C850

FAAC

CE DECLARATION OF CONFORMITY FOR MACHINES

(DIRECTIVE 2006/42/EC)

Manufacturer: FAAC S.p.A.

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

Declares that: Operator mod. C850

is built to be integrated into a machine or to be assembled with other machinery to create a machine under the provisions of Directive 2006/42/CE;

conforms to the essential safety requirements of the following EEC directives:

2006/95/EC Low Voltage Directive
2004/108/EC Electromagnetic Compatibility Directive

and also declares that it is prohibited to put into service the machinery until the machine in which it will be integrated or of which it will become a component has been identified and declared as conforming to the conditions of Directive 2006/42/EEC and subsequent amendments.

Bologna, 01-01-2012

The Managing Director
A. Marcellan

CE DECLARATION OF CONFORMITY FOR
CONTROL BOARD

Manufacturer: FAAC S.p.A.

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

Declares that: The E850 control board

• conforms to the essential safety requirements of the following EEC directives:

2006/95/EC Low Voltage Directive
2004/108/EC Electromagnetic Compatibility Directive

Additional information:
    This product underwent a test in a typical uniform configuration
    (all products manufactured by FAAC S.p.A.).

Bologna, 01-01-2012

The Managing Director
A. Marcellan

WARNINGS FOR THE INSTALLER
GENERAL SAFETY REGULATIONS

1) **ATTENTION! To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product could cause serious harm to people.**

2) Carefully read the instructions before beginning to install the product.

3) Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger.

4) Store these instructions for future reference.

5) This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.

6) FAAC declines all liability caused by improper use or use other than that for which the automated system was intended.

7) Do not install the equipment in an explosive atmosphere: the presence of inflammable gas or fumes is a serious danger to safety.

8) The mechanical parts must conform to the provisions of Standards EN 12604 and EN 12605.

For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.

9) FAAC is not responsible for failure to observe Good Technique in the construction of the closing elements to be motorised, or for any deformation that may occur during use.

10) The installation must conform to current Directives and Standards EN 12453 and EN 12445.

For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.

11) Before attempting any job on the system, cut out electrical power.

12) The mains power supply of the automated system must be fitted with an all-pole switch with contact opening distance of 3 mm or greater. Use of a 6A thermal breaker with all-pole circuit break is recommended.

13) Make sure that a differential switch with threshold of 0.03 A is fitted upstream of the system.

14) Make sure that the earthing system is perfectly constructed and connect metal parts of the closure to it.

15) The automated system is supplied with an intrinsic anti-crushing safety device consisting of a torque control. Nevertheless, its tripping threshold must be checked as specified in the Standards indicated at point 10.

16) The safety devices (EN 12978 standard) protect any danger areas against **mechanical movement Risks**, such as crushing, dragging, and shearing.

17) Use of at least one indicator-light (e.g. FAACLIGHT) is recommended for every system, as well as a warning sign adequately secured to the frame structure, in addition to the devices mentioned at point "16".

18) FAAC declines all liability as concerns safety and efficient operation of the automated system, if system components not produced by FAAC are used.

19) For maintenance, strictly use original parts by FAAC.

20) Do not in any way modify the components of the automated system.

21) The installer shall supply all information concerning manual operation of the system in case of an emergency and shall hand over to the user the warnings handbook supplied with the product.

22) Do not allow children or adults to stay near the product while it is operating.

23) Keep remote controls or other pulse generators away from children, to prevent the automated system from being activated involuntarily.

24) Transit is permitted only when the automated system is idle.

25) The user must not attempt any kind of repair or direct action whatever and contact qualified personnel only.

26) Check at least every 6 months the efficiency of the system, particularly the efficiency of the safety devices (including, where foreseen, the operator thrust force) and of the release devices.

27) **Anything not expressly specified in these instructions is not permitted.**

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C850

We thank you for choosing this product. We are certain that it will fully meet your needs as to the performance it has been designed for.
This product has been designed and built for vehicle access control. AVOID ANY DIFFERENT USE.

⚠️ *Carefully read this manual supplied with the product as it contains important instructions regarding safety, installation, use and maintenance.*

1 GENERAL

These instructions apply to the following models: **C850**
The C850 is an electromechanical operator designed for moving sliding gates.
The non-reversing system is guaranteed by an electric brake that prevents manual movement of the sliding leaf when the motor is stopped, and therefore does not require an electric lock.
A handy manual release makes it possible to manoeuvre the gate in case of black-out or operator inefficiency.

2 DESCRIPTION AND TECHNICAL SPECIFICATIONS
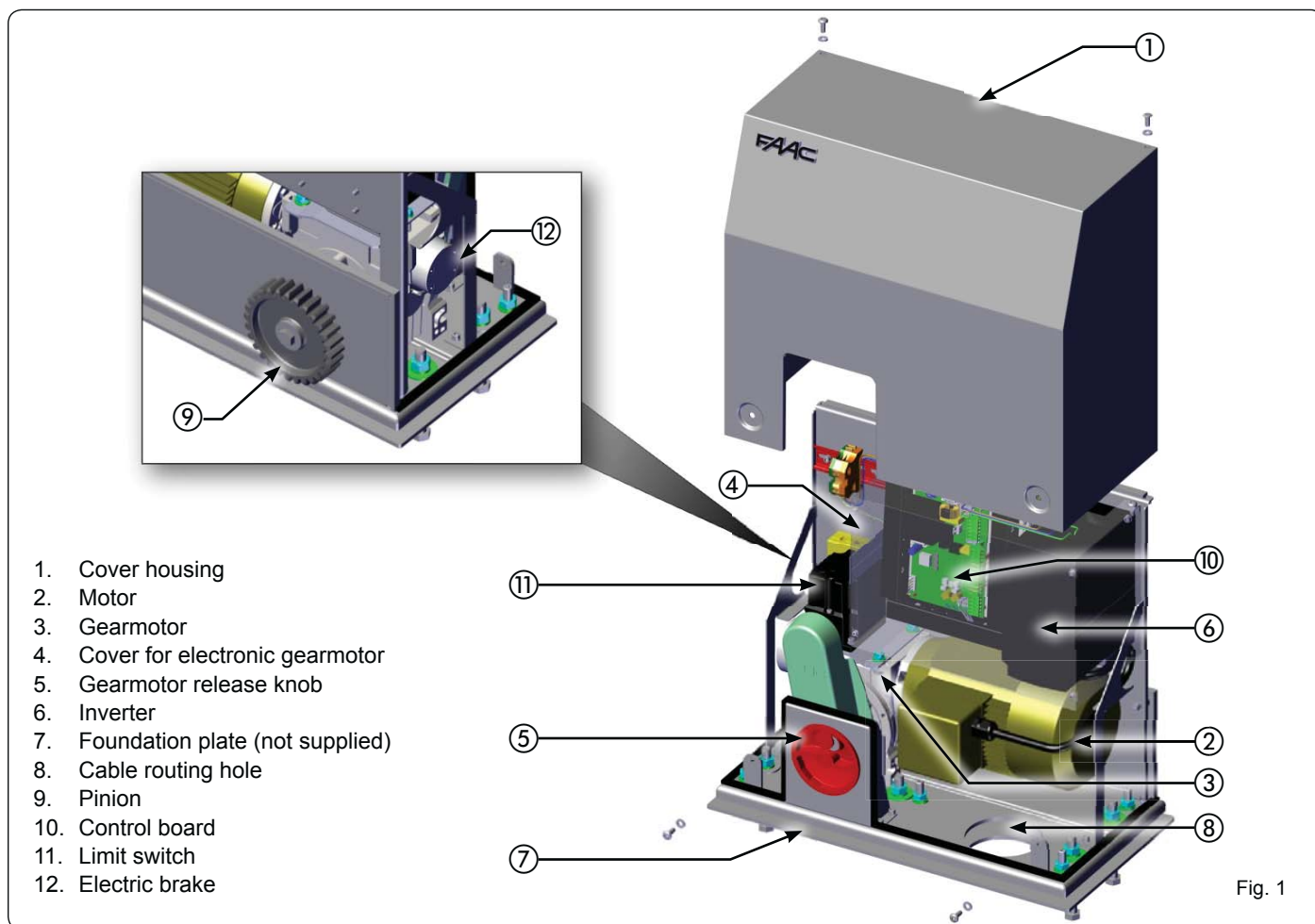
1. Cover housing
2. Motor
3. Gearmotor
4. Cover for electronic gearmotor
5. Gearmotor release knob
6. Inverter
7. Foundation plate (not supplied)
8. Cable routing hole
9. Pinion
10. Control board
11. Limit switch
12. Electric brake

Fig. 1

C850 TECHNICAL SPECIFICATIONS			
Power supply (+6% / -10%)	230 V~ 50 Hz	**Limit switch type**	Mechanical
Max absorbed power (W)	1800	**Motor control**	Inverter
Thrust on pinion (N)	1800	**Usage temperature (°C)**	-20 +55
Max torque (Nm)	110	**Gearmotor weight (kg)**	49
Pinion type	Z28 module 4	**Protection class**	IP54
Recommended max gate length (m)	20	**Gearmotor dimensions**	See Fig.02
Max leaf weight (kg)	1800	**Frequency of use**	INDUSTRIAL
Gate speed (m/min)	min 20 max 42	**R.O.T.**	CD continuous duty

3 DIMENSIONS

Dimensions in mm

Fig. 2

256 mm

467 mm

510 mm

295 mm
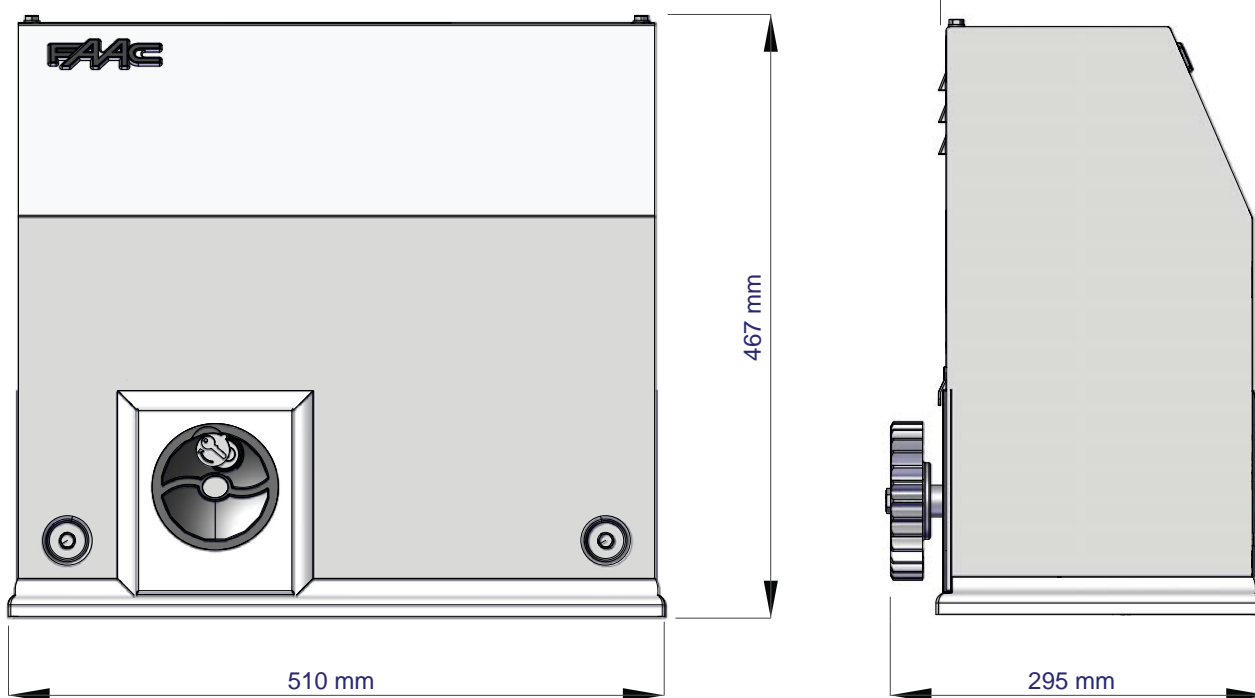
4 ELECTRICAL PREPARATIONS (standard system with right-hand opening)

1. Operator
2. Flashing lamp
3. BUS 2easy photocells
4. Traditional photocells
5. Key control

2x0.5mm² FSW TX
2x0.5mm² BUS-2easy
3x2.5mm²
240/115 V~
2x1.5mm²
2x0.5mm²
3x0.5mm² FSW RX
2x0.5mm² BUS-2easy

Fig. 3

5 INSTALLING THE AUTOMATED SYSTEM

5.1 PRELIMINARY CHECKS

For the safety and correct operation of the automated system, ensure that the following conditions are met:
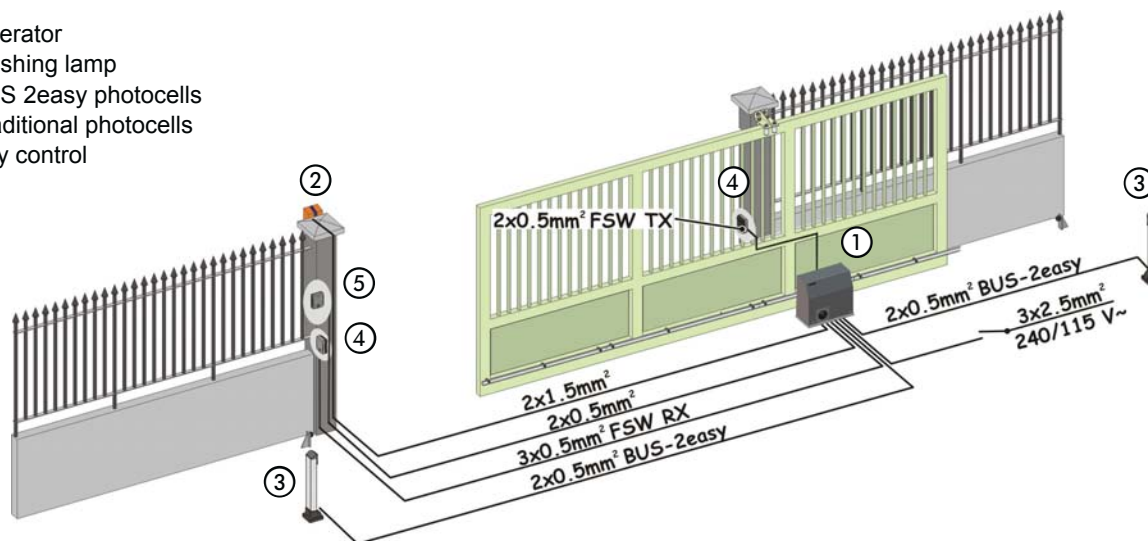- The gate structure must be designed to be automated. In particular, the diameter of the wheels must conform to the weight of the gate being automated, there must be a guide on top and mechanical limit switches sized to suit the weight and speed of the movable leaf, to avoid derailment of the gate;
- **Initially, leave at least 10 cm of clearance between the movable leaf stopping points (FCO and FCC) and the mechanical stops of the gate. The final adjustment is made once the inverter programming procedure is completed. Minimum distance 3 cm.**
- The gate sliding rail must be linear and horizontal.
- Manual movement of the gate must be smooth along the entire stroke.
- The characteristics of the ground must guarantee sufficient solidity of the foundation plinth.
- No tubes or electrical cables should be present in the plinth digging area.
- If the gearmotor is exposed to vehicle transit, provide for adequate protection against accidental impact, when possible.
- Ensure that there is an efficient earth plate for connecting the gearmotor.

