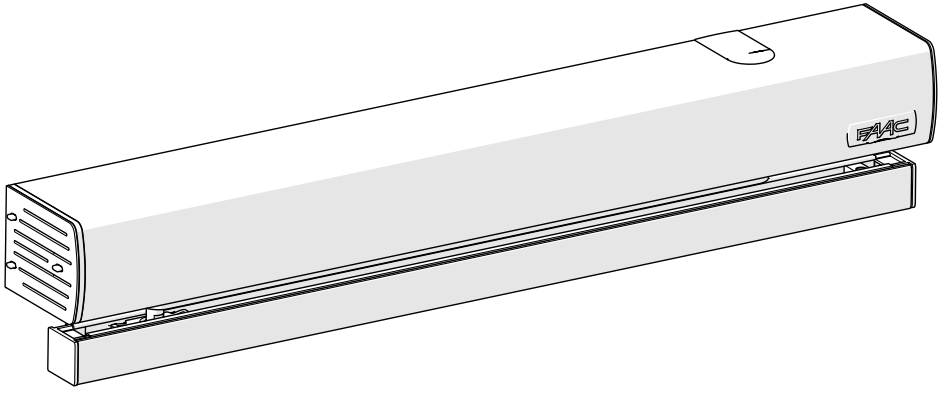
A951



safe zone green tech EN16005

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CONTENTS

ENGLISH

Translation of the original instructions

TABLES

1. INTRODUCTION TO THIS INSTRUCTIONS MANUAL

This manual provides the correct procedures and requirements for installing A951 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 door falls under the Machinery Directive 2006/42/EC and the corresponding harmonised standards. Anyone automating a door (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 door 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 16005:2012 standard and in particular that you adopt the safety criteria and devices indicated, without exception.
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 A951 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 standards. The automation of a door 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: personal protective equipment

	WARNING ELECTRIC SHOCK HAZARD - The operation or stage described must be performed following the supplied instructions and applicable safety regulations.
	WARNING, PERSONAL INJURY HAZARD OR RISK OF DAMAGE TO COMPONENTS - The procedure or step described must be carried out following the instructions provided and according to the applicable safety regulations.
	WARNING - Details and specifications which must be respected in order to ensure that the system operates correctly.
	RECYCLING and DISPOSAL - Components and structural materials, batteries and electronic components must not be disposed of together with household waste. They must be taken to authorised disposal and recycling centres.
	PAGE E.g.: **6** see Page 6.
	FIGURE E.g.: **1**-3 see Figure 1 - detail 3.
	TABLE E.g.: **1** see Table 1.
§	CHAPTER/SECTION E.g.: §1.1 see section 1.1.
	APPENDIX E.g.: **1** see Appendix 1.

2 Symbols: safety signs and symbols (EN ISO 7010)

	GENERIC HAZARD Personal injury hazard or risk of damage to components.
	ELECTROCUTION HAZARD Risk of electric shock from live parts.
	CRUSHING HAZARD Risk of crushing to the hands/feet due to the presence of heavy parts.
	HAND CRUSHING HAZARD Risk of crushing hands due to moving parts.
	CUTTING/AMPUTATION/PUNCTURE HAZARD Cutting hazard due to the presence of sharp components or the use of pointed/sharp tools (drill).
	SHEARING HAZARD Risk of shearing from moving parts.
	RISK OF IMPACT/CRUSHING Risk of impact or crushing due to moving parts.
	FORKLIFT TRUCK IMPACT HAZARD Risk of collision/impact with forklift trucks.
	RISK OF OBJECTS FALLING FROM ABOVE Risk of impact due to objects falling from above.

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 work gloves.

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 has been 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 requires special working conditions in order to minimise the risk 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 health and be aware of the dangers that the use of the product can cause.

The work area must be kept tidy and must not be left unattended.

Do not wear clothing or accessories (scarves, bracelets etc.) that could become caught in moving parts.

Always wear personal protective equipment suitable for the type of work to be carried out.

The required level of workplace lighting must be equal to at least 200 lux.

Use CE marked machinery and equipment and follow 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 bottom, equipped with retainer hooks.

2.2 TRANSPORT AND STORAGE

Store the product in its original packaging, in closed and dry premises, protected from the sun and free 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%.

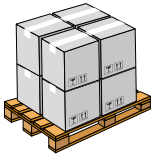
4 Symbols: warnings on packaging.

	Read the instructions.
	Handle with care. Presence of fragile parts.
	This way up. DO NOT turn over.
	Store away from water and humidity.
	Maximum number of stackable packages.
	Storage humidity.
	Storage temperature.
	CE marking.

PALLETISED SUPPLY

HAZARDS

PERSONAL PROTECTIVE EQUIPMENT

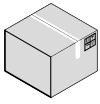


Follow the instructions on the packaging during handling.
Use a forklift or pallet truck, following safety regulations to avoid the risk of impacts or collisions.

SINGLE PACKAGE

HAZARDS

PERSONAL PROTECTIVE EQUIPMENT



Follow the instructions on the packaging during handling.

2.3 UNPACKING AND HANDLING

HAZARDS

PERSONAL PROTECTIVE EQUIPMENT

1. Open and remove all packaging elements.
2. Check that all components are present and intact.

If the goods supplied are non-compliant, proceed as indicated in the General Conditions of Sale listed in the sales catalogue and which can be seen on the website www.faacgroup.com.

The unpackaged goods must be handled manually.

Should transport be required, the products must be suitably packaged.
Discard the packaging after use in the appropriate containers in compliance with waste disposal regulations.
The packaging materials (plastic, polystyrene, etc.) must not be left within reach of children as they are potential sources of danger.

2.4 WASTE DISPOSAL

After having dismantled the product, dispose of it in compliance with the current waste disposal regulations.

Components and structural materials, batteries and electronic components must not be disposed of together with household waste. They must be taken to authorised disposal and recycling centres.

3. A951

3.1 INTENDED USE

The FAAC A951 series electromechanical operators are designed to operate horizontal movement pedestrian swing doors.

One operator must be installed on each leaf.

The A951 is suitable for indoor installation.

⚠ 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 APPLICATION LIMITS

The door must fall within the size and weight limitations indicated in the technical data section.

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

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).

A951 is not designed to be a security (break-in protection) system.

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

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 A951 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 to create fire doors.
- 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 (the product is not ATEX certified).
- 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.
- 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 on, hold onto or let yourself be pulled by the leaf.
- 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.

⚠ During manual operation, gently guide the leaf the whole way, do not push it and let it slide freely.

3.4 EMERGENCY USE

In emergencies or if there is a fault, turn off the power supply to the automation. If the door 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.

3.5 MANUAL OPERATION

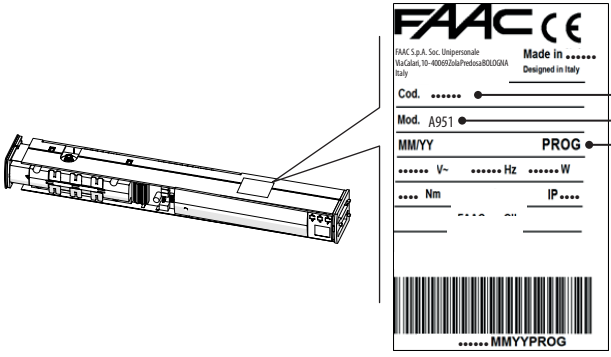
The leaf can be operated manually in any of the following conditions:

- MANUAL mode selected.
- Power supply disconnected.

A951 is a reversible door operator and is therefore not fitted with a release device that has to be actuated before the leaf is moved manually. If there is a lock, make sure that it has been unlocked before moving the leaf manually.

3.6 PRODUCT IDENTIFICATION

The product is identified by the following rating plate:



Sale code

Product name

Identification number

Month/year of production + progressive number for the month of production

Example: 0122 0001

produced in January 2022 S/N 1

3.7 TECHNICAL CHARACTERISTICS

The A951 can be installed on an architrave or on the door.

The various installation options are detailed in the installation diagrams 1-5.

In order to move the door, one of the following optional arms must be installed:

- Shoe arm
- Articulated arm

Depending on the distance between the upper edge of the door and the architrave, each arm can be fastened directly to the shaft of the A951 or using spacers, to be ordered separately.

By turning it over, the A951 can be used to automate doors with hinges on either the right or left. This is because the door operator is equipped with a transmission shaft on each side and because the programming display automatically adapts itself to the direction in which it is mounted.

The A951 is a reversible door operator and is therefore not fitted with a release device.

The A951 can control a lock to mechanically lock the door in the closed position.

The A951 is equipped with an electronic anti-crushing system that is activated when an obstacle is detected during movement: when closing it reverses the direction, when opening it stops for a few seconds and then continues to open.

The opening and closing speeds can be adjusted separately.

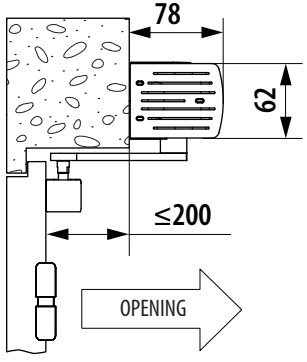
An optional buffer battery kit is available to compensate for mains power failures.

5 Technical data

Power supply voltage	220 V…240 V~ 50/60 Hz
Maximum absorbed power	100 W
Absorbed power in standby without accessories	5 W
Use frequency	100%
Ambient operating temperature	-10°C…+55°C
Maximum door weight	100 Kg
Door width	700 mm…1100 mm
Maximum doorpost depth	see installation diagrams (1-5)
Installation	on architrave or leaf
Maximum opening angle	110°...120°
Dimensions (LxHxD)	575x60x78 mm
Weight	7 Kg

1 Installing the A951 on an architrave with a shoe arm (dt=1)

The door opens inwards (as seen from the operator side)



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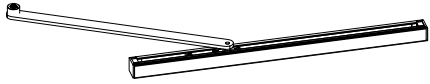
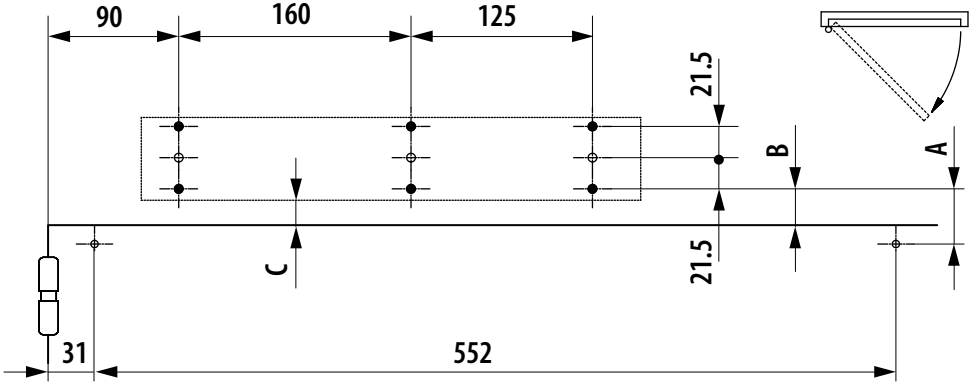
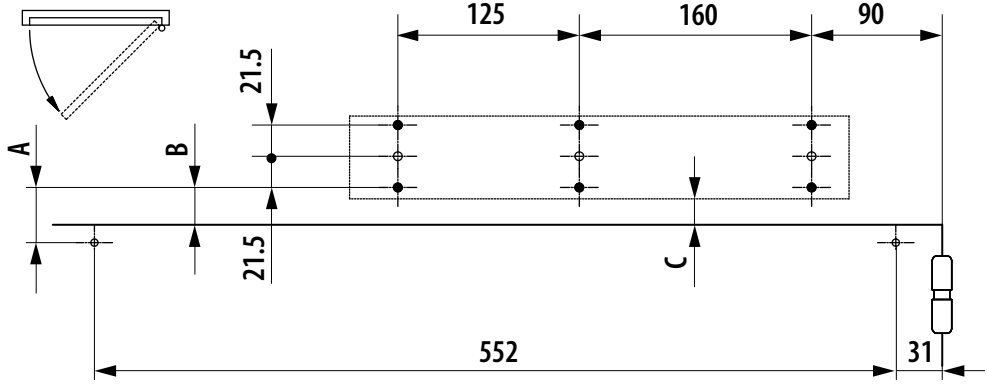
1 Extension	73	60.5	53.5
2 Extensions	108	95.5	88.5

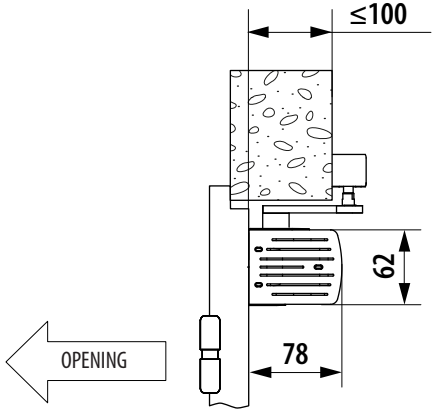






2 Installing the A951 on a door with a shoe arm (dt=1)

The door opens outwards (as seen from the operator side)



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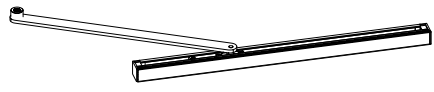
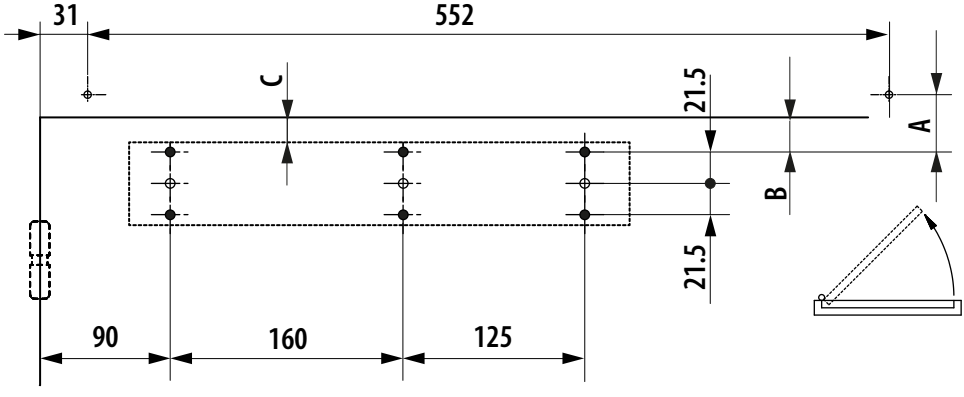
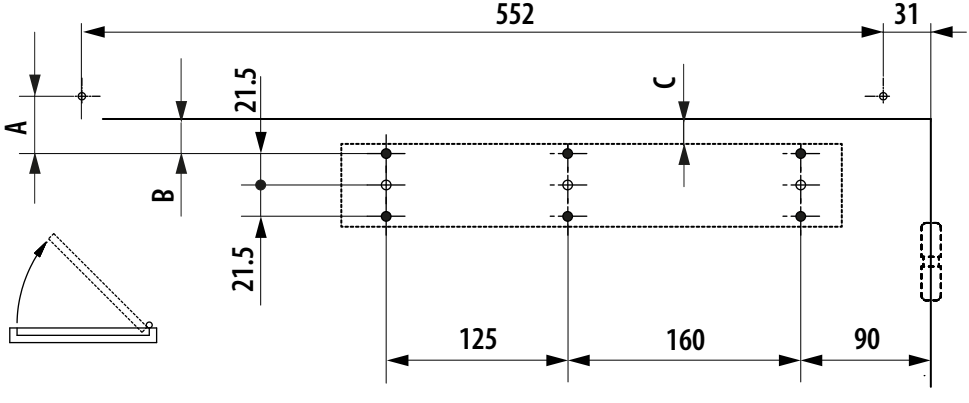
1 Extension	73	60.5	53.5
2 Extensions	108	95.5	88.5

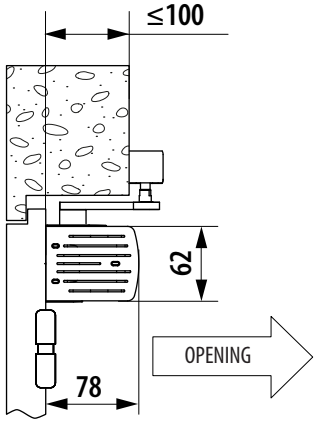






3 Installing the A951 on a door with a shoe arm (dt=2)

The door opens inwards (as seen from the operator side)



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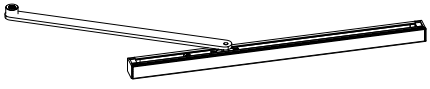
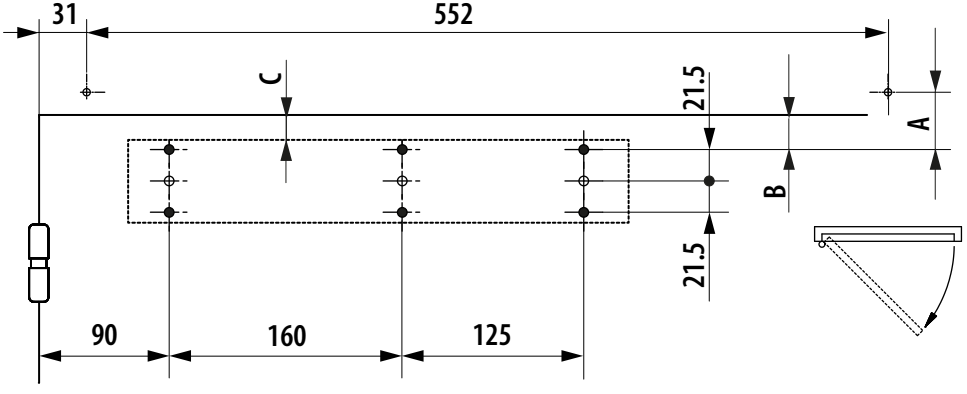
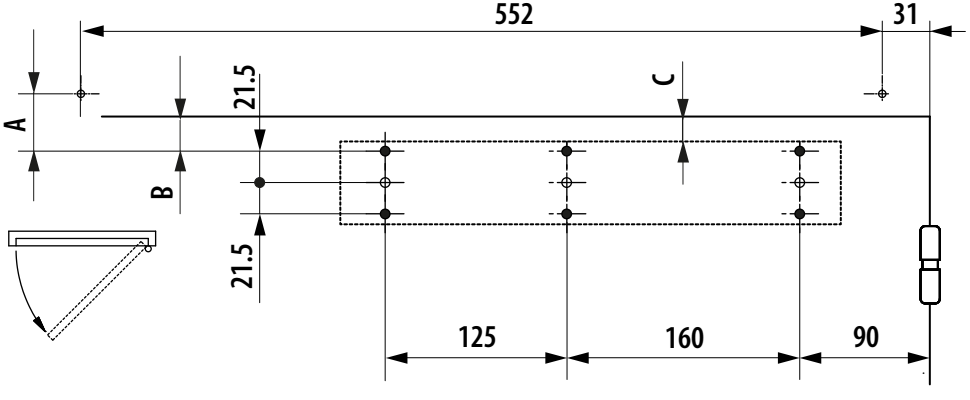
1 Extension	73	60.5	53.5
2 Extensions	108	95.5	88.5

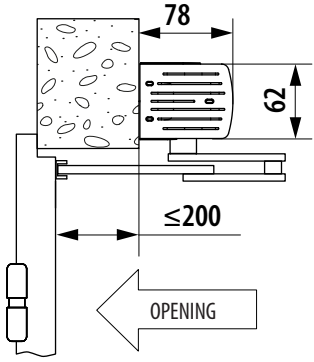






4 Installing the A951 on an architrave with an articulated arm (dt=3)

The door opens outwards (as seen from the operator side)



