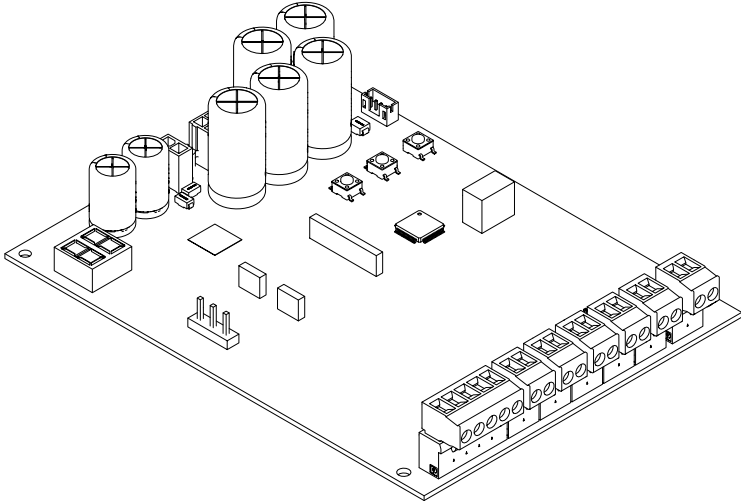


E034

EN



FAAC



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EN

Translation of the original instructions

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



This manual was published in 2023.

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1. INTRODUCTION TO THE INSTRUCTION MANUAL

This manual provides the correct procedures and requirements for installing E034 and maintaining it in a safe condition.

In Europe, the automation of a gate falls under the Machinery Directive 2006/42/EC and the corresponding harmonised standards. Anyone automating a gate (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 gate in its entirety) and take protective measures to fulfil the essential safety requirements specified in Annex I of the Machinery Directive.

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

This manual contains references to European standards. The automation of a gate must fully comply with any laws, standards and regulations applicable in the country where installation will take place.

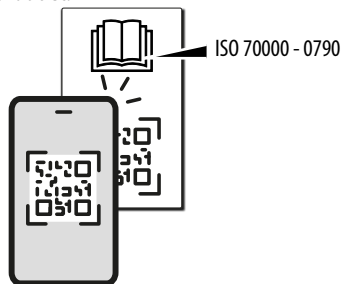
i Unless otherwise specified, the measurements provided in the instructions are in mm.

SAFETY WARNINGS FOR THE INSTALLER

Before starting the installation, read and comply with the "Safety warnings for the installer" booklet supplied with the product, and these installation instructions. Keep all the printed documentation provided.

ONLINE INSTRUCTIONS

When you receive your goods, to go directly to the specific instructions page for the product, scan the QR code associated with the ISO 70000 - 0790 icon on the product.



MEANING OF THE SYMBOLS USED

NOTES AND WARNINGS ON THE INSTRUCTIONS



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



RECYCLING AND DISPOSAL - The materials used in manufacturing, the batteries and any electronic components must not be sent to landfill. They must be taken to authorised recycling and disposal centres.



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.



LED off



LED on



LED flashing




LED flashing quickly

2. E034

2.1 BOARD IDENTIFICATION

The product is identified by the label A.

MARKINGS ON THE PRODUCT

Label B with QR code for direct access to the online instructions () and label C for card identification.

2.2 INTENDED USE

The E034 electronic board has been designed to control one or two 24 V \equiv electromechanical actuators for motorized horizontal movement swing gates intended for installation in areas that are accessible to people, the main purpose of which is to provide safe access for goods, vehicles and people in industrial, commercial or residential settings.

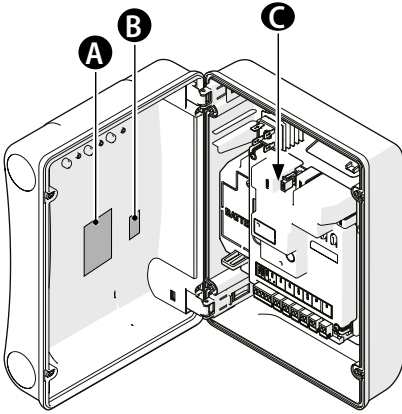
Any other use that is not expressly specified in these instructions is prohibited and could affect the integrity of the product and/or represent a source of danger.

2.3 LIMITATIONS OF USE

- Do not use with motors where the technical data shown on the rating plate are outside the limits indicated in board instruction manual.
- It is prohibited to use the product in any configuration other than that intended by FAAC S.p.A. It is prohibited to modify any of the product's components. Do not install the board unless it is housed in the enclosure supplied by FAAC.

2.4 UNAUTHORISED USE

- Do not use on motors or devices that are intended for purposes other than operating gates.
- Uses other than the intended use are prohibited.
- It is prohibited to install the E034 on smoke and/or fire doors.
- It is prohibited to install the E034 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 envisaged and authorised by the corresponding 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 E034 in the presence of faults which could compromise safety.
- Do not allow water jets of any type or size to come into direct contact with the E034.
- Do not expose the E034 to corrosive chemical or environmental agents.



Label

- A Product identification
- B QR code instructions
- C Electronic board labels

A

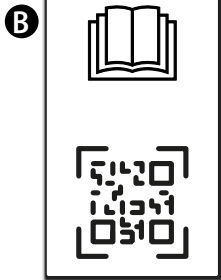
Product name → FAAC
FAAC spa - Soc. Unipersonale
 via Cabini 16,
 40069 Zola Predosa (BO)

Product code → Model : P/N:
 ... V~ ... Hz ... W
 IP ...

Ambient temperature range:
 ... ± ... °C
 Made in - Designed in Italy
 S/N P/N.....MMYY PROG

IDENTIFICATION NUMBER → S/N P/N.....MMYY PROG

Product code progressive number
 month/year of production



Identification code → 202334XXXXXXXXXX

C

X-E034-XXXXX
 mm/yy
 Model Month/year of production



2.5 TECHNICAL SPECIFICATIONS

The E034 electronic board is designed to control one or two 24V \equiv brushed motors. The safety functions to protect the primary edge according to EN 12453 are described in the dedicated section.

MODELS AND VERSIONS AVAILABLE

The E034 can be supplied (✎2):

- in the enclosure with the power supplies. It is available in 230 V or 115 V versions
- integrated into an actuator and available in 230 V or 115 V versions

STANDARD EQUIPMENT

■ Programming from the board

Programming from the board is via the display and dedicated buttons and has a BASIC and ADVANCED menu.

■ Diagnostics

Via LEDs and the display.

■ 2-Leaf configuration

It possible to install 2 automations with opposed synchronous movement.

■ End of travel slowdown

The E034 board can slow down the movement close to the open and closed positions, in order to limit the inertial forces and reduce the vibrations of the gate when it is stopping.

■ BUS 2easy

FAAC BUS 2easy devices (photocells, sensitive edges, encoders and control devices) can be connected.

■ 1 programmable output

Open Collector output programmable in advanced programming.

OPTIONAL EQUIPMENT

■ Radio system

The electronic board is fitted with an integrated two-channel decoding system that requires either a XF FDS or XF radio module to be installed, to allow various types of FAAC radio controls to be memorised.

■ Simply Connect

This cloud platform allows remote communication with the automation and includes additional programming options. Simply Connect requires a connectivity module (ACCESSORY) to plug in to the electronic board.

■ XUSB

This plug-in module (ACCESSORY) allows you to load the FW of the board using a USB memory device.

■ BUS XIB interface

Use BUS XIB to connect traditional photocells to the board using the BUS connector.

■ Low energy consumption module XLC

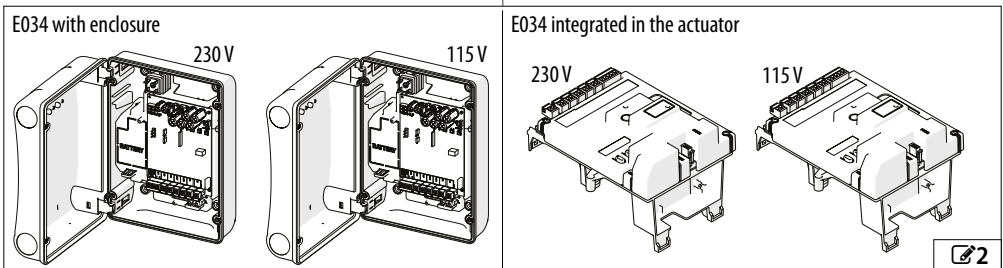
The XLC accessory module guarantees minimum power consumption in standby mode.

■ Backup battery 24V \equiv

If there is no mains power, the emergency battery can be used XBAT 24 (the battery charger is integrated in the board).

■ Solar panel power supply

The board can be powered by solar panels as an alternative power source to mains power.



SAFETY FUNCTIONS

■ Specifying the minimum levels of protection of the primary edge (EN 12453)

ACTIVATION TYPE	TYPE OF USE		
	Trained users and unlikely presence of the general public	Trained users and probable presence of the general public	Untrained users
Dead-man mode	A	B	not allowed
Pulse activation with the automation visible	C / E	C / E	(C + D) / E
Pulse activation with the automation not visible	C / E	(C + D) / E	(C + D) / E
Automatic mode	(C + D) / E	(C + D) / E	(C + D) / E

A Dead-man mode of operation with non self-latching control device.

B Dead-man mode of operation with non self-latching control device with key-operated switch or similar device.

C Force limitation, either by force-limiting devices or by sensitive protective devices

D Additional device to reduce the likelihood of contact between a person or obstacle and the mobile leaf used in combination with force limitation (C)

E Sensitive presence detection protection device, designed and installed in such a way that a person cannot be touched by the moving leaf

■ Safety functions of E034

Inputs	Programming	Functions	Protection type according to EN 12453	Device performance level	E034 Performance level
STOP	Failsafe enabled on OUT1 o1 = □ PI = r0	Safety STOP for pedestrian door integrated in the swing leaf or Contact prevention using presence detection devices (ESPE)	E	–	Pl c Category 2
BUS 2easy	BUS 2easy sensitive edges	Force limitation by means of sensitive edges BUS 2easy (PSPE)	C	Pl c Category 2	Pl c Category 2
	SAFEcoder and anti-crushing functions (EC, FI, SP, IP, rB, SF, r1, r2)	Intrinsic force limitation	C	-	Pl c Category 2

■ Additional protection functions

Inputs	Programming	Functions	Protection type according to EN 12453
Bus 2EASY	BUS 2easy photocells	Additional devices to reduce the likelihood of contact	D

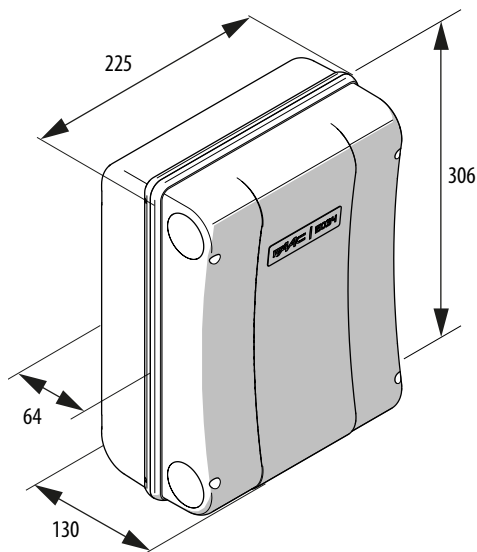
i If the board is integrated in an actuator, see the relevant technical data.

Technical data	E034 230 V	E034 115 V
Power supply voltage	220-240 V~ @50/60 Hz	110-120 V~ @50/60 Hz
Max power	350 W	340 W
Standby power*	4.4 W	4.4 W
Standby power with the XLC module	0.5 W	0.5 W
Standby power with the XLC module and Simply Connect	2 W	2 W
Electric motor voltage max.	24 V===	24 V===
Max. motor power	340 W (170 W per motor)	340 W (170 W per motor)
Max. accessories load	24 V=== 500 mA BUS 2easy 300 mA	24 V=== 500 mA BUS 2easy 300 mA
Max. flashing light load	24 V=== 15 W max	24 V=== 15 W max
Fuses	F 2.0A - 250 V ~	F 4A - 150 V ~
Protection rating*	IP54	IP54
Ambient operating temperature	-20°C - +65°C	-20°C - +65°C
Weight with packaging	3.5 kg	3.5 kg
Package dimensions	335 x 255 x 200 mm	335 x 255 x 200 mm

*Refers to the board supplied in the enclosure.

i If low power mode and BUS 2easy control devices are provided, the total length of the BUS 2easy cables must not exceed 50 m (for 1.5 mm² cables) or 30 m (for 0.5 mm² cables). If low power mode is not provided, the maximum total length of BUS 2easy cables is 100 m (0.5 mm²).

2.6 OVERALL DIMENSIONS OF THE ENCLOSURE



3. MECHANICAL INSTALLATION

TOOLS REQUIRED

The tools required are indicated below.