Should the various elements not meet the above-mentioned conditions, adjust them so they do.

5.2 WALLING IN THE FOUNDATION PLATE

1. Assemble the foundation plate as shown in Fig. 4.
2. The foundation plate must be positioned as shown in Fig. 5 (right-hand closing) or Fig. 6 (left-hand closing) to guarantee the correct meshing between the pinion and the rack.

Dimensions in mm

50 mm

Fig. 4

Dimensions in mm

47

90°

0 - 50

Positioning the rack plate
ZINC-PLATED STEEL
right-hand closing

Fig. 5

Dimensions in mm

47

90°

0 - 50

Positioning the rack plate
ZINC-PLATED STEEL
left-hand closing
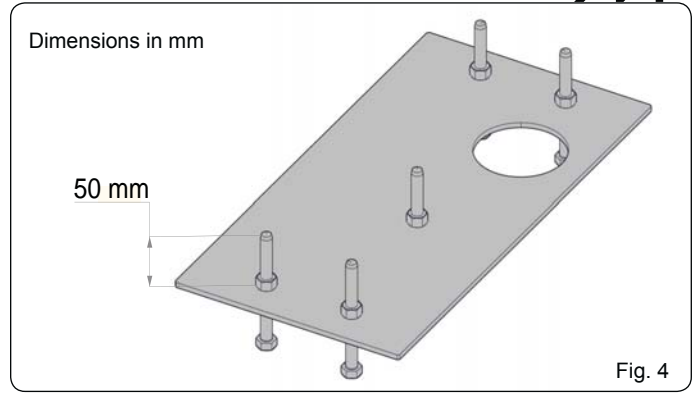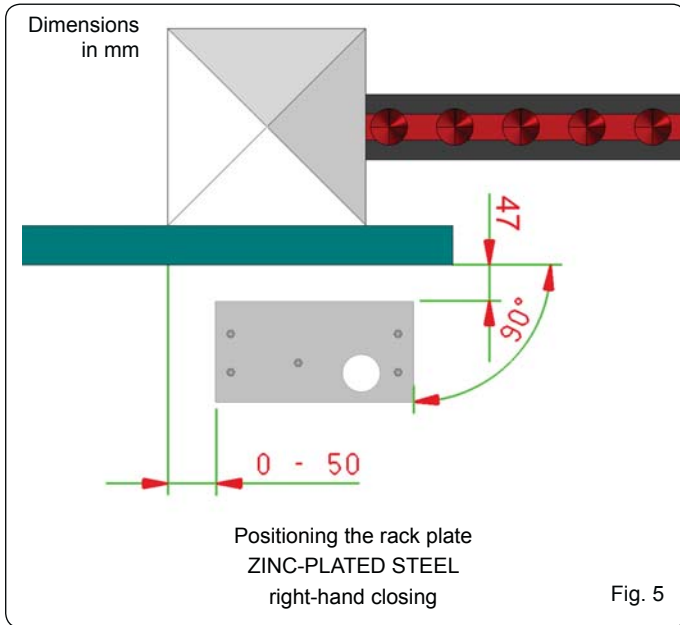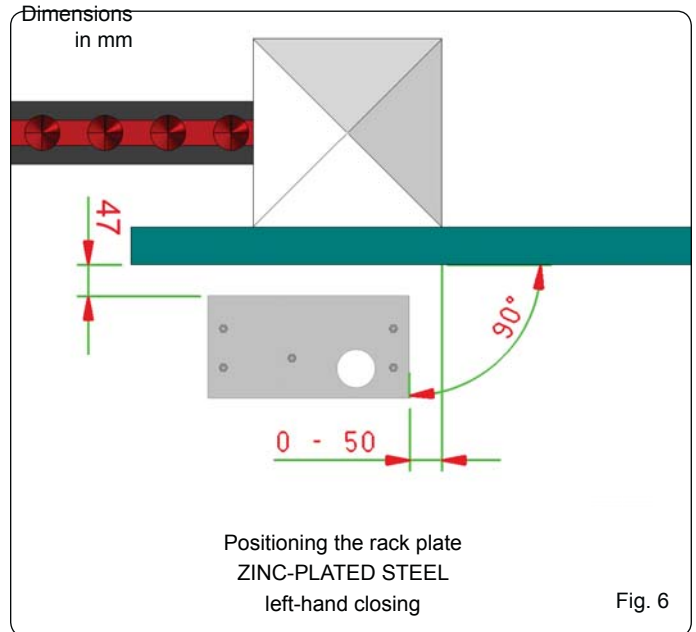
Fig. 6

3. Set the foundation plinth as shown in Fig. 7 and wall in the foundation plate using one or more sheaths for running the electrical cables through the hole in the foundation plate.

☞ **Use a level to ensure that the plate is perfectly horizontal.**

4. Wait for the cement to set.
5. Prepare the electrical cables for connecting the accessories and the electrical power, as shown in Fig. 3.

☞ *To facilitate connection to the control unit, pull out a stretch of cable measuring at least 1.5 m from the hole on the plate.*

Dimensions in mm

530
Ø100
80.5
140
270
550
1500
300
120

Fig. 7

ENGLISH

Translation of the original instructions

5.3 MECHANICAL INSTALLATION

1. Lift the cover to remove it (Fig. 8 ref. ①).
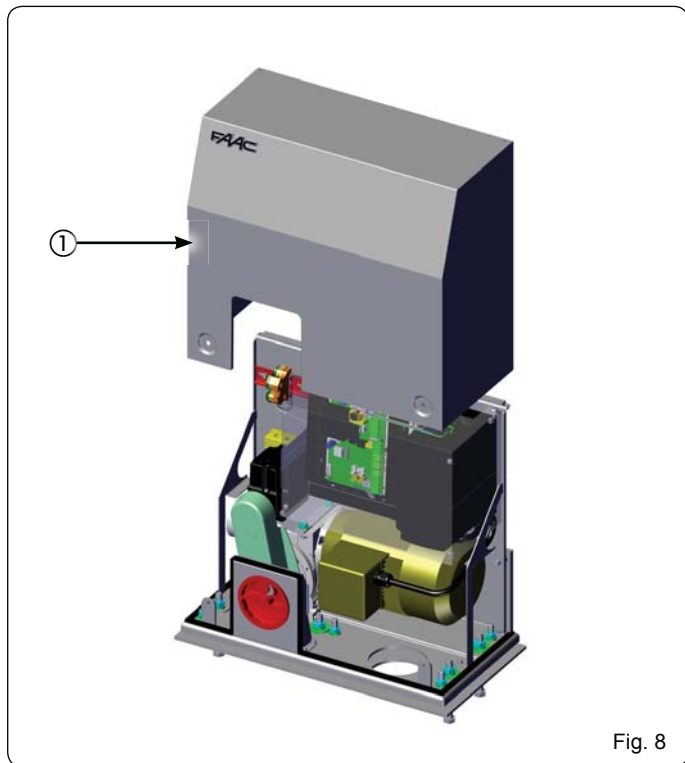
Fig. 8

2. Position the operator on the foundation plate and secure it without tightening the nuts, Grover screws and washers supplied with the foundation plate (not provided) (Fig. 9 ref. ③ ④). When doing this, run the cables through the provided opening (Fig. 9 ref. ⑤).

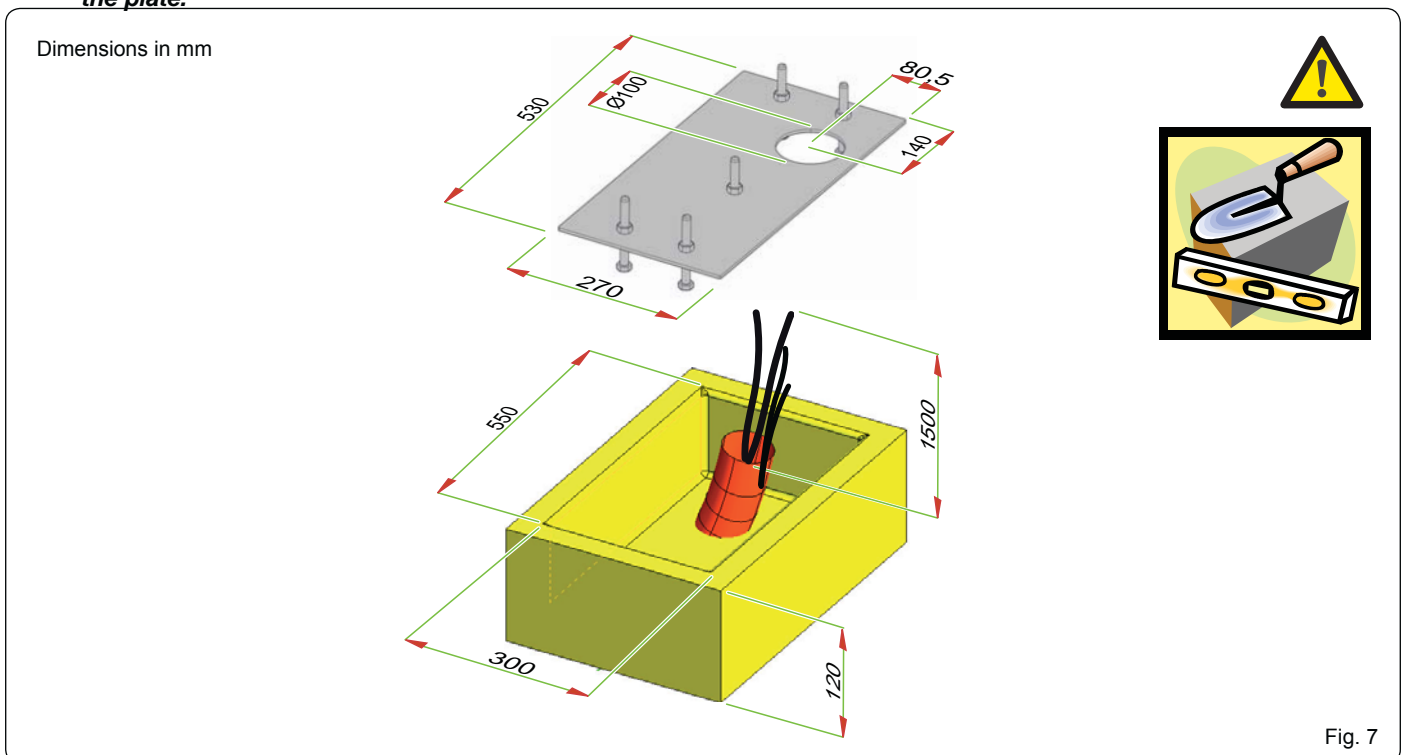3. Use the adjustment screws to set the height of the gearmotor (Fig. 10 ref. ⑥), referring to the measurements in Fig. 12.
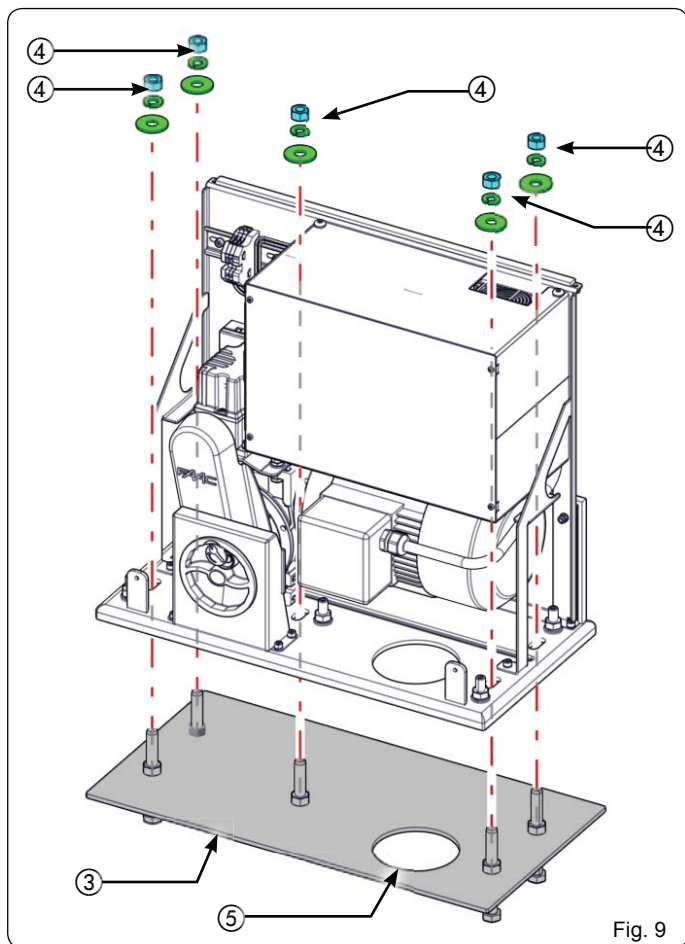
Fig. 9

4. Use a level to ensure that the gearmotor is perfectly horizontal.

5. Move the gearmotor horizontally to adjust the distance from the rack (Fig. 11), referring to the measurements in Fig. 12.

⚠ *These operations are necessary to correctly*
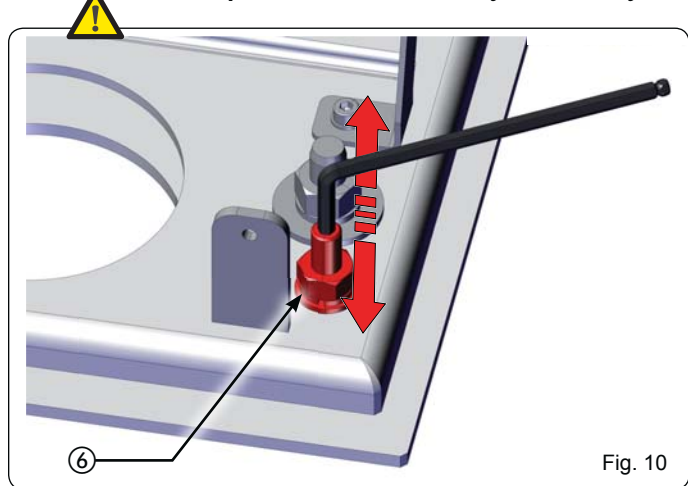
Fig. 10

secure the rack and to make possible future adjustments.

