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	FAAC
EU DECLARATION O	F CONFORMITY
The Manufacturer	
Company name:	FAAC S.p.A. Soc. Unipersonale
Address:	Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY
hereby declares under its ow	n exclusive liability that the following product:
Description:	Barrier
Model:	B614
complies with the following	applicable EU legislations:
	2014/30/EU 2011/65/EU
Furthermore, the following	harmonised standards have been applied:
	EN 61000-6-2:2005 EN 61000-6-3:2007 + A1:2011
Bologna, Italy, 01-07-2018	CEO A. Marcellan D. MeanD
(2006/42/EC ANNEX II	ICORPORATION FOR PARTLY COMPLETED MACHINERY P.1, B) Ithorised to prepare the relevant technical documentation
Company name:	FAAC S.p.A. Soc. Unipersonale
Address:	Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY
hereby declares that for the	partly completed machinery:
Description:	Barrier
Model:	B614
The essential requirements of fulfilled are as follows:	of the Machinery Directive 2006/42/EC (including all applicable amendments) that have been applied and
	1.1.2; 1.1.3; 1.1.5; 1.2.1; 1.2.3; 1.2.5; 1.2.6; 1.3.1; 1.3.2; 1.3.4; 1.3.6; 1.3.8.1; 1.3.9; 1.4.1; 1.4.2.1; 1.5.1; 1.5.2; 1.5.3 1.5.5; 1.5.6; 1.5.7; 1.5.8; 1.5.10; 1.5.11; 1.5.13; 1.6.1; 1.6.4; 1.7.3; 1.7.4.1; 1.7.4.2; 1.7.4.3
	cal documentation has been compiled in compliance with part B of Annex VII. harmonised standards have been applied:
	EN60335-2-103-2015 EN12100:2010 EN13849-1:2015 CAT 2 PL "c" EN13849-2:2012
Other standards applied:	
	EN 12453:2000
completed machinery by ma Finally, the manufacturer de	eclares that the above-mentioned partly completed machinery must not be put into service until the final e incorporated has been declared compliant with the requirements of the above-mentioned Machinery
Bologna, Italy, 01-07-2018	CEO A. Marcellan Allow

ENGLISH

Translation of the original instructions

# F∕A∕⊂

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## 1. INTRODUCTION TO THIS INSTRUCTIONS MANUAL

This manual provides the correct procedures and requirements for installing B614 and maintaining it in a safe condition.

When drafting the manual, the results of the risk assessment conducted by FAAC S.p.A. on the entire product life cycle have been taken into account in order to implement effective risk reduction measures. The following stages of the life cycle of the product have been considered:

- Delivery/handling
- Assembly and installation
- Set-up and commissioning
- Operation
- Maintenance/troubleshooting

- Disposal at the end of the product's life cycle Risks arising from installation and using the product have been taken into consideration; these include:

- Risks for the installation/maintenance technician (technical personnel)
- Risks for the user of the automation system
- Risks to product integrity (damage)

In Europe, the automation of a barrier falls under the Machinery Directive 2006/42/EC and the corresponding harmonised standards. Anyone automating a barrier (new or existing) is classified as the Manufacturer of the Machine. They are therefore required by law, among other things, to carry out a risk analysis of the machine (automatic barrier in its entirety) and take protective measures to fulfil the essential safety requirements specified in Annex I of the Machinery Directive.

FAAC S.p.A. recommends that you always comply with the EN 12453 standard and in particular that you adopt the safety criteria and devices indicated, without exception, including the dead-man function.

This manual also contains general information and guidelines, which are purely illustrative and not exhaustive, in order to facilitate the activities carried out by the Manufacturer of the Machine in all respects with regard to carrying out the risk analysis and drafting the instructions for use and maintenance of the machine. It should be clearly understood that FAAC S.p.A. accepts no liability for the reliability and/ or completeness of the above instructions. As such, the manufacturer of the machine must carry out all the activities required by the Machinery Directive and the corresponding harmonised standards on the basis of the actual condition of the locations and structures where the product B614 will be installed, prior to commissioning the machine. These activities include the analysis of all the risks associated with the machine and subsequent implementation of all safety measures intended to fulfil the essential safety requirements.

This manual contains references to European stan-

dards. The automation of a barrier must fully comply with any laws, standards and regulations applicable in the country where installation will take place.



Unless otherwise specified, the measurements provided in the instructions are in mm.

### 1.1 MEANING OF THE SYMBOLS USED

1 Symbols:notesandwarningsontheinstructions



WARNING ELECTRIC SHOCK HAZARD - The operation or stage described must be performed following the instructions supplied and applicable safety regulations

WARNING, PERSONAL INJURY HAZARD OR RISK OF DAMAGE TO COMPONENTS - The operation or stage described must be performed following the supplied instructions and applicable safety regulations

**(i)** 

WARNING - Details and specifications that must be complied with in order to ensure that the system operates correctly.



For manual lifting, there should be 1 person for every 20 kg to be lifted

٧Ŋ	PAGE E.g.: 🕢 <b>6</b> see Page 6
	FIGURE E.g.: 🕜 <b>1</b> -3 see Figure 1 - item 3
	TABLE E.g.: <b>⊞1</b> see Table 1
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<i>(M</i>	APPENDIX E a · <b>1</b> see Annendix 1

Automatic operation - automation locked

Manual operation - automation unlocked

- I S - P



#### **2** Symbols: safety signs (EN ISO 7010)



GENERAL HAZARD - Risk of personal burns or damage to the parts



RISK OF ELECTRIC SHOCK - Risk of electric shock from live parts



RISK OF CRUSHING, MUSCULAR - SKELETAL PROBLEMS - Risk of crushing or muscular and skeletal injury when lifting heavy loads



RISK OF BURNS OR BURNING - Risk of burns or burning because of very hot parts.



RISK OF CRUSHING - Risk of crushing hands/feet due to heavy parts



RISK OF CRUSHING HANDS - Risk of crushing hands due to moving parts



RISK OF CUTS/AMPUTATION/SPEARING - Risk of cuts due to sharp parts or the use of sharp implements (drill)



RISK OF SHEARING - Risk of shearing due to moving parts



RISK OF IMPACT/CRUSHING/SHEARING - Risk of impact, crushing or shearing due to moving parts



RISK OF OBJECTS FALLING FROM ABOVE - Risk of impact due to objects falling



RISK OF TRIPPING - Risk of tripping due to raised sections above 5 mm.



RISKS FROM BATTERIES AT THE END OF THEIR LIVES -Risk to the environment and health posed by batteries at the end of their lives due to fluid escaping



RISK OF FORKLIFT TRUCK IMPACT - Risk of being hit by or colliding with forklift trucks **3** Symbols: personal protective equipment Personal protective equipment must be worn to protect against hazards (e.g. crushing, cutting, shearing etc.):



Obligation to wear head protection helmet



Obligation to wear safety footwear



Obligation to wear mask/goggles to protect the eyes from the risk of fragments due to the use of drill or welding machine



Obligation to wear work gloves



Obligation to wear ear protectors



Obligatory use of work clothes without parts that could become caught in moving parts



ENGLISH

# **EAAC** 2. SAFETY RECOMMENDATIONS

This product is placed onto the market as "partly completed machinery", therefore it cannot be commissioned until the machine in which it will be incorporated has been identified and declared to conform to the Machinery Directive 2006/42/EC by the actual Manufacturer.

▲ Incorrect installation and/or incorrect use of the product might cause serious harm to people. Read and comply with all the instructions before starting any activity on the product. Keep these instructions for future reference.

Perform installation and other activities adhering to the sequences provided in the instructions manual.

Always comply with all the requirements contained in the instructions and warning tables at the beginning of the paragraphs. Always comply with the safety recommendations.

Only the installer and/or maintenance technician is authorised to work on the automation components. Do not modify the original components in any way.

Close off the work site (even temporarily) and prevent access/transit. EC countries must comply with the legislation that transposes the European Construction Site Directive 92/57/EC.

The installer is responsible for the installation/testing of the automation and for completing the Register of the system.

The installer must prove or declare to possess technical and professional proficiency to perform installation, testing and maintenance activities according to the requirements in these instructions.

### 2.1 INSTALLER SAFETY

Installation activities require special work conditions to reduce to the minimum the risks of accidents and serious damage. Furthermore, the suitable precautions must be taken to prevent risks of injury to persons or damage.

The installer must be in good physical and mental condition, aware of and responsible for the hazards that may be generated when using the product. The work area must be kept tidy and must not be left unattended.

Do not wear clothes or accessories (scarves, bracelets, etc.) that may get caught in moving parts.

Always wear the personal protective equipment recommended for the type of activity to be carried out. The required level of workplace lighting must be equal to at least 200 lux.

Operate CE marked machinery and equipment in compliance with the manufacturer's instructions. Use work instruments in good conditions.

Use the transport and lifting equipment recommended in the instructions manual.

Use safety-compliant portable ladders of adequate size, fitted with anti-slip devices at the top and bot-tom, equipped with retainer hooks.

#### 2.2 TRANSPORT AND STORAGE PALLETISED SUPPLY RISKS Follow the instructions on the packaging during handling. Two people must move the package. Use the HANDLES. PERSONAL PROTECTIVE EOUIPMENT ⊞ 4 Symbols: markings on packaging Read the instructions Use a forklift or pallet truck, fol-This way up indication: do not turn upside down lowing safety regulations to avoid the risk of impacts or collisions. Store away from water and humidity Maximum number of stackable pallets SINGLE PACKAGE Maximum number of stackable packages RISKS Percent storage humidity PERSONAL PROTECTIVE EOUIPMENT Storage temperature C 🗲 CE marking For manual lifting, there should be 1 person for every 20 kg to Wear work gloves be lifted. Wear safety footwear STORAGE 20 kg is the MAX weight one person can lift Store the product in its original packaging, in closed and dry premises, protected from the sun and free Weight of package from dust and aggressive substances. Protect from mechanical stress. If stored for more than 3 months, regularly check the condition of the components and the packaging.

- Storage temperature: 5°C to 30°C.
- Percentage of humidity: 30% to 70%.

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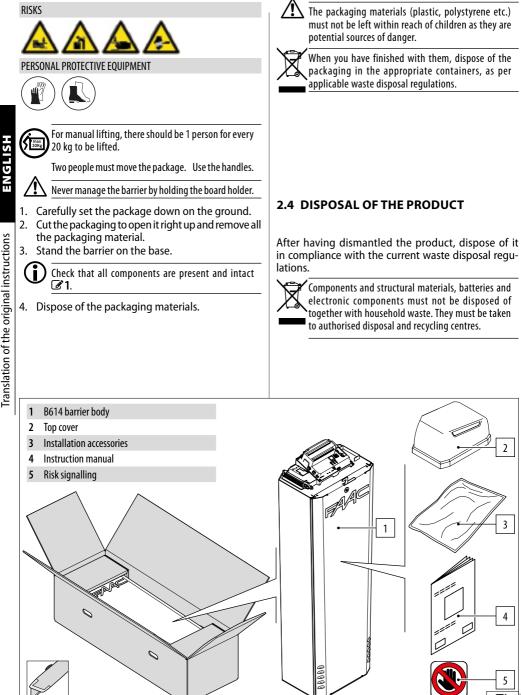
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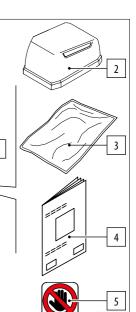
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#### 2.3 UNPACKING AND HANDLING





1

### 3. B614

#### 3.1 INTENDED USE

The B614 barriers are designed for vehicular access control in residential buildings/apartment complexes. To move the beam manually, follow the instructions for manual functioning.



Any other use that is not expressly specified in these instructions is prohibited and could affect the integrity of the product and/or represent a source of danger.

#### 3.2 LIMITATIONS OF USE

Comply with the limitations on frequency of use listed in the technical data section.

The B614 requires the use of a specific FAAC beam that conforms to the dimensions indicated in this manual. Only the FAAC accessories indicated in this manual should be installed on the beam.

The B614 requires the use of a FAAC spring that is adequate for counterbalancing the weight of the beam and the relative accessories.

The barriers with exclusively vehicle access control must be fitted with suitable visible signs prohibiting foot traffic. A separate route for foot traffic outside the range of the beam must be provided and properly indicated.

If foot traffic cannot be ruled out, the barrier falls within the scope of the EN 12453 standard.

The presence of weather conditions such as snow, ice and strong wind, even occasional, could affect the correct operation of the automation, the integrity of the components and be a potential source of danger (see § Emergency use). The limitations of use of the B614 in wind is equivalent to grade 10 on the Beaufort Scale (max. speed: 102 km/h).

The installation must be visible during the day and at night. If it is not, appropriate solutions must be provided to make the fixed and moving parts visible (light kit on the beam).

The B614 must be connected to a FAAC electronic board as indicated in this manual (Technical characteristics).

Implementing the automation requires the installation of the necessary safety devices, identified by the installer through an appropriate risk assessment of the installation site.

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#### 3.3 UNAUTHORISED USE

- Uses other than the intended use are prohibited.
- It is prohibited to install the automation system outside of the limits specified in the Technical Data and Installation Requirements sections.
- It is forbidden to use B614 in a constructional configuration other than the one provided by the manufacturer.
- No component part of the product may be modified.
- It is prohibited to install the automation system on escape routes.
- It is prohibited to install the automation system in environments in which there is a risk of explosion and/or fire: the presence of flammable gases or fumes is a serious safety hazard.
- It is prohibited to power the system with energy sources other than those specified.
- It is prohibited to integrate commercial systems and/or equipment other than those specified, or use them for purposes not intended and authorised by their respective manufacturers.
- Do not allow water jets of any type or size to come into direct contact with the actuator.
- Do not expose the actuator to corrosive chemicals or atmospheric agents.
- Do not expose the barrier to direct jets of water of any type and size.
- Do not expose the barrier to aggressive chemical or environmental agents.
- The barrier may not be used to move moving parts other than the beams produced by FAAC specified in this manual.
- Use to control pedestrian access, bicycle traffic and the passage of animals is prohibited.
- Use of the barrier at level crossings is prohibited.
- Use of the barrier on public thoroughfares is prohibited.
- It is prohibited to use and/or install accessories which have not been specifically approved by FAAC S.p.A.
- It is prohibited to use the automation system before performing commissioning.
- It is prohibited to use the automation system in the presence of faults which could compromise safety.
- It is prohibited to use the automation system with the fixed and/or mobile guards removed or altered.
- Do not use the automation system unless the area of operation is free of persons, animals or objects.
- Do not enter/remain in the area of operation of the automation system while it is moving.
- Do not try to prevent the movement of the automation system.
- Do not climb onto the actuator.
- Do not climb or catch on to the beam or lift yourself

up on it. Do not climb on the barrier cabinet.