Wire strippers



Flat-head screwdriver

1



Phillips screwdrivers

1-2



Electrician's scissors



Drill bit



Pencil


TORQUE ADJUSTMENT - comply with fastening torque indicated in the figure. E.g.: Spanner 7 set at 2.5 Nm



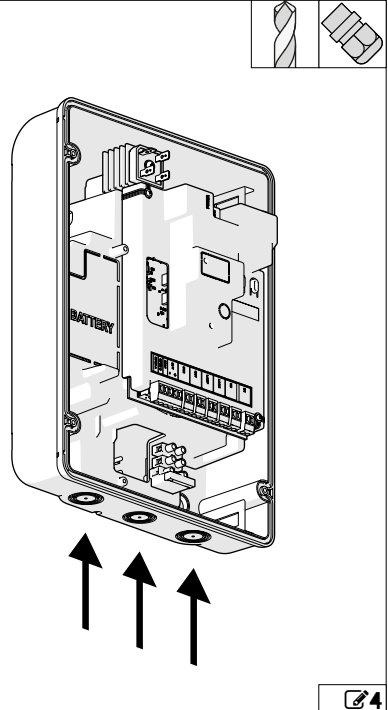
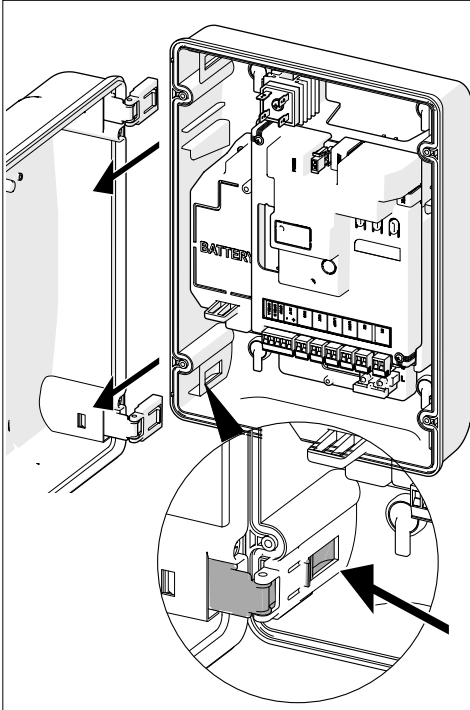
2.5 Nm

3.1 INSTALLING THE ENCLOSURE

- Remove the cover and arrange the cable routing holes

With reference to  4:

1. Press on the catch of each hinge
2. Remove the hinges together with the cover.
3. Open the cable entry holes to a diameter suitable for the diameter of the conduits.
4. Install suitable cable glands.



■ Fasten the enclosure

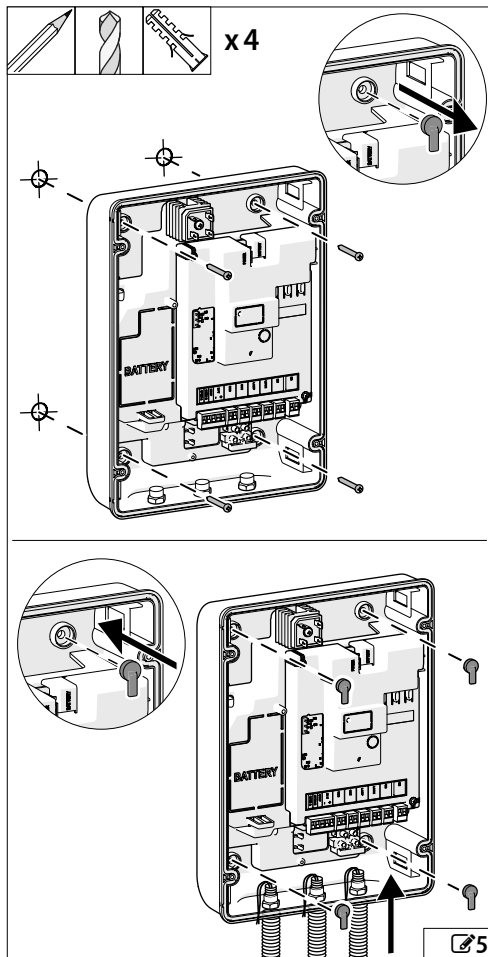
With reference to  5:

1. Remove the 4 screw caps (\varnothing 5 mm holes).
2. Mark the fixing points on the support, drill the holes and secure using suitable screws and dowels, lastly insert the screw caps.
3. Insert the cable conduits. Tighten the cable glands and make sure they are tight.

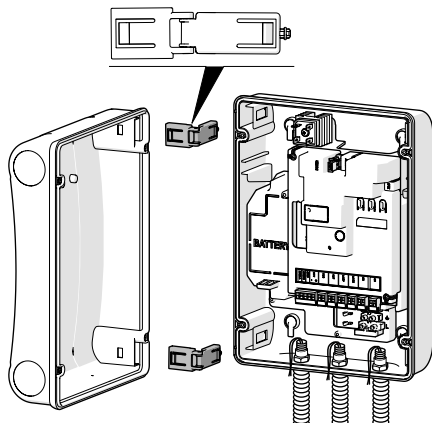
■ Install the cover

With reference to  6:

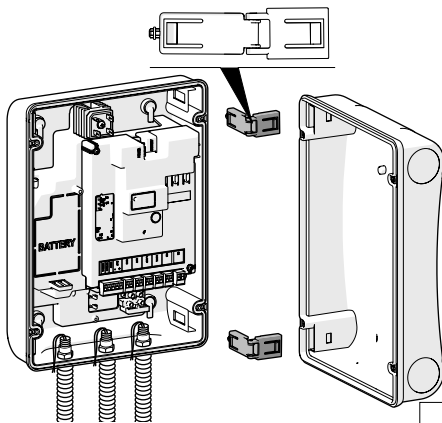
1. Decide the opening direction.
2. Insert the hinges, paying attention to the direction in which they are inserted.



Opening to the left



Opening to the right



4.2 ACCESSING THE BOARD COMPONENTS

The board cover has to be removed in order to install some of the accessories.

i Programming must always be carried out with the board cover installed.

■ Removing the board cover

With reference to **8**:

1. Unscrew the screws.
2. Remove the cover from the board.

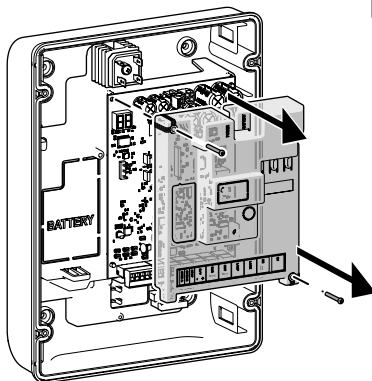
■ Remove the pre-cut knockouts

In order to install the accessories (connectivity modules or the XUSB accessory) on the board, it is necessary to remove the cover and the pre-cut knockouts.

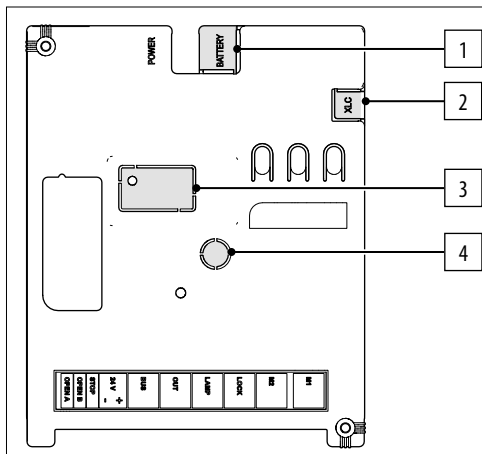
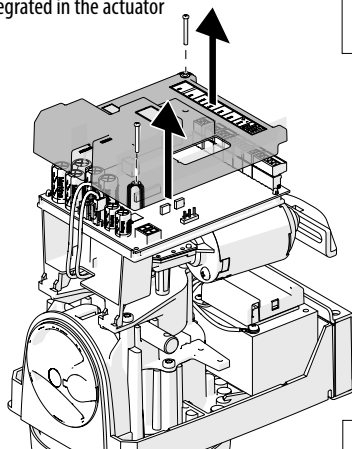
With reference to **9**:

1. With the power supply switched off, use a suitable tool to remove the pre-cut plastic knockout.
2. Place the module or the connection in the position provided.

E034 with enclosure



E034 integrated in the actuator



1 Layout of knockouts

Layout of knockouts

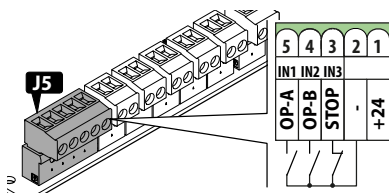
- 1 Connector for secondary power supply
- 2 Low energy consumption connector for XLC
- 3 XWBL module network connector
- 4 XMB module antenna



4.3 CONNECTIONS

i When inserting connectors and pull out terminal-boards, be careful not to bend the printed circuit so as not to damage the board.

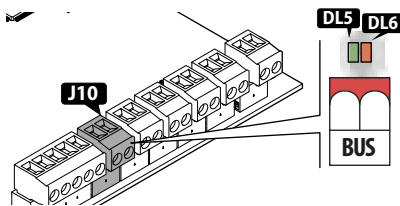
CONTROL DEVICES (J5)



i Multiple NO contacts on same input must be connected in parallel.
Multiple NC contacts on same input must be connected in series.
Below is a brief explanation of the inputs. The effect a command has may vary according to the operating logic and programming functions.

5	OP-A (IN1)	TOTAL motion command. NO contact, connect a push-button or another type of pulse generator which, by closing a contact, commands the total opening (OPEN) of the gate.
4	OP-B (IN2)	Motion command determined by the set operating logic. NO contact, connect a push-button or another type of pulse generator which, by closing a contact, causes the gate to close (CLOSE in logics \square and \square) or PARTIAL open (in all other logics): The partial opening is: <ul style="list-style-type: none"> • 50% of the complete opening in systems with only one motor • complete only for the leaf actuated by motor 1 in two motor systems
3	STOP (IN3)	Stop command. NC contact, connect a push-button or another type of pulse generator which, by opening a contact, causes the automation to stop. i If the input is not used, bridge it with the common contacts (-).
2	-	Accessories power supply negative and common contacts Accessories power supply positive 24 V \square - MAX 500 mA
1	+ 24V	i To calculate the maximum power consumption, refer to the instructions of the individual accessories.

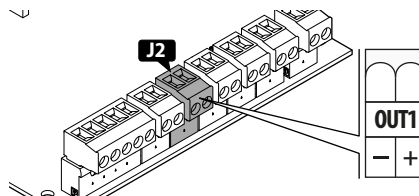
BUS 2EASY (J10) DEVICES



i Do not exceed the maximum load of 300 mA.
If no BUS 2easy devices are used, leave the terminals free.

For connecting and assigning addresses see § Accessories.

OUTPUTS (J2)



E034 has an output with a negative open-collector that is activated according to the function programmed in \square .

The table shows the voltage available at the terminals according to the status:

OUT status	
Active	24 V \square
Not active	Open circuit

i Do not exceed the maximum load: 24 V \square with 100 mA.

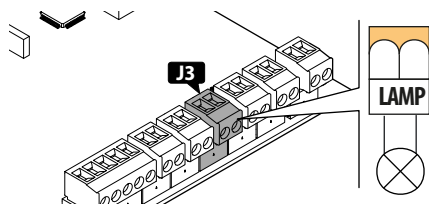
■ Failsafe function

Failsafe is a functional test that is carried out when the contact is opened. If the test fails, the board generates an error and prevents the automation from moving.

If the device requires a functional test, connect the negative to an output (OUT1) configured as Failsafe (\square in advanced programming) instead of to the negative of the accessories power supply (-).

i The maximum power consumption of the output configured as Failsafe is 100 mA.

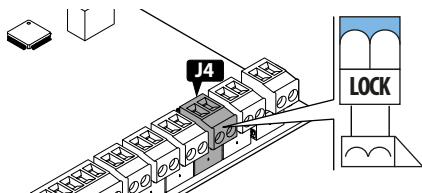
FLASHING LIGHT (J3)



The flashing light indicates that the gate is moving and must be installed in a position that is visible from both sides of the gate.

The flashing light must be a 24 V $\overline{\text{=}}$, max 15 W model. Pre-flashing for 3 s before movement enabled via programming function PF.

ELECTRIC LOCK (J4)



E034 controls an electric lock to block the leaf in the closed position.

The electric lock is activated before each opening, irrespective of the position of the leaf.

You can connect:

- FAAC 12 V \sim /24 V $\overline{\text{=}}$ electric locks

The functions available in Advanced programming are:

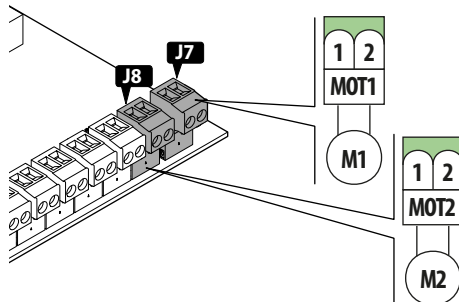
- $\overline{\text{c}}$ (closing thrust)
- $\overline{\text{r}}$ (reverse stroke in opening)

■ Connecting a generic non-FAAC electric lock

If you use a generic NON-FAAC electric lock, proceed as follows:

1. Connect a suitable 24 V $\overline{\text{=}}$ interface relay to programmable output OUT1
2. Power the electric lock with an external power source.
3. In advanced Programming, program \square as a NON-FAAC electric lock:
 - \square = II.

MOTORS (J7-J8)

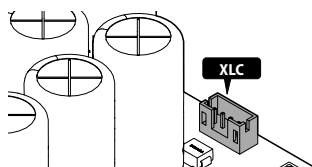


For single operator installations, connect the electric motor to MOT1 (J7).

For double operator installations, connect:

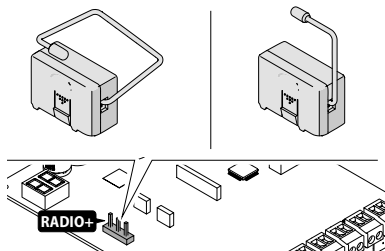
- the motor that opens first to terminal MOT1 (J7).
- the motor that closes first to terminal MOT2 (J8).

LOW ENERGY CONSUMPTION MODULE XLC



The XLC connector is specifically for connecting the low energy consumption module XLC (see specific section in the Section § Accessories).

RADIO MODULE XF FDS/XF (RADIO+)

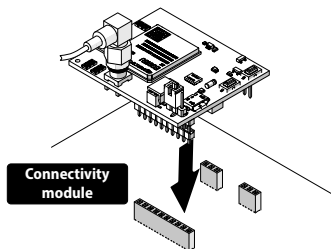


The quick insertion connector RADIO + is specifically for FAAC model XF FDS/XF radio modules.

