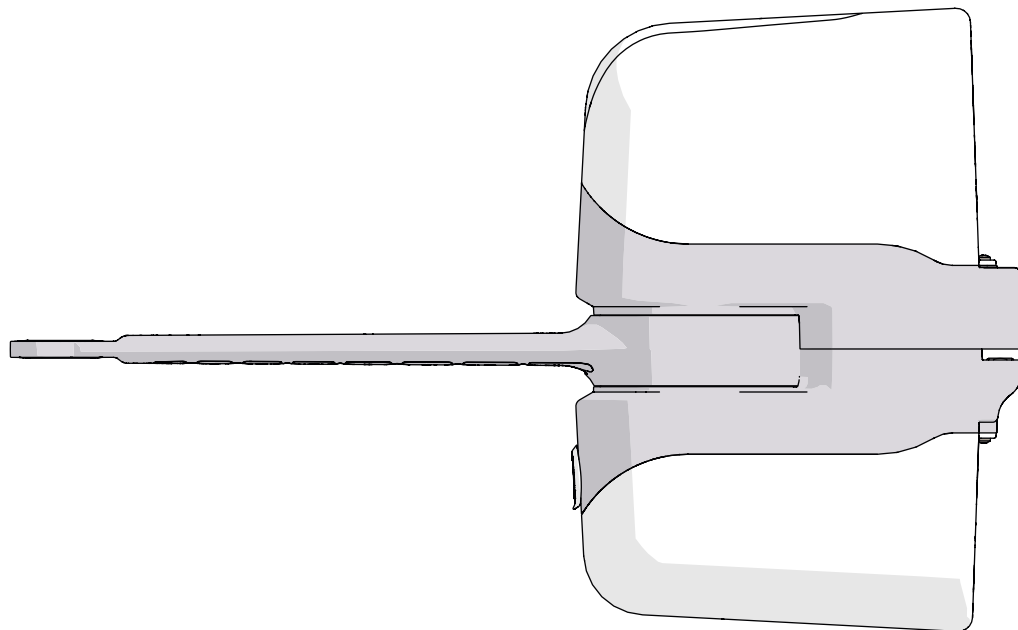


marantec 
drive technology

Instructions and warnings for installation and use
Anleitungen und Hinweise zu Installation und Einsatz
Istruzioni ed avvertenze per l'installazione e l'uso
Instructions et avertissements pour l'installation et l'usage
Instrucciones y advertencias para su instalación y uso
Instruções e advertências para a instalação e utilização
Instrukcje i zalecenia dotyczące instalacji i użytkowania



COMFORT RE

RE2224, RE2224S

Gear motor for hinged gates
Antriebe für Drehtore
Motoriduttore per cancelli a battente
Motoréducteur pour portails à battants
Motorreductor para cancelas batientes
Motorreducores para portões de batente
Motoreduktor do bram skrzydłowych

CE

INDEX

1	Safety warnings	p. 3
2	Product overview	p. 4
2.1	Product description	p. 4
2.2	Models and characteristics	p. 4
3	Preliminary checks	p. 4
4	Installing the product	p. 5
4.1	Installation	p. 5
4.2	Adjusting the mechanical limit switch in opening	p. 5
4.3	Electrical connections	p. 5
4.4	Mechanical and electronic connections of the second motor	p. 5
4.5	Replacing led	p. 5
5	Testing and commissioning	p. 6
5.1	Testing	p. 6
5.2	Commissioning	p. 6
6	Instructions and warnings for the end user	p. 7
7	Figures	p. 44
8	EC Declaration of Conformity	p. 51

1 - SAFETY WARNINGS

WARNING

ORIGINAL INSTRUCTIONS - important safety instructions. Follow the instructions since incorrect installation can lead to severe injury! Save these instructions.

Read the instructions carefully before proceeding with installation.

