950N2

safe zone · green tech · EN16005

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EU DECLARATION OF CONFORMITY

The Manufacturer

Company name: FAAC S.p.A. Soc. Unipersonale

Address: Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY

hereby declares under its own exclusive liability that the following product:

Description: Gearmotor for pedestrian swing doors

Model: 950N2

complies with the following applicable EU legislations:

> 2014/30/EU
> 2011/65/EU

Furthermore, the following harmonised standards have been applied:

> EN61000-6-2:2005
> EN61000-6-3:2007 + A1:2011

Bologna, Italy, 01-11-2017   CEO
                               A. Marcellan

DECLARATION OF INCORPORATION FOR PARTLY COMPLETED MACHINERY
(2006/42/EC ANNEX II P.1, B)

Manufacturer and person authorised to prepare the relevant technical documentation

Company name: FAAC S.p.A. Soc. Unipersonale

Address: Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY

hereby declares that for the partly completed machinery:

Description: Gearmotor for pedestrian swing doors

Model: 950N2

The essential requirements of the Machinery Directive 2006/42/EC (including all applicable amendments) that have been applied and fulfilled are as follows:

1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.2.1, 1.2.3, 1.2.6, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.4.1, 1.4.2.1, 1.5.1, 1.5.2, 1.6.3, 1.6.4, 1.6.5, 1.7.1, 1.7.1.2, 1.7.4

and that the relevant technical documentation has been compiled in compliance with part B of Annex VII.
Furthermore, the following harmonised standards have been applied:

> EN16005:20012
> EN ISO 12100:2010
> EN13849-1:2015
> EN13849-2:2012

And also undertakes to transmit, in response to a reasoned request by the national authorities, relevant information on the partly completed machinery by mail or e-mail.
Finally, the manufacturer declares that the above-mentioned partly completed machinery must not be put into service until the final machine in which it is to be incorporated has been declared compliant with the requirements of the above-mentioned Machinery Directive 2006/42/EC.

Bologna, Italy, 01-11-2017   CEO
                               A. Marcellan

ENGLISH

Translation of the original instructions

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ENGLISH

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TABLES

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1. INTRODUCTION TO THIS INSTRUCTIONS MANUAL

This manual provides the correct procedures and requirements for installing 950N2 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 950N2 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: notes and warnings used in the instructions

⚡	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.

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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.

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.

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2. SAFETY RECOMMENDATIONS

This product has been placed on the market as "partly completed machinery" and therefore must not be put into service until the machine into which it has been incorporated has been declared compliant with the Machinery Directive 2006/42/EC by its manufacturer.

⚠ Incorrect installation and/or incorrect use of the product might cause serious harm to people.   Read the instructions before using the product and comply with them.   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/are authorised to carry out work on the components of the automation.   Do not make any modifications to the original components.

Cordon off the work site (even temporarily) and prohibit access/transit.   For EC countries, comply with the national legislation that transposes the European Directive on Construction sites 92/57/EC.

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

The installer must demonstrate or declare that he/she has the technical-professional competency to carry out the installation, testing and maintenance in accordance with the requirements of 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

PALLETISED SUPPLY

RISKS

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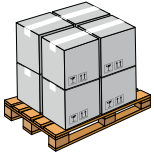
 ⚠ Follow the instructions on the packaging during handling.
Use a forklift or pallet truck, following safety regulations to avoid the risk of impacts or collisions.

SINGLE PACKAGE

RISKS

PERSONAL PROTECTIVE EQUIPMENT
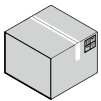
 ⚠ Follow the instructions on the packaging during handling.

STORAGE
Keep the product in its original packaging, in a dry place indoors, away from direct sunlight, dust and corrosive substances.   Protect from mechanical stresses.   If storing for longer than 3 months, periodically check the condition of the components and the packaging.

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

2.3 UNPACKING AND HANDLING

RISKS

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.

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3. 950N2

3.1 INTENDED USE
The FAAC 950N2 series electromechanical operators are designed to operate horizontal movement pedestrian swing doors.
One operator must be installed on each leaf.
950N2 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).
950N2 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 outside of the limits specified in the Technical Data and Installation Requirements sections.
- 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.
- It is prohibited to use and/or install accessories which have not been specifically authorised by FAAC S.p.A.
- It is prohibited to use the automation before performing commissioning.
- It is prohibited to use the automation in the presence of faults which could compromise safety.
- It is prohibited to use the automation with the fixed and/or mobile guards removed or altered.

- Do not allow water jets of any type or size to come into direct contact with the operator.
- Do not expose the door operator to corrosive chemicals or atmospheric agents.
- Do not enter/remain in the area of operation of the automation while it is moving.
- Do not try to prevent the movement of the automation.
- Do not climb onto, hold onto or let yourself be pulled by the door.
- Do not allow children to approach or play in the area of operation of the automation.
- 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.

950N2 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.

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

3.6 PRODUCT IDENTIFICATION

The product is identified by the following rating plate:
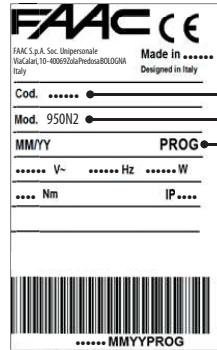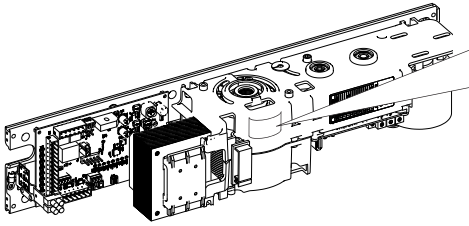
Sale code

Product name

Identification number
Month/year of production +
Progressive number for the month
of production.
Example: 0117 0001
produced in January 2017 S/N 1

3.7 TECHNICAL CHARACTERISTICS

The 950N2 is an electromechanical operator that moves the door via one of the optional transmission arms:
- articulated push arm
- shoe (pulling) arm (standard or short)

The 950N2 can be installed on an architrave or on the door in the following configurations

950N2 - architrave mounted

articulated arm	the door opens outwards
shoe arm	the door opens inwards

950N2 - door mounted

articulated arm	the door opens inwards

ⓘ The opening direction of the door refers to the direction as seen from the operator side.

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 950N2 or using extensions, to be ordered separately.

By turning it over, the 950N2 can be used to automate doors with hinges on either the right or left.   This is because the door operator is fitted with a drive shaft on each side.

Depending to the version, the 950N2 may be supplied with a plastic cover, an aluminium cover or without a cover.

The 950N2 is a reversible door operator and is therefore not fitted with a release device.

The 950N2 can control a lock in order to mechanically lock the door in the closed position.

The 950N2 has an integrated spring that moves the door back to the closed position if there is a mains power failure.

The 950N2 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 950N2 has a selector switch at the side for setting the 3 operating modes and DIP switches and trimmers for programming the functions for a typical installation.

The 950N2 is designed to be connected to the following optional keypads:
- KP EVO to set the operating modes, access all the programming parameters and advanced functions.
- LK EVO to set the operating modes.

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⊞ **4**   Technical data

	950N2 230 V	950N2 115 V
Power supply voltage	230 V~ 50 Hz	115 V~ 60 Hz
MAX absorbed power	100 W	100 W
Absorbed power in standby without accessories	5 W	5 W
Use frequency	100%	100%
Ambient operating temperature	-10℃ +55℃	-10℃ +55℃
MAX door weight	⊞ **5**	⊞ **5**
Door width	⊞ **5**	⊞ **5**
Doorpost depth MAX	⊞ **6**	⊞ **6**
Installation	on architrave / door (⊞ **6**)	on architrave / door (⊞ **6**)
Maximum opening angle	⊞ **6**	⊞ **6**
Dimensions (LxHxD)	530x105x160 mm	530x105x160 mm
Weight	10 Kg	10 Kg

⊞ **5**   Application limits according to the weight and length of the leaf.

	MAX. leaf weight (Kg)		
Length (mm)	Articulated arm	Short shoe arm	Standard shoe arm
700	367	286	
750	320	249	
800	281	219	
850	249		194
900	222		173
950	199		155
1000	180		140
1050	163		127
1100	149		116
1150	136		106
1200	125		97
1250	115		90
1300	107		83
1350	99		77
1400	92		71

⊞ **6**   Application limits of transmission arms

	Doorpost depth (mm)	Maximum opening angle
Articulated arm		
architrave mounted	0...250	100°...125°
door mounted	0	100°
Short shoe arm		
architrave mounted	0...160	90°
Standard shoe arm		
architrave mounted	0...160	90°...105°

⊞ 7   Architrave mounted with articulated push arm

ⓘ The door opens outwards, as seen from the operator side
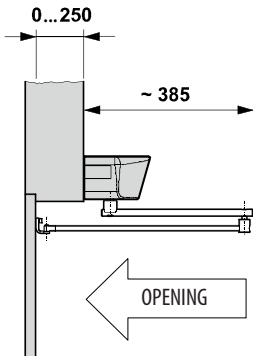
	A	B
Standard joint	60	0…15
Extension H50	90	0…45
Extension H80	120	0…75

0…250

~ 385

OPENING

128   172   292

13

M6

72

M6

B

408   45

A

M6

292   172   128

72

M6

13

A

M6

B

45   408

360   70

56

70   360

56

1

2

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	A	B
Standard joint	60	0…15
Extension H50	90	0…45
Extension H80	120	0…75

~ 385

OPENING

408   45

M6

B

13

72

128   172   292

A

45   408

M6

M6

A

72

B

13

292   172   128

360   70

56

70   360

56

3

4
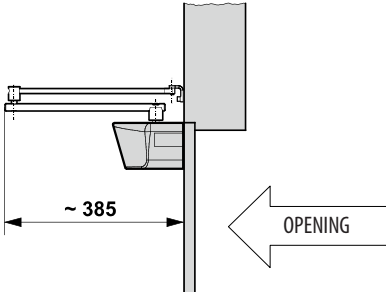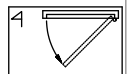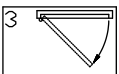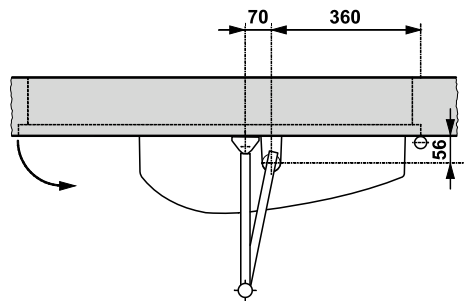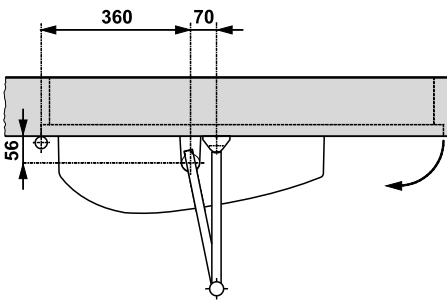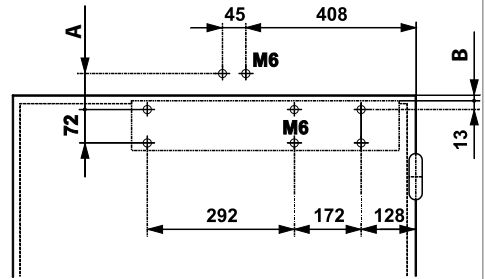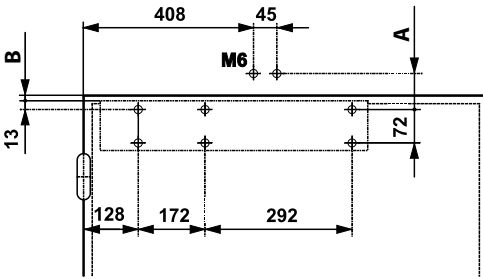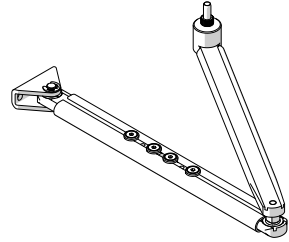
⊞ 9 Architrave mounted with standard shoe (pulling) arm
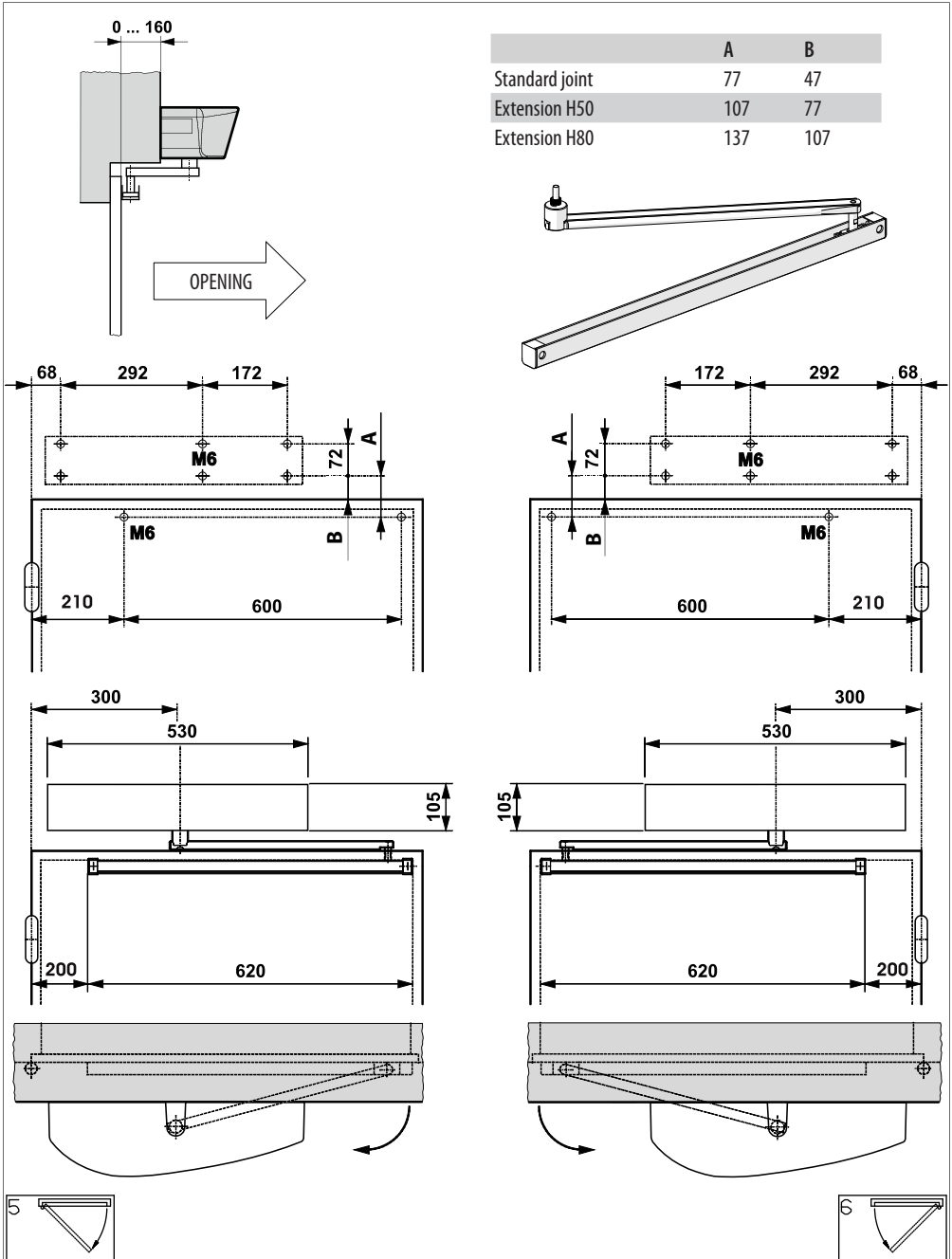
ⓘ The door opens inwards, as seen from the operator side