6. Once the adjustment is completed, tighten the nuts temporarily (Fig. 9 ref. ④ and Fig. 10 ref. ⑥):

7. Prepare the gearmotor for manual operation, as described in paragraph 8.
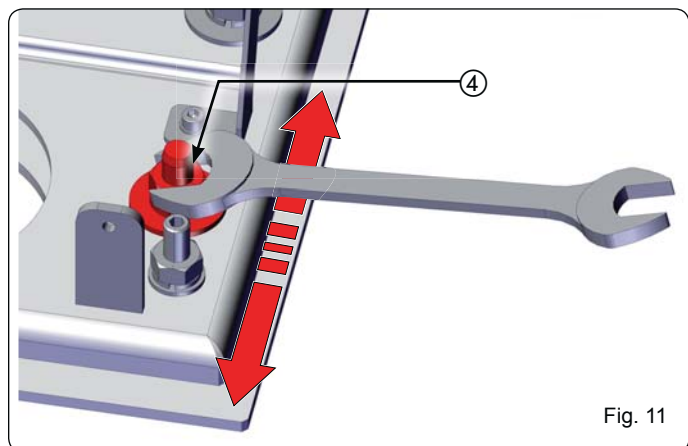
Fig. 11

Fig. 12

5.4 INSTALLING THE RACK

5.4.1 WELD-ON STEEL RACK (Fig. 13)

⚠️ *Before installing the rack, release the gearmotor, as described in paragraph 8.*

1. Install the three threaded pawls on the rack element, positioning them on top of the slot. In this way the play on the slot will make it possible to make future adjustments.
2. Manually set the leaf in closing position.
3. Evenly rest the first section of the rack on the pinion and weld the threaded pawl to the gate, as shown in Fig. 15.
4. Manually move the gate, ensuring that the rack is NOT resting on the pinion (leave 1.5 mm of clearance) and weld the second and third pawls.
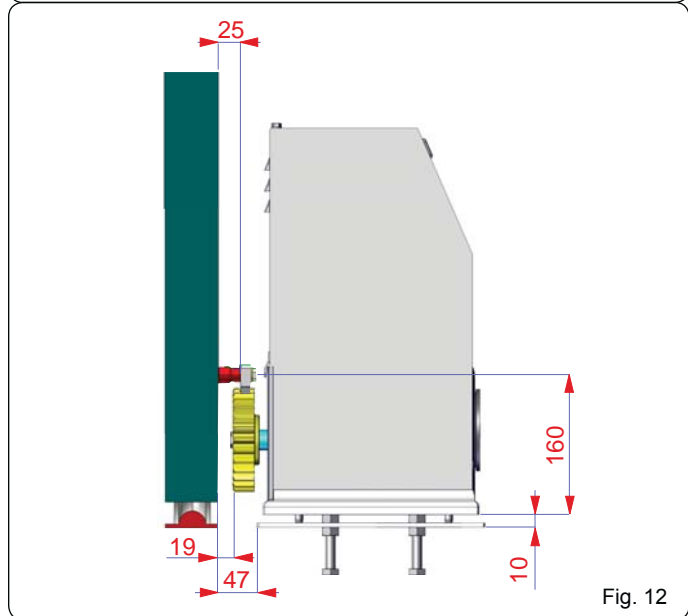5. Draw up another rack element to the previous one using a piece of rack to mesh the teeth of the two elements, as shown in Fig. 16.
6. Manually move the gate and weld the three threaded pawls, continuing until the gate is completely covered.

5.4.2 SCREW-ON STEEL RACK (Fig. 14)

⚠️ *Before installing the rack, release the gearmotor, as described in paragraph 8.*

1. Manually set the leaf in closing position.
2. Rest the first piece of rack level on the pinion and place the spacer between the rack and the gate, positioning it on top of the slot. In this way the play on the slot will make it possible to make future adjustments.
3. Mark the drilling point on the gate. Drill 6.5 mm Ø hole and thread using an 8 mm Ø male. Tighten the bolt.
4. Manually move the gate, ensuring that the rack is NOT resting on the pinion (leave 1.5 mm of clearance) and repeat the operations from point 3.
5. Draw up another rack element to the previous one using a piece of rack to mesh the teeth of the two elements, as shown in Fig. 16.
6. Manually move the gate and, as for the first element, proceed with securing until the gate is completely covered.
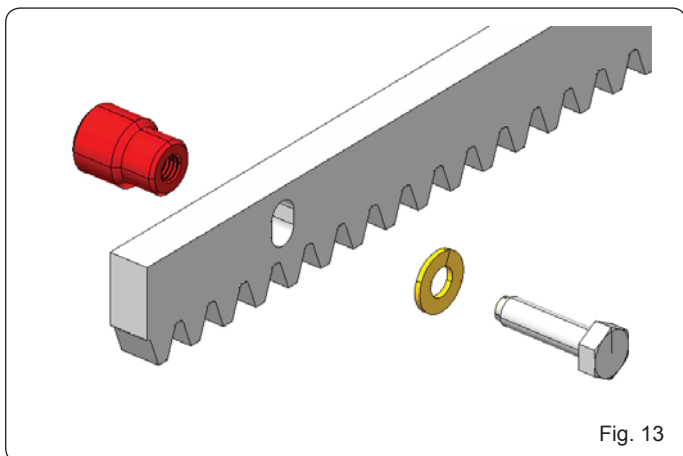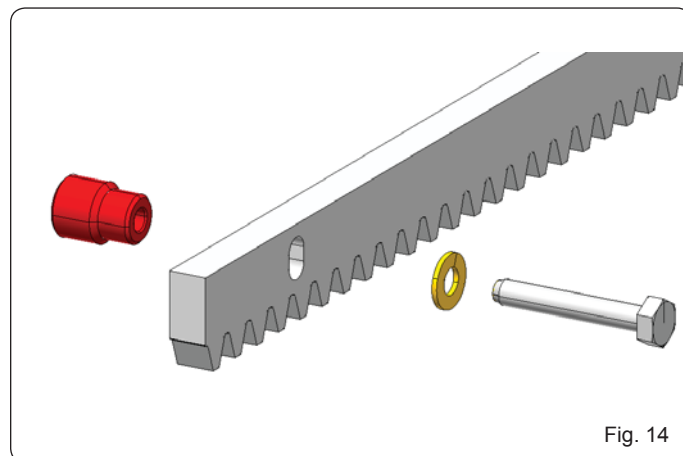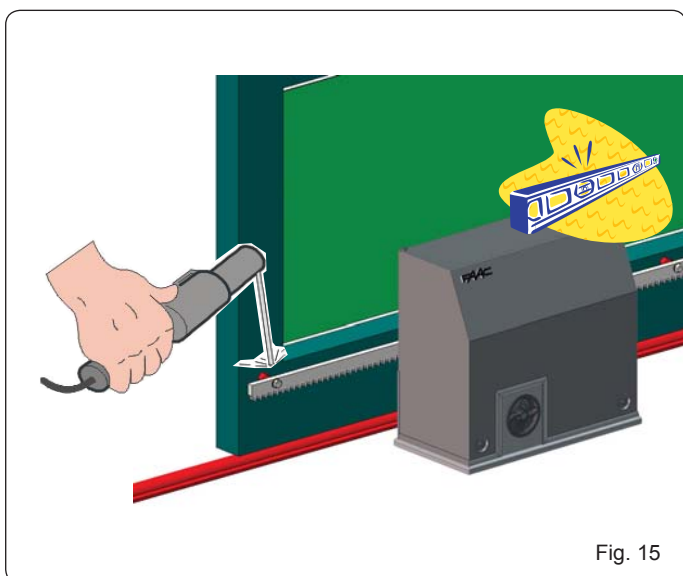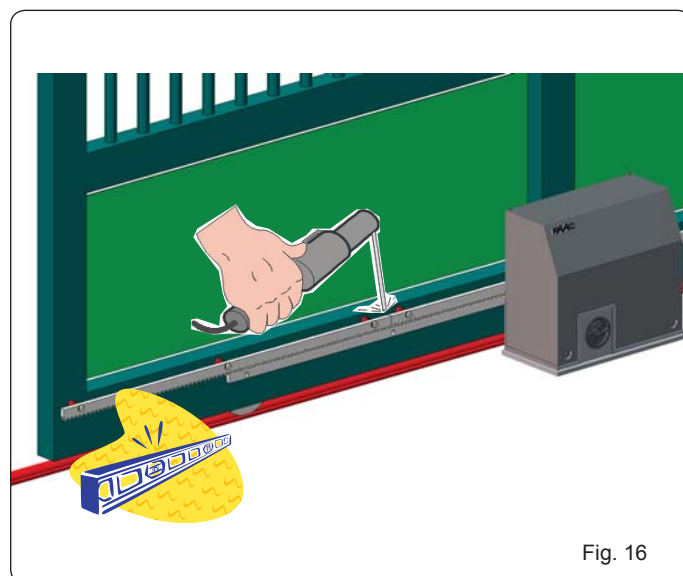

Fig. 13

Fig. 14

Fig. 15

Fig. 16

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Translation of the original instructions

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Translation of the original instructions

Important notes for installing the rack:

☞ *Check that during gate travel, all the rack elements remain on the pinion.*

☞ *Do not weld the rack elements together or to the spacers.*

☞ *Once rack installation is complete, to guarantee correct meshing with the pinion, lower the gearmotor approximately 1.5 - 2 mm using the provided adjustment screws (Fig. 17 ref. ①).*

⚠ *Tighten the fixing nuts (Fig. 9 ref. ④) with 80 Nm of torque.*
Tighten the fixing nuts (Fig. 10 ref. ⑥) with 40 Nm of torque.

☞ *Do not use grease or other lubricating products between the pinion and the rack (Fig. 17)*

☞ *Manually check that the gate reaches the mechanical stops smoothly and that there is not friction during its travel.*

Dimensions in mm   Fig. 17
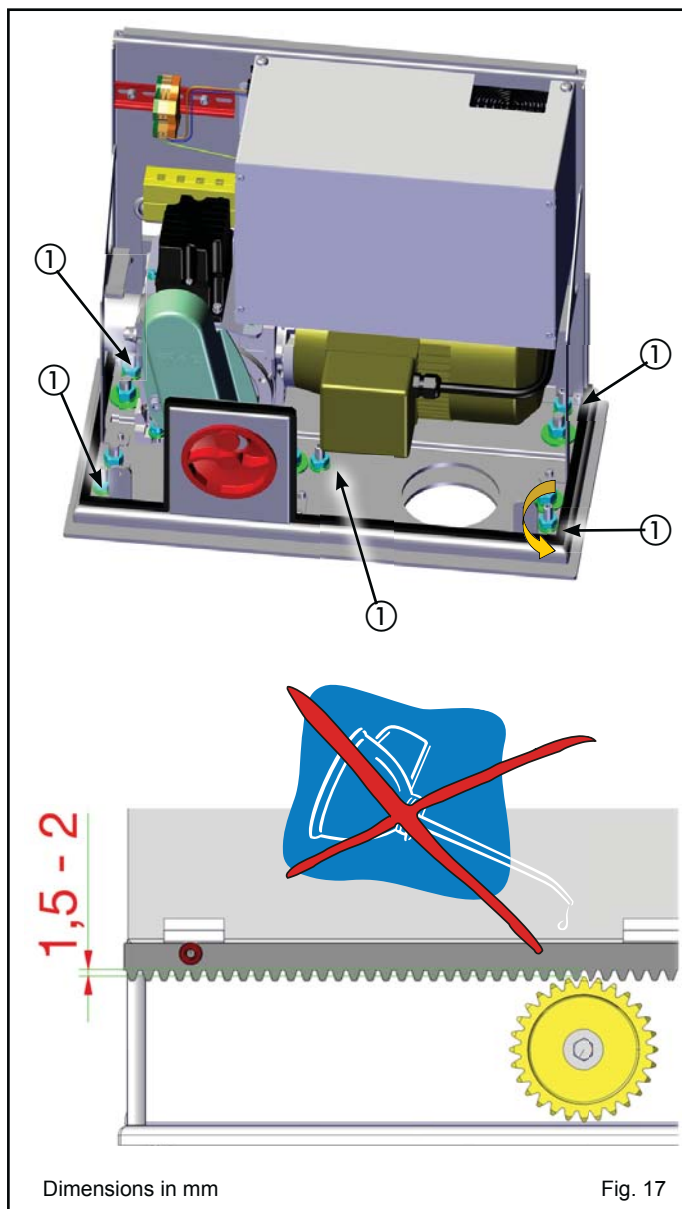
6 OPERATION

6.1 CONNECTING THE CONTROL BOARD

⚠ *Before carrying out any work on the board (connections, programming, maintenance) always cut off the electrical power.*

- Follow points 10, 11, 12, 13 and 14 of the GENERAL SAFETY REGULATIONS.
- Following the instructions shown in Fig. 3, place the cables in the runners and make the electrical connections with the chosen accessories.
- Always separate the power cables from the control and safety cables (button, receiver, photocells, etc.).
- To avoid possible electrical disturbance, use separate sheathing.

6.1.1 CONNECTIONS MADE BY THE INSTALLER
Connect the 230 VAC line (see fig. 18):
- L: Phase
- N: Neutral
- PE: Earth

Fig. 18
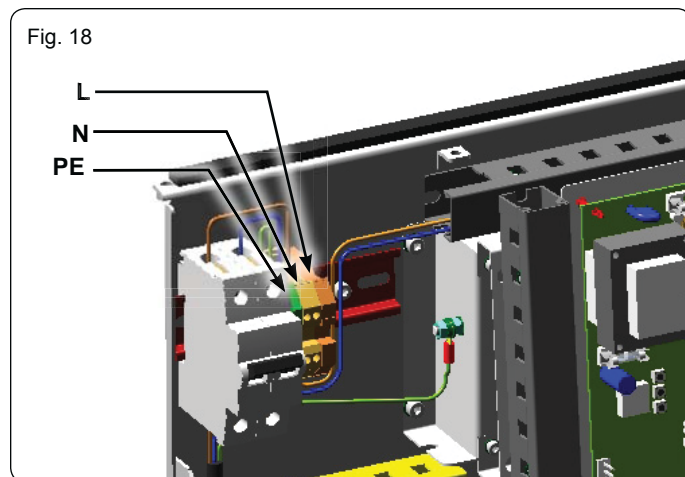
6.1.2 ELECTRONIC CONTROL UNIT
Inside the operator, the electronic control unit is secured to a bracket (Fig. 19 ref. ①) and protected by a cover (Fig. 19 ref. ②).

