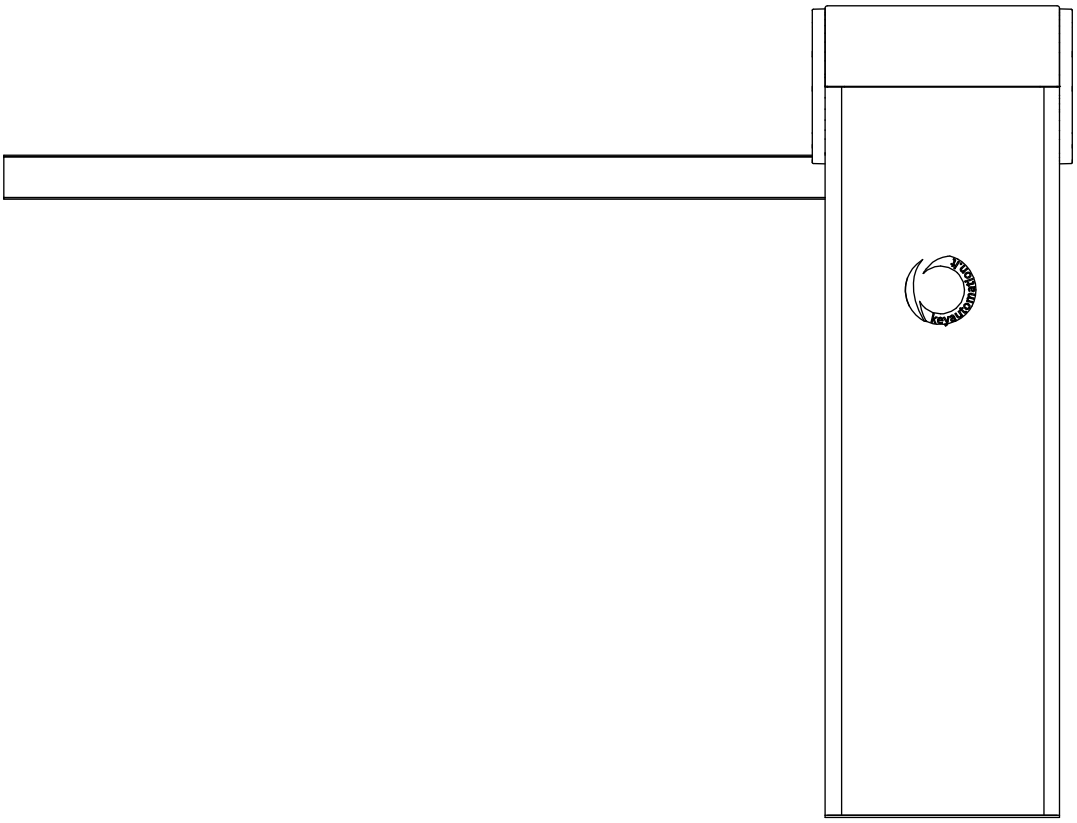
KEY AUTOMATION

Instructions and warnings for installation and use



BOOM GATE

Downee

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1 - SAFETY WARNINGS

CAUTION – ORIGINAL INSTRUCTIONS - important safety instructions. Compliance with the safety instructions below is important for personal safety. 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 Key Automation 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 12445; 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 12445 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 Key Automation 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;

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 - 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 Key Automation S.r.l. to provide notice.

2 - INTRODUCING THE PRODUCT

TECHNICAL SPECIFICATIONS	900ALT242K	900ALT624K
Torque	200 Nm	250 Nm
Temporary service	80 %	80 %
Opening time	3.5 sec	6/*12 sec
Control unit	14A	14A
Power supply	Vac (Vdc) 230 (24)	Vac (Vdc) 230 (24)
Motor absorption	1.3 A	1.3 A
Input power	300 W	300 W
Integrated lights	si	si
Protection class	IP 54	IP 54
Dimensions (L-P-H)	360-220-1110 mm	450-280-1188 mm
Weight	47 Kg	67 Kg
Operating temperature	-20 °C + 55 °C	-20 °C + 55 °C
Maximum length of rod	4 m	6* (8 mt)

* with 8 m bar

3 - PRELIMINARY CHECKS

Before installing the product, perform the following checks and inspections:

check that the barrier is suitable for automation;

the weight and size of the barrier must be within the operating limits specified for the automation system in which the product is installed;

check that the barrier has firm, effective mechanical safety stops;

make sure that the product fixing zone is not subject to flooding;

high acidity or salinity or nearby heat sources might cause the product to malfunction;

in case of extreme weather conditions (e.g. snow, ice, wide temperature variations or high temperatures), friction may increase, causing a corresponding rise in the force needed to operate the system; the starting torque may therefore exceed that required in normal conditions;

check that when operated by hand the barrier moves smoothly without any areas of greater friction or derailment risk;

check that the barrier is well balanced and will therefore remain stationery when released in any position;

check that the electricity supply line to which the product is to be connected is suitably earthed and protected by an overload and differential safety breaker device;

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;

ensure that all the material used for installation complies with the relevant regulatory standards.