0 ... 160

OPENING

	A	B
Standard joint	77	47
Extension H50	107	77
Extension H80	137	107

68   **292**   **172**

M6

72

A

M6

B

210   **600**

172   **292**   **68**

A

72

M6

B

600   **210**

M6

300

530

105

200   **620**

300

530

105

620   **200**

5

6

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ⓘ The door opens inwards, as seen from the operator side

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0 ... 160

	A	B
Standard joint	77	47
Extension H50	107	77
Extension H80	137	107

OPENING

38 292 172

M6 72 A

M6 B

80 600

172 292 38

A 72

B

M6

600 80

270

530

105

70 620

270

530

105

620 70

7

8
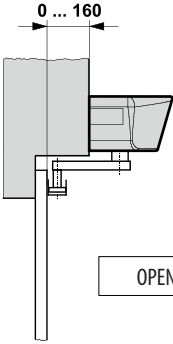
3.8 COMPONENT IDENTIFICATION
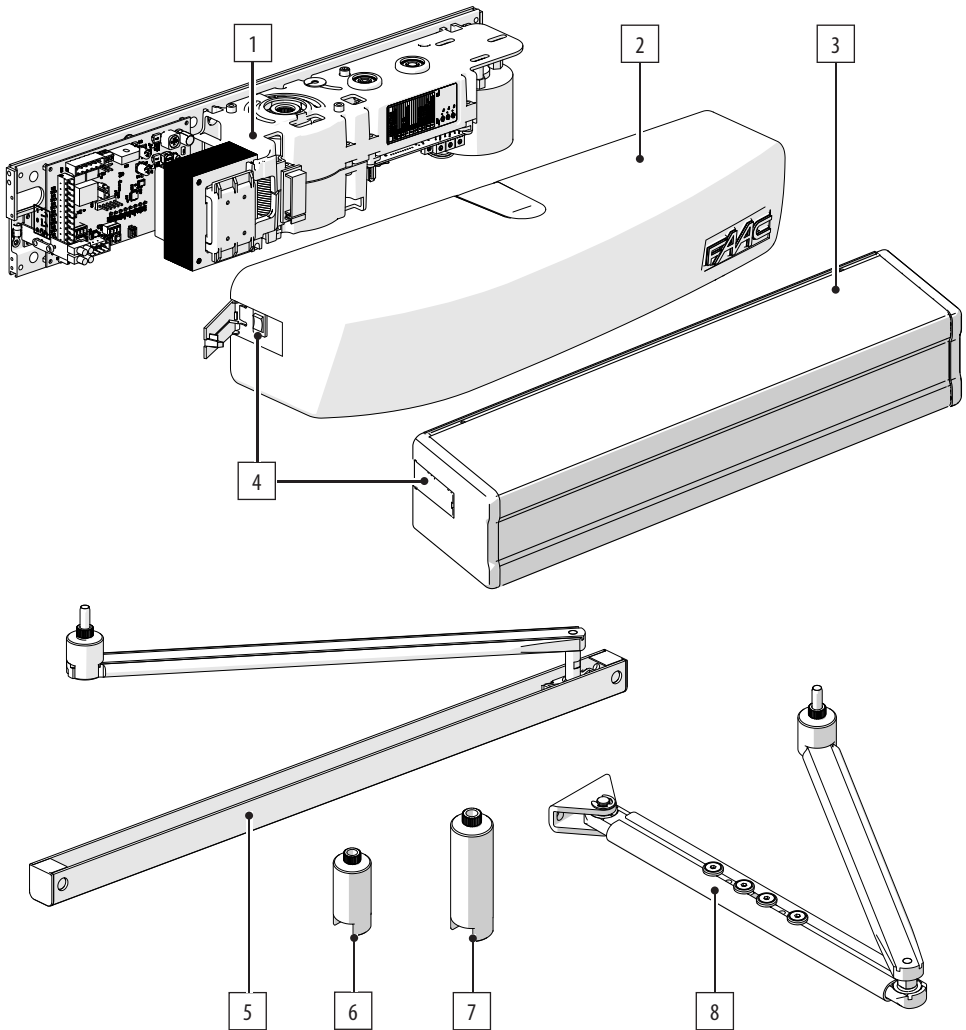
1	Door operator 950N2	included in the supply
2	Plastic front cover	included in the supply *
3	Aluminium front cover	included in the supply *
4	Functions selector	included in the supply
5	Shoe arm (standard / short)	optional accessory
6	Extension H50	optional accessory
7	Extension H80	optional accessory
8	Articulated arm	optional accessory
9	KP EVO function programmer	optional accessory
10	LK EVO function programmer	optional accessory

* according to the model

☑1

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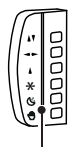
4. INSTALLATION REQUIREMENTS

4.1 MECHANICAL REQUIREMENTS

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

Before installing the automation system, the suitability of the mechanical requirements must be established, and the necessary work to reach 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 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 multi-pole circuit breaker with a suitable tripping threshold, a contact opening distance of at least 3 mm and a breaking capacity that complies with current regulations. The power supply for the automation must be fitted with a 30 mA differential switch.

The metal parts of the structure must be earthed.

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

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

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

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 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 950N2.
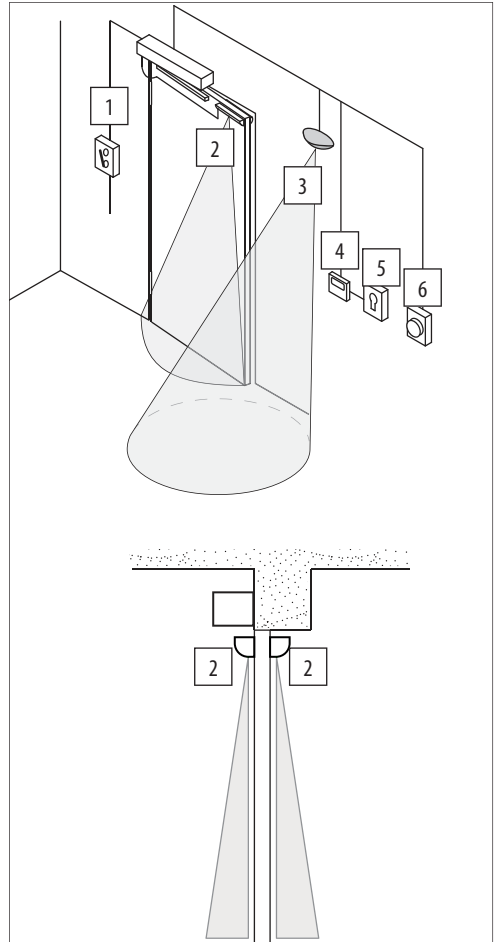
1	Power supply 230V~	2x1.5 mm² + earth
2	Detector (XPB ON)	cable provided
3	Opening sensor	cable provided
4	KP EVO	✎24, MAX 50 m
5	Key switch for locking the KP EVO	2x0.5 mm²
6	Control buttons	2x0.5 mm²

✎2

FAAC

4.5 DESCRIPTION OF COMPONENTS
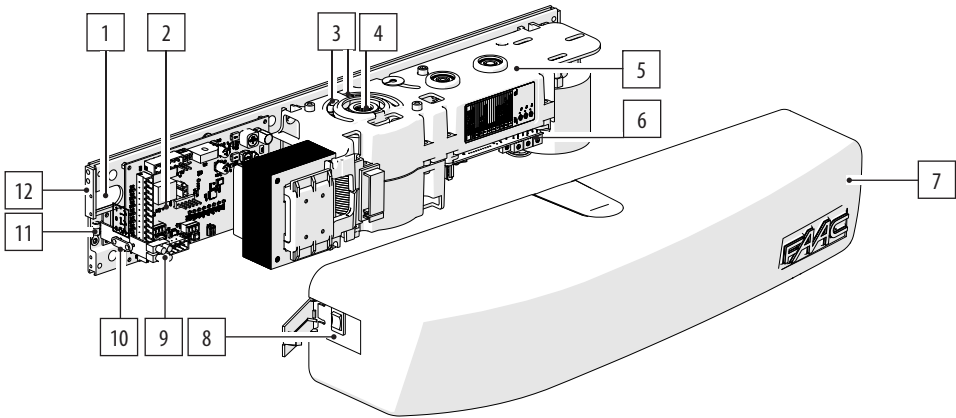
1	Cable routing
2	I/O board
3	Integrated mechanical stops
4	Drive shaft
5	Gearmotor
6	Logic board
7	Plastic cover
8	Functions selector
9	Mains power terminal board
10	Cable grip
11	Earth connection
12	Plastic cover fixing plate

✎3

4.6 TOOLS REQUIRED

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

⊞ **11** Symbols: work tools

2 ; 3	FLAT SCREWDRIVER of the size(s) indicated
1 ; 2	PHILLIPS SCREWDRIVER of the size(s) indicated
4 ; 6	HEX KEY of size indicated

	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.

RISKS

PERSONAL PROTECTIVE EQUIPMENT

5.1 CABLE INLET

The 950N2 is designed for cables to enter from the

back (✏4) or from the sides by breaking off the cable

knockouts (✏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

🛈 In the case of a shoe arm, install the arm on the drive shaft before securing the operator to the architrave (§ 5.3).

1. To make installation easier, the transmission arms are supplied with hole templates.   The template indicates the position of the holes for mounting the 950N2 and transmission arm, with or without the optional extensions.   Identify the correct installation configuration.
2. Position the template and secure it temporarily using adhesive tape, then mark the holes to be drilled on the architrave and the door using a pencil or the tip of a screwdriver.
3. If necessary, drill the holes at the points that were marked according to the type of installation.

⚠ 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.