	A	B	C
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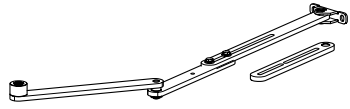
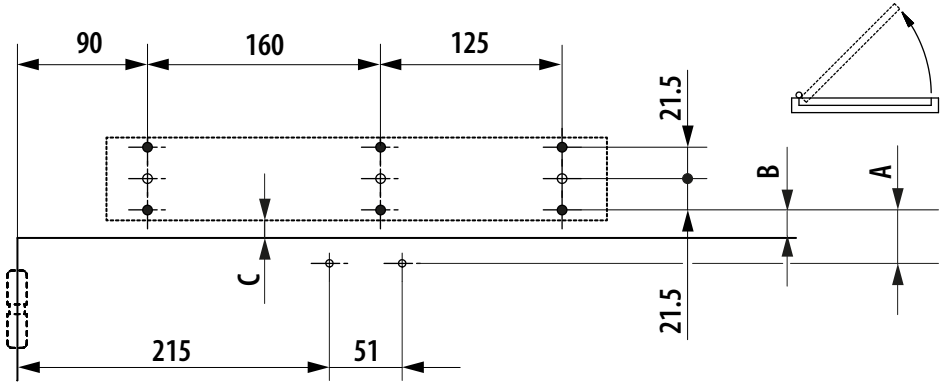
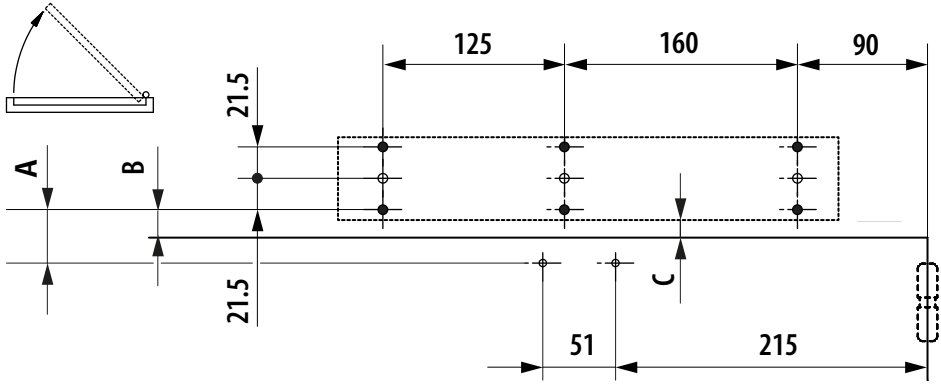
1 Extension	62	49.5	42.5
2 Extensions	97	84.5	77.5



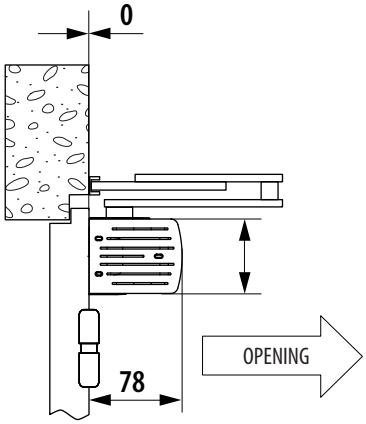


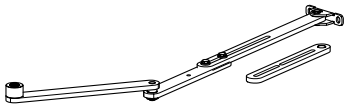


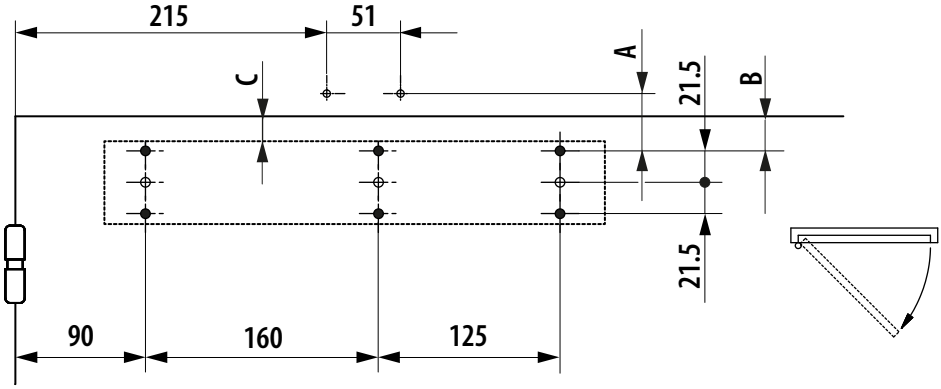
5 Installing the A951 on a door with an articulated arm (dt=3)

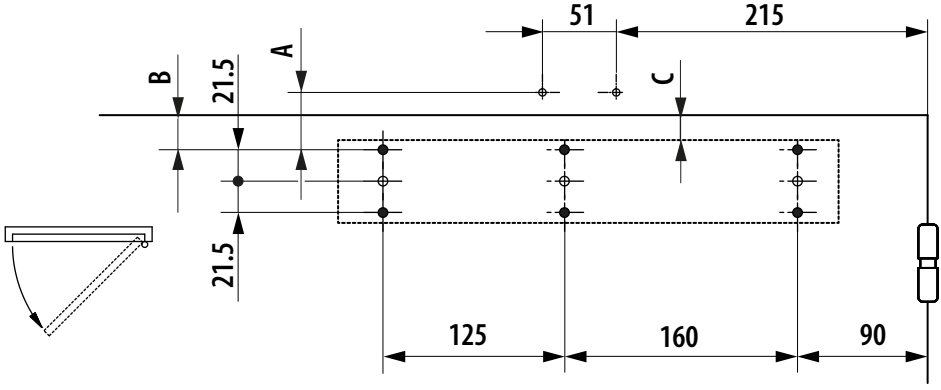
The door opens inwards (as seen from the operator side)

	A	B	C
Without extension	27	14.5	7.5
1 Extension	62	49.5	42.5
2 Extensions	97	84.5	77.5

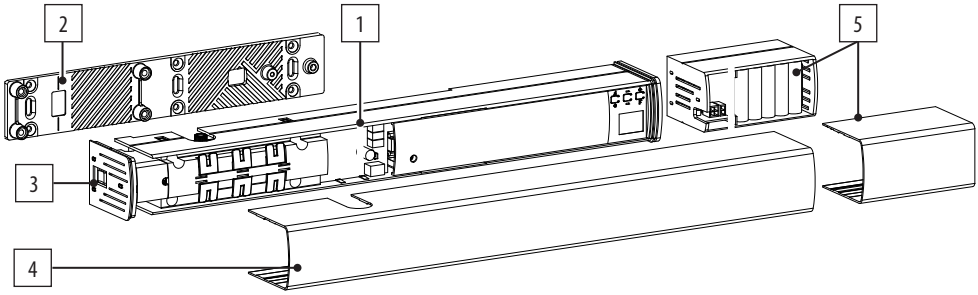


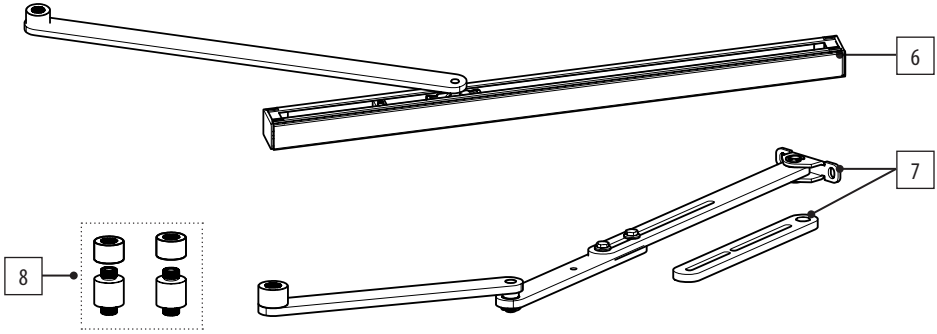


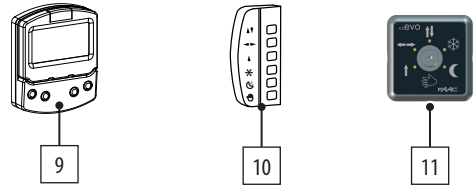




3.8 COMPONENT IDENTIFICATION







1	Door operator A951	included in the supply
2	Fixing plate	included in the supply
3	Functions selector	included in the supply
4	Front cover	included in the supply
5	Emergency batteries	optional accessory
6	Shoe arm	optional accessory
7	Articulated arm	optional accessory
8	Extensions	optional accessory
9	KPEVO function programmer	optional accessory
10	LKP EVO function programmer	optional accessory
11	KS EVO function programmer	optional accessory

1

4. INSTALLATION REQUIREMENTS

4.1 MECHANICAL REQUIREMENTS

The mechanical structural components must comply with the requirements of EN 16005.

Before installing the automation, the suitability of the mechanical requirements must be established and the necessary work to achieve them performed.

The essential mechanical requirements are as follows:

Flat, horizontal paving in the area of movement of the leaf.

The door must be perfectly vertical throughout the entire length of its stroke with a regular, uniform movement without friction.

The structure (architraves, doorposts, walls, frame, hinges and leaves) must be solid and there must be no risk of detachment or collapse, considering the weight of the leaf and the forces applied by the door operator and generated by wind action. Perform structural calculations where necessary.

The structure must show no signs of corrosion or cracking.

Appropriate anti-falling devices must be installed to prevent the leaf from falling.

The hinges must be in good condition, lubricated and with no play or friction; make sure that the leaves cannot come off from their hinges and fall (for example, by being lifted).

There must be external mechanical limit stops to limit the travel of the leaf when opening and closing. The stops must be of an appropriate size and solidly fastened in order to withstand the impact of the leaf.

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

The leaves must be made of materials that do not cause a risk of injury to persons if they were to break.

Transparent leaves must be indicated by appropriate markings or easily visible labels.

Doors for one-way transit must be indicated with appropriate signs.

No sharp edges or protruding parts should be present to ensure there are no cutting, hooking or perforation hazards. Alternatively, eliminate or protect any sharp edges and protruding parts.

Safety precaution between the wall (or other fixed element) and the furthest protruding part of the open leaf to protect against the risk of persons becoming trapped/crushed. Suitable safety devices must be installed between the fixed and moving parts to prevent hands from being crushed. Alternatively, apply protective elements that prevent fingers from being introduced.

There must be a safety element between the floor and lower edge of the leaf, along its entire stroke, to protect feet from becoming caught and crushed. Alternatively, apply protective elements preventing the introduction of feet.

For the minimum dimensions to prevent the crushing of body parts, refer to standard EN 349.

For the safety distances required to prevent danger zones being reached, refer to ISO 13857.

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 a CE marking that 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 6 A multi-pole circuit breaker with a contact opening distance of at least 3 mm, with breaking capacity which meets code.

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.

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.

Protect extension connections using junction boxes with an IP67 protection rating or higher.

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

The control accessories must be positioned in a location that is not hazardous to the user and that is also accessible with the leaf open.

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 button = 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 PROTECTION AGAINST DOOR MOVEMENT HAZARDS

Swing type pedestrian doors fall within the scope of the type "C" harmonised European Standard, EN 16005. It is assumed that automation systems manufactured in accordance with this standard also comply with the essential safety requirements of the Directive 2006/42/EC.

This however does not exempt the manufacturer from carrying out a risk analysis in order to implement appropriate measures for those risks that are not covered by the standard or by the manufacturers of the components.

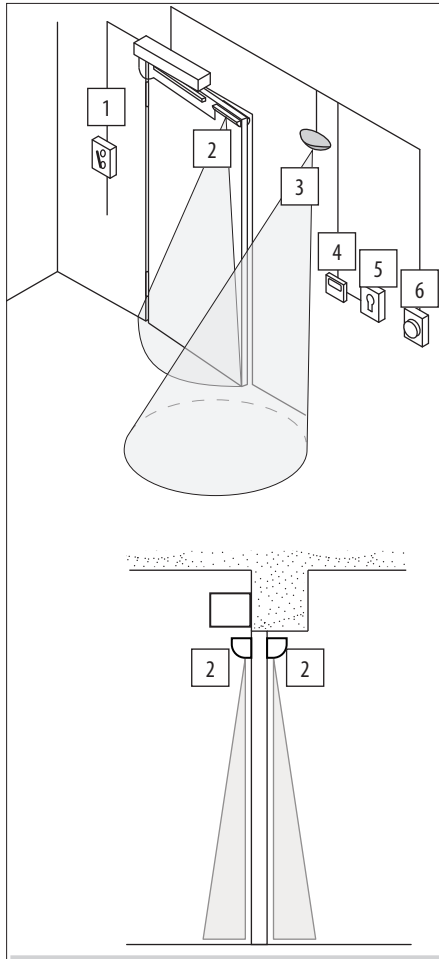
As a guideline only, in order to protect against risks related to moving parts, the standard EN 16005 requires that:

- The opening and closing movement must take place in "low energy" mode, which means that the kinetic energy of the leaf must not exceed 1.69 joules and the maximum static force must not exceed 67 N.
- Alternatively, for doors that open onto heavy traffic areas or when any contact with the user is unacceptable because many of the users are elderly, sick, disabled or children, additional protective devices are to be used.

Among the possible solutions provided, the installation of ESPE equipment is recommended, which complies with EN 12978 CAT.2 (according to EN 954-1 and / or EN 13849), to monitor the full width of the door in both directions of movement.

4.4 EXAMPLE SYSTEM

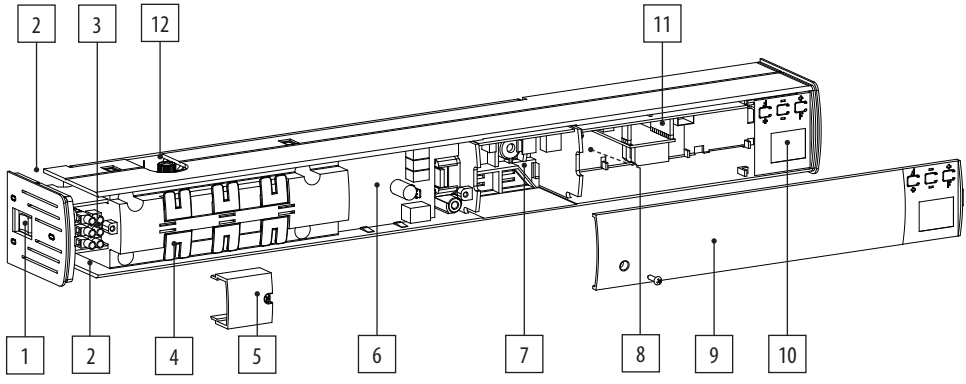
The example is purely an illustration and is only one of the possible applications of the A951.



1	Power supply 230V~	2x1.5mm^2 + earth
2	Detector (XPB ON)	cable provided
3	Opening sensor	cable provided
4	KPEVO	U/UTP AWG24, MAX 50m
5	Key switch for locking the KPEVO	2x0.5mm^2
6	Control buttons	2x0.5mm^2

2

4.5 DESCRIPTION OF COMPONENTS



1	Functions selector
2	Cable routing
3	Mains power terminal board
4	Cable clips
5	Mains power terminal board cover
6	I/O Board
7	Communication board (optional)
8	Power board
9	Transparent cover
10	Display and programming buttons
11	Logic board
12	Gearmotor

3

4.6 TOOLS REQUIRED

Use appropriate tools and equipment in working environments which comply with applicable legislation.

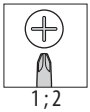
6 Symbols: work tools


8 ; 13

HEX SPANNER of size indicated


2 ; 3

FLAT SCREWDRIVER of the size(s) indicated


1 ; 2

PHILLIPS SCREWDRIVER of the size(s) indicated


2.5 ; 4

HEX KEY of size indicated

SPIRIT LEVEL

DRILL

WIRE STRIPPER/CABLE LUG CRIMPER

5. MECHANICAL INSTALLATION

CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED.

The installation must conform to Standard EN 16005. Mark off the work site and prohibit access/transit. When installation is complete, make sure that you have not left any tools on top of the door operator.

The installation procedure below refers to a door with hinges on the left, as seen from the automation side. If the hinges are on the right, the installation should be carried out as a mirror image.

HAZARDS

PERSONAL PROTECTIVE EQUIPMENT

5.1 CABLE INLET A951

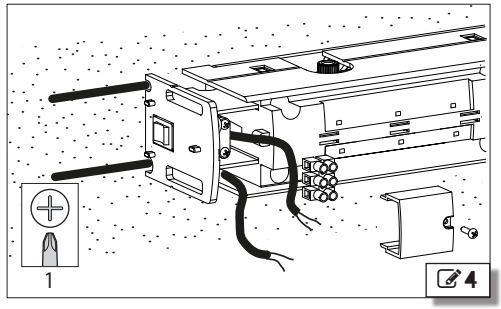
The A951 is designed for cables to enter either from the functions selector side (✎ **4**) or from the back (✎ **5**). When wiring the system, allow at least 45 cm of cable from the cable inlet area to connect to the door operator.

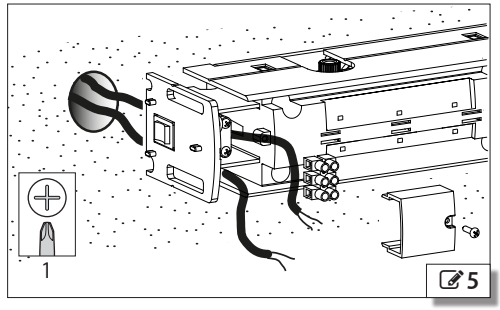
5.2 MOUNTING THE A951

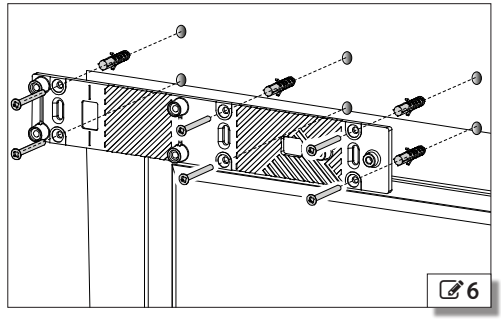
1. Select the installation diagram required from those available (✎1-✎5).
2. Mark the holes to be drilled on the architrave and the door using a pencil or the tip of an awl.

   Make sure that there are no pipes or electrical conduits in correspondence with the holes to be drilled. It must be mounted using screws (wall plugs, self-tapping screws etc.) and adequately tightened in order to the support the system.

3. Fasten the plate to the structure (architrave or door) using the previously drilled holes (✎ **6**).



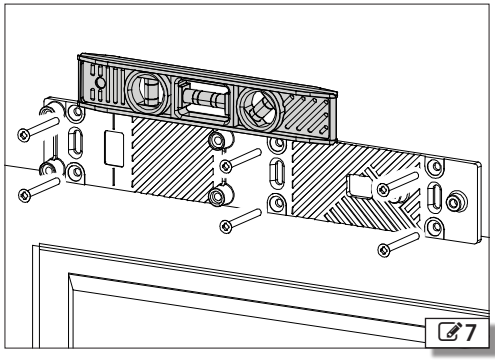


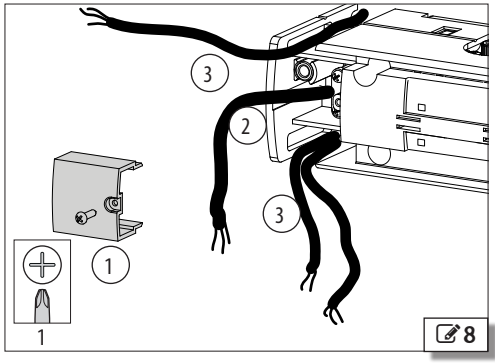


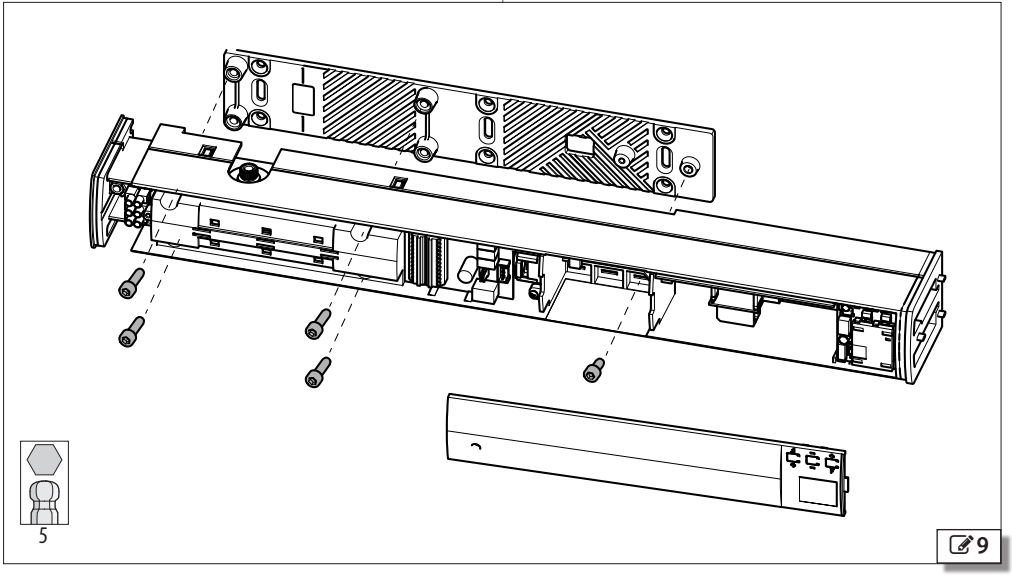
The plate should be positioned with its flat side against the fixing surface.
Fasten the plate and use a spirit level (✎ **7**) to check that it is horizontal.

4. Install the cables as show in ✎ **8**:
   - Remove the mains power terminal board cover (1) and place it temporarily to one side; then pass the power cable (2) through the central housing.
   - Be careful not to pinch the wires (3) by pulling them out completely before fixing the operator.
5. Install the door operator on the plate and fasten it using the 5 screws provided (✎ **9**).

One screw is located under the transparent cover, which should be removed and put temporarily to one side.







5.3 SHOE ARM

Carry out the installation procedure with the door closed.