To memorise radio control codes, see § Accessories.

SIMPLY CONNECT MODULE (CONNECTIVITY MODULE)

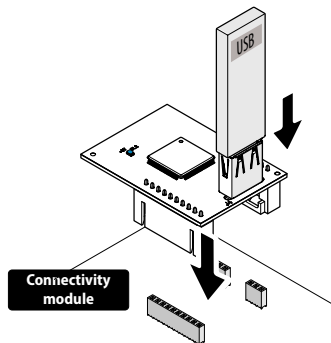
Example, GSM Mobile module, Bluetooth Low Energy:



To install a Simply Connect connect module, insert the module into the plug-in connectors and install the "Simply Connect PRO" app.

i When programming is taking place via Simply Connect, programming via the board is inhibited.

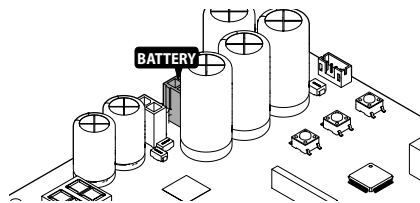
XUSB MODULE (CONNECTIVITY MODULE)



For the XUSB module, see the specific section in the section § Accessories.

i The XUSB module can be used as an alternative to the Simply Connect module.

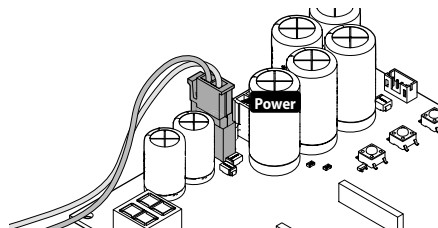
EMERGENCY BATTERIES (BATTERY)



Connect the battery XBAT 24 to the BATTERY connector (specific section in the Section § Accessories).

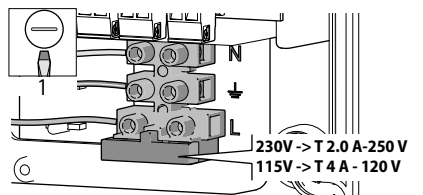
i Connect before switching on mains power.

BOARD POWER



Pre-wired 24 V_{DC} POWER connector, used to supply power to the board.

MAINS POWER SUPPLY



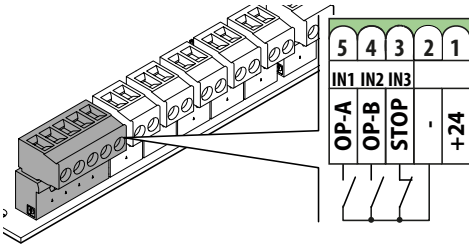
Connect the 3G power cable (min. 1.5 mm² - max. 2.5 mm²).

⚠ Carry out the following with the power supply disconnected.

4.4 BRIDGE ANY UNUSED NC INPUTS

The NC terminal specifically for the STOP (IN3) must be connected or bridged.

i If the STOP terminal is open, it prevents both the automation and the SETUP from working.




4.5 INSTALLING THE BOARD COVER

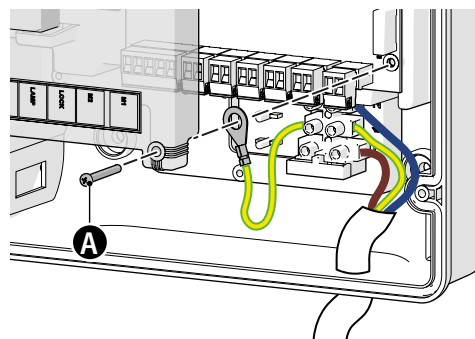
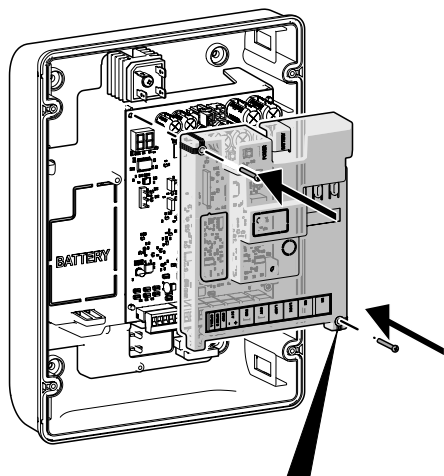
Once the connections have been made, replace the cover before carrying out the programming.

With reference to  10:

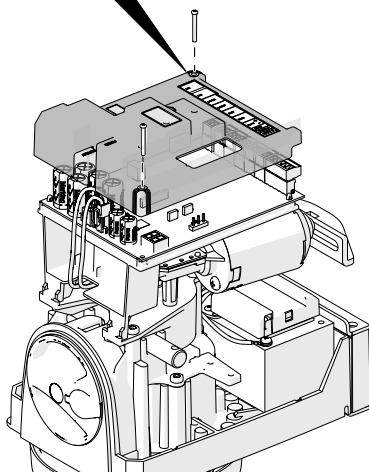
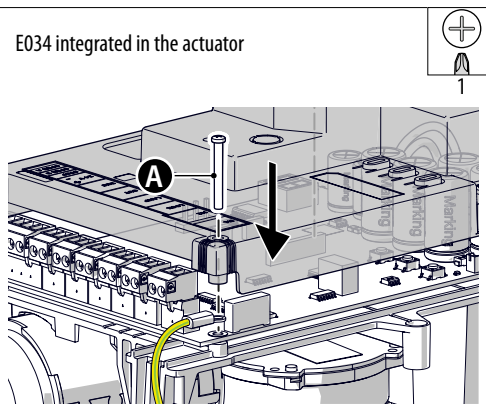
1. Check that the cables are seated correctly and not in the way.
2. Fasten the cover using the screws.

 In the installation with an enclosure, use the board cover screw **A** for the earth connection.

E034 with enclosure



E034 integrated in the actuator



 10

5. START-UP

Carry out the following operations (for details refer to the § specific sections).

1. Turn power on to the board.
2. Check the correct orientation of the display (OPTIONAL, to be performed if necessary).
3. Check that the status of the LEDs is correct.
4. Configure the type of automation (Basic programming, cF) and the number of motors (Basic programming, F1).
5. Check the leaf movement (Basic programming, F1, F2).
6. Carry out the SETUP procedure that includes the registration of BUS 2easy that are connected (Basic programming, E).
7. Memorise the radio controls, if used.
8. Complete the required programming.
9. Carry out the final checks to make sure that the automation system is working correctly with all the devices installed.

5.1 TURN POWER ON TO THE BOARD

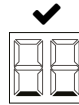
1. Turning on the power supply
2. The display will show the following in sequence:
 - two alternating dots for 10s
 - FW version (e.g. I.□)
 - □ flashing (SETUP request).

i If the SETUP has already been carried out, the display shows the automation status (e.g. □I).
For LED and display signals see § Diagnostics.

5.2 CHANGING THE ORIENTATION OF THE DISPLAY (OPTIONAL)

If the display does not show the automation status correctly, make sure that the display is orientated correctly:

1. Press the middle button = 3 times to check the orientation of the display:



Display and buttons oriented correctly



Display and keys oriented incorrectly

2. If the display is NOT oriented correctly, press the central button again = to modify the orientation.

i The orientation of the display changes each time this operation is repeated.


3. To save the orientation, press another button or wait 10 seconds.

5.3 PROGRAMMING MENU

When the display shows the automation status, you can enter basic or advanced Programming mode.


■ Basic programming

1. Press and hold the **F** button:
 - the first function (1L) appears on the display and is displayed as long as button **F** remains pressed.
2. Release the button:
 - the display shows the value of the function.
3. Press button **+** or **-** to modify.
4. Press button **F** to confirm and go to the next function.

Proceed in the same way for all the functions (see  Basic programming menu).

■ Advanced programming



1. Press and hold down the **F** button, then the **+** button as well:
 - the first function (c5) appears on the display and is displayed as long as button **F** remains pressed.
2. Release the button:
 - the display shows the value of the function.
3. Press button **+** or **-** to modify.
4. Press button **F** to confirm and go to the next function.

Proceed in the same way for all the functions (see  Advanced programming menu).

■ Exiting programming mode



Every modified value becomes effective immediately, but when exiting from programming mode you have to decide whether to save the modifications or not. Modifications are lost if no buttons have been pressed for 10 minutes or if power to the board is disconnected before they have been saved.

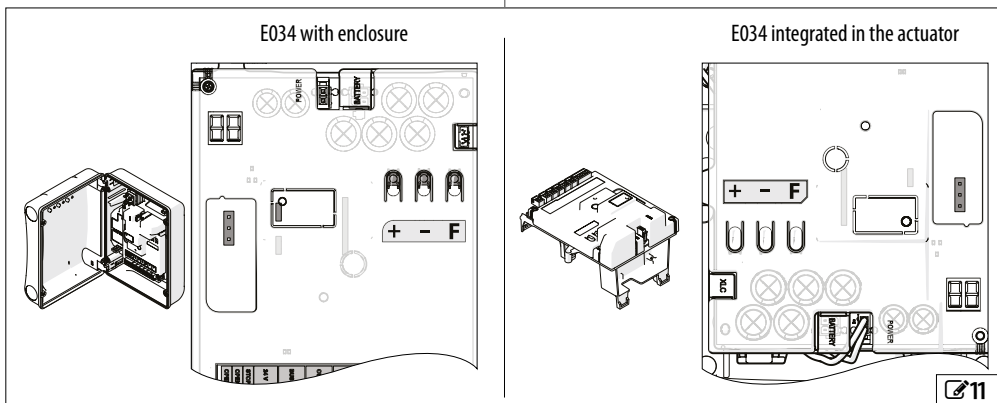
1. Press and hold button **F**, and then the **-** button as well.
 - Alternatively, scroll through the programming menu until you reach the last function (5L).
2. Select:
 -  = save the changes
 -  = DO NOT save the changes
3. Press button **F** to confirm: the display reverts to the automation status view.

DISPLAY STANDBY MODE

The display goes into standby mode after 5 minutes of inactivity: the screen switches off.



The display returns to normal operation when a button is pressed or after a motion command.





2 BASIC programming menu


Function	default
Simple Connect Not modifiable. This symbol confirms that Simple Connect is available.	1
Low power consumption Enables/disables the low-power consumption module ȳ low consumption mode active no low power consumption mode off	no
TYPE OF AUTOMATION Select the type of actuator installed (the board loads the relative default configuration). □ no actuator FAAC 24 V == 1 412 24V, 413 24V, 415 24V, 390 24V 2 392 C, 391E, S2500 3 S418 4 770 24V, 770N 24V	2
DEFAULT CONFIGURATION Displays ȳ if the programming corresponds to the default settings. Select ȳ if you wish to reload the default values for the type of automation. ȳ the programming corresponds to the DEFAULT settings no the programming DOES NOT correspond to the default settings	ȳ
FUNCTIONING LOGIC E Semi-automatic EP Semi-automatic step by step AI Automatic 1 A Automatic AP Automatic Step by Step b Semi-automatic b C Hold-to-run	E
PAUSE TIME (displayed only if an automatic logic has been selected) Displayed in seconds up to 59, then in steps of 10 s. up to a maximum of 9.5 minutes. 00...59 (Adjustment step: 1 s) 1.0...9.5 (Adjustment step: 10 s)	30

Function	default
PARTIAL PAUSE TIME (displayed only if an automatic logic has been selected) Carried out after partial opening. Displayed in seconds up to 59, then in steps of 10 s. up to a maximum of 9.5 minutes. 00...59 (Adjustment step: 1 s) 1.0...9.5 (Adjustment step: 10 s)	30
NUMBER OF MOTORS 1 1 motor 2 2 motors	2
MOTOR 1 POWER 01...50 (levels; 50 =maximum power)	25
MOTOR 2 POWER (displayed only if $n = 2$) 01...50 (levels; 50 =maximum power)	25
SPEED Speed of movement. 01...10 (levels)	08
ENCODER Enables/disables the encoder on both motors. no disabled ȳ enabled	no
CLOSING DELAY NOT displayed if $n = 1$. The delay is applied to Leaf 1. 00...59 s Adjustment step: 1 s The display subsequently changes to minutes and tens of seconds (separated by a point), up to a maximum of 1.3. 1.0...1.3 Adjustment step: 10 s E.g. 1.2 = 1 min and 20 s.	05
BUS 2easy DEVICE LEARNING See the relative section.	
MOTOR 1 OPERATION IN DEAD MAN MODE -- + OPEN (displaying oP) - CLOSE (displaying cL)	--
MOTOR 2 OPERATION IN DEAD MAN MODE -- NOT displayed if $n = 1$. + OPEN (displaying oP) - CLOSE (displaying cL)	--



Function	default
E_L SETUP See the relative section.	--
S_E LEAVING THE PROGRAMMING MODE Y exit saving the settings nO exit without saving the settings After having confirmed using button F , the display indicates the <i>STATUS</i> of the automation:	Y
00 closed 05 opening 01 open 06 closing 02 stationary then opens 09 pre-flashing and then opens 03 stationary then closes 10 pre-flashing and then closes 04 in pause 50 (flashing) SETUP required	

i If a function displays the value EP, it means that programming has been carried out with Simply Connect which is not available on the board.