4. Fasten the 950N2 using the previously made marks / holes (✏6) and check that it is horizontal using a spirit level.

✏4

✏5

✏6

FAAC
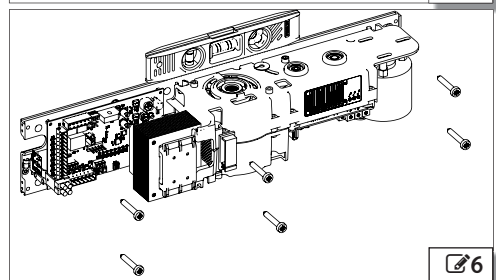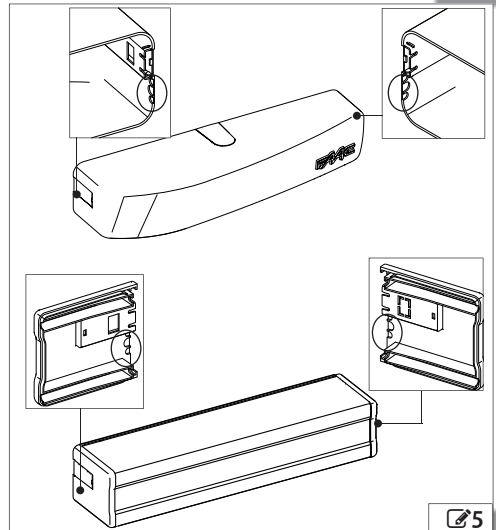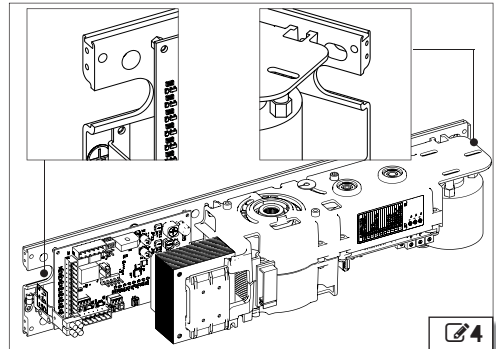
5.3 SHOE ARM

⚠️ 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.

ℹ️ Install the arm onto the drive shaft before securing the operator to the architrave.

Carry out the installation procedure with the door closed.

Assemble the transmission arm as shown in ✏️**7**:
1. Insert the screw and the split washer (1) into the joint (2).
2. Fasten the arm (3) to the joint (2) using the screws (4)
3. Insert the joint onto the drive shaft of the 950N2 so that the arm is angled at 45° outwards (✏️**8**).
4. Tighten the screw (1).
5. Mark the mounting points of the guide (6) on the leaf according to the configuration to be used. Then fasten it to the door using the screws (7), making sure it is horizontal.

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

6. When installing the operator, pull back the arm manually and insert the sliding shoe (5) into the guide (6), then fasten the 950N2 to the architrave.
7. Move the door manually to make sure there is no friction and that it does not jam.
8. Press the two end plugs (8) onto the guide.

✏️7

✏️8

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.

Carry out the installation procedure with the door closed.
Assemble the transmission arm as shown in ✏️**9**:

1. Mark the mounting points of the plate (1) according to the configuration to be used. Then fasten it using the screws (2).

⚠️ The plate must be fastened using screws (wall plugs, self-tapping screws etc.) and tightened appropriately according to the support material.

2. Loosen the fixing screws of the telescopic arm (3).

3. Insert the screw and the split washer (4) into the joint (5).
4. Fasten the shaft (6) to the joint (5) using the screws (7).
5. Install the joint on the transmission shaft of the 950N2 so that the shaft is perpendicular to the operator.
6. Tighten the screw (4).
7. Rotate the shaft (6) so that the telescopic arm (8) is not perpendicular to the door / architrave (✏️**10**).
8. Tighten the fixing screws of the telescopic arm (3).
9. Move the door manually to make sure there is no friction and that it does not jam.

✏️9

✏️10

FAAC
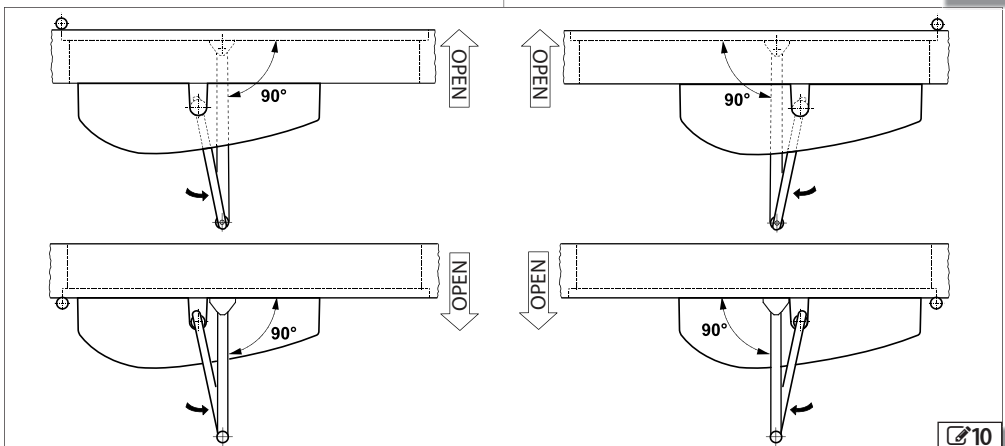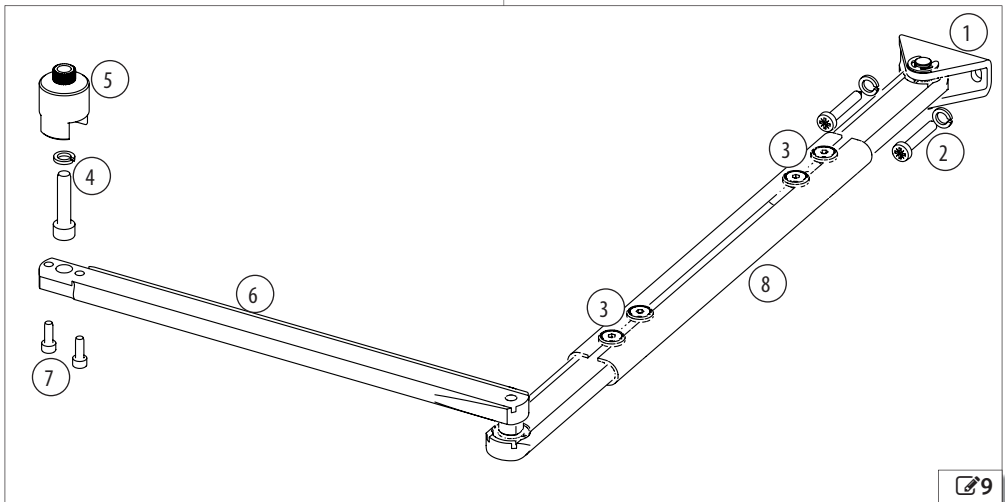
5.5 ADJUSTING THE INTERNAL STOPS

The 950N2 is fitted with integrated mechanical stops that can be adjusted in order to limit the stroke of the door. These should be used if there are no external mechanical stops,   It is anyway recommended to adjust them, even if there are external stops.

The stops are supplied ready adjusted for maximum drive shaft rotation.

- Loosen the screws (☞**11**-1)
- With the door is in the closed position, identify the closing stop and slide it inside the slot until it comes into contact with the cam underneath.   Tighten the screw
- With the door is in the open position, identify the opening stop and slide it inside the slot until it comes into contact with the cam under-neath.   Tighten the screw

☞**11**
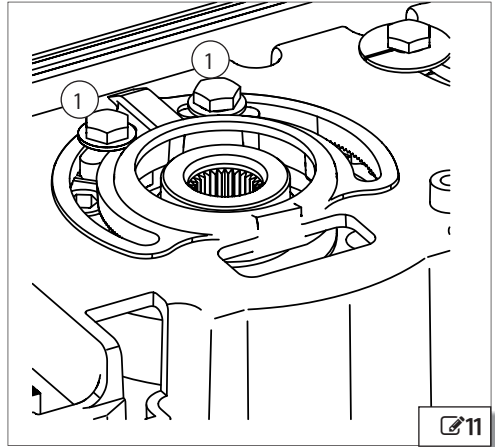
6. ELECTRONIC INSTALLATION

RISKS

PERSONAL PROTECTIVE EQUIPMENT

⚡ ALWAYS DISCONNECT THE POWER SUPPLY before work-ing on the board.   Turn power on only after having made all the electrical connections and carried out the preliminary start-up checks.

6.1 CONNECTING TO THE I/O BOARD

⚡ CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED.

Connect the wires to the terminal boards shown in ☞**13**.

6.2 CONNECTING TO THE MAINS POWER SUPPLY

⚡ CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED.

With reference to ☞**12**:

- Crimp the cable lug (1) to the earth wire and fasten it using the washer and screwing the screw into the appropriate hole.
- Connect the mains power supply wires directly to the terminals (2).
- Secure the power cable using the cable grip (3)

☞**12**

6.3 I/O BOARD

✎13
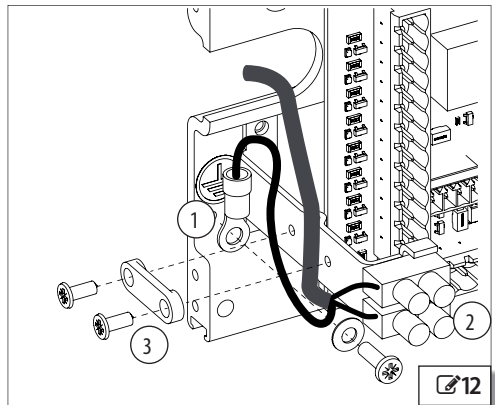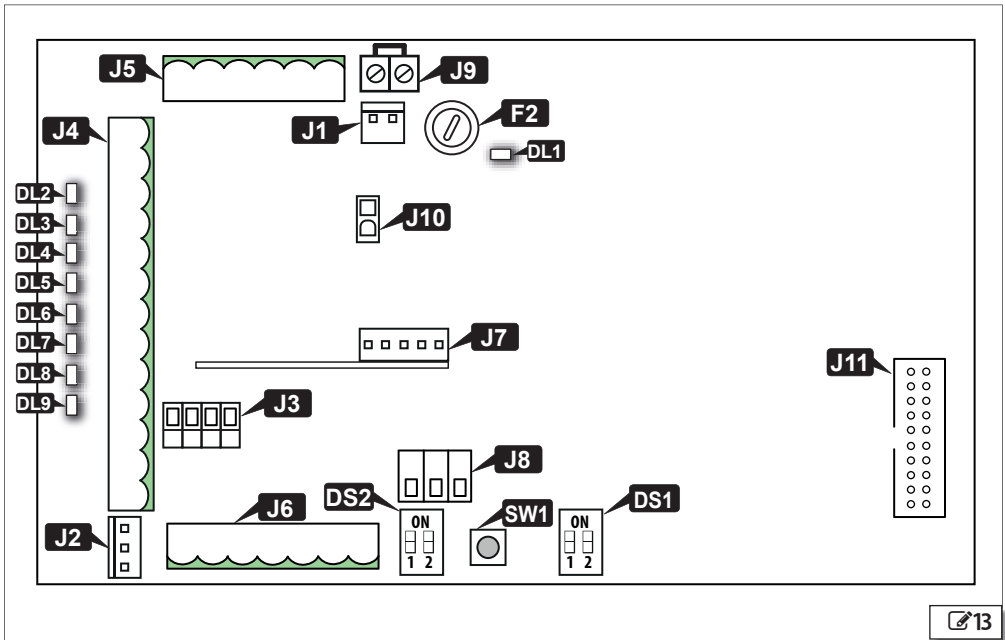
I/0	
J 1	Transformer connector
J 2	Connector for side functions selector
J 3	KP EVO connector
J 4	Inputs terminal board
J 5	Door and lock status terminal board
J 6	Outputs terminal board
J 7	Connector (5 pin) for radio/decoder board
J 8	Intercom bus terminal board
J 9	Motor disconnection terminal board (NOT-AUS)
J 10	Logic board power supply connector
J 11	Logic board connector
F 2	Power supply fuse

I/0	
DS 1	Not used
DS 2	Intercom functions DIP switch
SW1	SETUP/RESET button
DL 1	Accessories power supply LED
DL 2	Input 10 status LED (command INTERNAL OPEN)
DL 3	Input 11 status LED (command EXTERNAL OPEN)
DL 4	Input 12 status LED (command EMERGENCY OPEN)
DL 5	Input 13 status LED (command CLOSING SAFETY)
DL 6	Input 14 status LED (command OPENING SAFETY)
DL 7	Input 15 status LED (command KEY)
DL 8	Input 16 status LED (command FIRE ALARM)
DL 9	Input 17 status LED (command AUTOMATIC OPEN)