The design and manufacture of the devices making up the product and the information in this manual are compliant with current safety standards. However, incorrect installation or programming may cause serious injury to those working on or using the system. Compliance with the instructions provided here when installing the product is therefore extremely important.

If in any doubt regarding installation, do not proceed and contact the Marantec Technical Service for clarifications.

Under European legislation, an automatic door or gate system must comply with the standards envisaged in the Directive 2006/42/EC (Machinery Directive) and in particular standards EN 12453; EN 12635 and EN 13241-1, which enable declaration of presumed conformity of the automation system.

Therefore, final connection of the automation system to the electrical mains, system testing, commissioning and routine maintenance must be performed by skilled, qualified personnel, in observance of the instructions in the "Testing and commissioning the automation system" section.

The aforesaid personnel are also responsible for the tests required to verify the solutions adopted according to the risks present, and for ensuring observance of all legal provisions, standards and regulations, with particular reference to all requirements of the EN 12453 standard which establishes the test methods for testing door and gate automation systems.

WARNING

Before starting installation, perform the following checks and assessments:

ensure that every device used to set up the automation system is suited to the intended system overall. For this purpose, pay special attention to the data provided in the "Technical specifications" section. Do not proceed with installation if any one of these devices is not suitable for its intended purpose;

check that the devices purchased are sufficient to guarantee system safety and functionality;

perform a risk assessment, including a list of the essential safety requirements as envisaged in Annex I of the Machinery Directive, specifying the solutions adopted. The risk assessment is one of the documents included in the automation system's technical file. This must be compiled by a professional installer.

Considering the risk situations that may arise during installation phases and use of the product, the automation system must be installed in compliance with the following safety precautions:

never make modifications to any part of the automation system other than those specified in this manual. Operations of this type can only lead to malfunctions. The manufacturer declines all liability for damage caused by unauthorised modifications to products;

if the power cable is damaged, it must be replaced by the manufacturer or its after-sales service, or in all cases by a person with similar qualifications, to prevent all risks;

do not allow parts of the automation system to be immersed in water or other liquids. During installation ensure that no liquids are able to enter the various devices;

should this occur, disconnect the power supply immediately and contact a Marantec Service Centre. Use of the automation system in these conditions may cause hazards;

never place automation system components near to sources of heat or expose them to naked lights. This may damage system components and cause malfunctions, fire or hazards;

WARNING

During cleaning, maintenance or during all operations requiring opening of the protective housings of various automation system components must be performed with the control unit disconnected from the power supply. If the disconnect device is not in a visible location, affix a notice stating: "MAINTENANCE IN PROGRESS":

connect all devices to an electric power line equipped with an earthing system;

the product cannot be considered to provide effective protection against intrusion. If effective protection is required, the automation system must be combined with other devices;

the product may not be used until the automation system "commissioning" procedure has been performed as specified in the "Automation system testing and commissioning" section;

the system power supply line must include a circuit breaker device with a contact gap allowing complete disconnection in the conditions specified by class III overvoltage;

use unions with IP55 or higher protection when connecting hoses, pipes or cable glands;

the electrical system upstream of the automation system must comply with the relevant regulations and be constructed to good workmanship standards;

users are advised to install an emergency stop button close to the automation system (connected to the control PCB STOP input) to allow the door to be stopped immediately in case of danger;

this device is not intended for use by persons (including children) with impaired physical, sensory or mental capacities, or with lack of experience or skill, unless a person responsible for their safety provides surveillance or instruction in use of the device;

before starting the automation system, ensure that there is no-one in the immediate vicinity;

before proceeding with any cleaning or maintenance work on the automation system, disconnect it from the electrical mains;

special care must be taken to avoid crushing between the part operated by the automation system and any fixed parts around it; children must be supervised to ensure that they do not play with the equipment.

WARNING

Do not use if repair or adjustment is necessary.

WARNING

The automation system component packaging material must be disposed of in full observance of current local waste disposal legislation.