4 - PRODUCT INSTALLATION

4.1 - Installation

Before proceeding with the installation, check the integrity of the product and that all components are present in the package.

1. Provide a foundation pit and arrange one or more conduits for the passage of the electrical cabling (Fig. 3).

2. Assemble the 4 anchoring brackets on the mounting plate and fasten with the 4 bolts provided.

3. Pour the concrete into the inside of the pit and position the base plate.

NOTE: verify that the plate is perfectly leveled and parallel to the opening barrier.

4. Wait for the complete setting of the concrete.

5. Unscrew the 4 nuts that hold the base joined to the anchoring brackets and position the rack on the plate (Fig. 4).

6. Attach the bar to the barrier body.

ATTENTION: never move the barrier rod for any reason until it is horizontal, and do not perform the emergency or manual manoeuvre if the rod is not installed.

4.2 - Unlocking the bar

If you need to perform manual actions on the barrier rod, proceed as follows (Fig. 5):

- Cut the power supply.
- Insert the release key provided and remove the latch, insert the allen wrench and turn it 90°.
- In this way you can detach the internal reduction system to allow the emergency manoeuvre.
- Perform the manual manoeuvre.
- To engage the transmission again, turn the allen wrench back to its original position and close the lock.
- You can now restore the power supply and check that everything is working correctly.

4.3 - Adjustment of rod angle

If you need to adjust the stops of the rods, proceed as follows (Fig. 6):
- Loosen the locking nut (located on the box for ALT4 or on the rocker arm for ALT6).
- Adjust the screw to the desired height.
- Fasten the locking nut back in place.

4.4 - Changing the direction of opening

ALT4 VERSION

- Turn off the power supply and, with the manual manoeuvre, place the rod vertical, restore the transmission and remove the rod to prevent hazardous conditions.
- Open the door, loosen the tension system of the spring and then release it from the upper fastening.
- Remove the fastening screw so as to free the spring in the upper part and allow it to be positioned on the opposite side of the fastening lever.

ALT6 VERSION

- Turn off the power supply and, with the manual manoeuvre, place the rod vertical, restore the transmission and remove the rod to prevent hazardous conditions.
- Open the door, loosen the tension system of the springs and then release the springs from the upper fastening.
- Remove the fastening screws so as to free the springs in the upper part and allow them to be positioned on the opposite side of the fastening lever.
- Unscrew the lever so as to allow it to rotate and allow fastening of the springs in the opposite position.
- Fasten all in the indicated positions and tension the springs (see the paragraph on balancing).

4.5 - Balancing

- Cut the power supply.
- Release the rod.
- Position the rod at about 45°.
- Loosen the locking nut(s) of the spring tensioner(s).
  If the rod tends to fall, adjust the spring tensioner(s) so that it is stopped.
- When balancing is complete, fasten the locking nut(s) again.
- Restore motorized operation by turning the release key in the opposite direction.
- Restore the power supply and check that everything works correctly.

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 regulations, in particular the EN12445 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).

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.