☞ *To correctly connect and program the control unit, remove the cover and follow the instructions in section 11 (E850 Electronic Control Unit).*

Fig. 19
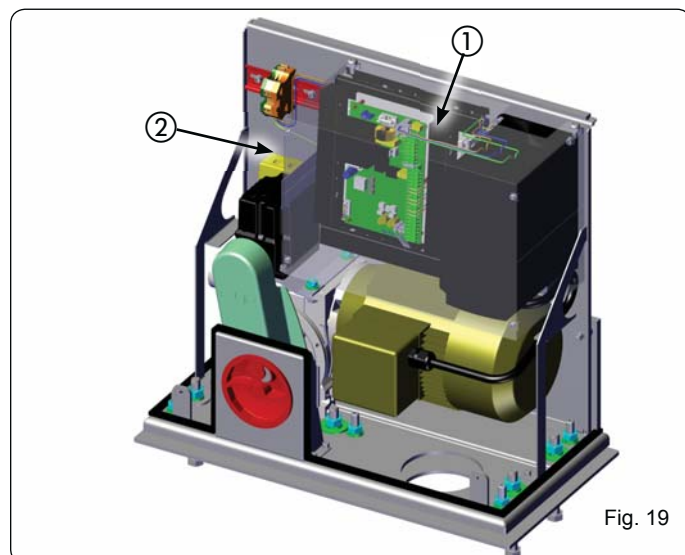
6.2 FINAL ADJUSTMENT OF THE LIMIT SWITCHES

⚠️ *To correctly adjust the limit switches, the control unit must be installed and correctly connected with all the control and safety accessories.*

The stopping and deceleration of the gate, during opening and/or closing, occurs when the cams inside the device activate the microswitches corresponding to the assigned function.

FCO = opening limit switch (screw 3)
FCC = closing limit switch (screw 2)
ROP = start of opening deceleration (screw 4)
RCL = start of closing deceleration (screw 1)

1. Prepare the operator for **MANUAL** operation, as described in section 8.
2. Loosen the screws and remove the limit switch unit cover (Fig. 20 ref. ⑥ ⑦).
3. Set the sliding leaf in open position, at least 10 cm before the mechanical limit stop.
4. Loosen the central locking screw of the limit switch unit (Fig. 22 ref. ⑤).
5. Turn the screw corresponding to the **FCO** opening limit switch (Fig. 21 ref. ③) until the microswitch is engaged by the cam.
6. In **chart 1**, knowing the weight of the sliding leaf, choose the operating speed and calculate the corresponding MINIMUM STOP SPACE **S**[mm].

Chart 1 — ROP - RCL MINIMUM STOP SPACE

Example:
P = 1000 kg
V = 0.6 m/sec
S = 400 mm

Legend:
◆ 60 Hz - 0,3735 m/s
◆ 80 Hz - 0,4945 m/s
◆ 100 Hz - 0,617 m/s
◆ 120 Hz - 0,735 m/s
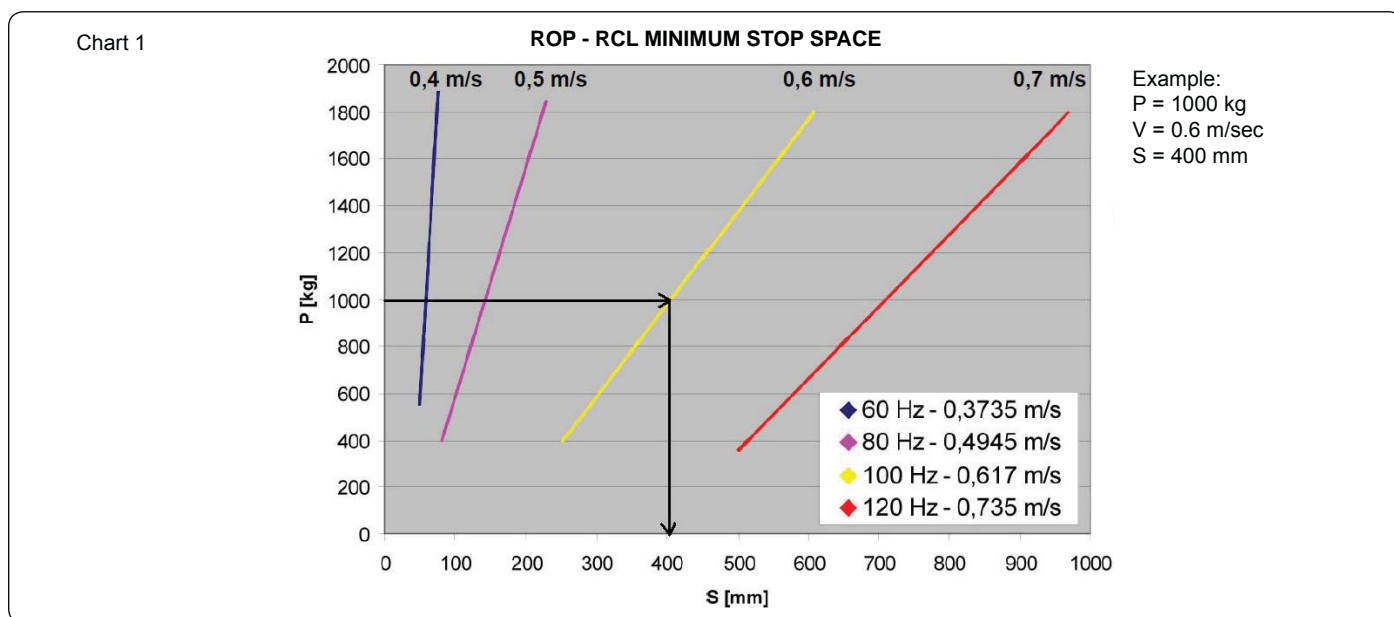
7. Then, move the sliding leaf back in closing position according to the amount of identified STOP SPACE.
8. Turn the screw corresponding to **ROP** opening deceleration (Fig. 21 ref. ④) until the microswitch is engaged by the cam.
9. Place the sliding leaf in closed position, at least 10 cm before the mechanical limit stop.
10. Turn the screw corresponding to the **FCC** closing limit switch (Fig. 21 ref. ②) until the microswitch is engaged by the cam.
11. Move the sliding leaf back in opening position according to the amount of STOP SPACE identified in **chart 1**.
12. Turn the screw corresponding to **RCL** closing deceleration (Fig. 21 ref. ①) until the microswitch is engaged by the cam.
13. In **chart 2**, knowing the weight and the operating speed of the sliding leaf, calculate the corresponding DECELERATION TIME **t**[s].

Chart 2 — DECELERATION TIME

Example:
P = 1000 Kg
V = 0.6 m/sec
t = 1.7 sec

Legend:
◆ 60 Hz - 0,3735 m/s
◆ 80 Hz - 0,4945 m/s
◆ 100 Hz - 0,617 m/s
◆ 120 Hz - 0,735 m/s

ENGLISH

Translation of the original instructions
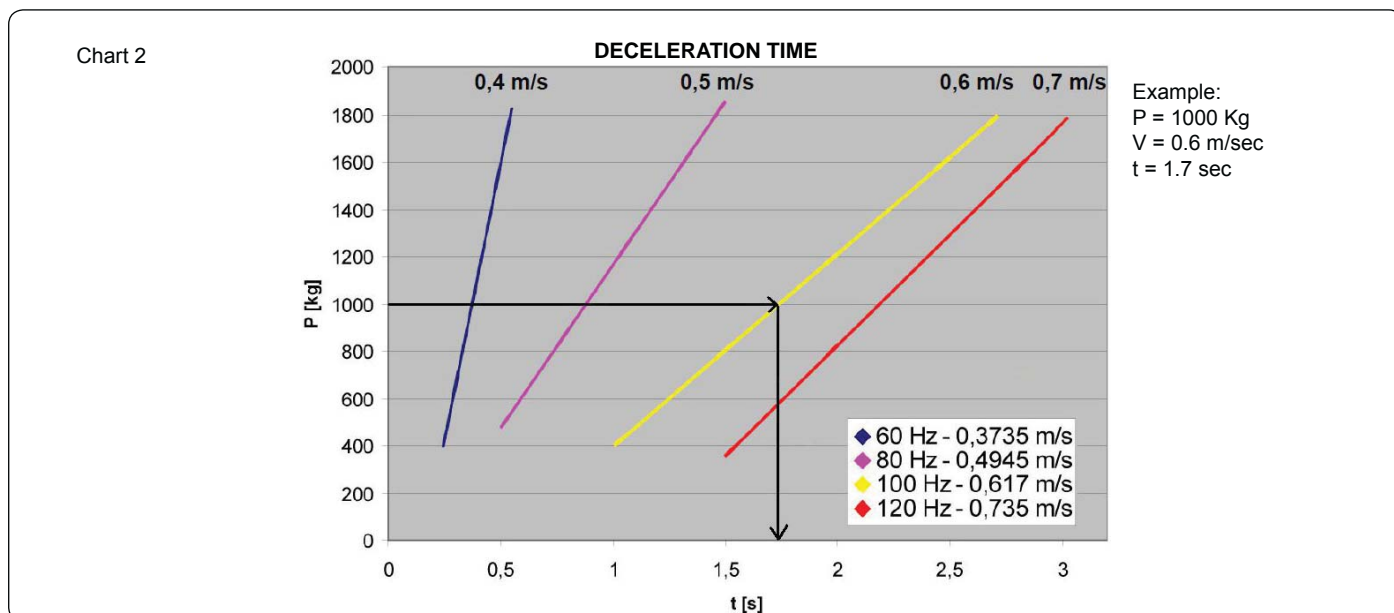
14. Set the F003 DECELERATION TIME and A021 OPERATING SPEED in the inverter (see section 12.2)
15. Do not modify the deceleration points (ROP/RCL) and/or stops (FCO/FCC) before having set the deceleration time and speed of the inverter (see section 12.2)
16. Tighten the central locking screw of the limit switch unit (Fig. 22 ref. ⑤).
17. Manually place the sliding leaf at half its travel and ensure that the limit switch position corresponds to Fig. 21
18. Refit the limit switch cover.
19. Manually close the sliding leaf.
20. Prepare the operator for NORMAL operation, as described in section 8.
21. Ensure that there is no danger and the safety devices are operating correctly.
22. Give an OPEN pulse and verify correct operation.

☞ *The maximum adjustable STOP SPACE is 5 m.*

☞ *The operator is supplied with factory settings for automating gates with RIGHT-HAND opening. If the gate requires LEFT-HAND opening, the association of the related opening and closing limit switches is reversed. For these operations, follow the instructions contained in paragraph 11.4.9 Reversing Gate Opening Connections from Right to Left.*
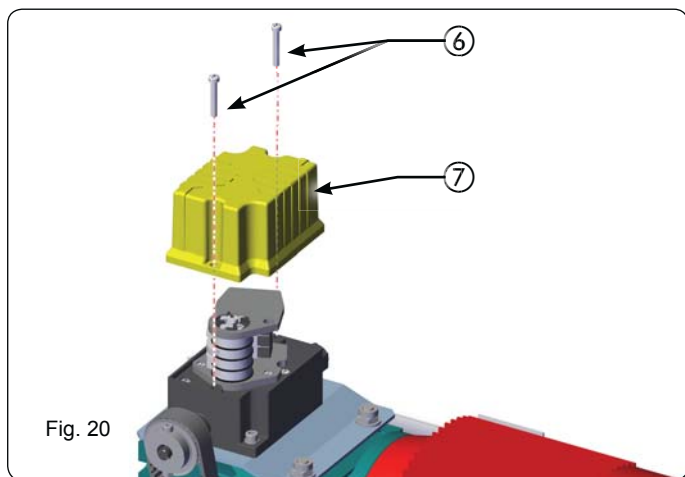
Fig. 20
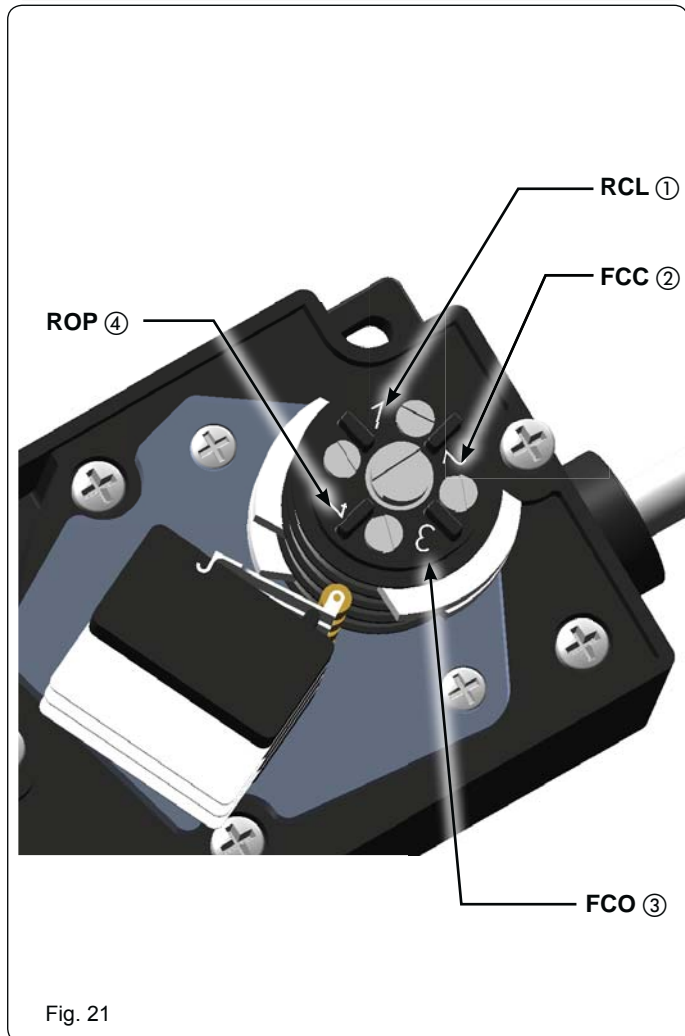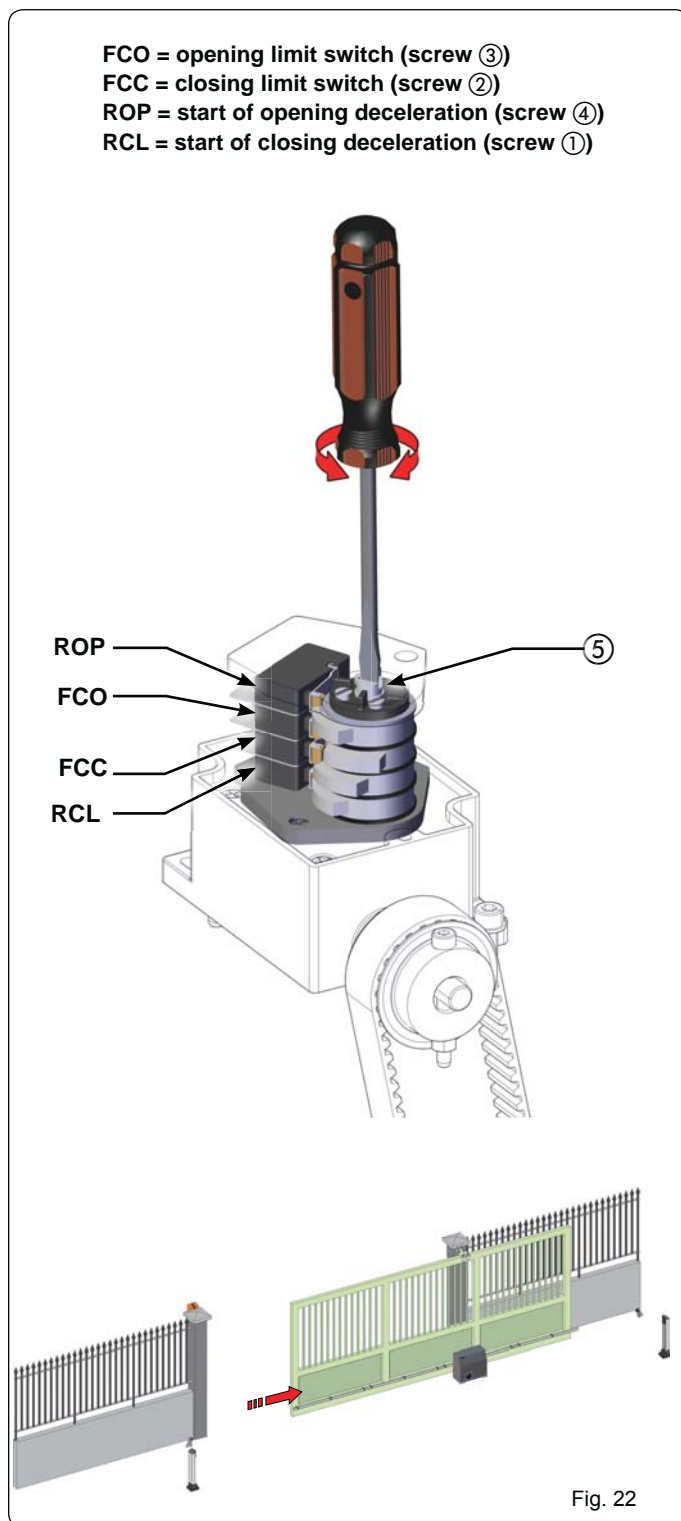
FCO = opening limit switch (screw ③)
FCC = closing limit switch (screw ②)
ROP = start of opening deceleration (screw ④)
RCL = start of closing deceleration (screw ①)