WARNING

The data and information in this manual are subject to modification at any time, with no obligation on the part of Marantec Antriebs- und Steuerungstechnik GmbH & Co. KG to provide notice.

2 - PRODUCT OVERVIEW

2.1 - Description of the product

The COMFORT RE gear motors are destined to be installed in systems for the automation of gates with hinged doors.

The COMFORT RE gear motors have been designed and constructed to be fitted onto hinged doors within the weight limits

indicated in the technical specifications table.

The use of gear motors for applications which differ from those indicated above is prohibited.

2.2 - Model and technical characteristics

Code	Description
RE2224	24 Vdc gear motor for hinged doors with max length 2,3 m or weight 250 Kg, 230 Vac power supply
RE2224S	24 Vdc gear motor for hinged doors with max length 2,3 m or weight 250 Kg

TECHNICAL DATA

MODELS		RE2224	RE2224S
TECHNICAL SPECIFICATIONS			
Torque	Nm	120	120
Working cycle	%	80	80
Opening time at 90°	sec	14-20	14-20
Control board		CBX20224	-
Power supply	Vac	230	-
Power supply	Vdc	-	24
Absorption	A	0,6	2
Engine power	W	115	50
Integrated lights		-	-
Degree of protection	IP	44	44
Dimensions (L - P - H)	mm	120 - 250 - 350	120 - 250 - 350
Weight	Kg	10,5	8
Operating temperature	°C	-20°+55°	-20°+55°
Leaves maximum weight	Kg	250	250

3 - PRELIMINARY CHECKS

Before installing this product, verify and check the following steps:

- Check that the gate or door are suitable for automation
- The weight and size of the gate or door must be within the maximum permissible operating limits specified in Fig. 2
- Check the presence and strength of the security mechanical stops of the gate or door
- Check that the mounting area of the product is not subject to flooding
- Conditions of high acidity or salinity or proximity to heat sources could cause malfunction of the product
- Extreme weather conditions (for example the presence of snow, ice, high temperature range, high temperatures) may increase the friction and therefore the force required for the handling and initial starting point may be higher than under normal conditions.
- Check that the manual operation of gate or door is smooth and friction-free and there is no risk of derailment of the same
- Check that the gate or door are in equilibrium and stationary if left in any position
- Check that the power line to supply the product is equipped with proper grounding safety and protected by a magnetothermal and differential security device
- Provide the power system with a disconnecting device with a gap of contacts enabling full disconnection under the conditions dictated by the overvoltage category III.
- Ensure that all materials used for the installation comply with current regulations

4 - PRODUCT INSTALLATION

4.1 - Installation

Before starting the installation, make sure that the product is intact and that the packaging contains all the components shown in Fig.3. Make sure that the mounting area is compatible with the overall dimensions (Fig.1).

Check the allowed opening angle according to the fixing points of the brackets in Fig.4 and in the diagram in Fig.5.

Fig.6 is an example of a typical system:

- Operators (1)
- Photocells (2)
- Posts for photocells (3)
- Flashing light with integrated aerial (4)
- Key or digital switch (5)

Mounting

Measure the value C (Fig. 4) = distance between the rotation fulcrum of the leaf and the pillar surface where the rear bracket will be fixed. Move manually the leaf up to the opening required (maximum 120°): establish the value of the maximum opening angle of each leaf.

Mark on the diagram in Fig.5 the value C and trace an horizontal line up to intersect the area that includes the angle value measured before.

Trace some vertical lines on the intersection points between the horizontal line and the area in order to find the useful values for the dimension A (fig. 4).

Chose the value A in this range.

Mark on the pillar the value A and trace a vertical line in correspondence (Fig.7a).

Mounting the motor bracket to the pillar

Draw a horizontal line on the pillar in line where the leaf bracket should be fixed (Fig.7b).

Position the bracket so that the inside of the bottom edge is aligned with the horizontal line shown in Fig. 7b and fix it with suitable screws and washers (not supplied) (Fig.7c).