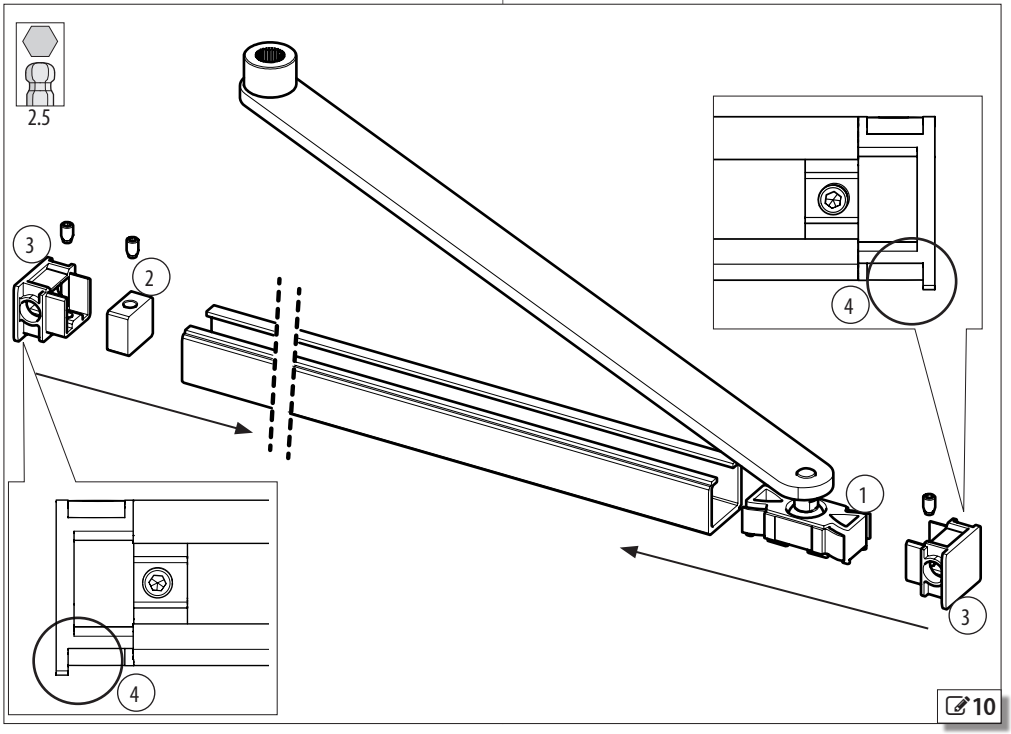
⚠ Be careful when working in the area between the shoe and the guide because of the following risks:
- Finger crushing / shearing hazard.
- Hooking / entanglement of clothing, tools, equipment.

1. Assemble the transmission arm as shown in ✎**10**:
- Slide the shoe (1) into the guide.
- Insert the limit switch block (2) into the guide.

ⓘ Once fixed, the block will determine the maximum opening position of the door. The direction of insertion therefore depends on the assembly diagram. The position in which it will be fixed shall be determined later in this procedure.

- Install the side covers (3) at the ends of the guide and fasten them using the grub screw.

ⓘ The protruding edge (4) must face outwards with respect to the fixing surface.

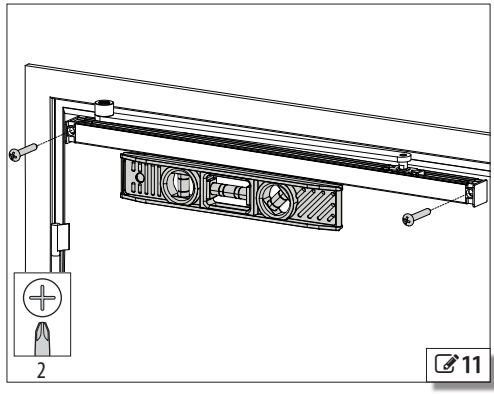


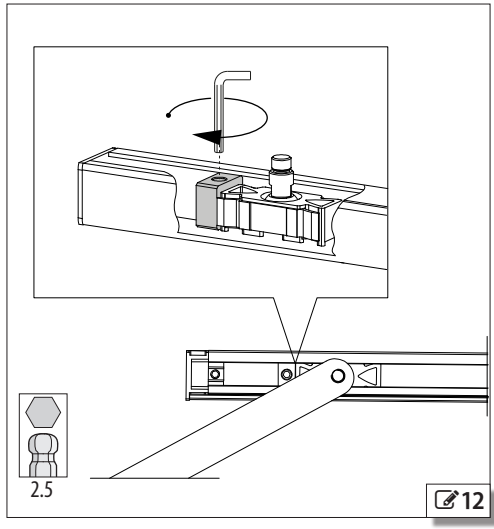
✎**10**

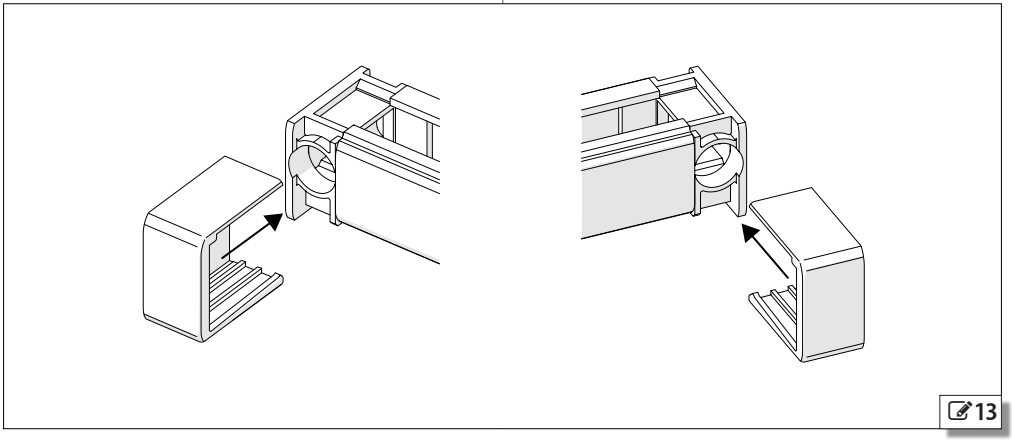
2. Using a spirit level and the screws provided, fasten the guide horizontally to the structure (architrave or door) using the previously drilled holes (✎ **11**).

> ⚠ The guide must be fastened using suitable fasteners and tightened appropriately according to the support material.

3. Connect the transmission arm to the rotating shaft (see § 5.5).
4. Move the door manually to make sure there is no friction and that it does not jam.
5. Leave the door in the required maximum opening position. Slide the limit switch block until it comes into contact with the shoe and fix it in position using the grub screw (✎ **12**).
6. Press the covers onto the guide (✎ **13**).







5.4 ARTICULATED ARM

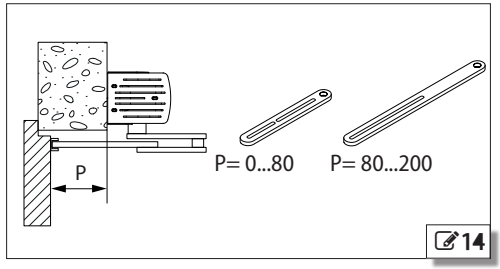
Be careful when working in the area of movement of the articulated arm because of the following risks:
- Finger crushing / shearing hazard.
- Hooking / entanglement of clothing, tools, equipment.

The pack contains two arms of different lengths, to use according to the depth P (**14**).

1. Using a spirit level and the screws and washers provided, fasten the arm plate to the structure (architrave or door) using the previously drilled holes (**15**).

The arm plate must be fastened using suitable fasteners and tightened appropriately according to the support material.

2. Install the two bushes on the telescopic arm (**16**).
3. With reference to **17**:
- Connect the telescopic arm to the arm plate using the using the pin (1).
- Press the Benzing ring (2) on.



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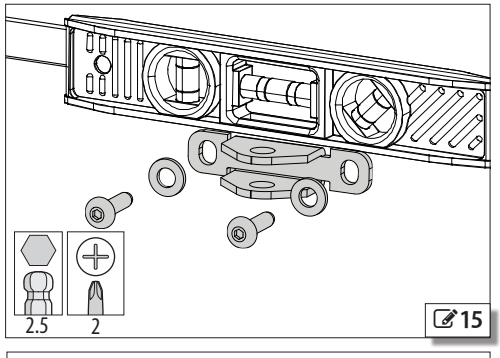

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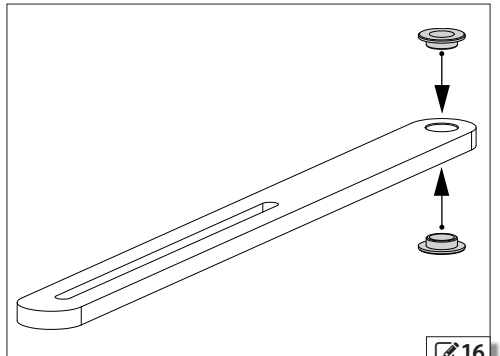
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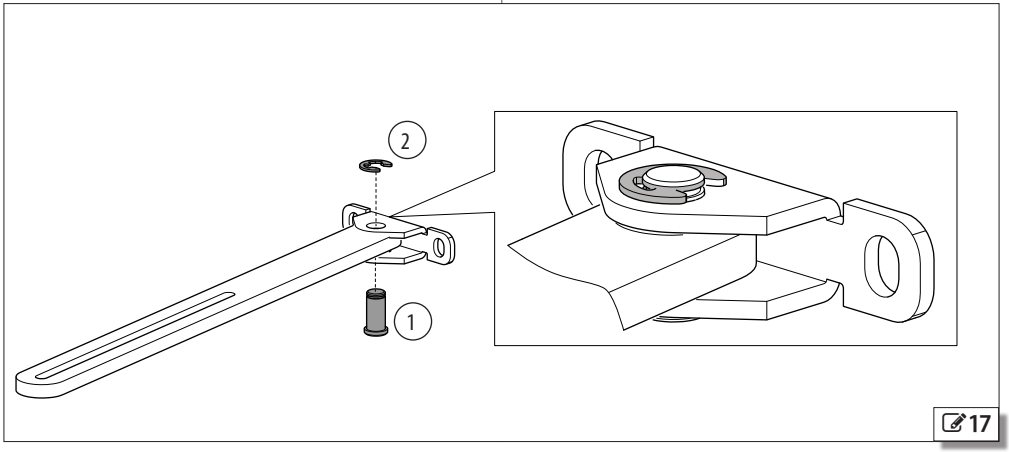
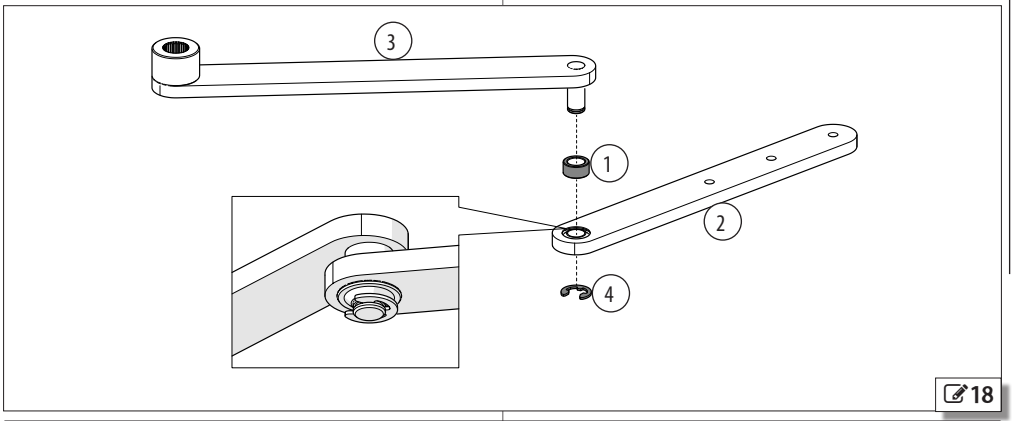
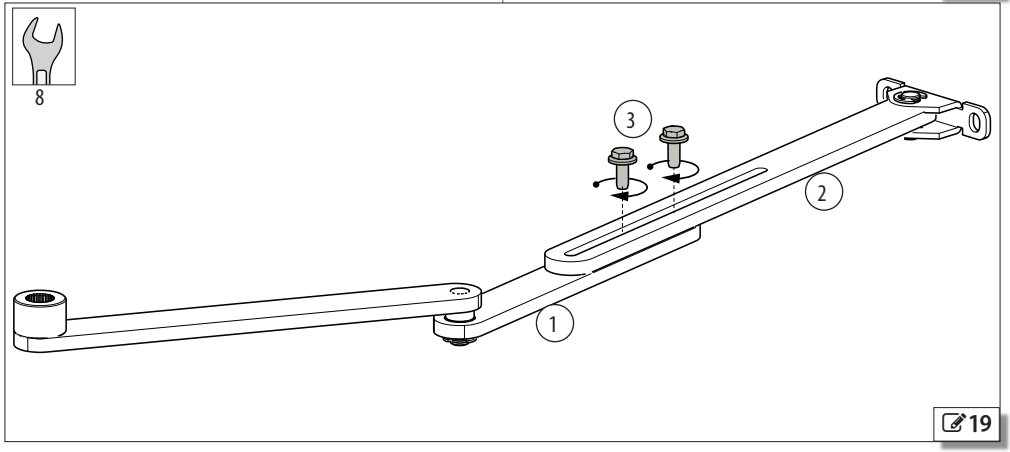


17

4. Assemble as indicated in ✎**18**:
   - Place the spacer (1) between the articulated arm (2) and the transmission arm (3).
   - Press the Benzing ring on (4)
5. Connect the transmission arm to the rotating shaft (see § 5.5).
6. Position the door in the required maximum opening position.
7. Assemble as indicated in ✎**19**:
   - Align the articulated arm (1) with the telescopic arm (2).
   - Tighten the screws (3) into the threaded holes on the articulated arm.
8. Move the door manually to make sure there is no friction and that it does not jam.



✎**18**



✎**19**

5.5 CONNECTING THE TRANSMISSION ARM

Depending on the distance between the upper edge of the door and the architrave, the transmission arm can be fastened directly to the shaft of the A951 or using spacers that are supplied separately as an accessory.

The components in the package allow two 35mm extensions to be used.

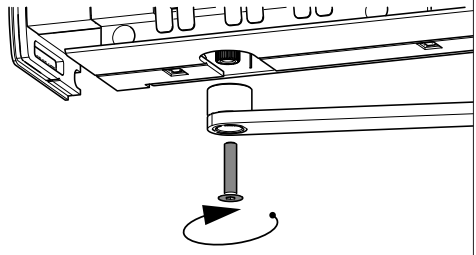
A maximum of 2 extensions can be installed.

Insert the transmission arm directly onto the rotating shaft or use the spacers as shown in **20** and fasten using the screw.

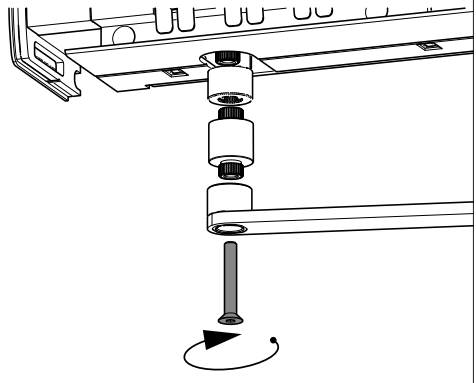
Use the screw supplied together with the transmission arm if no extensions are used.

The optional spacers are supplied with 2 screws of different lengths, to use according to the extensions that are installed (the longer one is when 2 extensions are used).

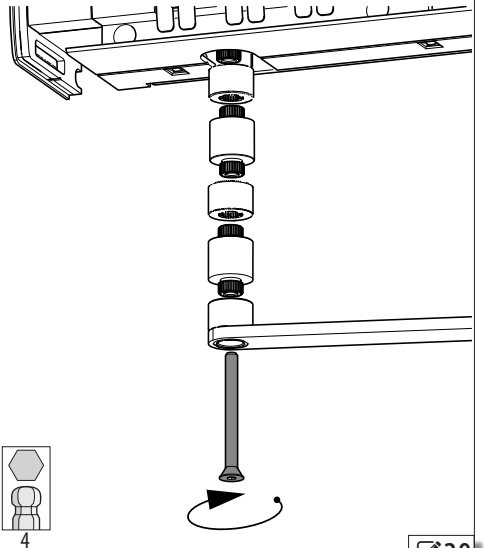
■ **NO EXTENSION**



■ **1 EXTENSION**



■ **2 EXTENSIONS**



4

20

6. ELECTRONIC INSTALLATION

HAZARDS

PERSONAL PROTECTIVE EQUIPMENT

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.

6.1 COMMUNICATION BOARD

Install the Communication board, if used.

6.2 COVER

Replace the transparent cover.

6.3 CONNECTING TO THE MAINS POWER SUPPLY

CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED.

With reference to **21**:

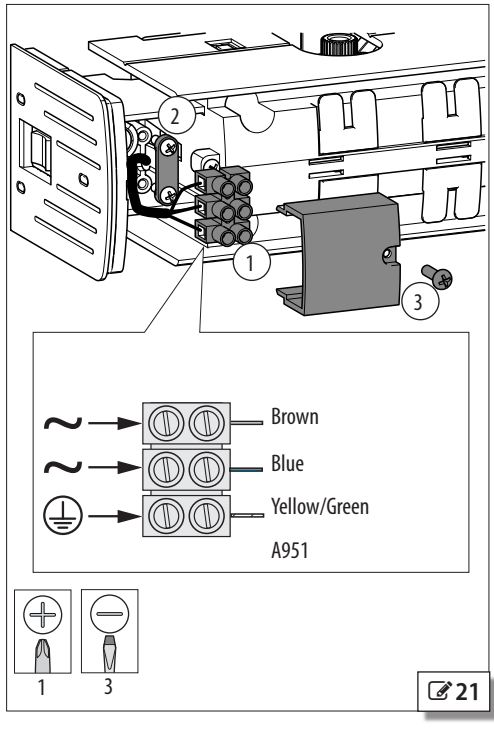
- Connect the mains power cable to the terminals (1) , following the colour scheme indicated.
- Secure the power cable using the cable grip (2).
- Install the mains power terminal board cover (3) and fasten it in place using the screw.

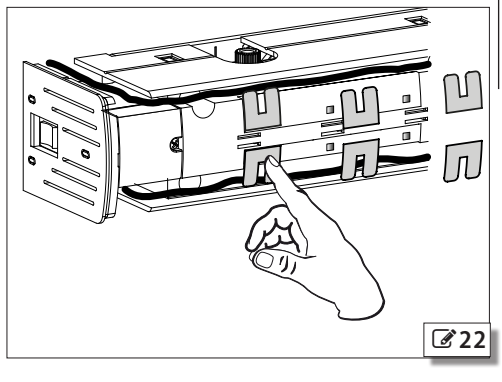
6.4 CONNECTING TO THE I/O BOARD

CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED.

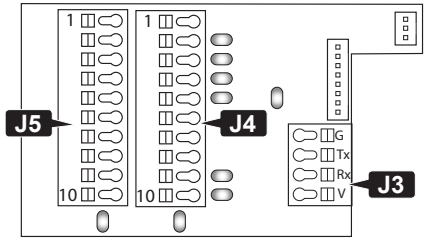
1. Place the accessories connection cables in the upper and lower guides and press the cable clips (**22**).
2. Connect the wires to the terminal boards in **23**.

The terminals are of the spring type: to insert or remove the wires, press the button with the tip of a screwdriver.





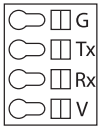
6.5 I/O BOARD



J3	KPEVO connection
J4	Inputs Connection
J5	Outputs Connection

23

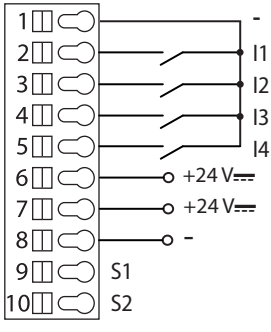
J3 - KPEVO



G	Power supply negative
TX	Data transmission
RX	Data reception
V	+24 V power supply

To connect the KPEVO see § 13.

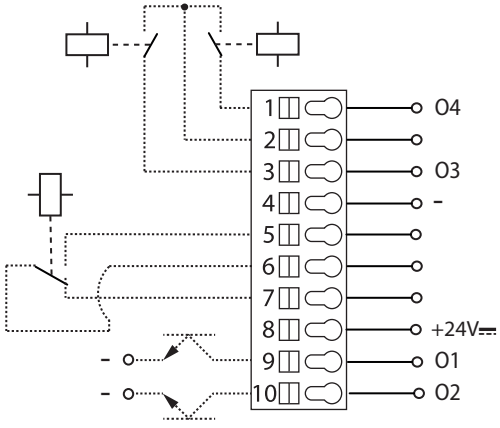
J4 - INPUTS



The inputs of terminal board J4 (I1-I4 and S1-S2) can be configured on the A951 or via the KPEVO.
The diagram and table show the default functions.

