E2SL
SDK EVO
LK EVO
KS EVO

FAAC

FAAC

CONTENTS

ENGLISH

Translation of the original instructions

F∆∆C

1. ELECTRONIC MODULE E2SL

The E2SL electronic module is designed to control FAAC automation models A1000, A1400 AIR, RKE 1400, SF1400, GBF1500. The installation instructions must be followed.

Motorised pedestrian doors fall within the scope of the type "C" harmonised European Standard EN 16005:2012. It is assumed that automation systems manufactured in accordance with this standard also comply with the essential safety requirements of the Directive 2006/42/EC.

This however does not exempt the manufacturer from carrying out a risk analysis in order to implement appropriate measures for those

risks that are not covered by the standard or by the manufacturers of the components. FAAC S.p.A. recommends that you always comply with the EN 16005:2012 standard and in particular that you adopt the criteria and safety devices indicated, without exception.
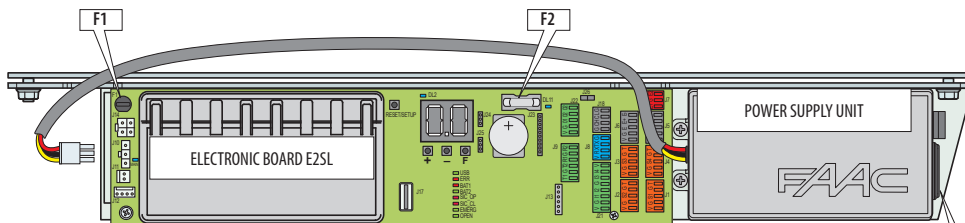
Fuses

F1	battery protection	8 A F (quick)
F2	accessory protection	2 A F (quick)
F3	power supply unit primary protection	2.5 A T (delayed) 5x20 mm

Switching power supply 230 V~ +6% -10% self-protected from overloads

F3 (removable support)

Mains power supply input (230V~ +6% -10%)

ELECTRONIC BOARD E2SL

POWER SUPPLY UNIT

✍ 1

BOARD E2SL

SW1 SETUP RESET

Display

Clock battery: lithium 3V CR2032 (NOT SUPPLIED)

DO NOT remove this cover

SW3 + SW2 − SW4 F
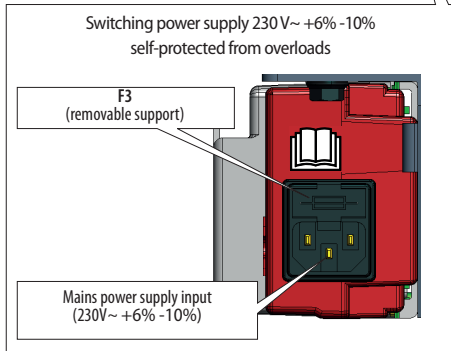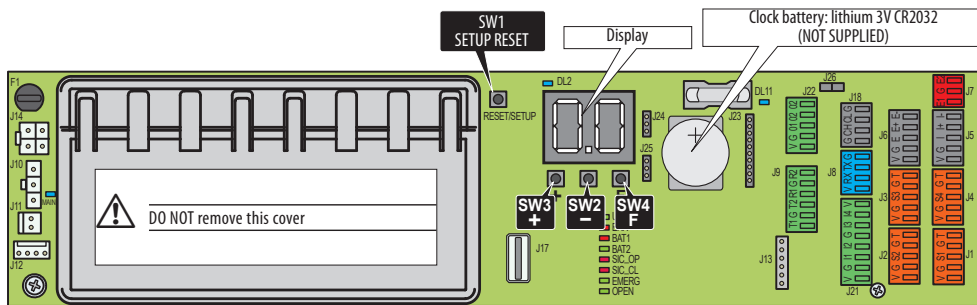
Buttons

SW1	SETUP (pressed for 5 s) / RESET (pressed momentarily)
− (SW2)	scrolls programming values
+ (SW3)	scrolls programming values , when not in programming mode, performs AUTOMATIC OPENING (pressed for 1 s)
F (SW4)	programming: scrolls functions/confirms values

✍ 2

STATUS LEDS ON THE BOARD
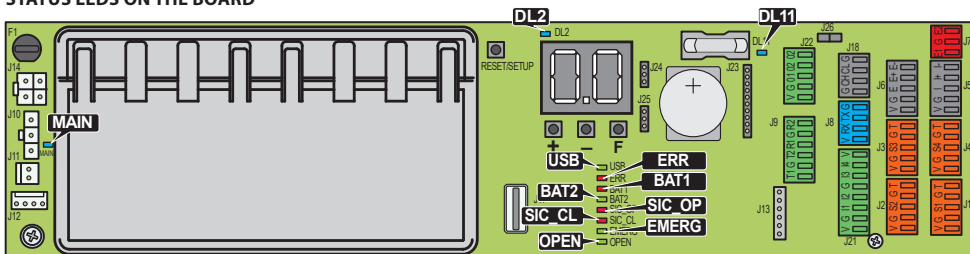
MAIN	BLUE	main power supply unit input
DL2	BLUE	board power +5V
DL11	BLUE	accessories power (+24 V ⎓)
USB	GREEN	USB storage device
ERR	RED	error or alarm
BAT1	RED	battery status
BAT2	GREEN	battery charger status
SIC_OP	RED	safety in opening
SIC_CL	RED	safety in closing
EMERG	GREEN	emergency command
OPEN	GREEN	OPEN command

SIC_OP and SIC_CL lit simultaneously = safety STOP

✎ 3

TERMINAL BOARDS AND CONNECTORS
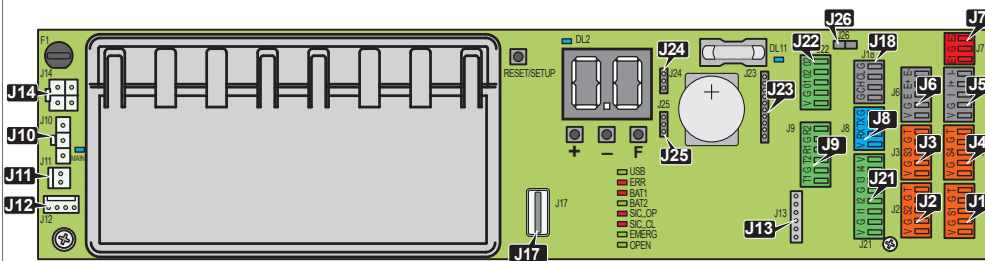
J1	Removable terminal board configurable inputs S1		**J12**	Connector for motor M1 encoder
J2	Removable terminal board configurable inputs S2		**J13**	Connector for motor block and monitoring
J3	Removable terminal board configurable inputs S3		**J14**	Connector for emergency battery
J4	Removable terminal board configurable inputs S4		**J17**	USB port
J5	Removable terminal board configurable inputs I		**J18**	Removable terminal board INTERCOM
J6	Removable terminal board configurable inputs E		**J21**	Removable terminal board configurable inputs I1, I2, I3, I4
J7	Removable terminal board configurable inputs E1, E2		**J22**	Removable terminal board configurable outputs O1, O2
J8	Removable terminal board keypad or EVO functions selector		**J23**	
J9	Removable terminal board for button photocells		**J24**	Connectors for Simply Connect (accessory device)
J10	Connector for main power supply 36 V, 4 A		**J25**	
J11	Connector for motor M1		**J26**	Jumper INTERCOM

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FAAC

2. DM BOARD

A DM board must be installed on automations fitted with a double motor.

INSTALLING THE DM BOARD

⚠ Before proceeding, disconnect the mains power supply and disconnect the emergency battery (if present).

1. Remove the E2SL board: remove all the connections, the screw (**1**) and the screw with washer (**2**), then remove the board from the support (**3**).
2. Unscrew the 2 screws (**4**) and remove the plastic cap, pulling out the 2 pins (**5**).
3. **Install the DM** board   Refer to ✎ **6**, install the 4 posts (**6**) on the E2SL board and fasten them using the screws provided (**7**).   Insert the 2 comb connectors into the connectors of the E2SL board as far as the connector (**8**).   Insert the DM board (**9**) on the side opposite the comb connectors, as far as the connector (**8**).   Fasten the DM board onto the 4 posts using the screws provided (**10**).
4. Replace the plastic cap, inserting the 2 pins (**5**) into the board E2SL.   Fasten it using the 2 screws (**4**).
5. With reference to ✎ **5**, Reinstall the E2SL board into the seats (**3**).   Fix in position with the screw (**1**) and the screw with washer (**2**).   **IMPORTANT**: the washer provides the board's earth connection.
6. Restore all connections.

CONNECTING THE SECOND MOTOR

1. Extend the motor cable using the cable with connector and the terminal connector provided.
2. With reference to ✎ **7**, insert the connector (**11**) onto the board DM (**12**). Follow the colour coding of the wires.

ENABLING THE DM KIT

During programming:
- **from Board**, advanced programming: dⁿ = Ⴘ

or
- **from SDK EVO**:
🔧 /PROGRAMMING/INSTALLATION/2ND ENGINE KIT = ENABLED

Removing/reinstalling the E2SL board
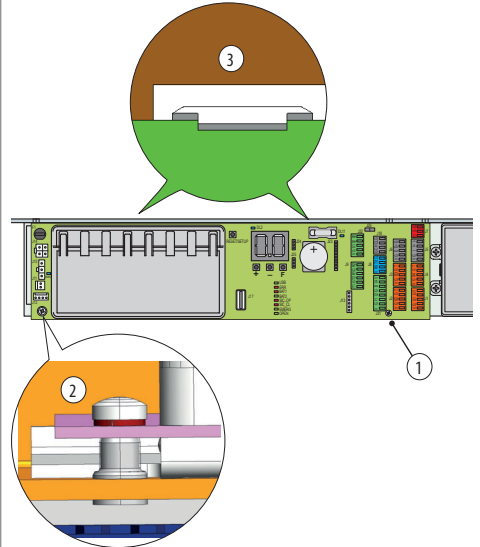
Removing/reinstalling the cap
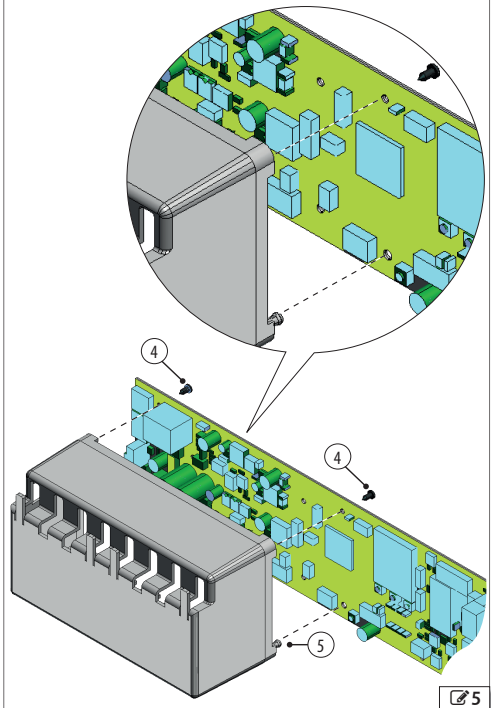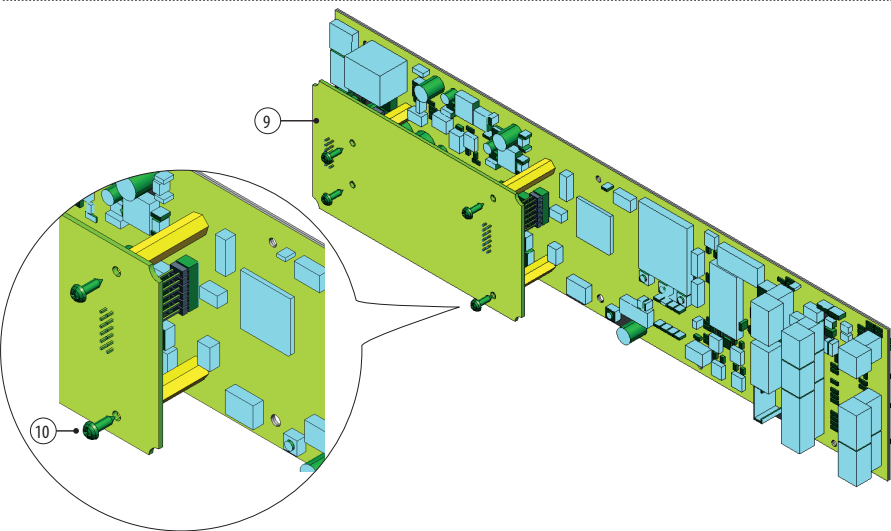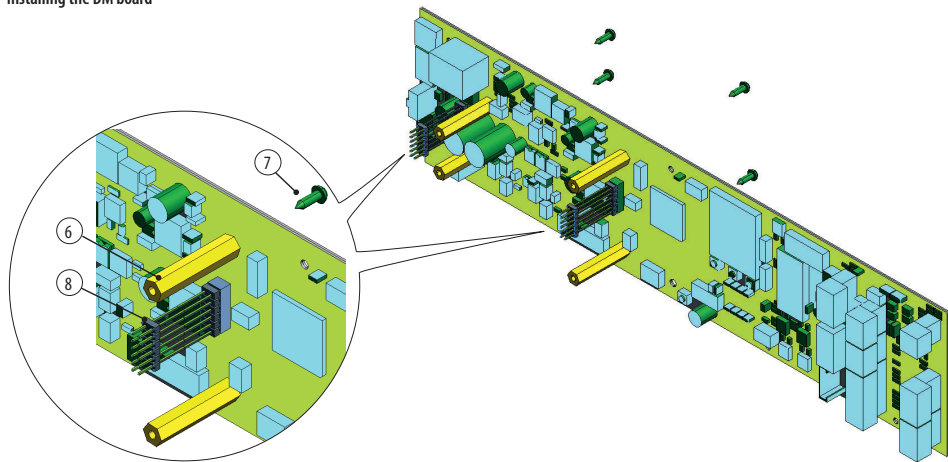
✎ 5

Installing the DM board

7
6
8

9
10

✎ 6

2nd MOTOR connection

red
black
11
12

✎ 7
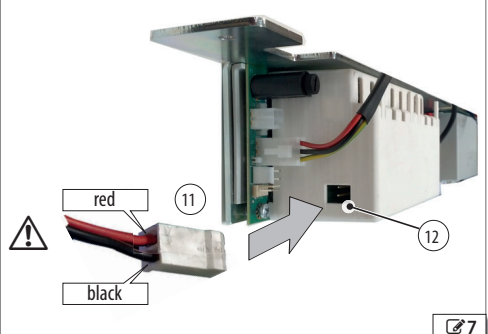
3. OPERATING MODE (MODFUN)

The operating mode of the automation can be assigned using the devices shown in the table on this page (⊞ Assigning the Operating mode) and from the TIMER (TIMER § Section).

Note: if more than one device is used to assign the operating mode, the order of priority is: TIMER, Configured input, Function selector (KS EVO, LK EVO, SDK EVO).

■ AUTOMATIC mode

The automation CLOSES AUTOMATICALLY after the programmed pause time.

When not in programming mode, the command can also be executed by pressing the **+** BUTTON for 1 s.

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

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

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

■ AUTO MANUAL mode

The automation allows MANUAL OPENING and CLOSES AUTOMATICALLY after the set pause time.

■ MANUAL mode

The leaves are free to move and may only be manually operated. No command is active.

Before exiting from this mode, make sure that the leaves can be moved safely. When you exit from MANUAL mode, the board will carry out a RESET.

■ OPEN mode

The automation opens and remains open.

■ NIGHT-TIME mode

The automation closes and remains closed. External Opening is disabled. Internal Opening is enabled only in the time interval programmed as NIGHT-TIME MODE DELAY.   It can only be opened via Key, Emergency Opening and Pharmacy open inputs (with automatic closing after the NIGHT PAUSE time).

■ INTERLOCK mode

The opening of one automation is subject to the closing of another (§ INTERLOCK Section). INTERLOCK can be selected for TWO-DIRECTIONAL transit, ENTRY ONLY, or EXIT ONLY.

⊞ **1**   Assigning the Operating mode

Function (*) = NOT available for SF1400 and GBF1500		SDK EVO	LK EVO/KS EVO	Programming the configurable input
AUTOMATIC TWO-DIRECTIONAL	TOTAL	100%	↑↓	-
	PARTIAL (*)	%	❄	45
AUTOMATIC EXIT ONLY	TOTAL	100%	↑	41
	PARTIAL (*)	%	-	-
AUTOMATIC ENTRY ONLY	TOTAL	100%	-	42
	PARTIAL (*)	%	-	-
AUTO MANUAL	TOTAL	100%	-	47
	PARTIAL (*)	%	-	-
MANUAL				44
OPEN	TOTAL	100%	↔	40
	PARTIAL (*)	%	-	-
NIGHT	TOTAL	100%	☾	43
	PARTIAL (*)	%	-	-
INTERLOCK TWO-DIRECTIONAL	TOTAL	100%	-	46
	PARTIAL (*)	%	-	-
INTERLOCK EXIT ONLY	TOTAL	100%	-	-
	PARTIAL (*)	%	-	-
INTERLOCK ENTRY ONLY	TOTAL	100%	-	-
	PARTIAL (*)	%	-	-

4. CONNECTIONS

RISKS

⚡

PERSONAL PROTECTIVE EQUIPMENT

🧤

REQUIRED TOOLS

⊖ ✎

⚡ Before working on the board, always turn off the mains power supply and disconnect the emergency battery (if present). Turn the power back on only after completing all the electrical connections and carrying out the preliminary start-up checks.

ⓘ The maximum total load of accessories connected to the board (+24 V ⎓) must not exceed 1A (except SDK EVO).

1. The motor M1 must be connected to connector J11.
2. The encoder must be connected to connector J12.
3. A DM board must be installed on automations fitted with a double motor in compliance with the instructions provided in the specific § chapter.
4. For connecting additional devices, where present, please refer to the specific chapters:
- XB LOCK or XM LOCK or LOCK motor block
- XFA button photocells
- XV1 or XDT1 detectors, single or double, exit and entry, for opening and safety in closing
- XBFA ON detectors for safety in opening
- Configurable inputs
- Configurable outputs
- LK EVO, KS EVO, SDK EVO function selectors

Motor M1 and encoder connection

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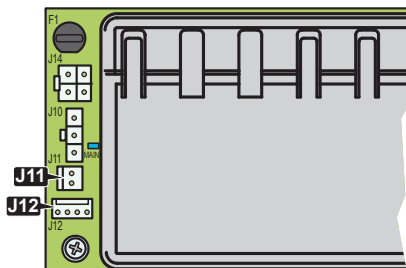
5. CONFIGURABLE INPUTS

Configurable inputs have an assigned function (⊞ Configurable inputs - DEFAULT), which is modifiable in programming (⊞ Configurable inputs - AVAILABLE SETTINGS).   Some functions vary if the Energy Saving is active (relative § Section).

CONNECTIONS

Only connect devices with a volt free contact to configurable inputs. The contact of the device must be connected between the input and GND.

I1, I2, I3, I4 (TERMINAL BOARD J21)

V	+24 V ⎓ accessories power supply
I4	Configurable input
I3	Configurable input
G	**GND** Accessories power supply negative and Common contacts
I2	Configurable input
I1	Configurable input
G	**GND** Accessories power supply negative and Common contacts
V	+24 V ⎓ accessories power supply

S1 (J1), S2 (J2), S3 (J3), S4 (J4)

T	TEST
G	GND Power supply negative and Common contacts
S1	Configurable input
G	GND Power supply negative and Common contacts
V	+24 V ⎓ (accessories power supply)

T	TEST
G	GND Power supply negative and Common contacts
S2	Configurable input
G	GND Power supply negative and Common contacts
V	+24 V ⎓ (accessories power supply)

T	TEST
G	GND Power supply negative and Common contacts
S3	Configurable input
G	GND Power supply negative and Common contacts
V	+24 V ⎓ (accessories power supply)

T	TEST
G	GND Power supply negative and Common contacts
S4	Configurable input
G	GND Power supply negative and Common contacts
V	+24 V ⎓ (accessories power supply)

I (J5), E (J6)

I-	not used
I+	not used
I	Configurable input
G	GND Power supply negative and Common contacts
V	+24 V ⎓ (accessories power supply)

E-	not used
E+	not used
E	Configurable input
G	GND Power supply negative and Common contacts
V	+24 V ⎓ (accessories power supply)

E1, E2 (TERMINAL BOARD J7)

E2	Configurable input
G	GND Accessories power supply negative and Common contacts
E1	Configurable input

⊞ **2** Configurable inputs - DEFAULT

Input (terminal board)	Default Programming from SDK EVO (NO/NC logic)	from Board: Function
I1	External OPENING (NO)	C1 (1)
I2	Internal OPENING (NO)	C2 (4)
I3	KEY (NO)	C3 (10)
I4	Automatic Opening (NO)	C4 (7)
S1 (J1)	EXT Closing Safety (NC)	P1 (24)
	TEST enabled	*1F (4)
S2 (J2)	INT Closing Safety (NC)	P2 (25)
	TEST enabled	*2F (4)
S3 (J3)	Disabled	P3 (no) *3F
S4 (J4)	Disabled	P4 (no) *4F
I (J5)	Disabled	Id (no) *IF
E (J6)	Disabled	Ed (no) *EF
E1 (J7)	Disabled	E1 (no) *1F
E2	Disabled	E2 (no) *2F

(∗) not displayed when the test is not available for the function

Grey background = basic programming   White background = advanced programming
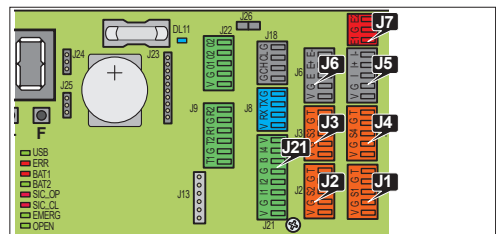
PROGRAMMING

For the available options, see the table ⊞ Configurable inputs - AVAILABLE SETTINGS and the subsequent sections.   The input is activated according to how the contact logic is programmed:

NO = the input activates when the contact closes

NC = the input activates when the contact opens

- **from Board**:

Basic Programming for the inputs of terminal board J21.   Advanced Programming for the inputs of terminal boards J1, J2, J3, J4, J5, J6 and J7.