J9		
NOT-AUS	Motor connected	Motor disconnected

FAAC
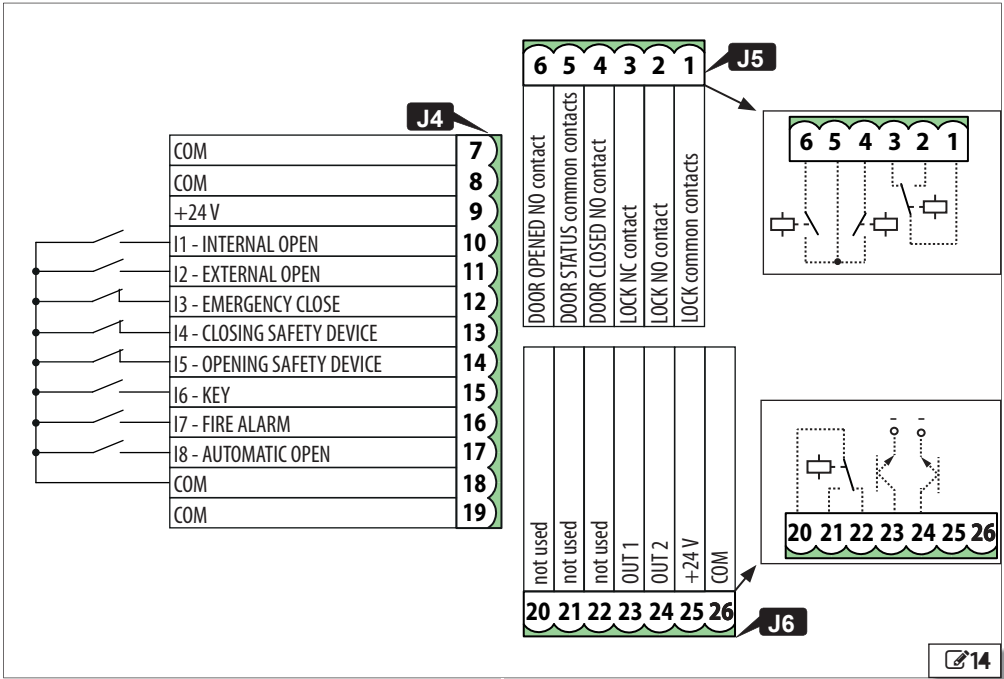
J4	
7,8	Common contacts and accessories power supply negative
9	+24 V accessories power supply (1 A max including lock consumption)
10	I1 - Open command from internal sensor (active in Automatic and Exit Only)
11	I2 - Open command from external sensor (active in Automatic and Only In)
12	I3 - Emergency close command (enabled in all modes apart from Manual)
13	I4 - Safety command during closing: causes the direction of movement to be reversed and prevents closing until released.
14	I5 - Safety command during opening: causes the leaf to stop until released and then continues to open.
15	I6 - Open command with Key (active in all modes apart from Manual)
16	I7 - Fire alarm command: closes the door and keeps it closed, has absolute priority
17	I8 - Opening command (not active in Night)
18,19	Common contacts and accessories power supply negative
J5	
1,2,3	Relay outputs with NO/NC contact for lock (rating max 0.5 A 24 V⎓)
4,5,6	Relay outputs with NO contact for door open and door closed status (rating max 0.5 A 24 V⎓)
J6	
20,21,22	Not used
23	Output OUT1: Gong function with NO contact
24	Output OUT2: Failsafe function with NC contact
25	+24 V accessories power supply (1 A max including lock consumption)
26	Common contacts and accessories power supply negative

6.4 LOGIC BOARD

15
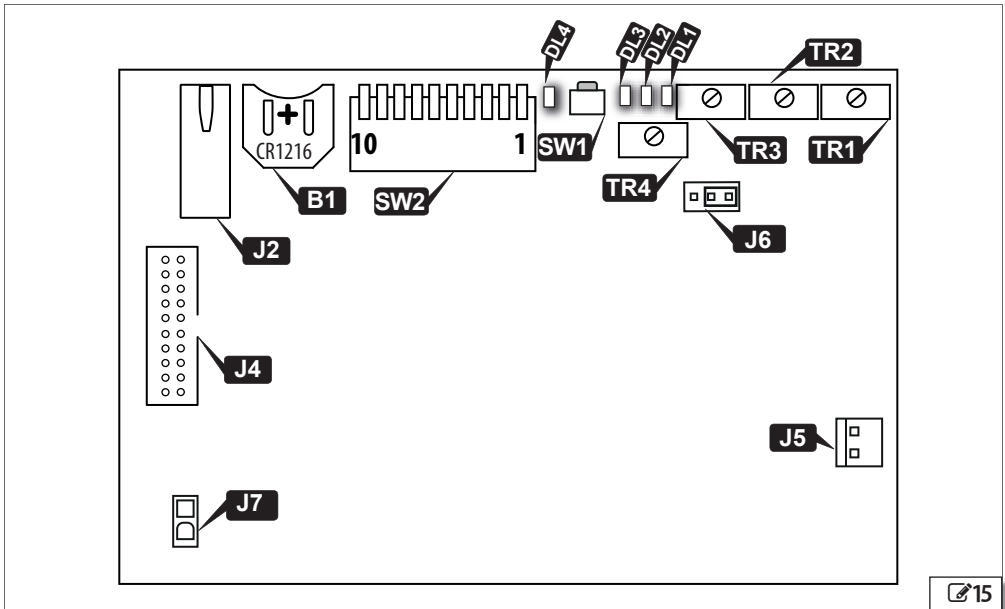
I/O	
J 2	USB port
J 4	I/O board connector
J 5	Motor connector
J 6	Spring closing system speed selector in the event of a mains power failure.
J 7	Power supply connector from the I/O board.
SW 1	Button
SW 2	Functions DIP switches
TR 1	Opening speed adjustment trimmer
TR 2	Closing speed adjustment trimmer
TR 3	Pause time adjustment trimmer
TR 4	Spring closing system speed adjustment trimmer
B1	CR1216 battery holder
DL 1	Green USB connection LED
DL 2	Red SETUP/ERROR LED
DL 3	Blue 5V power supply LED
DL 4	Yellow LED - consistency of parameters saved on the board with the values of the trimmers and DIP switches.

J6 (MOT BRAKE)	▭▬▬ FIXED	▬▬▭ ADJ
Spring closing system speed in the event of a mains power failure.	Minimum speed, non-modifiable	Adjustable using trimmer TR4

FAAC

SW2		OFF	ON
DIP 1	Anti-intrusion: Sets the function in which the automation resists attempts to open it manually or caused by gusts of air	Not active	Active
DIP 2	Type of transmission arm installed	Articulated arm	Shoe arm
DIP 3	External selector position 2	MANUAL mode	NIGHT mode
DIP 4	PUSH & GO:	see "PUSH & GO" below	
DIP 5	Not used		
DIP 6	PUSH & GO:	see "PUSH & GO" below	
DIP 7	Partial safety: STOP: Defines the detection area of the safety in opening	Obstacle detection active over the entire opening stroke	Obstacle detection NOT active in proximity to the opening stop
DIP 8	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 ⚠ DO NOT enable SCP in "low energy" mode	Not active	Active
DIP 9	FAILSAFE: Test for checking the operation of the devices connected to the safety inputs	Not active	Active
DIP 10	Not used		

PUSH & GO

DIP 4	DIP 6	PUSH & GO
OFF	OFF	not active
ON	OFF	standard (automatic opening and closing of the door after an initial manual push)
OFF	ON	FAST FOOD" mode "(manual opening, motorised closing)
ON	ON	FAST FOOD" mode "(manual opening, motorised closing)

TR 1		TR 3	
⊘	Adjusts the opening speed	⊘	Adjusts the pause time (0...30 s)

TR 2		TR 4	
⊘	Adjusts the closing speed	⊘	Regulates the closing spring speed in the event of a mains power failure; only active if J6 (MOT BRAKE) is set to ADJ.

ⓘ If the yellow LED is lit, it indicates that the parameters stored on the board are different to those indicated by the trimmers and DIP switches.

Any adjustments made to the trimmers (except Tr 4) or DIP switches cause the yellow LED DL4 to light up.

To store the new setting and make it active, briefly press button SW1 on the Logic board. The yellow LED DL4 switches off to confirm that it has been stored.

The parameters that can be modified by the trimmers and DIP switches can also be modified via KP EVO. In this case, the settings are stored immediately and the yellow LED switches on to indicate that the values are different to those indicated by the trimmers and DIP switches.

FAC

6.5 CONNECTING SAFETY SENSORS

- 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.
- One output should be configured as TEST.
- For the electrical wiring, refer to the sensor instructions

CONNECTING XPB ON AND XPB SCAN

The example shows a pair of interconnected XPB ON (✎16) and XPB SCAN ✎17 sensors connected together in a master/slave, configuration, used as closing (A) and opening (B) safety devices.

Sensor A is connected to input 13 (configured as a safety in closing device with an NC and TEST enabled contact).

Sensor B is connected to input 14 (configured as a safety in opening device with an NC and TEST enabled contact).

Output OUT2 should be configured as TEST with an NC contact.

DIP switch 1 of each sensor defines the side on which it is mounted ✎18):

ON = opening side
OFF = closing side

■ XPB ON

✎16

■ XPB SCAN

✎17

✎18

FAAC
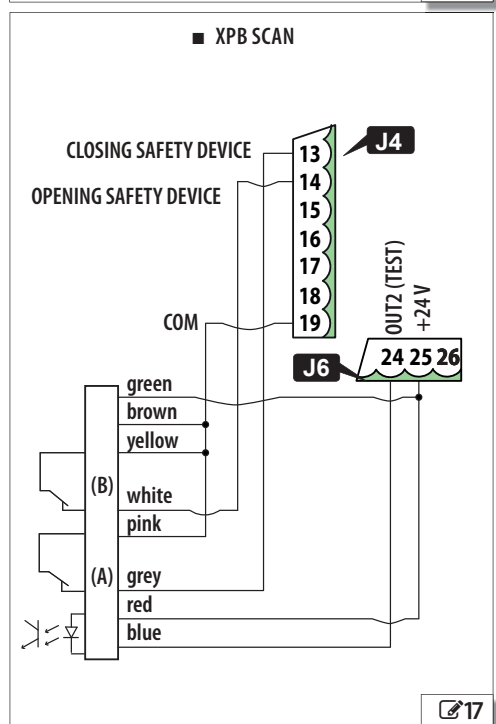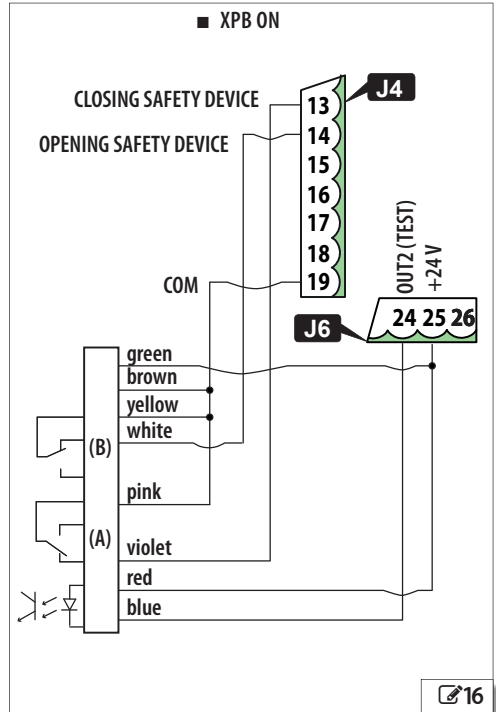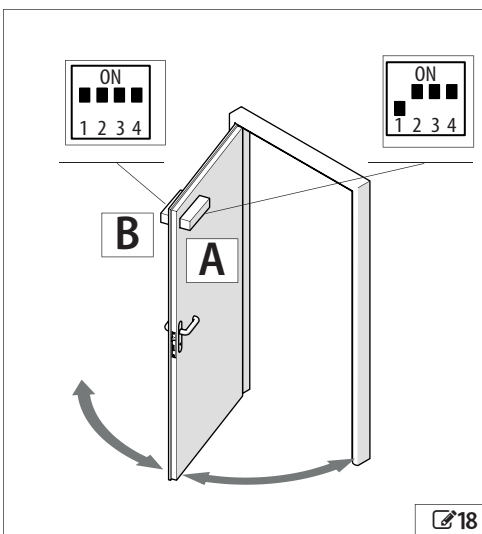
6.6 CONNECTING THE LOCK

If the lock needs to be powered in order to be released, connect it as indicated in ✐**19**.

If the lock needs to be switched off in order to be released, connect it as indicated in ✐**20**.

Maximum power consumption: 500 mA 24 V⎓.

Using the KP EVO:

- specify the operating mode of the lock (parameter 2.4.1).
- set the opening delay of the door to allow the lock to be released, particularly motorised locks (parameter 2.4.2).
- if necessary, enable the reverse stroke to make it easier to the release the lock (parameter 2.5.7)
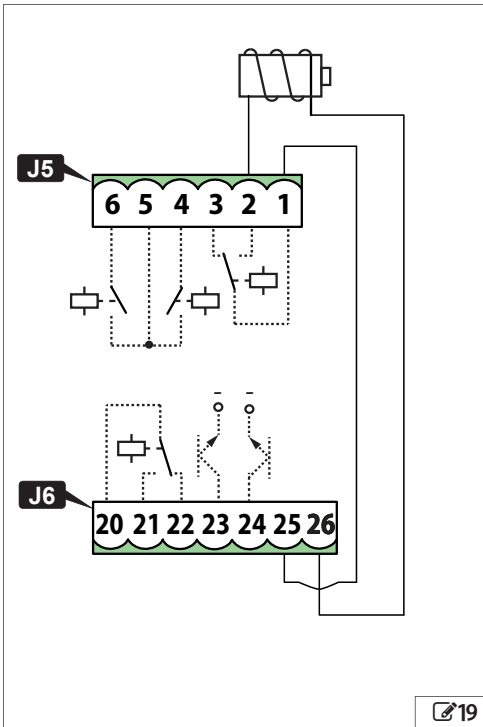
✐19
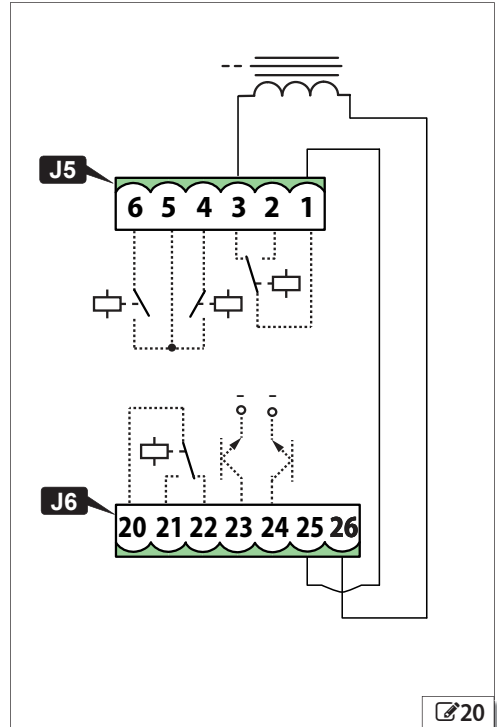
✐20

7. SET-UP

RISKS

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 950N2.
3. Check that the status of the LEDs is correct.
4. Program the 950N2.
5. Carry out the Setup procedure.
6. Carry out the final operations.