1	Power supply negative and common inputs
2	I1 INTERNAL OPEN input with NO contact
3	I2 EXTERNAL OPEN input with NO contact
4	I3 KEY input with NO contact
5	I4 INTERLOCK ON input with NO contact
6 7	+24 V⎓ accessories power supply (700mA max)
8	Power supply negative and common inputs
9	S1 input disabled
10	S2 input disabled

J5 - OUTPUTS



The outputs of terminal board J5 (O1-O4) can be configured on the A951 or via the KPEVO.
The diagram and table show the default functions.

1	DOOR NOT CLOSED status relay output O4 with NO contact (maximum 1 A @ 24 V⎓)
2	DOOR NOT CLOSED and DOOR OPENED status common relay contacts
3	DOOR OPENED status relay output O3 with NO contact (maximum 1 A @ 24 V⎓)
4	Power supply negative
5	Relay output with NO contact for LOCK (maximum 3 A @ 30 V⎓)
6	Common relay contacts for LOCK
7	Relay output with NC contact for LOCK (maximum 3 A @ 30 V⎓)
8	+24 V⎓ power supply for LOCK (maximum 500mA)
9	O1 open collector output (max. 50mA), GONG function with NO contact
10	O2 open collector output (max. 50mA), TEST function with NO contact

6.6 CONNECTING SAFETY SENSORS

1. The inputs of the I/O board to which the sensors should be connected must be configured as safety devices (opening or closing according to requirements), with an NC and test enabled contact.
2. Configure an output as test.
3. For the electrical wiring, refer to the sensor instructions.

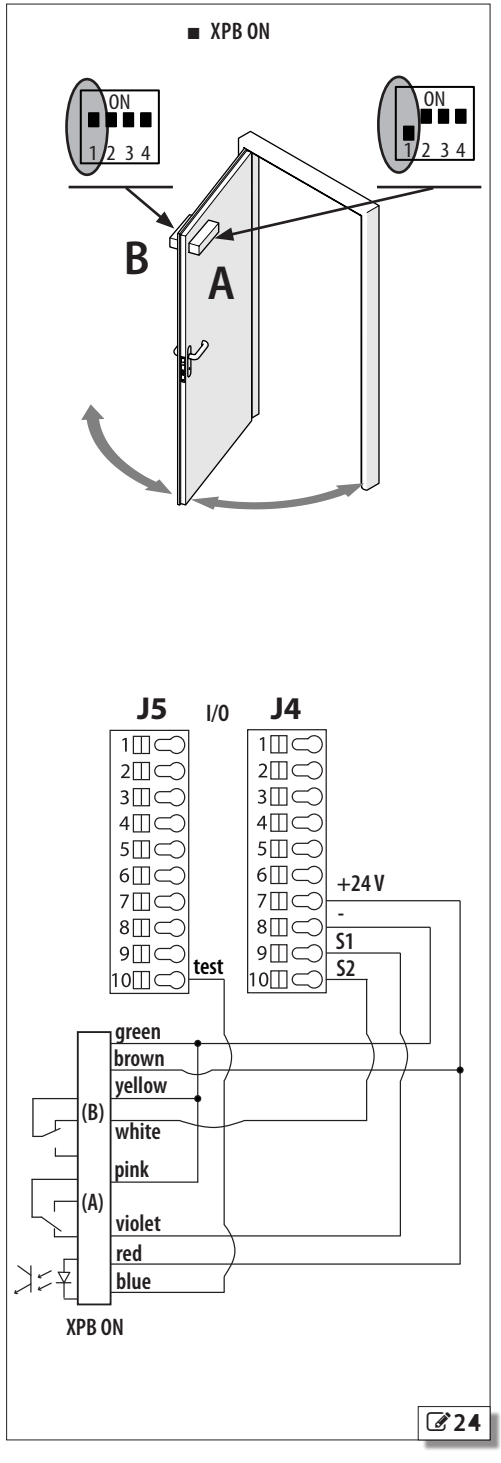
The parameters are available in advanced programming on the A951 or via the KPEVO.

CONNECTING XPB ON

24 shows an example of a pair of interconnected XPB ON master/slave, sensors used as closing (A) and opening (B) safety devices.
Sensor A is connected to input S1 (to be configured as a safety device during closing with an NC and test enabled contact).
Sensor B is connected to input S2 (to be configured as a safety device during opening with an NC and test enabled contact).
Output O1 should be configured as test (normally closed).
DIP switch 1 of each sensor defines the side on which it is mounted:
ON = opening side
OFF = closing side

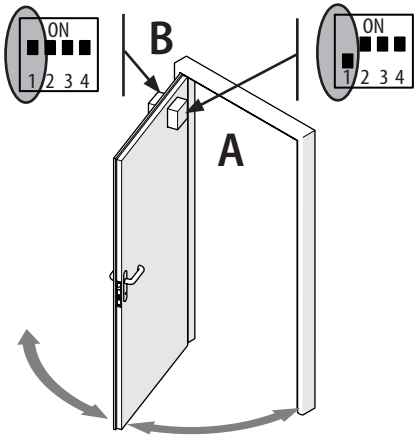
CONNECTING XPB SCAN / XPB SCAN 3D

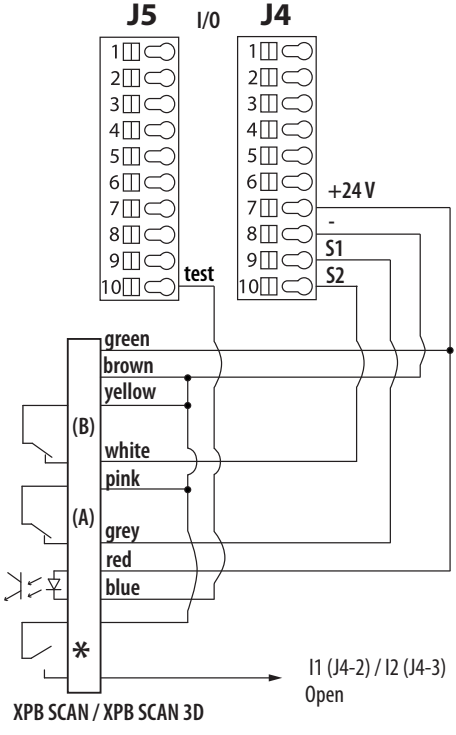
25 shows an example of a pair of interconnected XPB SCAN/ XPB SCAN 3D master/slave, sensors used as closing (A) and opening (B) safety devices.
Sensor A is connected to input S1 (to be configured as a safety device during closing with an NC and test enabled contact).
Sensor B is connected to input S2 (to be configured as a safety device during opening with an NC and test enabled contact).
Output O1 should be configured as test (normally closed).
DIP switch 1 of each sensor defines the side on which it is mounted:
ON = opening side
OFF = closing side



24

■ XPB SCAN / XPB SCAN 3D





* only for XPB SCAN 3D

25

6.7 CONNECTING THE LOCK

If the lock needs to be powered in order to be released, connect it as indicated in 26.

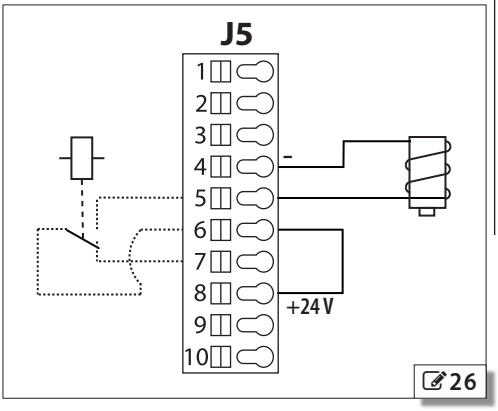
If the lock needs to be switched off in order to be released, connect it as indicated in 27.

Maximum power consumption: 500 mA 24V ⎓.

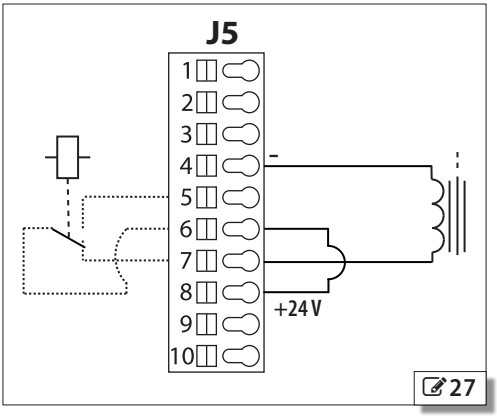
In advanced programming on the A951:

- define the operating mode of the lock (parameter EL).
- set the opening delay of the door to allow the lock to be opened, particularly motorised ones (parameter Et).
- if necessary, enable the reverse stroke to facilitate the release of the lock (parameter r5).

Access the motor lock configuration menu via the KPEVO in order to set the functions described above.



26



27

ENGLISH

Translation of the original instructions

7. OPERATING MODE

The operating mode of the automation can be assigned using the functions selector at the side of the unit, via other specific external devices, via specially configured inputs and from TIMER.

■ **AUTOMATIC MODE**

The door opens and CLOSES AUTOMATICALLY after the programmed pause time.

TWO-DIRECTIONAL Two-directional transit is allowed (Internal Opening and External Opening enabled).

EXIT ONLY Only exiting is allowed (External Open disabled).

ONLY IN Only entry is allowed (Internal Open disabled).

In automatic mode, the PUSH & GO function can be activated as follows:

- Standard : pushing the door manually starts motorised opening
- Fast Food : manual opening, motorised closing

■ **MANUAL MODE**

The door is free to move and can only be operated manually. No command is active.

■ **OPEN MODE**

TOTAL The door opens and remains open.

PARTIAL Only one leaf opens and remains open in the 2-leaves application.

■ **NIGHT-TIME MODE**

The door closes and remains closed. External Opening is disabled. Internal Open is enabled only in the time interval programmed as NIGHT MODE DELAY. Opening is only possible via the Key and Emergency Open inputs.

■ **INTERLOCK MODE**

The opening of one door is subject to the closing of another (§ specific Section).

8. CONFIGURABLE INPUTS

All the available inputs (I1…I8) can be modified in programming according to their function and type of contact.

A brief description of each function is given below.

AUTOMATIC OPENING INPUTS

When one of the following inputs is activated, the automation opens and closes again after the pause time. The automation does not close as long as the input is active.

EXTERNAL OPEN Input specifically for external control devices. The input is disabled in NIGHT or EXIT ONLY mode.

INTERNAL OPEN Input specifically for internal control devices. The input is disabled in ENTRY ONLY mode. In NIGHT mode, it is enabled only in the time interval programmed as NIGHT MODE DELAY.

AUTOMATIC OPEN The input is disabled in NIGHT mode (it is enabled in EXIT ONLY and ENTRY ONLY mode).

KEY Command also enabled in NIGHT mode.

PARTIAL OPEN Opens only one leaf in the 2-leaf application. It is NOT enabled in the NIGHT mode.

SEMI-AUTOMATIC OPENING INPUT

SEMI-AUTOMATIC OPEN

If the input is activated when the automation is closed, the door opens and remains open. If the input is activated when the automation is open, it closes it. The input is NOT active in NIGHT mode.

SAFETY INPUTS

⚠ Use monitored safety devices that are compliant with standard EN 16005:2012 on inputs configured for safety functions.

On the inputs configured as Safeties, the Test to make sure that the automation works correctly must be enabled before movement takes place. If the test fails, movement is inhibited (TEST ERROR).

CLOSING SAFETY Connect the closing safety devices. This input is activated:

- If the door is closing, it reopens
- If the door is already open, it prevents it from closingIf the door is opening, it has no effect

OPENING SAFETY Connect the opening safety devices. This input is activated:

- If the door is opening, it stops until it is released
- If the door is already closed, it prevents it from opening
- If the door is closing, it has no effect

EMERGENCY INPUTS

The EMERGENCY inputs have priority over any other input, in any NON MANUAL operating condition and mode.

- Programmed input WITHOUT MEMORY: when the status of the input is restored, the automation starts to operate normally again
- Programmed input WITH MEMORY: when the status of the input is restored, a RESET has to be carried out in order for the automation to start operating normally again.

EMERGENCY OPEN When the input is activated, the automation opens and remains open as long as the emergency is active.

EMERGENCY CLOSE When the input is activated, the automation closes and remains closed as long as the emergency is active.

TIMER FUNCTION INPUT

TIMER When the input is activated, TIMER programming is enabled, which automatically assigns the operating mode to the programmed time bands. When the input is deactivated, the TIMER programming is disabled.

OPERATING MODE INPUTS

These inputs allow an operating mode to be selected: **ALWAYS OPEN, EXIT ONLY, ONLY IN, NIGHT, MANUAL, PARTIAL, INTERLOCK.**

DISABLING AN INPUT

DISABLED When the input is disabled, it no longer has any effect on operation, regardless of its status.

9. CONFIGURABLE OUTPUTS

All the available outputs (OUT1…OUT5) can be modified in programming according to their function and type of contact.
A brief description of each function is given below.

DISABLED No associated function.
GONG The output is activated and deactivated at 1-second intervals when the safety devices are in use.
ERROR The output is activated if there is an error.
BATTERY OPERATION The output is activated when operating with the battery.
EMERGENCY ACTIVE The output is activated when an EMERGENCY is triggered.
TEST The output commands a Test (FAIL SAFE) on the inputs that are configured as safety devices on which the option of running a test before movement has been enabled.
DOOR NOT CLOSED The output remains active until the door is closed.
DOOR OPENED The output remains active as long as the door is open.
DOOR OPENING The output remains active as long as the door is opening.
COURTESY LIGHT The output is activated, for a programmable length of time, when the door is opened in NIGHT mode.
INTRUSION ACTIVE The output is activated when an intrusion is in progress (i.e. when an unexpected movement of the door from its closed position is detected).
CLOSING SAFETY ACTIVE The output is activated when a closing safety device is active.
SAFETIES ACTIVE The output is activated when a closing or opening safety device is active.
PEOPLE IN NUMBER The output is activated when the maximum number of people set for the room is reached (Safe Flow function).
EXTERNAL RED TRAFFIC LIGHT Controls the red light outside the room to regulate the flow of people to one person at a time (Safe Flow function).
EXTERNAL GREEN TRAFFIC LIGHT Controls the green light outside the room to regulate the flow of people to one person at a time (Safe Flow function).
INTERNAL RED TRAFFIC LIGHT Controls the red light inside the room to regulate the flow of people to one person at a time (Safe Flow function).
INTERNAL GREEN TRAFFIC LIGHT Controls the green light inside the room to regulate the flow of people to one person at a time (Safe Flow function).

10. START-UP

HAZARDS

PERSONAL PROTECTIVE EQUIPMENT

Before starting up the system, make sure that the door moves smoothly and without friction.

1. Close the door.
2. Turn power on to the A951.
3. Check that the status of the LEDS on the I/O board (§ 14.1Diagnostics) is correct.
4. Program the A951.

Make sure you set parameter 2.2 for the type of arm actually installed.

5. Carry out the set-up procedure (§ 10.3).
6. Carry out the final operations (§ Final operations).

10.1 PROGRAM THE A951

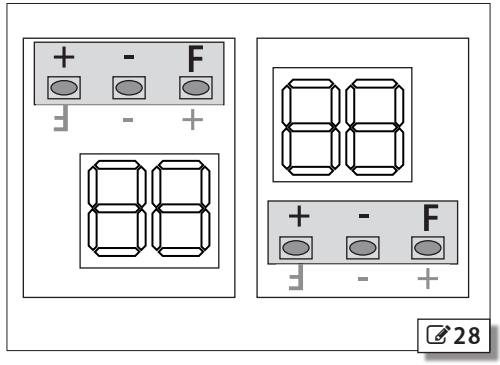
There are two ways to program the A951:
- On the board, using the display and the integrated buttons.
- Using the KPEVO.

The operating parameters for a typical installation are available for the on board programming function. Other functions are also available when programming via the KPEVO , in addition to the on board programming parameters.

10.2 ON BOARD PROGRAMMING

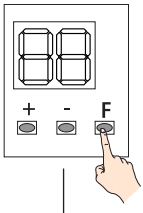
Before continuing, make sure that the transparent cover has been installed on the door operator.

When the power is turned on, the A951 display automatically adjusts to the direction in which the door operator has been mounted. The 3 programming buttons therefore assume different meanings.
Their meanings in the two mounting positions are printed on the cover. The LEDs illuminate the symbols or letters to use as shown in 28.
On board programming can be inhibited by using parameter 2.7.2 of the KPEVO menu.



Programming note:
- Changes made to the parameters are only saved when you exit from the programming function.
- Programming is interrupted after 10 minutes if buttons +, - and F have not been pressed. The display returns to the automation status view and any unsaved changes have to be re-entered.
- If there is a power failure during programming, any unsaved changes have to be re-entered.
- Press F and - at any stage during programming to exit from the programming function and save the changes made.
- Programming using the KPEVO offers a larger number of functions or values compared to on board programming. The board does not display any values that are not available and indicates them with EP (External Program).

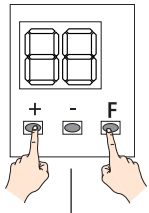
BASIC PROGRAMMING



1. Press F, the first basic function appears.

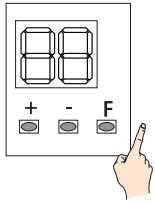
The code of the function is displayed as long as it remains pressed.

ADVANCED PROGRAMMING

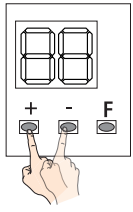


1. Press and hold down F and then + as well, the first advanced function appears.

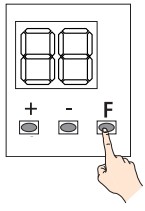
The code of the function is displayed as long as it remains pressed.



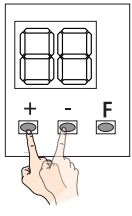
2. Release F. The value of the function appears.



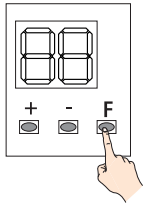
3. Press + or - to modify the value of the function.



4. Press F to confirm the value displayed. The selected value becomes effective immediately and the display shows the next function.
5. Repeat steps 3 and 4 for all menu functions. The last one (St) allows you to end the programming.