- Do not allow children to approach or play in the area of operation of the automation system.
- Do not allow the control devices to be used by anyone who is not specifically authorised and trained to do so.
- Do not allow the control devices to be used by children or persons with mental and physical deficiencies unless they are supervised by an adult who is responsible for their safety.



**L** During manual handling, accompany the beam slowly for the entire stroke. Do not let the beam travel freely.

### 3.4 EMERGENCY USE

In emergencies or if there is a fault, turn off the power supply to the automation and disconnect the buffer batteries if there are any. If the beam can be moved safely by hand, use the MANUAL OPERATION mode; otherwise place the automation out of service until it has been reset/repaired.

In the case of a breakdown, the automation must be reset/repaired exclusively by the installer/maintenance technician.

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#### 3.5 PRODUCT IDENTIFICATION

The product is identified by the plate (2 2).

#### 3.6 TECHNICAL SPECIFICATIONS

The B614 is an electromechanical barrier with a F614 electronic board fitted. The B614 must be installed on the specific foundation plate and set onto a plinth. RH/LH barrier B614 makes it possible to build a right hand or left hand barrier without modifying the barrier body.



The barrier will be installed with the door towards the inside of the property.

The barrier is defined by observing it from the door side:

- RH barrier (right): the beam closes towards the right (in a clockwise direction)

- LH barrier (left): the beam closes towards the left (in an anticlockwise direction)

Irreversible system To allow manual operation, the release manoeuvre must be performed.

**Encoder** B614 is fitted with an encoder. The encoder constantly detects the precise position of the beam and makes it possible to manage the end of stroke and slowing downs stored with the set up.

Anticrushing operation The encoder allows the board to create the anticrushing feature:

- the recognition of an obstacle during closure causes the manoeuvre to be reversed
- the recognition of an obstacle during opening causes the beam to stop.

Adjustable end of stroke The barrier is fitted with an adjustable mechanical end of opening and closing stroke feature.

Equipment A rectangular or round beam can be installed. The components necessary for the installation and the optional equipment are listed in the dedicated sections.

Balancing system The balancing spring must be used FAAC. The single or double spring depending on the length and configuration of the installed beam must be fitted in the definite fitting positions.

The balancing system is important for safety reasons to ensure the stability and control of the beam during movement and keep it operating properly over time.

Master-Slave Configuration To install two barriers that open in opposite directions it is necessary to create the Master-Slave configuration.

⊞ 5 Symbols: markings on product

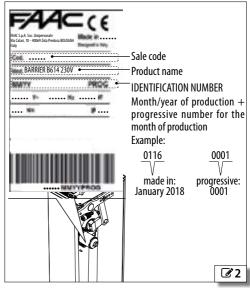


Risk of crushing between the moving parts. Present on the balancer



Risk of cutting, crushing or shearing of fingers or a hand between the beam and the barrier body. It must be placed on the trunk by the installation engineer.

"DANGER OF AUTOMATIC MOVEMENT" (not supplied) It must be placed on the trunk by the installation engineer.



	B614 220-240 V 🤆	~	B614 115 V ~
Power supply voltage	220-240 V~ 50/60 Hz		115V~ +/-10% 50/60 Hz
Electric motor	24 V <del></del>		24 V
Max power	165 W		165 W
Max torque	300 Nm		300 Nm
Opening time (80°)			
- beam 3 m	< 2 sec.		< 2 sec.
- beam 5 m	< 3 sec.		< 3 sec.
Use frequency	Continuous use		Continuous use
Ambient operating temperature	-20 °C to +55 °C		-20 °C to +55 °C
Protection rating	IP 55 (control boar	rd) - IP 44	IP 55 (control board) - IP 44
Dimensions (L x D x H)	247 x 357 x 1163 r	nm	247 x 357 x 1163 mm
Weight	40 kg		40 kg
FAAC foundation plate		FAAC beam	Beam length
Dimensions (L x H)	230 x 305 mm	Rectangular beam	1.35 4.85 m max

Translation of the original instructions

/!

## 3.7 MANUAL OPERATION

- Performing the release manoeuvre when there is no electrical power.
- Performing the release manoeuvre only when the beam is at a standstill.
- During manual handling, accompany the beam slowly for the entire stroke. Do not let the beam travel freely.

- Do not leave the barrier unblocked: after carrying out the manual movement, restore automatic operation.

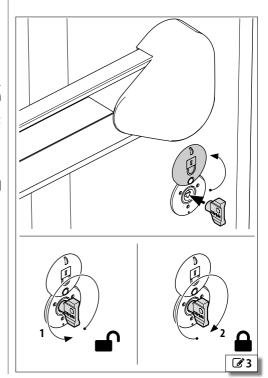
#### **RELEASE PROCEDURE**

- 1. **3** Open the lock cover. Insert the key and turn it once anticlockwise until it stops (1).
- 2. Move the barrier manually.
- 3. Restore the operation.

#### **OPERATION RESTORATION**

- 1. **3** Insert the key and turn it twice clockwise until it stops (2).
- 2. Check that manual movement is inhibited.
- 3. Remove the key and close the cover.

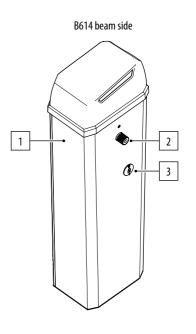
	40	kg	
FAAC bear	n	Beam length	
Rectangula	ar beam	1.35 4.85 m ma	x
Round bea	m	1.40 5.20 m ma	x

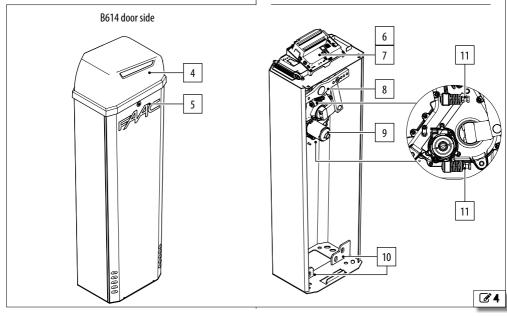


#### 3.8 COMPONENT IDENTIFICATION

Standard equipment on the barrier body ( 4):

- 1 Bearing trunk
- 2 Drive shaft
- 3 Beam release device (triangular key)
- 4 Top cover
- 5 Door with lock
- 6 E614 control board
- 7 E614 control board cover
- 8 Balancer/ upper spring fixing
- 9 Electromechanical gearmotor with Encoder
- 10 Slot for lower spring fixing
- 11 Limit switches





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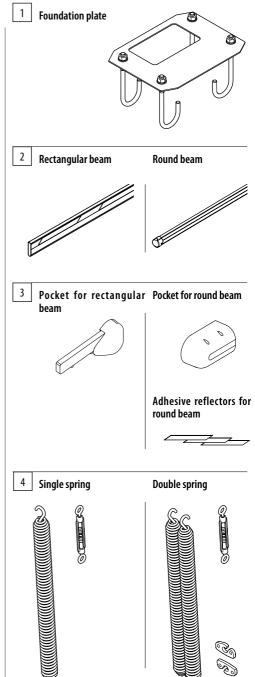
#### 3.9 INSTALLATION COMPONENTS

The installation requires the following FAAC components supplied separately ( 5):

- 1 Foundation plate
- 2 Rectangular or round beam (the reflecting paper for round beam are supplied separately)
- 3 Fixing pocket for the installed beam (rectangular or round)
- 4 Single or double balancing spring

#### 3.10 OPTIONAL ACCESSORIES

For the FAAC accessories for the B614 see the chapter § 9.



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# 4. INSTALLATION REQUIREMENTS

## **4.1 MECHANICAL REQUIREMENTS**

The mechanical structural components must comply with the requirements of EN 12604:2002. Before installing the automation, the suitability of the mechanical requirements must be established and any work that is necessary in order to meet them carried out. The essential mechanical requirements are as follows:

> Firm ground to support the weight of the barrier with flat, horizontal paving. There must be no chance of water accumulating in the installation area.

The thresholds and protrusions of the paying must be appropriately shaped in order to prevent the risk of sliding or slipping.

For the creation of detection loops, refer to the specific instructions.

Presence of a safety area between the wall (or other fixed element) and the end of the beam, to protect against the risk of persons becoming trapped/ crushed.

Presence of safety areas between the fixed and moving parts to prevent hands from being crushed.

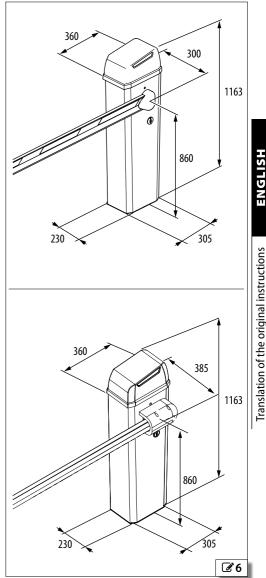
For the minimum dimensions to prevent crushing/ shearing of body parts, refer to EN 349. For the safety distances required to prevent danger zones being reached, refer to ISO 13857.

Presence of enough working space needed for the installation manoeuvres and subsequent maintenance operations, bearing in mind the opening of the service door and the positioning/removal of the cabinet and any other elements.

Absence of fixed or mobile obstacles to the movement of the beam (e.g.: branches, overhead cables, ceilings).

If the installation area presents the possibility of vehicle impact, provide adequate protective structures to protect the barrier body.

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B614

# **FAAC** 4.2 ELECTRICAL SYSTEM



Always shut off the power supply before performing any work. If the disconnect switch is not in view, apply a warning sign stating "WARNING - Maintenance in Progress".



The electrical system must comply with applicable legislation in the country of installation.

Use components and materials with CE marking which are compliant with the Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU.

The power supply line for the automation must be fitted with a multi-pole circuit breaker, with a suitable tripping threshold, a contact opening distance of at least 3 mm and a breaking capacity that complies with current regulations.

The power supply for the automation must be fitted with a 30 mA differential switch.

The metal parts of the structure must be earthed.

Check that the protective earthing system complies with applicable regulations in the country of installation.

The electrical cables of the automation system must be of a size and insulation class that is compliant with current legislation and laid in appropriate rigid or flexible conduits, either above or below ground.

Use separate conduits for the power supply and the 12-24 V control devices / accessories cables.

In the case of a Master-Slave configuration, a cable conduit has to be installed for the cables that connect the two electronic boards.

Check buried cable plans to ensure that there are no other electrical cables in proximity to the planned digging/drilling locations to prevent the risk of electrocution.

Check that there are no pipes in the vicinity as well. The external electronic board must be housed in an enclosure that has a minimum IP 44 protection rating and fitted with a lock or another type of device to prevent access by unauthorised persons. The enclosure must be located in an accessible and non-hazardous area and at least 30 cm from the ground. The cable outlets must face downwards.

The conduit fittings and the cable glands must prevent the entry of moisture, insects and small animals.

Protect extension connections using junction boxes with an IP 67 protection rating or higher.

The overall length of the BUS cables must not exceed 100 m.

The barrier must always be visible to prevent it from being hit accidentally; an adequate lighting system is required.

It is recommended to install a flashing light in a visible position to indicate when it is moving.

For the creation of detection loops, refer to the relative instructions.

The control accessories must be positioned in areas that are always accessible and not dangerous for the user. It is recommended to position the control accessories within the field of view of the automation. If an emergency stop button has been installed, it must be EN13850 compliant.

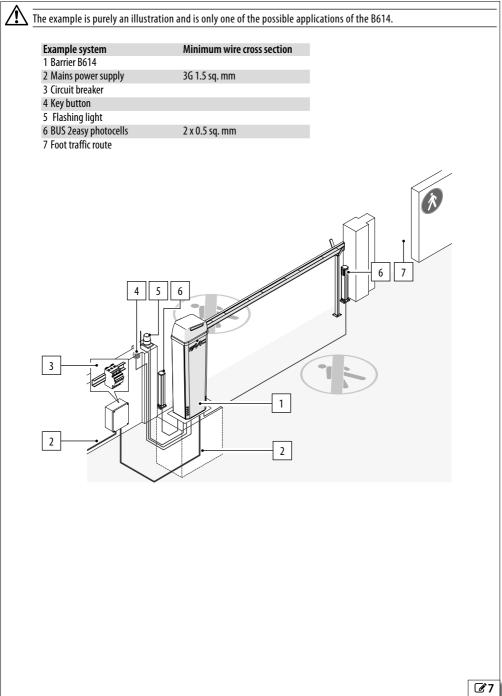
Comply with the following heights from the ground:

- control accessories = minimum 150 cm

- emergency buttons = maximum 120 cm

If the manual controls are intended to be used by disabled or infirm persons, highlight them with suitable pictograms and make sure that these users are able to access them.

#### 4.3 EXAMPLE SYSTEM



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B614

Translation of the original instructions

### FAAC 5. MECHANICAL INSTALLATION



 $\cancel{K}$  Carry out the work with the power supply disconnected.

The installation must comply with Standards EN 12453 and EN 12445.

Mark off the work site and prohibit access/transit. Before the barrier is fixed to the foundation there are risks of tripping and falls.