Fig. 21

Fig. 22

FAAC

7 TESTING THE AUTOMATED SYSTEM

Once operator installation has been completed, carefully check operation of all the connected accessories and safety devices. Refit the transparent guard covering the control unit.

Fit the housing (Fig. 23 ref. ②) and secure it using the four provided screws (Fig. 23 ref. ①).

Give the customer the "User's Manual" and show how to correctly operate and use the gearmotor, pointing out the areas of potential danger of the automated system.
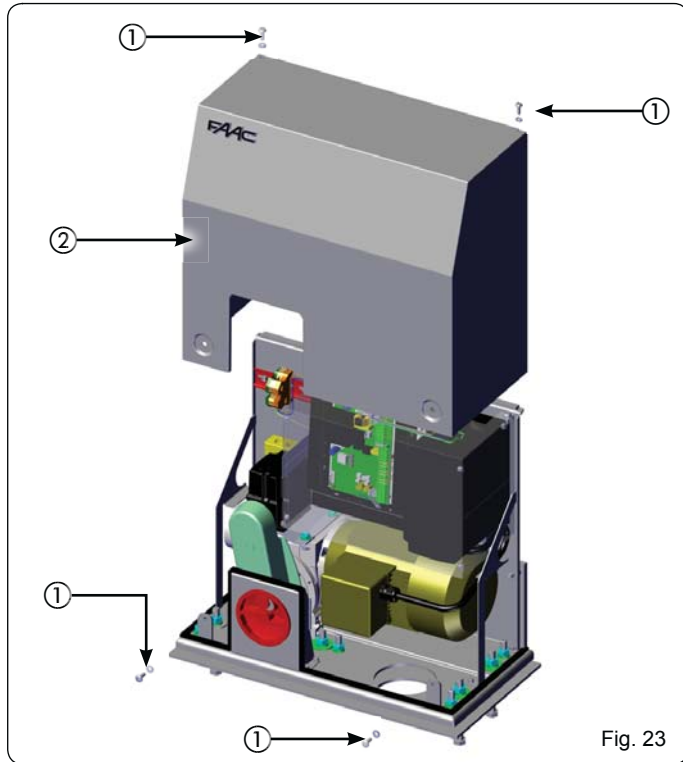
Fig. 23

8 RELEASING/LOCKING THE OPERATOR

☞ *To manually move the gate, we recommend cutting off electrical power. Rotating the knob prevents any motor movement.*

To release the gearmotor, proceed as follows:
1. Insert the provided key and turn clockwise (Fig. 24 ref. ①).
2. Turn the release system clockwise until it reaches the mechanical stop (Fig. 24 ref. ②).
3. Open or close the gate manually.
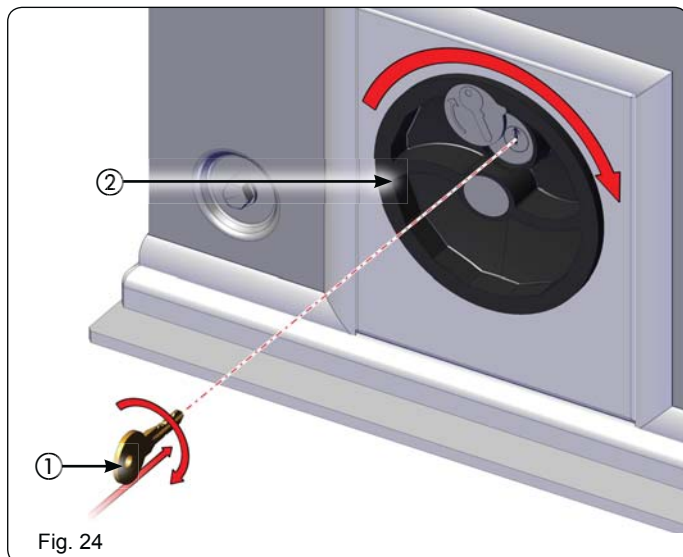
Fig. 24

To lock the gearmotor, proceed as follows:
1. Turn the release system anti-clockwise until it stops (Fig. 25 ref. ②).
2. Turn the key anti-clockwise and then remove it from the lock (Fig. 25 ref. ①).

☞ *Turning the release system knob clockwise will prevent any movement of the motor.*

☞ *Operator releasing and locking operations can be carried out in any gate position.*
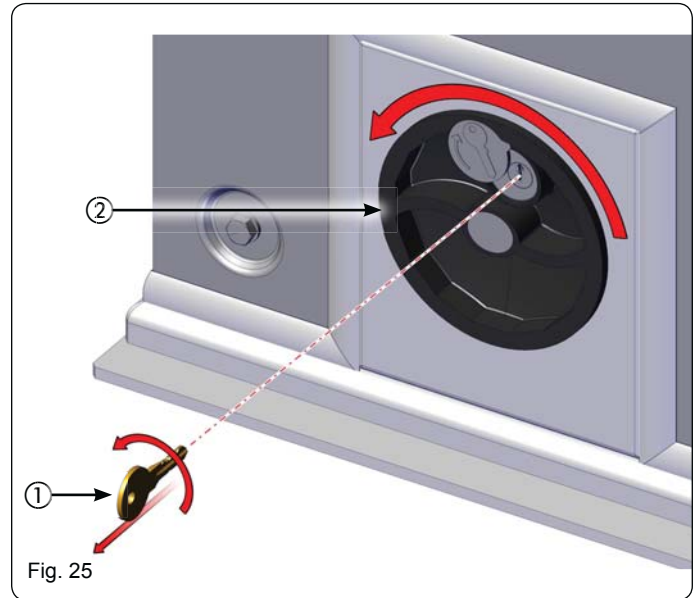
Fig. 25

9 MAINTENANCE

We recommend checking system operation every six months, with special attention to the safety devices (including the motor thrust power, which must comply with the regulations in force) and release devices.

10 REPAIRS

For repairs, contact an authorised FAAC Service Centre.

11 E850 ELECTRONIC CONTROL UNIT

11.1 WARNINGS

⚠️ **Important: Before carrying out any work on the control unit (connections, maintenance) always cut off the electrical power.**

- Always install a differential magnetothermic switch with a suitable activation threshold upstream from the system.
- Connect the earthing cable to the corresponding terminal on connector J9 of the equipment (see fig.28).
- Always separate the power cables from the control and safety cables (button, receiver, photocells, etc.). To avoid any electrical disturbance, use separate sheaths or a shielded cable (with the shield connected to the earth).

Fig. 26

11.2 E850 TECHNICAL SPECIFICATIONS

Power voltage	230 V~ (+6% -10%) - 50/60 Hz
Absorbed power	7 W
Maximum motor load	1800 W
Accessories power supply	24 Vdc
Max accessories current	500 mA
Operating ambient temperature	from -20°C to +55°C
Protection	F1 = F 5A - 250V F2 = T 0,8A - 250V or F1 = F 10A - 120V F2 = T 0,8A - 120V
Operating time	Programmable (from 0 to 4 min)
Pause time	Programmable (from 0 to 4 min)
Programming	3 programming levels for greater flexibility of use
Rapid connector	5-pin board connector for Minidec, Decoder, RP/RP2 Receiver
Characteristics	Multi-function display, BUS technology and INTEGRATED METAL MASS DETECTOR

11.3 E850 LAYOUT AND COMPONENT DESCRIPTION

11.3.1 E850 LAYOUT
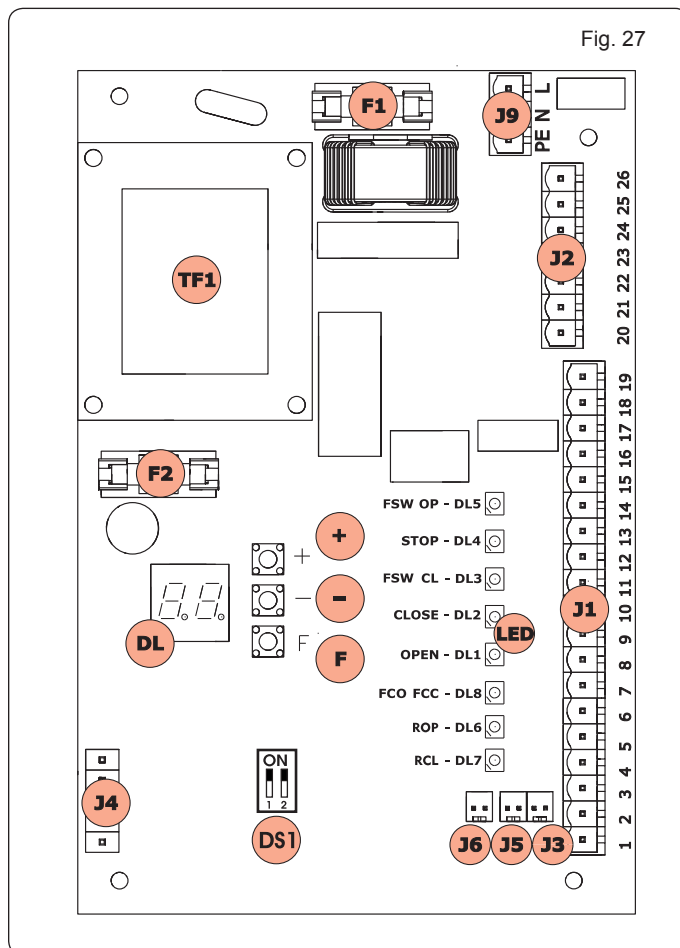
Fig. 27

11.3.2 E850 COMPONENT DESCRIPTION

DL	SIGNALLING AND PROGRAMMING DISPLAY
LED	INPUT STATUS CONTROL LEDs
J1	LOW-VOLTAGE TERMINAL BOARD
J2	MOTOR, FLASHING LAMP AND FAN CONNECTION TERMINAL BOARD
J3	ROP OPENING DECELERATION CONNECTOR
J4	DECODER / MINIDEC / RP RECEIVER CONNECTOR
J5	RCL CLOSING DECELERATION CONNECTOR
J6	STOP CONNECTOR
J9	230 VAC POWER SUPPLY TERMINAL BOARD
DS1	LOOP 1 and LOOP 2 FREQUENCY SELECTOR
F1	MOTOR FUSES AND TRANSFORMER PRIMARY (F 5A)
F2	LOW-VOLTAGE AND ACCESSORIES FUSE (T 800mA)
F	"F" PROGRAMMING BUTTON
+	"+" PROGRAMMING BUTTON
-	"-" PROGRAMMING BUTTON
TF1	TRANSFORMER