6. In St select y or no using the +/- buttons:
   - y = save the new program
   - no = DO NOT save the new program



7. Press F to confirm and exit from the programming mode. It returns to the automation status view.

BASIC Programming	Default
dF DEFAULTConfiguration Displayed if the board is configured with the factory settings (default). Y = the board is configured with the default settings no = at least one value has been modified compared to the default settings If you wish to reload all the default settings, select Y and exit from programming	Y
aE ARM TYPE (1- 5) 1 = skid 1 2 = skid 2 3 = articulate	1
PG PUSH & GO Commands the automatic opening of the door after an initial manual push 0 = disabled 1 = enabled 2 = enabled in "FAST FOOD"mode (manual opening, motorised closing)	0
PA PAUSE TIME Adjusts the pause time of the door when opened by a command, before closing automatically. Adjustable from 0 to 30 s	2
PP PAUSE TIME P&G Adjusts the door pause time when opened by a Push & Go command, before closing automatically Adjustable from 0 to 30 s	2
Pn NIGHT PAUSE TIME Adjusts the door pause time when opened by a command in NIGHT mode, before closing automatically Adjustable from 0 to 90 s	10
CS CLOSING SPEED Adjustable from 1 (minimum) to 10 (maximum)	3
OS OPENING SPEED Adjustable from 1 (minimum) to 10 (maximum)	10
dS PARTIAL SAFETY STOP Defines the obstacle detection area of the opening safety no = obstacle detection active over the entire opening stroke Y= obstacle detection NOT active in proximity to the opening stop	no

BASIC Programming	Default
Do not enable this function if users are children, elderly, disabled or persons that are not steady on their feet.	
Enabling this function requires the set-up procedure to be run with the device connected: the activation of the device during opening determines the point at which obstacle detection will be disabled during normal operation.	
SE EXIT PROGRAMMING Exit from the programming function deciding whether or not to save the changes Y = save no = do not save After exit, the display shows automation status: 00 CLOSED 01 OPENING 02 OPENED 03 PAUSE 04 NIGHT PAUSE 05 CLOSING 06 EMERGENCY ACTIVE 07 MANUAL 08 NIGHT 11 STOP 12 SECURITIES TEST 13 ERROR L0-L2 SET-UP IN PROGRESS	

8 ADVANCED programming

ADVANCED programming	Default
S1 EXTERNAL SELECTOR POSITION 1 Defines the function of the external selector when in position 1 0 = DISABLED 1 = NIGHT 2 = OPENED 3 = EXIT ONLY 4 = MANUAL	1
S2 EXTERNAL SELECTOR POSITION 2 Defines the function of the external selector when in position 2 See parameter S1.	4
P1 INPUT S1 CONFIGURATION no = DISABLED 1 = EXTERNAL OPEN (NO) 4 = INTERNAL OPEN (NO) 7 = AUTOMATIC OPEN (NO) 8 = SEMIAUTOM. OPEN (NO) 10 = KEY (NO) 11 = PARTIAL OPEN (NO) 20 = CLOSING SAFETY (NC) 21 = OPENING SAFETY (NC) 30 = EMERGENCY OPEN (NO) 31 = EMERGENCY OPEN WITH MEMORY (NO) 34 = EMERGENCY CLOSE (NO) 35 = EMERGENCY CLOSE WITH MEMORY (NO) 40 = ALWAYS OPEN (NO) 41 = EXIT ONLY (NO) 42 = ONLY IN (NO) 43 = NIGHT (NO) 44 = MANUAL (NO) 45 = PARTIAL (NO) 46 = INTERBLOCK ON (NO) 60 = TIMER (NO) default contact type indicated in brackets EP = value set using KPEVO, not displayable	no
1F TEST (FAIL SAFE) INPUT S1 Displayed only for functions 20 and 21 Y = test enabled no = test not enabled	no
P2 INPUT S2 CONFIGURATION See parameter P1.	no
2F TEST (FAIL SAFE) INPUT S2 Displayed only for functions 20 and 21 Y = test enabled no = test disabled	no

ADVANCED programming	Default
O1 OUTPUT O1 CONFIGURATION 0 = DISABLED 1 = GONG 2 = ERROR 3 = BATTERY OPERATION 4 = EMERGENCY ACTIVE 5 = TEST 6 = DOOR NOT CLOSED 7 = DOOR OPENED 8 = DOOR OPENING 9 = courtesy LIGHT 10 = INTRUSION ACTIVE 11 = CLOSING SAFETY ACTIVE 12 = SAFETIES ACTIVE 18 = PEOPLE IN NUMBER 19 = RED TRAFFIC LIGHT EXT 20 = GREEN TRAFFIC LIGHT EXT 21 = RED TRAFFIC LIGHT INT 22 = GREEN TRAFFIC LIGHT INT EP = value set using KPEVO, not displayable	1
1C TYPE OF CONTACT OUTPUT O1 Not displayed if output is disabled nO = NO contact nC = NC contact	nO
O2 OUTPUT O2 CONFIGURATION See parameter O1.	5
2C TYPE OF CONTACT OUTPUT O2 Not displayed if output is disabled nO = NO contact nC = NC contact	nC
O3 OUTPUT O3 CONFIGURATION See parameter O1.	7
3C TYPE OF CONTACT OUTPUT O3 Not displayed if output is disabled nO = NO contact nC = NC contact	nO
O4 OUTPUT O4 CONFIGURATION See parameter O1.	6
4C TYPE OF CONTACT OUTPUT O4 Not displayed if output is disabled nO = NO contact nC = NC contact	nO
CF CLOSING FORCE Adjustable from 1 (minimum) to 10 (maximum)	5
OF OPENING FORCE Adjustable from 1 (minimum) to 10 (maximum)	10

ADVANCED programming	Default
tF FORCE TIME Regulates the maximum thrust time before an obstacle is recognised during opening/closing Adjustable from 1 to 30 tenths of a second	15
Hc ANTI-INTRUSION The door resists attempts to open it manually no = disabled Y = enabled	no
cS SCP (SELECTABLE CLOSE POWER) Increases the force with which the door pushes in the final section of the closure. It is useful to activate this function if there is high friction, if the seals are particularly rigid or if locks have a stiff latch. no = disabled Y = enabled ⚠ Because activating the SCP function also reduces the sensitivity of the electronic anti-crushing system in the final section of closing, DO NOT activate the SCP function in "low energy" mode.	no
EL MOTOR LOCK (lock) 0 = disabled 1 = active in NIGHT mode 2 = active in EXIT ONLY mode 3 = active in NIGHT + ONE-WAY mode 4 = ALWAYS active	0
Et OPENING DELAY after LOCK ACTIVATION Defines the opening delay time of the door to allow the lock to be released, particularly the motorised ones. Adjustable from 0 to 60 tenths of a second	3
rS REVERSE STROKE Commands a reverse stroke before opening, the duration of which is defined by parameter Et, to facilitate the opening of the lock no = disabled Y = enabled	no
C1 INPUT I1 CONFIGURATION See parameter P1.	4
iF TEST I1 (FAIL SAFE) Displayed only for functions 20 and 21 Y = test enabled no = test not enabled	no
C2 INPUT I2 CONFIGURATION See parameter P1.	1
2F TEST I2 (FAIL SAFE) Displayed only for functions 20 and 21 Y = test enabled no = test not enabled	no

ADVANCED programming	Default
C3 INPUT I3 CONFIGURATION See parameter P1.	10
3F TEST I3 (FAIL SAFE) Displayed only for functions 20 and 21 Y = test enabled no = test not enabled	no
C4 INPUT I4 CONFIGURATION See parameter P1.	46
4F TEST I4 (FAIL SAFE) Displayed only for functions 20 and 21 Y = test enabled no = test not enabled	no
nd SENSOR DELAY (in NIGHT MODE) When NIGHT mode is set, the internal detector remains active for the amount of time set in this parameter, to allow it to be opened only once. Immediately after opening and anyway after the set delay time has elapsed, the internal detector is disabled. It can be adjusted from 0 to 90 s	10
tL SETUP Carry out the SET-UP procedure	
In IN OUT STATUS The segments of the display indicate the status of the inputs and outputs (✎ **37**).	
SE EXIT PROGRAMMING Exit from the programming function deciding whether or not to save the changes Y = save no = do not save After exit, the display shows automation status: 00 CLOSED 01 OPENING 02 OPENED 03 PAUSE 04 NIGHT PAUSE 05 CLOSING 06 EMERGENCY ACTIVE 07 MANUAL 08 NIGHT 11 STOP 12 SECURITIES TEST 13 ERROR L0-L2 SET-UP IN PROGRESS	

10.3 SET-UP

The SET-UP procedure consists of a series of movements during which the force, speed and deceleration values during opening and closing are acquired according to the weight and size of the doors.

Set-up should be performed:

- When the automation is first put into operation.
- After the Logic board has been replaced.
- After any variation in the maximum opening angle, the weight of the door or the amount of friction.
- After factory defaults have been restored.

SETUP CANNOT be performed in conditions of:

- Emergency active
- MANUAL mode
- NIGHT mode
- DOOR OPENED mode
- Battery operation

> ⚠ During the SET-UP procedure, the safety sensors are ignored, keep at a safe distance and prevent anyone from approaching the door until the procedure has been completed.

Both the opening and closing mechanical stops must be present during the set-up procedure.

To start the SET-UP procedure from the board:

1. Select the H function in advanced programming.
2. Press the + and - buttons simultaneously until H flashes on the display.
3. Release the buttons and wait for the procedure to be completed (during the various phases, the display will show L0, L1 and L2 in sequence)
4. When finished, the display switches to the automation status view.

To start the SET-UP procedure via the KPEVO:

1. Select parameter 2.5.2 from the menu.
2. Confirm the selection when requested to do so.
3. Wait for the procedure to be completed (during the various phases, the display will show L0, L1 and L2 in sequence).
4. When finished, the display switches to the automation status view.

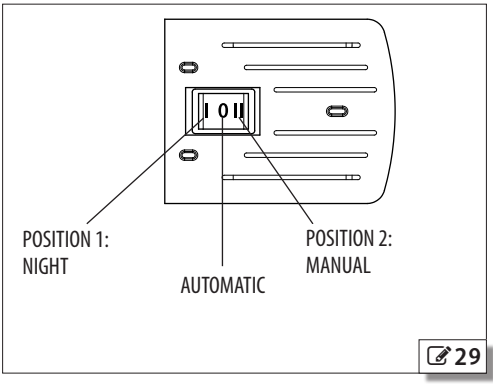
10.4 RESET

A RESET consists of initialising the A951, which must be carried out while an error condition is present in order to attempt to restore normal operation.

To carry out a RESET via the KPEVO, press and hold the two central buttons simultaneously for 5 seconds. Alternatively, temporarily turn off power to the A951.

10.5 SIDE SELECTOR SWITCH

Positions 1 and 2 of the selector switch on the side can be configured in the advanced on board programming function (parameters S1 and S2) or via the KPEVO. ✎ **29** shows the factory configuration



✎ **29**

11. LK EVO

The LK EVO allows you to select the operating mode by pressing the corresponding button.

INSTALLATION AND CONNECTION

1. To separate the parts use a flat-head screwdriver to prise them apart.
2. Break the cable knockout.
3. Mark the points on the wall and fasten the support using suitable screws.

> Before connecting the device, disconnect the mains power supply and the emergency battery of the automation system (if present).

4. Connect the following to connector J3 on the I/O board:

G	Power supply negative
TX	Data transmission
RX	Data reception
V	+24 V

- use a 4 twisted pair U/UTP AWG24 cable with a maximum length of 50 m.

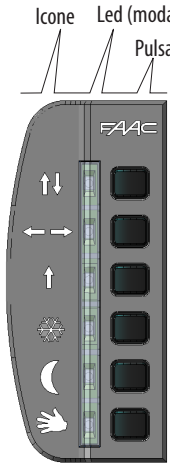
5. Assemble the parts by pressing lightly.

SWITCHING ON Turn the power on to the automation board:
The LEDs turn on and off in sequence, then the LED corresponding to the active operating mode remains on.

If the ☾ ❄ LEDs are lit at the same time, it indicates that the automation is in an operating mode that is NOT available on the LK EVO.

OPERATION To select the operating mode, press the corresponding button. For special functions, press the 2-button combinations indicated.

ERRORS In the event of errors, the combination of LEDs corresponding to the active error flashes for a few seconds.



2-button combinations:

⟷ + ☾ (🕒 5 s)	**LOCK / UNLOCK** Press for approximately 5 s to Lock/Release the keypad (the LEDs turn on and then off)
↑ + ❄ (🕒 5 s)	**RESET** (the LEDs corresponding to the Error flash until the buttons are pressed, release when they turn off)
↑↓ + ⟷ (🕒...)	**WARNINGS** To display the active warnings, press and hold the buttons (the LEDs corresponding to the warning flash as long as the buttons are pressed, release when they turn off) (see ▦ LED Warning coding)
☾ + ✋ (🕒...)	**FW VERSION LK EVO** press and hold the buttons to display the FW version of the LK EVO (▦ LED FW version coding)

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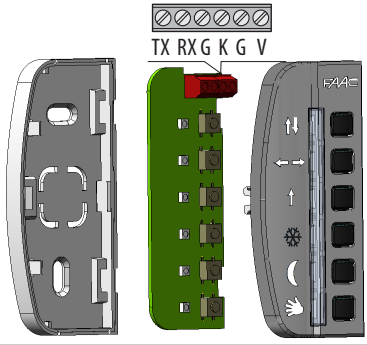

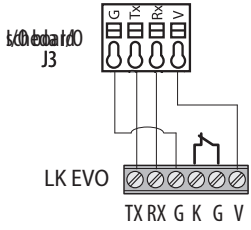

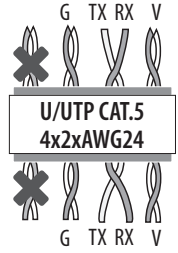

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LK EVO LOCK DEVICE

The lock device is optional. Connect a key command with an NC contact to terminals G and K.

9 LED Error Coding LK EVO - KS EVO

Errors		↑↓	↔	↑	❄	☾
1	Board failure	*				
4	Accessories power supply fault			*		
	Emergency input active	*			*	
5	FW fault	*		*	*	
7	Motor failure	*	*	*		
9	Power supply fault / No mains power		*			
	Input configured as safety test failed	*	*		*	
15	Setup inhibited	*	*	*	*	
16	Encoder fault					*
19	Friction too high	*	*			*
22	Programming data corrupted		*	*		*
24	Consecutive obstacles in closing				*	*
25	Lock fault		*		*	*
27	Motor rotation fault	*	*		*	*
31	Consecutive obstacles in opening				*	*
39	Set-up incorrect / missing		*	*	*	

10 LED Warning coding - LK EVO

Warnings		↑↓	↔	↑	❄	☾	✋
44	Emergency input active					*	*
51	Obstacle detected when closing	*				*	*
52	Obstacle detected when opening		*			*	*
56	Battery operation	*		*		*	*
60	Maintenance request				*	*	*
65	Set-up in progress	*			*	*	*
68	Failsafe failure, slow movement		*		*	*	*

11 FW version LED coding - LK EVO

FW version	↑↓	↔	↑	❄	☾	✋
FW 1.0		*		*		
FW 1.1	*	*		*		
FW 1.2			*	*		
FW 1.3	*		*	*		
FW 1.4		*	*	*		
FW 1.5	*	*	*	*		
FW 1.6					*	
FW 1.7	*				*	
FW 1.8		*			*	
FW 1.9	*	*			*	
FW 2.0			*		*	
FW 2.1	*		*		*	
FW 2.2		*	*		*	
FW 2.3	*	*	*		*	
FW 2.4				*	*	
FW 2.5	*			*	*	
FW 2.6		*		*	*	
FW 2.7	*	*		*	*	
FW 2.8			*	*	*	
FW 2.9	*		*	*	*	
FW 3.0		*	*	*	*	
FW 3.1	*	*	*	*	*	
FW 3.2						*
FW 3.3	*					*
FW 3.4		*				*
FW 3.5	*	*				*
FW 3.6			*			*
FW 3.7	*		*			*
FW 3.8		*	*			*
FW 3.9	*	*	*			*
FW 4.0				*		*
FW 4.1	*			*		*
FW 4.2		*		*		*
FW 4.3	*	*		*		*
FW 4.4			*	*		*
FW 4.5	*		*	*		*
FW 4.6		*	*	*		*
FW 4.7	*	*	*	*		*
FW 4.8					*	*
FW 4.9	*				*	*
FW 5.0		*			*	*

12. KS EVO

KS EVO allows you to select the operating mode by turning the key to the corresponding icon.

INSTALLATION AND CONNECTION

1. Separate the parts (use a flat screwdriver to prise them apart).
2. Break the cable knockout.
3. Mark the points on the wall and fasten the support using suitable screws.

> Before connecting the device, disconnect the mains power supply and the emergency battery of the automation system (if present).

4. Connect the following to connector J3 on the I/O board:

G	Power supply negative
TX	Data transmission
RX	Data reception
V	+24 V

- use a 4 twisted pair U/UTP AWG24 cable with a maximum length of 50 m

5. Assemble the parts and fix it in place with the screws provided.

SWITCHING ON Turn the power on to the automation board:
The LEDs turn on and off in sequence, then the LED corresponding to the active operating mode remains on (apart from manual mode).

ERRORS In the event of errors, the combination of LEDs corresponding to the active error flashes for a few seconds.

↑↓	Total two-direction automatic
←→	Door open
↑	Automatic total one-direction
❄	Automatic partial two-direction
☾	Night
☜	Manual

If the ☾ ❄ LEDs are lit at the same time, it indicates that the automation is in an operating mode that is NOT available on the KS EVO.

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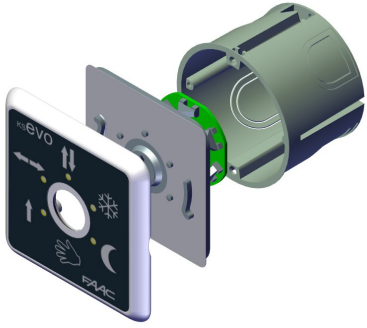
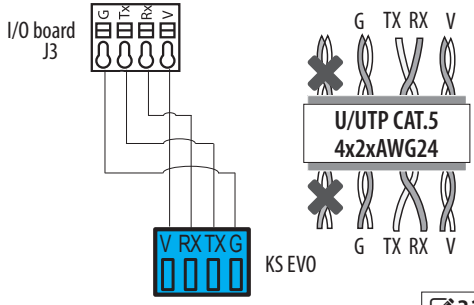
Assembling the KS EVO



KS EVO connection Connect to the terminals as shown.



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13. KPEVO

The KPEVO allows you to select the operating mode of the automation using buttons and menus. The active operating mode is indicated on the display.
The KPEVO allows the automation to be programmed with wider number of options compared to programming via the board.

KPEVO LOCK DEVICE

KPEVO has a safety feature that protects the buttons via a PASSWORD. Alternatively, it is possible to connect a key command with an NC contact to terminals G and K.
The lock device is optional. The operation of the lock device can be programmed.

INSTALLATION AND CONNECTION

1. To separate the parts, remove the 2 screws (**1**).
2. Break the cable knockout (**2**).
3. Mark the points (3) on the wall and fasten the support using suitable screws.

> Before connecting the device, disconnect the mains power supply and the emergency battery of the automation system (if present).

4. Connect the following to connector J3 on the I/O board:

G	Power supply negative
TX	Data transmission
RX	Data reception
V	+24 V

- use a 4 twisted pair U/UTP AWG24 cable with a maximum length of 50 m

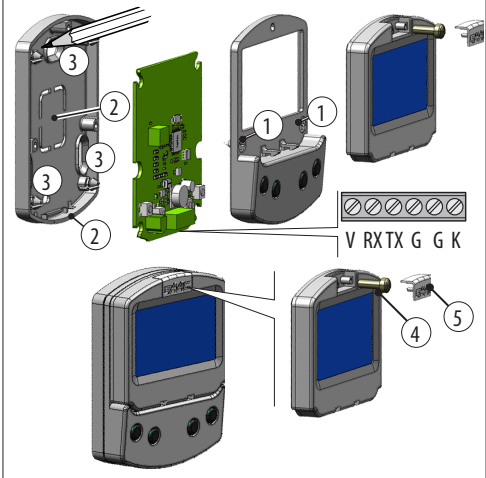
5. Assemble the parts and fix in place with the screws (**1**).
6. Fasten the display using the screw (**4**) and insert the screw cover (**5**).

SWITCHING ON

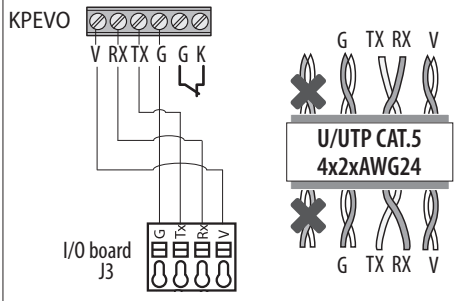
Turn power on to the automation board. The device turns on and displays a series of screens:
- Power-on screen
- Bootloader: displays the Bootloader version (x.x)
- Firmware: displays the FW version (x.x)
- HOME PAGE: ready

Note: if no buttons are pressed, after 2 minutes the display reverts to the HOME PAGE.

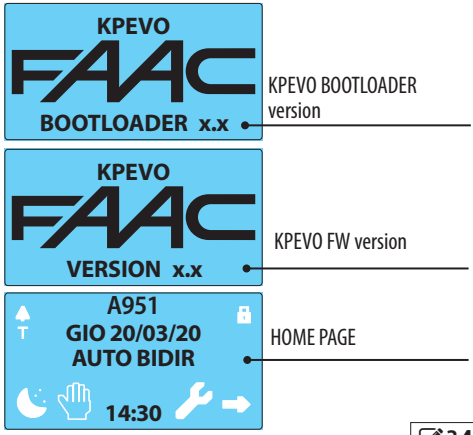
Montaggio KPEVO



KPEVO connection Connect to the terminals as shown.