ALWAYS OPEN

AUTOMATIC

NIGHT or MANUAL
(see DIP 3 on the Logic board)
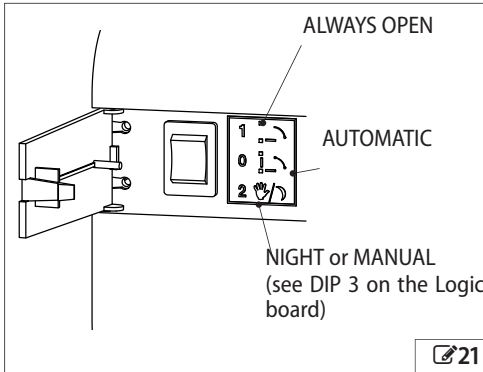
✏️ 21

⊞ 12 Operating mode combinations

7.1 OPERATING MODE

The operating mode is set via the 3-position selector switch at the side (✏️21) or the KP EVO.

The operating modes that can be selected with KP EVO are:

🔷 AUTOMATIC
The door opens and closes again after the set pause time has elapsed.

⏸️ ALWAYS OPEN
The door opens and remains open.

🌙 NIGHT
The door closes and the internal and external sensors are disabled.

✋ MANUAL
The door is free to move and can be moved manually. All controls are disabled.   The lock is kept open.

⬆️⬇️ BI-DIRECTIONAL
The pedestrian transit way opens in both directions; the internal and external sensors are enabled.

⬆️ EXIT ONLY
The pedestrian transit way opens in only one direction; the external sensors are disabled.

⬇️ ENTRY ONLY
The pedestrian transit way opens in only one direction; the internal sensors are disabled.

100% TOTALLY OPEN
The door opens completely.

% OPENING
Only selects the master door in the "2 leaves" mode.

⊞ INTERLOCK
See § 13.2.

FAAC

7.2 SETUP

The Setup 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.

The Setup procedure must be carried out:
- 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.

TheSetup procedure must NOT be carried out in the following conditions:
- Emergency active
- Fire Alarm active
- MANUAL mode
- NIGHT mode
- DOOR OPENED mode

⚠️ During the Setup procedure, the safety detectors are ignored. Keep 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 setup procedure.
The red LED DL2 of the Logic board flashes quickly for the entire duration of the Setup procedure.

To start the Setup procedure from the board:
Press the button SW1 of the I/O board for at least 5 seconds and then release it:

To start the Setup procedure via the KP EVO:
1. Select parameter 2.5.2 from the menu.
2. Confirm the selection when requested to do so.

7.3 RESET

Reset consists of initialising the 950N2, which must be carried out while an error condition is present in order to attempt to restore normal operation.
To carry out a Reset, press and release button SW1 on the I/O board.
Via the KP EVO, keep the two central buttons pressed simultaneously for 5 seconds.

7.4 RESTORING FACTORY SETTINGS

To reset all parameters to their default values:
1. Turn power off to the 950N2.
2. Press and hold button SW1 on the Logic board.
3. Switch power on to the 950N2, keeping the button pressed for at least 20 seconds before releasing it. The system needs to be set-up:

When finished, the Setup procedure needs to be run again.

FAAC

8. KP EVO

8.1 INSTALLATION AND CONNECTIONS

⚡ CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED

1. Disassemble the parts (✐**22**).
2. Break the cable passage insert.

ⓘ With reference to ✐**23**, the KP EVO is designed for the cables to enter from the back (1) or from underneath (2).

3. Decide where to position the support and fix it using suitable screws (✐**22**-**1**).
4. Connect the KP EVO to the 950N2 using a 4 pair twisted U/UTP AWG24 cable with a maximum length of 50m (✐**24**).

ⓘ An optional key device can be connected between terminals G and K in order to enable/disable the KP EVO.

5. Reassemble the parts indicated in (✐**22**).

✐23

max 50 m

KP EVO

U/UTP CAT.5
4x2xAWG24

J3 950N2

✐24

Translation of the original instructions

✐22

FAAC
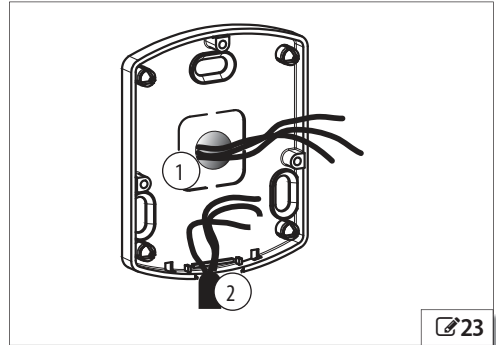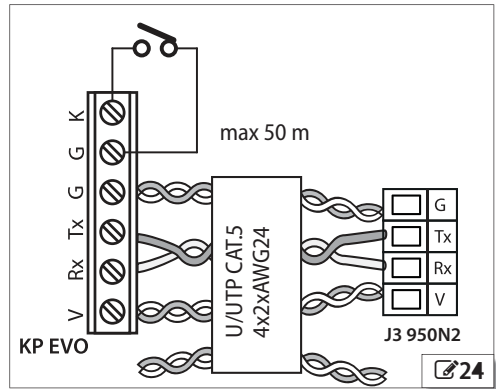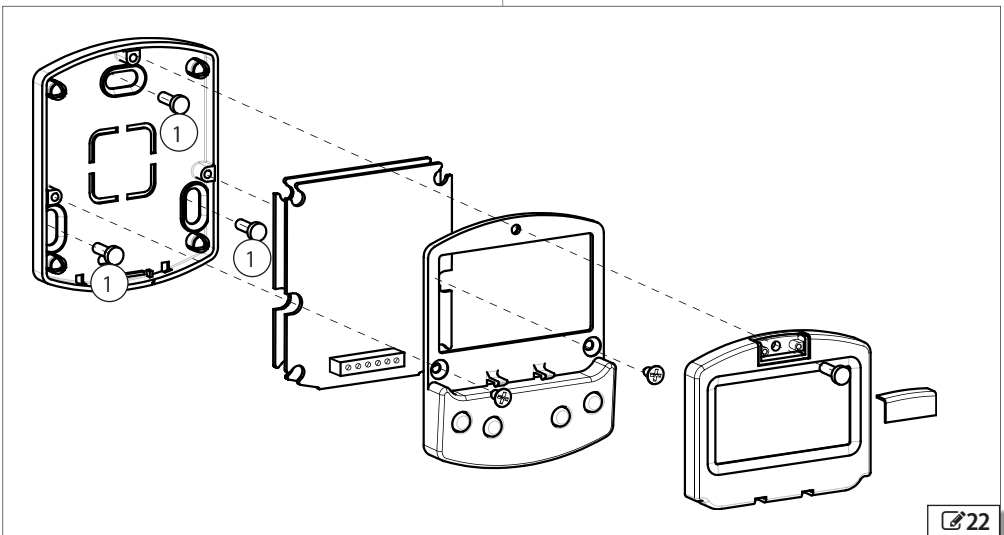
8.2 SWITCHING ON AND THE HOME SCREEN

1. Turn power on to the 950N2
2. The display will show the following in sequence:

```
KP EVO
FAAC
BOOTLOADER X.X
```

in which the Bootloader version appears, then

```
KP EVO
FAAC
VERSION X.X
```

in which the firmware version appears, and lastly

```
⌂    A951    🔒
T   xxx dd/mm/yy
       xxxxxx
☽   ✋ hh:mm 🔧 ⇨
```

The content of this home screen, including the fixed icons and those that may appear under certain circumstances, is explained in ✐**25**.

3. The 4 buttons are used to select controls that, depending on the screen, appear on the display above them.
4. By pressing the relative button on the home screen (✐**25**) you can:
   - ☾ = set the NIGHT mode
   - ✋ = set the MANUAL mode
   - 🔧 = switch to the FUNCTIONS menu that includes all the 950N2 configuration parameters.
   - ➜ = switch to the SELECTION menu that includes additional operating modes.

(i) By pressing the button to set the NIGHT or MANUAL mode, the relative icon is highlighted and the description of the operating mode is updated on the display.
Once MANUAL mode has been set by pressing the relative button, press it again to return to the previous mode.

current warnings

KP EVO locked

- product name
- day and date or error
- operating mode
- time

timer active

set / deselect NIGHT mode

switch to the SELECTION menu

set / deselect MANUAL mode

switch to the FUNCTIONS menu

✐**25**

FAAC
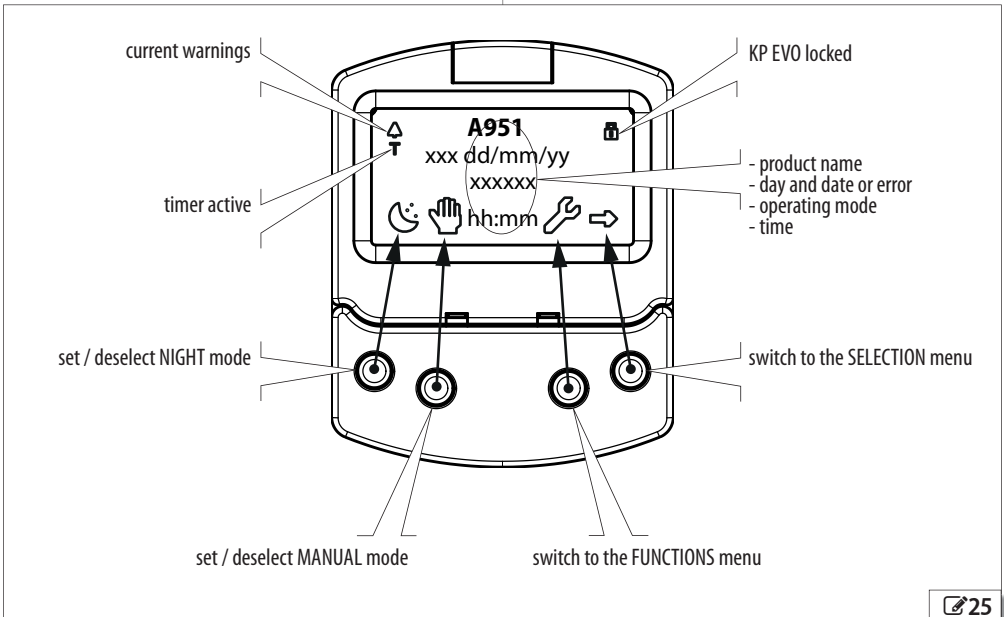
8.3 SELECTION MENU

To access the SELECTION menu from the home screen, press the ➜ button (✍26).

4 New icons appear on the display that define the operating modes that can be set.

The possible combinations can be obtained by pressing the corresponding buttons (✍26).

After having set the operating mode, press the OK button to confirm and return to the home screen.

> ⓘ The description of the operating mode on the display is updated with the description of the one that has been set.

FAAC
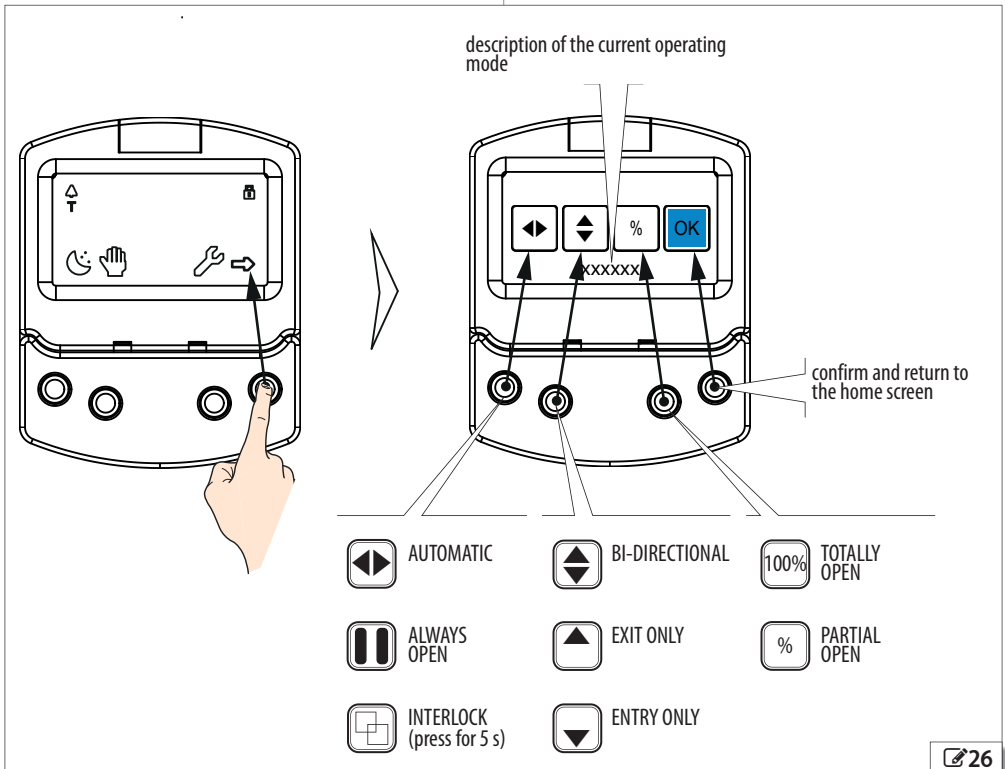
8.4 FUNCTIONS MENU

To access the FUNCTIONS menu from the home screen, press the 🔧 button (☞27).