The default contact logic can only be modified via the SDK EVO.   The test (¹F, ²F ...) is only available for the inputs configured as Opening Safety, Closing Safety and Safety STOP.

- **from SDK EVO**:

🔧/PROGRAMMING/INPUTS/OUTPUTS . . .

. . . INPUTS I1-I4 , S1-S4 , I/E , E1/E2 (select the input)

. . . FUNCTION (assign the function no . . . 61)

. . . NO/NC (the contact logic must be programmed according to the type of contact of the device)

. . . TEST (available for inputs configured as Safeties)

from SDK EVO	from Board
DISABLED	ⁿ⁰
EXTERNAL OPEN	¹ (NO)
INTERNAL OPEN	⁴ (NO)
AUTOMATIC OPEN	⁷ (NO)
SEMI-AUTOMATIC OPEN	⁸ (NO)
PHARMACY OPEN (NOT for SF1400 and GBF1500)	⁹ (NO)
KEY OPEN	¹⁰ (NO)
PARTIAL OPEN (NOT for SF1400 and GBF1500)	¹¹ (NO)
CLOSING SAFETY (TEST available)	²⁰ (NC)
OPENING SAFETY (TEST available)	²¹ (NC)
SAFETY STOP (TEST available)	²³ (NC)
EXTERNAL CLOSING SAFETY (TEST available)	²⁴ (NC)
INTERNAL CLOSING SAFETY (TEST available)	²⁵ (NC)
EMERGENCY OPEN	³⁰ (NC)
EMERGENCY OPENING with MEMORY	³¹ (NC)
EMERGENCY STOP	³² (NC)
EMERGENCY STOP with MEMORY	³³ (NC)
EMERGENCY CLOSE	³⁴ (NC)
EMERGENCY CLOSE with MEMORY	³⁵ (NC)
EMERGENCY BREAKOUT OPEN	³⁷ (NC)
EMERGENCY BREAKOUT STOP (dual contact function)	³⁸ (NC)
MODFUN OPENED	⁴⁰ (NO)
MODFUN EXIT ONLY	⁴¹ (NO)
MODFUN ONLY IN	⁴² (NO)
MODFUN NIGHT	⁴³ (NO)
MODFUN MANUAL	⁴⁴ (NO)
MODFUN PARTIAL (NOT for SF1400 and GBF1500)	⁴⁵ (NO)
MODFUN INTERLOCK	⁴⁶ (NO)
MODFUN AUTO MANUAL	⁴⁷ (NO)
TIMER	⁶⁰ (NO)
RESET	⁶¹ (NO)

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AUTOMATIC OPENING INPUTS

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

EXTERNAL OPENING (1) Input specifically for external control devices. The input is disabled in NIGHT-TIME or EXIT ONLY mode.

INTERNAL OPENING (4) Input specifically for internal control devices. The input is disabled in ENTRY ONLY mode. In NIGHT-TIME mode, the input is enabled only in the time interval programmed as NIGHT-TIME MODE DELAY.

AUTOMATIC OPENING (7) The input is disabled in NIGHT-TIME mode (it is enabled in EXIT ONLY and ENTRY ONLY mode).

PHARMACY OPEN (9) In NIGHT mode, the command opens the leaves to the percentage programmed in PARTIAL PHARMACY. The input opens the leaves automatically in the other operating modes.

KEY (10) Command also enabled in NIGHT-TIME mode.

PARTIAL OPEN (11) Partially opens the automation to the programmed percentage. It is NOT enabled in the NIGHT mode.

SEMI-AUTOMATIC OPEN INPUT

(8) When the input is activated with the automation closed, the automation opens (TOTAL or PARTIAL according to the operating mode selected) and remains open. When the input is activated with the automation open, it closes it.

The input is NOT active in NIGHT-TIME mode.

SAFETY INPUTS

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

On the inputs configured as Safeties, the Test to make sure that the automation works correctly must be enabled before movement takes place. If the test isn't passed, movement is inhibited (TEST ERROR). Alternatively, from SDK EVO it is possible to enable movement in Low Energy mode.

🔧 /PROGRAMMING/MISCELLANEUS/TEST ERROR

ENABLED = movement inhibited

DISABLED = movement in Low Energy mode

CLOSING SAFETY (20) Connect the closing safety devices. When this input is activated:
- during closing, the automation reverses the movement
- when the automation is open, it prevents it from closing
- when the automation is paused, it resets the pause time

OPENING SAFETY (21) Connect the opening safety devices. When the input is activated during opening, the effect depends on the programming:
STOP the movement stops until the safety in opening is disengaged; it then continues to open
Low Energy the movement slows down until fully open
- **from Board** Advanced Programming: ⎓Ot (1 = STOP 2 = Low Energy)
- **from SDK EVO**: 🔧 /PROGRAMMING/MISCELLANEUS/OPENING SAFETY FUNC.

SAFETY STOP (23) When this input is activated, the automation stops and remains stopped. When the input is deactivated, it starts to move again.

EXTERNAL CLOSING SAFETY (24) As **CLOSING SAFETY (20)** but intended exclusively for the detector located outside the premises.

INTERNAL CLOSING SAFETY (25) As **CLOSING SAFETY (20)** but intended exclusively for the detector located inside the premises.

EMERGENCY INPUTS

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

If more than one EMERGENCY input is activated that have different configurations, the order of priority is: Emergency Opening, then Emergency Stop, then Emergency Closing.

- **Programmed input WITH NO MEMORY:** when the status of the input is restored, the automation starts to operate normally again.
- **Programmed input WITH MEMORY:** when the status of the input is restored, a RESET has to be carried out in order for the automation to start operating normally again.

EMERGENCY OPENING (30), EMERGENCY OPENING WITH MEMORY (31) When the input is activated, the automation opens (always TOTAL opening) and remains open as long as the emergency is active.

EMERGENCY STOP (32), EMERGENCY STOP WITH MEMORY (33) When the input is activated, the automation stops and remains stopped as long as the emergency is active.

EMERGENCY CLOSING (34), EMERGENCY CLOSING WITH MEMORY (35) When the input is activated, the automation closes and remains closed as long as the emergency is active.

EMERGENCY BREAKOUT OPEN (37) - **For entrances with automatic rearming** (e.g.: CF=5). When the input is activated (following a leaf breakout), the automatic rearming function is activated: when the safety detector is disengaged, the automation opens slowly and the leaves are re-engaged. Then, after 10 s, the operation of the automation is restored.

EMERGENCY BREAKOUT STOP (38) - **Double contact function for entrances with mechanical breakout system XBO.** The automation stops when the pair of inputs is activated (following the breakout of a semi-fixed leaf). The leaf has to be rearmed in order for operation to be restored.

Connect the pair of leaf detection micro switches to a pair of configurable inputs and program the main input with the value 38 (the same programming is also automatically assigned to the associated input).

■ Example

1. Connect the 2 micro switches to inputs **E1**, **E2** and to the common contact **G**, on terminal board **J7**:

micro switch 2
micro switch 1
one leaf
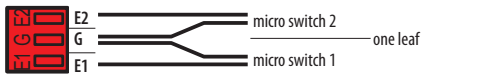
2. Configure the main input of the pair:
- **from board**:
In advanced programming on the: E1 = 38 (also E2 = 38)

- **from SDK EVO**:
🔧 /PROGRAMMING/INPUTS/OUTPUTS/ E1, assign FUNCTION 38, then the NC contact logic according to the type of contact of the device (the same programming is automatically assigned to E2).

ⓘ The main/associated configurable input pairs are as follows:

Main input (terminal board) / Function		Associated input	
I1 (J21)	/C1*	**I2** (J21)	/C2
I3 (J21)	/C3*	**I4** (J21)	/C4
S1 (J1)	/P1**	**S2** (J2)	/P2
S3 (J3)	/P3**	**S4** (J4)	/P4
I (J5)	/Id**	**E** (J6)	/Ed
E1 (J7)	/E1**	**E2** (J7)	/E2

* basic programming   ** advanced programming

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OPERATING MODE INPUTS

These inputs allow an operating mode to be selected (§ specific Section). When the input is deactivated, the automation reverts to the mode that was previously selected.

Operating mode order of priority: Manual **(44)**, Night Total **(43)**, Open Total **(40)**, Automatic Exit Only Total **(41)**, Automatic Entry Only Total **(42)**, Automatic Two-directional Partial **(45)**, INTERLOCK Two-directional Total **(46)**, Auto Manual Total **(47)**.

TIMER INPUT

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

RESET INPUT

(61) This input carries out a RESET (§ Specific section).

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6. CONFIGURABLE OUTPUTS

The configurable outputs allow warnings to be generated from the board under certain conditions. These outputs have an assigned function (⊞ Configurable outputs - DEFAULT), which are modifiable in programming.

Carry out the programming, then make the connections.

PROGRAMMING

For the available options, see the table ⊞ Configurable outputs - AVAILABLE SETTINGS and subsequent sections.

The output is activated according to how the contact logic is programmed:

NO = the contact closes when the output is active

NC = the contact opens when the output is active

- **from Board** Advanced Programming: $o1$, $o2$. The contact logic is assigned by Default.

or

- **from SDK EVO**: 🔧/PROGRAMMING/INPUTS/OUTPUTS . . .

. . .OUTPUTS 01/02 (select the output)

. . .FUNCTION (select no, 1 . . . 15)

. . .NO/NC (the output contact logic has to be programmed)

DISABLED (0)

GONG (1) indicates that at least one input configured as safety in closing/Stop is active. Indicated at 1 s intervals.

ERROR (2) indicates an error, or INTRUSION in NIGHT-TIME mode, or a LOCK fault in NIGHT-TIME mode event is active.

BATTERY (3) indicates that the automation is operating on the battery, as there is no mains power.

EMERGENCY ACTIVE (4) indicates that at least one input configured as emergency is active.

SAFETIES TEST (5) carries out a test on the devices connected to the inputs configured as Safeties and with TEST enabled.

DOOR NOT CLOSED (6) indicates that the automation is NOT closed.

DOOR OPEN (7) indicates that the automation is open.

DOOR MOVING (8) indicates that the automation is moving.

LIGHT (9) switches on the courtesy light when the automation starts to open. The output remains active for 60 s (time can be modified via the SDK EVO up to 240 s).

INTRUSION ACTIVE (10) when the automation is closed, indicates an unexpected opening (the encoder detects a movement of more than 1 cm).

CLOSING SAFETY (11) indicates that at least one Safety in Closing is active.

SAFETIES (12) indicates that at least one Safety in Closing or Opening is active.

AIRSLIDE SP1 (13) indicates that the air is activated at speed SP1 when the AIRSLIDE is in manual.

AIRSLIDE SP2 (14) indicates that the air is activated at speed SP2 when the AIRSLIDE is in manual.

LOCK (15) indicates that the Motor block is on.

Simply Connect (16) indicates that the programming is in progress from Simply Connect.

TIMER (17) signals that a TIMER mode function is in progress.

PEOPLE IN NUMBER (18) indicates that the programmed number of people in the premises has been reached.

TRAFFIC LIGHT EXT (19) activates RED to authorize the passage of one person at a time and when the maximum programmed number of people has been reached.

TRAFFIC LIGHT INT (20) activates RED to authorize the passage of one person at a time.

LOW BATTERY (23) indicates that the charge level of the emergency battery is too low for the movements to be carried out.

NIGHT (24) indicates that the door is in NIGHT mode.

CONNECTIONS

Do not exceed the maximum load indicated. If you use output 01, connect the device to 01 and V.

01, 02 (TERMINAL BOARD J22)

02	Relay contact output OUT2 Max load 2A +24 V ⎓
02	
01	Open Collector output OUT1 Max load 100 mA
G	GND Accessories power supply negative and Common contacts
V	+24 V ⎓ accessories power supply

⊞ **4** Configurable outputs - DEFAULT

Exit (terminal board)	Default programming	Board function and (default) (advanced programming)
01 (J22)	DOOR NOT CLOSED (NO)	$o1$ (6)
02	ERROR/BOARD FAILURE (NO)	$o2$ (2) , (23) if $dF = 2$

⊞ **5** Configurable Outputs - AVAILABLE SETTINGS

SDK EVO function	Board value and (default):
DISABLED	0
GONG	1 (NO)
ERROR	2 (NO)
BATTERY	3 (NO)
EMERGENCY ACTIVE	4 (NO)
SAFETIES TEST	5 (NO)
DOOR NOT CLOSED	6 (NO)
DOOR OPENED	7 (NO)
DOOR MOVING	8 (NO)
LIGHT	9 (NO)
INTRUSION ACTIVE	10 (NO)
CLOSING SAFETY	11 (NO)
SAFETIES	12 (NO)
AIRSLIDE SP1	13 (NO)
AIRSLIDE SP2	14 (NO)
LOCK	15 (NO)
Simply Connect	16 (NO)
TIMER	17 (NO)
PEOPLE IN NUMBER	18 (NO)
TRAFFIC LIGHT EXT	19 (NO)
TRAFFIC LIGHT INT	20 (NO)
BATTERY LOW	23 (NO)
NIGHT	24 (NO)
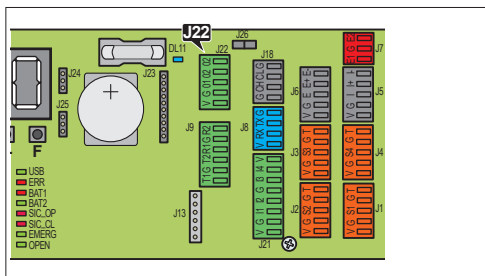
7. START-UP

RISKS	PERSONAL PROTECTIVE EQUIPMENT
⚠ ⚠ ⚠	🖐

START-UP PROCEDURE

CARRY OUT THE FOLLOWING PRELIMINARY CHECKS. Disconnect the mains power supply and disconnect the emergency battery (if present) and the motor(s). Move the leaves manually to make sure that they move smoothly and without friction. When finished, reconnect the motor(s).

⚠ Make sure that the ENCODER connector has been inserted correctly.

Then, carry out the operations described in the following sections in order.
1. Turn power on to the board.
2. Set the model of the automation and the DEFAULT.
3. Perform the SETUP.
4. Program the board for the required functions.
5. Make sure that the automation works correctly in the required operating modes, with all the devices installed (control devices, safety detectors, function selectors and devices connected to the inputs and outputs).
 - For doors in Low Energy mode, make sure that the forces generated by the leaf are within the limits permitted by legislation. Use an impact force tester in accordance with standard EN 16005:2012. For non-EU countries, if there are no specific local regulations, the static force must be less than 67 N.
 - For doors that are not in Low Energy mode, make sure that the test object is detected in all areas affected by the door movement.
6. Once the start-up has been completed, we recommend that you save the complete configuration for the automation by using the DOWNLOAD option (§ Menu Upload/Download).

■ **INTERCOM (if provided)**

Complete the start-up procedure for each automation before setting up an INTERCOM network. Only afterwards connect the boards to the network, carry out the programming and enable INTERCOM (§ specific section).

7.1 TURN POWER ON TO THE BOARD

1. Turn the mains power back on.
2. Connect the emergency battery (if present).
 When first switched on, the following appear on the display of the main board and the SDK EVO (if used):

Board display	SDK EVO display
bo	Bootloader 0.5 (example)
(Bootloader phase)	(SDK EVO Bootloader version)
5.0 (example)	5.0 version (example)
(E2SL FW version)	(SDK EVO FW version)
L0 flashing light	ERROR 39 flashing
(the board requires SETUP)	(the board requires SETUP)

3. Check the input status LEDs on the board and for the presence of ERRORS (§ Diagnostics Section).

7.2 SET THE MODEL OF THE AUTOMATION AND THE DEFAULT

- **from board** Basic programming: CF Set the model of the automation
 dF Set the DEFAULT
- **from SDK EVO**: 🔧 /PROGRAMMING/DOOR TYPE...

For FHE SLIDING select the model RKE 1400

For SF1400 requires you to set the Leaf number and passage opening:
- **from board** Basic programming: CF=4 Ln=lo2 e Lt=lo2o3

- **from SDK EVO**: 🔧 /PROGRAMMING/DOOR TYPESF1400

...1LEAF or 2LEAVES

...SELECT PASSING SPACE

To load the DEFAULT:

🔧 /PROGRAMMING/MISCELLANEOUS/DEFAULT CONFIG

DO YOU WANT TO LOAD DEFAULT CONFIG 1? Press OK to confirm, or change option (↑ ↓). DO YOU WANT TO LOAD DEFAULT CONFIG 2?

DOUBLE MOTOR for automations with a double motor, enable the Double Motor Kit:
- **from board** Advanced Programming: dП=Ꙗ
- **from SDK EVO**: 🔧 /PROGRAMMING/INSTALLATION/2ND ENGINE KIT Enabled

7.3 PERFORM THE SETUP

The SETUP procedure consists of a series of movements during which the board acquires the travel of the leaves and other mechanical parameters.

THE SYSTEM NEEDS TO BE SETUP
- when L0 flashes on the display (e.g. when the automation is first put into operation, or after the board has been replaced, or after factory settings have been restored)
- if the number of leaves is changed
- when you wish to modify the length of travel of the leaves, or the automation model, or the direction of rotation of the motor, or for enabling/disabling the DM KIT
- when the number of leaves or the passage opening has been modified on SF1400

⚠ The inputs configured as safeties are ignored during SETUP. To prevent any hindrance to motion or injury to people, keep at a distance and prevent anyone from going near the system.

1. Run the SETUP (the position of the door is irrelevant):
- **from board**: press the button SW1 for approximately 5 s, release when movement starts
- **from SDK EVO**: 🔧 /PROGRAMMING/INSTALLATION/START SETUP OK
2. The SETUP is carried out automatically. Make sure that the movement being carried out corresponds with the SETUP phase on the display.

⚠ **MOTOR ROTATION** If the movement does not correspond with the phase shown on the display, when the SETUP has been completed, invert the direction of rotation of the motor and then repeat the SETUP.
 - **from board** Basic programming: rП
 - **from SDK EVO**: 🔧 /PROGRAMMING/INSTALLATION/MOTOR ROTATION select STANDARD or NOT STANDARD

3. SETUP ends with OPENING, then the automation is ready to use. If the SETUP procedure fails, L0 flashes on the display. Resolve any ERRORS there may be (see Section § Diagnostics), then run a new SETUP.
The following are reasons for the SETUP procedure NOT being carried out or being interrupted: NIGHT or MANUAL mode, operating on battery due to lack of mains power, emergency Inputs active.

SETUP from board

SETUP phases on the display
L0 flashing = the board requires you run the SETUP
L1 flashing = closing in SETUP
L2 flashing = opening in SETUP
02 or 03 automation ready for operation

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7.4 PROGRAMMING THE BOARD

Programming can be carried out **from the BOARD**, using the **+**, **−**, **F** buttons, from the SDK EVO or via Simply Connect. For programming via Simply Connect see the specific manual.

- Programming from the SDK EVO/Simply Connect offers a wider number of options. If values have been programmed that are not available on the board, the board display indicates them all with the value EP (External Program). Programming from the board can anyway modify values indicated by EP, but it is not able to restore them.

SDK EVO can disable programming from the board:

🔧 /PROGRAMMING/MISCELLANEUS/BOARD'S DISPLAY   BLOCKED or NOT BLOCKED

PROGRAMMING FROM THE BOARD

The E2SL has two Programming Menus: Basic and Advanced (relative ▦ Table).

■ **BASIC programming**

1. When the display indicates the status of the automation, press and hold down the **F** button: the display shows the first function (](].
 Each function will be displayed for as long as button F remains pressed.
2. Release button **F**: the display shows the value of the function.
3. When the display indicates the value of the function, press the **+** or **−** button to modify it.
4. Press button **F** to confirm and go to the next function. The modified value becomes effective immediately.

Follow the same procedure for all functions until you reach the last one (St).

5. When St appears on the display, release the button **F** and select:
     Y = save the set-up
     no = DO NOT save the set-up
6. Press the **F** button to confirm.
- The display reverts to the automation status view.

■ **ADVANCED programming**

1. When the display indicates the status of the automation, press and hold down the **F** button, then press the **+** button as well: the display shows the first function (PI).
 Each function will be displayed for as long as button F remains pressed.
2. Release the buttons: the display shows the value of the function.
3. When the display indicates the value of the function, press the **+** or **−** button to modify it.
4. Press button **F** to confirm and go to the next function. The modified value becomes effective immediately.

Follow the same procedure for all functions until you reach the last one (St).

5. When St appears on the display, release the button **F** and select:
     Y = save the set-up
     no = DO NOT save the set-up
6. Press the **F** button to confirm.
- The display reverts to the automation status view.

NOTE   Each modified value is effective immediately, but when you exit from programming mode you must decide whether to save the changes.

UNSAVED changes UNSAVED changes are saved if the power supply is interrupted while programming is being carried out or after 10 minutes if no buttons are pressed.