Screen sequence when switched on



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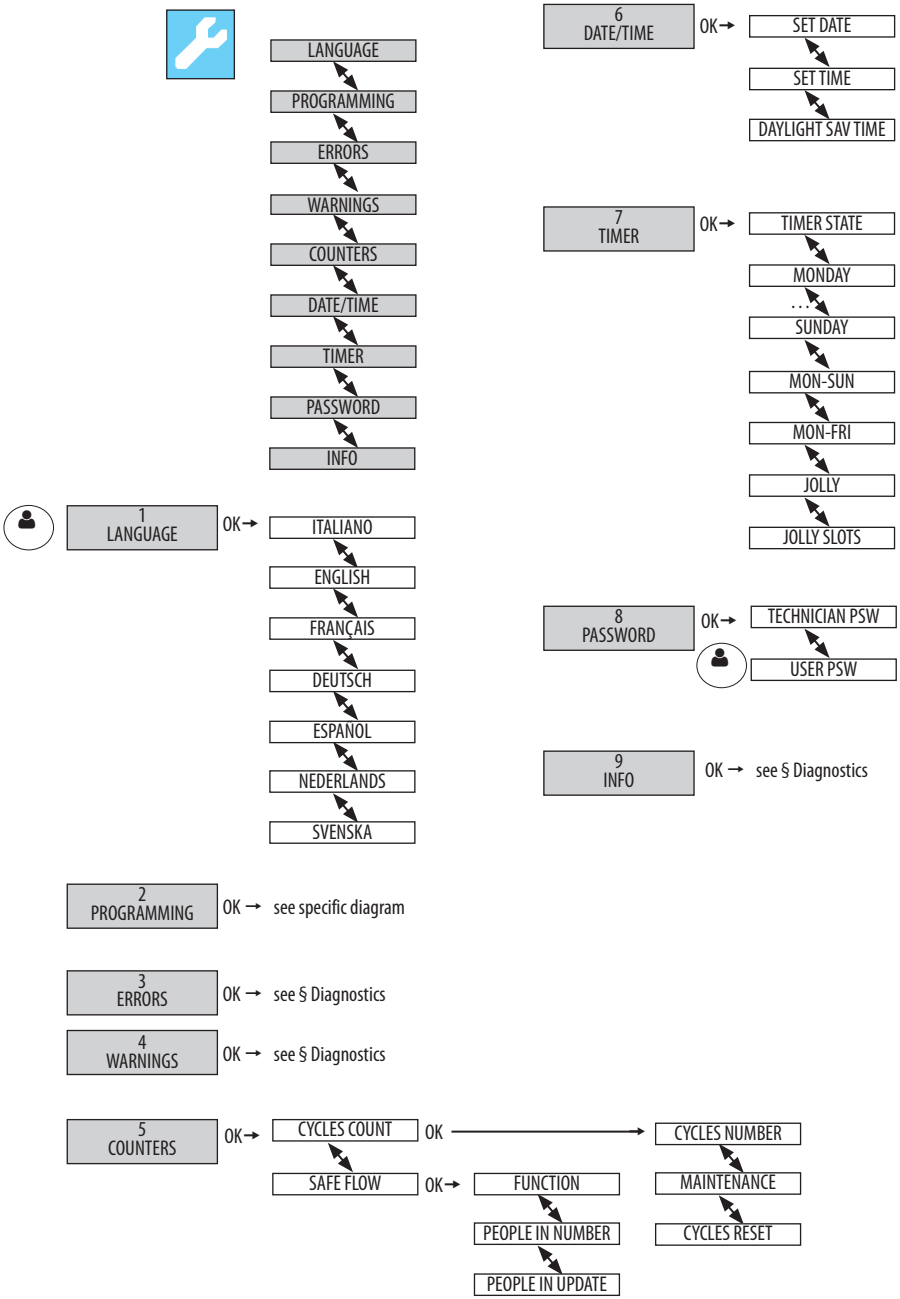
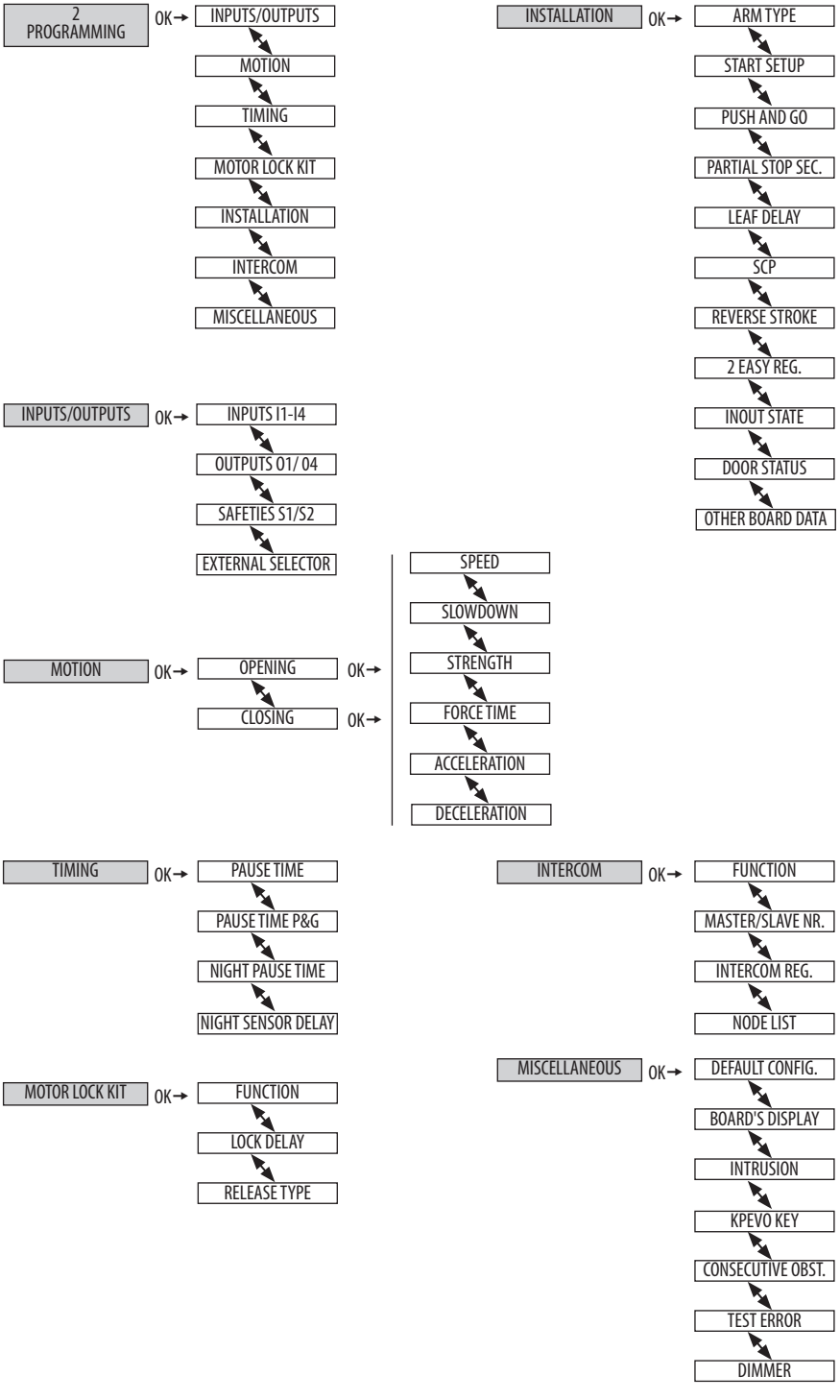
ENGLISH

Translation of the original instructions


LANGUAGE
PROGRAMMING
ERRORS
WARNINGS
COUNTERS
DATE/TIME
TIMER
PASSWORD
INFO
1 LANGUAGE
OK
ITALIANO
ENGLISH
FRANÇAIS
DEUTSCH
ESPANOL
NEDERLANDS
SVENSKA
2 PROGRAMMING
OK → see specific diagram
3 ERRORS
OK → see § Diagnostics
4 WARNINGS
OK → see § Diagnostics
5 COUNTERS
OK
CYCLES COUNT
SAFE FLOW
OK
FUNCTION
PEOPLE IN NUMBER
PEOPLE IN UPDATE
CYCLES NUMBER
MAINTENANCE
CYCLES RESET
6 DATE/TIME
OK
SET DATE
SET TIME
DAYLIGHT SAV TIME
7 TIMER
OK
TIMER STATE
MONDAY
...
SUNDAY
MON-SUN
MON-FRI
JOLLY
JOLLY SLOTS
8 PASSWORD
OK
TECHNICIAN PSW
USER PSW
9 INFO
OK → see § Diagnostics


2 PROGRAMMING
OK
INPUTS/OUTPUTS
MOTION
TIMING
MOTOR LOCK KIT
INSTALLATION
INTERCOM
MISCELLANEOUS
INSTALLATION
OK
ARM TYPE
START SETUP
PUSH AND GO
PARTIAL STOP SEC.
LEAF DELAY
SCP
REVERSE STROKE
2 EASY REG.
INOUT STATE
DOOR STATUS
OTHER BOARD DATA
INPUTS/OUTPUTS
OK
INPUTS I1-I4
OUTPUTS O1/ 04
SAFETIES S1/S2
EXTERNAL SELECTOR
MOTION
OK
OPENING
CLOSING
OK
OK
SPEED
SLOWDOWN
STRENGTH
FORCE TIME
ACCELERATION
DECELERATION
TIMING
OK
PAUSE TIME
PAUSE TIME P&G
NIGHT PAUSE TIME
NIGHT SENSOR DELAY
MOTOR LOCK KIT
OK
FUNCTION
LOCK DELAY
RELEASE TYPE
INTERCOM
OK
FUNCTION
MASTER/SLAVE NR.
INTERCOM REG.
NODE LIST
MISCELLANEOUS
OK
DEFAULT CONFIG.
BOARD'S DISPLAY
INTRUSION
KPEVO KEY
CONSECUTIVE OBST.
TEST ERROR
DIMMER

MENU 1 LANGUAGE

Select the language from the list provided.

MENU 2 PROGRAMMING

The menu is only accessible if the TECHNICIAN password has been entered (default 0000).

1 INPUTS / OUTPUTS

INPUTS I1-I4

Allows you to select the input and to assign the function and type of contact (NO, NC).

If you configure an input as a SAFETY, you are required to set the TEST: ENABLED/DISABLED

OUTPUTS O1-O4

Allows you to select the output and to assign the function and type of contact (NO, NC).

The LIGHT option requires the time to be set: 1…90s

SAFETIES S1-S2

Allows you to select the input and to assign the function and type of contact (NO, NC).

If you configure and input as a SAFETY, you are required to set the TEST: ENABLED/DISABLED

EXTERNAL SELECTOR

Allows you to select the operating mode associated with positions 1 and 2 of the selector on the side of the unit.

2 MOTION

OPENING

Allows you to program:

SPEED: level 1…10

SLOWDOWN: SPACE 0°…90° , SPEED 1…3

STRENGTH: level 1…10

STRENGTH DURATION: 0.1…3.0 s

ACCELERATION: level 1…10

DECELERATION: level 1…10

CLOSING

Allows you to set the same parameters as found under OPENING.

3 TIMING

Allows you to program:

PAUSE TIME 0…30 s

PAUSE TIME P&G: 0…30 s

NIGHT PAUSE TIME: 0…240 s

NIGHT SENSOR NIGHT: 0…240 s

4 MOTOR LOCK KIT

Allows you to program the way the lock operates (if installed).

FUNCTION

Defines operating modes in which lock is activated:

DISABLED, NIGHT, EXIT ONLY, NIGHT + MONODIR, ALWAYS

LOCK DELAY

Defines the opening delay time of the door to allow the lock to be released, particularly the motorised ones: 0...60 tenths of a second.

RELEASE TYPE

Specifies when power is disconnected from the lock after it has been mechanically released.

OPENING: during opening

CLOSED: when the door is closed again

5 INSTALLATION

ARM TYPE

Specifies the type of transmission arm installed:

SKID 1

SKID 2

ARTICULATE

START SETUP

Follow the instructions in the § SETUP section. Confirm to carry out the SETUP.

PUSH AND GO

Sets the function that commands the motorised opening of the door after an initial manual push:

DISABLED

ENABLED: Standard Push & Go enabled (an initial manual push commands motorised opening)

FAST FOOD: Push & Go enabled in "FAST FOOD" mode (manual opening, motorised closing)

PARTIAL STOP SEC.

Defines the detection area of the opening safety:

DISABLED: obstacle detection active over the entire opening stroke

ENABLED: obstacle detection NOT active in proximity to the opening stop (the point at which it is disabled is memorised during set-up when the sensor detects an obstacle the first time during opening, for example the wall towards which the door opens).

LEAF DELAY

Specifies the opening delay between the doors in 2-leaf mode: 0°…90°.

SCP (selectable close power)

DISABLED

ENABLED: increases the force with which the door pushes in the final section of the closure

REVERSE STROKE

DISABLED

ENABLED: Commands a reverse stroke before opening to facilitate the opening of the lock

2 EASY REG.

Confirm to register BUS 2easy devices.

INOUT STATE

The display indicates the status (on/off) of inputs and outputs in real-time.

DOOR STATUS

The display indicates the status of the automation in real-time.

OTHER BOARD DATA

The display indicates useful diagnostics information in real-time.

6 INTERCOM

FUNCTION

Sets the operating mode.

MASTER/SLAVE NR.

Sets the network ID of the unit.

INTERCOM REG.

Registers the units of the network (to be performed only on the 950N2 with ID1).

NODE LIST

Shows the ID of the registered units (on the master).

7 MISCELLANEUS

CONFIG. DEFAULT

ACTIVE: the programming corresponds to the DEFAULT settings

NO: the programming does not correspond to the DEFAULT settings. To reload the DEFAULT settings press OK. The following question appears:

DO YOU WANT TO RELOAD DEFAULT DEFAULT?

Press OK to confirm.

BOARD'S DISPLAY

Allows programming from the board to be enabled/disabled.

NOT BLOCKED: programming from the board is enabled

BLOCKED: programming from the board is blocked

INTRUSION

DISABLED

ENABLED: the automation resists attempts to open it manually or caused by gusts of air.

KPEVO KEY

Defines the operation of a key switch connected to the KPEVO:

BLOCK: KPEVO works with password when the contact is open and is locked when the contact is closed.

WITHOUT USER PSW: KPEVO works without password when the contact is open and with password when the contact is closed

CONSECUTIVE OBST.

Defines the number of consecutive obstacle detections after which the automation stops in an error state.

CLOSING: 0…10 (0 = no count)

OPENING: 0…10 (0 = no count)

TEST ERROR

Allows the movement to be activated at minimum speed (as opposed to movement inhibited) if there is a TEST ERROR on an input configured as SAFETY.

ENABLED: movement at minimum speed

DISABLED: the door will stop in an error condition

DIMMER

Specifies the percentage brightness of the KPEVO display in standby (10%…90%).

MENU 5 COUNTERS

1 CYCLES COUNT

CYCLES NUMBER

The display shows the number of cycles performed: ABSOLUTE RELATIVE

MAINTENANCE

Technician PSW required. Allows the maintenance request to be specified when a number of cycles has been reached. If a date is also entered, a maintenance request is made when the first event is reached: cycles or date.

MAINTENANCE CYCLES: 1000…1000000 counting the RELATIVE cycles

DATE: optional. 00/00/00 = disabled

CYCLES RESET

Technician PSW required. It resets the RELATIVE cycle counter to zero. This command requires confirmation The ABSOLUTE cycles counter can only be reset using the restore factory settings procedure (see relative Section).

2 SAFE FLOW

This function counts the people entering/leaving the premises for capacity and queue management.

The counting of entrances and exits takes place by the activation of the internal and external buttons. The A951 can be programmed to indicate, and if necessary, close the entrance, when the set maximum number of people on the premises has been reached.

The count is disabled in Door Opened mode. MANUAL and NIGHT modes zero the count.

NOTE: In an INTERCOM network, the SAFE FLOW has to be programmed on the MASTER unit. Then it can also be enabled on the individual SLAVE boards via the PEOPLE IN SLAVE parameter, displayed only on the SLAVE boards.

FUNCTION

DISABLED: count disabled

PEOPLE IN AUTO: activates the count of people entering and leaving and displays the number of people inside on the KPEVO HOME page in relation to the maximum number set. Alarm 40 is triggered when the set maximum number of people is reached

PEOPLE INEXIT ONLY: activates the count of people entering and leaving and displays the number of people inside on the KPEVO HOME page in relation to the maximum number set. Alarm 40 is triggered when the set maximum number of people is reached and the door does not allow other people to enter, they can only leave, until the number of people falls below the maximum set number again.

PEOPLE IN NUMBER

Sets the maximum number of people allowed inside: 1…1000

PEOPLE IN UPDATE

It allows the number of people inside to be corrected manually, if necessary.

MENU 6 DATE / TIME

1 SET DATE

Set the date in the day/month/year format.

2 SET TIME

Set the time in hours and minutes.

3 DAYLIGHT SAV TIME

Allows the European summer (daylight savings) time to be enabled/disabled automatically.

MENU 7 TIMER

The TIMER function allows the operating mode of the automation to be activated for programmed time bands. The operating mode activated automatically by the TIMER cannot be changed manually, unless you disable the TIMER.

Programming is carried out via the KPEVO. It requires a clock battery to be installed on the Logic board and the date and time to be set correctly.

Programming can be done by day of the week (WEEKLY) and/or by calendar date (JOLLY), e.g. for holidays, company closure... If both have been programmed, in the event of an overlap, the JOLLY has priority.

A TIME BAND is programmed with:

START time - END time (HH:mm)

Operating mode

1 or more TIME BANDS can be programmed (maximum 6) in 24 h.

When the automation exits from a programmed TIME BAND, if there is no subsequent time band, it goes into AUTOMATIC TWO-DIRECTIONAL TOTAL mode. Outside of the programmed time bands, the Operating mode can be changed manually (from a Configured input or Function selector).

WEEKLY PROGRAMMING

Program the required days with the required time bands. To quickly program one or more time bands for a group of days, program the group MON - SUN or MON - FRI. Next, each time band can be reprogrammed for a single day.

JOLLY PROGRAMMING

Program the JOLLY time bands. The JOLLY programming must be applied to the dates specified in JOLLY SLOTS.

A JOLLY SLOT is defined by the BEGINNING and END date of the slot. Various JOLLY SLOTS can be programmed. A slot consisting of one day has the same start and end date. A slot consisting of several days cannot extend beyond December 31st. E.g. the period from December 25th to January 6th is covered by two slots: 25…31/12 + 01…06/01.

ENABLING/DISABLING THE TIMER

Enable the TIMER in order to use the programmed time bands. Use the input configured as TIMER, if present on the board. If there is NO input configured as TIMER, the KPEVO can be used.

1 TIMER STATE

Allows the TIMER to be enabled/disabled: ENABLED, DISABLED (the programming carried out remains in memory but is not executed).

2 MONDAY... 8 SUNDAY

Allows the days of the week to be programmed: select the day, select the TIME BAND, assign the operating mode and set the BEGINNING and END time of the TIME BAND. Carry out the same procedure for the other TIME BANDS required.

9 MON-SUN, 10 MON-FRI

Allows groups of days to be programmed quickly with the same TIME BANDS: select a group of days (from MON-SUN or from MON-FRI). Select the TIME BAND, set the BEGINNING and END time and assign the operating mode. Carry out the same procedure for the other TIME BANDS required. Apply the programming to the group of days by selecting APPLY; any settings already made for individual days will be overwritten.

11 JOLLY

Allows the operation of the TIMER to be set in the JOLLY slots (one or more days that require a different programming): program the required JOLLY TIME SLOTS (operating mode and the BEGINNING and END) time.

12 JOLLY SLOTS

To apply the JOLLY programming to individual days or to SLOTS of multiple days: enable a SLOT and specify the BEGINNING and END date for the SLOT. Carry out the same procedure for the other SLOTS required.

MENU 8 PASSWORD

The personnel allowed to use the password, to select the automation's operating modes (USER) must keep the password confidential. The USER is only allowed to modify the USER PSW. The TECHNICIAN may modify both passwords.

1 TECHNICIAN PSW

Allows the TECHNICIAN PSW to be modified.

Enter the current TECHNICIAN PSW, then the new NEW PSW and press OK. Re-enter the NEW PSW and confirm with OK. If the PSW is not repeated correctly, the KPEVO continues to request confirmation.

2 USER PSW

Allows the USER PSW to be modified.

Enter the TECHNICIAN PSW or the current USER PSW , then follow the same procedure as for the TECHNICIAN PASSWORD.

MENU 9 INFO

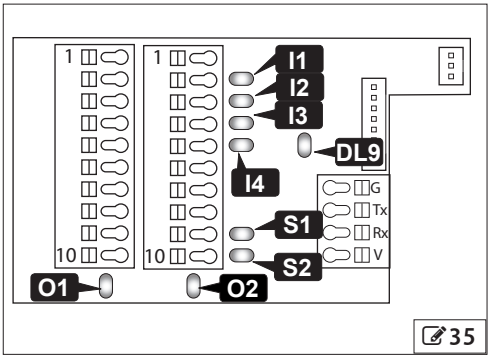
Allows the firmware versions of the KPEVO, and board to be viewed.

14. DIAGNOSTICS

14.1 LEDS CHECK

I/O BOARD LEDS

On the I/O board, each input and output has a LED that indicates the physical state of the contact, reference ✎35 and ▦ 13.

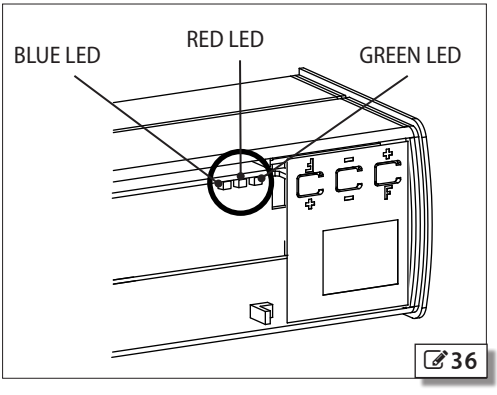


▦ 13 I/O board LEDs

LED	○	●
I1-I4	open contact	closed contact
S1-S2	open contact	closed contact
01-02	open contact	closed contact
DL9	I/O board not powered	I/O board powered and communicating with the Logic board

LOGIC BOARD LEDS

There are 3 LEDs on the Logic board, indicated in ✎36.