Secure the gearmotor to the post bracket using the screw and nut provided (Fig.8). The motor can be turned in this phase to simplify the electrical connections (4.3 Electrical connections).

WARNING

An off-axis mounting can cause malfunctioning and damage the automation system.

Mounting the motor bracket

Fix the curved arm to the motor arm using the pin and stop ring. Fix the gate bracket to the curved arm using the pin but without the stop ring (Fig. 9).

Move the gate leaf up to the maximum opening position. Release the gearmotor (Fig.10)

Completely extend the arms, position the curved arm next to the leaf of the gate and place the gate bracket on it. Holding with one hand the bracket in contact with the leaf, try to make a complete opening and closing movement (Fig. 11a).

Fix the gate bracket to the leaf with suitable screws (not supplied) and fix the pin using the stop ring (Fig. 11b).

WARNING

An off-axis mounting can cause malfunctioning and damage the automation system.

4.2 - Adjusting the mechanical limit switch in opening

Unscrew the cover screws (Fig.12a). Raise the back by about 1 cm then slide it out forwards (Fig.12b).

WARNING

The lights on the cover are connected by two wires, disconnect the terminal or lay carefully the cover upside-down on the external part (Fig.13).

Loosen the screw of the mechanical limit switches up to when they can slide (Fig.14).

Release the gearmotor and open manually the leaf up to the requested opening position.

Insert the pin completely into the **first free hole close to the leaf** (Fig.15).

Move the mechanical stop up to the stop limit on the pin head (Fig.16a) and screw again the mechanical stop (Fig.16b).

In order to adjust the stop in opening, move the leaf up to the requested opening position and insert the pin into the **first free hole opposite to the leaf**.

Move the mechanical stop on the stop limit on the pin head (Fig.16a) and screw it again (Fig.16b).

4.3 - Electrical connections

Insert the supply cable (Fig.17). Connect the wires of the supply cable to the terminal following the electrical drawing in Fig. 18.

Proceed with the other connections following the control unit's

instructions.

Replace the cover to its original position and fasten the two fixing screws.

4.4 - Mechanical and electronic connections of the second motor

In case of installation of the second motor, follow the above mentioned instructions for the mechanical mounting, for the electrical connections refer to the Fig.21.

4.5 - Replacing led

Switch-off the power supply.

Open the cover as shown on paragraph 4.2.

By using a screwdriver, release the bottom screw of the cover (Fig.19a).

Remove the mask and pull out the led band (Fig.19b).

Disconnect the plug connector (Fig.20a).

Connect the new led stripe and insert them into the mask.

Insert the mask by placing first the seal side and then fastening it with the screw (Fig.20b).

5- TESTING AND COMMISSIONING THE AUTOMATION

The testing of the system must be performed by qualified technicians who must perform the tests required by relevant legislation related to risks, ensuring compliance with the provisions of the regu-

lations, in particular the EN 12453 standard, which specifies the testing methods for the automation of doors and gates.

5.1 Testing

All system components must be tested following the procedures outlined in the respective instruction manuals.

Check that they meet the guidelines in Chapter 1 - Safety warnings
Check that the gate or door can move freely once the automation is unlocked, and that they are in equilibrium and stationary if left in any position.

Check the correct operation of all connected devices (photocells, sensitive edges, emergency buttons, etc.), testing the opening, closing and stopping of the gate or door via the connected control devices (transmitters, buttons, switches).

Carry out measurements of the impact force, as prescribed by standard EN 12453 adjusting the functions of speed, motor force and deceleration of the unit if the measurements do not give the desired results until you find the right setting.

5.2 Commissioning

Following the successful testing of all (and not just some) devices in the system you can proceed with the commissioning.

You must prepare, and keep for 10 years, the technical file of the system with the wiring diagram, drawing or photo of the system, risks analysis and solutions adopted, manufacturer declaration of conformity of all devices connected, instruction manual of each device and maintenance schedule of the system.