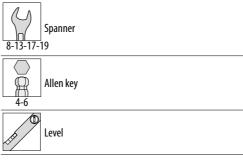
When working in the box there are risks of cutting. shearing, crushing hands due to the presence of moving parts. Until the installation is completed, the partially installed barrier must always be left blocked and with the door and upper lid always closed to prevent access to the electronic parts and the moving mechanical pars.

Never install the beam before fixing the barrier body and checking it.

Until the installation is complete, never leave the barrier unguarded with the beam fitted. If the beam is fitted, the barrier must be locked with the beam open. If installation is outside, it must be done in good weather without rain or gusts of wind. If it is raining, an adequate shelter for the barrier must be made until the mechanical and electronic installation is complete.

Never manage the barrier by holding the board holder.

## 5.1 TOOLS REQUIRED



TOOL with TORQUE ADJUSTMENT

Where necessary for safety, a torque wrench with the specified tightening torque will be shown. **FASTENING TOROUE VALUE** 

The torque wrench and the tightening torque in Nm is shown in the figures. E.g.: HEX WRENCH 6 set at 2.5 Nm





#### 5.2 INSTALLING THE FOUNDATION PLATE

RISKS



#### PERSONAL PROTECTIVE EQUIPMENT





Carry out the work with the power supply disconnected.



The barrier must be installed with the base plate - The foundation schematic appended to this manual gives the characteristics of the foundation as pure approximations. The schematic considers the barrier applied to the maximum limits indicated in this manual and under the most arduous conditions. The installation engineer is responsible for the evaluation of the foundation materials and dimensions on the basis of the characteristics of the ground and place of installation. Perform structural calculations where necessary.

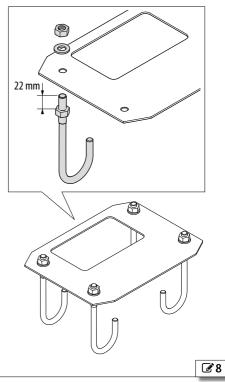
- 1. Make the hole in the ground. Fill it with concrete, allowing the cable conduits to protrude.
- 2. (38) Assemble the base plate.
- 3. ( 9) Immerse the base plate in the foundation leaving the surface exposed.

The plate must be in the centre of the plinth. The hole for the cables to pass through must correspond with the orientation planned for the barrier (barrier side, door side).

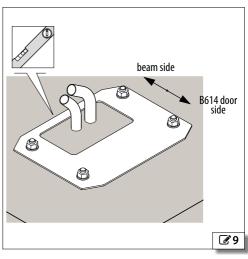
The cable conduits must protrude from the hole in the plate by approximately 20 cm.

Check the plate is horizontal using a spirit level. Clean the concrete off the surface of the plate and the nuts with washers so they can be removed when necessary.

4. Wait for the concrete to set.



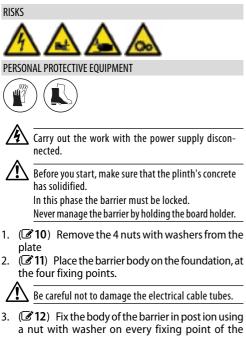
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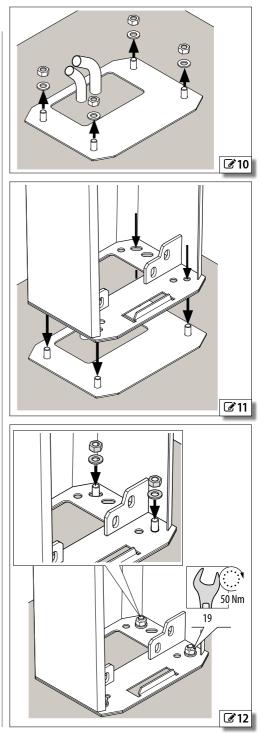
#### **5.3 INSTALLING THE BARRIER BODY**





foundation. Use the torque wrench to tighten to the torque shown

in the figure.



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#### FIXING THE CABLES INSIDE THE BARRIER

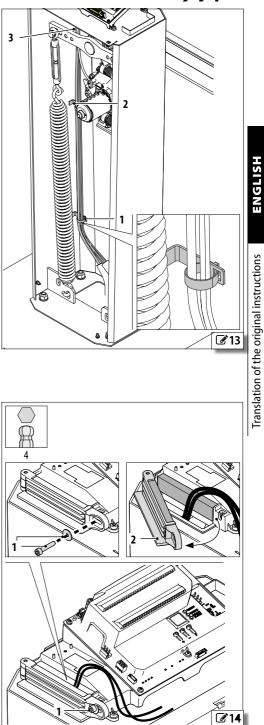
130 cm of cable are necessary.

(i

(i

- 1. ( **13**) Arrange the cables inside the barrier. Fix the cables with the cable ties provided **1**, **2** and **3**.
- (214) Remove bolt with washer 1. Open cable tie 2. Bring the cables to the board.
- 3. Use the screw and washer 1 to close the cable tie.

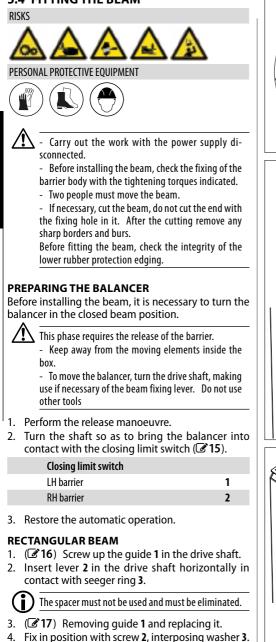
The electrical connections must be made after completing the mechanical installation



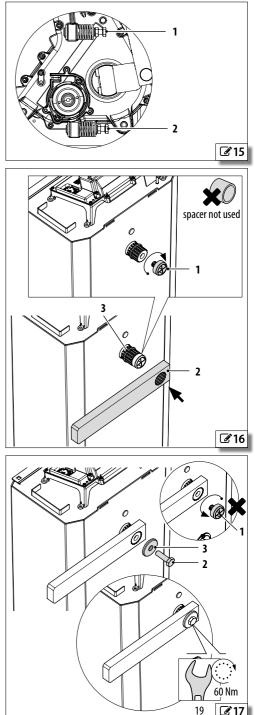


- S - P

Translation of the original instructions



Use the torque wrench to tighten to the torque shown in the figure.





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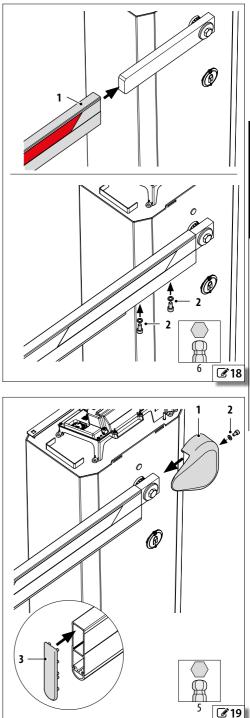
Translation of the original instructions

5. (218) Insert beam 1 in the lever.

To make the insertion of the beam easier, use a stand for resting it at the end.

- 6. Line up the two holes underneath (slide the lower edging temporarily to uncover the holes).
- 7. Fix the beam with screws **2**, interposing the washers (reposition the lower edging).
- 8. ( 19) Insert cover 1 and fix it with screw 2, interposing the washer.
- 9. Insert the cover **3** at the end of the beam.

Leave the beam supported to take the weight until the installation of the spring is complete (20).







#### **ROUND BEAM**

- 1. (**221**) Screw up the guide **1** in the drive shaft.
- 2. Insert plate **2** in the drive shaft horizontally in contact with seeger ring **3**.



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Position the plate with the holes **4** at the bottom.

The spacer **5** must not be used and must be eliminated.

- 3. (22) Removing guide 1 and replacing it.
- 4. Insert the adaptor **2**, horizontally.
- 5. Fix in position with screw 3, interposing washers 4 and 5.

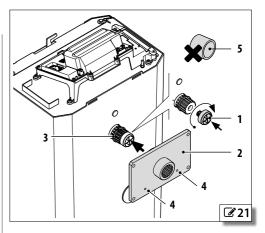
**1** Use the torque wrench to tighten to the torque shown in the figure.

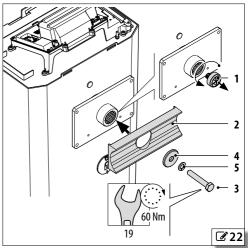
6. (23) Insert the beam 1 in a horizontal position.

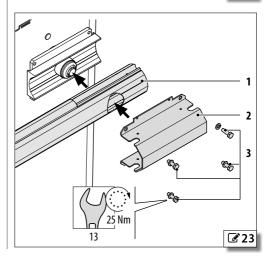
To make the insertion of the beam easier, use a stand for resting it at the end.

- 7. Insert counter plate 2.
- 8. Fix in position with screws 3, interposing the washers.

Use the torque wrench to tighten to the torque shown in the figure.







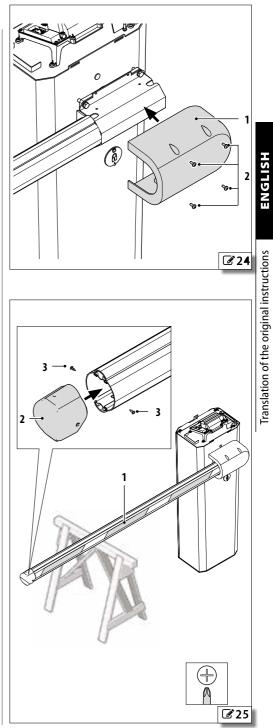


- 9. (224) Insert cover 1 and fix it with the screws 2.
- 10. (23) Apply the reflective papers 1 on both sides of the beam.

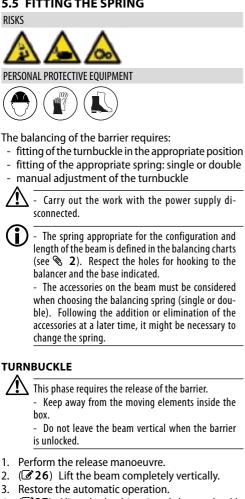
11. Insert cover 2 at the end of beam and fix with screws 3.

 $\triangle$ 

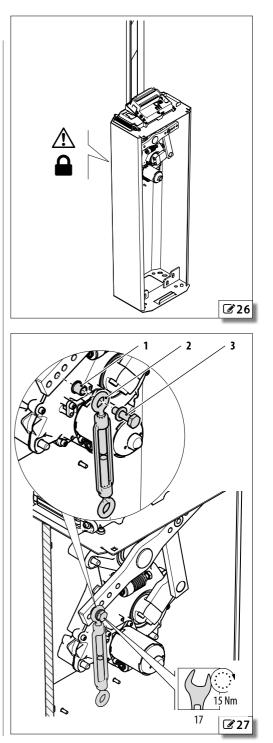
Leave the beam supported to take the weight until the assembly of the spring is complete.







Use the torque wrench to tighten to the torque shown in the figure.



Translation of the original instructions



#### SINGLE SPRING

- 1. Lengthen the turnbuckle by manually unscrewing it to facilitate the operation.
- (28) Hook the spring onto the turnbuckle and the appropriate slot at the bottom of the barrier body (see § 2).
- 3. Shorten the turnbuckle by screwing it up manually to place the spring under tension.

Keep away from the spring coils.

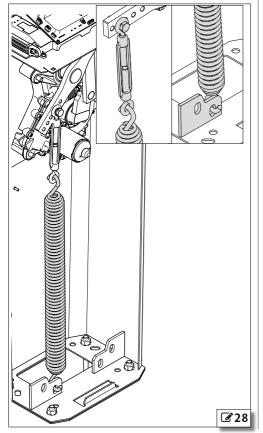
4. Restore the automatic operation.

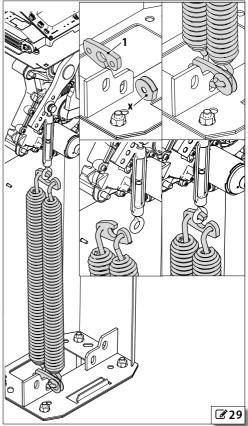
#### DOUBLE SPRING

- 1. Lengthen the turnbuckle by manually unscrewing it to facilitate the operation.
- Lower bracket (29): Connect the plate 1 to the slot on the base of the barrier body as shown in § 2 and lock it in position using the element x. Connect the 2 springs.
- 3. **Upper bracket** (29): Connect the plate 2 to the springs and then to the turnbuckle.
- 4. Shorten the turnbuckle by screwing it up manually to place the spring under tension.

**!** Keep away from the spring coils.

5. Restore the automatic operation.





## **FAAC** 5.6 ACCESSORIES ON THE BEAM

The accessories on the beam must be considered when choosing the balancer spring (single or double). The accessories on the beam must be fitted before balancing the beam. If the accessories are added or removed later it may be necessary to change the spring. After a modification of the beam, it is necessary to balance it again.

The spring appropriate for the configuration and length of the beam is defined in the balancing charts (see % **2**).

See § 9 for fitting accessories to the beam.

### 5.7 BALANCING THE BEAM

RISKS

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#### PERSONAL PROTECTIVE EQUIPMENT

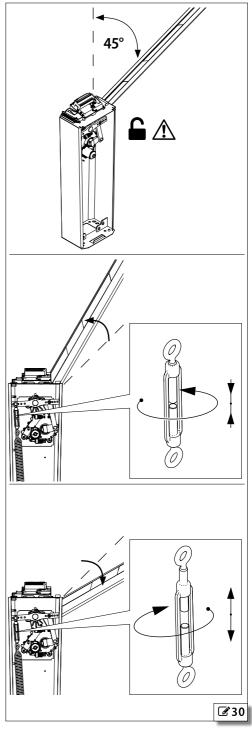


- This phase requires the release of the barrier.
   Performing the release manoeuvre when there is no electrical power.
  - Keep away from the moving elements inside the box and from the coil spires.

- Do not leave the beam vertical when the barrier is unlocked.

See the specific instructions for balancing a jointed beam.