▦ 14 Logic board LEDs

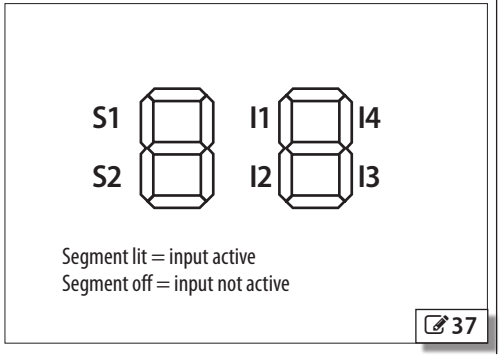
LED	○	●	✳
BLUE	A951 off	/	A951 on
RED	no error	error	/
GREEN	no USB	USB connected	/

14.2 INPUTS AND OUTPUTS STATUS CHECK

The status of each input and output can be checked on the board or via the KPEVO.

ON THE BOARD

Select the In function in advanced programming. The segments of the display indicate the logic status (✎37).

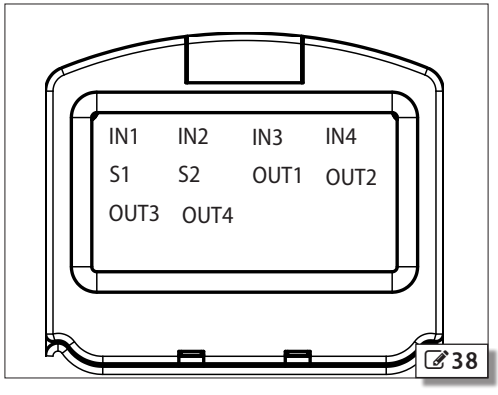


ON KPEVO

Go to menu 2.5.9. The display indicates the logic status as shown in ✎38. Example:

IN1 = input active

IN1 = input not active



14.3 AUTOMATION STATUS CHECK

The current status of the automation can be checked on the board or via the KPEVO.

ON THE BOARD

The display of the A951, if you are not in programming mode, displays the code that indicates the status of the automation (▦ **15**).

ON KPEVO

Go to menu 2.5.10. The display shows information regarding the status of the automation.

▦ **15** System status

00	CLOSED
01	OPENING
02	OPENED
03	PAUSE
04	NIGHT PAUSE
05	CLOSING
06	EMERG. ACTIVE
07	MANUAL
08	NIGHT
11	STOP
12	SECURITIES TEST
13	ERROR
L0	waiting for SET-UP to start
L1	SETUP phase 1: closing stop search
L2	SETUP phase 2: opening stop search

14.4 WARNINGS

Alerts provide information regarding the status or current phase of the automation and errors that do not prevent it from operating. It is possible to check any current alerts on the board or via the KPEVO.

ON THE BOARD

Whilst the A951 is displaying the status of the automation, press the + and - buttons simultaneously: A1 appears on the display followed by any identification codes (▦ **16**).

ON KPEVO

Go to menu 4 to view the list of current alerts.
If there is at least one alert, an icon appears on the home screen (✎ **34**).

▦ **16** Warnings

A1	Date and time missing - Reset date/time via the KPEVO
A2	Clock battery discharged or missing
A4	Emergency active (including command memory)
A5	Timer active
A6	Timer function in progress
A8	Night mode operation
A9	Manual mode operation
C0	Partial mode operation
C1	Obstacle detected during closure
C2	Obstacle detected during opening
C3	Number of maintenance cycles on E^2prom corrupted - Perform reset. - If the alarm persists, replace the Logic board
C6	Battery operation
C8	Searching for strike on closing
E0	Maintenance requested
E1	KPEVO fault - Check that the correct device is connected and check the connections. - If the alarm persists, update the firmware - If the alarm persists, replace the Logic board
E3	Intrusion in progress
E5	Set-up in progress
E8	Test alarm (only if the "test error" parameter is enabled) - Check the operation of the connected devices - If the alarm persists, replace the device - If the alarm persists, replace the Logic board In this condition, the door moves at a slower speed.
F9	Door opened by a semi-automatic command
H1	Slave Intercom mode
H2	Intercom alarm - Check the connections - Check the ID - If the alarm persists, replace the Logic board
H3	Slave Error / Alarm
H4	Interlock alarm - Check the connections - Check the ID - If the alarm persists, replace the Logic board
H6	Radio code memory full
P0	Non-standard programming
P3	BUS 2easy call in progress
P4	BUS 2easy in sleep mode
P5	BUS 2easy interrogation in progress
P6	BUS 2easy disconnection in progress

14.5 ERRORS

Errors are malfunctions that prevent the automation from working. They are indicated by a steady red LED on the Logic board.

After every 5 minutes in which a fault condition persists and for a maximum of 20 consecutive times, the A951 will perform a reset to attempt to restore normal operation so as not to require any action if the condition that caused the error was temporary. If the fault persists, remove the cause in order to restore normal operation.

In order to carry out a manual reset, see § 10.4.

The type of error can be identified on the board or via the KPEVO

ON THE BOARD

When the display of the A951 indicates 13, press the + and - buttons simultaneously: Er appears on the display followed by the identification code (▦ **17**).

ON KPEVO

The error code appears on the home page. Go to menu 5; the display provides information regarding the current error.

▦ **17** Errors

When an error occurs:

1. Check all the electrical connections
2. Perform a reset.
3. If the problem persists, carry out the operations described in the table one at a time until the problem is resolved.

Error		Action required
01	Board failure	- Replace the Logic board
02	E2prom failure	- Replace the Logic board
03	Motor driver failure	- Replace the Logic board - Replace the gearmotor
04	Accessories power supply fault	- Check that the accessories power supply is not short circuited - Check that maximum load of the accessories has not been exceeded - Replace the Logic board - Replace the Power board
05	Microcontroller error	- Reload/update the Logic board firmware - Replace the Logic board
07	Motor failure	- Replace the gearmotor - Replace the Logic board
09	Board voltage anomaly	- Replace the Power board
10	Battery discharged or not connected	- Wait for a charging cycle to be completed, if the problem persists, replace the battery
11	Test failed on S1	- Check the connections of the safety device - Check that the safety device is working - Replace the Logic board
12	Test failed on S2	- Check the connections of the safety device - Check that the safety device is working - Replace the Logic board
15	Set-up inhibited	- Make sure that Night or Manual mode has not been set. - Make sure that an emergency command has not been activated
16	Encoder fault	- Replace the gearmotor - Replace the Logic board
18	Firmware not compatible	- Update with the correct firmware
19	High mechanical friction	- Make sure that the leaf has been mounted correctly and that it moves smoothly, remove any friction - Replace the Logic board - Replace the gearmotor

20	test failed on an input I1-I4	- Check the connections of the safety device - Check that the safety device is working - Replace the Logic board
22	Programming data corrupted	- Reprogram the board or upload the program files that were saved to the USB storage device. - Replace the Logic board
24	Consecutive obstacles in closing	- Remove the obstacle in closing. - Make sure that the leaf has been mounted correctly and that it moves smoothly, remove any friction
25	BUS 2easy data not valid	- Check connections of the BUS 2easy devices
26	Lock failure	- Check the wiring of the lock - Check that the maximum load of the lock has not been exceeded - Replace the lock - Replace the Logic board
27	Motor rotation fault	- Check the polarity of the motor cable
29	Auxiliary board failure	Check the connections of the auxiliary board - Replace the display - Replace the Logic board
31	Consecutive obstacles in opening	- Remove the obstacle in opening - Make sure that the leaf has been mounted correctly and that it moves smoothly, remove any friction
34	BUS 2easy devices registration in progress	- Wait for the procedure to be completed
35	BUS 2easy configuration error	- Check the addressing of the BUS 2easy devices - Check the operation of the BUS 2easy devices
36	BUS 2easy short circuited	- Check connections of the BUS 2easy devices - Replace the Logic board
37	BUS 2easy devices error	- Check the addressing of the BUS 2easy devices - Check the operation of the BUS 2easy devices
39	Set-up data missing or corrupted	- Perform setup - Replace the Logic board
93	BUS 2easy configuration data corrupted	- Register the BUS 2easy devices Replace the Logic board

14.6 OTHER BOARD DATA

Go to menu 2.5.11 of the KPEVO. The display provides information on the following parameters:

- V MAIN : input voltage to the Logic board (Volts)
- V ACC : output voltage for accessories (Volts)
- POS : position of the rotating shaft (degrees)
- I MOT : current drawn by motor (Amperes)

14.7 FIRMWARE VERSIONS

ON THE BOARD

When the display of the A951 is switched on, it shows the version of the Logic board firmware for one second before displaying the status of the automation.

ON KPEVO

Go to menu 9 of the KPEVO to view the firmware versions of the bootloader, the Logic board and the KPEVO.

14.8 LOG DATA

The A951 records the last 512 system events. A battery must be installed on the Logic board in order to save the list of events in memory even if the system is switched off.

To download the data as a text file, see § 13.2.

15. UPLOAD / DOWNLOAD

There is a USB port on the Logic board of the A951 via which the following operations can be carried out:
- Load data from a USB pen drive (UPLOAD)
- Save data to a USB pen drive (DOWNLOAD)

For both operations, the USB pen drive must be formatted with the FAT or FAT 32 file system. The NTFS format is not recognised.

15.1 UPLOAD

The files required, the names of which are indicated in ▦ **18**, must be present in the root directory of the USB pen drive.

1. Turn power off to the A951.
2. Insert the USB pen drive in the USB port on the Logic board.
3. Turn power on to the A951.
4. If the device is detected correctly, bo appears on the display and the green LED (✎ **36**) lights up steadily.
5. Press and release button F in order to scroll through the available functions.
6. To use the UPLOAD function seen from the display (▦ **18**), press the + and - buttons simultaneously until -- appears (after approximately 3 seconds) then release them.
7. During this function -- flashes on the display and the green LED on the Logic board flashes.
8. When finished, the display will show:
   - y if it was carried out successfully
   - no if there was an error
9. Turn power off to the A951 and remove the USB pen drive.

15.2 DOWNLOAD

1. Turn power off to the A951.
2. Insert the USB pen drive in the USB port on the Logic board.
3. Turn power on to the A951.
4. If the device is detected correctly, bo appears on the display and the green LED (✎ **36**) lights up steadily.
5. Press and release button F in order to scroll through the available functions.
6. To use the DOWNLOAD function seen from the display (▦ **19**), press the + and - buttons simultaneously until Or or Ad appears (after approximately 3 seconds) then release them.
7. Use the + or - button to choose between the two methods of saving the file explained below and confirm by pressing the F button:
   - Or (overwrite) = the file that is generated is saved to the USB drive and overwrites any existing files with the same name.
   - Ad (add) = the file that is generated is saved to the USB drive in addition to any existing file with the same name (an incremental number is added to the name of the new file).
8. When finished, the display will show:
   - y if it was carried out successfully
   - no if there was an error
9. Turn power off to the A951 and remove the USB pen drive.

▦ **18** UPLOAD functions from USB

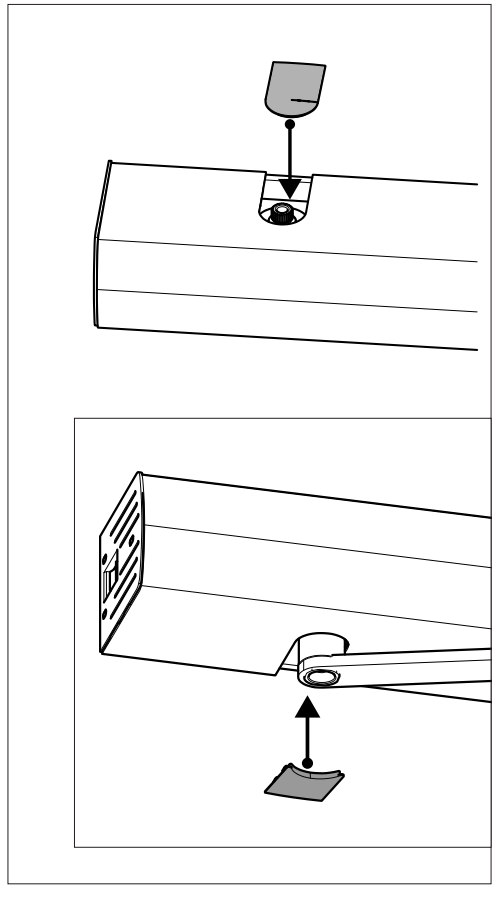
UP	Update Logic board firmware File required: 951L.hex
UE	KPEV0 firmware update, including menu translations File required: KPEV0.hex and KPEV0_L.bin
Un	Update the Connection board firmware File required: CNX951.bin
UC	Upload the A951 configuration File required: 951L.PRG
Ut	Upload the Timer configuration File required: 951L.TMR

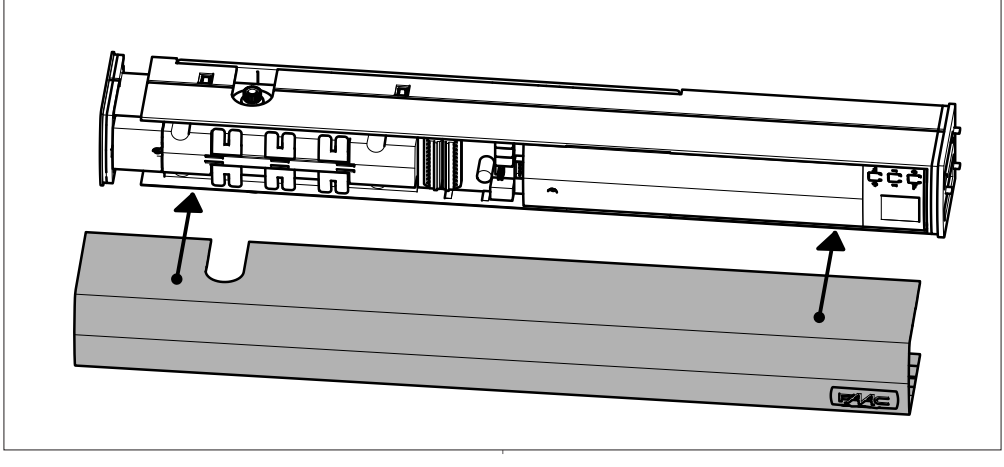
▦ **19** DOWNLOAD to USB functions

dC	Download the A951 configuration File written: 951L.PRG
dt	Download the Timer configuration File written: 951L.TMR
dL	Download the LOG data File written: 951L.LOG

16. FINAL OPERATIONS

1. Press the front cover on.
2. Press the top and bottom slot covers on.
3. For doors in "low energy" mode, make sure that the forces generated by the leaf are within the limits permitted by the regulations. Use an impact force tester in accordance with standards EN 12453: 2002 and EN 12445: 2002. For non-EU countries, of there are no specific local regulations, the force must be less than 67 N.
4. For doors that are not in "low energy" mode, make sure that the test object is detected in all areas covered by the door movement.
5. Highlight all areas with adequate warning signs in which there are still residual risks, even if all possible safety measures having been adopted. In particular, for doors less than 2 meters high, apply the hazard warning pictograms in correspondence with the arm movement area.
6. Place a "DANGER, AUTOMATICALLY CONTROLLED" sign in a prominent position on the door.
7. Attach the CE marking on the door.
8. Fill out the EC declaration of conformity and the system register.
9. Give the EC Declaration, the system register with the maintenance plan and the instructions for use of the automation to the system owner/operator.





17. MAINTENANCE

HAZARDS

PERSONAL PROTECTIVE EQUIPMENT

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.

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.

17.1 INSERTING / REPLACING THE BATTERY

CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED

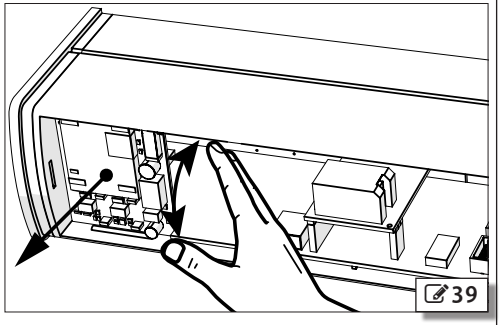
1. Remove the top and bottom slot covers.
2. Remove the front cover.
3. Remove the transparent cover.
4. Widen the enclosure slightly in order to remove the display from its seat (39).
5. Install or replace the battery CR2032 following the polarity, as shown in 40.
6. Reassemble the components in reverse order.

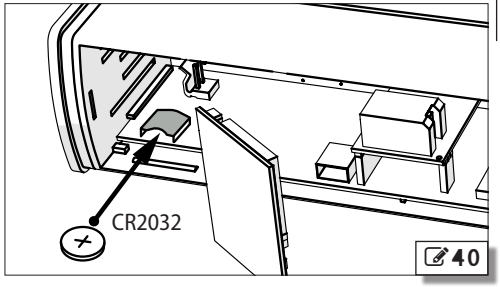
17.2 REPLACING THE FUSE

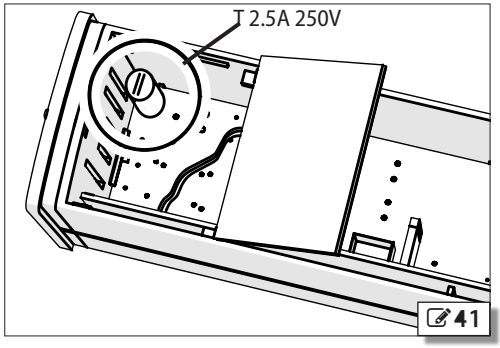
CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED

There is a fuse at the mains power inlet on the Power board.
To replace it:

1. Remove the top and bottom slot covers.
2. Remove the front cover.
3. Remove the transparent cover.
4. Widen the enclosure slightly in order to remove the display from its seat (39).
5. Replace the T2.5A 250V fuse (41).
6. Reassemble the components in reverse order.







17.3 ROUTINE MAINTENANCE

It is mandatory to carry out the operations indicated in ▦ **20** in order to keep the operator working reliably and safely.

The installer/machine manufacturer is responsible for drawing up the maintenance plan for the machine, supplementing this list or shortening maintenance intervals according to the machine characteristics and current local regulations.

▦ **20** Scheduled maintenance

A951	
Operations	**Frequency**
Check that the cover/casing and all the movable guards are integral and that they are fastened correctly. If necessary, tighten screws and bolts with the torques indicated in the instructions.	12 months
Check the fastening torque of the screws that secure the operator to the plate.	12 months
Check that the plate is firmly secured to the architrave/door. Tighten screws and bolts where necessary.	12 months
Check the condition of the power cables, the sensor and accessory connection cables and the relative cable glands.	12 months
Check the fastening torque of the screws that secure the arm to the door/architrave.	12 months
Check the fastening torque of the screw that secures the arm to the operator.	12 months
Replace the emergency batteries, if present.	48 months

▦ **21** Maintenance of other components

STRUCTURES	
Operations	**Frequency**
Check the structures and the parts of the building to which the door and the automation is fixed: make sure there is no damage, cracking, breaks or subsidence.	Follow the manufacturer's instructions
DOOR FRAME	
Operations	**Frequency**
Check the frame: make sure that it is fixed correctly, that it is integral and that there is no deformation or damage. Tighten screws and bolts where necessary.	Follow the manufacturer's instructions
Check the leaf: that it is integral and that there is no deformation or damage.	Follow the manufacturer's instructions
Check the hinges: make sure that they are fixed correctly, that they are integral, correctly positioned in their seats and that there is no deformation or damage.	Follow the manufacturer's instructions
Lubricate hinges or locks, if necessary.	Follow the manufacturer's instructions
Generally clean of the area of movement of the door.	12 months
Make sure that the pictograms are present and intact. If they are missing or damaged, replace them.	12 months
FUNCTION SET-UP SELECTOR AND KEYBOARD	
Operations	**Frequency**
Check that they are intact and operating correctly.	12 months
PROTECTIVE DEVICES AND CONTROL DEVICES	
Operations	**Frequency**
Check that the protective devices are intact and that they operate correctly.	Follow the manufacturer's instructions
Check that the control devices are intact and that they operate correctly.	12 months
Check that the pictograms that identify the control devices for disabled persons are present and intact.	12 months

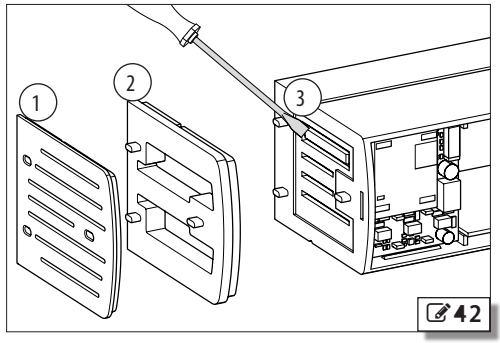
COMPLETE DOOR WITH OPERATOR	
Operations	**Frequency**
Check that the door operates properly in both directions with all the devices installed.	6 months
Check that the door moves smoothly and uniformly without making any unusual noises.	6 months
Check that the opening and closing speed is correct. For doors in "low energy" mode, make sure that the opening and closing times are within the limits permitted by the regulations.	6 months
For doors in "low energy" mode, make sure that it is possible to stop the movement of the door without excessive force (Max. 67N) at any point along its travel.	6 months
Check that the door operates correctly in every operating mode.	12 months
Check that the lock is working properly, if present.	6 months
Check that the safety functions are working correctly (door reverses or stops when an obstacle is detected, that the door stops in the open position when there is an obstacle in the area of movement etc.).	6 months
Check the presence, integrity and legibility of the EC marking on the door and the DANGER AUTOMATIC MOVEMENT warning sign.	12 months

18. BATTERY KIT

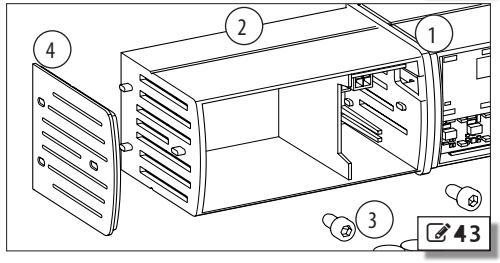
CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED.