Access BASIC programming
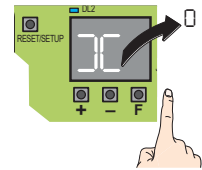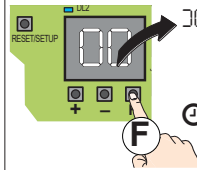
Access ADVANCED programming
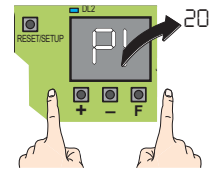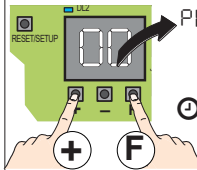
Modify a setting

End of programming (St)

Save

DO NOT save

Go immediately to St:

⊞ 6 BASIC Programming

BASIC Function		Default
]Ɩ[	**Simply Connect** **If you wish to enable Simply Connect, select a channel (CH).** □ = Simply Connect NON enabled, Ɩ = CH 1, ≥ = CH 2, ∃ = CH 3, ५ = CH 4	□
ᴄF	**Automation model** Set the model installed. Note: whenever the parameter ᴄF is modified, the relative DEFAULT 1 values are loaded on parameter dF. no = no selection (factory default) ∃ = RKE 1400 (for SLIDING FHE) Ɩ = A1000 ५ = SF1400 ≥ = A1400 AIR 5 = GBF1500	no
dF	**DEFAULT configuration** Allows the default programming specific for the Model of the automation to be loaded. It also indicates whether the programming corresponds with the default parameters. Ɩ = DEFAULT 1 - standard configuration - Note: whenever parameter ᴄF is modified, the relative DEFAULT 1 values are loaded. ≥ = DEFAULT 2 - battery-powered standard configuration, with pre-set tests. **The BATTERY KIT must be connected.** no = the programming in progress does not correspond to a DEFAULT configuration (at least 1 parameter modified). Select the corresponding value if you wish to reload a DEFAULT program.	Ɩ
Ln	**Leaf number** - displayed only for SF1400 (ᴄF = ५) If modified you have to perform the SETUP. Ɩ = 1 leaf, ≥ = 2 leaves	≥
Lᵗ	**Select passage opening** - displayed only for SF1400 (ᴄF = ५) Ɩ = narrow opening width: max 65 cm (with 1 leaf), max 130 cm (with 2 leaves) ≥ = average opening width: 65…75 cm (with 1 leaf), 130…150 cm (with 2 leaves) ∃ = wide opening width: greater than 75 cm (with 1 leaf), greater than 150 cm (with 2 leaves)	≥
rΠ	**Direction of rotation of the motor** If it is modified you have to perform the SETUP. Ɩ = STANDARD rotation, ⁻Ɩ = NON STANDARD rotation	Ɩ
PO	**Partial Open** - NOT displayed for SF1400 (ᴄF = ५) or for GBF1500 (ᴄF = 5) no = 100% ≥0…95 % Adjustment step = 5%	50
PA	**Pause time** before closing again in automatic operation mode □…∃0 s Adjustment step = 1 s	≥
ES	**Energy Saving** no = not enabled , ५ = enabled	no
Pn	**Night pause time** In Night mode, after being opened via the Key command, the door remains open for the length of time set (□ s …५.□ min) □ …58 s Adjustment step = 2 s Ɩ.□…५.□ min Adjustment step = 10 s (e.g. Ɩ.≥ = 1 min and 20 s)	Ɩ0
ᴄ5	**Closing speed** level Ɩ…Ɩ0	5 Ɩ (if ᴄF=५)
o5	**Opening speed** level Ɩ…Ɩ0	Ɩ0 (if ᴄF=Ɩ) 8 (if ᴄF=≥,∃) 5 (if ᴄF=५) ∃ (if ᴄF=5)
ᴄF	**Closing force** level Ɩ…Ɩ0	5
oF	**Opening force** level Ɩ…Ɩ0	8 Ɩ0 (if ᴄF=∃) 5 (if ᴄF=5)
ᵗF	**Force time on obstacle for CF and OF** □.Ɩ…∃.0 s Adjustment step = 0.1 s	Ɩ.0 ≥.0 (if ᴄF=∃)
dr	**Deceleration ramp when OP and CL** level Ɩ…Ɩ0	6 ५ (if ᴄF=५) 5 (if ᴄF=5)

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BASIC Function		Default
Ar	**Acceleration ramp when OP and CL** level I... I0	8 5 (if cF=3, 5)
C1	**INPUT I1 (J21) configuration** The contact logic can be programmed from the SDK EVO (section § Configurable inputs).	I
	no = input not enabled I = External Opening (NO) 4 = Internal Opening (NO) 7 = Automatic Opening (NO) 8 = Semi-Automatic Opening (NO) 9 = Pharmacy Open (NOT for SF1400 and GBF1500) (NO) I0 = KEY (NO) II = Partial Open (NOT for SF1400 and GBF1500) (NO) 20 = Closing Safety (NC) (TEST available) 2I = Opening Safety (NC) (TEST available) 23 = Safety STOP (NC) (TEST available) 24 = Closing Safety EXT (NC) (TEST available) 25 = Closing Safety INT (NC) (TEST available) 30 = Emergency Opening (NC) 3I = Emergency Opening with memory (NC) 32 = Emergency STOP (NC)	33 = Emergency STOP with memory (NC) 34 = Emergency Closing (NC) 35 = Emergency Closing with memory (NC) 37 = Emergency BREAKOUT OPEN (NC) 38(*)= Emergency BREAKOUT STOP (NC) 40 = operating mode OPEN (NO) 4I = operating mode EXIT ONLY (NO) 42 = operating mode ENTRY ONLY (NO) 43 = operating mode NIGHT-TIME (NO) 44 = operating mode MANUAL (NO) 45 = operating mode PARTIAL (NOT for SF1400 and GBF1500) (NO) 46 = operating mode INTERLOCK (NO) 47 = operating mode AUTO MANUAL (NO) 60 = TIMER 6I = RESET	
	(*) This programming is available on C1 and C3 in basic programming, P1, P3, Id and E1 in advanced programming. If it is used, it is also automatically assigned to the relative associated function (overwritten in such a way that it CANNOT be modified). The associated functions are: C1/C2, C3/C4 in basic programming, P1/P2, P3/P4, Id/Ed E1/E2 in advanced programming (see § Emergency Inputs).	
IF	**INPUT I1 TEST** Displayed only if the input is configured as Safety (C1 = 20 or 2I or 23 **or** 24 **or** 25) Y = TEST enabled , no = TEST not enabled	no
C2	**INPUT I2 (J21)configuration** (see options C1)	4
2F	**INPUT I2 TEST** Displayed only if the input is configured as Safety (C2 = 20 or 2I or 23 **or** 24 **or** 25) Y = TEST enabled , no = TEST not enabled	no
C3	**INPUT I3 (J21) configuration** (see options C1)	I0
3F	**INPUT I3 TEST** Displayed only if the input is configured as Safety (C3 = 20 or 2I or 23 **or** 24 **or** 25) Y = TEST enabled , no = TEST not enabled	no
C4	**INPUT I4 (J21) configuration** (see options C1)	7
4F	**INPUT I4 TEST** Displayed only if the input is configured as Safety (C4 = 20 or 2I or 23 **or** 24 **or** 25) Y = TEST enabled , no = TEST not enabled	no
PF	**PARTIAL PHARMACY** - NOT displayed for SF1400 (CF = 4) or for GBF1500 (CF = 5) - Displayed if a configurable input is pharmacy OPEN. 5... 95 % Adjustment step = 5%	20
St	**Exit PROGRAMMING** Allows you exit from programming and decide whether to save the changes. Y = save , no = do not save Press the F button to confirm. After exit, the display shows automation status: 00 CLOSED 0I OPENING 02 OPEN 03 in PAUSE 04 in NIGHT PAUSE 05 CLOSING 06 OPEN or STOPPED or CLOSED in EMERGENCY 07 in MANUAL operating mode 08 in NIGHT-TIME operating mode I0 System TEST in progress II STOPPED I2 safeties TEST in progress I3 Door ERROR (Press + and − simultaneously to display the active ERROR) L0-L2 SETUP in progress - phases L0, L1, L2 . in SLEEP mode (flashing dot)	Y

ADVANCED Function		Default
PI	**INPUT S1 (J1) configuration** (see options CI)	24
IF	**INPUT S1 TEST** Displayed only if the input is configured as safety (PI = 20 or 21 or 23 **or** 24 **or** 25) Y = TEST enabled , no = TEST not enabled	Y
P2	**INPUT S2 (J2) configuration** (see options CI)	25
2F	**INPUT S2 TEST** Displayed only if the input is configured as Safety (P2 = 20 or 21 or 23 **or** 24 **or** 25) Y = TEST enabled , no = TEST not enabled	Y
P3	**INPUT S3 (J3) configuration** (see options CI)	no
3F	**INPUT S3 TEST** Displayed only if the input is configured as safety (P3 = 20 or 21 or 23 **or** 24 **or** 25) Y = TEST enabled , no = TEST not enabled	no
P4	**INPUT S4 (J4) configuration** (see options CI)	no
4F	**INPUT S4 TEST** Displayed only if the input is configured as Safety (P4 = 20 or 21 or 23 **or** 24 **or** 25) Y = TEST enabled , no = TEST not enabled	no
Ot	**OPERATION OF SAFETIES IN OPENING** I = STOP (stops the opening) , 2 = Low Energy (slow movement)	2
bP	**BUTTON PHOTOCELLS** The TEST is NOT available for these photocells. no = no photocell , I = 1 pair of photocells , 2 = 2 pairs of photocells	no
Id	**INPUT I (J5) configuration** (see options CI)	no
IF	**INPUT I TEST** Displayed only if the input is configured as Safety (I = 20 or 21 or 23 **or** 24 **or** 25). Y = TEST enabled , no = TEST not enabled	no
Ed	**INPUT E (J6) configuration** (see options CI)	no
EF	**INPUT E TEST** Displayed only if the input is configured as Safety (E = 20 or 21 or 23 **or** 24 **or** 25) Y = TEST enabled , no = TEST not enabled	no
EI	**INPUT E1 (J7) configuration** (see options CI)	no
IF	**INPUT E1 TEST** Displayed only if the input is configured as Safety (EI = 20 or 21 or 23 **or** 24 **or** 25). Y = TEST enabled , no = TEST not enabled	no
E2	**INPUT E2 (J7) configuration** (see options CI)	no
2F	**INPUT E2 TEST** Displayed only if the input is configured as Safety (E2 = 20 or 21 or 23 **or** 24 **or** 25) Y = TEST enabled , no = TEST not enabled	no
bA	**BATTERY KIT** Operation of the emergency battery NOT in NIGHT-TIME mode. no = not enabled I = OPENS immediately 2 = CLOSES immediately 3 = with flat battery last movement OPENING 4 = with discharged battery last movement CLOSING	no (if dF=I) Y (if dF=2)
bn	**NIGHT BATTERY KIT** Operation of the emergency battery in NIGHT-TIME operating mode. Displayed only if the Battery Kit is enabled (bA other than no). (see options bA)	Y
bL	**OPENING DUE TO LOW BATTERY** Displayed only if the Battery Kit is enabled (bA different from no). The door opens automatically if the battery is discharged, even if there is mains power. Y = enabled, no = not enabled	no (if dF=I) Y (if dF=2)
bt	**BATTERY TEST** Displayed only if (bL = Y). Enables the test via a battery powered door opening.	no (if dF=I) Y (if dF=2)

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English

Translation of the original instructions

ADVANCED Function		Default
EL **MOTOR BLOCK LOCK / XB LOCK / XM LOCK** XM LOCK options not displayed for A1000 (CF = I)		no
no = not enabled	8 = XM LOCK closed in NIGHT-TIME mode and with leaves open	
I = XB LOCK closed in NIGHT-TIME mode	9 = XM LOCK closed in NIGHT-TIME mode and with leaves closed	
2 = XB LOCK closed in ENTRY ONLY, EXIT ONLY, NIGHT-TIME mode	IO = XM LOCK closed at the end of each movement	
3 = XB LOCK closed in NIGHT-TIME mode and with leaves open	II = LOCK closed in NIGHT-TIME mode	
4 = XB LOCK closed in NIGHT-TIME mode and with leaves closed	I2 = LOCK closed in ENTRY ONLY, EXIT ONLY, NIGHT-TIME mode	
5 = XB LOCK closed at the end of each movement	I3 = LOCK closed in NIGHT-TIME mode and with leaves open	
6 = XM LOCK closed in NIGHT-TIME mode	I4 = LOCK closed in NIGHT-TIME mode and with leaves closed	
7 = XM LOCK closed in ENTRY ONLY, EXIT ONLY, NIGHT-TIME mode	I5 = LOCK closed at the end of each movement	
Lt **LOCK activation time** Displayed only if EL = II or I2 or I3 or I4 or I5. O.I ... 9.9 s Adjustment step = 0.1 s		0.5
SU **MONITORING of LOCK / XB LOCK / XM LOCK** no = not enabled , Y = enabled		no
dn **DOUBLE MOTOR KIT ACTIVATION** - NOT displayed for A1000 (CF = I) or for GBF1500 (CF = 5) no = second motor kit not enabled Y = second motor kit enabled		no
nd **NIGHT-TIME MODE DELAY** (O s ... 4.0 min) no = not enabled O ... 59 s Adjustment step = 1 s I.O...4.0 min Adjustment step = 10 s (e.g. I.2 = 1 min and 20 s)		IO
oI **OUTPUT OUT1 configuration** (J22)		6
no = not enabled	I2 = SAFETIES (NO)	
I = GONG (NO)	I3 = AIRSLIDE SP1 (NO)	
2 = BOARD ERROR/FAULT (NO)	I4 = AIRSLIDE SP2 (NO)	
3 = battery operation (NO)	I5 = LOCK (NO)	
4 = EMERGENCY active (NO)	I6 = PROGRAMMING Simply Connect in PROGRESS (NO)	
5 = SAFETIES TEST configured on I1, I2, I3, I4 (NO)	I7 = TIMER active (NO)	
6 = DOOR NOT CLOSED (NO)	I8 = PEOPLE IN NUMBER (NO)	
7 = DOOR OPEN (NO)	I9 = TRAFFIC LIGHT EXT (NO)	
8 = DOOR MOVING (NO)	20 = TRAFFIC LIGHT INT (NO	
9 = LIGHT (NO)	23 = LOW BATTERY (NO)	
IO = INTRUSION ACTIVE (NO)	24 = NIGHT (NO)	
II = CLOSING SAFETY (NO)		
o2 **OUTPUT OUT2 configuration** (J22) (see options oI)		2
In **Inputs status** The segments of the display corresponding to the input that is active light up		(see the figure)
St **Exit PROGRAMMING** Allows you exit from programming and decide whether to save the changes. Y = save , no = do not save Press the **F** button to confirm. After exit, the display shows automation status (See ST in Basic programming)		Y

INPUTS status
Shown on the Advanced Programming display, function In
segment lit = input active
The central dot is always lit
(OFF = segment always off)

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7.5 MOVEMENT PARAMETERS

The movement parameters can be adjusted via the programming function.

- **from board** Basic programming:

  cS = closing speed (level 1…10)

  oS = opening speed (level 1…10)

  cF = closing force (level 1…10)

  oF = opening force (level 1…10)

  tF = MAX push time on obstacle during closing and opening (0.1 s … 3 s)

  dr = opening and closing deceleration ramp (level 1…10)

  Ar = opening and closing acceleration ramp (level 1…10)

- from **SDK EVO** (allows further adjustments to be made):

  🔧/PROGRAMMING/MOTION…

  …OPENING

    SPEED (level 1…10)

    SLOWDOWN deceleration space at end of travel (0…200 cm)

    SLOWDOWN SPEED Deceleration speed at end of travel (level 1…3)

    STRENGTH (level 1…10)

    STRENGTH DURATION (0.1 … 3.0 s)

    ACCELERATION (level 1…10)

    DECELERATION (level 1…10)

  …CLOSING (same options as for OPENING)

  …BRAKING Deceleration for reverse movement

  (level 1… 5)

  …STOP MOV Moves the stop position forwards with respect to the opening stop

  (level 1…10) 0 = minimum distance

7.6 OBSTACLE DETECTION

The sensitivity of the obstacle detection system is adjusted by setting the opening force, closing force and the maximum push time (§ Movement parameters). When an obstacle causes the movement to stop, the automation exerts the set static force on the obstacle. Once the set force time on the obstacle has elapsed, if it still cannot move, the programmed operation is activated:

Obstacle during closing If an obstacle is detected during CLOSING it causes the leaves to reverse and subsequently they attempt to close.

Obstacle during opening If an obstacle is detected during OPENING it causes the movement to stop and after 5 s attempts to attempt opening again.

Obstacle during opening in NIGHT-TIME mode If an obstacle is detected during opening it causes the leaves to reverse.

Number of consecutive obstacle detections The count of the number of consecutive obstacle detections can only be enabled via the SDK EVO. The automation stops when the count exceeds the set number (error 24: obstacles during CLOSING or error 31: obstacles during OPENING).

- from **SDK EVO**: 🔧/PROGRAMMING/MISCELLANEUS/CONSECUTIVE OBST.

  …CLOSING DISABLED (=25 detections) or 1…10 detections

  …OPENING (as above)

7.7 LOW ENERGY

As a guideline only, in order to protect against risks related to moving parts, the standard EN 16005:2012 requires that the opening and closing movement must take place in Low Energy mode, which means that the kinetic energy of the leaf must not exceed 1.69 joule and the maximum static force must not exceed 67 N.

Alternatively, for doors that open onto heavy traffic areas or when any contact with the user is unacceptable because many of the users are elderly, sick, disabled or children, additional protective devices are to be used.

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

To set up the Low Energy, mode, program the values for force and kinetic energy by applying standard EN 16005:2012.

- **from board** Basic programming:

  cS and oS = speed established by applying the standard

  cF , oF and $Ar = 1$

- from **SDK EVO**:

  🔧/PROGRAMMING/MOTION…

  …OPENING

    SPEED = speed established by applying the standard

    STRENGTH = 1

    ACCELERATION = 1

  …CLOSING (as above)

7.8 INTRUSION: KEEP CLOSED/PULL&GO

When the automation is closed, the board detects if there is an attempt to open it manually (INTRUSION). The response to this can be defined via the SDK EVO: KEEP CLOSED or PULL & GO.

- **from SDK EVO**: 🔧/PROGRAMMING/MISCELLANEUS/INTRUSION …

  …KEEP CLOSED

    STRENGTH KEEP CLOSED (level 1…10)

  Or

  … PULL & GO

KEEP CLOSED The motor starts, counteracts the manual opening with an adjustable force and keeps the automation CLOSED. **Note**: in NIGHT-TIME operating mode with battery operation, KEEP CLOSED is not active.

PULL & GO The motor starts up to complete the opening. **Note**: in NIGHT-TIME operating mode with battery operation, PULL & GO is not active.

7.9 ENERGY SAVING

Energy Saving allows you to decrease the opening/closing times and to limit the number of "false openings" by recognising the pedestrian's transit direction (approaching, leaving, cross traffic). Opening is via external or internal radar. When radars and presence sensors are disengaged, it closes immediately, even if the opening movement has not been completed. It also closes immediately when an input configured as Closing safety is deactivated.

Obligatory requirements:

- mode of operation AUTOMATIC TWO-DIRECTIONAL
- use of the one-direction radar detectors (Energy Saving is active only on INTERNAL OPENING and EXTERNAL OPENING inputs)

Programming:

- **from board** Basic programming: $ES = Y$
- **from SDK EVO**: 🔧/PROGRAMMING/Energy Saving ENABLED

7.10 TIMING AND PARTIAL OPENING

The following can be programmed:

PAUSE TIME

- **from Board** Basic Programming: PA
- **from SDK EVO**: 🔧/PROGRAMMING/TIMING/ PAUSE TIME

NIGHT PAUSE TIME

- **from Board** Basic Programming: Pn
- **from SDK EVO**: 🔧/PROGRAMMING/TIMING/NIGHT PAUSE TIME

PARTIAL OPEN (NOT for SF1400 and GBF1500)

- **from Board** Basic Programming: PO Adjustment step 5%.
- **from SDK EVO**: 🔧/PROGRAMMING/MISCELLANEUS/PARTIAL OPEN Adjustment step 1%.

Then select how partial open is carried out:

  STANDARD partial open is fixed at the set percentage

  100% INT+EXT partial open increases automatically to 100% if the internal and external sensors are engaged at the same time (it reverts to the set percentage when

FAAC

at least one sensor is released).

PARTIAL PHARMACY

- **from Board** Advanced Programming: PF
- **from SDK EVO**: 🔧/PROGRAMMING/MISCELLANEUS/PARTIAL PHARMACY

NIGHT-TIME MODE DELAY

- **from Board** Advanced Programming: nd
- **from SDK EVO**: 🔧/PROGRAMMING/TIMING/NIGHT SENSOR DELAY

7.11 DATE AND TIME

- **from SDK EVO**: 🔧/PROGRAMMING/DATE/TIME…
- …SET DATE   DD : MM
- …SET TIME   HH : mm

7.12 COUNTERS

CYCLE COUNTER - SCHEDULED MAINTENANCE

The SDK EVO can be used to enable the cycle counter and issue a maintenance request according to the number of cycles carried out or on a set date.

- **from SDK EVO**: 🔧/COUNTERS/CYCLES COUNT…

…CYCLES NUMBER displays the number of cycles carried out, divided into ABSOLUTE (NOT resettable) and RELATIVE cycles.

…MAINTENANCE enter the TECHNICIAN PSW and confirm.

go to MAINTENANCE CYCLES select: DISABLED or ENABLED and specify the number of cycles for maintenance (step 10000, maximum 1000000) and confirm.

go to MAINTENANCE DATE select: DISABLED or ENABLED and set the date: 00/00/00

If both options are enabled, a maintenance request is issued when the first event is reached (CYCLES or DATE).

…CYCLES RESET (TECHNICIAN PSW required) To reset the RELATIVE cycles counter, confirm with OK.   The ABSOLUTE cycles counter can only be reset using the Restoring Factory Defaults procedure (§ relative sections).

SAFE FLOW

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

SDK EVO allows you to enable the function and to set the maximum number of people allowed in. The count is displayed in relation to the maximum programmed number in place of the date on the HOME PAGE of the SDK EVO.

The count is carried out in AUTOMATIC and DOOR OPENED mode and is zeroed when the door is put into MANUAL or NIGHT mode.

- **from SDK EVO**: 🔧/COUNTERS /SAFE FLOW…

…FUNCTION select:

DISABLED = SAFE FLOW disabled

PEOPLE IN AUTO = enables counting and alarm. Alarm (40) is triggered when the maximum number of people allowed is reached.

PEOPLE IN EXIT ONLY = enables counting and alarm. Alarm (40) is triggered when the maximum number of people allowed is reached and the door does not allow people to enter until the number of people in the premises falls below the set threshold.