Function	default
cS CLOSING THRUST no This function assists the closing of the electric lock: it pushes against the closing stop with maximum force for 2 s. no disabled y enabled  DO NOT enable the function if there is not a mechanical closing stop fitted.	
rS REVERSE STROKE FOR OPENING no This function assists the release of the electric lock: it pushes against the closing stop before opening. no disabled y enabled  DO NOT enable the function if there is not a mechanical closing stop fitted.	
0d LEAF OPENING DELAY 02 (displayed only if $\Gamma_n = 2$) The delay is applied to MOTOR 2. Displayed in seconds up to 59, then in steps of 10 s. 00...59 (Adjustment step: 1 s) 10...13 (Adjustment step: 10 s)	
1P REVERSE ON OBSTACLE no This function specifies the amount the leaf is reversed after an obstacle has been detected. no total reverse y partial reverse (2 s)	
r1 SLOWDOWN LEAF 1 20 Specifies the deceleration space for the leaf connected to MOTOR 1 (% of the total length of travel). 00...99 (Adjustment step: 1%)	
r2 SLOWDOWN LEAF 2 20 (displayed only if $\Gamma_n = 2$) Specifies the deceleration space for the leaf connected to MOTOR 2 (% of the total length of travel). 00...99 (Adjustment step: 1%)	

Function	default
PF PRE-FLASHING no Enables/disables pre-flashing and specifies when it is activated. The pre-flashing time is fixed: 3 s. no disabled y enabled	
Ph CLOSING PHOTOCELLS no Specifies the operation of the closing photocells. no reopen immediately y reopen when the photocells are released	
EC ANTI-CRUSHING SENSITIVITY 06 This function species the speed with which the anti-crushing system triggers after an obstacle has been detected. 01...10 (levels, 10=maximum sensitivity)	
rB SEARCH FOR STOP 4.0 This function specifies the angular space in which to search for the opening/closing stop. In this space, mechanical stops/obstacles cause the leaves to stop but not to reverse. Displayed in degrees and tenths of a degree (separated by a point) up to 9.9, then it is in degrees. 0.3...9.9 (Adjustment step: 0.1°) 10...20 (Adjustment step: 1°)	
SF SOFT TOUCH no This function causes the leaf to reverse slightly after the mechanical stop has been detected. no disabled y enabled	
SS SOFT-START y Acceleration ramp at each start no disabled y enabled  Disable this function if there is a lightweight gate.	

Function	default
o1 OUT1 00	
00 disabled	
01 Failsafe	
02 INDICATOR LIGHT	
03 COURTESY LIGHT (timed)	
04 ACTIVE ERROR	
05 automation OPEN or PAUSED	
06 automation CLOSED	
07 automation MOVING	
09 automation OPENING	
10 automation CLOSING	
11 electric lock function (timed)	
13 TRAFFIC LIGHT function (active during OPENING and with automation OPEN)	
14 timed output that can be activated from the 2 nd radio channel OmniDEC or FDS	
15 output (step-by-step function) that can be activated from the 2 nd radio channel OmniDEC or FDS	
16 active during the movement of motor 1	
17 active during the movement of motor 2	
19 battery operation	
33 programming in progress from Simply Connect	
P1 OUTPUT POLARITY OUT1 n0	
4 = normally closed	
n0 = normally open	
NOTE: if the function of the output is Failsafe, the polarity must be = n0	
t1 OUT1 TIMING 02	
(displayed only if o1 = 03, 11 or 14)	
Sets the activation duration of output OUT1, if a timed function is programmed.	
1...99	
Adjustment step:	
1 min (if o1 = 03 or 14), 1 s (if o1 = 11)	
AS MAINTENANCE REQUEST n0	
Enables/disables the maintenance alert when the programmed number of cycles has been reached as specified in the following functions (nb, nc, nd).	
n0 disabled	
4 enabled	

Function	default
nb HUNDREDS OF THOUSANDS OF CYCLES 00	
Displays the hundreds of thousands of cycles that have been performed.	
To reset the cycle counter: press + and - for 5 s	
00...99 (programmable if AS = 4)	
nc THOUSANDS OF CYCLES 00	
Displays the thousands of cycles that have been performed.	
To reset the cycle counter: press + and - for 5 s	
00...99 (programmable if AS = 4)	
nd TENS OF CYCLES 00	
Displays the tens of cycles that have been performed.	
00...99 (programmable if AS = 4)	
 To reset cycle counters nb, nc, nd: press + and - for 5 s	
St LEAVING THE PROGRAMMING MODE 4	
4 exit saving the settings	
n0 exit without saving the settings	
After having confirmed using button F, the display indicates the STATUS of the automation:	
00 closed 05 opening	
01 open 06 closing	
02 stationary then opens 09 pre-flashing and then opens	
03 stationary then closes 10 pre-flashing and then closes	
04 in pause 50 (flashing) SETUP required	
 If a function displays the value EP, it means that programming has been carried out with Simply Connect which is not available on the board.	

5.4 OPERATING LOGICS

In all the logics:

- the STOP command has priority and stops the automation from operating
- **Automatic logics:**
 - A - Automatic
 - AI - Automatic 1
 - AP - Automatic step-by-step
- **Semi-automatic logics:**
 - E Semi-automatic E
 - EP Semi-automatic step-by-step
 - b - Semi-automatic b
- **Dead-man logic:**
 - C - Dead-man

AUTOMATIC LOGICS

In all automatic logics, the OPEN command:

- with the automation closed, opens the automation and closes it again automatically after a pre-set pause time.
- during closing, it reverses to open

■ A - AUTOMATIC

OPEN command:

- during the pause, reloads the pause time.
- during opening, is ignored.

Operation of the closing photocells:

- during the pause, reloads the pause time.

■ AI - AUTOMATIC1

OPEN command:

- during the pause, reloads the pause time.
- during opening, is ignored.

Operation of the closing photocells:

- during pause, causes it to close
- during opening, requests closing
- during closing, causes the gate to reverse and then closes it immediately.

■ AP

AUTOMATIC STEP-BY-STEP

OPEN command:

- during pause, stops the gate and the next OPEN command closes it.
- during opening, stops the gate and the next OPEN command closes it.

Operation of the closing photocells:

- during the pause, reloads the pause time.

SEMI-AUTOMATIC LOGICS

In all semi-automatic logics, the OPEN A command:

- with the automation closed, opens the automation

- E - SEMI-AUTOMATIC E

OPEN command:

- during opening, stops the movement and the next command closes the gate
- when the automation is open, it closes it
- during closing, causes it to reopen.

If the Photocell is triggered:

- during movement, reverses the gate.

- EP - SEMI-AUTOMATIC STEP-BY-STEP

Command OPEN A or OPEN B:

- during opening or closing, stops. The next command reverses the direction.
- when the automation is open, it closes it

If the Photocell is triggered:

- during movement, reverses the gate.

- b - SEMI-AUTOMATIC b

CLOSE command (OPEN B)

- during opening or when the automation is open, it closes it

If the Photocell is triggered:

- during movement, reverses the gate.

DEAD MAN LOGIC - MAINTAINED

- □ - Dead-man

Logic □ requires the use of maintained OPEN and CLOSE (OPEN B) commands.

The control must be activated intentionally and the gate must be visible.

- Maintained OPEN opens the automation
- Maintained CLOSE (OPEN B) closes the automation

Operation of the photocells:

- during movement, stop the automation

5.5 SETUP

The SETUP procedure consists of a series of movements during which the board acquires the length of travel and other leaf parameters. The SETUP procedure also registers the BUS 2easy devices that are present.

■ SETUP needs to be carried out:

- when $S\Box$ flashes on the display (e.g. when the automation is first put into operation)
- after a board has been replaced
- if you wish to modify the length of travel of the leaves
- if there are active errors that require the SETUP procedure to be carried out
- if programming functions are modified that require a new SETUP

■ Checks prior to SETUP

- the automation must not be set to manual mode
- if the STOP input is not used, it must be bridged
- make sure that the settings of the following functions in Basic Programming are correct:
 - c^F type of automation
 - Γn number of motors
 - $E n$ encoder (has to be enabled, if present)



While the SETUP procedure is being carried out, prevent transit in the area of movement of the leaves because the safety devices are disabled.

PERFORM SETUP

1. Go to the EL function in basic programming. The value displayed is --.
2. The leaves must be closed. To close them now, Press the + button for Leaf1 and the - button for Leaf2.
3. Press the + and - buttons simultaneously for a few seconds. Release the buttons when the display flashes, then the first movement starts and $S1$ appears on the display.
4. The SETUP procedure starts and is carried out automatically. The display indicates each phase in progress with a flashing code:

Display	Phase
$S1$	Leaf1 opens: searching for the OPEN position
$S2^*$	Leaf2 opens: searching for the OPEN position
$S3^*$	Leaf2 closes: searching for the CLOSED position
$S4$	Leaf1 closes: searching for the CLOSED position
$\Box\Box$	SETUP has been completed. The board exits from programming mode and the display shows the automation status - closed.

* Phase NOT carried out in the case of a single leaf automation.



If the SETUP procedure doesn't start or stops before it has been completed, the board exits from programming mode and $S\Box$ flashes on the display: check the ERRORS present (Chapter 5 Diagnostics).

In phases $S1$ to $S4$, the OPEN / CLOSED position is recognised automatically or requires the OPEN A command, according to the configuration of the system:

■ Operation with encoder BUS 2easy

The board automatically recognises the OPEN / CLOSED position if a mechanical stop is present.



If there is no mechanical stop, send an OPEN A command at the point where you want the leaf to stop.

■ Timed operation

Send an OPEN A command as soon as the leaf reaches the mechanical stop.

5.6 CONFIGURING MOVEMENTS AND TIMING

In BASIC PROGRAMMING

- P_A **OPEN A pause time**, P_B **OPEN B pause time** In operating logics with automatic closing, the gate remains open for the pause time (configurable specifically for full or partial opening).
- n **Number of motors** Before carrying out the SETUP procedure, the number of motors has to be configured correctly to specify single or two leaf operation.
- $\square d$ **Leaf closing delay** This function is used in 2-leaf automations to prevent interference between leaves and to handle any overlap.

In ADVANCED PROGRAMMING

- $c5$ **Closing thrust** This function is useful when a closing stop is fitted as it helps the electric lock to engage.
- $r5$ **Reverse stroke for opening** This function is useful during opening when an electric lock is fitted as it pushes against the stop before opening.
- $\square d$ **Leaf opening delay** This function is used in 2-leaf automations to prevent interference between leaves and to handle any overlap.
- $r1$ **Slowdown leaf 1**, $r2$ **Slowdown leaf 2** These parameters define the leaf deceleration spaces.

5.7 CONFIGURING THE ANTI-CRUSHING SYSTEM

Anti-crushing protection is obtained by limiting the static/dynamic force exerted by the leaf in the event of impact with an obstacle. When an obstacle is detected, by the BUS 2easy encoder (if installed) or the sensitive edges, the board also issues a reverse command.

The functions used for adjusting the anti-crushing system are listed below. Some allow the static force or the kinetic energy of the leaf on the obstacle to be limited; others configure the reverse on obstacle. Adjust the functions together, taking into consideration the configuration of the automation and the conditions of use.



For example, in particularly windy areas, with panelled leaves, if the anti-crushing sensitivity is too high, it can cause frequent unwanted reversals to occur.

In BASIC PROGRAMMING

- $F1$ **Motor 1 Power**, $F2$ **Motor 2 Power** Decrease the value if you want to limit the static force in the event of impact.
- SP **Speed of the movement** Decrease the value if you want to limit the kinetic energy of the leaf on an obstacle.

In ADVANCED PROGRAMMING

- iP **Reverse on obstacle** Specifies the amount by which the leaf is reversed: complete or for 2 s.
- EC **Anti-crushing sensitivity** Specifies the speed at which the anti-crushing system triggers after an obstacle has been detected.
- rB **Search for stop** Reverse on obstacle via encoder is not active in the search for stop space.
- SF **soft touch** This function causes the leaf to reverse slightly when it detects a mechanical stop before closing.



This function allows the impact forces to fall within the limits indicated by current regulations.

- $r1$, $r2$ **Slowdown Leaf1, Leaf2** Specifies the extent of the leaf slowdown near the open / closed positions.



The slowdown allows you to limit the inertial forces and reduce the vibrations of the gate when it is stopping.

6. PUTTING INTO SERVICE

6.1 FINAL CHECKS

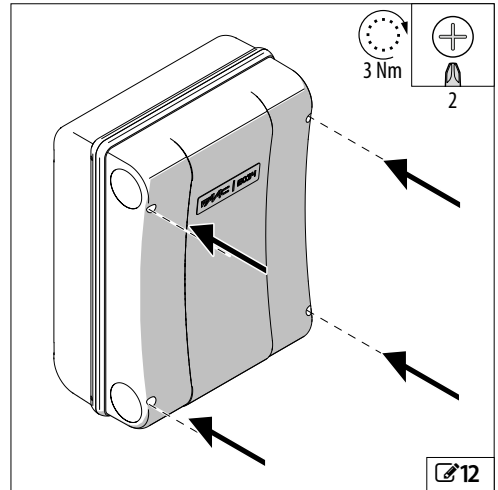
1. Make sure that the forces generated by the gate are within the limits permitted by the current regulations. Use an impact force tester in accordance with EN 12453. For non-EU countries, if there are no specific local regulations, the force must be less than 150 N. If necessary, make any adjustments that may be needed by referring also to the operator instructions.
2. Carry out a complete functional test of the automation and all the installed devices.
3. Refer to the operator instructions for any additional tests that may be required.

6.2 CLOSE THE ENCLOSURE

Close the enclosure using the screws on the cover (recommended torque 3Nm).

6.3 FINAL OPERATIONS

Make sure that the system delivery requirements have been fulfilled (otherwise arrange for them) i.e. that they correspond to the board installed / replaced.



7. ACCESSORIES

7.1 BUS 2EASY DEVICES

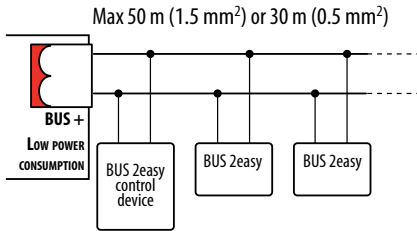
The board allows the connection of FAAC BUS 2easy devices (photocells, sensitive edges, control devices and encoders).

i If no BUS 2easy accessories are used, leave the BUS connector free (do not bridge).