The battery kit can only be mounted on the side opposite the side functions selector.

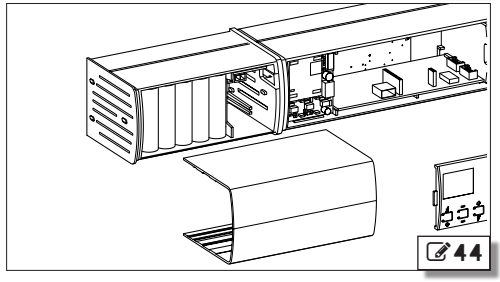
1. With reference to ✎**42**:
   - Remove the side cover (1) and the flange (2).
   - Using a screwdriver or a gripper, remove the pre-cut section (3).
2. With reference to ✎**43**:
   - Replace the flange (1).
   - Remove the battery pack from the enclosure (2).
   - Press the enclosure onto the flange.
   - Fasten it to the support using the two screws (3) and the holes in the base of the enclosure.
   - Press the side cover on (4).
3. Put the battery pack back into the enclosure (✎**44**).
4. Connect the battery kit to the Power board using the cable provided, passing it through the opening that was made after having removed the pre-cut section in step1 (✎**45**).
5. Replace the transparent cover and press the casing on (✎**46**).

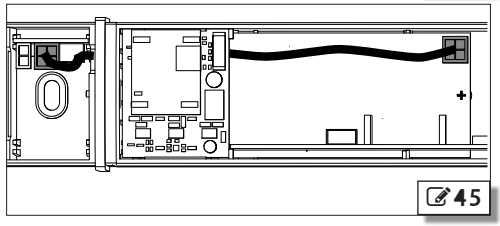


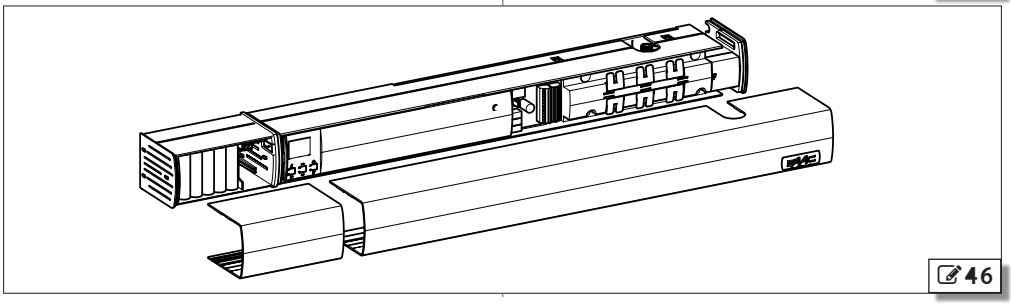
✎**42**



✎**43**


✎**44**


✎**45**


✎**46**

19. COMMUNICATION BOARD

The Communication board provides the following additional features:
- Intercom.
- BUS 2easy.
- Mounting for the XF radio module (optional) for storing radio control codes.

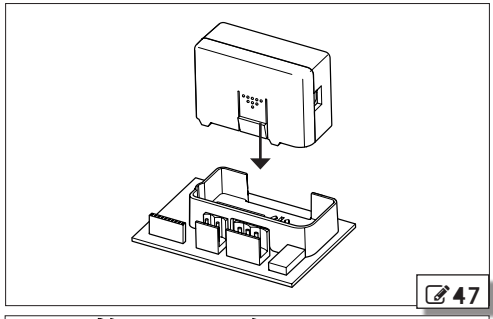
19.1 INSTALLATION

CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED.

1. Insert the XF radio module, if used, into connector J1 (47).
2. Install the board by inserting it into the guides (48).
3. Connect the Communication board to the Logic board using the cable provided (49).

Description of components (50):

J1	XF radio module connector
J2	Intercom bus terminal board
J4	BUS 2easy terminal board
J6	Logic board connector
SW1	Intercom functions DIP switch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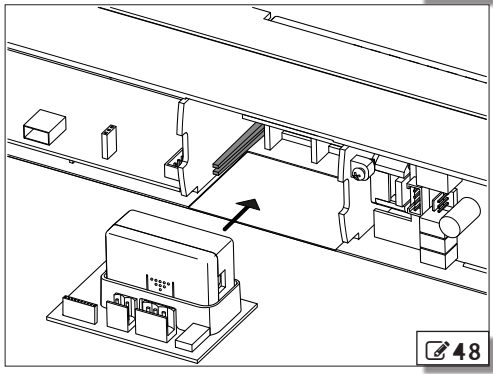
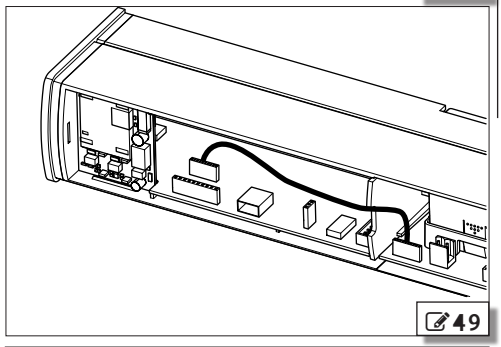

48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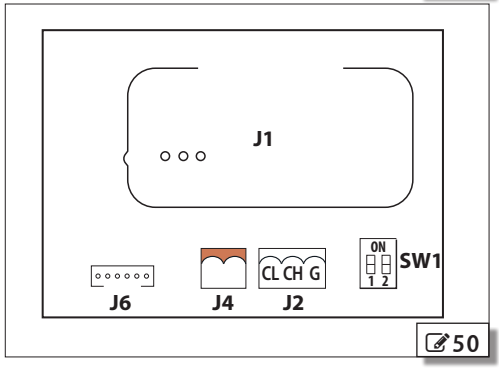


50

20. INTERCOM

■ DESCRIPTION

The A951 is capable of communicating with other A951 units via an Intercom network connection. This enables the following functions to be used (KPEVO menu 2.6.1):

- INTERMODE: a master door from which to set the operating mode for all the other doors that are connected to the network.
- INTERLOCK: two single doors, where the opening of one is subject to the closing of the other and vice versa.
- 2 LEAVES: access consisting of a double leaf.
- 2 LEAVES + INTERLOCK: two interlocked accesses, each consisting of a double leaf.

⚠ Every network connected A951 should be programmed for the same Intercom mode.

ⓘ In order to build the communication network, an optional accessory Communication board must be installed on each A951.

■ CONNECTION

The units in the network are connected via 3 cascade connected-wires between the J2 connectors of the Communication boards (✎ **51**).

⚠ The sequence in which the units are wired is unimportant, but it is essential that a CASCADE connection is used.

The 2 DIP switches on the Communication board must be set as follows:

- On the first and last units of the cascade connection: both ON.
- On intermediate units (if any): both OFF.

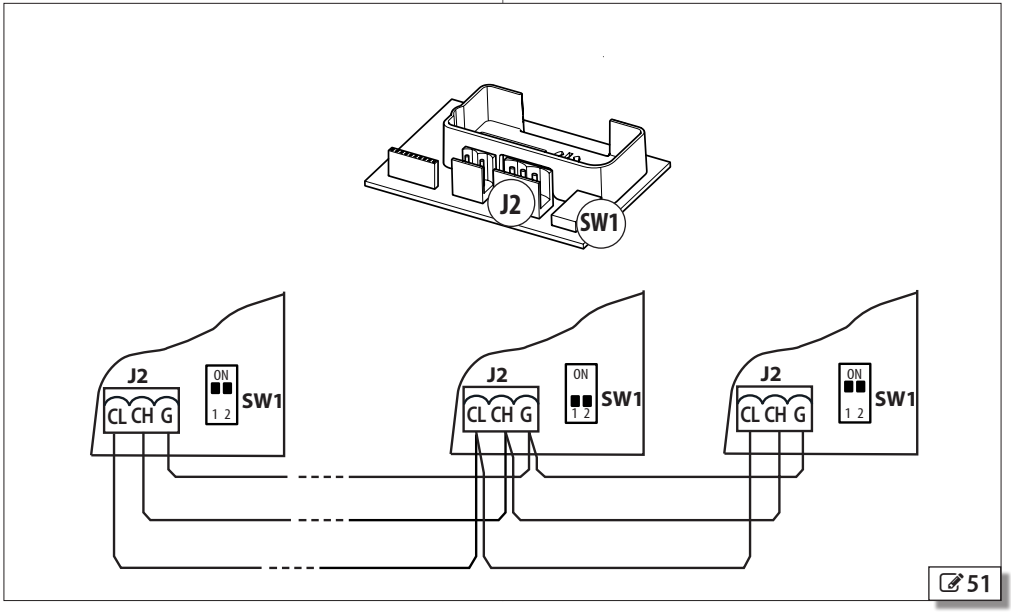
■ ADDRESSING

A unique ID (KPEVO menu 2.6.2) must be assigned to each A951 in the network as indicated below.

⚠ Do not assign the same ID to more than one unit in the network.

■ REGISTRATION

After having wired up and assigned an address to each unit, registration (KPEVO menu 2.6.3), must only be carried out on the A951 that has been assigned ID1.



✎ **51**

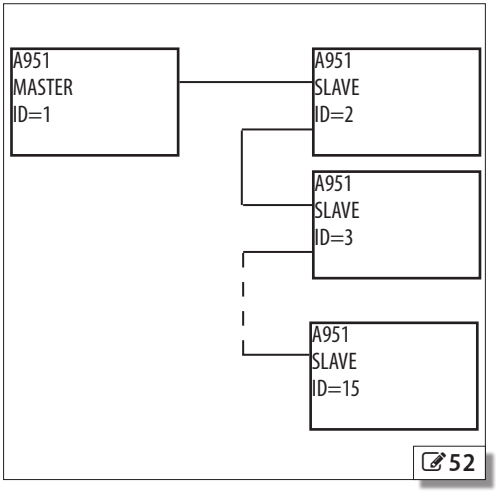
20.1 INTERMODE

52 shows the ID to assign to the A951 units in the network.

The system consists of a Master unit and a maximum of 14 Slave units. The Master A951 is the only unit on which the operating mode should be set, which is then also applied immediately to all the Slave units.

With INTERMODE, it is not possible to change the operating mode of an individual unit.

The Master A951 must be assigned ID1 and the Slave units with IDs from 2 to 14.



20.2 INTERLOCK

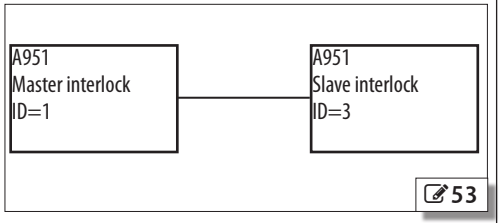
53 shows the ID to assign to the A951 units in the network.

Either of the two units can be designated as the Master and the other as the Slave. In INTERLOCK mode, one door can open only if the other is closed. The available variations are shown below.

If the PARTIAL mode is associated with INTERLOCK, only the Master leaf opens.

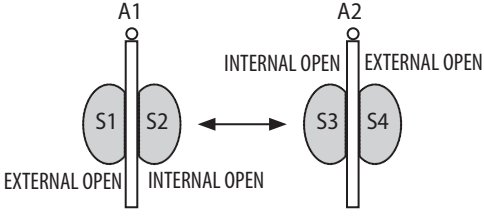
Connect the devices and carry out the programming and Setup of the individual A951 units before configuring the INTERLOCK using KPEVO.

Select on the Master unit to activate the INTERLOCK.



INTERLOCK WITH NO MEMORY

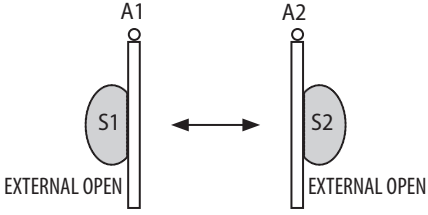
With 4 sensors: the second opening is not automatic. In order to open the door, the internal/external sensor must be triggered when the other door is closed. If the sensor is activated while the door is not yet closed, it has no effect.



	S1	S2	S3	S4
A1 closed A2 closed	A1 opens	A1 opens	A2 opens	A2 opens
A1 NOT closed A2 closed	A1 opens	A1 opens	request opening of A2	request opening of A2
A1 closed A2 NOT closed	request opening A1	request opening A1	A2 opens	A2 opens

INTERLOCK WITH MEMORY

With 2 sensors or buttons: the second opening is automatic.



	S1	S2
A1 closed A2 closed	A1 opens, then A2	A2 opens, then A1
A1 NOT closed, A2 closed	A1 opens and request opening of A2	request opening of A2
A1 closed, A2 NOT closed	request opening of A1	A2 opens and request opening of A1

20.3 2 LEAVES

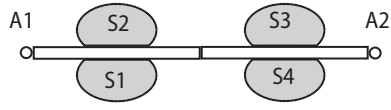
54 shows the ID to assign to the A951 units in the network.

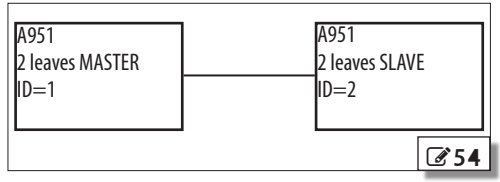
If the two doors overlap, the one that opens first is designated as the Master. If there is no overlap, either of the two units can be designated as the Master and the other as the Slave.

The movement of the leaves 2 is synchronised.

Each of the internal / external door sensors and safety devices must be connected to their own unit; all other devices are connected only to the Master.
Connect the devices and carry out the programming and Setup of the individual A951 units before activating the 2 LEAVES function.
Only use the MasterA951 to change the operating mode.
Push & go, if used, should be programmed in the same way on both units.

The leaf opening / closing delay can be set in menu 2.5.5 of the KPEVO.

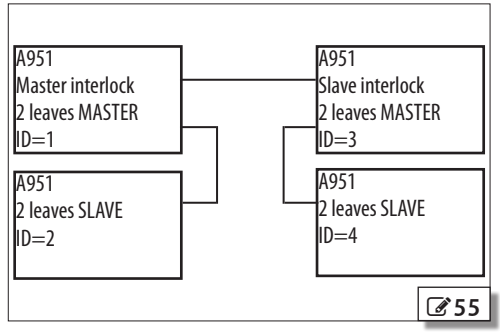




20.4 2 LEAVES + INTERLOCK

55 shows the ID to assign to the A951 units in the network.

This configuration integrates the 2 LEAVES function (on two double-leaf accesses) with the interlock function. Refer to the operating modes described above.



21. BUS 2EASY

This dedicated connection is specifically for to single channel FAAC BUS 2easy control devices.

For installation and wiring, refer to the device instructions.
When finished, it has to be registered via the KPEVO (KPEVO menu 2.5.8).
In the A951, the DIP switches of the devices are associated with the following functions:

DIP switch 1	2	3	4	command
0	0	0	0	AUTOMATIC OPEN
0	0	0	1	EXTERNAL OPEN
0	0	1	0	INTERNAL OPEN
0	0	1	1	SEMI-AUTOMATIC OPEN
0	1	0	0	KEY
0	1	0	1	NOT USED
0	1	1	0	NOT USED
0	1	1	1	NOT USED
1	0	0	0	NOT USED
1	0	0	1	PARTIAL AUTOMATIC OPENING
1	0	1	0	PARTIAL EXTERNAL OPENING
1	0	1	1	PARTIAL INTERNAL OPENING
1	1	0	0	PARTIAL SEMI-AUTOMATIC OPENING
1	1	0	1	PARTIAL KEY
1	1	1	0	NOT USED
1	1	1	1	NOT USED

For each control device connected to the BUS 2easy line, position the DIP switch switches so that only one command is used on a single device.

22. MEMORISING RADIO CONTROL CODES

If the A951 is fitted with a Communication board and an XF radio module, it can memorise the following types of FAAC radio control codes: SLH/SLH LR, LC/RC, DS.

The three types of radio codes can coexist simultaneously.
A maximum of 256 codes can be memorised.
When memorising the codes, keep the radio control approximately one meter from the XF radio module.
The radio controls act as AUTOMATIC OPEN commands.

22.1 SLH/SLH LR RADIO CONTROLS

MEMORISING THE FIRST RADIO CONTROL

1. Press the + button on the A951 for a couple of seconds, rL flashes on the display to indicate that the radio control codes learning phase has started.

   If you keep the button pressed for more than 5 seconds, rE appears on the display to indicate that it is entering the stored radio code deletion phase! To prevent deletion, release the + button immediately.

2. Release the + button, the A951 remains in the learning phase for approximately 10 seconds and the rL symbol on the display becomes steady.
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 rL still appears on the display and press the button on the radio control that you wish to memorise (the LED becomes steady); the A951 exits from the learning phase and displays the status of the automation.
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 A951 will open the door, if permitted by the operating mode that has been set.

MEMORISING OTHER RADIO CONTROLS

1. Press and hold down buttons P1 and P2 simultaneously on the SLH/SLH LR radio control that has already been stored (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).
4. 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 on the radio control to be memorised and make sure that its LED flashes twice before turning off to indicate that the procedure was completed successfully.
6. Release all buttons.
7. 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 A951 will open the door, if permitted by the operating mode that has been set.

22.2 LC/RC RADIO CONTROLS

MEMORISING THE FIRST RADIO CONTROL

1. Press the + button on the A951 for a couple of seconds, rL flashes on the display to indicate that the radio control codes learning phase has started.

> If you keep the button pressed for more than 5 seconds, rE appears on the display to indicate that it is entering the stored radio code deletion phase! To prevent deletion, release the + button immediately.

2. Release the + button, the A951 remains in the learning phase for about 10 seconds and the rL symbol on the display becomes steady.
3. Make sure that rL still appears on the display and press the button on the radio control that you wish to memorise for a few seconds; rL flashes to confirm that it has been memorised and then becomes steady for approximately 10 seconds waiting for additional codes before the display returns to indicating the automation status.
4. To memorise additional radio controls at a later stage, repeat this procedure from the beginning or carry out the remote memorisation procedure.

REMOTE MEMORISATION

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. In proximity to the A951, press buttons P1 and P2 simultaneously for a couple of seconds on the radio control that has already been memorised. Release both buttons and then press the button that has already been memorised within 5 seconds. The A951 now remains in the learning phase for approximately 10 seconds.
2. Press the button on the radio control to be memorised within 10 seconds.
3. Wait 10 seconds to finalise the learning phase before using the new radio control.

22.3 DS RADIO CONTROLS

1. Set the required ON/OFF combination of the 12 DIP switch on the DS radio control. Avoid setting all of them to ON or all of them to OFF.
2. Press the + button on the A951 for a couple of seconds, rL flashes on the display to indicate that the radio control codes learning phase has started.

> If you keep the button pressed for more than 5 seconds, rE appears on the display to indicate that it is entering the stored radio code deletion phase! To prevent deletion, release the + button immediately.

3. Release the + button, the A951 remains in the learning phase for about 10 seconds and the rL symbol on the display becomes steady.
4. Make sure that rL still appears on the display and press the button on the radio control that you wish to memorise for a few seconds; rL flashes to confirm that it has been memorised and then becomes steady for approximately 10 seconds waiting for additional codes before the display returns to indicating the automation status.
5. For additional radio controls, use the same ON/OFF combination for the 12 DIP switches on the radio control that has been memorised. It is also possible to store radio controls with different combinations by repeating the same procedure.

22.4 DELETING RADIO CONTROLS FROM MEMORY

> This procedure permanently deletes all stored radio codes from memory

Press and hold down the + button on the A951. The following will appear on the display in sequence:

- rL flashing
- rE flashing quickly
- rE steady

When rE becomes steady, the radio controls memory is erased. Release the + button. The A951 indicates the status of the automation.

> Releasing the + button when rL or rE are flashing on the display interrupts the radio control deletion procedure.

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