…PEOPLE IN NUMBER sets the number of people allowed in (1…1000)

…PEOPLE IN UPDATE it allows the number of people in the premises (0 ... 1000) to be corrected manually if necessary

NOTE: In an INTERCOM network (see Section § INTERCOM) the SAFE FLOW (PEOPLE IN NUMBER, PEOPLE IN UPDATEFUNCTION) has to be programmed on the MASTER unit. Then SAFE FLOW can also be enabled on the individual SLAVE boards via the PEOPLE IN SLAVE parameter, displayed only on the SLAVE boards.

ⓘ For the connections, configurations and devices required, see the SAFE FLOW instructions.

7.13 TIMER

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

Programming is carried out via the SDK EVO, it requires a clock battery to be installed on board E2SL (✏2) and the date and time to be set correctly.

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

A TIME BAND is programmed with:

- START time - END time (HH:mm)
- Operating mode

TIMER operating mode	
0	NO FUNCTION
1	AUTO BIDIR (auto bidir total)
2	AUTO OUT (automatic exit only total)
3	AUTO BIDIR PARTIAL
4	AUTO OUT PARTIAL (automatic exit only partial)
5	TOTALLY OPEN
6	PARTIAL OPEN
7	AUTO IN (automatic entry only total)
8	AUTO IN PARTIAL (automatic entry only partial)
9	NIGHT (night total)
10	PARTIAL NIGHT
11	INTERLOCK (INTERLOCK bidirectional total)
12	INTERLOCK OUT (INTERLOCK exit only total)
13	INTERLOCK IN (INTERLOCK entry only total)
14	AUTO MANUAL (auto manual total)

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

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

WEEKLY PROGRAMMING

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

🔧/TIMER…

…MONDAY…SUNDAY/MON-SUN/MON-FRI   Select the day or group of days

…SLOT1…SLOT6   Select the time band

…FUNCTION: 0…14   Assign the operating mode from the TIMER

…BEGINNING 00:00   Set the TIME SLOT start time.

…END 00:00   Set the TIME SLOT end time.

If you are programming a group of days, after entering the END time of the time band, the following question appears:

…DO YOU WANT TO APPLY MON - FRI ?   OK

Carry out the same procedure for any other time bands. DO NOT program overlapping time bands. Complete the weekly programming for all the required days.

JOLLY PROGRAMMING

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

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

🔧/TIMER…

…JOLLY

…SLOT1…SLOT6   Select the time band

...FUNCTION: 0...14   Assign the operating mode from the TIMER
...BEGINNING 00:00   Set the start time of the TIME BAND
...END 00:00   Set the end time of the TIME BAND

Carry out the same procedure for any other time bands. DO NOT program JOLLY time bands that overlap.

...JOLLY SLOTS...   Select the SLOT

Select DISABLED if you wish to delete the slot. Select ENABLED to specify the dates for the slot:

...BEGINNING 00:00   day:month
...END 00:00   day:month

■ **EXAMPLE Programming the TIMER for a shop open from Monday to Saturday between the hours of 08:00 and 13:00 and 15:00 to 19:30. Closed on: Thursday Closed for holidays from 1st to 15th August.**

Program the weekly TIMER :

🔧 /TIMER...
... MON - SUN

SLOT 1 / FUNCTION: 1 / BEGINNING 08:00 / END 12:59
SLOT 2 / FUNCTION: 9 / BEGINNING 13:00 / END 14:59

When the automation exits from TIME BAND 2 it goes into AUTOMATIC TWO DIRECTIONAL TOTAL mode and the mode can be changed from a configured input or from a function selector.

SLOT 3 / FUNCTION: 4 / BEGINNING 19:30 / END 19:44
SLOT 4 / FUNCTION: 9 / BEGINNING 19:45 / END 23:59
SLOT 5 / FUNCTION: 9 / BEGINNING 00:00 / END 07:59

Apply MON - SUN, then reprogram THURSDAY and SUNDAY (deleting the bands that are not used):

...THURSDAY / SLOT1 / FUNCTION: 9 / BEGINNING 00:00 / END 23:59
...SUNDAY / SLOT1 / FUNCTION: 9 / BEGINNING 00:00 / END 23:59

Program the holiday closure:

...JOLLY
SLOT1 / FUNCTION: 9 / BEGINNING 00:00 / END 23:59
...JOLLY SLOTS
SLOT 1 / ENABLED / BEGINNING 01:08 / END 15:08

ENABLING/DISABLING THE TIMER

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

🔧 /TIMER/1 TIMER STATE   select ENABLED/DISABLED

- When TIMER is enabled, T is indicated on the HOME PAGE of the SDK EVO.
- The time bands are remembered even if the TIMER is disabled.

FAAC

8. ACCESSORIES

EMERGENCY BATTERY

The battery kit allows the automation to operate in case of mains power failure.

To conserve battery power, the board activates the LOW POWER mode: it turns off power to the accessories apart from the SDK EVO (to which it disables the backlighting), it DOES NOT carry out the PULL & GO function, if enabled. The board maintains the battery charge, but does not charge batteries that are completely discharged.

1. Connect the emergency battery kit.

Emergency battery connection
J14

2. Enable the battery specifying the operation to be carried out when there is no mains power: the movement is carried out IMMEDIATELY or when the charge level drops (LAST MOVEMENT), then the operation stops until the mains power is restored. To enable the battery in NIGHT mode, the operations are similar. It is possible to program immediate opening each time the battery becomes discharged, even if there is mains power. If this option is enabled, the battery opening charge TEST is available. If the charge is too low, the door remains open until it has been restored. The test (with the door in status 10) is carried out even if there is mains power every 24 hours, every time the door is turned on, after a RESET and when exiting from MODFUN NIGHT, MANUAL, AUTO_MANUAL. It is not active in MODFUN NIGHT, OPENED, MANUAL, AUTO_MANUAL and in INTERLOCK.

- **from Board**, Advanced Programming:

bA in all Operating Modes apart from NIGHT-TIME

no = not enabled

I = OPENS IMMEDIATELY

2 = CLOSES IMMEDIATELY

3 = LAST MOVEMENT OPENING

4 = LAST MOVEMENT CLOSING

bn in NIGHT-TIME mode (see options bA)

bL OPENING DUE TO LOW BATTERY (NOT in NIGHT mode) Y = enabled, no = disabled

bt BATTERY CHARGE TEST Y = enabled, no = disabled

- **from SDK EVO**:

🔧 /PROGRAMMING/BATTERY KIT…

…FUNCTION: DISABLED, UNTIL LAST MOVEMENT, LAST MOVEMENT ONLY

…LAST MOVEMENT: OPENING, CLOSING

NIGHT MODE: LAST MOVEMENT ONLY, UNTIL LAST MOVEMENT

…LAST MOVEMENT NIGHT: OPENING, CLOSING

…OPENING LOW BATT.: choose: ENABLED or DISABLED

…OPENING TEST: choose: ENABLED or DISABLED

⚠️ The DEFAULT 2 configuration enables battery battery-powered standard configuration, with pre-set tests:
- if there is a mains power failure, the battery immediately carries out an OPENING movement and then stops until the mains power has been restored
- when the battery is discharged, the door OPENS immediately (it closes if in NIGHT mode) and output OUT2 indicates LOW BATTERY
- the charge TEST via battery opening is enabled even if there is mains power and if the charge level is low, the door remains open until it has been restored.

LOCK

The board can control a lock (non FAAC) for locking the leaves mechanically. Use a 24V ⎓ bistable device with a maximum power consumption of 1.3 A. The FAAC cable is required to connect it (supplied separately).

The lock activation time is programmable. The board can also control an external contact specifically for monitoring the lock. The contact must be closed when the lock is disengaged and open when the lock is engaged. An input (NO) is also available to command the opening (emergency).

⚡ Before continuing, disconnect the mains power supply and disconnect the emergency battery (if present).

Install the lock (device instructions) and connect it to E2SL using the connector (**A**) and then program it.

- **from Board**, Advanced Programming:

$EL = II…I5$ (lock function)

$Lt = 0.1…9.9$ (activation time)

$SU = Y/no$ (enable/disable monitoring)

or

- **from SDK EVO**:

🔧 /PROGRAMMING/KIT LOCK…

…TYPE LOCK

…FUNCTION (11…15)

…LOCK TIME (activation time 0.1…9.9 s)

…SURVEILLANCE KIT (enabled/disabled)

…FUN. BATTERY (when the automation is operating on the battery)

NIGHT: active only as NIGHT (DEFAULT)

STANDARD: maintains the programmed function (0/11…15)

ALWAYS OPEN: the automation never locks the leaves irrespective of the mode

■ LOCK FUNCTION

II (NIGHT): with the automation in NIGHT mode, locks the closed leaves and the open leaves with the Pharmacy Open command

$I2$ (NIGHT + MONODIR): NIGHT + in ONLY IN / EXIT ONLY mode, locks the closed leaves

$I3$ (NIGHT + OPENED): NIGHT + in any mode, apart from MANUAL, always locks the open leaves

$I4$ (NIGHT + CLOSED): NIGHT + in any mode, apart from MANUAL, always locks the closed leaves

$I5$ (ALWAYS): in any mode, apart from MANUAL, locks the leaves after any opening / closing movement

1	green	B	Lock monitoring (if installed)
2	pink	C	Input (NO) emergency open command (if installed)
3	yellow		
4	white	D	Lock coil
5	brown		

📝10
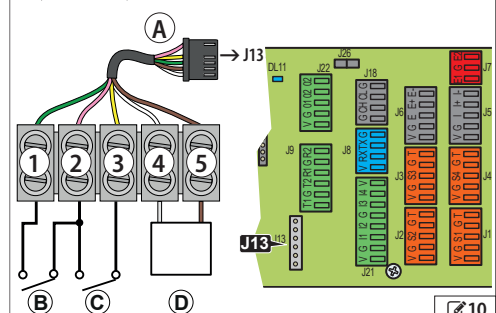
XB LOCK MOTOR BLOCK AND MONITORING (OPTIONAL)

The motor block allows the leaves to be locked mechanically.

The motor block is never engaged in MANUAL mode.

If there is a power failure, the position of the XB LOCK remains unchanged. When the automation is operating on battery, the motor block is only active in NIGHT mode (operation can only be modified via the SDK EVO).

⚠ Always turn off the mains power supply and disconnect the emergency battery (if present) before connecting or disconnecting the motor block.

1. Install the motor block following the installation instructions.
2. Connect the motor block to the E2SL board using the connector (**A**).
3. If installed, connect the monitoring device (**B**) to the terminal board of the motor block.
4. During programming, assign the motor block function and enable monitoring, if installed.
   - **from Board**, Advanced Programming:

EL = 1...5 ; SU = Y (if monitoring is installed)

   or
   - **from SDK EVO**:

🔧 /PROGRAMMING/KIT LOCK...

...TYPE XB LOCK

...FUNCTION

...SURVEILLANCE KIT

...BATT. FUNCTION

MOTOR BLOCK FUNCTION:

DISABLED (EL=0): not active

NIGHT (EL=1): with the automation in NIGHT mode, locks the closed leaves and the open leaves with the Pharmacy Open command

NIGHT + MONODIR (EL=2): NIGHT + with the automation in ENTRY ONLY / EXIT ONLY mode, locks the closed leaves

NIGHT + OPENED (EL=3): NIGHT + with the automation in any mode (apart from MANUAL), always locks the open leaves

NIGHT + CLOSED (EL=4): NIGHT + with the automation in any mode (apart from MANUAL), always locks the closed leaves

ALWAYS (EL=5): with the automation in any mode (apart from MANUAL), locks the leaves after any opening / closing movement

Motor block operation when the automation is operating on battery:

   - from SDK EVO ...KIT LOCK/ BATT. FUNCTION

   NIGHT: active only as NIGHT (DEFAULT)

   STANDARD: maintains the programmed function (EL or ...KIT LOCK/FUNCTION)

   ALWAYS OPEN: the automation never locks the leaves irrespective of the mode

XB LOCK and monitoring connection (optional)
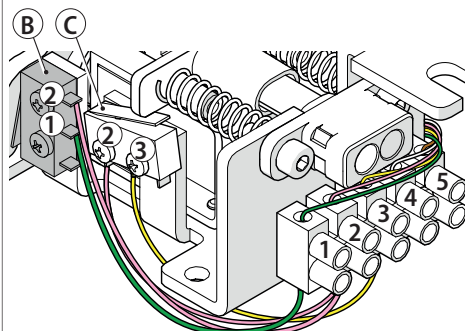
1	green	**B**	Motor block monitoring (IF INSTALLED)
2	pink	**C**	Emergency opening microswitch (manual release)
3	yellow		
4	white	**D**	Motor block coil (connected at the factory)
5	brown		

🖉 11

FAAC
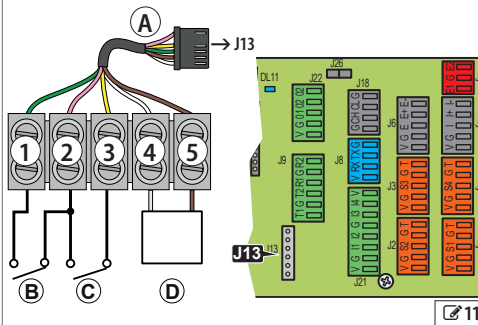
XM LOCK MOTOR BLOCK AND MONITORING

The motor block allows the leaves to be locked mechanically.

The motor block is never engaged in MANUAL mode.

If there is a power failure, the XM LOCK disengages (unlocks the leaves). When the automation is operating on battery, the motor block is only active in NIGHT mode (operation can only be modified via the SDK EVO).

⚠️ Always turn off the mains power supply and disconnect the emergency battery (if present) before connecting or disconnecting the motor block.

1. Install the motor block following the installation instructions.
2. Connect the motor block to the E2SL using the connector (**A**).
3. If installed, connect the monitoring device (**B**) to the terminal board of the motor block.
4. During Programming, assign the motor block function and enable monitoring, if installed.
   - **from Board**, Advanced Programming:

$EL = 6...10$; $SU = Y$ (if monitoring is installed)

   or
   - **from SDK EVO**:

🔧 /PROGRAMMING/KIT LOCK...

...TYPE   XM LOCK

... FUNCTION

...SURVEILLANCE KIT

...BATT. FUNCTION

MOTOR BLOCK FUNCTION:

DISABLED $(EL = 0)$: not active

NIGHT $(EL = 6)$: with the automation in NIGHT mode, locks the closed leaves and the open leaves with the Pharmacy Open command

NIGHT + MONODIR $(EL = 7)$: NIGHT + with the automation in ONLY IN / EXIT ONLY mode, locks the closed leaves

NIGHT + OPENED $(EL = 8)$: NIGHT + with the automation in any mode (apart from MANUAL), always locks the open leaves

NIGHT + CLOSED $(EL = 9)$: NIGHT + with the automation in any mode (apart from MANUAL), always locks the closed leaves

ALWAYS $(EL = 10)$: with the automation in any mode (apart from MANUAL), locks the leaves after any opening / closing movement

**Motor block operation when the automation is operating on battery:**

   - from SDK EVO ...KIT LOCK/ BATT. FUNCTION

NIGHT: active only as NIGHT (DEFAULT)

STANDARD: maintains the programmed function (EL or ...KIT LOCK/FUNCTION)

ALWAYS OPEN: the automation never locks the leaves irrespective of the mode

ELASTIC KIT

(NOT available for SF1400 and GBF1500)

The elastic anti-panic kit allows the leaves to be opened in the event of a power failure.

1. Install and adjust the elastic kit following the relevant instructions.
2. Enable the elastic kit and adjust the KEEP CLOSED force during programming.

Only from the **SDK EVO**:

🔧 /PROGRAMMING/MISCELLANEUS...

... ELASTIC KIT   (enabled)   OK

... MISCELLANEUS/INTRUSION/KEEP CLOSED   OK

... KEEP CLOSED   (force KEEP CLOSED 1...10)

XM LOCK and monitoring connection (optional)
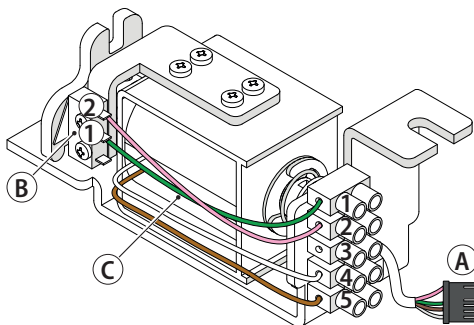
1	green	**B**	Motor block monitoring (if installed)
2	pink		
3	not used (yellow)		
4	white	**C**	Motor block coil (connected at the factory)
5	brown		
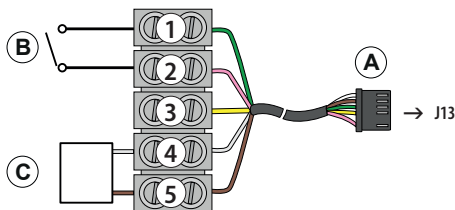
✏️ 12

ONE DUAL TECHNOLOGY ENTRY AND EXIT DETECTOR

⚠️ It is obligatory to install protective barriers in the movement areas in the event contact with persons is not allowed.

The dual technology detectors allow radar detection to be used for opening and infrared detection to be used for safety. Use the XV1 or XDT1 exit and entry detector in compliance with EN 16005:2012 and DIN18650.

The **default programming of the E2SL** corresponds to the typical example configuration shown in the figure.

from Board	from SDK EVO
PI=24	**INPUTS S1-S2**
IF=Y	**S1 Function** = Closing Safety (infrared safety)
P2=25	**S1 Test** = Enabled
2F=Y	**S1 NO/NC** = NC
	S2 Function = Closing Safety (infrared safety)
	S2 Test = Enabled
	S2NO/NC = NC
CI=1	**INPUTS I1-I2**
C2=4	**I1** = External sensor contact (radar detection)
	I1 NO/NC = NO
	I2 = Internal sensor contact (radar detection)
	I2 NO/NC = NO

1. With the board switched off, connect the external detector and the internal detector. Follow the colour coding of the wiring shown in the figure.
2. Turn power on to the E2SL board. The detectors turn on.
3. Carry out the SETUP procedure for each detector (see the device instructions).

ℹ️ It is recommended not to activate the "narrow pavement" function which combines radar and infrared detection for opening.

4. If necessary, program the configurable inputs on the automation board differently.

- **from Board**: Basic Programming for the inputs of terminal board J21. Advanced Programming for the inputs of terminal boards J1 and J2.

or

- **from SDK EVO**:

🔧 /PROGRAMMING/INPUTS OUTPUTS…

…INPUTS I1-I2

…INPUTS S1-S2

5. Check for correct operation.
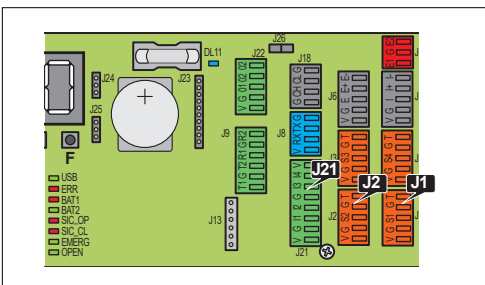
Example: configuration with dual technology entry and exit detectors. This configuration corresponds to the default programming of the board. XV1 or XDT1 detectors can be used, on both the outside or inside.

external
XV1 - XDT1 (external)
XV1 - XDT1 (internal)
internal

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XV1

J21 — I4 V / I3 G / I2 I1 / V G — yellow / white (INTERNAL radar), yellow / white (EXTERNAL radar)

J1 — GT / S1 / V G — blue / brown / pink / grey / red / green — EXTERNAL infrared

J2 — GT / S2 / V G — blue / brown / pink / grey / red / green — INTERNAL infrared

XDT1

J21 — I4 V / I3 G / I2 I1 / V G — yellow / yellow (INTERNAL radar), yellow / yellow (EXTERNAL radar)

J1 — GT / S1 / V G — blue / black / pink / pink / blue / red — EXTERNAL infrared

J2 — GT / S2 / V G — blue / black / pink / pink / blue / red — INTERNAL infrared

☑ 14

F
USB
ERR
BAT1
BAT2
SIC_OP
SIC_CL
EMERG
OPEN
J21 J2 J1

F∧∧C

2 DUAL TECHNOLOGY ENTRY AND EXIT DETECTORS

⚠️ It is obligatory to install protective barriers in the movement areas in the event contact with persons is not allowed.

The XDT1 dual technology detectors allow radar detection to be used for opening and infrared detection to be used for safety. Install 2 entry and 2 exit radar detectors to cover large accesses, in compliance with EN 16005:2012 and DIN18650.

from Board	from SDK EVO
P1 = 24	**S1-S2 safeties**
1F = 4	**S1 Function** = Closing Safety
P2 = 25	**S1 Test** = Enabled
2F = 4	**S1 NO/NC** = NC
	S2 Function = Closing Safety
	S2 TEST = Enabled
	S2NO/NC = NC
C1 = 1	INPUTS I1-I2
C2 = 4	**I1** = External sensor contact
	I2 = Internal sensor contact
	I1 NO/NC = NO
	I2 NO/NC = NO

1. With the board switched off, connect the external and internal detectors. Follow the colour coding of the wiring shown in the figure.
- Connect the 2 external infrared detectors and the 2 internal infrared detectors in series (see figure).
2. Turn power on to the automation board. The detectors turn on.
3. Carry out the SETUP procedure for each detector (see the device instructions).

ⓘ It is recommended not to activate the "narrow pavement" function which combines radar and infrared detection for opening.