The display prompts for a 4-digit password to be entered.

ⓘ The factory-set password is: 0000

- Set the first digit using the ↑ and ↓ buttons.
- Confirm using the OK button to move to the next digit.
- When all 4 digits have been entered, if the password is correct, access the FUNCTIONS menu as a USER or a TECHNICIAN.
- Select the item from the menu using the ↑ and ↓ buttons.
- Confirm using the OK button to enter.

ⓘ Press ESC at any time to return to the home screen.

1 LANGUAGE

2 PROGRAMMING

3 ERRORS

4 WARNINGS

5 CYCLES COUNT

6 DATE/TIME

7 TIMER

8 PASSWORD

9 INFO

menu items   menu name

ENTER PASSWORD

****

ESC ⇧   ⇩ OK

>1 xxxxxxxx   MENU
 2 xxxxxxxx
 3 xxxxxxxx
 4 xxxxxxxx
ESC ⇧   ⇩ OK

return to the home screen

confirms the value

selects an item from those listed in the menu

sets the value

quits without saving and returns to the previous menu

confirms the selection

☞27

⊞ **13**   KP EVO menu

1 LANGUAGE			
1 ITALIANO			
2 ENGLISH			
3 FRANCAIS			
4 DEUTSCH			
5 ESPANOL			
6 NEDERLANDS			
7 SWEDISH			

2 PROGRAMMING			
1 INPUTS / OUTPUTS			
1 INPUTS I1-I8			
I1…I8			
0 DISABLED			
1 EXTERNAL OPEN	NORMALLY OPENED / NORMALLY CLOSED		
4 INTERNAL OPEN	NORMALLY OPENED / NORMALLY CLOSED		
7 AUTOMATIC OPEN	NORMALLY OPENED / NORMALLY CLOSED		
8 SEMIAUTOM. OPEN	NORMALLY OPENED / NORMALLY CLOSED		
10 KEY	NORMALLY OPENED / NORMALLY CLOSED		
11 PARTIAL OPEN	NORMALLY OPENED / NORMALLY CLOSED		
20 CLOSING SAFETY	NORMALLY OPENED / NORMALLY CLOSED	TEST ENABLED / DISABLED	
21 OPENING SAFETY	NORMALLY OPENED / NORMALLY CLOSED	TEST ENABLED / DISABLED	
30 EMERGENCY OPEN	NORMALLY OPENED / NORMALLY CLOSED		
31 EMERGENCY OPEN WITH MEM	NORMALLY OPENED / NORMALLY CLOSED		
34 EMERGENCY CLOSE	NORMALLY OPENED / NORMALLY CLOSED		
35 EMERGENCY CLOSE WITH MEM	NORMALLY OPENED / NORMALLY CLOSED		
36 FIRE ALARM	NORMALLY OPENED / NORMALLY CLOSED		
40 ALWAYS OPEN	NORMALLY OPENED / NORMALLY CLOSED		
41 EXIT ONLY	NORMALLY OPENED / NORMALLY CLOSED		
42 ONLY IN	NORMALLY OPENED / NORMALLY CLOSED		
43 NIGHT	NORMALLY OPENED / NORMALLY CLOSED		
44 MANUAL	NORMALLY OPENED / NORMALLY CLOSED		
45 PARTIAL	NORMALLY OPENED / NORMALLY CLOSED		
46 INTERBLOCK ON	NORMALLY OPENED / NORMALLY CLOSED		
60 TIMER			
2 OUTPUTS O1/O2			
O1…O2			
0 DISABLED			
1 GONG	NORMALLY OPENED / NORMALLY CLOSED		
2 ERROR	NORMALLY OPENED / NORMALLY CLOSED		
4 EMERGENCY ACTIVATE	NORMALLY OPENED / NORMALLY CLOSED		
5 TEST	NORMALLY OPENED / NORMALLY CLOSED		
6 DOOR NOT CLOSED	NORMALLY OPENED / NORMALLY CLOSED		
7 DOOR OPENED	NORMALLY OPENED / NORMALLY CLOSED		
8 DOOR OPENING	NORMALLY OPENED / NORMALLY CLOSED		
9 LIGHT	TIME 1...90 S	NORMALLY OPENED / NORMALLY CLOSED	
10 INTRUSION ACTIVE	NORMALLY OPENED / NORMALLY CLOSED		
11 CLOSING SAFETY	NORMALLY OPENED / NORMALLY CLOSED		
12 SAFETIES	NORMALLY OPENED / NORMALLY CLOSED		
3 OP/CLRELAY			
NORMALLY OPENED / NORMALLY CLOSED			
4 EXTERNAL SELECTOR			
POSITION 1…POSITION 2			
0 DISABLED			
1 NIGHT			
2 OPENED			
3 EXIT ONLY			
4 MANUAL			

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2 MOTION
    1 OPENING...2 CLOSING
        1 SPEED   1...10
        2 SLOWDOWN   SLOWDOWN SPACE 0°...90°   SLOWDOWN SPEED 1...3
        3 STRENGTH   0...10
        4 STRENGTH DURATION   0.1...3.0 s
        5 ACCELERATION   1...10
        6 DECELERATION   1...10
3 TIMING
    1 PAUSE TIME   0...30 s
    2 PAUSE TIME P&G   0...30 s
    3 NIGHT PAUSE TIME   0...90 s
    4 NIGHT SENSOR DELAY 0...90 s
4 MOTOR LOCK KIT
    1 FUNCTION
        DISABLED
        NIGHT
        EXIT ONLY
        NIGHT + MONODIR
        ALWAYS
    2 LOCK DELAY   0...60 tenths of a second
    3 RELEASE TYPE
        WHEN OPENING
        CLOSED
5 INSTALLATION
    1 ARM TYPE
        SKID
        ARTICULATE
    2 START SETUP   ARE YOU SURE ?
    3 PUSH AND GO
        0 DISABLED
        1 ENABLED
        2 FAST FOOD
    4 PARTIAL STOP SEC.
        DISABLED
        ENABLED
    5 LEAF DELAY   0°...90°
    6 SCP
        DISABLED
        ENABLED
    7 REVERSE STROKE
        DISABLED
        ENABLED
    8 INOUT STATE   IN1...IN8   01...02
    9 DOOR STATUS
    10 OTHER BOARD DATA   V_MAIN   V_ACC   POS   I_MOT
6 INTERCOM
    1 FUNCTION
        DISABLED
        INTERMODE
        INTERLOCK   WITH MEMORY / WITHOUT MEMORY
        2 LEAVES
        2 LEAVES + INTERBLOCK WITH MEMORY / WITHOUT MEMORY
    2 MASTER/SLAVE NR.
    3 INTERCOM REG.
    4 NODE LIST

    7 MISCELLANEOUS
        1 DEFAULT DEFAULT
            ACTIVATE
            NO   DO YOU WANT TO LOAD DEFAULT CONFIG ?
        2 BOARD'S DISPLAY
            STOPPED
            NOT BLOCKED
        3 INTRUSION
            DISABLED
            ENABLED
        4 KPEVO KEY
            WITHOUT USER PSW
            BLOCK
        5 CONSECUTIVE OBST.
            CLOSING   0...10
            OPENING   0...10
        6 TEST ERROR
            DISABLED
            ENABLED
3 ERRORS
    The display shows any current errors
4 WARNINGS
    the display shows any current warnings
5 CYCLES COUNT
    1 CYCLES NUMBER
        ABSOLUTE
        RELATIVE
    2 MAINTENANCE
        MAINTENANCE DATE   MAINTENANCE CYCLES
    3 CYCLES RESET   ARE YOU SURE ?   resets the number of cycles

6 DATE/TIME
    1 SET DATE
    2 SET TIME
    3 DAYLIGHT SAV TIME
        DISABLED
        ENABLED
7 TIMER
    1 TIMER STATE
        DISABLED
        ENABLED
    2 MONDAY
    3 TUESDAY
    4 WEDNESDAY
    5 THURSDAY
    6 FRIDAY
    7 SATURDAY
    8 SUNDAY
    9 MON - SUN
    10 MON - FRI
    11 JOLLY
    12 JOLLY SLOTS
        SLOT 1
        SLOT 2
        SLOT 3
        SLOT 4
        SLOT 5
        SLOT 6
        APPLY (appears only if selected LUN - SUN or LUN - FRI)

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FUNCTION: 0	NO FUNCTION	
FUNCTION: 1	AUTO BIDIR TOTAL	
FUNCTION: 2	AUTO OUT TOTAL	
FUNCTION: 3	AUTO BIDIR PARTIAL	
FUNCTION: 4	AUTO OUT PARTIAL	
FUNCTION: 5	TOTALLY OPEN	
FUNCTION: 6	PARTIAL OPEN	
FUNCTION: 7	AUTO IN TOTAL	
FUNCTION: 8	AUTO IN PARTIAL	
FUNCTION: 9	NIGHT	
FUNCTION: 10	PARTIAL NIGHT	
	BEGINNING	hh:mm
	END	hh:mm

8 PASSWORD

1 TECHNICIAN PSW		
CHANGE TEC PSW	REINSERT TEC PSW	NEW PSW INSERTED
2 USER PSW		
CHANGE USER PSW	REINSERT USER PSW	NEW PSW INSERTED

9 INFO

E950E	BOOT	VER *.*
E950E	APP	VER *.*
KP EVO	APP	VER *.*

■ PROGRAMMING - INPUTS/OUTPUTS

INPUTS

The inputs on terminal board J4 of the I/O board can be configured with the following functions

ⓘ Each input can be set to NC or NO according to the device connected to it.

Disabled

No associated function.

External open

When activated, the door opens and remains open as long as the input is active.   When released, the door waits for the pause time to elapse and then closes.

This has no effect in the EXIT ONLY or NIGHT modes.

Internal open

When activated, the door opens and remains open as long as the input is active.   When released, the door waits for the pause time to elapse and then closes.

This has no effect in the ONLY IN or NIGHT modes.

Automatic open

When activated, the door opens and remains open as long as the input is active.   When released, the door waits for the pause time to elapse and then closes.

Active in the BI-DIRECTIONAL, EXIT ONLY and ONLY IN modes.

This has no effect in the NIGHT mode.

Semiautom. open

When activated:

- if the door is not already open, it opens and remains open
- if the door is already open, it closes

Active in the BI-DIRECTIONAL, EXIT ONLY and ONLY IN modes.

This has no effect in the NIGHT mode.

Key

When activated, the door opens and remains open as long as the input is active.   When released, the door waits for the night pause time to elapse and then closes.

Active in the BI-DIRECTIONAL, EXIT ONLY, IN ONLY and NIGHT modes.

Partial open

Only opens the master door when activated in the "2 leaves" mode.

Closing safety

When activated:

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

Opening safety

When 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 open

When activated, the door opens (always total) and remains open as long as the input is active.   When released, the door waits for the night pause time to elapse and then closes.

Also active in NIGHT mode.

Emergency open with memory

When activated, the door opens (always total) and remains open as long as the input is active.   When released, the door remains open until it is Reset

Emergency close

When activated, the door closes and remains closed as long as the input is active.   When released, the door returns to normal operation.

Emergency close with memory

When activated, the door closes and remains closed as long as the input is active. When released, the door remains closed until it is Reset

Fire alarm

When activated, the door closes, regardless of the operating mode that has been set, with the lock kept in the released position. It has priority over any commands that may be active.

Always open

When activated, the ALWAYS OPEN mode is set.

Exit only

When activated, the EXIT ONLY mode is set.

Entry only

When activated, the ONLY IN operating mode is set.

Night

When activated, the NIGHT mode is set.

Manual

When activated, the MANUAL mode is set.

Partial

When activated, the PARTIAL mode is set.

Interblock ON

When activated, the INTERLOCK mode is set.

Timer

When activated, the TIMER mode is set.

OUTPUTS

The outputs on terminal board J6 of the I/O board can be configured with the following functions

(i) Each input can be set to NC or NO according to the device connected to it.