11.4 ELECTRICAL CONNECTIONS
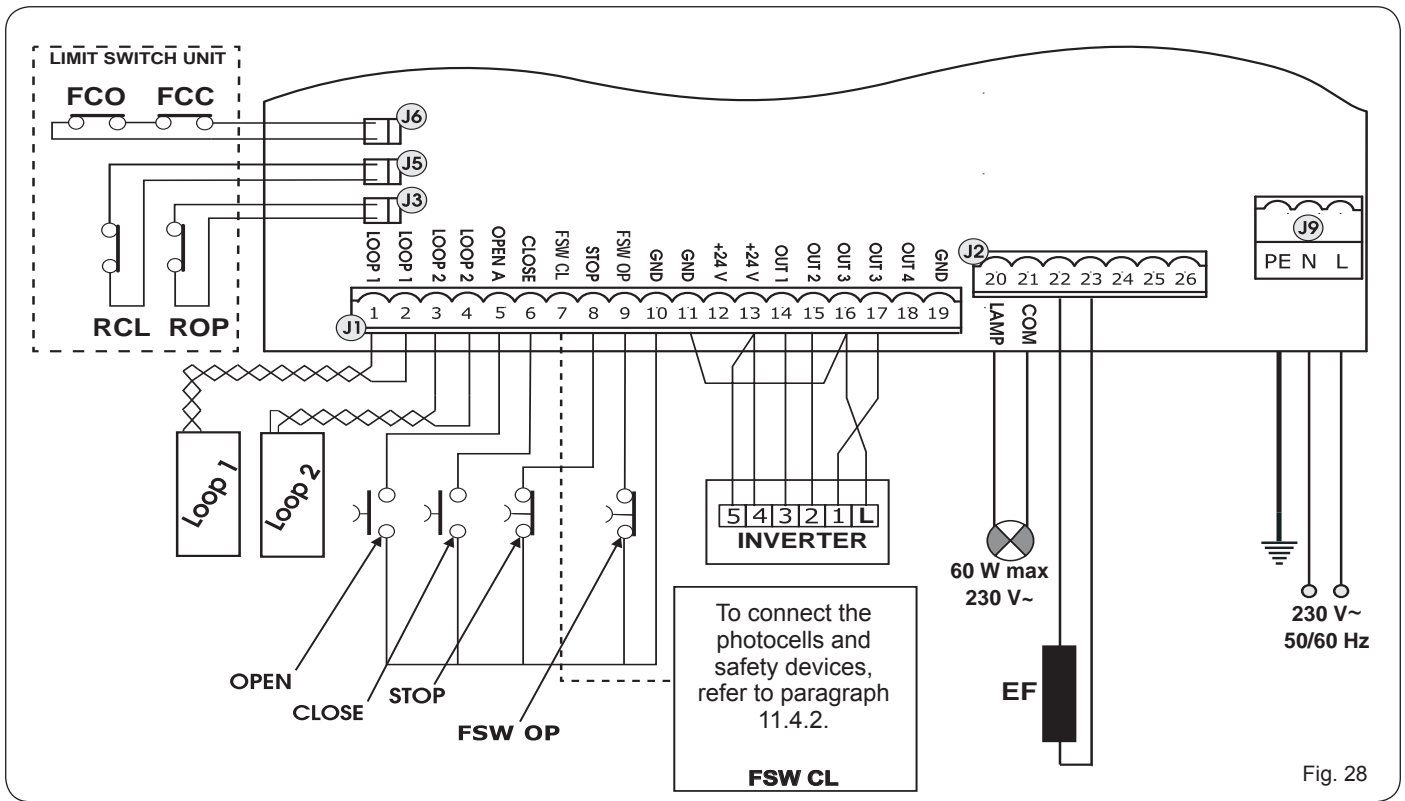
Fig. 28

11.4.1 TERMINAL BOARD J1 - ACCESSORIES (FIG. 28)

J6=FCC - FCO - Manoeuvre stop command.
J5=RCL - Start of closing deceleration.
J3=ROP - Start of opening deceleration.
LOOP 1 - LOOP 1 magnetic loop (OPEN - terminals 1-2): for OPENING.
LOOP 2 - LOOP 2 magnetic loop (SAFETY/CLOSE - terminals 3-4): for SAFETY/CLOSING.
EF - Electrical stopping brake for motor locking.
OPEN - "Open" command (N.O. - terminal 5): means any pulse generator (e.g.: button) which, by closing a contact, commands opening and/or closing of the gate.
CLOSE - "Close" command (N.O. - terminal 6): means any pulse generator (e.g.: button) which, by closing a contact, commands closing of the gate.
FSW CL - Safety contact when closing (N.C. - terminal 7): he purpose of the closing safety devices when closing is to protect the area affected by the movement of the gate during the closing phase, reversing the motion. They never trip during the opening cycle.
The **CLOSING SAFETY DEVICES**, if tripped when the automated system is open, will prevent the closing movement.

⚠️ *If CLOSING safety devices are not connected, jumper terminals FSW CL and GND (Fig. 32).*
NOTE: If this connection is made, it will not be possible to use the FAILSAFE control.

STOP - STOP contact (N.C. - terminal 8): means any device (e.g.: button) which, by opening a contact, can stop movement of the automated system.

⚠️ *If STOP devices are not connected, jumper terminals STOP and GND (Fig. 32).*

FSW OP - Safety contact when closing (N.C. - terminal 9): the purpose of the opening safety devices when opening is to protect the area affected by the movement of the gate during the opening phase, reversing its motion. They never trip during the closing cycle.
The **OPENING SAFETY DEVICES**, if tripped when the automated system is closed, will prevent the opening movement.

⚠️ *If OPENING safety devices are not connected, jumper terminals FSW OP and GND (Fig. 32).*

GND (terminals 10-11-19) - Accessories power supply negative

24 VDC (terminals 12-13) - Accessories power supply positive

⚠️ *The max. load of the accessories is 500 mA. To calculate absorption, refer to the instructions included with the individual accessories.*

OUT 1 - DECELERATION COMMAND (terminal 14): signal telling the inverter that deceleration has begun.
OUT 2 - CLOSE COMMAND (terminal 15): signal telling the inverter that the gate is closing.
OUT 3 - OPEN COMMAND (terminal 16): signal telling the inverter that the gate is opening.

⚠️ *To avoid compromising correct system operation, do not exceed the power indicated in fig. 28.*

OUT 4 - Output 4 open-collector +24 VDC (terminal 18): the output can be set in one of the functions described in Advanced Programming Level (par. 11.5.2.). The default value for ALL PRE-SETTINGS is **BUS COMMUNICATION**.
Maximum load: **24 VDC with 100 mA.**

11.4.2 PHOTOCELL CONNECTION TO RELAYS AND SAFETY DEVICES WITH "N.C." CONTACT

The E850 board is designed to connect to **closing safety devices** that trip only during gate closing movement, and are therefore suitable for protecting the gate closing area form risk of impact.

⚠️ *If the connection of two or more safety devices is required (N.C. contacts), they must be placed in series, as shown in figures 29, 30, and 31 under the wording "SAFE".*

Connecting 1 pair of CLOSING photocells

Fig. 29

Connection without safety devices

Fig. 31

Connecting 2 pairs of CLOSING photocells
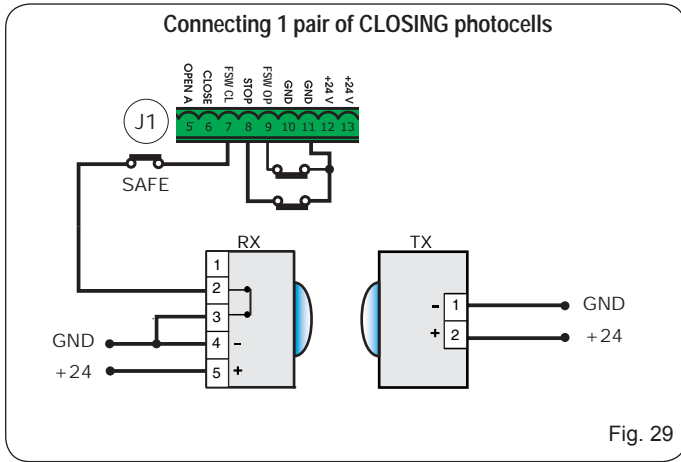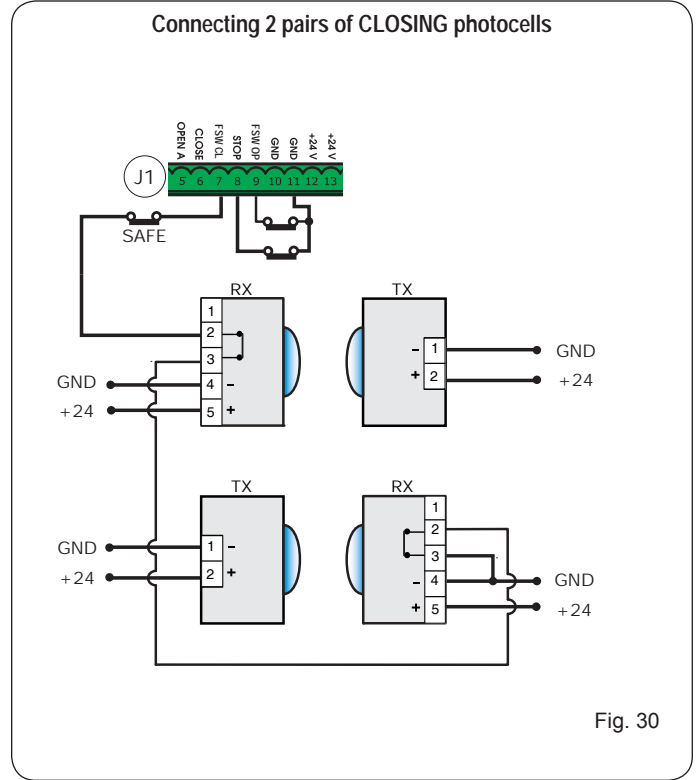
Fig. 30
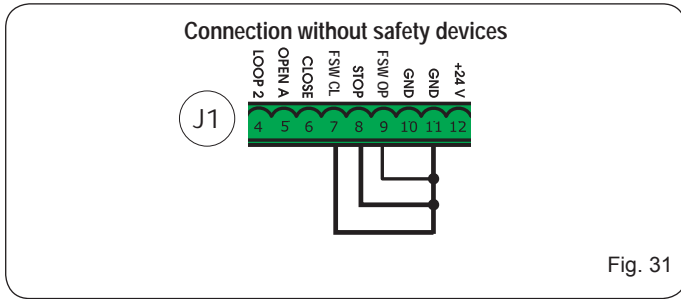
11.4.3 BUS PHOTOCELL CONNECTION

BUS-technology photocells are connected to the E850 control unit ALL IN PARALLEL, as shown in Fig. 32 and Fig. 33 using a single power supply/communication line.

👉 *BUS photocells and pulse generators do not require a matching polarity connection.*

The board is designed to connect up to 8 pairs of BUS 2easy photocells.
The photocells are divided by quantity in the following groups:

Pairs of CLOSING photocells: max 7
Pairs of photocells for OPEN pulse: max 1

Fig. 32

1st Pair of Photocells

2nd Pair of Photocells

Fig. 33

FAAC
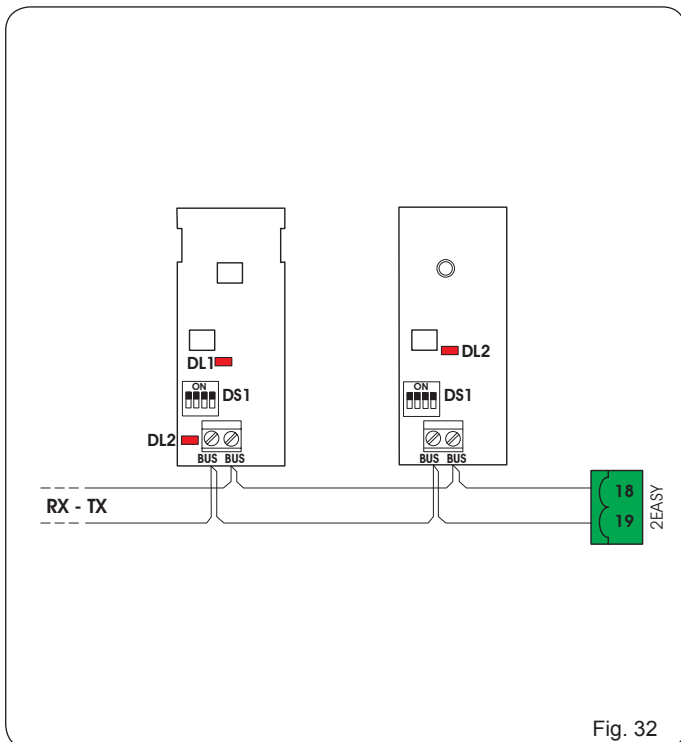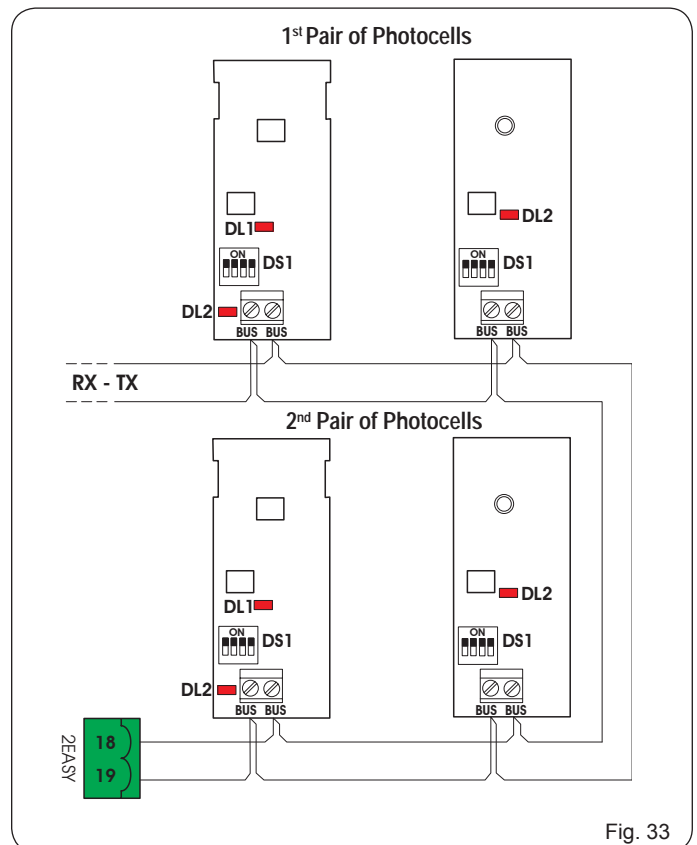
After positioning the BUS-technology photocells, proceed with selecting the address for each pair using various combinations of the DIP-SWITCHES located on each photocell.

⚠️ **Set the SAME chosen DIP-SWITCH ADDRESS on both the transmitter and receiver of the same pair.**

☞ *Ensure that two or more pairs of photocells do not have the same address.*

☞ *If no BUS accessories are used, leave terminals 18 and 19 free.*

The following table describes how to set the dip-switches located inside the transmitter and receiver of the BUS photocells.