4. If necessary, program the configurable inputs on the automation board differently.
- **from Board**: Basic Programming for the inputs of terminal board J21. Advanced Programming for the inputs of terminal boards J1 and J2.

or

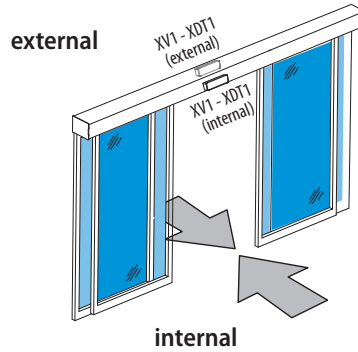- **from SDK EVO**:
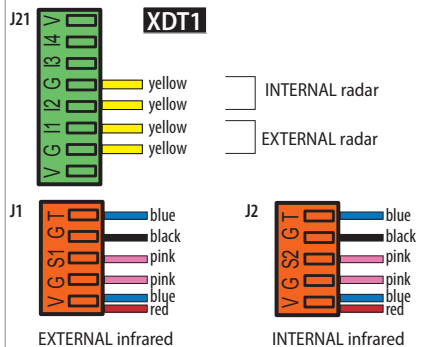🔧 /PROGRAMMING/INPUTS OUTPUTS…
…INPUTS I1-I2
…INPUTS S1-S2
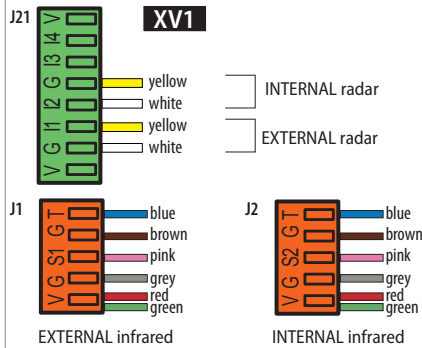5. Check for correct operation.

Example: configuration with 2 dual technology detectors at the entrance and 2 at the exit. This configuration corresponds to the default programming of the board.

🖉16
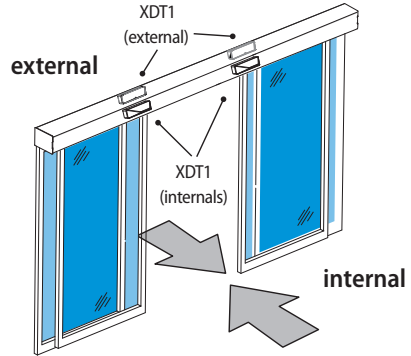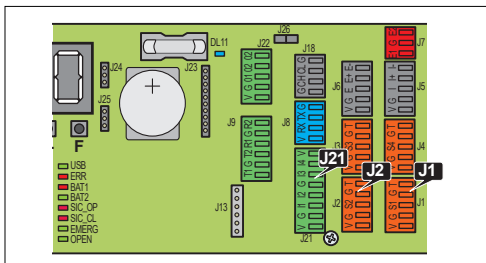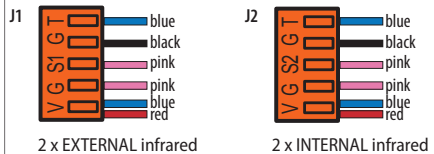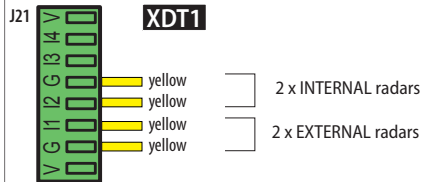
SERIES connection of 2 external infrared detectors and 2 internal infrared detectors.
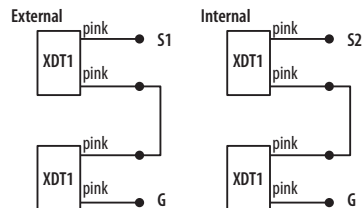
🖉15

INFRARED DETECTOR FOR SAFETY IN OPENING

⚠️ It is obligatory to install protective barriers in the movement areas in the event contact with persons is not allowed.

ⓘ Use this configuration to protect the opening movement space by means of safety detectors.

The XBFA ON infrared detectors allow safety in opening in compliance with EN 16005:2012 and DIN18650.

The **default programming of the E2SL** corresponds to the typical example configuration shown in the figure.

from Board	from SDK EVO
o1 = 5	**Inputs O1**
	O1 Function = TEST
	O1 NO/NC = NO (only via the SDK EVO)
C3 = 21 3F = 4	**INPUTS I3-I4**
	I3 = Safety on opening
	I3 NO/NC = NC
	I3 TEST = Enabled
C4 = 21 4F = 4	**I4** = Safety on opening
	I4 NO/NC = NC
	I4 TEST = Enabled

1. With the board switched off, connect the detectors. Follow the colour coding of the wiring shown in the figure.
2. Turn power on to the E2SL board. The detectors turn on.
3. Carry out the SETUP procedure for each detector (see the device instructions).
4. If necessary, program the configurable inputs on the automation board differently.

- **from Board**: Basic Programming for the inputs of terminal board J21. Advanced Programming for the inputs of terminal board J22.

or

- **from SDK EVO**:

🔧 /PROGRAMMING/INPUTS OUTPUTS…

…OUTPUTS O1-O2

…INPUTS I1-I4

5. Check for correct operation.

Example: configuration with 2 infrared detectors at the exit.

XBFA

J22

blue 1 and 2
black 1 and 2
red 1 and 2
blue 1 and 2

infrared 1 and 2

J21

pink 1
pink 2
pink 1

infrared 1 and 2

pink 2

📷 17

FAAC
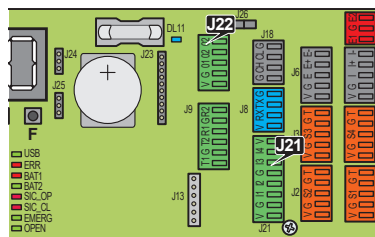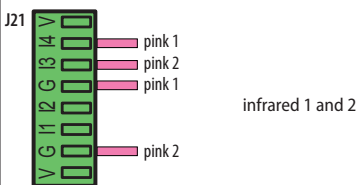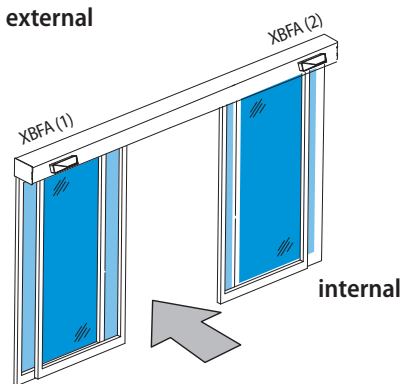
XFA BUTTON PHOTOCELLS

⚠️ Photocells are not permitted as safety devices in European Community countries in which the EN 16005:2012 standard is in force. Specifically, photocells are considered as auxiliary devices, complementary to safety.

The button photocells are active during CLOSING.

1. Connect the photocells.

	CABLE colour
TX - transmitter	grey and blue (grey sheath)
RX - receiver	black and blue (black sheath)

Note: leave the inputs of the connector free if button photocells are not used.

2. Enable the photocells.

- **from Board**: advanced programming

$bP = 1$ 1 pair

$bP = 2$ 2 pairs

or

- **from SDK EVO**:

🔧 /PROGRAMMING/INPUTS OUTPUTS/PHOTOCELLS XFA   1 PAIR or 2 PAIRS

---

1 Pair of button photocells connection

---
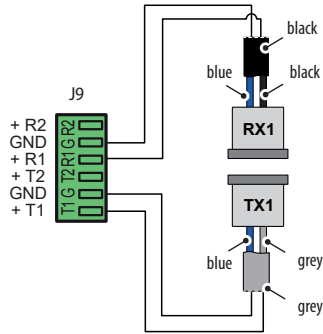
2 Pairs of button photocells connection
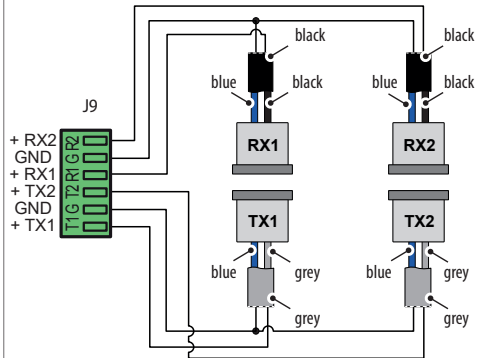
J9

R2	2nd pair receiver connection
G	GND Receiver negative
R1	1st pair receiver connection
T2	2nd pair transmitter connection
G	GND Transmitter negative
T1	1st pair transmitter connection

✎ 18

FAAC

9. INTERCOM

INTERCOM is the network of connected FAAC automatic doors that can be programmed via SDK EVO or Simply Connect (specific instructions). INTERCOM can control up to 15 boards (called NODES)), each of which has a different (ID) number.

INSTALLING INTERCOM

1. Connect all the boards together using 3 wires in a cascade configuration, in any order, to the dedicated connectors. **WARNING**: the JUMPER J26 must ONLY be used on the first and last board of the cascade connection, remove it from intermediate boards (if present).

2. Assign a different ID to each by connecting the SDK EVO in turn to each individual board.
   - 🔧 /PROGRAMMING/INTERCOM/ID: select ID 1 …15

3. Specify the network MASTER by assigning it ID = 1.
   IMPORTANT The MASTER board allows network control. The MASTER must be a E1RD board, if that model is used in the network. The other boards are called SLAVE.

4. Register all the boards in the network via the SDK EVO connected to the MASTER board:
   - 🔧 /PROGRAMMING/INTERCOM/NODES ENTRY
   When finished, NODE LIST appears. Make sure that all the boards have been registered.

OPERATING MODE

The operating mode for all the boards in the network is set using the MASTER board:
   set the mode on the HOME PAGE of the SDK EVO or via a configured input.

BOARDS IN MAINTENANCE

One or more "SLAVE" boards can be disconnected temporarily from the INTERCOM network mode using the "MASTER" board.
- 🔧 /PROGRAMMING/INTERCOM/NODE LIST … (select and confirm the ID)
…MAINTENANCE for the selected ID choose:
   LOCAL = (NOT possible for ID=1) the operating mode of the door is independent of the network INTERCOM
   MANUAL = door in MANUAL mode
   DISABLED = the door resumes operation in network mode INTERCOM

INTERCOM DIAGNOSTICS

Every board in the network can be checked using the MASTER board.
- 🔧 /PROGRAMMING/INTERCOM/NODE LIST (registered IDs)
Select an ID and press OK to display INFO, ERRORS, WARNINGS, CYCLES NUMBER.
   ID…(*) = ID temporarily disconnected from the network
   ID…(!) = ID error

INTERLOCK, INTERLEAVES, AIRSLIDE

To configure **INTERLOCK, INTERLEAVES, AIRSLIDE**, see § Specific sections. You must keep to the pre-set ID associations. An example is shown in ✍ **20**.

Cascade connection. **JUMPER J26**: ONLY on the first and last board of the cascade connection, remove it from intermediate boards (if present).

J18		
G	**GND** Accessories power supply negative and Common contacts
CL	**INTERCOM**
CH	**INTERCOM**
G	**GND** Accessories power supply negative and Common contacts

✍ 19
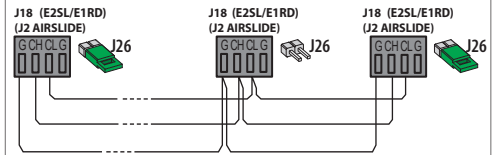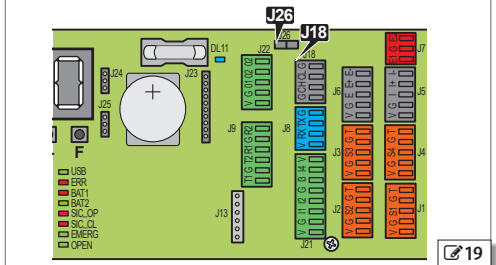
Example of INTERCOM network on 2 accesses (A and B) that both require 2 INTERLEAVES automations. The automatons on access B, that faces the outside, are fitted with AIRSLIDE. A and B are interlocked (INTERLOCK mode): one access can open only when the other is closed.
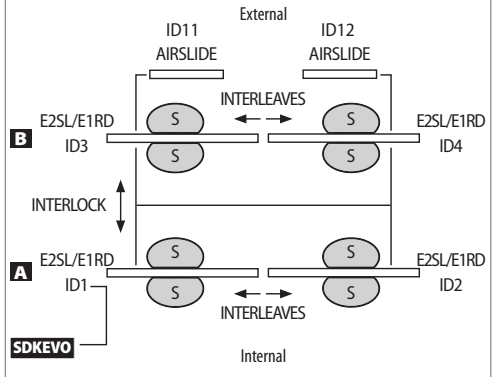
Pre-set ID associations

INTERLOCK

E2SL	E2SL
1	3

INTERLEAVES

E2SL	E2SL
1	2
3	4
5	6
7	8

AIRSLIDE

E2SL	E1AS (DIP switch)
1	9
2	10
3	11
4	12
5	13
6	14
7	15

✍ 20

FAAC

9.1 INTERLOCK

INTERLOCK allows 2 interlocked accesses to be created: the opening of one access is subject to the closing of the other and vice versa.

- Both accesses must be closed in order for a detector or button to OPEN the access. If this condition is not met, the OPEN command is not executed and an "OPEN-request" is generated. The "OPEN-request" it is carried out as soon as both accesses are closed again.

Use one-direction radar detectors (see relative section).

(i) INTERLOCK is not available on E1RD boards.

INTERLOCK can be with or without memory:

■ **INTERLOCK WITH NO MEMORY**

OPEN detectors must be installed both outside and inside each access. The opening is always controlled by the detectors and it is opened only if both accesses are closed.

■ **INTERLOCK WITH MEMORY**

The detector that opens the first access generates the command to open the second access automatically. This command remains in memory to be carried out after the first access has closed.

Set INTERLOCK with memory when OPEN detectors are NOT installed in the area between the two accesses (even if OPEN BUTTONS are installed to prevent entrapment).

INSTALLING INTERLOCK

INTERLOCK can only be programmed between nodes ID1 and ID3.
1. With both boards switched off, connect the boards together (connectors J18) via 3 wires in a cascade configuration, then turn power on to the boards.
2. Connect the SDK EVO to the first board, assign the ID, then enable INTERLOCK.
   - 🔧 /PROGRAMMING/INTERCOM…
   …ID = 1 (MASTER)
   …INTERLOCK WITH MEMORY or NO MEMORY (associated ID)
3. Connect the SDK EVO to the second board and carry out the operations as in step 2, assigning ID 3.

Program any other NODES in INTERCOM.
4. Register all the network IDs using the MASTER:
   - 🔧 /PROGRAMMING/INTERCOM/NODES ENTRY
   When finished, NODE LIST appears. Make sure that all the nodes have been registered.
5. Press ESC repeatedly until you return to the main menu.

ENABLING / DISABLING INTERLOCK

Activate the appropriate input command configured on the MASTER, or via the SDK EVO connected to the MASTER:

→/MODFUN press 🔄 or ⏸ until 🔲 (INTERLOCK active) appears.

INTERLOCK WITH NO MEMORY: OPEN SENSORS inside and outside on access A and also on access B.
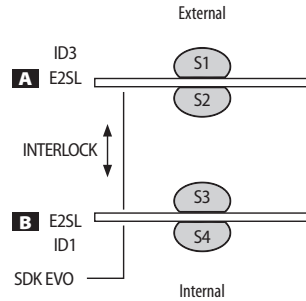
	S1	S2	S3	S4
accesses A and B closed	opens A	opens A	opens B	opens B
access A not closed access B closed	opens A	opens A	OPEN B requested	OPEN B requested
access A closed access B not closed	OPEN A requested	OPEN A requested	opens B	opens B

S1,S2,S3,S4 one-direction radar detectors

INTERLOCK WITH MEMORY: access A with an OPEN SENSOR on the outside, access B with an OPEN SENSOR on the inside.
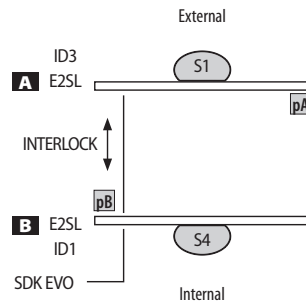
pA, pB OPEN button access A, access B

	S1	S4	pA	pB
accesses A and B closed	opens A then B*	opens B then A*	opens A	opens B
access A not closed access B closed	opens A then B*	OPEN-requested B then A*	----	----
access A closed access B not closed	OPEN-requested A then B*	opens B then A*	----	----

* automatic opening after the first access has closed
S1,S4 one-direction radar detectors

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9.2 AIRSLIDE

An AIRSLIDE device can be installed that is controlled by the automation via the INTERCOM network.   AIRSLIDE is activated when the door is opening or closing, or open (status other than "closed") and deactivates when the door is closed.   The fan speed can be automatically decreased when people are detected(via safety detectors) in the access.

INSTALLING AIRSLIDE

1. Install the AIRSLIDE device following the instructions provided. On the E1AS board:
- assign ID=**9** using the DIP switch **SW4**
- place a jumper between inputs 1 and 3 and the negative (6) on terminal board **J1**
2. With the mains power supply switched off and the emergency battery disconnected, make the network connection between the boards.
3. Turn power on to the boards.
4. With the SDK EVO connected to the E2SL, assign ID 1 to E2SL and then enable AIRSLIDE:
- 🔧 /PROGRAMMING/INTERCOM/ID:
- … INTERCOM ID   ID = 1
- … AIRSLIDE   ENABLED (ID = 9)
5. Register the boards on the network (each board is called a NODE).
   - … NODES ENTRY
   - … ARE YOU SURE?   OK   … WAIT … NODE LIST
6. Enable the function and program the speed of the fan:
   - … NODE LIST   select the ID AIRSLIDE and OK
   - … FUNCTION   select ENABLED and OK
   - … SPEED1 1…4   adjusts the normal speed (e.g. = 3) and OK
   - … SPEED2 1…4   adjusts the reduced speed (e.g. =1) and OK

If you do not require a variable speed,, assign the same value to both.

7. Lastly, press ESC repeatedly until you return to the main menu of SDK EVO.

The NODE LIST menu displays a menu for each board connected the network.
- 🔧 /PROGRAMMING/INTERCOM/NODE LIST   press OK

note: ID indicated with (*) = NOT on network, ID indicated with (!) = error

   NODE LIST   select an ID and press OK to display the menu

   … ID = 1 (A1400 AIR) and OK displays::

INFO (FWversion) …ERRORS …WARNINGS …CYCLES NUMBER …MAINTENANCE allows the door to be placed in manual mode (select MANUAL) or restore operation (select DISABLED)

   … ID = 9 (AIRSLIDE) and OK displays:

INFO (FWversion) …FUNCTION (ENABLED = on network / DISABLED NON on network) …SPEED1 (adjustable) …SPEED2 (adjustable)

To install additional AIRSLIDE, proceed in the same way keeping to the pre-set ID associations.

Automation with AIRSLIDE
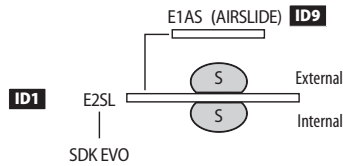
E2SL	E1AS (DIP switch)
1	9
2	10
3	11
4	12
5	13
6	14
7	15
8	

E1AS (AIRSLIDE)

DIP switch SW4: ID=9

SW4

Terminal board J1: place a jumper between inputs 1 and 3 and the negative.
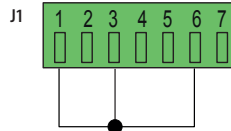
Network connection between boards E2SL (J18) / E1AS (J2)
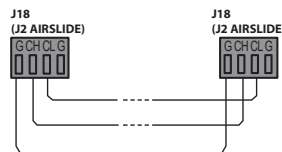
J18

G	**GND** Accessories power supply negative and Common contacts
CL	**INTERCOM**
CH	**INTERCOM**
G	**GND** Accessories power supply negative and Common contacts

F∆∆C
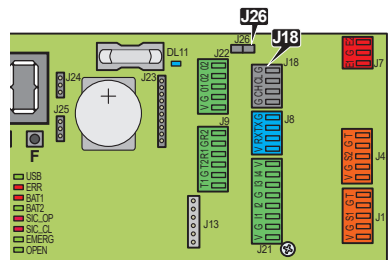
9.3 INTERLEAVES

INTERLEAVES allows pairs of automations that work simultaneously to cover an access (simultaneous opening/closing) to be created.

PULL & GO If activated on both boards, it has an effect on both and opens both leaves.

Obstacle has an effect on both. If an obstacle is detected on a closing leaf, both leaves reopen.

RESET is carried out on both boards.

OPEN and **SAFETY inputs** The OPEN and SAFETY inputs (from 1 to 29) are transmitted from one board to the other and have a simultaneous effect on both leaves in INTERLEAVES.

EMERGENCY inputs The EMERG inputs (from 30 to 39) must be connected to an odd numbered ID if you want them to have simultaneous effect on the pair of INTERLEAVES. E.g. EMERG OPEN connected to ID1 for the simultaneous emergency opening of ID1 and ID2. If connected to even numbered IDs, the EMERG inputs only activate the board that is connected. E.g. EMERG OPEN connected to ID2 for the emergency opening of ID2 only.

MODFUN input The MODFUN is set on the MASTER (ID1).

TIMER input The TIMER is set on the MASTER (ID1).

INSTALLING INTERLEAVES

1. With both boards switched off, connect the boards together (connectors J18) via 3 wires in a cascade configuration, then turn power on to the boards.
2. Connect the SDK EVO to the first board, assign the ID, then enable INTERLEAVES:
   - 🔧 /PROGRAMMING/INTERCOM…
   …ID   pre-set IDs (✏ **23**)
   …INTERLEAVES   select ENABLED   (associated INTERLEAVES ID)
3. Connect the SDK EVO to the second board and carry out the operations as in step 2, assigning the associated INTERLEAVES ID.

Program any other NODES in INTERCOM.

4. Register all the network IDs using the MASTER:
   - 🔧 /PROGRAMMING/INTERCOM/NODES ENTRY
   When finished, NODE LIST appears. Make sure that all the nodes have been registered.
5. Press ESC repeatedly until you return to the main menu.

To install additional INTERLEAVES, proceed in the same way keeping to the pre-set ID associations.