- 1. Perform the release manoeuvre.
- 2. Bring the beam to 45° and release it: the beam is balanced correctly when it stays in position.
- 3. Make the adjustment, if necessary:
- if the beam wants to open, the turnbuckle must be extended
- if the beam wants to close, the turnbuckle must be shortened
- 4. Repeat the adjustment until it is correctly balanced.
- 5. Restore the automatic operation.



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#### 5.8 LIMIT SWITCH ADJUSTMENT

RISKS



PERSONAL PROTECTIVE EQUIPMENT



The gearmotor is supplied with the limit switches already adjusted.

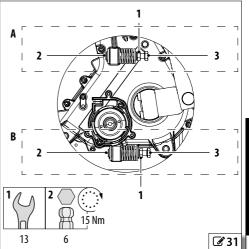
It is possible to work on the limit switches to adjust the beam's horizontal status and verticality (231).

	Limit switch A	Limit switch B
<b>RH</b> barrier	vertical beam	horizontal beam
LH barrier	horizontal beam	vertical beam

This phase requires the release of the barrier.

- Performing the release manoeuvre when there is no electrical power.
- Keep away from the moving elements inside the box and from the coil spires.
- Do not leave the beam vertical when the barrier is unlocked.
- 1. At the same time, loosen lock nut 1 and the screw 2.
- 2. Keep the lock nut **1** still and manually regulate the stop with screw **3**.
- 3. Block the lock nut **1** with the hex wrench and tighten the screw with Allen key **2**.
- 4. Check the correct adjustment of the limit switch. Repeat the sequence if necessary. At the end, tighten screw 2 definitively with the indicated torque.

, Use the torque wrench to tighten to the torque shown in the figure.



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#### 5.9 EARTHING THE DOOR

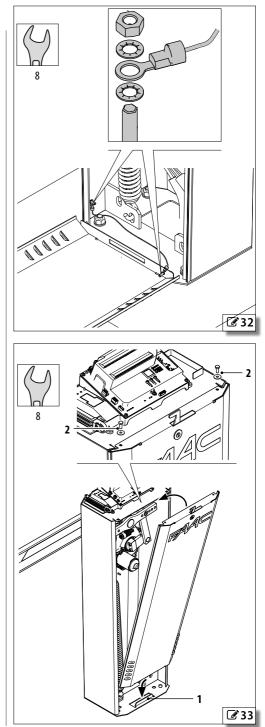
1. (**32**) Use the cable supplied and fix it using the toothed washer and nut on the base and on the door. Respect the insertion order indicated in the figure.

#### 5.10 CLOSING THE DOOR

earth cable.

The door must be closed before any manoeuvres are performed, even manually. Handle the door carefully so as not to damage the

- (233) Insert the lower slot of the door in its place
   1, at the bottom of the box.
- 2. Close the door and fix it in place with screws 2 (provided).



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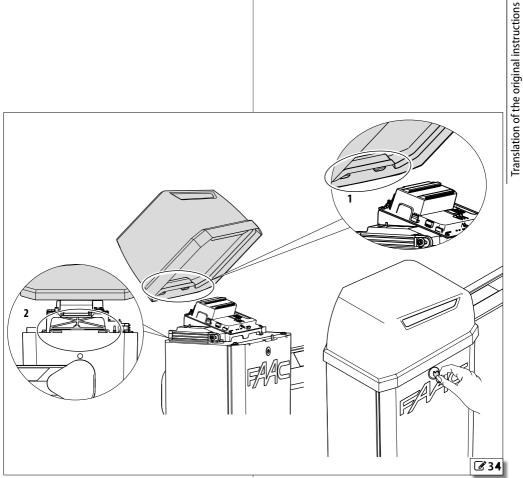
### 5.11 CLOSING THE UPPER LID



() If there is a flashing light kit, insert the connector before closing the cover (see § 9).

- 1. (34) With the cover inclined, insert markers 1 in slots 2 on the box (rod side), then lower it on the opposite side.
- 2. Close with the key: turn in an anticlockwise direction.
- 3. Check the closure of the cover: try to lift it from the two beam ends at the same time and then on the opposite side.

For the closure seal to be effective, it is necessary for the door of the barrier to be closed and fixed definitively.



# FAAC 6. ELECTRONIC INSTALLATION

#### RISKS

11/2





ALWAYS DISCONNECT THE POWER SUPPLY before working on the board. Turn power on only after having made all the electrical connections and carried out the preliminary start-up checks. The board cover must never be removed unless the board is to be replaced. No installation operation requires the removal of the cover.

Translation of the original instructions

## 6.1 BOARD E614

🖽 <b>7</b> E614 board technical dat	a	
	230V~	115V~
Power supply voltage	220-240 V~ 50/60 Hz	115V~ +/-10% 50/60 Hz
Max power	150 W	150 W
Accessories output voltage	24 V <del></del>	24 V
Max. accessories load	500 mA	500 mA
Max. BUS 2easy accessories load	500 mA	500 mA
Max. flashing light load	24 V <del></del> 15 W	24 V 👥 15 W
Ambient operating temperature	-20 °C to +55 °C	-20 °C to +55 °C

#### COMPONENTS

See figure 35

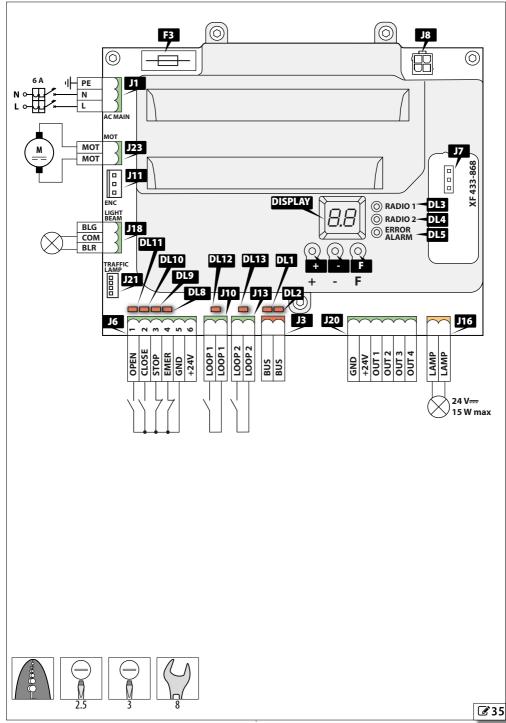
BOARD:		
J1	Mains power supply terminal board	
J3	BUS 2easy terminal board	
J6	Accessory/input terminal board	
J7	Connector for XF radio module	
J8	Connector for XBAT 24 battery	
J10	Terminal board for external detector LOOP1	
J11	Connector for encoder	
J13	Terminal board for external detector LOOP2	
J16	Terminal board for external flashing light	
J18	Terminal board for the beam lights	
J20	Terminal board for outputs	
J21	Connector for integrated flasher	
J23	Connector for motor	
F3	Board protection fuse (F3 = T2.5A)	
DISPLAY	Programming display	

BOARD:		
DL1	Device signalling LED to BUS 2easy ACTIVE	
DL2	BUS 2easy "BUS MON" diagnostic signalling LED	
DL3	"RADIO1" (OMNIDEC) signalling LED	
DL4	"RADIO2" (OMNIDEC) signalling LED	
DL5	Error/alarm signalling LED	
DL8	EMER status LED	
DL9	STOP/FSW-CL status LED	
DL10	CLOSE status LED	
DL11	OPEN status LED	
DL12	LOOP1 status LED	
DL13	LOOP2 status LED	



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B614

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### 6.2 CONNECTIONS

4

Before making electrical connections, cut off the automation power supply. If the disconnect switch is not in view, apply a warning sign stating "WARNING - Maintenance in Progress".



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In Master-Slave configuration see § 10.

#### CONTROL DEVICES

(336) Connect the devices to the terminal board J6 of the board.

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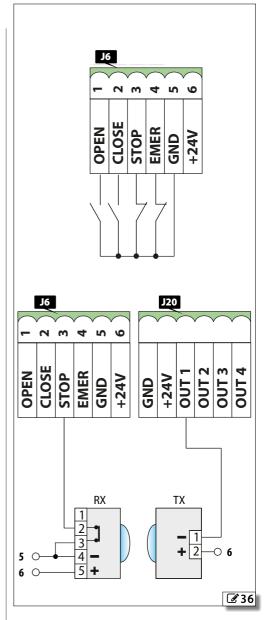
Multiple NO contacts on same input must be connected in parallel. Multiple NC contacts on same input must be connected in series.

#### **TERMINAL BOARD J6:**

1	OPEN	NO contact, connect a button or other pulse giver that commands the opening of the barrier, by closing a contact	
2	CLOSE	NO contact, connect a button or other pulse giver that commands the closure of the barrier, by closing a contact	
3	STOP	Configured as STOP (default): NC contact, connect a button or other pulse giver that commands the stopping of the barrier, by opening a contact	
		If NO device is connected, make a jump with GND	
	FSW-CL	Configured as FSW-CL (see 5P function in Advanced programming): NC contact, connect a photoelectric cell or other device that commands the inversion on opening, by opening a contact during the closure	
		If NO device is connected, make a jump with GND	
4	EMER	NC contact, connect a button or other pulse giver that commands the emergency opening of the barrier, by opening a contact	
		If NO device is connected, make a jump with GND	
7	GND	Accessories power supply negative and common contact (1 A max.)	
8-9	+	Accessories power supply positive 24 V (1 A max.).	

#### STOP input configured as FSW-CL

For the connection of photocells with relay contact, it is necessary to configure the STOP input as FSW-CL. Connect the negative of the transmitter (TX) power supply of the photocells to an OUT output configured



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as Fail-Safe. In this way the functioning of the photocells is checked before each closure: the test consists in breaking the power supply to the TX momentarily and checking the change of status of the input. If the test fails the electronic board does not command the movement.

#### **EXTERNAL LOOPS**

The magnetic coil detectors must not be used to detect pedestrians, cycles and motorbikes. If it is not possible to prevent them passing, other devices such as photocells are necessary.

(37) Connect the magnetic coil detectors to terminal boards J10 (LOOP 1) or J13 (LOOP 2).

	NO contact, connect a detector that commands the opening of the barrier when a contact is closed
LOOP 2	Transit coil NO contact, connect a detector that commands the closure at the disengagement when a contact is closed
	The engagement of the loop during the closure inverts the movement; the barrier cannot close as long as the loop is engaged

#### **BUS DEVICES**



( i

If no BUS 2easy devices are used, leave the BUS 2easy terminal board free.

See § 9.4 for the connection and orientation.

#### OUT OUTPUTS

Respect the 100mA max load for each output.

Open Collector Outputs: the activation of the output and its polarity can be configured by Advanced programming.

	OUT active	OUT not active
NO polarity	0 V <del></del>	open circuit
NC polarity	open circuit	0 V <del></del>

(38) Connect the devices required to terminal board J20.

#### 24 V --- FLASHING LIGHT

See § 9.1 for the connection.

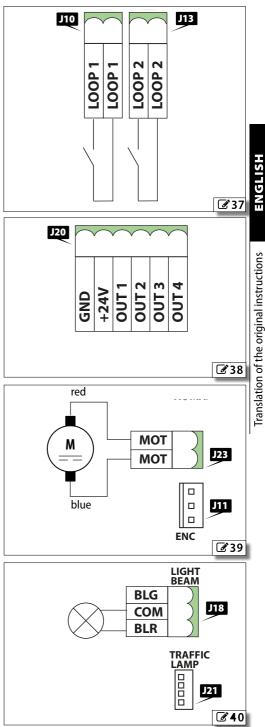
#### MOTOR

(**39**) The motor wire is connected in the factory for a RH barrier.

Invert the wires if a LH barrier is being installed.

#### ENCODER

The encoder wire is connected in the factory.



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The encoder must always be connected in order for the automation system to operate.

#### **BEAM LIGHTS**

See § 9.5 and § 9.6 for the connection.

## **INTEGRATED FLASHING LIGHT 340** See § 9.6 for the connection.

**XBAT 24 BATTERY** 

**41** See § 9.2 for the connection.

### **XF RADIO MODULE**

**41** See § 9.3 for the activation.

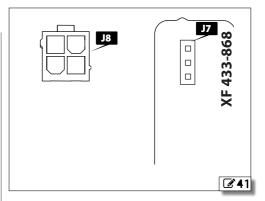
#### MAINS SUPPLY AND EARTHING

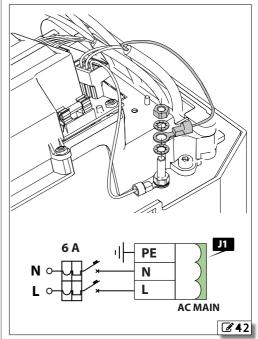
- N - P

Use a 3G 1.5 mm<sup>2</sup> wire (not supplied).

The grounding between board and box is done in the factory. Do not remove the connection.

- 1. Crimp the earth wire of the power cable to the cable terminal provided.
- 2. (C42) Insert 2 washers, the cable terminal and the nut provided on the earth plug respecting the insertion order.
- 3. Tighten the nut.
- 4. Connect the phase wires and neutral to J1.





## 7. START-UP

RISKS



PERSONAL PROTECTIVE EQUIPMENT





During operation there is a risk of cutting, crushing or the total loss of hands due to the moving parts inside the box.

If two barriers are installed in the following configuration Master-Slave, before beginning the start up of the Master, it is necessary to have configured the Slave barrier (see § 10).

- 1. Check that the B614 is locked.
- 2. Power up the plant (Master barrier). The board lights up and the display then comes on:
- firmware version (2 digits separated by a point)
- 50 flashing if a set-up or the automation status is requested
- 3. Check the status of the LEDs at rest (see § 11.1).

The BUS 2easy LEDs must be checked after the devices have been registered.

- 4. Memorise the radio controls present on the plant (sees § 9.3).
- 5. Program E614 without performing the set-up.