IMAGES

Fig. 1 Dimensions

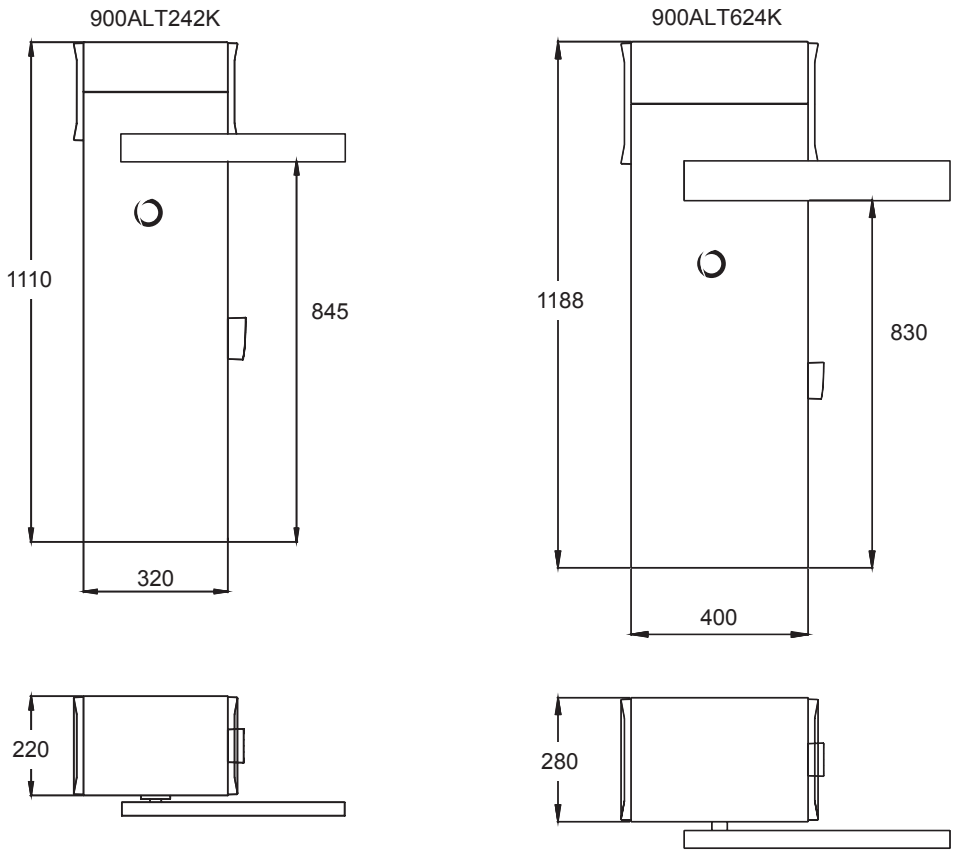


Fig. 2 Typical Installation

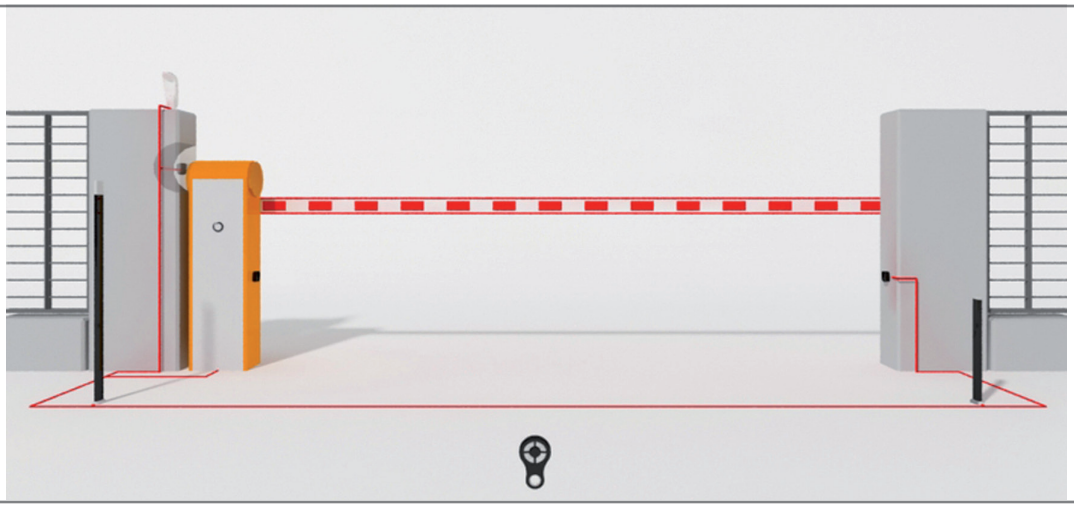
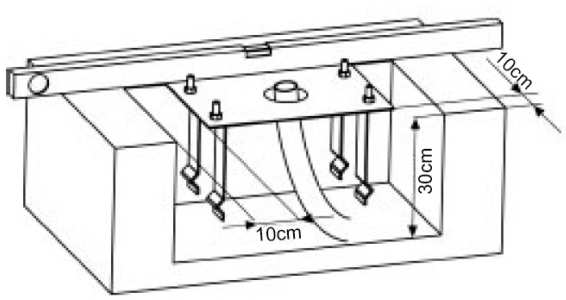
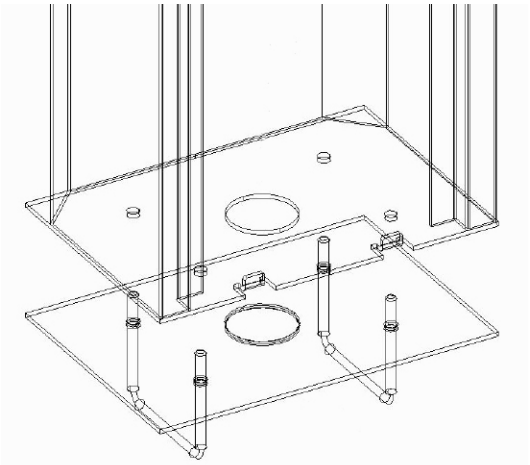