Example of 2 automations in INTERLEAVES mode covering one access.
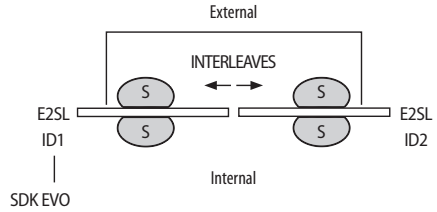
Pre-set IDs for INTERLEAVES:

E2SL	E2SL Associated INTERLEAVES ID
1	2
3	4
5	6
7	8

With SDK EVO connected to the first E2SL:
- 🔧 /PROGRAMMING/INTERCOM…
…ID   1
…INTERLEAVES   ENABLED (ID = 2)

With SDK EVO connected to the second E2SL:
- 🔧 /PROGRAMMING/INTERCOM…
…ID   2
…INTERLEAVES   ENABLED (ID = 1)

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10. FW UPDATES AND FILE DOWNLOAD - USB

FAAC provides updated firmware in a package called ZIPACK, which contains the files in versions that are compatible with one another. In order to be used, the files must be saved to the root directory of a USB storage device (not in a folder or zip file and without the original names being changed).

ⓘ Use a USB memory device that has a maximum power consumption of 500 mA and formatted with the FAT or FAT 32 file system. The NTFS format is not recognised by the board.

AUTOUPDATE

1. With the board switched on, insert the USB memory device into connector J17, then press and release the RESET button.
   (alternatively, with the board switched off, insert the USB memory device into connector J17 and then switch on the board).
2. ᑍᗅ will appear on the display: the board automatically loads all the files that are needed to update the board and all the connected accessories from the USB storage device.
 - ‾‾ appears on the display while the board is being updated, then, when the update has finished, it reverts to displaying ᑍᗅ; the display then switches to the FW version and then to the door status display. (It is possible to access the Upload/Download menu by pressing and releasing the **F** button within 3 s from when ᑍᗅ appears on the display).

It is not necessary to remove the USB storage device.

UPLOAD/DOWNLOAD MENU

1. With the board switched on, insert the USB memory device into connector J17, then press and release the RESET button.
   (alternatively, if the board is switched off, insert the USB memory device into connector J17 and then switch on the board).
2. ᑍᗅ appears on the display and the USB led turns on.
3. Press and release the **F** button to scroll through the Upload / Download Menu options (see relative table).

UPLOAD OPERATIONS (updating or loading settings)

Press and hold the **+** and **–** buttons simultaneously for at least 3 seconds in order to carry out the procedure displayed.
 - the update starts: ‾‾ flashes on the display. Release the buttons.
 - The procedure is complete when ᒷ appears on the display.

If there are errors ᑍᗅ appears on the display and the red ERR led is lit. To display the error code, press the **+** and **–** buttons simultaneously. The errors are described in the Diagnostics Section, ▦ Bootloader errors.
 - Press **F** to return to the menu.

When finished, remove the USB storage device.

DOWNLOAD OPERATIONS (saving files from board to USB)

Press and hold down the **+** and **–** buttons simultaneously for at least 3 seconds in order to run the function displayed, until ᗅᵣ appears on the display.

Release the buttons and use the **+** or **–** buttons to select the method for saving the file to the root of the USB storage device: ᗅᵣ (overwrite) or ᗅᒼ (add).

Press **F** to confirm.
 - The procedure is complete when ᒷ appears on the display.

If there are errors ᑍᗅ appears on the display and the red ERR led is lit. To display the error code, press the **+** and **–** buttons simultaneously. The errors are described in the Diagnostics Section, ▦ Bootloader errors.
 - Press **F** to return to the menu.

When finished, remove the USB storage device.

Files in the ZIPACK	Bootloader 1.0 and later	Bootloader 0.5
board firmware (ᑌᑭ)	E2SL_xx.hex	1400.hex
KS EVO firmware (ᑌ�E)	KS_xx.hex	KS EVO.hex
LK EVO firmware (ᑌE)	LK_xx.hex	LK EVO.hex
SDK EVO firmware (ᑌE)	SDK_xx.hex	SDK EVO.hex
SDK EVO languages (ᑌE)	SDKL_xx.bin	SDK EVO_L.bin

Files saved from the board	Bootloader 1.0 and later	Bootloader 0.5
programming (ᑌᒼ ᒼᑎ)(*)	E2SL.prg	1400.prg
programming TIMER (ᑌᑏ ᒼᑏ)(*)	E2SL.tmr	1400.tmr

(*) The ᗅᵣ mode saves the file without a suffix and overwrites any existing file with the same name in the USB memory (e.g. E2SL.prg).

The ᗅᒼ mode saves the file by adding a 2-digit suffix to the name (e.g. E2SL00.prg) and if there is already a file with the same name in the root of the USB storage device, the number of the suffix is incremented (e.g. E2SL01.prg and so on). **Note**: the suffix must be deleted if you wish to load the file from the UPLOAD MENU.

Files saved from a board with bootloader version 0.5 cannot be loaded onto a board with bootloader 1.0 or later, and vice versa.

BOOTLOADER AND FW VERSIONS

SDK EVO allows the firmware versions (APP) of the SDK EVO, the E2SL board, the DM board, if the DM KIT is installed, and the installed devices to be displayed.

SDK EVO: 🔧/INFO

▦ **8** Upload/Download Menu

ᑌᑭ	Board FW update
ᑌE	SDK EVO, LK EVO, KS EVO firmware update including translations of messages displayed by the device
ᑌᒼ	Load the E2SL board programming.
ᑌᑏ	Load the TIMER programming
ᒼᑎ	Save the board programming
ᒼᑏ	Save the board's TIMER configuration (*)

FAAC

11. DIAGNOSTICS

LEDS ON THE BOARD

Key to LEDs

● on	○ off	
✳ flashing	☼ board in sleep mode: off with flashing every 5 s	
(←) indicates the condition of the LEDs with the board powered and in standby		

- **MAIN (BLUE)   Main power supply unit input**
- ● main power supply ON   ←
- ○ no main power supply

- **DL2 (BLUE)   Board power +5V**
- ● board power ON   ←
- ○ no board power

- **DL11 (BLUE)   Accessories power supply (+24 V ⎓)**
- ● accessories power on   ←
- ○ no accessories power

- **USB (GREEN)   USB storage device**
- ● device present
- ○ device not present   ←

- **ERR (RED)   Error/Alarm in progress**
- ● error
- ○ no error/alarm   ←
- ✳ alarm

- **BAT1 (RED)   Battery status**
- ● battery discharged
- ○ battery charged   ←
- ✳ battery in use
- ☼ battery discharged with no mains power supply

- **BAT2 (GREEN)   Battery charger status**
- ● battery charger at rest
- ○ battery charger not working due to mains power failure or fault
- ✳ battery charger in use

- **SIC_OP (RED)   Safety in opening input**
- ● input active (sensors engaged)
- ○ input not active (sensors not engaged)   ←

- **SIC_CL (RED)   Safety in closing input (including XFA photocells)**
- ● input active (sensors engaged)
- ○ input not active (sensors not engaged)   ←

- **SIC_OP (RED) + SIC_CL (RED)   Lit simultaneously = Safety Input STOP**
- ● input active (sensors engaged)
- ○ input not active (sensors not engaged)   ←

- **EMERG (GREEN)   Emergency Input**
- ● input active (door opened in emergency)
- ○ input not active   ←

- **OPEN (GREEN)   Open INPUT**
- ● input active
- ○ input not active   ←

LEDs on the board

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FW VERSIONS

The FW version of the board appears on the display when you switch it on. SDK EVO allows the FW versions of the SDK EVO, the E2SL board, the DM board, if the DM KIT is installed, and the installed devices to be displayed.

- **from SDK EVO**: 🔧/INFO

  ... SDK EVO

SDK EVO BOOT	VER x.x	BOOTLOADER (NOT updatable)
SDK EVO APP	VER x.x	FIRMWARE (updatable)
SDK EVO LAN	VER x.x	LANGUAGE file (updatable)

  ... E2SL

| E2SL BOOT | VER x.x | BOOTLOADER (NOT updatable) |
| E2SL APP | VER x.x | FIRMWARE (updatable) |

  ...

AUTOMATION AND CONFIGURED INPUTS STATUS

The STATUS of the automation is displayed in real time on the board display (⊞ Status of the automation) and on the SDK EVO.

- **from SDK EVO**: 🔧/PROGRAMMING/INSTALLATION/DOOR STATUS

The STATUS of the configured inputs can be seen:

- **from board** Advanced Programming: function In
- **from SDK EVO**: 🔧/PROGRAMMING/INSTALLATION/INPUTS STATUS

Example Input S2 active:

```
        INPUT STATUS
  IN1    IN2    IN3    IN4
  S1     S2
                O1     O2
  MR     E1     E2     FSW
                              OK
```

ERRORS AND WARNINGS

To display the codes for the current ERRORS/WARNINGS, then see table ⊞ Errors, Alarms/Info codes.

- **from board**: simultaneously press and hold the **+** and **−**, the display shows:

  Er appears on the display and then all the active error/warning codes (e.g. Er 07 18 ...)

- **from SDK EVO**: 🔧 ...
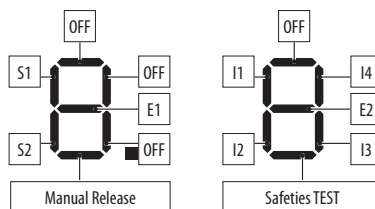
... ERRORS

... WARNINGS

ⓘ - The ERRORS stop the automation from operating and are indicated by: steady RED ERR LED and status I∃ on the display.
- The WARNINGS refer to malfunctions that should be investigated, or operating modes and phases in progress. The ALARMS are indicated by: flashing RED ERR LED. The INFO notifications do not activate LEDs.

⊞ 9 Status of the automation

00	CLOSED
01	OPENING
02	OPEN
03	in PAUSE
04	in NIGHT-TIME PAUSE
05	CLOSING
06	OPEN or STOPPED or CLOSED in EMERGENCY (depending on programming)
07	in MANUAL mode
08	in NIGHT-TIME mode
10	System TEST in progress
11	STOPPED
12	Safety TEST in progress
13	Door ERROR (Press + and − simultaneously to display the ERROR)
L0	(flashing) SETUP in progress - startup phase
L1	(flashing) SETUP in progress - closing phase
L2	(flashing) SETUP in progress - opening phase
.	in SLEEP mode (point flashing)
⊐⊏	Programming is in progress via Simply Connect and programming via the board is inhibited

Status of configured inputs - shown on the display:

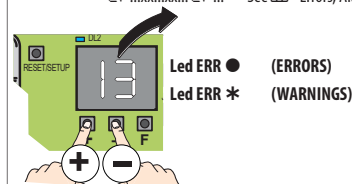segment lit = input active

(OFF = segment always off)

Manual Release   Safeties TEST

🖉 25

Displaying errors/warnings on the display:

Er...xx...xx... Er...   See ⊞ Errors, Alarms/Info codes

Led ERR ● (ERRORS)
Led ERR ✳ (WARNINGS)

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FAAC

⊞ **10** Errors, Alarms/Info codes

The 3 digit codes (100 . . .) can only be viewed from the SDK EVO.

Errors (number on white background) Alarms (number on grey background) Info (i) (number on grey background)		Required action (after the intervention RESET is recommended) Some errors cause the board to AUTORESET: after the error has been active for 30 s the board attempts to RESET (maximum 5 attempts).
00	(i) No warnings	
01	Board failure	Perform the RESET. If the problem persists, replace the E2SL. (AUTORESET)
04	Accessories power supply fault	Check the accessories connection for short circuits. Check the current drawn by the connected accessories and that maximum indicated load is not exceeded. Check the accessories protection fuse (on boards fitted with one). Perform the RESET. If the problem persists, replace the control board.
05	FW fault	Make sure that there are no sources of electromagnetic interference too close to the board. Update E2SL FW. (AUTORESET)
07	Motor 1 fault	Motor disconnected or short-circuited. Check the wiring. If the problem persists, replace the motor. (AUTORESET)
08	Motor 2 fault	Motor disconnected or short-circuited. Check the wiring. If the problem persists, replace the motor. (AUTORESET)
09	Power supply fault/No mains power	Check the voltage supplied by the power supply unit. Make sure that there is mains power. (AUTORESET)
10	Low battery	The charge level of the emergency battery is low; it does not allow movements to be carried out. Turn the mains power back on.
11	FAIL-SAFE test failed in closing	Movement is inhibited because the TEST on the input configured as safety has failed. Check the connection and operation of the connected safety device. Check the programming of the input.
12	FAIL-SAFE test failed in opening	Movement is inhibited because the TEST on the input configured as safety has failed. Check the connection and operation of the connected safety device. Check the programming of the input.
15	SETUP inhibited	Make sure that the automation type has been selected correctly, that Night-time or Manual mode has not been selected, that an emergency input is not active, that the automation is NOT operating on the battery due to a mains power failure.
16	Encoder 1 fault	Make sure that the encoder is connected properly. If the problem persists, replace the encoder or the board. (AUTORESET)
17	Input faults	Check that the micro switches for the XBO anti-panic system are connected properly: a pair of inputs (main/associated) intended for double-contact devices has to be used for each leaf (section § EMERGENCY INPUTS). When finished, perform a RESET.
18	Access breakout	Access breakout. Access breakout detected on an input configured as EMERG BREAKOUT OPEN or EMERG BREAKOUT STOP. Re-arm the leaf.
19	Friction too high	Check the leaves slide smoothly with power supply, battery and motors disconnected. Remove any friction. Check the counter wheel. (AUTORESET)
22	Programming data corrupted	Programming data NOT valid or corrupted. Repeat the 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.
25	LOCK1 fault	LOCK1 fault prevents opening. Check the connection. Remove the cause of the short circuit. (AUTORESET)
27	Motor 1 rotation fault	Check that the belt is connected correctly according to the opening/closing direction of the door.
29	Auxiliary board fault	Check the specific error code via SDK EVO and refer to the errors related to the Double motor (DM) (in this table, from 200 onwards). (AUTORESET)
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. 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.
37	(i) Clock battery discharged or missing	Replace the clock battery.
38	Programming parameters changed	Modified programming, NOT consistent with the SETUP. Restore the previous settings or run the SETUP procedure.
39	Invalid or Missing SETUP	Perform the SETUP. If the problem persists, replace the board or motor.
40	PEOPLE IN - MAX CAPACITY REACHED	The maximum number of people allowed in the premises has been reached, programmed (via **Simply Connect**) for the SAFE FLOW function.
41	(i) Date/time is missing	TIMER date/time missing. Replace the buffer battery BAT1 - CR2032, then reset the time and date on the board via Simply Connect/SDK EVO.
44	Emergency input active	Emergency input is active. To check which emergency input is active, press the buttons + and − at the same time.
45	(i) TIMER enabled	The TIMER is enabled on the board.
46	(i) TIMER function in progress	A TIMER function mode is in progress via Simply Connect/SDK EVO.

Errors (number on white background)	Required action (after the intervention RESET is recommended)
Alarms (number on grey background)	Some errors cause the board to AUTORESET: after the error has been active for 30 s the board attempts to
Info (i) (number on grey background)	RESET (maximum 5 attempts).
47	Last movement carried out with battery	The automation has carried out the last programmed movement using the battery.
51	(i) Obstacle detected when closing	The notification disappears on the next movement.
52	(i) Obstacle detected when opening	The notification disappears on the next movement.
53	Number of cycles corrupted	Replace the board and carry out maintenance on the system.
54	LOCK anomaly	Perform the RESET. Check the motor block.
55	(i) Pharmacy in progress	PHARMACY OPEN is in progress.
56	Battery operation	The notification remains as long as the automation is operating on the battery due to a mains power failure.
57	(i) Search for opening stop in progress	Slow movement while searching for the OPENING stop. The notification remains as long as the phase is in progress.
58	(i) Search for closing stop in progress	Slow movement while searching for the CLOSING stop. The notification remains as long as the phase is in progress.
59	Lock fault from surveillance kit	Perform the RESET. If the problem persists, replace the motor block.
60	Maintenance request	Ask the installer to carry out scheduled maintenance.
63	Intrusion attempt in progress	An attempt to open the leaf manually has been detected. Start a movement.
65	SETUP IN PROGRESS	The SETUP is in progress. The notification remains as long as the phase is in progress.
67	Battery saving operating	E2SL is operating on battery, in SLEEP mode. To prevent the emergency battery from being discharged, power to the accessories is switched off apart from to the SDK EVO.
68	FAIL-SAFE slow motion	The automation moves at slow speed because the TEST has failed on inputs configured as safeties. Check that the safety detector is working. If the problem persists, replace the device.
69	(i) Door opened with SEMIAUTOMATIC OPEN command	The automation is opened from the Semiautomatic OPEN input.
70	Low battery	The charge level of the emergency battery is too low for the movements to be carried out.
71	(i) INTERCOM functionality active	The board is in INTERCOM mode with other boards.
72	INTERCOM fault	No communication between the Master board and the Slave node. Check the connections between the boards.
73	(i) INTERLOCK function active	An INTERLOCK function has been programmed.
74	(i) INTERLOCK mode in progress	The automation is in INTERLOCK mode.
75	(i) INTERCOM SLAVE node in manual or local maintenance	The board is a SLAVE in INTERCOM mode and is in manual/local maintenance.
77	(i) INTERCOM registration in progress	The MASTER automation is registering nodes.
78	(i) AIRSLIDE function in progress	The automation is in AIRSLIDE mode.
79	(i) INTERLEAVES function in progress	The automation is in INTERLEAVES mode.
80	Safeties in opening disabled	The safety in opening devices have been disabled (via Simply Connect).
81	Safeties in closing disabled	The safety in closing devices have been disabled (via Simply Connect).
84	Internal and external sensors disabled	The entry and exit sensors have been disabled (via Simply Connect).
90	Programming in progress	Programming is being carried out via Simply Connect.
91	Accessory board awaiting FW update	The FW update is required for a connected accessory, e.g. **SDK EVO**. Carry out/repeat the update procedure using a suitable ZIPACK.
99	Control board data deletion	All the E2SL data has been deleted.

DM ERRORS Second Motor BOARD errors	
200	UC FAILURE (Corrupted FW or Corrupted RAM)(DM)	RESET the board. If the error persists, replace the board.
201	MOTOR FAILURE (DM)	Check the motor wiring. RESET the board. If the error persists, replace the DM motor.
202	HIGH MECHANICAL FRICTION (DM)	Manually check smooth sliding of the leaves along the entire space acquired during SETUP.
203	BOARD FAILURE (DM)	RESET the board. If the error persists, replace the board.
204	BOARD FW NOT COMPATIBLE (DM BOARD)	UPDATE the FW of the DM board.
205	MOTOR ROTATION (DM)	INVERT THE DM MOTOR CONNECTION.

ENGLISH

Translation of the original instructions

209	COMMUNICATION ERROR (DM)	If necessary, update the FW of the automation board.
210	RESET IN PROGRESS (DM)	RESET is in progress.
216	ANOMALY IN COMMUNICATION WITH DM BOARD	RESET the board. Update the FW of the DM board. If the problem persists, replace the DM board.
217	POSITION ERROR (DM)	Incorrect Opening Position. RESET the board. If the error persists, replace the board.
218	OBSTACLE (DM)	Check for obstacles.
219	BOARD ID ERROR	Replace the board.
220	BOARD POWER SUPPLY FAULT (DM)	RESET the board. If the error persists, replace the board.
221	TIMEOUT (DM)	RESET the board. If the error persists, replace the board.
222	BOARD TEST ERROR (DM)	Replace the board.
223	COMMUNICATION ERROR (DM)	Replace the board.
224	FW NOT COMPATIBLE (DM)	Update the FW of the DM board.
SDK EVO Errors		
601	FW FAULT SDK EVO	Carry out the RESET procedure. If the error persists, replace the SDK EVO.
602	SDK EVO FAILURE	Carry out the RESET procedure. If the error persists, replace the SDK EVO.
603	SDK EVO LANGUAGE LOADING ERROR	Carry out the RESET procedure. If the error persists replace the SDK EVO.
604	SDK EVO FW ERROR	Update the SDK EVO firmware.
605	BOARD COMMUNICATION ERROR	Check the connections. If the error persists, the communication channel of the board, the SDK EVO, or both are damaged. Replace the board or the SDK EVO.
606	SDK EVO CONNECTED TO A BOARD THAT IS NOT RECOGNISED	Check the type of board.

⊞ **11** Bootloader (bo) Error codes

| b1	UPDATE FILES MISSING FROM USB	Check for files on the USB memory device.
b2	FILE WRITING ERROR	Download the files to the USB storage device again.
b3	DEVICE BEING UPDATED INCORRECT OR MISSING	The connected device on which you are attempting to update the FW is not compatible or not connected.
b4	FW UPDATE ERROR	File read error. Repeat update from USB.
b5	FILE READ ERROR	File corrupted or not the right one, device to be updated.
b6	PASSWORD ERROR	Password file different to the one on the board.
b7	BOARD FAILURE	Replace board.
b8	Microcontroller fault	Replace board.
b9	USB ERROR	USB device not recognised, not formatted with the FAT or FAT 32 file system, or faulty.

11.1 RESET

A Reset has to be carried out to restart the board when the automation is blocked due to an ERROR or an EMERGENCY WITH MEMORY.

It can be Reset in one of the following ways:

- from the button on the board: press the RESET button briefly
- from a configured input: activate the specially configured input
- from the SDK EVO: press the two central buttons simultaneously
- from the LK EVO: press the two buttons simultaneously (⇧ + ❄)

RESET from button on the board
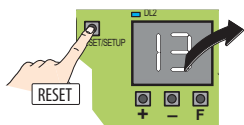
RESET

RESET from configured input

Input	Terminal board	Button	
I1		C1	
I2	J21	C2	
I3		C3	
I4		C4	
S1	J1	P1	6I
S2	J2	P2	RESET
S3	J3	P3	
S4	J4	P4	
I	J5	Id	
E	J6	Ed	
E1	J7	E1	
E2		E2	

11.2 RESTORING FACTORY SETTINGS

The procedure:

- deletes the SETUP data and any TIMER programming
- restores all the programming defaults, including the model of the automation
- resets the cycle counters
- causes the time and date to be lost
- restores the default password (0000)
1. Turn off the mains power supply and disconnect the emergency battery (if present), then turn the mains power back on.
2. Within the first 4 s after switching on (while the display is showing the FW version), press the **+ − F** buttons simultaneously for about 5 s
- The display indicates − −
3. Release the buttons: the display will indicate the status of the automation.