**L** For the barrier to work properly, set the parameter  $\neg F$  dependent on the beam length.

- 6. Register the BUS 2easy devices, if they are installed (see § 9.4).
- 7. Check the barrier's direction of travel (see § 11.2).
- 8. Perform the set-up (see § 7.3).
- 9. If the XBAT 24 battery is being used:
- Cut off the plant's power supply
- Connect the XBAT 24 battery
- Switch on power to the system.

## 7.1 PROGRAMMING

#### BASIC PROGRAMMING

1. Press and hold down **F** until the first basic function appears. (Each function is displayed as long as **F** remains pressed).



2. Release: the value of the function appears (default or programmed).



3. Use the + or - button to modify the value.



4. Press **F** to confirm the value displayed. Go to the next function. The modified value becomes effective immediately.



Proceed in the same way for all the functions. The last function (5E) allows you to close the program.

- 5. In SE select  $\forall$  or  $\neg \neg$  using the +/- buttons:
- $\boldsymbol{\exists} = \mathsf{save} \ \mathsf{the} \ \mathsf{new} \ \mathsf{program}$
- $\neg \Box = DO \text{ NOT}$  save the new program

6. Press **F** to confirm and close the program. It returns to the automation status view.

# To exit from the programming mode at any time:

press and hold down  ${\bf F}$  and then – as well to move directly to  ${\rm SE}.$ 



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#### ADVANCED PROGRAMMING

1. Press and hold down **F** and then **+** as well, until the first advanced function appears. (Each function is displayed as long as **F** remains pressed).



2. Release: the value of the function appears (default or programmed).



3. Use the + or - button to modify the value.



4. Press **F** to confirm the value displayed. Go to the next function. The modified value becomes effective immediately.



Proceed in the same way for all the functions. The last function (5E) allows you to close the program.

- 5. In SE select  $\exists$  or  $\neg \neg$  using the +/- buttons:
- $\exists$  = save the new program
- $\neg \Box = DO \text{ NOT save the new program}$
- 6. Press  ${\bf F}$  to confirm and close the program. It returns to the automation status view.

# To exit from the programming mode at any time:

press and hold down **F** and then – as well to move directly to  $\Box \vdash$ .



#### Basic programming

	c function	Default
cF	BARRIER CONFIGURATION Set functional parameters (including opening and closing speed) dependent on the beam length.	03
	□I   beam up to 3m     □2   beam from 3m to 4m     □3   beam from 4m to 5m	
٩٢	<b>DEFAULT</b> Displayed if the board is configured with the factory settings (default). I indicates that all set values correspond to the defaults	У
	□□ indicates that one or more set values are different from the defaults Select ∃ if you wish to restore the default configuration.	
C٤	MASTER/SLAVE configuration.           INA         Configures the board in Mastermode           SL         Configures the board in Slavemode	ſΪΑ
	The following parameters are not displayed on the Slave board: LD- PA-bu-とL-PF-と-bF. See the relative section.	
LO	FUNCTIONING LOGIC         EP       Semi-automatic step by step         Automatic         Automatic step by step	٤P
	<ul> <li>Semiautomatic B</li> <li>Semiautomatic B on opening/person present C on closure</li> <li>Person present</li> <li>Car park</li> </ul>	
	See the dedicated section for the functioning of the logics	
PA	PAUSE TIME Adjustable from DD a 59 s, to 1 sec steps. If 59 is exceeded, the display changes to indicate minutes and tens of seconds (separated by a dot) and can be adjusted in steps of 10 seconds, up to a maximum of 9.5 minutes.	50
	E.g.: if the display indicates 2.5, the time is 2 min and 50 sec.	
So	OPENING SPEED	See table Default speed

- ID
   maximum speed
   speed

   Sc
   CLOSURE SPEED
   See table

   D1
   minimum speed
   D e fa ult

   ID
   maximum speed
   speed
  - maximum speed

- S - P



Basic func	tion	Default
⊔ BUS	2easy DEVICE REGISTRATION	по
G	See the relative section.	
m Dead	I-man MOTOR OPERATION mode	
··· +	OPENS (displaying $\Box P$ ) as long as the	
butto	on remains pressed.	
-	CLOSES (displaying $\neg \bot$ ) as long as the	
butto	on remains pressed.	
⊢¦ SET-I	JP	по
Acqu	ire the limit switch positions.	
G	See the relative section.	
	ING THE PROGRAMMING MODE	ч
y	save and exit from programming mode	2
по	exit from programming mode without	
savin	g	
	<b>F</b> to confirm. After exiting, the display	
	ates the status of the automation system:	
00	= Closed	
OI	= 0pen	
02		
03		
04	·j	
05		
06		
רס		
08		
09	= Pre-flashing and then opens	
10	= Pre-flashing and then closes	
11	= Opening in emergency	

### **9** Default speed

	cF OI	cF 02	cF 03
So	10	06	02
Sc	08	04	02

Advanced function	Default	
₽₽ PRE-FLASHING	по	
no disabled		
DC preflashing 3 sec. before each movement		
	50	
01 minimum power 50 maximum power		
50 maximum power		
DI minimum power	50	
50 maximum power		Т
		S
It defines the function of the STOP input	υu	5
OD (STOP) Stop		Z
02 (FSW-CL) Closure photoelectric cell		
⊢ OPERATING TIME (time-out)	5.0	
Set a higher value than the time the barrier needs	2.0	
to open/close completely.		ons
This can be regulated from 0 to 59 secs. in 1 sec steps. Afterwards, the display changes in minutes		l cf.
and tens of seconds (separated by a dot) and the		Istri
time is regulated in 10 sec. steps, up to a maximum		lir
value of 9.5 minutes.		ging
E.g.: if the display indicates 2.5, the pause time is		ori
2 min and 50 sec.		ranslation of the original instructions
(i) In the case of a plant with a Master/		lof
Slave configuration an operating time		tio
must be set on the Master central control unit that takes account of the		Isla
movement of both the barriers.		Trar
OUT OUTPUT 1 CONFIGURATION	00	Ι.
DD Always active	00	
🛛 failsafe		
02 telltale light (on during opening/pause/		
open, flashing on closure, off when closed)		
03 courtesy light		
D5 barrier open or in pause mode		
06 barrier closed 07 barrier moving		
<ul> <li>Darrier moving</li> <li>DB barrier in emergency mode</li> </ul>		
00 barrier opening		
10 barrier closing		
12 safety device active		
I∃ light column (active in pause mode/open,		
turns off on closure)		
15 step by step activation through second radio		
channel		
19 battery operation		
20 Loop1 engaged 21 Loop2 engaged		
21 Loop2 engaged		

**III** 10 Advanced programming

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Advanced function	Default	Advanced function	Default
이 OUT OUTPUT 1 POLARITY 또 NC output	по	CYCLE PROGRAMMING IN HUNDREDS OF THOU- SANDS	00
no N0 output If output $ol = Ol$ (Fail-safe) configure $Pl = no$ . oo 2 see $ol$		This makes it possible to set a countdown of the plant operating cycles from 0 to 99 (hundreds of thousands of cycles). The value displayed is updated	
P2 see PI		a the cycles progress, integrating with the $\neg \neg \Box$ value. (1 $\neg \Box$ decease corresponds to 99 $\neg \neg \Box$ decreases).	
o 3 see ol		The function can be used in combination with $\neg \neg$ , to verify plant use and for the "Request for	
P3 see Pl		Assistance".	
oY see ol		See SE in the Basic programming	9
P닉 <u>see</u> 위			
Lo OUT OUTPUT 1 TIMING (only displayed if one of the outputs is configu- red as courtesy light)	02		
This defines the timing of the output from 1 to 59 minutes in 1 minute steps.			
	01		
<ul> <li>continues to function until completely dead</li> <li>the barrier opens when the mains power is</li> </ul>			
interrupted $\Box$			
□∃ the barrier closes when the mains power is interrupted			
<ul> <li>INTEGRATED flashing light OPERATING MODE</li> <li>light column (steady green with barrier in pause mode/open, red flashing during movement, red steady with barrier closed)</li> <li>flashing light (flashing red during movement, off in all other states)</li> </ul>			
BEAM LIGHT OPERATIONAL MODE           OI         lights on with barrier closed, off with barrier in pause mode/open, flashing during the movement			
D2 lights off with barrier in pause mode/open, flashing in all other states			
RS MAINTENANCE REQUEST - CYCLE COUNTER (linked to the next two functions)	по		
This can be useful to set scheduled maintenance interventions.			
님 Active ㅠㅁ Excluded			
CYCLE PROGRAMMING IN THOUSANDS This makes it possible to set a countdown of the	00		
plant operating cycles from 0 to 99 (thousands of cycles). The function can be used, in combination			
with $\neg \Box$ , to verify the use of the system and for			
the "Request for assistance"			

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## 7.2 OPERATING LOGICS

#### ) In all the logics:

- the STOP command has the priority and stops the automation system from working

- the STOP command has the priority and opens the automation system.

#### EP - SEMI-AUTOMATIC STEP BY STEP

The  $\mathsf{EP}$  logic requires the use of just the OPEN command:

- OPEN when the barrier is closed, it commands the opening.
- OPEN when the barrier is open it commands the closure.
- OPEN during the movement it stops
- OPEN after the stop, it reverses in movement.



The CLOSE command always commands the closure.

#### **R - AUTOMATIC**

Logic R only requires the OPEN command:

- OPEN when the barrier is closed, it commands the opening. After the pause time, the barrier closes again automatically.
- OPEN when the barrier is open in pause mode, it reloads the pause time. (Even the intervention of the photocells reloads the pause time)
- OPEN during opening is ignored.
- OPEN during opening causes it to open again.

The CLOSE command always commands the closure.

#### **RP - AUTOMATIC STEP-BY-STEP**

The  $\ensuremath{\mathsf{RP}}$  logic requires the use of just the OPEN command:

- OPEN when the barrier is closed, it commands the opening. After the pause time, the barrier closes again automatically.
- OPEN when the barrier is open in pause mode it locks. (Even the intervention of the photocells during the pause mode reloads the pause time)
- OPEN during the opening locks.
- OPEN during opening causes it to open again.

The CLOSE command always commands the closure.

#### **b** - SEMI-AUTOMATIC B

Logic  $\ensuremath{\mathsf{b}}$  requires the use of the OPEN and CLOSE commands:

- OPEN when the barrier is closed, it commands the opening.
- CLOSE when the barrier is open it commands the closure.
- CLOSE during opening it causes reclosure.

- OPEN during opening causes it to open again.

# $\mathsf{b}\mathsf{C}$ - SEMIAUTOMATIC $\mathsf{b}$ ON OPENING/ PERSON PRESENT $\mathsf{C}$ ON CLOSURE

bE logic requires the use of the OPEN jog command on opening and CLOSE maintained on closure. The activation of the CLOSE command on closure must be intentional and the barrier must be visible.

- OPEN when the barrier is closed, it commands the opening.
- Maintained CLOSE commands the closure.

#### C - DEAD-MAN

Logic C requires the use of maintained OPEN and CLOSE commands. The control must be activated intentionally and the barrier must be visible.

- Maintained OPEN commands the opening.
- Maintained CLOSE commands the closure.
- If the photocells are triggered, movement is stopped.

#### P - CAR PARK

Logic  $\ensuremath{\mathsf{P}}$  requires the use of the OPEN and CLOSE commands:

- OPEN when the barrier is closed, it commands the opening.
- CLOSE when the barrier is open it commands the closure.
- CLOSE during opening it causes reclosure after opening.
- OPEN during opening causes it to open again.
- The triggering of the photocells during closure stops the movement, on disengagement the barrier continues to close.



#### 7.3 SET-UP

The set-up procedure enables the limit switch positions to be memorised.

#### The system needs to be set-up:

- When the automation system is first started
- When the board has been replaced
- Each time the display shows 50 flashing and the automation system does not work
- Following any variation in the position of the limit switch.

#### How to perform the set-up:

- During the SET-UP, the safety devices are ignored, keep away and stop anyone from approaching the automation system until the end of the procedure
- The SET-UP MUST be performed:
  - with the mains power switched on
  - with the automation system functioning automatically
  - with the STOP/EMER inputs not active
- Select parameter EL in Basic Programming, the display shows --.:
- Keep the buttons pressed and around 3 seconds. When 51 appears flashing, release the buttons. The beam begins to close and stops when it reaches the stop.
- 3. 52 flashes on the display. The beam remains in the closure position for a couple of seconds.
- 4. 5∃ flashes on the display. The beam begins to open and stops when it reaches the stop.
- 5. The procedure has come to an end and the display shows the status of the open automation system ([]|).

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## 8. PUTTING INTO SERVICE

#### 8.1 FINAL CHECKS

- If foot traffic cannot be excluded, check that the forces generated by the beam fall within the limits permitted by the standard. Use an impact force tester in accordance with standards EN 12453 and EN 12445. For non-EU countries, of there are no specific local regulations, the force must be less than 150 N. Check that the maximum force required to move the beam by hand is less than 220 N.
- 2. Check the automation system is working properly with all the devices installed.

#### 8.2 FINAL OPERATIONS

- 1. Fit the upper cover (see the relative section).
- 2. (**3** 43) Apply the notice supplied warning against the risk of cutting, crushing or the loss of fingers or a hand between the beam and the body of the barrier.

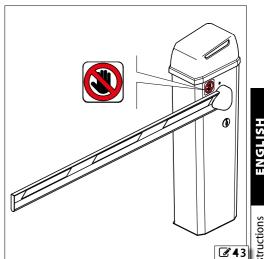
 $\triangle$ 

The indication of the RISK must be visible even with the beam closed.

- Highlight all areas with adequate warning signs in which there are still residual risks, even if all possible safety measures having been adopted.
- 4. Exhibit the sign prohibiting foot traffic.
- 5. Place the "DANGER AUTOMATIC MOVEMENT" sign where it is clearly visible. Place the EC marking on the barrier.

Use adhesive signs so as not to perforate the box.