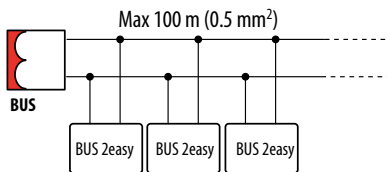
BUS 2EASY CONNECTIONS

Connect the devices to the **BUS** terminal board.

i Do not exceed the maximum load of 300 mA. The connection on the BUS line does not require polarity matching.



If low power mode and BUS 2easy control devices are provided, the total length of the BUS 2easy cables must not exceed 50 m (for 1.5 mm² cables) or 30 m (for 0.5 mm² cables).



If low power mode is not provided, the maximum total length of BUS 2easy cables is 100 m (0.5 mm²).

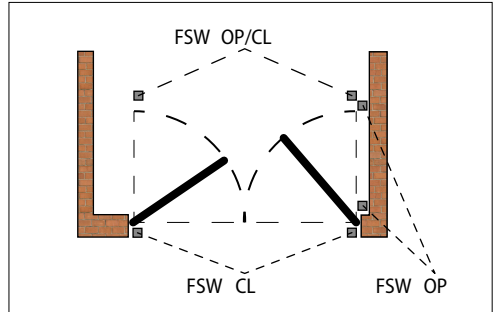
PHOTOCELLS BUS 2EASY

i Photocells are additional type D detection devices (according to EN 12453) that reduce the likelihood of contact with the moving leaf. The photocells are not safety devices according to standard EN 12978. Detection devices used as safety accessories (e.g. sensitive edges) to protect against a hazard, must comply with standard EN 12978.

Type of use:

FSW CL	Photocell active during closing
FSW OP	Photocell active during opening
FSW OP/CL	Photocell always active
OPEN	Photocell for OPEN A

i The effect of photocell engagement depends on the selected operating logic.



1. Assign an address to the BUS 2easy photocells by setting the four DIP switches on both the transmitter and the corresponding receiver.

i The transmitter and receiver of a pair of photocells must have the same DIP switch settings. There must never be two or more pairs of photocells with the same DIP switch settings. If there is more than one pair of photocells with the same address, a conflict error is generated.

2. Register the BUS 2easy photocells (see specific section).
3. Check the BUS 2easy devices (see specific section) and make sure that the automation operates according to the type of photocell installed.

4 Assigning an address to the Photocells

Key: 0=OFF, 1=ON

1 0 0 0	FSW CL	ON - - - - 1 2 3 4
1 0 0 1		
1 0 1 0		
1 0 1 1		
1 1 0 0		FSW OP
1 1 1 0		
0 0 0 0		
0 0 0 1		
0 0 1 0		
0 0 1 1		
0 1 1 1	FSW OP/CL	
0 1 0 0		
0 1 0 1		
1 1 1 1	OPEN	

BUS 2EASY SENSITIVE EDGES

Type of use:

CL EDGE	Sensitive edge active during closing
OP EDGE	Sensitive edge active during opening

The activation of a sensitive edge causes the direction of movement to reverse as specified in advanced programming:

- complete: $IP = \neg O$
- partial (2 s): $IP = \neg U$

1. Assign an address to the device electronics by setting the four DIP switches.

i No two devices should have the same DIP switch settings. If there is more than one device with the same address, a conflict error is generated.

2. Register the device (see specific section).
3. Check the BUS 2easy devices (see specific section) and make sure that the sensitive edges are working correctly. When the gate is moving, activate the sensitive edge using an obstacle and make sure that the automation operates according to the type of sensitive edge installed.

5 Addressing Sensitive Edges

Key: 0=OFF, 1=ON

1	1	0	1	CL EDGE
0	1	1	0	OP EDGE

ON

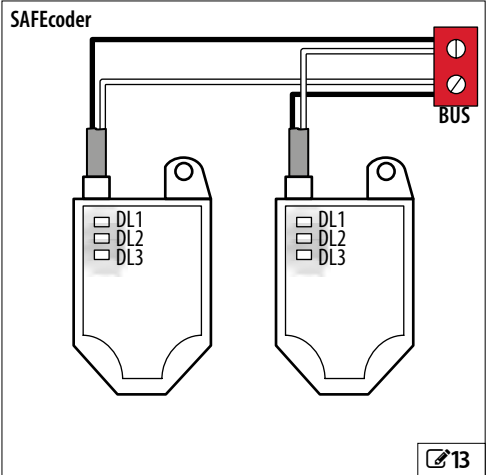
1 2 3 4

BUS 2EASY ENCODER

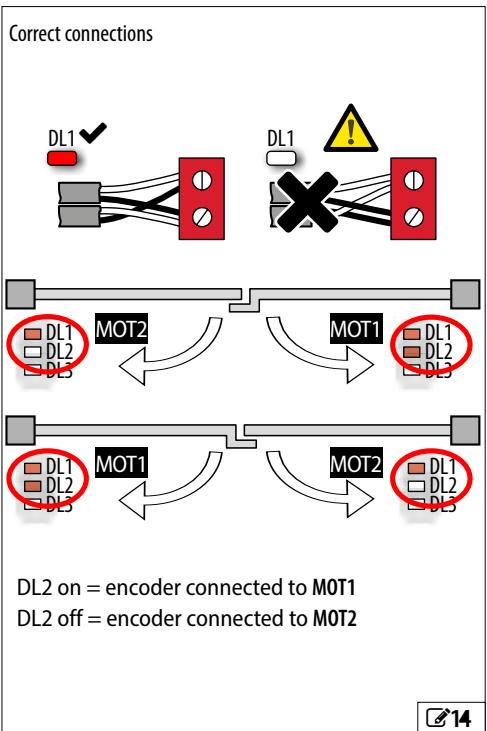
1. Connect the cables of the encoder to the BUS terminal board (14).
2. After turning on power to the board, check the LEDs on each encoder with the leaf stationary:
 - DL1 lit = encoder powered
 - DL2 lit = encoder connected to **MOTOR1**
 - DL2 off = encoder connected to **MOTOR2**

i For each encoder that does not appear to be connected to the correct leaf, temporarily disconnect the power supply and invert the 2 wires on the BUS terminal board.

3. Register the devices (see specific section).
4. Check the BUS 2easy devices (see specific section).



13



14

BUS 2EASY CONTROL DEVICES

1. Configure the DIP switches on the device to assign 1 or 2 commands (see table).

i Stop NC also generates a stop when the device is disconnected. A command (e.g.: OPEN A_1) must be used on only one of the connected devices.

No two devices should have the same address.

If there is more than one device with the same address, it generates a conflict error on the board and prevents the automation from working. Detection devices do not generate conflicts with control devices and vice versa.

2. Register the BUS 2easy devices (§ specific section).
3. Check the BUS 2easy devices (§ specific section) and make sure that the automation operates according to the type of control devices installed.

6 Addressing Control Devices

Key: 0=OFF , 1=ON

DIP switch 5 enables the device for 1 (OFF)command or 2 (ON) commands

0 0 0 0	OPEN A_1	0 0 0 0 1	OPEN A_1	OPEN B_1
0 0 0 1 0	OPEN A_2	0 0 0 1 1	OPEN A_1	OPEN B_2
0 0 1 0 0	OPEN A_3	0 0 1 0 1	OPEN A_1	Stop
0 0 1 1 0	OPEN A_4	0 0 1 1 1	OPEN A_1	Close
0 1 0 0 0	OPEN A_5	0 1 0 0 1	OPEN A_2	OPEN B_1
0 1 0 1 0	Stop	0 1 0 1 1	OPEN A_2	OPEN B_2
0 1 1 0 0	*Stop NC_1	0 1 1 0 1	OPEN A_2	Stop
0 1 1 1 0	*Stop NC_2	0 1 1 1 1	OPEN A_2	Close
1 0 0 0 0	Close	1 0 0 0 1	OPEN A_3	OPEN B_3
1 0 0 1 0	OPEN B_1	1 0 0 1 1	OPEN A_3	OPEN B_4
1 0 1 0 0	OPEN B_2	1 0 1 0 1	OPEN A_3	Stop NC_1
1 0 1 1 0	OPEN B_3	1 0 1 1 1	OPEN A_3	Close
1 1 0 0 0	OPEN B_4	1 1 0 0 1	OPEN A_4	OPEN B_3
1 1 0 1 0	OPEN B_5	1 1 0 1 1	OPEN A_4	OPEN B_4
1 1 1 0 0	/	1 1 1 0 1	OPEN A_4	*Stop NC_2
1 1 1 1 0	/	1 1 1 1 1	OPEN A_4	Close

E.g.: In order to have OPEN A on different connected devices, set OPEN A_1 on the first and OPEN A_2 or OPEN A_3 on the second...

*Stop NC also generates a stop when the device is disconnected. If you do not require this function, use one "Stop".

REGISTERING BUS 2EASY DEVICES

Registration is required:

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

Registration procedure BUS 2easy:

1. With the board powered, go to the **bu** function in basic programming.
2. Press the **+** and **-** buttons simultaneously for at least 5 s. The display flashes, then **U** appears (registration complete).
3. Release the buttons and exit from programming mode.

CHECKING THE BUS 2EASY STATUS LEDS

To verify the BUS 2easy connection and status, check the LEDs on the board:

DL1 (RED)	<ul style="list-style-type: none"> ● At least one device is in operation ○ NO devices in operation * BUS 2easy registration in progress
DL2 (GREEN)	<ul style="list-style-type: none"> ● OK ○ SLEEPING * SHORT CIRCUIT * ERROR

VERIFYING BUS 2EASY DEVICES

1. Go to the BU function in basic programming, the display shows the BUS 2easy status:

- No devices are registered
- At least one device registered
- CC BUS 2easy short circuit / overload (error 36)
- Er BUS 2easy line error (check the addresses and repeat the registration)

2. Press the + button and keep it pressed; the segments relative to the registered devices light up (☞15). Release the button, the display reverts to the BUS 2easy status view.

3. To check the operation of the registered devices, activate each device individually and check that the corresponding segment lights up.

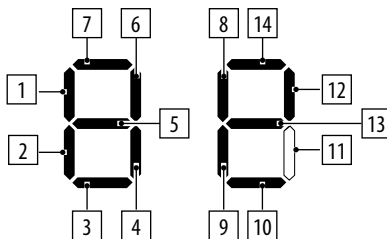
7.2 STOP / SAFETY STOP

The command stops the automation.

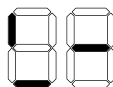
Make the connections and programming indicated in the table for functional STOP or safety STOP (e.g. on the pedestrian door integrated in the leaf).

FAILSAFE

Failsafe is a functional test that is carried out when the contact is opened. If the test fails, the board generates an error and prevents the automation from moving.



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



e.g. 1 or more OPEN A control devices and closing photocells are registered



	INPUTS	ADVANCED PROGRAMMING
STOP device with NC contact		
Active in all states	3 STOP	-
	2 (-)	
Safety STOP device with NC contact		
Active in all states	3 STOP	□ = □ (Failsafe)
	1 OUT1	

7.3 RADIO SYSTEM

The E034 is fitted with an integrated two-channel decoding system that requires either a XF FDS or XF radio module to be installed, to allow various types of FAAC radio controls to be memorised.

■ **XF FDS radio module**

This radio module allows you to memorise FAAC radio controls with FDS coding. A maximum of 251 codes can be memorised. FDS technology is characterized by dual frequency transmission (433 and 868 MHz).

i XF FDS is not compatible with SLH, SLH LR, LC/RC, DS radio controls.

■ **Radio module XF433 or XF868**

This module allows you to memorise FAAC radio controls that use following types of radio code: SLH, SLH LR, LC/RC, DS. A maximum of 256 codes can be memorised.

It is also possible to use FDS radio controls by following a specific procedure to convert them into SLH mode (see instructions).

i The various types of radio codes can coexist, but the radio module and all the radio controls must have the same frequency.

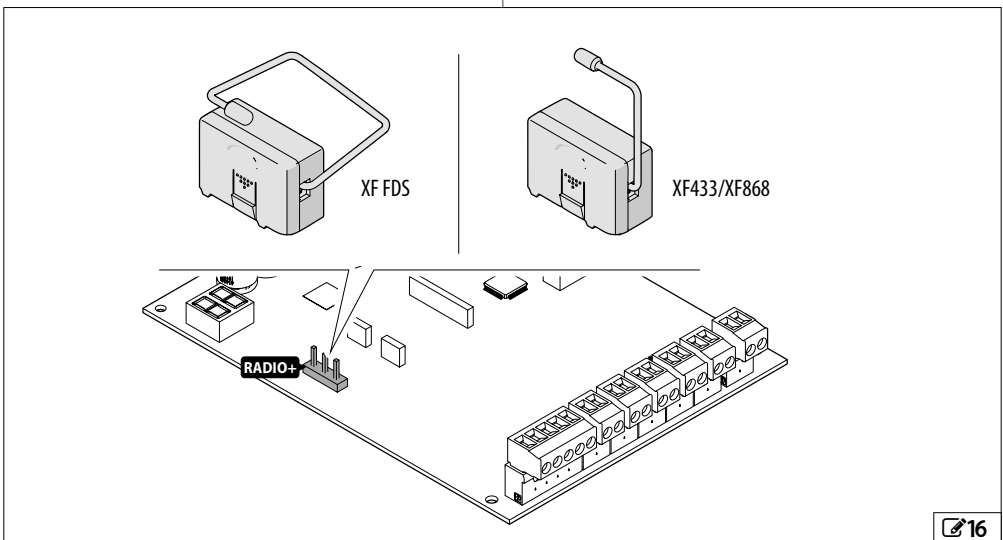
INSTALLING THE XF FDS OR XF RADIO MODULE

1. The module should only be inserted into the connector with the board turned off and as indicated in the figure.
2. Only switch on power supply after having installed the module. When it is switched on, the board detects the module and activates the corresponding radio mode.

i If the board detects a radio module that is not compatible with any of the radio controls that have already been memorised, the 2 RADIO (LR 1/CH1 or LR 2/CH2) LEDs flash alternately to indicate the error. It is possible to delete the radio controls, or install a compatible radio module.