Fig. 3 Preparing the base





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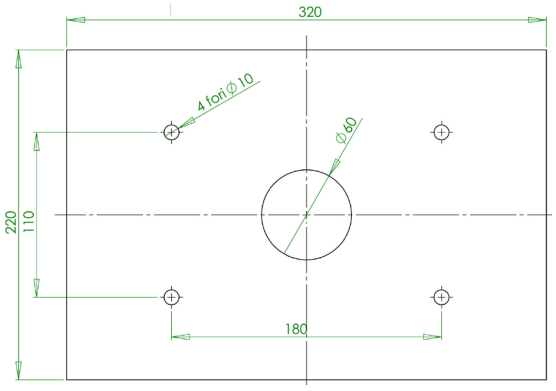


ALT6

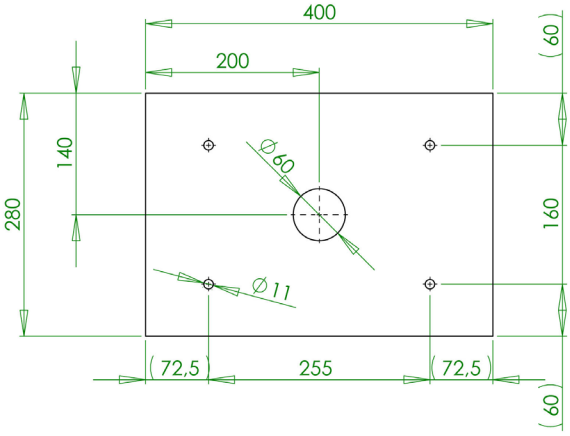


Fig. 5 Release

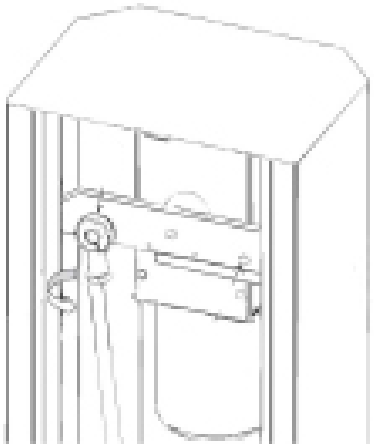


Fig. 6 Adjustment of rod angle

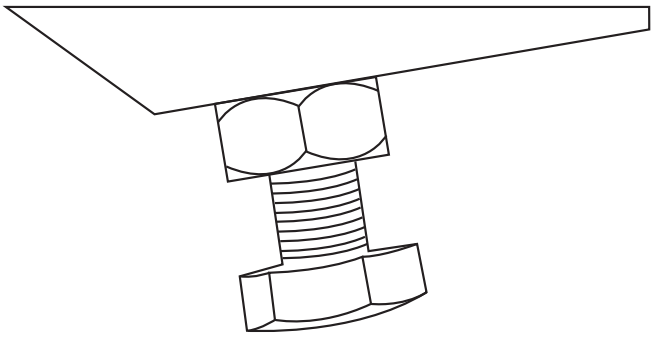
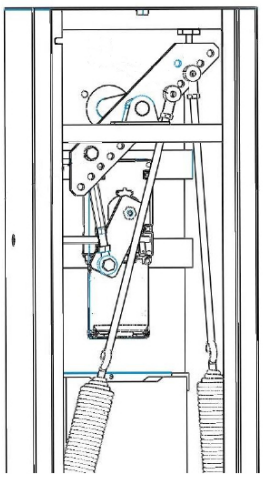


Fig. 7 Inversion of direction of opening and balancing



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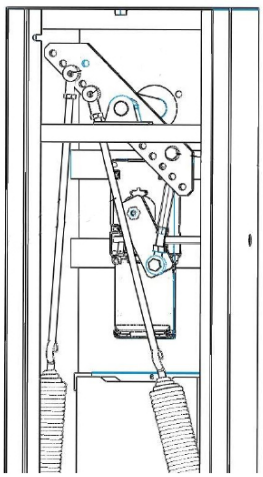

ALT6

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