Disabled

No associated function.

Gong

The output is activated and deactivated at 1-second intervals when the safety devices are engaged.

Error

The output is activated if there is an error.

Emrg. active

The output is activated when an Emergency is triggered.

Test

The output commands a FAILSAFE test 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 open

The output remains active as long as the door is open.

Door opening

The output remains active as long as the door is moving.

Light

The output is activated, for a programmable length of time, when the door is open 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

The output is activated when a closing safety device is active.

Safeties

The output is activated when a closing or opening safety device is engaged.

OP/CL RELAY

Specifies the logic of the door status relay (NC/NO).

EXTERNAL SELECTOR

Specifies the operating mode associated with positions 1 and 2 of the selector on the side of the unit.

■ PROGRAMMING - MOTION

OPENING/CLOSING

Speed

Sets the speed of movement.

Deceleration

Specifies the space (in degrees of rotation of the 950N2 shaft) and the deceleration speed (on 3 levels) of the door before reaching the final open / closed positions.

Strength

Specifies the maximum crushing force.

Strength duration

Specifies the maximum thrust time before an obstacle is recognised.

Acceleration

Specifies how quickly the door reaches the set opening speed when starting from stop.

Deceleration

Specifies how quickly the door stops.

■ PROGRAMMING - TIMING

PAUSE TIME

Defines the pause time of the door when opened by a command, before closing automatically.

PAUSE TIME P&G

Sets the door pause time when opened by a Push & Go command, before closing automatically.

Night PAUSE TIME

Sets the door pause time when opened by a command in NIGHT mode, before closing automatically.

NIGHT SENSOR DELAY

When NIGHTmode is set, the internal detector remains active for the amount of time set in this parameter, to allow it to be opened only once. The internal detector is disabled immediately after opening and in any case upon expiry of the set delay.

■ PROGRAMMING - MOTOR BLOCK KIT

FUNCTION

Specifies the operating mode in which the lock is activated.

LOCK DELAY

Specifies the opening delay time of the door to allow the lock to be released, particularly motorised locks.

RELEASE TYPE

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

Opening = during the opening phase

Closed = when the door is closed again

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■ PROGRAMMING - INSTALLATION

ARM TYPE

Specifies the type of transmission arm installed (shoe or articulated)

START SETUP

Carries out a Setup cycle after confirmation.

PUSH AND GO

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

Disabled = Push & Go not enabled

Enabled = Push & Go enabled

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

PARTIAL STOP SEC.

Specifies the detection area of the safety in opening:

Disabled= obstacle detection active over the entire opening stroke

Enabled= obstacle detection NOT active in proximity to the opening stop

LEAF DELAY

Specifies the opening delay between the doors of 2 leaf models.

SCP

Specifies the function that pushes the door with a greater force 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.

> ⚠ Because activating the SCP function also reduces the sensitivity of the electronic anti-crushing system in the final section of closing, DO NOT activate theSCP function in "low energy" mode.

REVERSE STROKE

Sets the function that makes the door carry out a short reverse stroke before opening to make it easier to the release the lock.

INOUT STATE

The display indicates the status (on / off) of inputs I1-I8 and outputs O1-O2 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.

■ PROGRAMMING - 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 units registered (on the master).

■ PROGRAMMING - MISCELLANEOUS

CONFIG. DEFAULT

Shows whether the parameters have been modified, and if so, resets the factory defaults after confirmation.

BOARD'S DISPLAY

Not active.

INTRUSION

Sets the function in which the automation resists attempts to open it manually or caused by gusts of air.

KPEVO KEY

You can choose between:

Block = the user must enter the user password in order to access the menus that he is authorised to use.

Without user psw = the user doesn't need to enter the user password in order to access the menus that he is authorised to use.

CONSECUTIVE OBST.

Specifies the maximum number of consecutive obstacle detections in the same direction of movement, before stopping in an error condition.

TEST ERROR

Specifies the effect that the TEST will have when it detects a safety device fault:

Disabled = the door will remain stationary in an error condition

Enabled= the door will continue to operate at minimum speed

■ ERRORS

In this menu, the display indicates any current errors that there may be in real time.

■ WARNINGS

In this menu, the display indicates any current alerts that there may be in real time.

■ CYCLE COUNTER

The 950N2 has two counters:

- total, non-resettable
- partial, resettable

This menu allows you to view the cycles performed by the automation and reset the partial counter.

It is also possible to set a deadline for scheduled maintenance according to:

- date (optional)
- number of cycles (from 1000 to 1000000)

Alert 60 will be displayed as soon as one of the two settings (date or number of cycles) is reached.

> ⓘ Logging in with the user password only allows data to be viewed.

■ DATE/TIME

This menu allows you to set or modify the date, time and turn European summer time on / off.

(i) To keep the settings even if there is no mains power, which is necessary for the TIMER to work correctly, a battery must be installed on the Logic board.

■ TIMER

This menu includes all the parameters for configuring the TIMER function.

When the TIMER is enabled, the operating mode of the door during the programmed time bands is set automatically.

A maximum of 6 daily time bands can be defined, and an operating mode, selected from those available, assigned to each one.   Each time band has a start time and an end time.

The time bands must not overlap.

(i) When the TIMER is enabled, the T icon appears on the home screen.
To manually change the operating mode set by the TIMER, it first has to be disabled.
In order for the TIMER to work correctly, a battery must be installed on the Logic board.

In order to quickly program groups of days of the week with the same time bands, it is possible to simultaneously select all the days of the week (MON - SUN) and all weekdays (MON - FRI).   Once the time bands that have been defined here have been confirmed using the APPLY option, they will overwrite any time bands that have already been programmed for individual days.

If it is necessary to program specific days or periods (e.g. recurring holidays), you may use the JOLLY function.

A maximum of 6 JOLLY time bands can be specified and an operating mode, selected from those available, assigned to each one.   Each time band has a start time and an end time.

The time bands must not overlap.

The JOLLY time bands are then assigned to a maximum of 6 INTER-VALS.   An interval can be a single day or a series of days.

(i) If a single day is defined, the start and end date of the interval must be the same.
The interval must refer to same calendar year (example: for the period from 25/12 to 06/01, 2 intervals must be created, from 25/12 to 31/12 and from 01/01 to 06/01).

■ PASSWORD

This menu allows passwords to be set or modified.

To access the FUNCTIONS menu you are prompted to enter a 4-digit password.

The 950N2 has two passwords available, with different access rights (⊞ **14**)

⊞ **14**   Access permissions and passwords

	TECHNICIAN PSW	USER PSW
LANGUAGE	✔	✔
PROGRAMMING	✔	⊖
ERRORS	✔	✔
WARNINGS	✔	✔
CYCLES COUNT	✔	✔ (*)
DATE/TIME	✔	✔
TIMER	✔	✔
PASSWORD	✔	✔ (*)
INFO	✔	✔

* with restrictions

(i) The user is only allowed to modify the user password.

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9. DIAGNOSTICS

9.1 LEDS CHECK

I/O BOARD LEDS
Each input on the I/O board, has a LED that indicates the physical state of the contact:

⊞ **15** I/O board LEDs

LED	○	●
DL 1	accessories power on	accessories power off
DL 2 - DL9	open contact	closed contact

LOGIC BOARD LEDS
There are 4 LEDs on the Logic board:

⊞ **16** Logic board LEDs

LED	○	●	✳	✲
DL 1 green	no USB	USB connected	§ 10	
DL 2 red	normal condition	error	Setup requested	Setup in progress
DL 3 blue	no power or board failure	/	normal condition	/
DL 4 yellow	board parameters the same as trimmer and DIP switch values	board parameters different to trimmer and DIP switch values	Button pressed	/

○ off
● on
✳ flashing
✲ fast flashing

9.2 INPUTS AND OUTPUTS STATUS CHECK
The status of each input and output can be checked via the KP EVO.
Go to menu 2.5.9. The display indicates the status of the logic as shown in ✎**28**. Example:
$\boxed{\text{IN1}}$ = input active
IN1 = input not active

9.3 AUTOMATION STATUS CHECK
The current status of the automation system can be checked via the KP EVO.
Go to menu 2.5.10. The display shows information regarding the status of the automation.

⊞ **17** Status

Status
CLOSED
OPENING
OPEN
PAUSE
NIGHT PAUSE
CLOSING
EMERGENCY ACTIVATE
MANUAL
NIGHT
STOP
SECURITIES TEST
ERROR
SETUP in progress

✎28

9.4 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 via the KP EVO.

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.

⊞ 18 Warnings

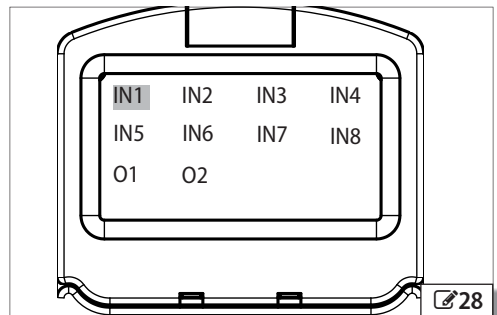|	
41	Date and time missing - Reset date/time via the KP EVO
42	Clock battery discharged or missing
44	Emergency active (including command memory)
45	Timer active
46	Timer function in progress
48	Night mode operation
49	Manual mode operation
50	Partial mode operation
51	Obstacle detected during closure
52	Obstacle detected during opening
53	Number of maintenance cycles on E²prom corrupted - Carry out a Reset. - If the alarm persists, replace the Logic board
58	Searching for strike on closing
60	Maintenance requested
61	KP EVO 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
63	Intrusion in progress
65	Set-up in progress
68	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.
69	Door opened by a semi-automatic command
71	Slave Intercom mode
72	Intercom alarm - Check the connections - Check the ID - If the alarm persists, replace the Logic board
73	Slave Error / Alarm
74	Interlock alarm - Check the connections - Check the ID - If the alarm persists, replace the Logic board
80	Non-standard programming

ENGLISH

Translation of the original instructions

F4AC

9.5 ERRORS

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

After every minute in which a fault condition persists and for a maximum of 20 consecutive times, the 950N2 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 (except for errors 24 and 31).

⊞ **19** Errors

If the fault persists, remove the cause in order to restore normal operation.

The type of error can be identified via the KP EVO

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

When an error occurs:
1. Check all the electrical connections
2. Carry out 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	^{E2}prom failure	- Replace the Logic board
03	Motor driver failure	- Replace the Logic board - Replace the motor
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 I/O board
05	Microcontroller error	- Reload/update the Logic board firmware - Replace the Logic board
07	Motor failure	- Replace the motor - Replace the Logic board
09	Board voltage anomaly	- Replace the Logic board - Replace the I/O board
11	Closing safety TEST failed	- Check the connections of the safety device - Check that the safety device is working - Replace the Logic board
12	Opening safety TEST failed	- Check the connections of the safety device - Check that the safety device is working - Replace the Logic board
15	Setup 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 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
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
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
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
39	Setup data missing or corrupted	- Perform Setup - Replace the Logic board

9.6 OTHER BOARD DATA

Go to menu 2.5.11 of the KP EVO. 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)

9.7 FIRMWARE VERSIONS

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

9.8 LOG DATA

The 950N2 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 § 10.

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10. UPLOAD / DOWNLOAD

There is a USB port on the Logic board 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.

⚠ In order to upload, the files required, the names of which are indicated in ⊞ **20**, must be present in the root directory of the USB pen drive.

1. Turn power off to the 950N2.
2. Insert the USB pen drive in the USB port (J2) on the Logic board.
3. Turn power on to the 950N2.
4. If the device is detected correctly, the green LED DL1 of the Logic (✎**29**) board lights up steadily.
5. The available functions are selected by briefly pressing button SW1 on the Logic board (✎**29**).   The operation to be carried out is indicated by the number of flashes of the green LED.   Each time the button is pressed, the operations selected are indicated in ⊞ **20**.
6. Press and hold the SW1 button for at least 3 seconds to use the function.   The green LED flashes more quickly while the procedure is being carried out.   When finished, the result is signalled by the status of the following LEDs:
 - green LED (DL1) on steadily = completed successfully
 - red LED (DL2) on steadily = error
7. Turn power off to the 950N2 and remove the USB pen drive.

✎29
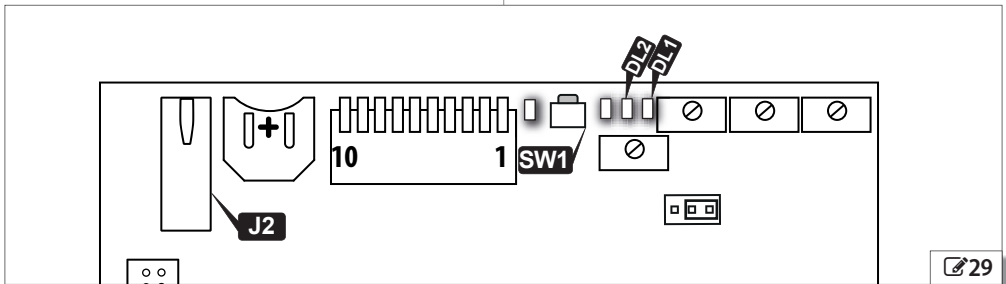
⊞ **20**   Selecting theupload/download function

Green LED DL1	Function
1 flash	950N2 firmware update file required: 950N2.hex
2 flashes	KP EVO firmware update, including menu translations files required: KP EVO.hex e KP EVO_L.bin
3 flashes	950N2 and timer configuration upload files required: 950N2.prg , 950N2.tmr
4 flashes	950N2, timer and LOG data configuration download files written: 950N2.prg , 950N2.tmr , 950N2.log

11. PUTTING INTO SERVICE

11.1 FINAL CHECKS

1. 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.
2. For doors that are not in "low energy" mode, make sure that the test object is detected in all areas covered by the leaf movement.