3. Then memorise the radio controls.

i Follow the instructions to memorise the radio controls according to their type. Carry out the procedure with the radio control approximately 1 m away from the board.



MEMORISING XF FDS RADIO CONTROLS

The commands available are:

- OPEN A on radio channel 1 (LR 1/CH1)
- OPEN B/CLOSE on radio channel 2 (LR 2/CH2)
- Alternatively, the second radio channel can be enabled to activate a programmable output (§ Advanced programming)

To memorise the command:

1. On the board, press the **+** (memorise OPEN A) or **-** (memorise OPEN B/CLOSE) button and release it when the corresponding RADIO LED (LR 1/CH1 or LR 2/CH2) starts to flash for 20 s (time available for the next step).
2. Press and release the button on the radio control that you wish to memorise for the radio channel. To confirm the memorisation, the RADIO LED lights up steadily for 2 s and then starts to flash again for another 20 s (time available to repeat step 2 on another radio control).

The procedure ends after 20 s if no further radio controls are memorised and the RADIO LED switches off. To add additional radio controls, repeat the procedure from step 1.

FDS AND SIMPLY CONNECT

Alternatively, Simply Connect can be used to:

- Register a radio control or radio control kits via the Matrix-code.
- Program all the buttons on the radio control.
- Carry out searches via Matrix-code or advanced filters.
- Assign specific time slots in which to enable or disable a radio control.
- Delete a single command or radio control.

MEMORISING SLH/SLH LR RADIO CONTROLS

Memorise the Primary radio control on the board. Afterwards, it is not necessary to access the board in order to add radio controls.

To check whether the radio control is a Primary device, press and hold a button and watch the LED:

LED behaviour	Description
Short flash, then steady light	Primary
Immediate steady light	NOT Primary



Whenever a new Primary radio control is memorised on the board, any SLH/SLH LR radio controls that are already in use are disabled.

■ Memorising the first radio control (Primary)

1. On the board, press the **+** (memorise OPEN A) or **-** (memorise OPEN B/CLOSE) button and release it when the corresponding RADIO LED (LR 1/CH1 or LR 2/CH2) starts to flash for 20 s (time available for the next steps).
2. Press buttons **P1** and **P2** simultaneously on the radio control and release them when LED on the radio control starts to flash for 8 s (time available for the next step).
3. Press and release the button on the radio control to be memorised. The corresponding LR (radio LED) on the board becomes steady for 1 s and then switches off (memorisation complete).
4. Release the button.



When using the memorised button for the first time, press it twice in succession to obtain the command.

■ Adding SLH/SLH LR radio controls

1. Press buttons **P1** and **P2** simultaneously on the already memorised Primary radio control and release them when its LED on the radio control starts to flash for 8 s (time available for the next step).
2. Within 8 s, press and hold the button that has already been memorised, the LED lights up with a steady light.
3. Bring the radio control that has already been memorised, into contact face to face with the new one to be memorised.
4. Press and release the button on the new radio control to be memorised. The LED of the radio control flashes twice and then switches off (memorisation complete).
5. Release the buttons.



When using the memorised button for the first time, press it twice in succession to obtain the command.

MEMORISING LC/RC RADIO CONTROLS

1. On the board, press the **+** (memorise OPEN A) or **-** (memorise OPEN B/CLOSE) button and release it when the corresponding RADIO LED (LR 1/CH1 or LR 2/CH2) starts to flash for 20 s (time available for the next steps).
2. Press and release the button on the radio control to be memorised. The corresponding RADIO LED on the board becomes steady for 2 s (memorisation completed), then starts to flash again. Another radio control can be memorised within 20 s.

The procedure ends after 20 s if no further radio controls are memorised and the RADIO LED switches off. To add additional radio controls, repeat the procedure from step 1.

■ Adding LC/RC radio controls

Use a LC/RC radio control that is already use by the automation, without having to use the board.

1. Take a radio control that is already in use and move close to the board.
2. Press buttons **P1** and **P2** simultaneously on the radio control that is already in use and release them when the LED on the radio control starts to flash slowly for 5 s (time available for the next step).
3. Press and release the button that has already been memorised (the corresponding RADIO LED on the board starts to flash for 20 s, the time available for the next step).
4. Press the button to be memorised on the new radio control (the corresponding RADIO LED on the board becomes steady for 2 s to confirm the memorisation. It then starts to flash again and another radio control can be memorised within 20 s).

The procedure ends after 20 s if no further radio controls are memorised and the RADIO LED switches off. To add additional radio controls, repeat the procedure from step 1.

MEMORISING DS RADIO CONTROLS

1. Set the required combination of the DIP switches on the radio control (avoid setting them to all ON or all OFF).
2. On the board, press the **+** (memorise OPEN A) or **-** (memorise OPEN B/CLOSE) button and release it when the corresponding RADIO LED (LR 1/CH1 or LR 2/CH2) starts to flash for 20 s (time available for the next step).



If the RADIO LED at step 2 turns off instead of flashing for 20 s, it means that the radio memory is already full and it is not possible to continue.

3. Press and release the button on the radio control to be memorised. The corresponding RADIO LED on the board becomes steady for 1 s and then switches off (memorisation complete).
4. To memorise other radio controls, it is possible to set a DIP switch combination that has already been memorised or repeat the procedure for new combinations.

7.4 MEMORY FULL WARNING

If the RADIO LED (LR 1/CH1 or LR 2/CH2) on the board turns off instead of flashing for 20 s during the radio control memorisation procedure, it means that the radio memory is already full and it is not possible to continue.

7.5 LOCAL RADIO CONTROL MANAGEMENT

CHECK WHICH RADIO MODE IS ACTIVE

To check which radio mode is active on the board:

1. press the **+** and **-** buttons at the same time.
2. The display shows the corresponding code after any Errors / Alarms that may be present:
 - **SL** compatible with SLH, SLH LR, LC/RC, DS radio controls
 - **Fd** compatible with FDS radio controls

DELETING RADIO CONTROLS

i This procedure cannot be reversed. It will delete ALL radio control codes that have been memorised as OPEN A and OPEN B/CLOSE. The deletion procedure is only active when the display shows the automation status.

1. Press the **-** (or **+**) button and do not release it until the LED sequence has finished:
 - after 1 s the RADIO 2/CH2 LED starts flashing slowly
 - after 5 s, the LR 1/CH1 and LR 2/CH2 LEDs start to flash quickly (deletion in progress)
 - after 7 s both the LEDs come on steadily (deletion complete)
2. Release the button, both LEDs switch off.

7.6 INDICATOR LIGHT/COURTESY LIGHT, TRAFFIC LIGHT CONTROL, ELECTRIC LOCK

i Do not exceed the maximum load of the output (24V $\overline{\text{---}}$, 100 mA). If necessary, use a relay and a power supply that is external to the board.

1. Connect the device to programmable output OUT1.
2. In advanced programming, program OUT1:
 - **oI**: function of output
 - **PI**: output contact type (NO/NC)
 - **tI**: activation time (only for timed functions)

■ Indicator light

oI = **02**

The indicator light remotely indicates the status of the automation:

indicator light	automation
off	closed
on	opening/open/paused
flashing	closing

■ Courtesy light (timed)

oI = **03**

The courtesy light turns on for the duration of the movement and remains on for the time set in **tI**.

■ Electric lock (timed)

oI = **11**

The electric lock is activated before opening and closing and remains active for the time programmed in **tI**.

■ Traffic light control

oI = **13**

The traffic light control is on when the automation is opening and flashes during closing (with pre-flashing for 3 s before starting to close).

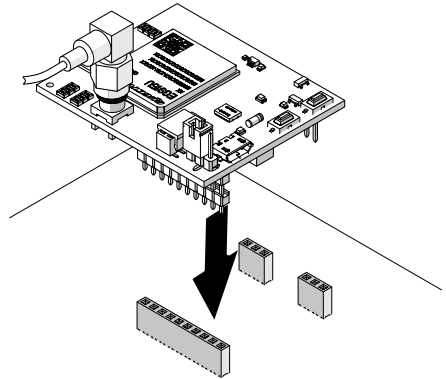
7.7 SIMPLY CONNECT

i Simply Connect requires E034 firmware version FW 1.0 or later.
When programming is taking place via Simply Connect, programming via the board is inhibited.

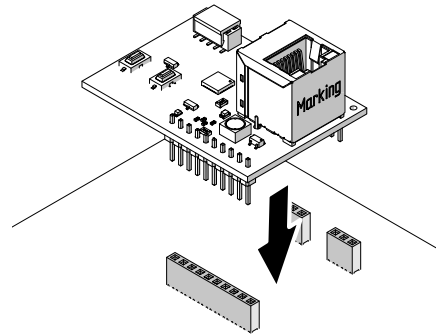
1. With the power supply switched off, remove the board cover.
2. Insert the module into the dedicated plug connectors.
3. Remove the pre-cut knockouts in the cover according to your needs (🔗18).
4. Fasten the board cover.
5. Power up the board and check the signalling LEDs of the module (see instructions).
6. Install the Simply Connect PRO app.

i For further information on the features, access the Simply Connect App and go to the "Tutorials" section in the Help menu.

XMB GSM Mobile, Bluetooth Low Energy



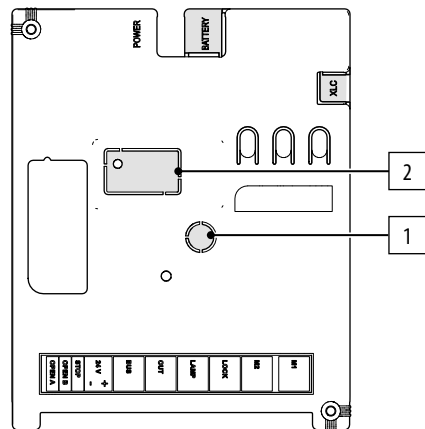
XWBL WiFi, LAN ethernet, Bluetooth Low Energy





www.faacsimplyconnect.com

🔗17



Layout of knockouts

- 1 XMB module antenna
- 2 XWBL module network connector

🔗18

7.8 BATTERY KIT XBAT 24

The battery kit allows you to operate the automation if there is a mains power failure.

INSTALLING THE BATTERY KIT IN THE BOARD ENCLOSURE

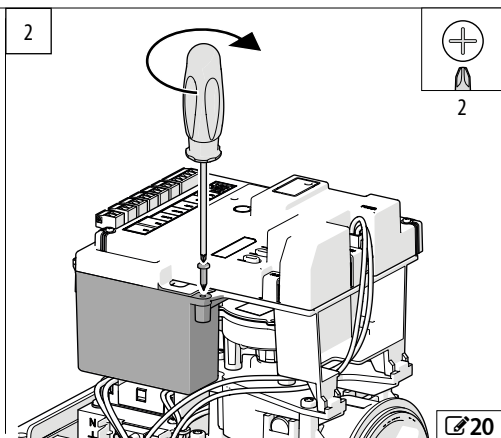
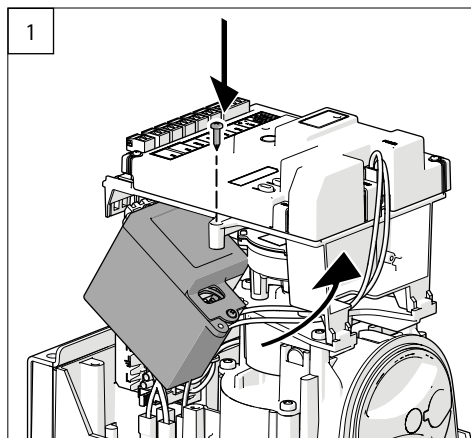
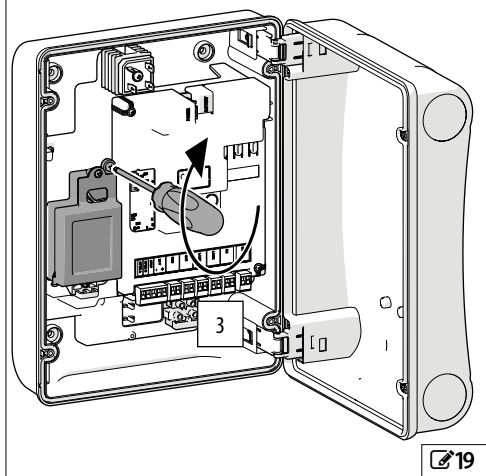
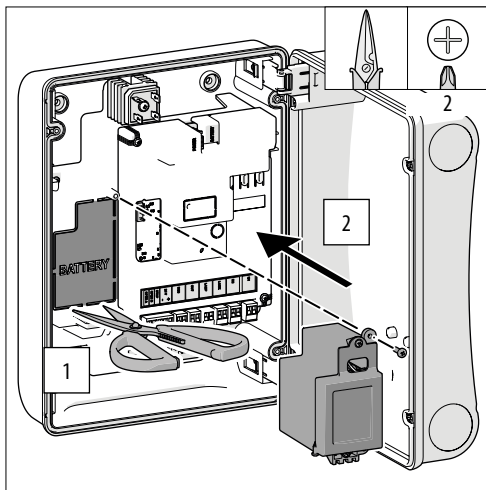
The buffer battery kit is designed to be mounted on the electronic board support. This support has been pre-cut to allow the slot for the battery to be opened. Proceed as follows (🔧19):

1. With the power supply switched off, use a suitable tool to remove the pre-cut plastic knockout.
2. Insert the battery and fasten it to the mounting supports.
3. Make the connections (see relative instructions).