- 6. Fill out the EC declaration of conformity and the system register.
- Give the EC Declaration, the system register with the maintenance plan and the instructions for use of the automation to the system owner/operator.



## FAA⊂ 9. ACCESSORIES

# The installation must comply with Standards EN 12453 and EN 12445.

When working in the box there are risks of cutting, shearing, crushing hands due to the presence of moving parts. Until the installation is completed, the partially installed barrier must always be left blocked and with the door and upper lid always closed to prevent access to the electronic parts and the moving mechanical pars.

Never install the beam before fixing the barrier body and checking it. Until the installation is complete never leave the barrier unguarded with the beam fitted. Mark off the work site and prohibit access/ transit. If installation is outside, it must be done in good weather without rain or gusts of wind. If it is raining, an adequate shelter for the barrier must be made until the mechanical and electronic installation is complete.

Never manage the barrier by holding the board holder.

### 9.1 24V - FLASHING LIGHT

The flashing light indicates that the automation is moving.

( ) Install the flashing light in an easily visible position.

- 1. ( **44**) Connect the flashing light to terminal clamp J16 (3 W max).
- 2. If required, set the preflash (PF Advanced programming)
- 3. Check that the device is working properly.

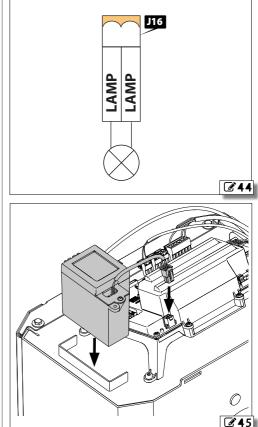
### 9.2 XBAT 24 EMERGENCY BATTERY

The XBAT 24 provides power to the automation system in the event of a mains power supply failure. The number of cycles that can be carried out with the battery depends on various factors (state of battery charge, time elapsing since the power outage, room temperature etc.).

Recharge the battery before starting the system. The full charging cycle of the XBAT 24 battery is 72 hours.

- 1. (245) Positioning the battery
- 2. Connect the battery to clamp J8 on the board
- 3. Set battery operation (bF Advanced programming)

Disconnect the emergency battery if the automation system is taken out of use.



LIGHT s that the automation is



#### 9.3 XF RADIO MODULE

The E614 is fitted with an OMNIDEC integrated two channel decoding system that can memorise, via the XF radio module, FAAC radio controls that use the following types of radio code: SLH/SLH LR, LC/RC, DS.



The three types of radio codes can coexist simultaneously.

A maximum of 256 codes can be memorised.

The codes memorised act as an OPEN or CLOSE command.

The radio controls and the XF radio module must have the same frequency.

When memorising the codes, keep the radio control approximately one meter from the XF radio module.

- 1. (246) Insert the XF radio module in the connector J3 paying attention to the insertion direction.
- 2. Memorise the radio controls.

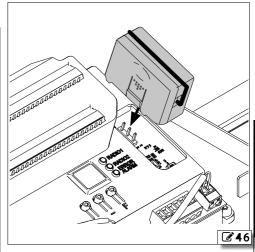
Ensure that there are no obstacles (persons or things) while the automation is moving.

# SLH/SLH LR - MEMORISING THE FIRST RADIO CONTROL

- Press and keep pressed the + key (OPEN programming) or - (CLOSE programming). After pressing the button for about 5 seconds, the corresponding radio LED (DL4 or DL5) will start to flash to indicate that the radio code learning phase has started.
- 2. Release the button. From this moment E614 stays in the learning phase for around 20 secs.
- 3. Press and hold down buttons P1 and P2 simultaneously on the SLH/SLH LR radio control (master version only). The LED on the radio control starts to flash.
- 4. Release both buttons; the LED on the radio control continues to flash.
- 5. Make sure that the LED DL4 or DL5 on the board is still flashing and press the button of the radio control that you wish to memorise for a few seconds (the LED becomes steady). Release the button of the radio control.
- 6. Press the same button that was used in the previous step twice in succession to complete the memorisation process. If the procedure was carried out correctly, the B614 will open the beam, if permitted by the operating mode that has been set.

# SLH/SLH LR - MEMORISING OTHER RADIO CONTROLS

- Press and hold down buttons P1 and P2 simultaneously on the SLH/SLH LR radio control that has already been memorised (master version only). The LED on the radio control starts to flash.
- 2. Release both buttons; the LED on the radio control



continues to flash.

- 3. Press and hold down the button that has already been memorised (the LED becomes steady).
- Place the remote control that has already been memorised close to the remote control to be memorised (keeping the button in the previous step pressed).
- 5. Press the button of the radio control to be memorised and make sure that its LED flashes twice before going off, to indicate that the procedure was completed successfully.
- 6. Release all buttons.
- Press the button used in step 5 twice in succession to complete the memorisation process for the new radio control. If the procedure was carried out correctly, the B614 will open the beam, if permitted by the operating mode that has been set.

#### LC/RC - MEMORISING THE FIRST RADIO CONTROL

- Press and keep pressed the + key (OPEN programming) or - (CLOSE programming). After pressing the button for about 5 seconds, the corresponding radio LED (DL4 or DL5) will start to flash to indicate that the radio code learning phase has started.
- 2. Release the button, from this moment E614 stays in the learning phase for around 20 secs.
- 3. Make sure that the LED DL4 or DL5 on the board is still flashing and press the button of the LC/RC radio control that you wish to memorise for a few seconds (the LED becomes steady). The LED (DL4 or DL5) on the board goes on as a steady light for 1 sec to then start flashing again for another 20 seconds during which it is possible to memorise another radio control.
- 4. To memorise additional radio controls at a later stage,

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repeat the procedure from the beginning or carry out the remote memorisation procedure.

#### LC/RC - REMOTE CODE MEMORISATION PROCEDURE

Additional radio controls can be memorised remotely, i.e. without having to use the board directly, by using a radio control that has already been memorised.

- 1. Near the E614 press buttons P1 and P2 if the radio control already memorised (as OPEN or CLOSE at the same time). The LED of the radio control and LED DL4 or DL5 of the board begin to flash for 5 secs.
- Release both the buttons then press the button already memorised within five seconds. From this moment E614 stays in the learning phase for around 20 secs.
- 3. Make sure that the LED DL4 or DL5 on the board is still flashing and press the button of the radio control that you wish to memorise. The LED (DL4 or DL5) on the board goes on as a steady light for 2 sec to then start flashing again for another 20 seconds during which it is possible to memorise another radio control.
- 4. Wait for LED DL4 or DL5 on the board to turn off before using the new radio control.

#### **DS - MEMORISING RADIO CONTROLS**

- 1. Set the required ON/OFF combination of the 12 dip-switches on the DS radio control. Avoid setting all of them to ON or all of them to OFF.
- Press and keep pressed the + key (OPEN programming) or - (CLOSE programming). After pressing the button for about 5 seconds, the corresponding radio LED (DL4 or DL5) will start to flash to indicate that the radio code learning phase has started.
- 3. Release the button, from this moment E614 stays in the learning phase for around 20 secs.
- 4. Make sure that the LED DL4 or DL5 on the board is still flashing and press the button of the DS radio control that you wish to memorise for a few seconds. The corresponding LED (DL4 or DL5) on the board will turn on with a steady light for 1 second and then turn off to indicate that the procedure was completed successfully.
- 5. To add different codes, repeat the procedure starting from point 1.
- 6. For additional radio controls, use the same ON/OFF combination for the 12 DIP switches on the radio control that has been memorised.

#### **DELETING RADIO CONTROLS FROM MEMORY**

- This procedure cannot be reversed and cancels ALL the codes of the radio controls memorised both as OPEN and as CLOSE. The deletion procedure is only active in the barrier status display mode.
- 1. Press and hold down the button.



- After holding LED DL5 down for approx 5 seconds it begins to flash slowly, after another 5 seconds flashing slowly and pressure maintained LEDs DL4 and DL5 begin to flash more quickly (beginning cancellation).
- At the end of the rapid flashing LEDs DL4 and DL5 come on and remain steady to confirm the successful cancellation of all the (OPEN and CLOSE) radio codes in the board.
- 2. Release the button. The LEDs turn off, indicating that the codes were deleted correctly.



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#### 9.4 BUS 2EASY DEVICES

This board has a BUS 2easy circuit for connecting BUS 2easy devices (photocells, control devices).



If no BUS 2easy accessories are used, leave the BUS 2easy connector free. Do not bridge.

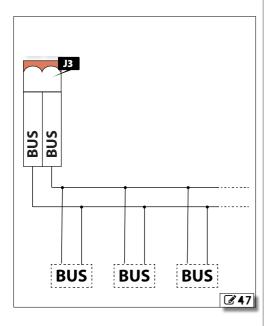
#### CONNECTION

(**47**) Connecting any devices BUS 2easy (photocells and command devices) to terminal J3.



The overall length of the BUS 2easy cables must not exceed 100 m. The BUS line does not require a matching polarity.

The BUS line does not require a matching polarity connection.



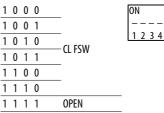
#### **BUS 2EASY PHOTOCELLS**

Type of use:

Closing pho- tocells	Active during closing	When an obstacle is de- tected, they stop the beam and reopen it.
Photocells used as pulse generators	Always active	When an obstacle is de- tected, they send an OPEN command

1. Assign an address to the BUS 2easy photocells.

#### **II** Orienting the photocells



Assign an address to each pair of photocells by setting the four DIP switches (DS1) on the transmitter and the corresponding receiver.

- The transmitter and receiver of a pair of photocells must have the same DIP switch settings. There must never be two or more pairs of photocells with the same DIP switch settings. If there is more than one pair of photocells with the same address, a conflict error is generated.
- Register the BUS 2easy photocells (bu Basic programming).
- 3. Check the status of LEDs DL3 and DL7 (I).
- 4. Check that the photocells are operating correctly. When the beam is moving, interrupt it with an obstacle and check the LEDs on the photocells, the status of the bus on the display and the automation system operate according to the type of photocell installed.

#### **CONTROL DEVICES**

1. Position the DIP switches to assign the commands.

Stop NC also generates a stop when the device is disconnected. A command (e.g.: OPEN A\_1) must be used on only one of the connected devices.

#### 12 Addressing control devices

	ш		2	Addressing col	introl device	5
0	0	0	0	Open A_1		ON
0	0	0	1	Open A_2		
0	0	1	0	Open A_3		12345
0	0	1	1	Open A_4		I command DIP switch 5 = 0 (OFF)
0	1	0	0	Open A_5	L	$\int \int $
0	1	0	1	Stop		
0	1	1	0	Stop NC_1		
0	1	1	1	Stop NC_2		
1	0	0	0	Close		
1	0	0	1	Open B_1		
1	0	1	0	Open B_2		
1	0	1	1	Open B_3		
1	1	0	0	Open B_4		
1	1	0	1	Open B_5		
1	1	1	0	/		
1	1	1	1	/		
0	0	0	0	Open A_1	Open B_1	ON
0	0	0	1	Open A_1	Open B_2	 12345
0	0	1	0	Open A_1	Stop	-2 commands
0	0	1	1	Open A_1	Close	- DIP switch 5 = 1 (ON)
0	1	0	0	Open A_2	Open B_1	Un switch 5 1 (01)
0	1	0	1	Open A_2	Open B_2	
0	1	1	0	Open A_2	Stop	
0	1	1	1	Open A_2	Close	_
1	0	0	0	Open A_3	Open B_3	
1	0	0	1	Open A_3	Open B_4	
1	0	1	0	Open A_3	StopNC_1	
1	0	1	1	Open A_3	Close	
1	1	0	0	Open A_4	Open B_3	
1	1	0	1	Open A_4	Open B_4	
1	1	1	0	Open A_4	StopNC_2	
1	1	1	1	Open A_4	Close	

- 2. Register the BUS 2easy control devices (bu Basic programming).
- 3. Check the status of LEDs DL3 and DL7 (I).
- 4. Check that the devices are working properly. Use the controls to make the beam move. Check the LEDs on the devices, the status of the bus on the display and make sure that the automation system operates according to the type of device installed.

#### **BUS 2EASY DEVICE REGISTRATION** Registration is required:

- When the automation system is first started or after the board has been replaced.
- Following any changes (addition, replacement or removal) to the BUS 2easy devices.

#### **Registration procedure:**

- Press and hold the + and buttons simultaneously for at least 5 seconds until <sup>⊥</sup> appears (the display flashes during this time). Registration has been completed.
- 3. Release the + and buttons. The display shows the status of the BUS 2easy devices
- 4. Check the status of the LEDs on the board:

#### LED DL7 (Red) - BUS 2easy devices

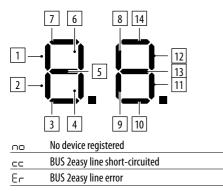
•	At least one device is engaged/active	
0	No device is engaged/active	
LED DL3 (Green) - BUS 2easy line		
•	Line monitoring. LED always on (off with board in Sleep	

- Elle information g. ELD anways on (on with board in Sicc) mode)
   Line short-circuited
- \* Device error: check the ERROR LED

#### Registered device verification procedure:

- 1. Select parameter bu in basic programming. After registering one or more devices, bu displays segment 13 on.
- Press and hold the + button and keep it pressed; the segments relative to the registered devices will come on. Each segment of the display corresponds to a type of device:

1	Open A control device
2	Open B control device
3	Closing photocells
4	Photocells for Open impulse
5	Not used
6	Close control device
7	Not used
8	Stop control device
9	Closing edge
10	Not used
11	Not used
12	Opening edge
13	BUS 2easy status
14	Not used



#### **RECTANGULAR BEAM LIGHT KIT**

Follow the assembly instructions provided with the product respecting all the safety precautions indicated in this manual.

#### 9.5 ROUND BEAM LIGHT KIT

Follow the assembly instructions provided with the product respecting all the safety precautions indicated in this manual.