Table - Addressing BUS photocell PAIRS

TX DIP-SWITCH					RX DIP-SWITCH
Dip1	Dip2	Dip3	Dip4	Ref.	Type
ON	OFF	OFF	OFF	B-C	OPENING
OFF	OFF	OFF	ON		
OFF	OFF	ON	OFF		
OFF	OFF	ON	ON		
OFF	ON	ON	OFF		
OFF	ON	ON	ON		
ON	OFF	OFF	OFF	D	CLOSING
OFF	OFF	OFF	ON		
ON	OFF	ON	OFF		
ON	OFF	ON	ON		
ON	ON	OFF	OFF		
ON	ON	OFF	ON		
ON	ON	ON	OFF		
OFF	ON	OFF	OFF	A	OPENING and CLOSING
OFF	ON	OFF	ON		
ON	ON	ON	ON	/	OPEN PULSE

⚠️ *To allow operation of the installed BUS accessories, store them on the board, as described in **paragraph 11.5.3**.*

11.4.4 TERMINAL BOARD J2, FLASHING LAMP (FIG.28)
LAMP (LAMP-COM): Flashing lamp output.

11.4.5 TERMINAL BOARD J9 - POWER SUPPLY (FIG. 34)
PE: Earth connection
N: 230 V~ or 115 V~ Power supply (Neutral)
L: 230 V~ or 115 V~ Power supply (Line)

⚠️ *For correct operation, you must connect the board to the system's earth conductor. Ensure that a suitable differential magnetothermic switch has been installed upstream.*
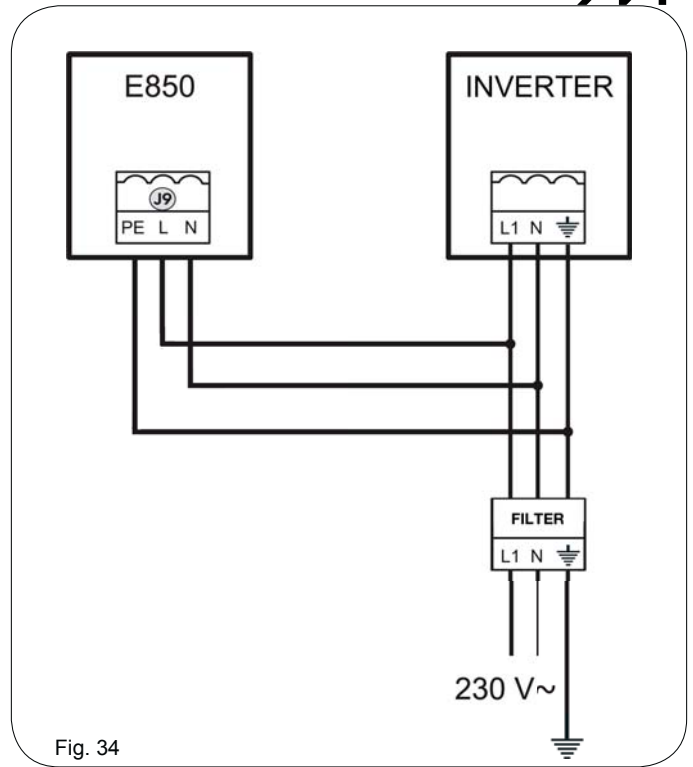
Fig. 34

11.4.6 Connectors J3, J5 - rapid connection opening and closing limit switches (FIG.28)
Rapid connector for connecting the opening (J3) and closing (J5) limit switches.

11.4.7 FREQUENCY SELECTOR DS1 (FIG. 27)
DIP-SWITCH used to set the HIGH or LOW work frequency of the vehicle detection loops. See section 11.5.5.

11.4.8 CONNECTOR J4 - MINIDEC, DECODER AND RP CONNECTOR
Used for the rapid connection of the Minidec, Decoder and RP / RP2 Receivers.
If a 2-channel receiver is used, like the RP2, it will be possible to directly command automated system OPEN and CLOSE from a 2-channel radio control.
If a 1-channel receiver is used, like the RP, it will only be possible to command OPEN.

Connect the accessory with the components side facing inside the board.

⚠️ *Boards should be connected or disconnected ONLY after having cut off electrical power.*

11.4.9 REVERSING GATE OPENING CONNECTIONS FROM

Example of radio accessory connection
Fig. 35

ENGLISH

Translation of the original instructions

ENGLISH

Translation of the original instructions
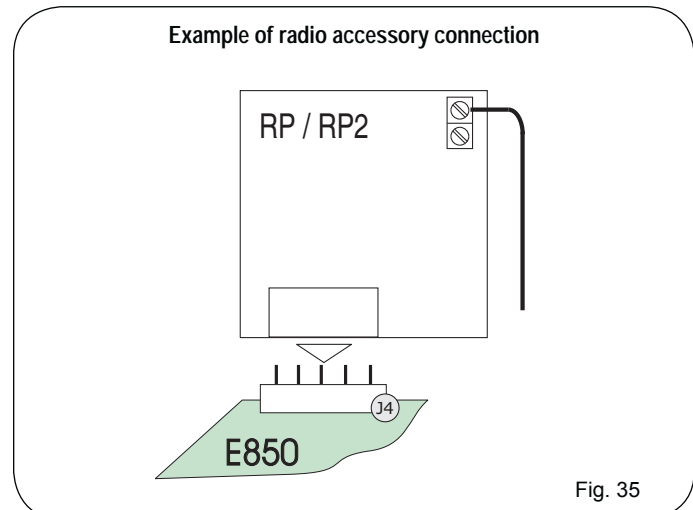
☞ *Connections to the E850 board are factory set for gates designed to open toward the RIGHT. If at installation the gate requires LEFT-HAND opening, the connections will be inverted on site, as shown in figures 36 and 37.*

Fig. 36

GATE WITH RIGHT-HAND OPENING (DEFAULT)
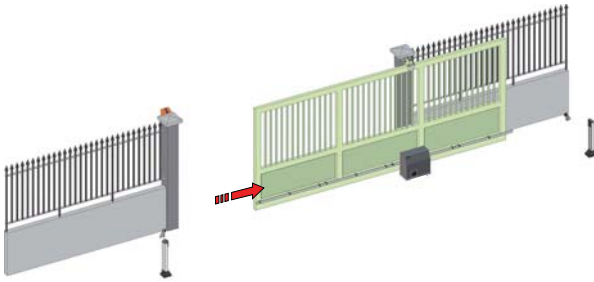
GATE WITH LEFT-HAND OPENING

OMRON INVERTER

| 2 | 1 |

GREEN   BROWN

GREEN   BROWN

| 15 | 17 |
OUT2   OUT3

E850 | J6 | J5 | J3 |

FCC-FCO   GREY
          PINK
RCL   GREEN
          YELLOW
ROP   WHITE
          BROWN

OMRON INVERTER

| 2 | 1 |

GREEN   BROWN

BROWN   GREEN

| 15 | 17 |
OUT2   OUT3

E850 | J6 | J5 | J3 |

FCC-FCO   GREY
          PINK
ROP   WHITE
          BROWN
RCL   GREEN
          YELLOW
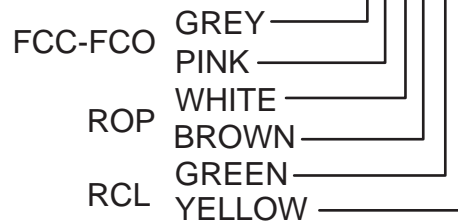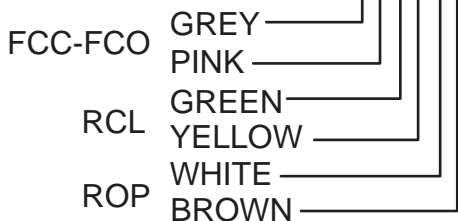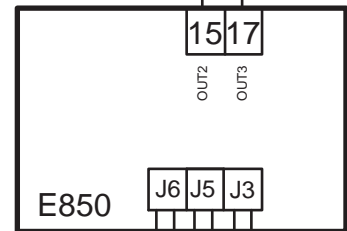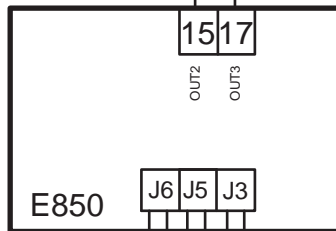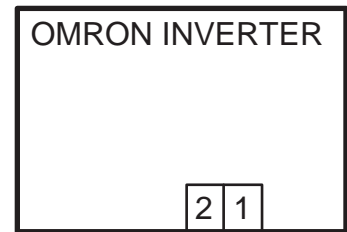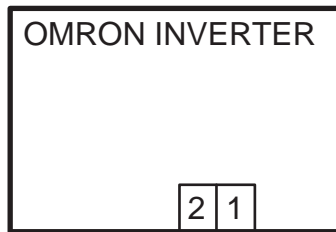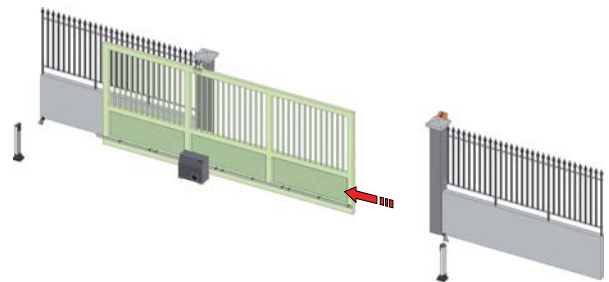
Fig. 37
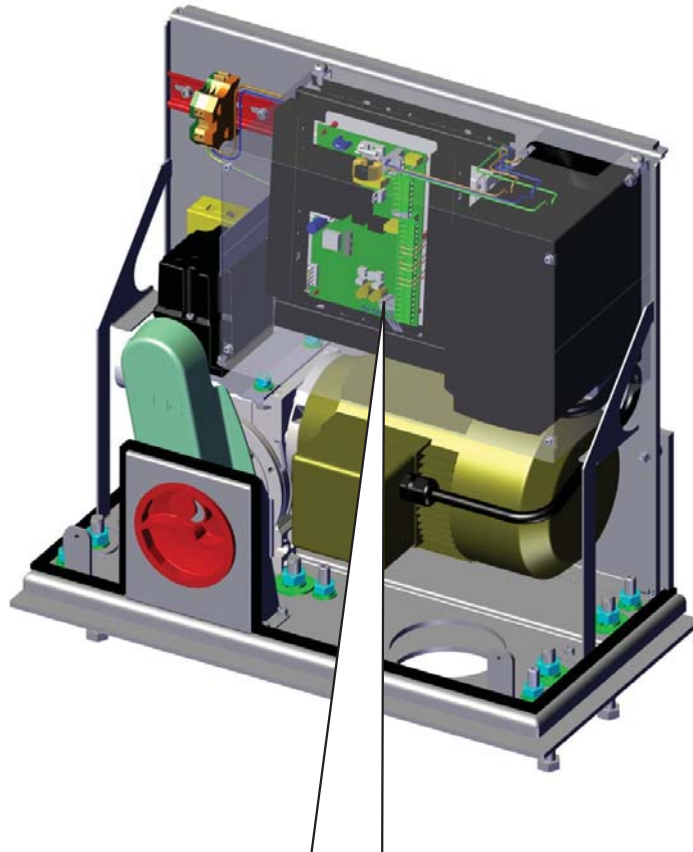
1 RIGHT-HAND OPENING (DEFAULT)

2

3
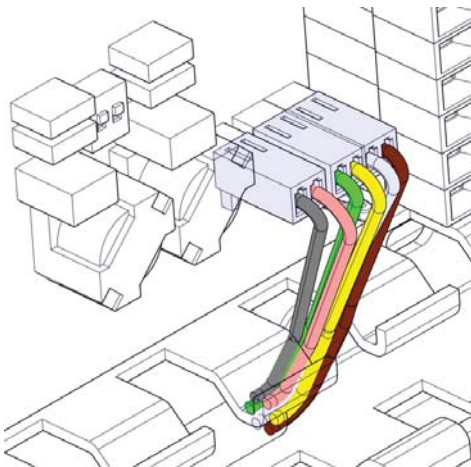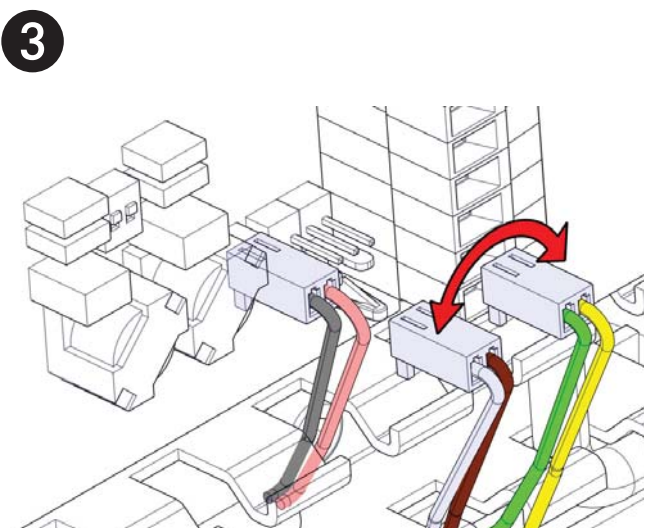
4 LEFT-HAND OPENING

11.5 PROGRAMMING

To program automated system operation, you must access "*PROGRAMMING*" mode.

Programming is divided into three levels: *BASIC, ADVANCED and EXPERT.*

☞ *Changes to the programming parameters become immediately effective, while final storage occurs only upon exiting programming and returning to the automated system status display. If the equipment is powered down before returning to the automated system status display, all changes made will be lost.*

☞ *It is possible to return to the status display at any point during programming at any level by simultaneously pressing "F" and "-"*

11.5.1 BASIC PROGRAMMING LEVEL

BASIC PROGRAMMING LEVEL is accessed by pressing F:
• when pressed (and held) the name of the first function is displayed.
• releasing the key, the function value is displayed and can be modified using the **+** and **-** keys.
• when **F** is pressed again (and held) the name of the following function is displayed, and so on.
• once the last function is reached, pressing **F** will exit programming mode and the display will go back to showing the inputs status.