11.2 FINAL OPERATIONS

1. Connect the cable of the functions selector at the side of the unit to the I/O board (connector J2).
2. Install the front cover.
3. 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.
4. Place a "DANGER, AUTOMATICALLY CONTROLLED" sign in a prominent position on the door.
5. Attach the CE marking on the door.
6. Fill out the EC declaration of conformity and the system register.
7. Give the EC Declaration, the system register with the maintenance plan and the instructions for use of the automation to the system owner/operator.

INSTALLING A PLASTIC COVER

1. Install the cover fixing plates with screws ✐**30**-1 on both sides.
2. Partially tighten the screws ✐**30**-2.
3. Insert the cover so that the screws fit into the slots, then tighten them.
4. As an alternative to fixing it from the side, use the template to fasten the cover with screws from the top or bottom (✐**31**
5. Press the top and bottom slot covers on (✐**32**).

✐30

✐31

✐32

F/\/\C
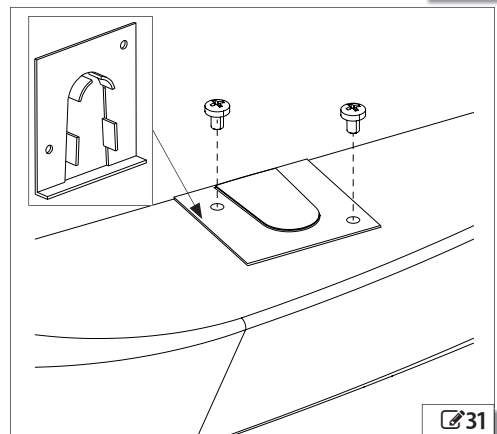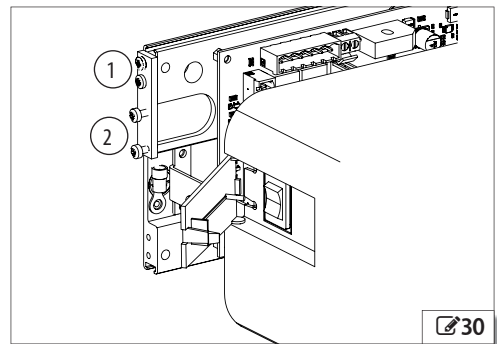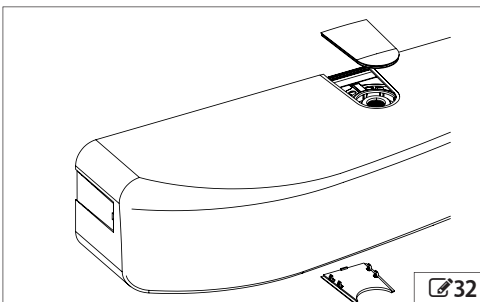
INSTALLING AN ALUMINIUM COVER

1. Install the side profiles using the screws ☞**33**-1 on both sides.
2. Press the aluminium cover on, aligning the slot with the side on which the transmission arm has been installed.

☞**33**

Translation of the original instructions
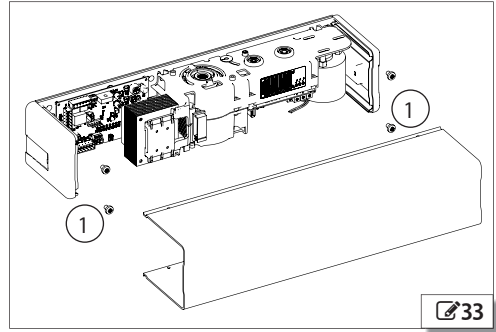
12. MAINTENANCE

RISKS

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.

12.1 INSERTING / REPLACING THE BATTERY

⚡ CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED

1. Remove the cover.
2. Install or replace the CR1216 battery on the Logic board, as shown in ☞**34**.
3. Reinstall the cover.

12.2 REPLACING THE FUSE

⚡ CARRY OUT THE FOLLOWING OPERATIONS WITH THE ELECTRICITY SUPPLY DISCONNECTED

There is a power supply protection fuse on the I/O board.
To replace it:
1. Remove the cover:
2. Replace the following fuses
   - F 4A for the 230 V version
   - T 3.15A for the 115 V version
3. Reinstall the cover.

CR1216

☞**34**

12.3 ROUTINE MAINTENANCE

Table ⊞ **21** lists the operations which must be performed on a regular basis in order to keep the automation working reliably and safely; thes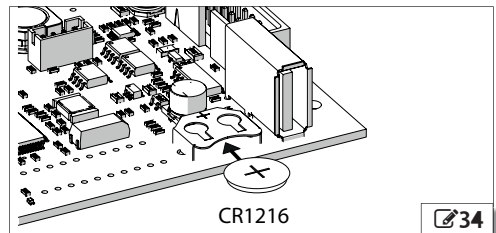e are given purely as a guideline and should not be considered exhaustive.   The installer/machine manufacturer is responsible for drawing up the maintenance plan for the automation, supplementing this list or modifying the maintenance operations on the basis of the machine characteristics.

⊞ **21**   Scheduled maintenance

Operations	Frequency/months
Structures	
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.	12
Frame	
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.	12
Check the leaf: that it is integral and that there is no deformation or damage.	12
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.	12
Lubricate hinges or locks, if necessary.	12
Generally clean of the area of movement of the door.	12
Check the presence and condition of pictograms that highlight the glass part of the door. If they are missing or damaged, replace them.	12
Operator	
Check that the cover/casing and all the movable guards are integral and that they are fastened correctly. Tighten screws and bolts where necessary.	12
Check the condition of the power cables, the sensor and accessory connection cables and the relative cable glands.	12
General cleaning.	12
Function set-up selector and keyboard	
Check that they are intact and operating correctly.	12
Sensors, protective devices and control devices	
Check that they are intact and operating correctly.	12
If applicable, check that the pictograms that identify the control devices for disabled persons are present and intact.	12
The door	
Check that the door operates properly in both directions with all the devices installed.	12
Check that the door moves smoothly and uniformly without making any unusual noises.	12
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
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
Check that the door operates correctly in every operating mode.	12
Check that the lock is working properly, if present.	6
Check that the safety system is 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
Check the presence, integrity and legibility of the EC marking on the door and the DANGER AUTOMATIC MOVEMENT warning sign.	12

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13. INTERCOM

■ **DESCRIPTION**

The 950N2 is capable of communicating with other 950N2 units via an Intercom network connection. This enables the following modes of operation to be used (KP EVO 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 950N2 should be programmed for the same Intercom mode.

■ **CONNECTION**

The units in the network are connected via 3 cascade connected-wires between the J8 connectors of the I/O boards (✎**35**).

⚠ 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 I/O 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 (KP EVO menu 2.6.2) must be assigned to each 950N2 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 (KP EVO menu 2.6.3), must only be carried out on the 950N2 that has been assigned ID1.


✎**35**
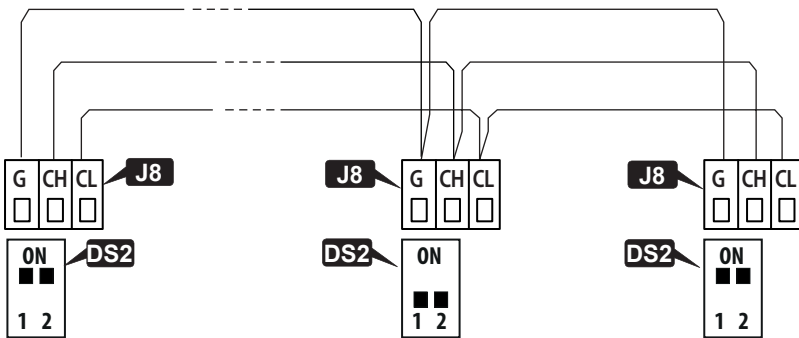
13.1 INTERMODE

✎**36** shows the ID to assign to the 950N2 units in the network.

The system consists of a Master unit and a maximum of 14 Slave units.   The 950N2 Master unit is the only one 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.

950N2 The Master must be assigned ID1 and the Slave units with ID from 2 to 14.
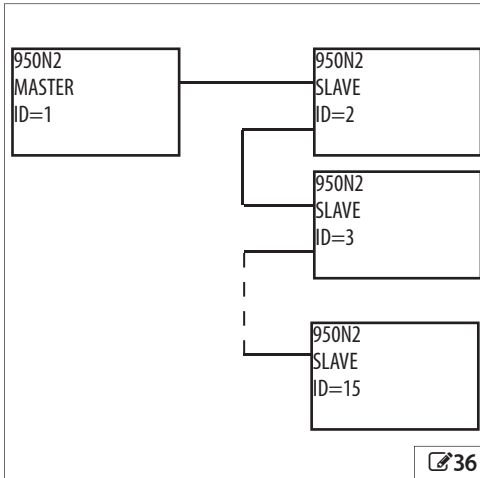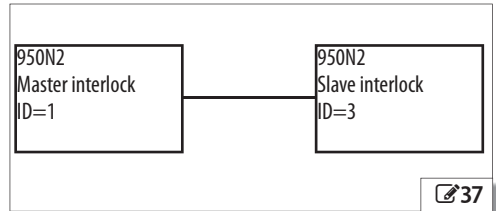
13.2 INTERLOCK

✎**37** shows the ID to assign to the 950N2 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 950N2 units before configuring the INTERLOCK using KP EVO.

Select 🔲 on the Master unit to activate the INTER-LOCK.

```
┌─────────────────────────────────────────────┐
│  950N2              950N2                    │
│  MASTER             SLAVE                    │
│  ID=1               ID=2                     │
│                                             │
│                     950N2                    │
│                     SLAVE                    │
│                     ID=3                     │
│                                             │
│                     950N2                    │
│                     SLAVE                    │
│                     ID=15                    │
│                                        ✎36  │
└─────────────────────────────────────────────┘
```

```
┌─────────────────────────────────────────────┐
│  950N2              950N2                    │
│  Master interlock   Slave interlock         │
│  ID=1               ID=3                     │
│                                        ✎37  │
└─────────────────────────────────────────────┘
```

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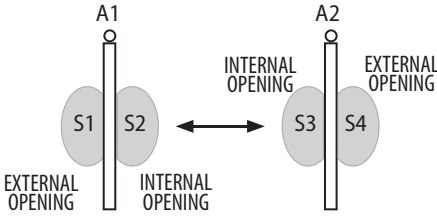
	S1	S2	S3	S4
A1 closed A2 closed	A1 opens	A1 opens	A2 opens	A2 opens
A1 NOT closed A2 closed	A1 opens	A1 opens	request opening of A2	request opening of A2
A1 closed A2 NOT closed	request opening A1	request opening A1	A2 opens	A2 opens

INTERLOCK WITH MEMORY

With 2 sensors or buttons: the second opening is automatic.
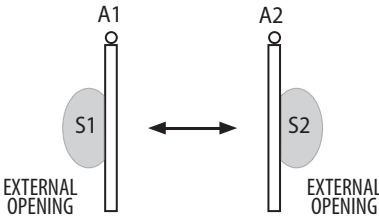
	S1	S2
A1 closed A2 closed	A1 opens, then A2	A2 opens, then A1
A1 NOT closed, A2 closed	A1 opens and request opening of A2	request opening of A2
A1 closed, A2 NOT closed	request opening of A1	A2 opens and request opening of A1

13.3 2 LEAVES

✎**38** shows the ID to assign to the 950N2 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.

ⓘ 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 950N2 units before activating the 2 LEAF function.
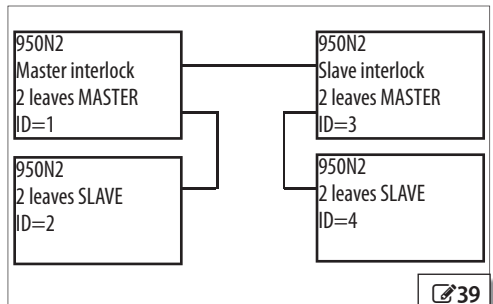Only use the Master 950N2 to change the operating mode.

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

✎38
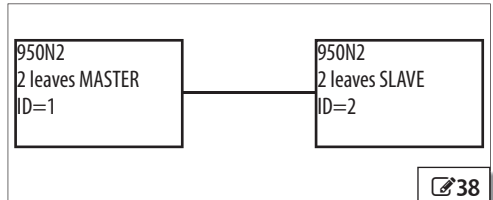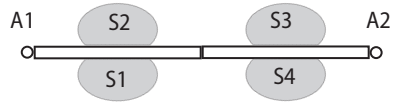
13.4 2 LEAVES + INTERLOCK

✎**39** shows the ID to assign to the 950N2 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.

✎39

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