### 9.6 INTEGRATED FLASHING LIGHT

- 1. Open the upper cover.
- 2. Fasten the flashing light with the screws provided (2\*48).
- 3. Connect the flashing light to terminal J21.
- 4. Set the operating mode (a 5 in Advanced programming).
- 5. Close the upper cover.
- 6. Check that the device is working properly.

#### 9.7 BEAM JOINT KIT

Follow the assembly instructions provided with the product respecting all the safety precautions indicated in this manual.



The installation of a jointed beam must take the specific risks into consideration:

- IMPACT on the horizontal section of the beam, when the beam is open

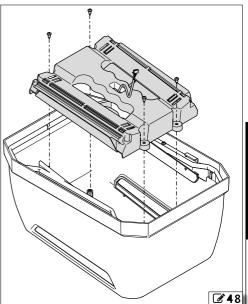
- CRUSHING in the jointed area, when the beam is moving.

- Do not use joint to limit the height of the vehicles passing.

- Indicate the maximum height of the vehicles considering the height of the beam itself.

- Apply a danger of crushing sticker on the beam in the jointed area.

- Check the integrity of the wire during the half-yearly scheduled maintenance.



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#### 9.8 HEDGE

Follow the assembly instructions provided with the product respecting all the safety precautions indicated in this manual.



Check the fixing with the indicated tightening torque.

## 9.9 FOOT

Follow the assembly instructions provided with the product respecting all the safety precautions indicated in this manual.

- Check the fixing with the indicated tightening torque.
  - Check the lower protection is present and is in good condition.
  - You should install a beeper or similar to indicate the beam is closing.
  - Apply the reflector on the stem.

On the rectangular beam, it is not possible to install the foot when there are lights on the beam.

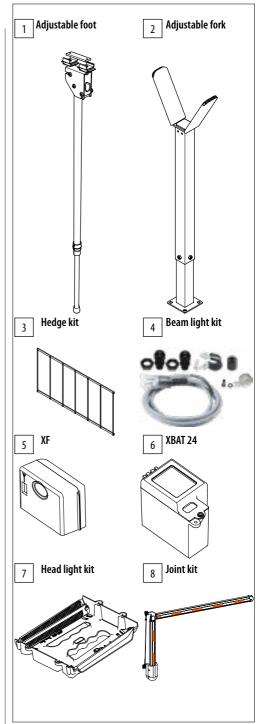
### 9.10 FORK

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Follow the assembly instructions provided with the product respecting all the safety precautions indicated in this manual.

- Check the fixing with the indicated tightening torque.
  - You should install a beeper or similar to indicate the beam is closing.

- Provide for a clearance area or signals to prevent pedestrians being knocked. The area must be adequately lit.



Translation of the original instructions

## **10. MASTER-SLAVE**

(**49**) The Master-Slave configuration makes it possible to install two counterposed barriers with synchronous movement.

When programming one barrier must be defined as Master and the other as Slave. The Master barrier manages all the controls and movements.

The control devices and any external loops must be connected to the Master barrier.

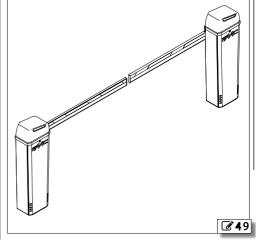
Each barrier must be programmed on the basis of the length and configuration of the beam. The functioning logic must only be programmed on the Master board. The anticrushing function is active on each barrier and commands the inversion of both.

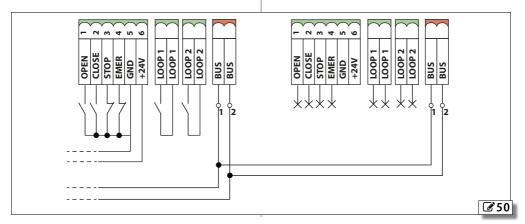
#### CONNECTION

- Connect the barrier with BUS 2easy polarised connection 2 50).
- 2. Connect the devices (see § 6.2). The inputs for the command devices and any external loop are inhibited on the Slave board.

Connections	Master	Slave
Power supply	✓	✓
Motor	✓	✓
Encoder	✓	✓
Head lighting	✓	✓
Beam lights	✓	✓
Control devices	✓	×
Loop	✓	×
Outputs	✓	✓
Flashing light	✓	✓

3. The BUS 2easy devices can be connected to the Master or to the Slave board. The devices must be registered on the Master barrier.





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#### **SLAVE BARRIER CONFIGURATION**

- 1. Power Slave barrier The board turns on. The display reads in sequence:
- firmware version (2 digits separated by a point)
- 5D flashing if a set-up or the automation status is requested
- 2. Access the Basic programming and set:
- cF depending on the beam configuration and length
- E = 5L for configuring the board as Slave.
- 3. Check the status of the LEDs on the board:

#### LED DL7 (Red)

Master-Slave synchronisation absent or the line is short circuited.

#### LED DL3 (Green)

- \* Master-Slave synchronisation present.
- Check the direction of travel (see § 11.2). The barrier must not be in manual functioning mode.
   Start up (see § 7).
  - During the set-up the Master board controls the Slave board and the two beams move with a synchronous movement.

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## **11. DIAGNOSTICS**

#### 11.1 LEDS CHECK

LED		STA	ITUS	IDLE
DL1	BUS	-	active not active	0
DL2	BUS MON		e BUS 2easy device istration	•
DL3	RADIO1	•	active not active	0
DL4	RADIO2		active not active	0
DL5	Error/alarm "ERROR"	-	active not active	0
DL8	EMER	•	not active active	•
DL9	STOP	•	not active active	•
DL10	CLOSE		active not active	0
DL11	OPEN		0	0
DL12	LOOP1	•	active not active	0
DL13	LOOP2	•	active not active	0
-				

In Master-Slave configuration see § 10.

#### **11.2 DIRECTION OF MOVEMENT CHECK**

- 1. Select parameter <sup>↑</sup>| in the Basic programming. The display shows --.
- 3. Keep the button pressed. The display shows \_L and the barrier closes.
- 4. If the conditions in points 2 and 3 are not respected, invert the motor wires.

#### **11.3 ENCODER OPERATION CHECK**

- 1. Select parameter <sup>[7]</sup> in Basic Programming, the display shows <sup>−</sup> <sup>−</sup>.
- Keep the + button pressed. The display shows

   □P and the barrier opens. The flashing point between the two letters indicates that the encoder is operating correctly.
- Keep the button pressed. The display shows cL and the barrier closes. The flashing point between the two letters indicates that the encoder is operating correctly.

#### 11.4 AUTOMATION SYSTEM STATUS CHECK

The E614 display if not in the programming, shows a code indicating the status the automation is in:

00	Closed
01	Open
02	Stationary then opens
DЭ	Stationary then closes
04	In pause mode
05	Opening
06	Closing
רס	Failsafe in progress
08	BUS 2easy device verification in progress
09	Pre-flashing and then opens
10	Pre-flashing and then closes
11	Opening in Emergency

#### **11.5 CHECK FIRMWARE VERSION**

When the display of the E614 is switched on, it shows the following in succession:

- firmware version (2 digits separated by a point)
- automation system status

#### 11.6 CHECK OF THE REGISTERED BUS 2EASY DEVICES

- 1. Select parameter  $b_{\cup}$  in Basic programming.
- Press and hold the + button; the segments relative to the registered devices will light up (see 48).



#### RISKS







Always shut off the power supply before performing any maintenance operations. If the disconnect switch is not in view, apply a warning sign stating "WARNING - Maintenance in Progress". Restore the power supply only after finishing any maintenance work and restoring the area to normal.

Do not remove the board cover. No maintenance requires the removal of the cover.

The barrier must not be left released. If the barrier is put out of order for a long time, the beam needs to be removed.

Maintenance must be performed by the installer or a maintenance technician.

Follow all safety recommendations and instructions given in this manual.

Mark off the work site and prohibit access/transit. Do not leave the work site unattended.

The work area must be kept tidy and cleared after maintenance has been completed.

Before starting work, wait for any hot components to cool down.

Do not make any modifications to the original components.

FAAC S.p.A. shall bear no liability for damage or injury due to components that have been modified or otherwise tampered with.

The warranty shall be forfeited in the event of tampering with components. Only use original FAAC spare parts.

#### **12.1 ROUTINE MAINTENANCE**

The **Scheduled maintenance** lists, purely for guidance which is not intended to be exhaustive, the operations which must be performed on a regular basis to keep the automation system safe and in good working order. The installer/machine manufacturer is responsible for drawing up the maintenance plan for the automation, supplementing this list or modifying the maintenance intervals according to the machine characteristics.

#### **III 13** Routine maintenance

If the tests listed below turn up conditions that are other than expected, repair or restoration is necessary. The plant must not be put back into operation until all the safety precautions specified in this manual and in the documentation of all the other components installed have been complied with.

#### **Operations** Frequency/months

#### Structures

Check the plinth and built/fenced parts around the automation system: make sure there is no damage, cracking, breaks 12 or subsidence.

Check the area the beam moves in: make sure there are no objects/deposits that reduce the uncluttered safety areas and obstacles to the movement of the beam such as branches, overhead wires etc.

Ensure that there are no sharp protrusions which could represent a perforation or hooking hazard.

#### Barrier

Check the fixing of the bearing box to the foundation plate.	6
Check the barrier and its fixings: integrity, absence of defor- mation, rust etc. Check that screws and bolts are correctly tightened.	12
Check the condition of the beam and that it is fastened properly.	12
Check the condition of the beam and that it is fastened properly.	12
Check the presence and integrity of the reflectors on the beam and all the other signs and markings necessary.	6
Check the integrity and proper fixing of the spring and tie rods.	12
Check the configuration and the balancing of the barrier.	12
Check the integrity, proper functioning and adjustment of the limit switch.	12
Check the integrity of all the cables, cable glands and junction boxes.	12
Check that it is irreversible.	12





Clean the gearmotor and the bearing box.	12
Do a general cleaning of the barrier manoeuvre area.	12
Electronic equipment	
Check the integrity of the upper cover and the plastic electronic board protection.	12
Check that the connectors and wiring are intact.	12
Check that the earth connections are intact.	12
Check that there are no signs of overheating, burning etc. of electronic components.	12
Check the operation of the circuit breaker and differential switch.	12
Control devices	
Check that the installed devices and radio controls are in good condition and that they operate correctly.	12
Deformable edges	
Check that they are intact and correctly fastened.	12
Photocells	
Check condition, fastening and correct operation.	6
Check the posts, ensuring that they are intact, correctly fastened and free of deformation etc.	6
Flashing light	
Check condition, fastening and correct operation.	12
Access control	
Check the proper opening of the barrier only with authorised user recognition.	12
Hedge	
Check: the integrity and fixing of the beam.	6
Foot	
Check: the integrity and fixing of the beam.	6
Check the presence and integrity of the reflectors on the foot and all the other signs and markings necessary.	6
Check the presence and integrity of the lower foot guard.	6
Fork	
Check that they are intact and correctly fastened.	6
Check the presence and integrity of all the signs and markings	6
necessary.	U
Jointed beam	
Check that they are intact and correctly fastened.	6
Check the integrity of the wire and the relative signs (max	6
height allowed, risk of crushing in the beam joint).	0
Complete automation system	
Check that the automation operates correctly, following the set logic, when using the various control devices.	12
Check the proper fluid, smooth movement of the beam without strange noises. Check the correct speed during opening and closing and the respect for the intended slow downs.	12

Check the correct functioning of the manual release: when the release is activated it must only be possible to move the beam manually. Check the presence of the lock cover.	6
Check that the maximum force required to move the beam by hand is less than 220 N.	6
Check that the encoder is working properly.	6
Check that each pair of photocells is working correctly.	6
Check there is no optical/light interference between the photocells.	6
If the pedestrian transit cannot be excluded, check the force limitation curve (EN 12453 and EN 12445 standards). For non-EU countries, of there are no specific local regulations, the force must be less than 150 N. ??	6
Check that all necessary signage and warnings are present, intact and legible: residual risks, exclusive use etc.	12
Check the presence, integrity, legibility of the EC marking covering the automation system and the DANGER AUTOMATIC MOVEMENT warning sign	12

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**III** 14 Periodic replacements

#### Component Work cycle periodicity

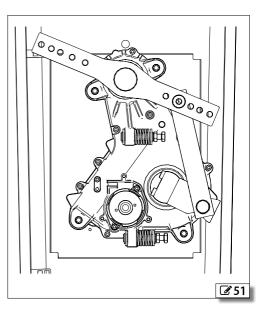
component work cycle penoulcity	
Spring	200000
Electromechanical gearmotor	500000

### **12.2 SPRING REPLACEMENT**

- 1. Perform the release manoeuvre.
- 2. Lift the beam completely vertically.
- 3. Restore the automatic operation.
- 4. Lengthen the turnbuckle by manually unscrewing it to facilitate the operation.
- 5. Unhook the spring from the turnbuckle and the slot on the bottom of the barrier body
- 6. Replace the spring
- 7. Balance the beam

## **12.3 REPLACING THE GEARMOTOR**

- 1. Perform the release manoeuvre.
- 2. Lift the beam completely vertically.
- 3. Restore the automatic operation.
- 4. Lengthen the turnbuckle by manually unscrewing it to facilitate the operation.
- 5. Unhook the spring from the turnbuckle and the slot on the bottom of the barrier body.
- 6. Perform the release manoeuvre and bring the beam into the horizontal position.
- 7. Remove the beam.
- 8. Position the balancer as shown in the figure.
- 9. Restore Automatic Operation.
- 10. Remove the seeger ring on the drive shaft.
- 11. Unscrew the 4 nuts and remove the washers.
- 12. Remove the gearmotor
- 13. Remove the electric motor, taking care not to damage its cable.
- 14. Install the electric motor onto the new gearmotor and follow the procedure in reverse.



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#### **12.4 FUSE REPLACEMENT**

- 1. ( **52**) Remove the fuse F1 cover by gently prising it off with a screwdriver.
- 2. Dismantle the fuse
- 3. Assemble the new fuse.
- 4. Refit the fuse cover.