INSTALLING THE BATTERY KIT ON THE ACTUATOR

Proceed as follows (🔧20):

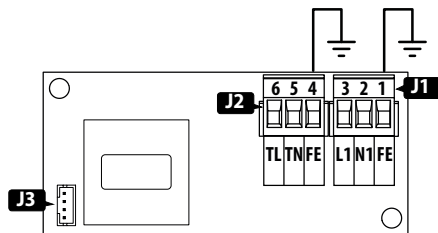
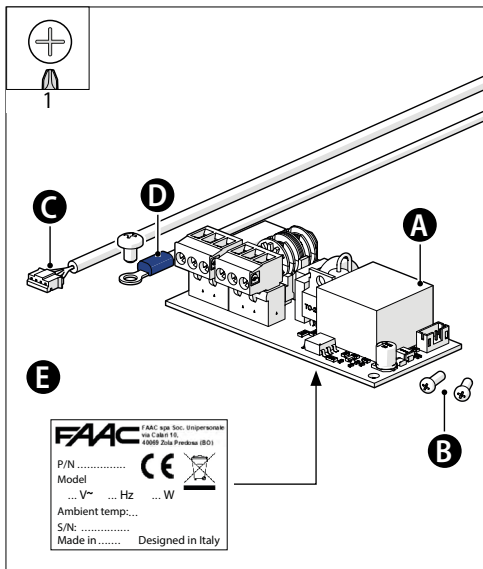
1. Place the battery into the housing and secure it to the mounting supports.
2. Make the connections (see relative instructions).



7.9 LOW ENERGY CONSUMPTION MODULE XLC

The XLC module reduces the power consumption of the electronic boards in stand-by mode to 0.5W max or 2W max if Simply Connect is used (EU 2009/125/EC). With the XLC device, the board will go into low-power mode after 5 minutes of inactivity and exits when one of the following actions is performed:

- Open, close or stop command
- FDS radio command
- Activation of the key switch BUS 2easy
- Command from Simply Connect
- Pressing a button on the board



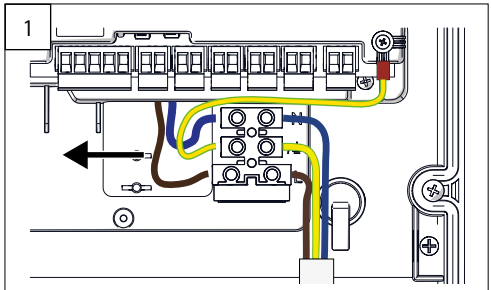
Components

- A XLC Module
- B Fastening screws
- C XLC cable
- D Screw and earth cable*
- E Identification label
- J1 Pull out terminal-board for the power supply
- J2 Pull out terminal-board for the transformer
- J3 XLC connector for E034

*Optional for some installations

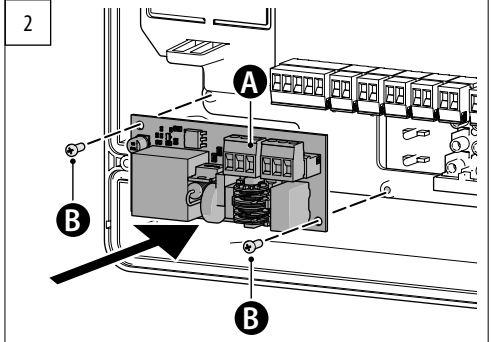
INSTALLING THE XLC IN THE BOARD ENCLOSURE

1. With the power supply switched off, disconnect the transformer phase and neutral and the earth cable from the mains input terminal board.
2. Secure the XLC device **A** using the screws **B**.
3. Connect the phase, the neutral of the transformer and the earth cable to terminal **J2**.
4. Connect the phase, neutral and earth of the mains input terminal board to connector **J1**



i Cables are not supplied for this connection.

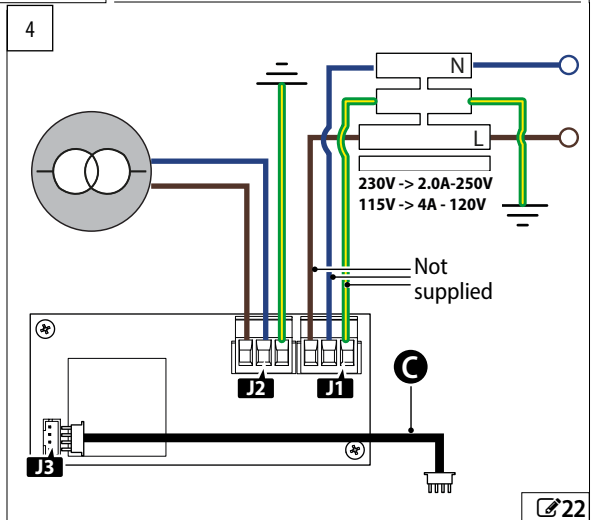
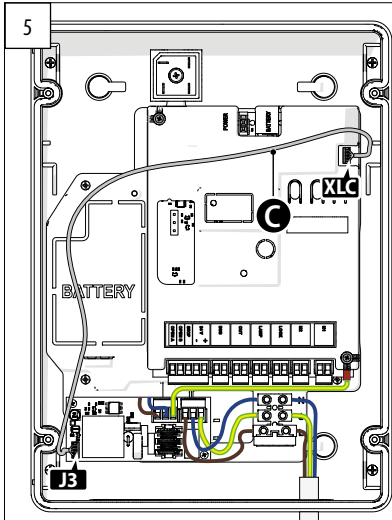
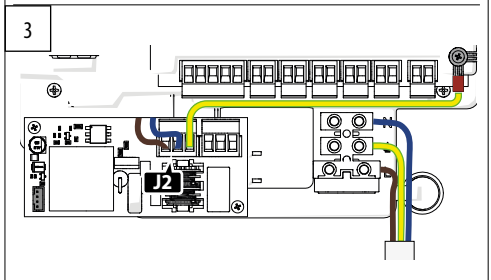
5. Connect cable **C**:
 - Remove the **XLC** pre-cut plastic knockout from the board cover.
 - Connect cable **C** to connector **J3** and the **XLC** connector on the board.



i Do not route the low voltage wiring over the XLC module.

Components

A	XLC Module
B	XLC fastening screws
C	XLC cable
J1	Pull out terminal-board for the power supply
J2	Pull out terminal-board for the transformer
J3	XLC connector for E034



INSTALLING THE XLC MODULE ON THE ACTUATOR

1. With the power supply switched off, secure the XLC A device using the screws B.
2. Disconnect the phase and neutral of the transformer from the mains input terminal board and connect them to terminal J2.
3. Connect the phase and neutral of the mains input terminal board to connector J1

i Cables are not supplied for this connection.

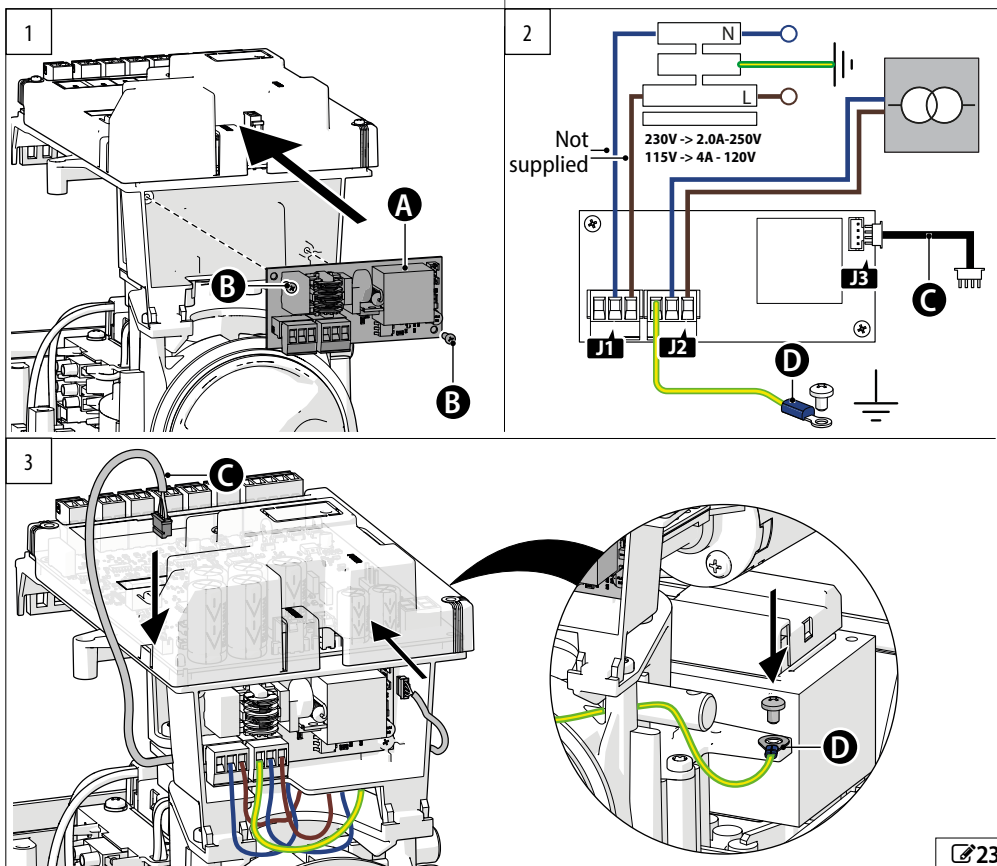
4. Connect cable C:
 - Remove the XLC pre-cut plastic knockout from the board cover.
 - Connect cable C to connector J3 and the XLC connector on the board.

i Do not route the low voltage wiring over the XLC module.

5. Earth the module:
 - Connect the earth wire D to terminal J2 and attach it to the actuator as shown in figure 23-3.

Components

A	XLC Module
B	Fastening screws
C	XLC cable
D	Screw and earth cable supplied with XLC
J1	Pull out terminal-board for the power supply
J2	Pull out terminal-board for the transformer
J3	XLC connector for E034



8. UPDATING THE FIRMWARE

The XUSB module (supplied separately) and a suitable USB memory device (not supplied) can be used to load the firmware (FW) to the board.

USB device requirements Maximum power consumption 500 mA. Formatted with the FAT or FAT 32 file system (the board does not recognise other file systems).

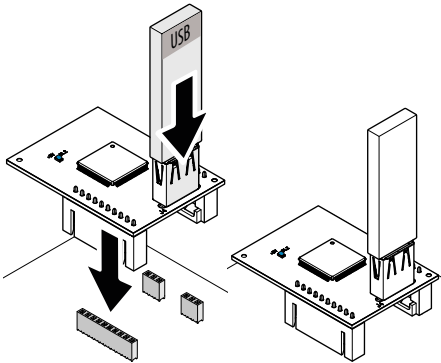
Firmware (FW) The E034 FW is supplied by FAAC in a compressed file.

Valid files The names of the files are made up as follows:

E034 board name
 _xx revision number: _01, _02...
 .xxx file extension: hex(FW file)

8.1 INSERT THE XUSB WITH USB

1. Extract the FW file and save it in the root of the USB device, without changing the original filename (E034_xx.hex).
2. Insert the USB device onto the XUSB module. Then, with the power disconnected, insert the XUSB onto the E034 (CONNECTIVITY connectors).



3. Carry out the UPGRADE or DOWNGRADE procedure (see specific section).

8.2 UPGRADE - LOAD THE NEW FW

This procedure is available when there is a more recent FW version on the USB device compared to the one on the board.

1. After having inserted the XUSB and the USB memory device, turn on the board.
 - The board display shows 2 alternating dots (.), then the FW update starts automatically.
 - The board display shows the percentage progress (00-99) and lastly shows 2 alternating dashes (--).
2. Exit from the procedure:
 - switch off the power supply, remove the XUSB. Then switch the board back on and check the FW version.

8.3 DOWNGRADE - LOAD A PREVIOUS FW VERSION

This procedure is available when there is the same or an older version of the FW on the USB device compared to the one on the board.

1. After having inserted the XUSB and the USB memory device, turn on the board.
 - The board display shows no.
2. Press **+** or **-** to display 3, then press and release **F** (confirm 3).
 - The board display shows the percentage progress (00-99) and lastly shows 2 alternating dashes (--).
3. Exit from the procedure:
 - switch off the power supply, remove the XUSB. Then switch the board back on and check the FW version.

■ If you do NOT wish to downgrade the FW

- Press **F** at step 2 when the board display shows no.
- The board display shows 2 alternating dashes (--). To exit the procedure, carry out step 3.

■ Errors

If there is an error, the LED DL1 on XUSB flashes quickly. Switch the power off and on again; then repeat the procedure from the beginning.

9. DIAGNOSTICS

9.1 DISPLAY SIGNALS

Figure 24 indicates the status of the LEDs in bold with the board powered and no connected device active (●=on; ○=off).

9.2 FIRMWARE VERSION

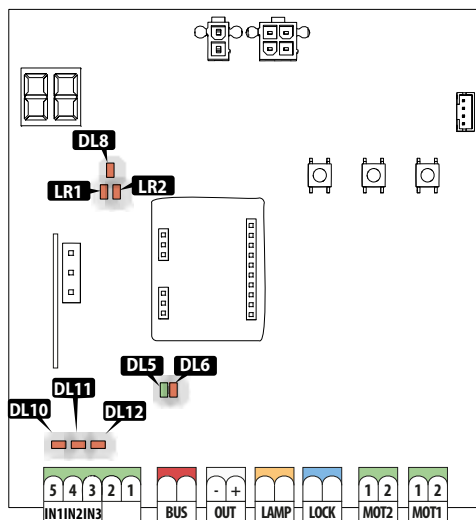
The firmware version is show on the display for 5 seconds each time it is switched on.

9.3 CHECKING THE MOVEMENT

Access basic programming and use function $\square 2$ for Leaf2 (displayed if the automation is configured for 2 leaves) and function $\square 1$ for Leaf1.