After restoring the factory settings, carry out the set-up procedure again.

RESTORING DEFAULT SETTINGS

To restore programming defaults ONLY:

- **from board** Basic programming: dF select default 1 or 2
- **from SDK EVO**: 🔧 /PROGRAMMING/MISCELLANEUS/CONFIG. DEFAULT select OK

the following question appears:

DO YOU WANT TO LOAD DEFAULT CONFIG 1? Select OK to confirm, or change option (⬆ ⬇). DO YOU WANT TO LOAD DEFAULT CONFIG 2?
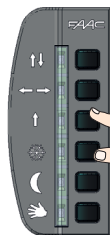
RESET from SDK EVO

HOME PAGE

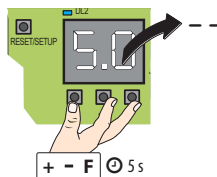🖐 + 🔧 (⏱ 5 s)

Release when the flashing Error message disappears.

RESET from LK EVO

⬆ + ❄ (⏱ 5 s)

After 5 s the corresponding LEDs (⬆ and ❄) start to flash.

Release when the Error LEDs turn off.

Restoring factory settings

+ − F ⏱ 5 s

within 4 s of switching on

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⊞ **12** Troubleshooting guide

This guide refers to situations not covered in the table ⊞ Errors, Alarms/Info codes.

CONDITION	SUGGESTION
SDK EVO off	There is no mains voltage, the board is operating on battery in NIGHT-TIME mode and energy saving mode.
	Connection to the board has been interrupted: check the cables and wiring between the SDK EVO and the board.
	The board is not working correctly: replace the board.
All LEDs are off	Make sure that the primary protection fuse in the power supply unit has not tripped.
	Make sure that connector J1 has been correctly connected to the board.
	Check the connection to the power supply unit.
	The board is not working correctly: replace the board.
MAIN LED off - LED 24 V === on	No mains power and the board is working on battery.
The door DOES NOT CLOSE	The safeties in closing are busy.
	The emergencies are active.
	Make sure that OPEN mode has not been activated.
	Make sure that MANUAL mode has not been activated.
	Check the motor connection.
	Make sure that the motor block is not blocked.
	Check presence of motor power supply voltage.
The door DOES NOT OPEN	The safeties in opening are busy.
	The emergencies are active.
	Make sure that MANUAL mode has not been activated.
	Make sure that NIGHT-TIME mode has not been activated.
	Check the motor connection.
	Make sure that the motor block is not blocked.
	Check presence of motor power supply voltage.
The door CLOSES instead of OPENING and vice versa	Check the belt fitting on the board and perform SETUP.
The door only moves for short stretches	Check correct insertion of the encoder connector.
	Check the condition of the encoder.
	Check the condition of flat encoder connection cable.
The door performs movements at very low speed	Make sure that the selected speeds are appropriate.
	Make sure that the slowing down spaces are appropriate.
The door accelerates or slows down suddenly during an acceleration in opening and/or closing.	Modify the Force and force Time on obstacle (cF, oF, tF - 🔧 / PROGRAMMING/MOTION)
The door does not perform SETUP	Automation in NIGHT-TIME mode.
	Automation in MANUAL mode.
	Active internal or external release.
	The emergencies are active.
	Motor or encoder not connected, not powered or faulty.

FAAC

12. LK EVO

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

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

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

4. Connect to the E2SL board:

J8

G	GND Accessories power supply negative and Common contacts
TX	Data transmission
RX	Data reception
V	+24 V === (accessories power supply)

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

⚠ **LK EVO LOCK DEVICE** The lock device is optional. Connect a key command with an NC contact to terminals G and K (see the figure 🖉).

5. Assemble the parts by pressing lightly.

SWITCHING ON Turn power on to the E2SL board.
- The LEDs turn on and off in sequence, then the LED corresponding to the active operating mode remains on.
  If the ☾ ❄ LEDs are both lit at the same time, it indicates that the automation is in an operating mode that is NOT available on the LK EVO.
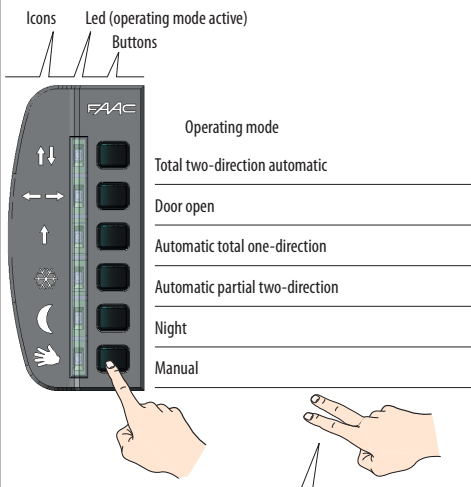
OPERATION (⊞ **LK EVO Operating buttons**) To select the operating mode, press the corresponding button. For special functions, press the 2-button combinations indicated.

ERRORS In the event of errors, the combination of LEDs corresponding to the active error flashes for a few seconds.
WARNINGS In the event of warnings, the combination of LEDs ↑↓ ❄ flashes for a few seconds.
See the table ⊞ LED Error Coding on Function selectors.

⊞ **13** LK EVO Operating buttons

Icons Led (operating mode active) Buttons

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

2-button combinations:

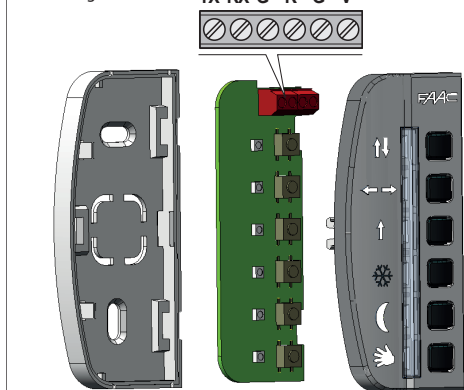|		
←→ + ☾	(⊙ 5 s)	**LOCK / UNLOCK** Press for approximately 5 s to Lock/Release the keypad (the LEDs turn on and then off)
↑ + ❄	(⊙ 5 s)	**RESET** (the LEDs corresponding to the Error flash until the buttons are pressed, release when they turn off)
↑↓ + ←→	(⊙...)	**WARNINGS** To display the active warnings,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

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Assembling the LK EVO

TX RX G K G V

LK EVO connection Connect to the terminals as shown.

E2SL/E1RD J8

V RX TX G

U/UTP CAT.5 4x2xAWG24

V RX TX G

TX RX G K G V

LK EVO

V RX TX G
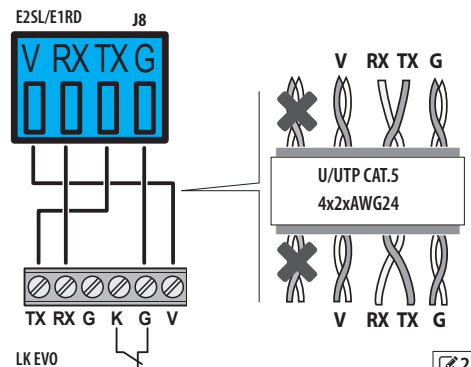
🖉 **28**

14 LED Error Coding on Function selectors

Errors		↑↓	←→	↑	❄	☾
I	Board failure	✱				
4	Accessories power supply fault			✱		
5	FW fault	✱			✱	✱
7	Motor 1 fault	✱	✱	✱		
9	Power supply fault/No mains power		✱			
11	Closing FAIL-SAFE test failed	✱	✱		✱	
12	Opening FAIL-SAFE test failed					
15	SETUP inhibited	✱	✱	✱	✱	
16	Encoder Fault					✱
17	Double contact inputs fault	✱	✱			
19	Friction too high	✱	✱			✱
22	Programming data corrupted	✱		✱		
24	Consecutive obstacles in closing				✱	✱
31	Consecutive obstacles in opening					
25	ANOMALY ON LOCK1		✱		✱	✱
27	Motor rotation fault	✱	✱		✱	✱
29	Auxiliary board fault	✱		✱	✱	✱
32	Motion timeout				✱	
38	Programming parameters changed	✱				✱
39	SETUP incorrect/missing		✱	✱	✱	
99	Control board data deletion	✱	✱	✱	✱	✱
	Indicates that an emergency or a maintenance request is active (specific reports are available on LK EVO: 44, 60)	✱			✱	

15 LED Warning coding - LK EVO

Warnings		↑↓	←→	↑	❄	☾	✋
37	Clock Battery discharged		✱		✱		✱
44	Emergency input active					✱	✱
51	Obstacle detected during closure	✱				✱	✱
52	Obstacle detected during opening		✱			✱	✱
54	LOCK fault			✱		✱	✱
56	Battery operation	✱		✱		✱	✱
59	Lock fault from surveillance kit	✱	✱	✱		✱	✱
60	Maintenance requested				✱	✱	✱
68	FAIL-SAFE slow movement		✱		✱	✱	✱

16 FW version LED coding - LK EVO

FW version	↑↓	←→	↑	❄	☾	✋
FW 1.0		✱		✱		
FW 1.1	✱	✱		✱		
FW 1.2			✱	✱		
FW 1.3	✱		✱	✱		
FW 1.4		✱	✱	✱		
FW 1.5	✱	✱	✱	✱		
FW 1.6					✱	
FW 1.7	✱				✱	
FW 1.8		✱			✱	
FW 1.9	✱	✱			✱	
FW 2.0			✱		✱	
FW 2.1	✱		✱		✱	
FW 2.2		✱	✱		✱	
FW 2.3	✱	✱	✱		✱	
FW 2.4				✱	✱	
FW 2.5	✱			✱	✱	
FW 2.6		✱		✱	✱	
FW 2.7	✱	✱		✱	✱	
FW 2.8			✱	✱	✱	
FW 2.9	✱		✱	✱	✱	
FW 3.0		✱	✱	✱	✱	
FW 3.1	✱	✱	✱	✱	✱	

FAAC

13. KS EVO

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

INSTALLATION AND CONNECTION

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

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

4. Connect to the E2SL board:

J8

G	GND Accessories power supply negative and Common contacts
TX	Data transmission
RX	Data reception
V	+24 V ⎓ (accessories power supply)

- use a 4 twisted pair U/UTP AWG24 cable with a maximum length of 50 m
5. Assemble the parts and fix it in place with the screws provided.

SWITCHING ON

Turn power on to the E2SL board.
- The LEDs turn on and off in sequence, then the LED corresponding to the active operating mode remains on (apart from manual mode).

ERROR WARNINGS In the event of errors, the combination of LEDs corresponding to the active error flashes for a few seconds (⊞ LED Error Coding on Function selectors).

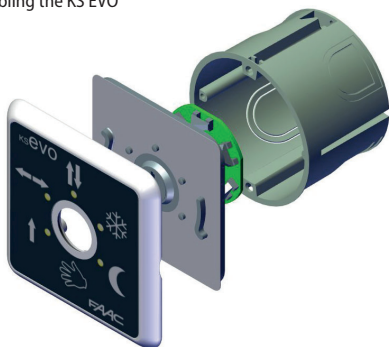| ↕	Total two-direction automatic
↔	Door open
↑	Automatic total one-direction
❄	Automatic partial two-direction
☾	Night
✍	Manual

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

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Assembling the KS EVO

KS EVO connection   Connect to the terminals as shown.

E2SL / E1RD

V RX TX G

U/UTP CAT.5
4x2xAWG24

V RX TX G — J8

V RX TX G — J1

KS EVO

✎ 31

F∕A∕C
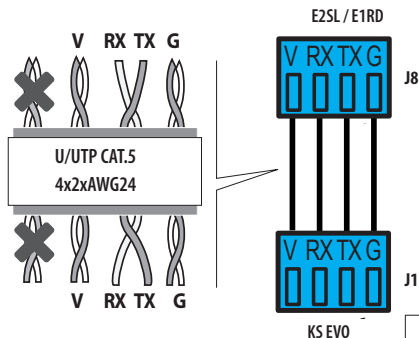
14. SDK EVO

The SDK EVO allows you to select the operating mode of the automation using buttons and menus. The active operating mode is indicated on the display.

The SDK EVO allows the automation to be programmed with wider number of options compared to programming via the board.

SDK EVO LOCK DEVICE

SDK EVO has a safety feature that protects the buttons via a PASSWORD. Alternatively, it is possible to connect a key command with an NC contact to terminals G and K.

The lock device is optional. The lock device can be programmed from the menu:

🔧 /PROGRAMMING/MISCELLANEUS/SDK EVO KEY

INSTALLATION AND CONNECTION

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

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

4. Connect to the E2SL board:

J8

G	GND Accessories power supply negative and Common contacts
TX	Data transmission
RX	Data reception
V	+24 V ⎓ (accessories power supply)

- use a 4 twisted pair U/UTP AWG24 cable with a maximum length of 50 m
  OPTIONAL CONNECTION - key command SDK EVO Connect a key command with an NC contact to terminals G and K (see the figure 🖉).
5. Assemble the parts and fix in place with the screws (**1**).
6. Fasten the display using the screw (**4**) and insert the screw cover (**5**).

SWITCHING ON

Turn power on to the E2SL board. The device turns on and displays a series of screens:
- power-on screen
- Bootloader: displays the Bootloader version (x.x NOT updatable)
- Firmware: displays the FW version (x.x)
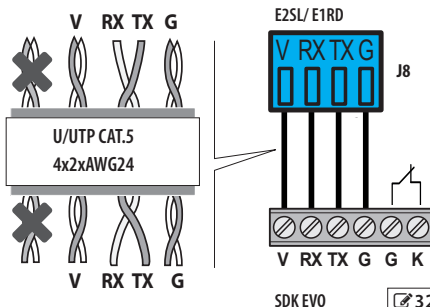- HOME PAGE: ready

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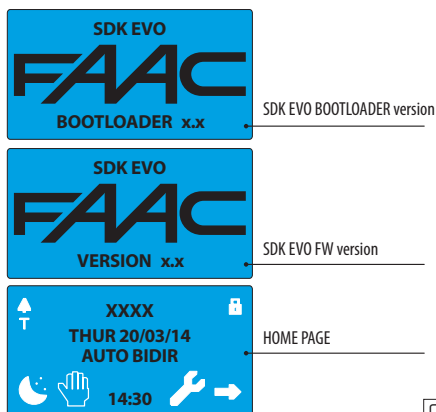

Assembling the SDK EVO
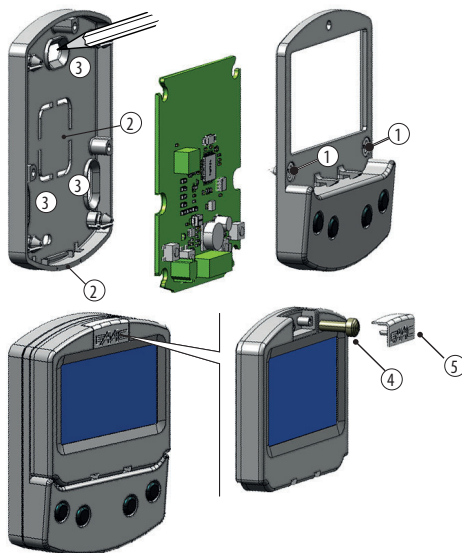
SDK EVO connection   Connect to the terminals as shown.

🖉 32

Screen sequence when switched on

SDK EVO BOOTLOADER version

SDK EVO FW version

HOME PAGE

🖉 33

HOME PAGE

The 4 buttons activate the commands associated with the icons above:

☾ = sets the NIGHT mode

🖐 = sets MANUAL mode

🔧 = accesses the MENU in order to configure all the board parameters

➜ = switches to MODFUN: additional operating modes

Each time the NIGHT or MANUAL button is pressed, the mode is enabled (icon highlighted on the display) and disabled.

Every time it is changed, the mode that is enabled is immediately updated on the display.

Symbols on the HOME PAGE:

🔔	current indications
Ⴀ	TIMER active
🔒	SDK EVO locked
✳	USER PASSWORD disabled

RESET - LOCK/RELEASE

2-button combinations on the HOME PAGE:

☾ + ➜	(🕐 5 s)	**LOCK / UNLOCK** Press for approximately 5 s to Lock/Release the keypad (the 🔒 icon appears)
🖐 + 🔧	(🕐 5 s)	**RESET** (press for approximately 5 s, until the flashing Error message disappears. After a series of screens it reverts to the HOME PAGE)

PASSWORD (PSW)

When the **PASSWORD** screen appears, a 4-digit password must be entered. There are 2 passwords: **USER PSW** and **TECHNICIAN PSW**. By default, both are: 0000.

The technician password gives access to the restricted functions (PROGRAMMING), but also to those of the user.

No password is required to select the NIGHT, MANUAL or MODFUN operating modes via a button.

Entering the PSW

- select (↑↓) and confirm (**OK**) each digit of the PSW in succession
- the device recognises the **USER PSW** or **TECHNICIAN PSW**

If a PASSWORD IS NOT RECOGNISED "WRONG PASSWORD" appears on the display.   Press OK to go back to the HOME PAGE.
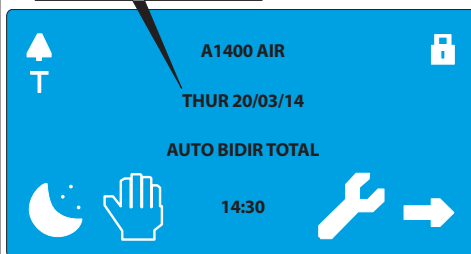
Changing the PSW:

🔧 /PASSWORD

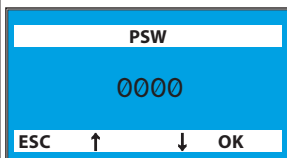Changing the PSW is recommended when you carry out programming for the first time.

- select and confirm the password to be modified: **USER PSW** or **TECHNICIAN PSW**
- select (↑↓) and confirm (**OK**) the digits of the PSW one by one, then confirm the complete PSW

HOME PAGE

- name of the door (e.g. A1400 AIR)
- current day and date, or people counting (if SAFE FLOW is enabled)
- operating mode (**MODFUN**)
- time


```
        A1400 AIR

      THUR 20/03/14

    AUTO BIDIR TOTAL

            14:30
```

NIGHT (PSW)	MANUAL (PSW)	MENU (PSW)	MODFUN

PASSWORD


```
          PSW

         0000

  ESC    ↑      ↓    OK
```

Default password: 0000

	☾	🖐	🔧	➜
USER	without PSW	without PSW	PSW*	without PSW
INSTALLER	without PSW	without PSW	PWD	without PSW

* the TECHNICIAN PSW is required to access the programming functions in the MENU 🔧

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FAAC

MODFUN

1. Access MODFUN by pressing the ➜ button on the HOME PAGE.
2. Using the ↑↓ buttons, select the operating mode, the direction (Two-directional, EXIT Only, ENTRY Only) and the opening percentage (Total or Partial).
3. Confirm the MODFUN using the **OK** button, this then takes you back to the HOME PAGE.

MENU 🔧

1. Access the functions menu by pressing the 🔧 button on the HOME PAGE.
2. Enter the USER or TECHNICIAN PSW.
3. The display shows the functions. Select the available functions using the ↑↓ buttons:
- LANGUAGE
- PROGRAMMING (TECHNICIAN PSW required)
- ERRORS
- WARNINGS
- INTERCOM (only available on the MASTER board specified in PROGRAMMING/INTERCOM)
- CYCLES COUNT
- DATE/TIME
- TIMER
- PASSWORD
- INFO
4. Press the **OK** button to access the selected function and then the ↑↓ and **OK** buttons to display it or set it.
5. Confirm by pressing the OK button, it takes you back to the MENU. Press the ESC button to go back to the HOME PAGE.

PROGRAMMING

🔧/PROGRAMMING
1. Access the functions menu by pressing the 🔧 button on the HOME PAGE. Select PROGRAMMING and press **OK**.
2. The list of programmable functions appears. Select and set the individual options using the ↑↓ and **OK** buttons.
3. Press the **OK** button repeatedly to return to the list of programmable functions and then to the MENU. Press the **ESC** button to go back to the HOME PAGE.

MODFUN   examples

Automatic Two-directional, with Partial opening:

◀▶ ▲▼ %

Door open, with Total opening:

❚❚ 100%

INTERLOCK, EXIT only, with Total opening:

⊞ ▲ 100%

MODFUN

◀▶   ▲▼   100%   OK

XXX XXX

◀▶ AUTOMATIC TWO-DIRECTIONAL   ▲▼ TWO-DIRECTIONAL   100% TOTAL

❚❚ TOTALLY OPEN   ▲ EXIT ONLY   % OPENING

⊞ INTERLOCK   ▼ ENTRY ONLY

🖐 AUTO MANUAL

To select INTERLOCK press and hold ◀▶ or ❚❚ for at least 3s.
Available on the MASTER board, if enabled (Section INTERCOM).