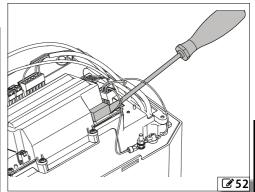
 $\triangle$ 

Only use a T 2.5A (delayed) fuse.

## **12.5 OPERATIONAL PROBLEMS**

#### **III** 15 Troubleshooting

	sting
CONDITION	FINDING SOLUTIONS
The barrier does not per- form the SET-UP	check the automation is not released check there is power
The barrier does NOT OPEN	check the motor and encoder con- nection
The barrier CLOSES rather than OPENING and vice versa.	invert the phases in the motor connec- tion and perform a SET-UP
	check the force set check the balancing of the beam
The barrier makes very slow movements	check the parameter ${\sub}{\vdash}$ has been set in accordance with the beam length if the barrier is being battery operated make sure the battery is charged.
The barrier does NOT OPEN	check the automation is not released check the motor direction of travel
The barrier does NOT CLOSE	check the automation is not released check the motor direction of travel Check the LED status of the controls, loops, safety devices and EMER are not active
The barrier does NOT OPEN and does NOT CLOSE	check the automation is not released Check the status of the STOP LED is not active check the motor and encoder con- nection



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## FAAC 13. INSTRUCTIONS FOR USE

It is the responsibility of the machine installer/ manufacturer to draft the user instructions of the automation in accordance with the Machinery Directive, including all the required information and instructions based on the characteristics of the automation.

The guidelines below, which are purely indicative and in no way exhaustive, help the installer draft the user instructions.

The installer must provide the owner/operator of the automation with the EC Declaration, the system Logbook with the maintenance schedule and the user instructions of the automation.

The installer must inform the owner/operator of any residual risks and the intended use and ways in which the machine should not be used.

The owner is responsible for operating the automation and must:

- comply with all User instructions provided by the installer/maintenance technician and the Safety recommendations

- keep the user instructions
- have the maintenance schedule implemented

- keep the system Logbook, which must be completed by the maintenance technician at the end of all servicing

**13.1 SAFETY RECOMMENDATIONS** 

The plants made with FAAC buried actuators B614 series are intended for vehicular traffic.

The user must be in good physical and mental health and be aware of and responsible for the dangers which use of the product can lead to.



- Do not use the automation when the area of operation is not free of persons, animals or objects.

- Do not remain in or walk/drive through the area of operation of the automation while it is moving.

- Do not allow children to approach or play in the area of operation of the automation.

- Do not try to prevent the movement of the automation.

Do not climb or catch on to the beam or let yourself be pulled by it.

- Do not allow the devices to be used by anyone who is not specifically authorised and trained to do so.

- Do not allow the devices to be controlled by children or persons with mental and physical deficiencies

unless they are supervised by an adult who is responsible for their safety.

- Do not use the automation in the presence of faults which could compromise safety.

- Do not expose the automation system to corrosive chemical or atmospheric agents; do not expose the automation to water jets of any type or size.

- Do not perform any work on the components of the automation.

Risk of cutting, crushing or losing fingers or a hand between the beam and the box. Do not approach the barrier, do not put your hands in the danger area during movement.

### 13.2 EMERGENCY USE

In emergencies or if there is a fault, turn off the power supply to the automation and disconnect the buffer batteries if there are any. If the beam can be moved safely by hand, use the MANUAL OPERATION mode; otherwise place the automation out of service until it has been reset/repaired.

In the case of a breakdown, the automation must be reset/repaired exclusively by the installer/maintenance technician.



For atmospheric events outside the resistance to wind limits indicated in the table in alert situations it is necessary to put the barrier out of service with closed, locked beam and request the asssistance of the installation engineer to remove the beam.

- 2 - 2



## 13.3 MANUAL OPERATION A - Performing the release mano

- Performing the release manoeuvre when there is no electrical power.

- Performing the release manoeuvre only when the beam is at a standstill.

- During manual handling, accompany the beam slowly for the entire stroke. Do not let the beam travel freely.

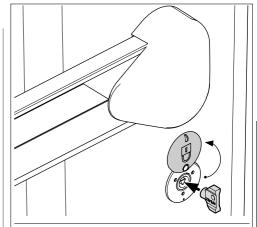
- Do not leave the barrier unblocked: after carrying out the manual movement, restore automatic operation.

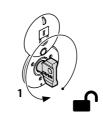
#### **RELEASE PROCEDURE**

- 1. **3 53** Open the lock cover. Insert the key and turn it once anticlockwise until it stops (1).
- 2. Move the barrier manually.
- 3. Restore the operation.

#### **OPERATION RESTORATION**

- 1. **3** 53 Insert the key and turn it twice clockwise until it stops (2).
- 2. Check that manual movement is inhibited.
- 3. Remove the key and close the cover.

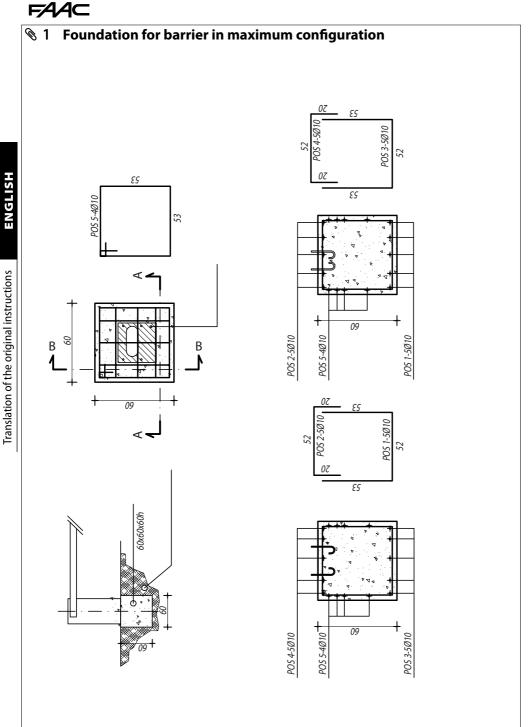






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🕅 2 Balancing							
	system						
	B614 RH		14 LH			- 9 -	→ 15
5 4 3 2 0 0 0 0 0	3 (				30	- <b>33</b> -	→ AB
B				B		(C)	_→ AB
III 16 Rectangular b	eam balancing	min 2.45 m	min 3.00 m				
-	max 2.44 m	max 2.99 m	max 3.49 m	min 3.50 m max 3.89 m		min 4.31 m max 4.81 m	
-							
beam (no accessory)	max 2.44 m	max 2.99 m 2 B min 2.35 m	max 3.49 m 3 A min 2.90 m	max 3.89 m 4 A min 3.35 m	max 4.30 m § 5A min 3.80 m	max 4.81 m S 3 A min 4.11 m	min 4.65 m max 4.81 m
beam (no accessory)	<b>max 2.44 m</b> <b>§</b> 1 B	max 2.99 m 2 B min 2.35 m	max 3.49 m € 3 A	max 3.89 m € 4 A	max 4.30 m € 5A	max 4.81 m 豊豊 3 A	
beam (no accessory) beam length beam and lights	max 2.44 m 1 B min 1.80 m max 2.34 m 1 B 1 B min 1.65 m	max 2.99 m 2 B min 2.35 m max 2.89 m 2 B min 2.20 m	max 3.49 m 3 A min 2.90 m max 3.34 m 3 A min 2.70 m	max 3.89 m 4 A min 3.35 m max 3.79 m 4 A min 3.10 m	max 4.30 m 5A min 3.80 m max 4.10 m 5 A min 3.50 m	max 4.81 m SE 3 A min 4.11 m max 4.64 m SE 3 A min 3.81 m	max 4.81 m Se 4 A min 4.31 m
beam (no accessory) beam length beam and lights beam length	max 2.44 m 1 B min 1.80 m max 2.34 m 1 B 1 B min 1.65 m max 2.19 m	max 2.99 m 2 B min 2.35 m max 2.89 m 2 B min 2.20 m max 2.69 m	max 3.49 m ■ 3 A min 2.90 m max 3.34 m ■ 3 A min 2.70 m max 3.09 m	max 3.89 m 4 A min 3.35 m max 3.79 m 4 A min 3.10 m max 3.49 m	max 4.30 m 5A min 3.80 m max 4.10 m 5 A min 3.50 m max 3.80 m	max 4.81 m 3 A min 4.11 m max 4.64 m 3 A	max 4.81 m Se 4 A min 4.31 m
beam (no accessory) beam length beam and lights beam length beam and hedge	max 2.44 m 1 B min 1.80 m max 2.34 m 1 B min 1.65 m max 2.19 m 1 B min 1.35 m	max 2.99 m         2 B         min 2.35 m         max 2.89 m         2 B         min 2.20 m         max 2.69 m         2 B         min 1.20 m         min 1.90 m	max 3.49 m         ■       3 A         min 2.90 m         max 3.34 m         ■       3 A         min 2.70 m         max 3.09 m         ■       3 A	max 3.89 m 4 A min 3.35 m max 3.79 m 4 A min 3.10 m max 3.49 m 4 A min 2.90 m	max 4.30 m ● 5A min 3.80 m max 4.10 m ● 5 A min 3.50 m max 3.80 m ● 5 A min 3.50 m max 3.80 m ● 5 A	max 4.81 m S min 4.11 m max 4.64 m S 3 A min 3.81 m max 4.30 m S 3 A min 3.71 m	max 4.81 m S 4 A min 4.31 m max 4.81 m S 4 A min 4.31 m
beam (no accessory) beam length beam and lights beam length beam and hedge beam length	max 2.44 m 1 B min 1.80 m max 2.34 m 1 B min 1.65 m max 2.19 m 1 B min 1.35 m	max 2.99 m 2 B min 2.35 m max 2.89 m 2 2 B min 2.20 m max 2.69 m 2 2 B	max 3.49 m ■ 3 A min 2.90 m max 3.34 m ■ 3 A min 2.70 m max 3.09 m ■ 3 A	max 3.89 m 4 A min 3.35 m max 3.79 m 4 A min 3.10 m max 3.49 m 4 A	max 4.30 m 5A min 3.80 m max 4.10 m 5 A min 3.50 m max 3.80 m 5 A	max 4.81 m S 3 A min 4.11 m max 4.64 m S 3 A min 3.81 m max 4.30 m S 3 A	max 4.81 m S 4 A min 4.31 m max 4.81 m S 4 A min 4.31 m
beam length beam (no accessory) beam length beam and lights beam length beam and hedge beam length beam and foot beam length	max 2.44 m         ♥ 1 B         min 1.80 m         max 2.34 m         ♥ 1 B         min 1.65 m         max 2.19 m         ♥ 1 B         min 1.35 m         max 1.89 m         ♥ 1 B         min 1.75 m	max 2.99 m            2 B          min 2.35 m         max 2.89 m            2 B          min 2.20 m         max 2.69 m            2 B          min 1.90 m         max 2.44 m	max 3.49 m         ■       3 A         min 2.90 m         ■       3 A         min 2.70 m         max 3.09 m         ■       3 A         min 2.70 m         max 3.09 m         ■       3 A         min 2.70 m         max 3.09 m         ■       3 A         min 2.45 m         ■       3 A         min 2.45 m         ■       3 A	max 3.89 m 4 A min 3.35 m max 3.79 m 4 A min 3.10 m max 3.49 m 4 A min 2.90 m max 3.34 m	max 4.30 m € 5A min 3.80 m max 4.10 m € 5 A min 3.50 m max 3.80 m € 5 A min 3.35 m max 3.70 m € 5 A min 3.35 m	max 4.81 m S min 4.11 m max 4.64 m S 3 A min 3.81 m max 4.30 m S 3 A min 3.71 m max 4.30 m	max 4.81 m 9 9 4 A min 4.31 m max 4.81 m 9 9 4 A min 4.31 m max 4.81 m 9 9 4 A min 4.41 m

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<b>IT</b> Round beam	S balancin	g		·			
beam length				min 3.55 m max 3.99 m	max 4.40 m	max 4.90 m	
beam (no accessory)	🛢 1 B	🛢 2 B	<b>3</b> A	<b>€</b> 4A	<b>€</b> 5A	99 3 A	
beam length						min 4.16 m max 4.75 m	
beam and lights	<b>§</b> 1 B	€ 2 B	<b>€</b> 3 A	<b>§</b> 4A	€ 5 A	<b>88</b> 3 A	<b>99</b> 4 A
beam length							min 4.25 m min 4.75 m max 4.74 m max 4.90 m
beam and hedge	<b>€</b> 1B	€ 2 B	<b>€</b> 3 A	<b>§</b> 4A	€ 5 A	<b>88</b> 3 A	<b>99</b> 4 A <b>99</b> 5 A
beam length						min 3.76 m max 4.40 m	
beam and foot	<b>€</b> 1 B	<b>€</b> 2 B	₿ 3 A	<b>§</b> 4A	🛢 5 A	<b>98</b> 3 A	<b>99</b> 4 A
beam length							min 4.29 m min 4.76 m max 4.75 m max 4.90 m
beam, lights and foot	<b>§</b> 1B	€ 2 B	<b>€</b> 3 A	<b>§</b> 4A	€ 5 A	<b>88</b> 3 A	<b>99</b> 4 A <b>99</b> 5 A
beam length							min 4.11 m min 4.60 m max 4.59 m max 4.90 m
beam, lights and hedge	<b>§</b> 1B	€ 2 B	<b>€</b> 3 A	<b>§</b> 4A	€ 5 A	<b>88</b> 3 A	<b>9€</b> 4 A <b>9€</b> 5 A
						min 3.80 m max 4.27 m	
beam, hedge and foot	🛢 2 B	<b>§</b> 3 A	<b>§</b> 4A	🛢 5 A	99 3 A	99 4 A	<b>9€</b> 5 A
beam length				min 3.15 m max 3.69 m			
beam, lights, hedge and foot	🛢 2 B	93A	99 2 A	99 3 A	99 4 A		



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