1. The function displays --.
2. Use buttons + and - in dead man mode:
 - + to OPEN ($\square P$ on the display)
 - to CLOSE ($\square L$ on the display)

Otherwise, temporarily disconnect the power supply and invert the polarity of the motor connection.



7 LED diagnostics

LED	Colour	Meaning	●	○	*	*
DL5	green	BUS 2easy operation	see § BUS 2easy devices			
DL6	red	BUS 2easy line diagnostics				
DL10	red	OPEN A (total opening)	Active	not active	-	-
DL11	red	OPEN B/CLOSE (partial opening/closing)	Active	not active	-	-
DL12	red	STOP	Not active	Active	-	-
DL8	Errors/alarms	Board faulty signal	Errors/alarms present	No errors/alarms		
LR1	red	Radio channel 1 activity	Receiving command	Idle	-	-
LR2	red	Radio channel 2 activity	Receiving command	Idle	-	-

●=on ○=off * =slow flashing * =fast flashing

9.4 AUTOMATED SYSTEM STATUS

The display, other than in the programming menu, provides information regarding the status of the automation system:

8 Automated system status

- | | |
|---------------------------|------------------------------|
| 00 closed | 05 opening |
| 01 open | 06 closing |
| 02 stationary then opens | 09 pre-flashing then opens |
| 03 stationary then closes | 10 pre-flashing then closes |
| 04 paused | 50 (flashing) SETUP required |

9.5 ERROR CODES, ALARMS, INFO

When LED DL8 is lit, the current notifications can be viewed on the display (e.g. E-07, or multiple notifications e.g. E-07 16):

- when the board is not in the programming menus, press **+** and **-** at the same time.

9 Errors, Alarms, Info

00	No notification	
01	Board failure	Perform RESET. If the problem persists, replace the E034.
5L	Radio mode present SLH, SLH LR, LC, RC, DS	
Fd	Radio mode present FDS	
06	Encoder 2 failure	Make sure that the encoder is connected properly. If the problem persists, replace the encoder.
07	Motor 1 fault	Motor disconnected or short-circuited.
08	Motor 2 fault	Check the wiring. If the problem persists, replace the motor.
13	Radio blocked	The current radio codes are not compatible with the installed radio module. Clear the radio controls, or change the radio module type. The module has been removed or is damaged.
14	Local radio control disabled	The radio controls can only be managed via Simply Connect.
20	Failsafe test failed	Device Failsafe test failed. Check the connections, programming, and that the safety devices are working correctly.
22	Programming data corrupted	Programming data NOT valid or corrupted. Repeat BUS 2easy programming and the registration.
23	Wrong encoder	A BUS 2easy encoder has been registered that does not match the number of motors selected. Correct the number of motors in basic programming.
24	Consecutive obstacles in closing	The programmed number of consecutive obstacles in closing has been reached. Remove the obstacle. If the problem persists, repeat the SETUP.
28	Low power consumption module fault XLC	Check the connections of the low-power module XLC. If the problem persists, replace the module.
30	Flashing light short circuit / overload	Check the flashing light connection.
31	Consecutive obstacles in opening	The programmed number of consecutive obstacles in opening has been reached. Remove the obstacle. If the problem persists, repeat the SETUP.
32	Motion timeout	The movement is in timeout. Check the manual release of the motors. Check the presence of mechanical stops. If limit switches are installed, make sure that they activate correctly. If the problem persists, replace the board or motor.

Error (number on white background) **Alarm** (number on grey background) **Info** (i).

9 Errors, Alarms, Info

35	BUS 2easy device fault / conflict	Check the addresses of the devices.
36	BUS 2easy short circuit / overload	Check the connections of the BUS 2easy devices that are connected and registered.
38	Programming parameters changed	Modified programming, NOT consistent with the SETUP. E.g. 2-leaf operation has been enabled after having carried out the SETUP for a single leaf, (reprogram Γ = I or repeat the SETUP). Restore the previous settings or run the SETUP procedure.
39	SETUP incorrect or missing	Perform SETUP.
42	(i) Partial open	Automation is in partial open mode.
51	Obstacle detected when closing	Make sure that the sensitive edges are programmed correctly. The notification disappears on the next movement.
52	Obstacle detected when opening	Make sure that the sensitive edges are programmed correctly. The notification disappears on the next movement.
53	Number of cycles corrupted	Carry out the scheduled maintenance of the system.
54	LOCK fault	Check the LOCK connection. Remove the cause of the short circuit.
56	(i) Battery operation	The notification remains as long as the automation is operating on the battery due to a mains power failure.
60	Maintenance request	Ask the installer to carry out scheduled maintenance.
61	Obstacle detected Leaf1	An obstacle that prevents the leaf from moving has been detected. Remove the obstacle.
62	Obstacle detected Leaf2	
65	SETUP in progress	SETUP is in progress. The notification remains as long as the phase is in progress
76	Radio code memory full	The radio memory is full. Simply Connect allows you to delete any unused radio codes. Use an additional MiniDec/DECODER/RP module if necessary.
80	Safeties in opening disabled	The opening safety devices have been disabled (via Simply Connect).
81	Safeties in closing disabled	The closing safety devices have been disabled (via Simply Connect).
82	Opening sensitive edge disabled	The opening sensitive edges have been disabled (via Simply Connect).
83	Closing sensitive edges disabled	The closing sensitive edges have been disabled (via Simply Connect).
87	BUS 2easy device registration in progress	A registration procedure is in progress.
90	Programming in progress	Programming in progress, e.g. maintenance (via Simply Connect).
99	Control board data deletion	All data on the E034 has been deleted.
107	(i) Acquiring radio on channel 1 in progress	Radio channel 1 is being memorized.
108	(i) Acquiring radio on channel 2 in progress	Radio channel 2 is being memorized.
110	(i) Board Display locked	The display of the E034 is locked (via Simply Connect).

Error (number on white background) **Alarm** (number on grey background) **Info** (i).

10. MAINTENANCE

10.1 RESTORING FACTORY SETTINGS

The procedure:

- restores all the default settings of the board
- deletes the SETUP
- deletes all the radio controls
- resets the cycle counter

1. Start with the board not powered, then switch on the mains power: the display lights up.
2. 2 alternating dots appear on the display for 10 s, then the FW version is shown (e.g. I.□). While the display is showing the FW version, press and hold down the **+**, **-**, **F** buttons for approximately 5 s.

The board restarts. Release the buttons when the alternating dots appear on the display.

At the end of the procedure, **S0** flashes on the display: the SETUP has to be carried out.

i In the 392 C version, at the end of the reset procedure it is necessary to reorient the display (see section § **Changing the orientation of the display**).

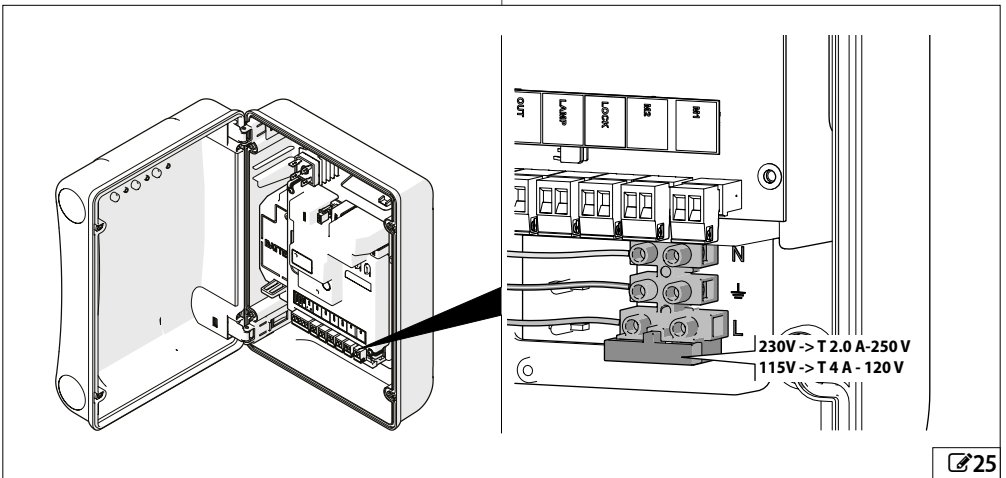
10.2 SCHEDULED MAINTENANCE

The maintenance table (▣ 10) lists the operations that should be performed on a regular basis on the E034 board in order to keep the automation working reliably and safely; these 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.

10.3 REPLACING A FUSE

With the power supply disconnected, remove the fuse holder from the mains input terminal board. Replace the fuse with a Ø 5 mm 20 mm long glass tube fuse of the required rating (▣ 25).

Switch the power back on and check that the board and the connected accessories are on.



10 Scheduled maintenance

Operations	Frequency in months
Electronic equipment	
Check that the power supply and connecting cables and the cable glands are intact.	12
Check that the connectors and wiring are intact.	12
Check that there are no signs of overheating, burning etc. of electronic components.	12
Check that the earth connections are intact.	12
Check the operation of the circuit breaker and differential switch.	12
Control devices	
Check that the installed devices and radio controls are in good condition and that they operate correctly.	12
Sensitive edges	
Check condition, fastening and correct operation.	6
Photocells	
Check condition, fastening and correct operation.	6
Check the posts, ensuring that they are intact, correctly fastened and free of deformation etc.	6
Flashing light	
Check condition, fastening and correct operation.	12
Complete automation system	
Check that the automation operates correctly, according to the set parameters, when using the various control devices.	12
Check that the gate moves correctly - smooth, regular and without abnormal noise.	12
Check that both the opening and closing speed are correct and that the stop positions and slow-downs provided for are respected.	12
Check that the manual release operates correctly: when the release mechanism is activated, it must only be possible to move the gate manually.	6
Check that the maximum force required for manual movement of the gate is below 225 N in residential areas and 390 N in industrial or commercial settings.	6
Check that the sensitive edges operate correctly when an obstacle is detected.	6
Check that each pair of photocells is working correctly.	6
Check that there is no optical/light interference between the pairs of photocells.	6
Check the force limitation curve (standards EN 12453 and EN 12445). For non-EU countries, if there are no specific local regulations, the force must be less than 150 N.	6



Refer to the specific instructions for the devices and the connected operator.
For non FAAC components, refer to the manufacturer's documentation.

10.4 PROGRAMMING THE SCHEDULE MAINTENANCE REQUEST

It is possible to program the number of cycles after which maintenance is required.

When the automation reaches the set number of cycles, there is a pre-flashing of at least 8 s at each movement.

The user should ask the installer to carry out maintenance.

1. In ADVANCED programming, function F5 , select H to enable the maintenance request.
2. In function nB set the value in hundreds of thousands using the $+$ and $-$ buttons.
3. In function nC set the value in thousands using the $+$ and $-$ buttons.
4. In function nD set the value in tens using the $+$ and $-$ buttons.
5. Exit and save the programming.

10.5 CYCLE COUNTER

In ADVANCED programming, go to function F5 , and select nO to enable the cycle counters.

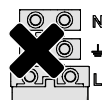
READING THE CYCLES PERFORMED COUNTER

Add together the readings of functions nB (hundreds of thousands), nC (thousands) and nD (tens) in ADVANCED programming.

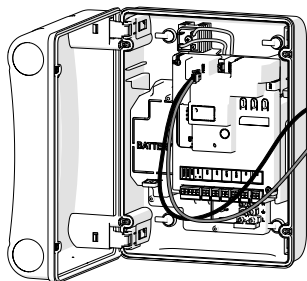
RESETTING THE CYCLE COUNTER

In ADVANCED programming, with function F5 = nO , go to function nD and press $+$ and $-$ for 5 s.

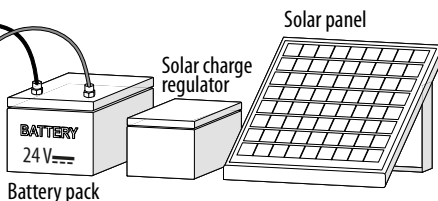
1 Solar panels



XBAT24



Not supplied



RECOMMENDATIONS REGARDING THE INSTALLATION OF THE SYSTEM



All work must be performed exclusively by a qualified and competent technician.

DO NOT power the automation with solar power if the automation is connected to the mains power supply or to XBAT 24. The two systems are alternatives and cannot be used at the same time.

- Calculate the average daily consumption of your system in watts, to size the solar power system. A battery-powered E034 board consumes an average of 2W in standby mode. With 10 daily openings in a typical installation, the consumption rises to 2.5 W.
- Considering 8 hours of sunshine, a solar panel with a power at least 6 times the average continuous consumption is recommended. If the panel is exposed to sunlight for less than 8 hours, the power must be increased proportionally: if there are only 4 hours of sunlight, the power should be doubled.
- The size of the batteries should be chosen according to the autonomy required in the absence of sunshine, due to bad weather.



A minimum autonomy of 4 days is recommended. For a greater autonomy, the amperage of the batteries must be varied proportionally.

CONNECTING TO THE BOARD

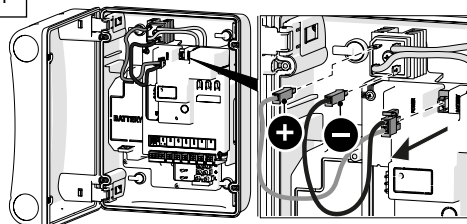
1. Disconnect the POWER cable.
2. Fit the faston connectors to connect them to the positive and negative terminals of the battery.



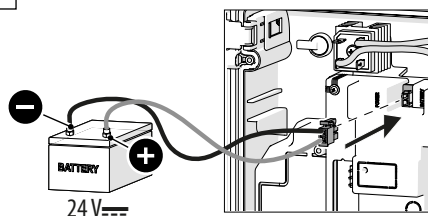
Connect the positive and negative poles of the battery correctly, red is positive and black is negative.

3. Reconnect the cable to the POWER connector.

1



2





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