MENU
- the selected function is indicated with >
- ↑↓ buttons to select the function
- **ESC** button to go back to the HOMEPAGE
- **OK** button to access the function/confirm the programming and go back to the MENU

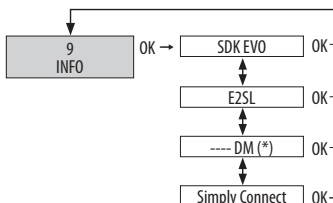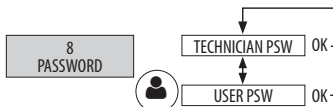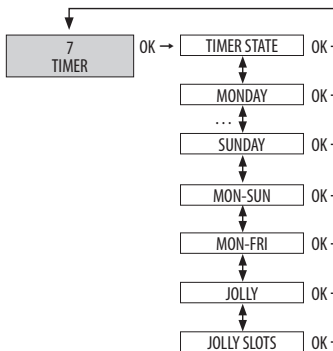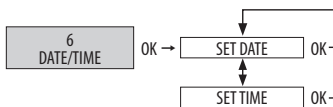MENU

- > 1 LANGUAGE
- 2 PROGRAMMING
- 3 ERRORS
- 4 WARNINGS

ESC   ↑   ↓   OK

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FAAC

▦ **17** SDK EVO - FUNCTIONS menu 🔧

FAAC

ENGLISH

Translation of the original instructions

2 PROGRAMMING OK →

- Simply Connect OK
- DOOR TYPE OK
- INPUTS / OUTPUTS OK
- MOTION OK
- TIMING OK
- ENERGY SAVING OK
- BATTERY KIT OK
- KIT LOCK OK
- INSTALLATION OK
- INTERCOM OK
- MISCELLANEOUS OK

TIMING OK →
- PAUSE TIME OK
- NIGHT PAUSE TIME OK
- NIGHT SENSOR DELAY OK

ENERGY SAVING OK →
- DISABLED OK
- ENABLED OK

BATTERY KIT OK →
- FUNCTION OK
- LAST MOVEMENT OK
- NIGHT-TIME FUNCTION OK
- LAST MOV. (NIGHT) OK
- BATT.LOW OPENING OK
- OPENING TEST OK

INTERCOM OK →
- ID OK
- INTERLOCK OK
- INTERLEAVES OK
- AIRSLIDE OK
- NODES ENTRY OK — available if the SDK EVO is connected to ID=1
- NODE LIST OK — available if the SDK EVO is connected to ID=1

DOOR TYPE OK →
- A1000 OK
- A1400 AIR OK
- RKE 1400 OK
- SF1400 OK
- GBF1500 OK

KIT LOCK OK →
- TYPE OK
- FUNCTION OK
- SURVEILLANCE KIT OK
- FUN. BATTERY OK

MISCELLANEOUS OK →
- CONFIG. DEFAULT OK
- PARTIAL OPEN OK
- BOARD'S DISPLAY OK
- OP.SAFETY FUNC. OK
- INTRUSION OK
- PARTIAL PHARMACY OK
- SDK EVO KEY OK
- CONSECUTIVE OBST. OK
- TEST ERROR OK
- BACKLIGHT DISPLAY OK
- ELASTIC KIT OK

INPUTS / OUTPUTS OK →
- INPUTS I1- I4 OK
- OUTPUTS O1/O2 OK
- INPUTS S1- S4 OK
- INPUTS I - E OK
- INPUTS E1- E2 OK
- PHOTOCELLS XFA OK

INSTALLATION OK →
- MOTOR ROT. OK
- 2ND ENGINE KIT OK
- START SETUP OK
- INPUTS STATUS OK
- DOOR STATUS OK
- OTHER BOARD DATA OK

MOTION OK →
- OPENING OK
- CLOSING OK
- MOVEMENT DAMP. OK
- STOP MOV OK

E2SL   48   53241404 - Rev. A
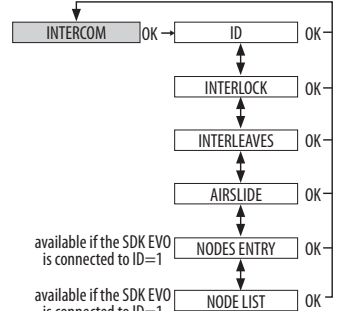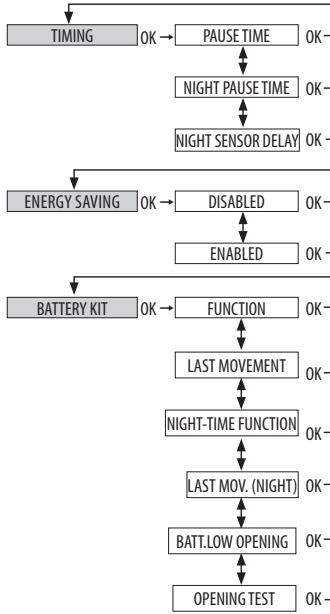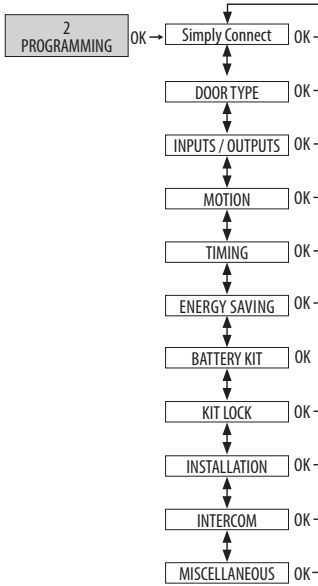
All the menus are described below.

The options that are ONLY available from the SDK EVO are indicated with (*).

MENU 1 LANGUAGE
Select from the list provided.

MENU 2 PROGRAMMING

ⓘ The menu is only accessible if the TECHNICIAN password has been entered.
If a different password has been inserted, it is indicated: WRONG PASSWORD.

■ 1 Simply Connect

If you wish to enable Simply Connect, select a channel (CH):

1, 2, 3, 4, 0 = Simply Connect disabled

■ 2 DOOR TYPE

Select the model of the automation from the list provided.

SF1400 opens 2 additional menus:
LEAF NUMBER: 1 LEAF, 2 LEAVES
PASSING SPACE.
with 1 LEAF selection: >= 75 cm, <= 65 cm, >65 cm and <75 cm
with 2 LEAVES selection: >= 150 cm, <=130 cm, >130 cm and <150 cm

■ 3 INPUTS / OUTPUTS

(*) The NO/NC contact logic can only be programmed via the SDK EVO

(*) The courtesy LIGHT outlet time can only be programmed via the SDK EVO

Select the input or output from the list provided, assign the configuration and select the type of contact (NO, NC).

INPUTS I1, I2, I3, I4
If an input is configured as a SAFETY, you are required to set the TEST:
ENABLED, DISABLED

OUTPUTS O1/O2
The LIGHT option requires the time to be set: 1...240 s

INPUTS S1-S4
As Inputs I1- I4.

INPUTS I / E
As Inputs I1- I4.

INPUTS E1 / E2
As Inputs I1- I4.

PHOTOCELLS XFA
Allows you to select: DISABLED, 1 PAIR, 2 PAIRS

■ 4 MOTION

OPENING
Allows you to program:
SPEED: level 1...10
SLOWDOWN: Slowdown space at end of travel 0...200 cm
SLOWDOWN SPEED Slowdown speed at end of travel level 1...3
STRENGTH: level 1...10
STRENGTH DURATION: 0.1...3.0 s
ACCELERATION: level 1...10
DECELERATION: level 1...10

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

BRAKING
Allows you to program the deceleration for the reverse movement: level 1...5

STOP MOV
Allows you to bring the stop position forwards with respect to the opening stop: level 1...10 (0 = minimum distance)

■ 5 TIMING

Allows you to program:
PAUSE TIME 0...30 s
NIGHT PAUSE TIME: 0...240 s
NIGHT SENSOR DELAY: 0...240 s

■ 6 ENERGY SAVING

Allows the Energy Saving function to be enabled/disabled (relative § Section).

■ 7 BATTERY KIT

Allows the emergency battery kit to be enabled, specifying the movements carried out in the various operating modes.

FUNCTION
DISABLED, UNTIL LAST MOVEMENT, LAST MOVEMENT ONLY

LAST MOVEMENT: OPENING, CLOSING

FUNCTION NIGHT
LAST MOVEMENT ONLY, UNTIL LAST MOVEMENT

LAST MOVEMENT NIGHT: OPENING, CLOSING

BATT.LOW OPENING: ENABLED, DISABLED

OPENING TEST: ENABLED, DISABLED

■ 8 KIT LOCK

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

TYPE: DISABLED, XB LOCK, XM LOCK (not available for A1000), LOCK
LOCK TIMER:
0.1...9.9 s LOCK activation time (displayed only if TYPE = LOCK)

FUNCTION
Defines operating modes in which motor block is activated:
DISABLED, NIGHT, NIGHT+MONODIR, NIGHT+OPENED, NIGHT+CLOSED ALWAYS

SURVEILLANCE KIT
ENABLED, DISABLED the surveillance kit on the motor block/lock must be disabled if it is not installed

FUN. BATTERY
Defines the way the motor block operates when the automation is operating on the battery:
NIGHT, STANDARD, ALWAYS OPEN

■ 9 INSTALLATION

Menu specific to operations carried out during start-up.

MOTOR ROT.
Allows the direction of rotation of the motor to be reversed:
STANDARD, NOT STANDARD (factory setting = STANDARD)

2ND ENGINE KIT
ENABLED, DISABLED enables the double motor kit, if installed

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

INPUTS STATUS
Allows the active inputs to be displayed (see § Diagnostics Section).

DOOR STATUS
Allows the status of the door to be displayed (e.g. SETUP IN PROGRESS).

OTHER BOARD DATA
Allows the following data to be displayed:
V_MAIN input voltage to the board in Volts
V_BATT battery voltage in Volts
V_ACC accessories voltage in Volts
I_MOT motor current draw in Amperes
POS leaf position in cm

F∧∧C

ENGLISH

Translation of the original instructions

■ 10 INTERCOM

Program the NODE from the INTERCOM network if provided (relative § Section).

ID

Identifies the NODE (ID of the board connected to SDK EVO):

DISABLED, 1…15

INTERLOCK

Allows INTERLOCK to be enabled (relative § Section):

DISABLED, NO MEMORY, WITH MEMORY

INTERLEAVES

Allows INTERLEAVES to be enabled (relative § Section):

ENABLED, DISABLED

AIRSLIDE

Allows AIRSLIDE to be enabled (relative § Section):

ENABLED, DISABLED

NODES ENTRY

This is available if the SDK EVO is connected to the board ID=1 and allows all the boards in the network to be recognised.

NODE LIST

This is available if the SDK EVO is connected to the board ID=1. Displays the NODES that have been registered and the relative information for each one:

INFO, ERRORS, WARNINGS, CYCLES NUMBER, MAINTENANCE.

MAINTENANCE

One or more SLAVE boards can be disconnected temporarily from the INTERCOM network mode using the MASTER board.

Select and confirm an ID, then select MAINTENANCE and for the selected ID choose:

LOCAL = (NOT available for ID=1) the operating mode of the door is independent of the network INTERCOM

MANUAL = door in MANUAL

DISABLED = the door resumes operation in network mode INTERCOM

■ 11 MISCELLANEOUS

CONFIG. DEFAULT

The following question appears:

DO YOU WANT TO RELOAD DEFAULT CONFIG 1? Select OK to confirm, or change option (↑↓). DO YOU WANT TO LOAD DEFAULT CONFIG 2?

PARTIAL OPEN (NOT for SF1400 and GBF1500)

Defines the opening percentage in PARTIAL OPEN mode

20…100% Adjustment step 1%.

Then select how partial open is carried out:

STANDARD partial open is fixed at the set percentage

100% INT+EXT partial open increases automatically to 100% if the internal and external sensors are engaged at the same time (it reverts to the set percentage when at least one sensor is released).

BOARD'S DISPLAY

Allows programming from the board to be enabled/disabled.

NOT BLOCKED programming from the board is enabled

BLOCKED programming from the board is disabled

OP. SAFETY FUNC.

Defines the way one or more inputs configured as an OPENING SAFETY operate.

Low Energy carries out movement at low speed

STOP stops the automation

INTRUSION

Defines the operation in response to an attempt to open the automation manually.

DISABLED does not actuate the motor

KEEP CLOSED actuates the motor in order to keep closed (with an adjustable force)

PULL & GO the motor completes the opening (NOT active with battery operation)

PARTIAL PHARMACY (NOT for SF1400 and GBF1500)

Defines the opening percentage of the PHARMACY OPEN command in NIGHT mode

1…95%

SDK EVO KEY

Defines the operation of a key switch connected to the SDK EVO:

BLOCK SDK EVO works with password when the contact is open and is locked when the contact is closed.

WITHOUT USER PSW SDK EVO works without a password when the contact is open and with a password when the contact is closed (* is indicated on the HOME PAGE)

CONSECUTIVE OBST.

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

CLOSING DISABLED (= 25 detections), or 1…10 detections

OPENING (as above)

TEST ERROR

Allows the movement to be activated in Low Energy mode or to inhibit movement if there is a TEST ERROR on an input configured as SAFETY.

ENABLED = movement inhibited

DISABLED = movement in Low Energy mode

BACKLIGHT DISPLAY

Allows the backlighting of the SDK EVO to be enabled/disabled.

ALWAYS Backlighting is always active.

DISABLED The backlighting is activated when the buttons are pressed (it turns off after 2 min if no buttons are pressed).

ELASTIC KIT (NOT for SF1400 and GBF1500)

Allows the elastic anti-panic kit to be enabled/disabled. ENABLED, DISABLED

MENU 3 ERRORS

The display shows current errors (§ Diagnostics Section).

(*) The 3 digit codes (100 …) can only be viewed from the SDK EVO.

MENU 4 WARNINGS

The display shows current warnings (§ Diagnostics Section).

(*) The 3 digit codes (100 …) can only be viewed from the SDK EVO.

MENU 5 COUNTERS

■ 1 CYCLECOUNTER

CYCLES NUMBER

Displays the number of cycles carried out, divided into ABSOLUTE (NOT resettable) and RELATIVE cycles.

MAINTENANCE

Allows a maintenance request to be enabled according to the cycles carried out or on a programmed date. If both options are enabled, a maintenance request is issued when the first event is reached (CYCLES or DATE).

****enter the TECHNICIAN PSW and confirm.

Go to MAINTENANCE CYCLES select: DISABLED or ENABLED

Specify the number of RELATIVE cycles for maintenance (step 10000, maximum 1000000) and confirm.

Go to MAINTENANCE DATE select: DISABLED or ENABLED and set the date: 00/00/00

CYCLES RESET

Enter the technician PSW and confirm. To reset the RELATIVE cycles counter, confirm with OK. This command requires confirmation The ABSOLUTE cycles counter can only be reset using the restore factory settings procedure (see relative § Section).

■ 2 SAFE FLOW

This function counts the people entering/leaving the premises for capacity and queue management and sets the number of people allowed in.

FUNCTION

DISABLED = SAFE FLOW disabled

PEOPLE IN AUTO = enables counting and alarm. Alarm (40) is triggered when the maximum number of people allowed is reached.

PEOPLE IN EXIT ONLY = enables counting and alarm. Alarm (40) is triggered when the maximum number of people allowed is reached and the door does not allow people to enter until the number of people in the premises falls below the set threshold.

PEOPLE IN NUMBER

Sets the number of people allowed in (1 … 1000)

PEOPLE IN UPDATE

It allows the number of people in the premises (0 … 1000) to be corrected manually if necessary

NOTE: In an INTERCOM network (see Section § INTERCOM) the SAFE FLOW (PEOPLE IN NUMBER, PEOPLE IN UPDATEFUNCTION) has to be programmed on the MASTER unit. Then SAFE FLOW can also be enabled on the individual SLAVE boards via the PEOPLE IN SLAVE parameter, displayed only on the SLAVE boards.

(i) For the connections, configurations and devices required, see the SAFE FLOW instructions.

MENU 6 DATE / TIME

■ SET DATE

Set date in dd/mm/yy.

■ SET TIME

Set time in HH:mm.

MENU 7 TIMER

Refer to the § TIMER Section.

Programming allows the operating mode to be set for the required TIME SLOTS for one or more days of the week. Set any JOLLY slots that may be required. When the TIMER is active, the operating mode is set automatically according to the set time bands and the warning T appears on the HOME PAGE. To change the operating mode manually that was activated by the TIMER, it must be disabled.

■ 1 TIMER STATUS

Allows the TIMER to be enabled/disabled

  ENABLED =   run the TIMER function

  DISABLED = DO NOT run the TIMER function, but the programming remains in memory

■ 2 MONDAY… 8 SUNDAY

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

■ 9 MON-SUN, 10 MON-FRI

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

■ 11 JOLLY

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

■ 12 JOLLY SLOTS

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

MENU 8 PASSWORD

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

■ TECHNICIAN PSW

Allows the TECHNICIAN PSW to be modified.

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

■ USER PSW

Allows the USER PSW to be modified.

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

MENU 9 INFO

Allows the firmware versions (APP) of the SDK EVO, the E2SL board, the DM board, if the DM KIT is installed, and of the installed devices to be viewed.
  EXAMPLE:

SDK EVO	BOOT	VER 0.5	(Bootloader - not updatable)
SDK EVO	APP	VER 5.0	(Firmware)
SDK EVO	LAN	VER 4.3	(Language)
E2SL	BOOT	VER 5.0	(Bootloader - not updatable)
E2SL	APP	VER 5.0	(Firmware)
DM	RD	VER 5.0	(Firmware)

If Simply Connect is enabled, the following data is also displayed:

  ID: unique identifier for (E2SL) board - 23 digit alphanumeric code

  CH: no. of the programmed communication channel

FAAC

15. SIMPLY CONNECT

The Simply Connect CLOUD platform allows remote communication with the automation.

Simply Connect requires a FAAC connectivity module accessory, which is chosen according to the technology to be used:
- XMB (GSM for mobile, Bluetooth Low Energy technology)
- XWBL (WiFi, LAN, Bluetooth Low Energy technology).

⚠️ To safeguard people and property, the automation must be supervised and there must not be any unauthorised persons present for the entire duration of operations carried out remotely (activations, SETUP and/or modifications to operating parameters).

ⓘ Simply Connect requires E2SL firmware version **FW 5.0** or later. When programming is taking place via Simply Connect, programming via the board/SDK EVO is inhibited ($\exists\Gamma$ on the display).

1. Insert the connectivity module into the dedicated plug-in connectors.
2. Switch on power on to the board; check the signalling LEDs (see the instructions for the connectivity module used).
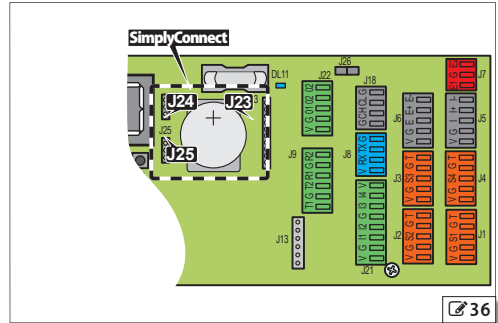3. Enable Simply Connect one the board and assign a communication channel (ΓH).
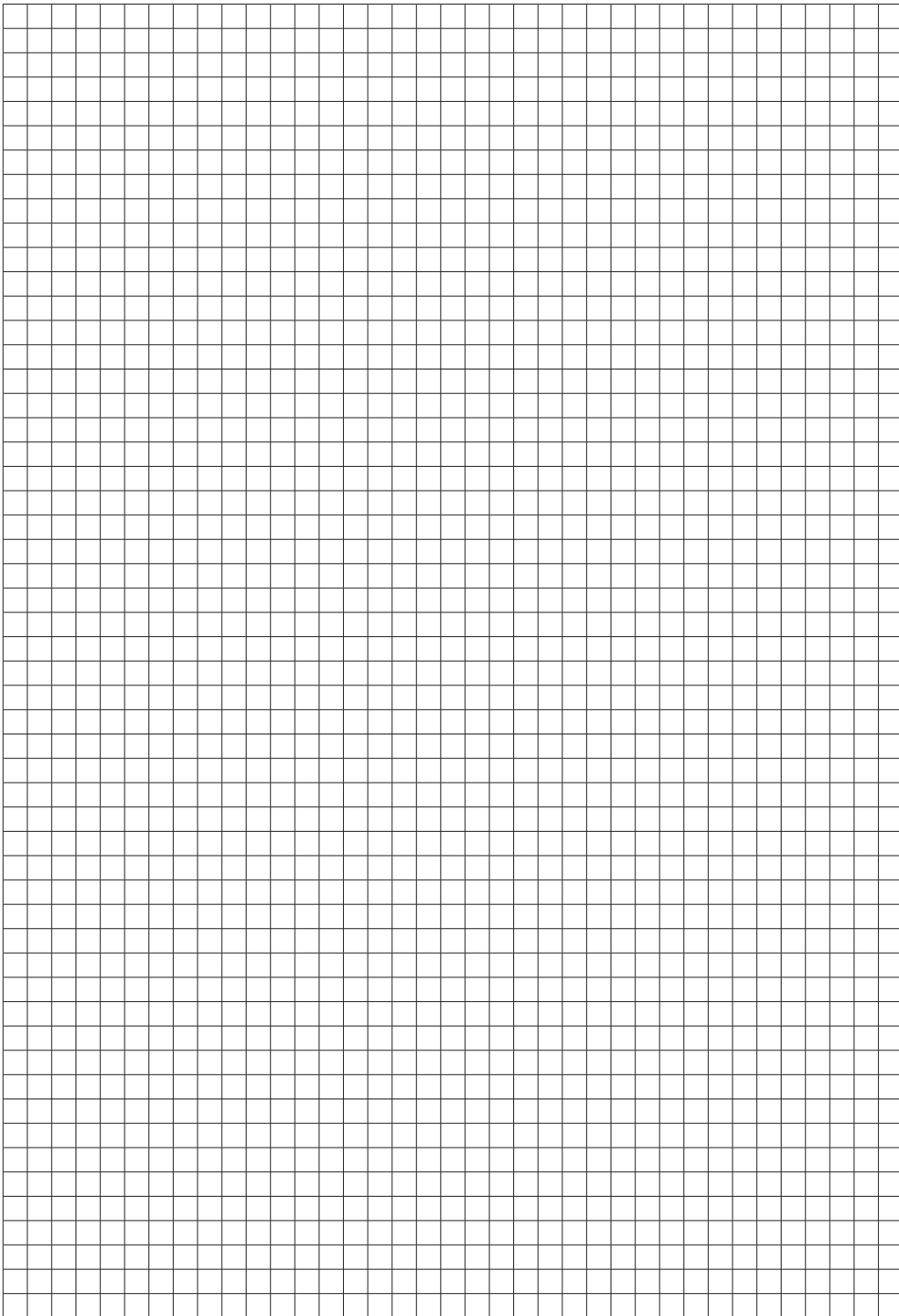
- **from Board**:
  Basic programming, function $\exists\Gamma$:
  I = CH 1, $\overline{C}$ = CH 2, $\exists$ = CH 3, Ψ = CH 4, $\Box$ = NOT enabled
  or
- **from SDK EVO**:
  🔧/PROGRAMMING/Simply Connect/1…4 (0 = NOT enabled)
4. Install the Simply Connect Pro App (see the instructions for the connectivity module used).

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