Fix on the gate or door a plaque indicating the automation data, the name of the person responsible for the commissioning, the serial number and year of construction, the CE mark.

Attach a plaque indicating the steps required to manually unlock the system.

Implement and deliver to the end user the declaration of conformity, the instructions and warnings for use for the end user and the maintenance schedule of the system.

Make sure the user understands proper automatic, manual and emergency operation of the automation.

Inform the end user in writing of the dangers and risks still present.

6 - INSTRUCTIONS AND WARNINGS FOR THE END USER

Marantec Antriebs- und Steuerungstechnik GmbH & Co. KG produces systems for the automation of gates, garage doors, automatic doors, shutters, parking lots and road barriers. However, Marantec is not the manufacturer of your automation system, which is rather the result of a process of analysis, evaluation, selection of materials, and installation performed by your own installer. Each automated system is unique and only your installer has the experience and professionalism required to create a system to suit your needs, safe and reliable over time, and carried out in a workmanlike manner, i.e. compliant with the current regulations. Even if your automation system meets the security level required by law, this does not exclude the existence of "residual risks", i.e. the possibility that it may cause dangerous situations, usually as a result of improper or irresponsible use; for this reason we would like to give you some suggestions:

- Before using the automation for the first time, ask the installer to explain the origin of residual risks.
- Keep this manual for future use and deliver it to any new owner of the automation.
- Inappropriate or improper use of the automation can make it dangerous: do not command the movement of the automation if people, animals or things are in its range.
- Children: If properly designed, an automation system ensures a high degree of security, preventing movement in the presence of people or things with its detection systems, and ensuring always predictable and safe activation. It is prudent to prevent children from playing near the automation and keep remote controls out of their reach to prevent accidental activation.
- Malfunctions: As soon as you notice any malfunctions, disconnect the system from the power supply and operate the manual release. Do not attempt any repairs by yourself, but require the assistance of your installer: meanwhile, the system can operate like a non-automated opening device after releasing the motor reducer with the release key supplied with the system.
- In case of failures or power failures: While awaiting the arrival of your installer or the restore of the electricity, if the system is not equipped with backup batteries, the automation can be operated as any normal non-automated opening device. To do this, you must run the manual release.

Release and manual movement: before performing this operation pay attention that the device can be released only when the door is stationary.

- Maintenance: Like any machine, your automation needs periodic maintenance to ensure its long life and total safety. Agree with your installer on a maintenance plan on a periodic basis; Marantec recommends a frequency of 6 months for normal domestic use, but this period may vary depending on the intensity of use. All inspection, maintenance or repairs should be performed only by qualified personnel.

- Do not change the system and control or programming parameters of the automation: the responsibility lies with your installer.

- The testing, routine maintenance and any repairs must be documented by the person who performs them, and related documents must kept by the owner.

The only interventions that are possible for the user and should be carried out periodically are the cleaning of the slides and photocells, as well as the removal of any leaves or rocks that could hinder the automation. To prevent anyone from activating the gate or door, before proceeding, remember to release the automation and clean only with a cloth slightly dampened with water.

- Disposal: At the end of the automation useful life, make sure that the dismantling is carried out by qualified personnel and the materials are recycled or disposed of according to local regulations in force.

- Operate the gate or door (with remote control, key switch, etc.); if everything is working properly, the gate or the door will open and close normally, otherwise the flashing light flashes and the maneuver does not start.

With the safeties out of use, the automation must be repaired as soon as possible.

Replacing the remote control battery: if your remote control seems to work worse or not work at all after a while, this may simply depend on the exhaustion of the battery (depending on use, it may take several months to over a year). In that case, you will see that the confirmation of transmission light does not turn on, or comes on only briefly.

The batteries contain polluting substances: do not throw them in the garbage but use the methods prescribed by local regulations.

Thank you for choosing Marantec; for more information feel free to visit our website www.marantec.com.