PROGRAMMAZIONE LIVELLO BASE (F)		
Display	Function	Default
dF	**PARAMETER LOADING:** 00 Neutral condition 01 FAAC 1 Default loaded LEAVE ON 00 IF YOU DO NOT WISH TO CHANGE PROGRAMMING. For a description of the parameter dF refer to **section 11.5.2**.	00
bu	**BUS ACCESSORIES MENU** no = BUS devices entering request **section 11.5.3.**	no
LO	**OPERATING LOGICS:** A Automatic A1 Automatic 1 EP Semi-Automatic step-by-step E Semi-Automatic PE Photocell automatic C Dead-man CU Custom	E
PA	**PAUSE TIME:** Is effective only if an automatic logic has been selected. Adjustable from 0 to 59 sec. in one-second steps. Next, visualisation changes to minutes and tenths of a second (separated by a decimal point) and time is adjusted in 10-second steps up to the maximum value of 4.1 minutes. **e.g.**: if the display shows 2.5, the pause time corresponds to 2 min. and 50 sec.	20

L1	**LOOP 1:**
	When this function is enabled, the loop connected to the Loop 1 input will serve as an OPEN function.
	        Y = loop1 active
	        no = loop1 not active
	Warning: if the function does not activate, the state of Loop1 will in any case be available on one of the duly set outputs (see advanced programming level).
		no

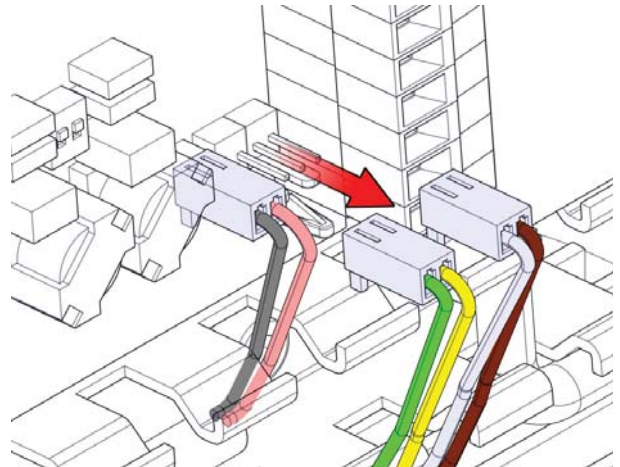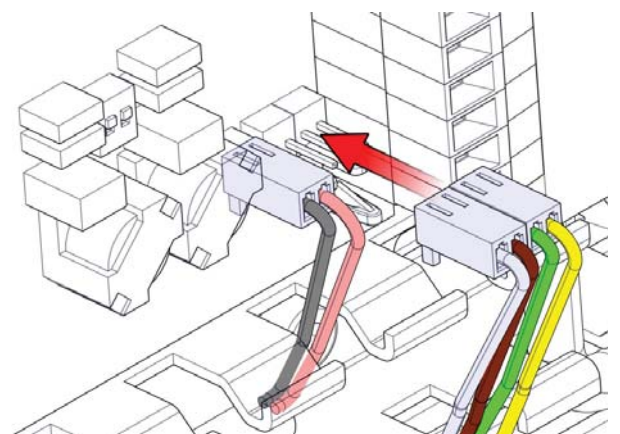| Display	Funzione	Default

L2	**LOOP 2:**
	When this function is enabled, the loop connected to the Loop2 input will serve as a SAFETY / CLOSE function, i.e. it will operate as a SAFETY during closing and, once it is uncovered, it will command the board to CLOSE.
	        Y = loop2 active
	        no = loop2 not active
	Warning: if the function does not activate, the state of Loop2 will in any case be available on one of the duly set outputs (see advanced programming level).
		no

H1	**BOOST LOOP 1 FUNCTION:** Y = Active no = Disabled This function lets you increase the sensitivity level at the time of detection. When the vehicle moves away from the loop, the sensitivity will return to the selected level. This system makes it possible to maintain the detection contact even in case of very tall vehicles or during the transit of a tractor with trailer.	no
H2	**FUNZIONE BOOST LOOP 2:** Y = Active no = Disabled See BOOST LOOP1 function.	no

S1	**LOOP 1 SENSITIVITY**
	Regulates the sensitivity of the loop
	        01 = minimum
	        10 = maximum
		05

S2	**LOOP 2 SENSITIVITY**
	Regulates the sensitivity of the loop
	        01 = minimum
	        10 = maximum
		05

St	**AUTOMATED SYSTEM STATUS:** Exit programming, store settings and return to automated system status display. 00 Closed 01 Pre-flashing during opening 02 Opening 03 Open 04 Paused 05 Pre-flashing during closing 06 Closing 07 Stopped ready to close 08 Stopped ready to open 09 Stopped with closing safety devices and then opens 10 Opening safety devices tripped, then opens	

☞ *Display of the automated system status St is extremely important for the installation/maintenance technician in order to distinguish the logical processes that the board carries out during movement.*

If, for example, the automated system status is CLOSED, the display MUST read 00. When the OPEN command is received, the display will change to 01, if pre-flashing is enabled, or directly to 02 (the OPENING movement) to then display 03 once the OPEN gate position is reached.

FAAC

11.5.2 CHANGING THE PRE-SETTINGS

Changing the parameter dF lets you automatically load a configuration which will modify all the programming values at every level with pre-set values.

This option is a handy starting point to quickly program the E850 for operation.

The selectable PRE-SETTING is:
• ◻| Loaded FAAC default

To make the pre-setting value loading effective, select pre-setting ⟨◻|⟩ and exit the basic programming level.

EXAMPLE: by selecting ◻| and exiting the basic programming level, all FAAC production values are loaded and can be found in the BASIC, ADVANCED AND EXPERT level tables in the "Default" column. The E850 is therefore configured to move a gate.

⚠️ *LOADING OF A PRE-SETTING CANCELS ALL PREVIOUSLY MADE CHANGES TO ANY PROGRAMMING PARAMETER. IF YOU DO NOT WISH TO LOAD A PRE-SETTING, LEAVE THE PARAMETER dF ON ◻◻.*

☞ *The parameter dF, unlike the others, does not store the selected value but always returns to displaying ◻◻ as a standard condition.*

It is therefore not possible to recognise which pre-setting was set previously.

If you do not wish to load a pre-setting, ALWAYS leave the parameter dF set on ◻◻ and go on to the next programming parameter.

⚠️ *Ensure that you perform default loading and exit the basic programming level BEFORE you change any other parameters to avoid cancelling all the changes made.*

11.5.3 NEW BUS E850 SIGNAL

FSW OP   BUS STATUS
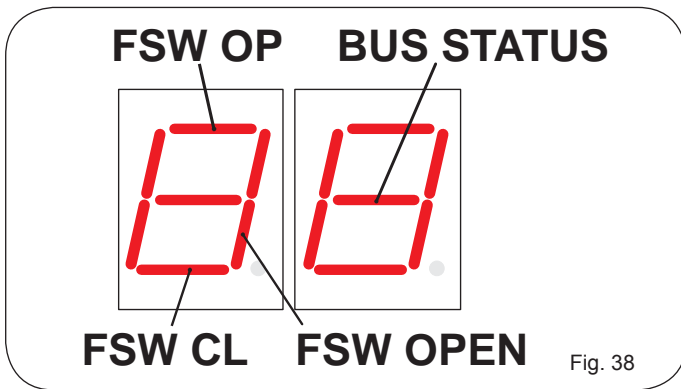
FSW CL   FSW OPEN   Fig. 38

Segment ON = means that at least one corresponding **BUS** device is active/engaged.
Segment OFF = means that no corresponding **BUS** device is active/engaged.
(when the gate is closed at rest).
BUS STATUS segment always on.

At the **BASIC** programming level there will be the parameter bu for BUS devices:
• when **F** is released, no will appear only if no BUS device is entered.

By simultaneously pressing **+** and **–** for 5 sec., a new entry will be made. During this time, the writing no will flash and once the BUS entry procedure is completed, no will become ५. When **+** and **–** are released, ५ will disappear and the BUS device status signal will appear. With the gate closed at rest with no BUS device active/engaged, the signal shown in Fig.39.

Fig. 39

If once the entry is completed there are **NO BUS** devices, the display will go back to no.

When an entry is completed, to verify the devices recognised in the basic programming level by the BUS device status signal, press and hold **+**. The display will show the types of BUS devices entered.

Fig. 39
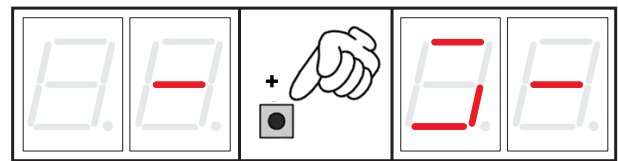
Fig. 40

The example shown above indicates the visualisation of at least one of the following types of BUS accessories entered:

FSW OP, FSW CL, FSW OPEN.

Release **+** and press **F** to continue programming the other parameters.

The BUS communication system uses a self-diagnostic function able to provide connection error signals or BUS accessories configuration error signals.

Fig. 41

The display will show a **FLASHING** cc, as in **figure 41**, if there is a SHORT-CIRCUIT along the BUS line. Check the connections made (section 11.4.3)

Fig. 42

The display will show a **FLASHING** Er, as in **figure 42**, in the following cases:
• more than one pair of BUS photocells have the same address.
• CALLING error.
• FAIL SAFE error.

In the latter case, check all the addresses set on all the installed BUS photocells, referring to section 11.4.3.

FAAC

11.5.4 ADVANCED PROGRAMMING LEVEL

To access ADVANCED PROGRAMMING LEVEL, press **F** and, holding it, press **+** :

- when **+** is released, the name of the first function will be displayed.
- releasing both **+** and **F**, the display will show the value of the function that can be changed using **+** and **-**.
- by pressing **F** (and holding it), the display will show the name of the next function; releasing it will show the value that can be changed using **+** and **-**.
- once the last function is reached, pressing **F** will exit programming mode and the display will go back to showing the inputs status.

ADVANCED PROGRAMMING LEVEL	(F) + (+)	
Display	**Function**	**Default**
PF	**PRE-FLASHING:** lets you activate the flashing lamp for 5 sec. before movement begins. no — disabled 0C — before each movement PA — only at the end of the pause CL — before closing	no
t	**WORK TIME (time-out):** It is best to set the value 5-10 seconds greater than the time required by the automated system to go from closing to open position and vice versa. Adjustable from 0 to 59 sec. in one-second steps. Next, the visualisation changes to minutes and tenths of a second (separated by a decimal point) and time is adjusted in 10-second steps up to the maximum value of 4.1 minutes.	40
oP	**OPENING PHOTOCELL:** Activate this function if you wish for the opening photocells to stop movement and reverse to closing. Usually, with this function disabled, the action of the opening photocells determines resuming of motion when they are no longer engaged. Y = Immediate reversal during closing no = Resuming of motion when no longer engaged	no
o4	**OUTPUT 1 / BUS:** the output can be set on one of the following functions: 00=BUS 01=Indicator light 02=Leaf lighting 03=Maximum closed leaf 04=Leaf open or paused 05=Leaf opening 06=Leaf closing 07=Leaf stationary 09=Loop 1 engaged 10=Loop 2 engaged 14=Leaf lights 15=Bollard buzzer 16=FCA engaged 17=FCC engaged	00
P4	**OUTPUT 1 POLARITY:** Lets you configure the output polarity. Y = N.C. polarity no = N.O. polarity Note: if the output is set as FAIL-SAFE (00) leave the value on "no".	no

Display	Funzione	Default
A5	**SERVICE REQUEST (linked to the following two functions):** If activated, at the end of the countdown (which can be set using the two following "Cycle Programming" functions) it activates the LAMP output for 4 sec every 30 sec (service request). It can be useful for setting programmed maintenance operations. Y = Active no = Disabled	no
nc	**CYCLE PROGRAMMING IN THOUSANDS:** Makes it possible to set a system operation cycles countdown; the value can be set from 0 to 99 (thousands of cycles). The value displayed is refreshed with the succession of the cycles, interacting with the value of nC (99 decrements of nc correspond to 1 decrement of nC). The function can be used, together with nC, to verify the use of the system and for use of "Service Request".	00
nC	**CYCLE PROGRAMMING IN HUNDREDS OF THOUSANDS:** Makes it possible to set a system operation cycles countdown; the value can be set from 0 to 99 (hundreds of thousands of cycles). The value displayed is refreshed with the succession of the cycles, interacting with the value of nc. (1 decrement of nC corresponds to 99 decrements of nc). The function can be used, together with nc, to verify the use of the system and for use of "Service Request".	01
h1	**LOOP 1 HOLDING TIME** Makes it possible to set presence time on loop 1. When this time has elapsed, the board will self-calibrate and signal "loop clear" (unit decimal point OFF). When the board is turned on, an automatic reset is carried out. Y = 5 minutes no = infinite	no
h2	**LOOP 2 HOLDING TIME** akes it possible to set presence time on loop 2. When this time has elapsed, the board will self-calibrate and signal "loop clear" (unit decimal point OFF). When the board is turned on, an automatic reset is carried out.. Y = 5 minutes no = infinite	no
St	**AUTOMATED SYSTEM STATUS:** Exits programming, storage of the settings and return to the automated system status display (**see paragraph 11.5.1.**).	

11.5.5 SETTING THE INTEGRATED LOOP DETECTOR

The E850 features an integrated metal mass detector for the induction detection of vehicles.

Specifications:
• Galvanic separation between the detector electronics and the loop electronics
• automatic system alignment immediately following activation
• continuous resetting of the frequency drifts
• sensitivity independent of loop inductivity
• loop work frequency adjustment
• occupied loop message with LED visualisation
• loop status addressable on OUT 4

Connection:
Connect the detection loops as shown in figure 28:

- Terminals 1 - 2 for LOOP 1 = loop with gate opening function;
- Terminals 3 - 4 for LOOP 2 = loop with closing and/or safety function.

To enable operation of the connected loops, enter basic programming level mode and set the parameters $L1$ and $L2$ on Y, consistent with the connected loops. If only one loop is installed, enable only the corresponding parameter.

The loop detector operating status is shown using the display decimal points when the automated system status is visualised (parameter St).

CALIBRATION
Each time the E850 board is powered, the display shows the automated system status and the integrated loop detector performs the auto-calibration of the connected loops. Therefore, perform an auto-calibration of the E850 for at least 5 seconds.

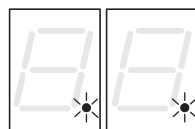Calibration is signalled by the two flashing decimal points, as shown in figure 43.

Fig. 43

⚠️ *If one or both magnetic loops are not installed, the loop detector remains in constant calibration mode without causing problems to board operation. Therefore, during visualisation of the automated system status, one or both decimal points will flash constantly.*

Once calibration is completed, the decimal points represent the loop statuses:
Decimal point ON = Loop ENGAGED
Decimal point OFF = Loop CLEAR

LOOP 1   LOOP 2
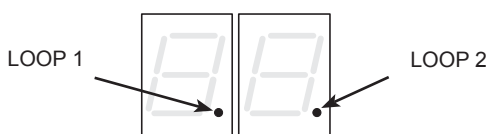
Decimal point FLASHING = Loop NOT CONNECTED or CALIBRATING

ADJUSTING THE SENSITIVITY
By adjusting the sensitivity you determine the variation of inductivity, for each channel, which a vehicle must cause in order to activate the corresponding detector output.
Sensitivity is adjusted separately for each channel with the use of the parameters $S1$ and $S2$ at basic programming level. See section 11.5.1.

ADJUSTING THE HOLDING TIME
The holding time count starts when the loop is engaged.
When the time has elapsed, if the loop is still occupied, a new automatic calibration is performed, in which the presence of the metal mass on the loop no longer determines its engagement. At the end of the new calibration the loop is considered "clear".
The holding time can be adjusted using the parameters $H1$ and $H2$ in advanced programming mode.
See section 11.5.4.

ADJUSTING THE FREQUENCY and NEW BALANCING
The work frequency of each detector channel can be adjusted on two levels using dip-switches DS1 (see fig.27).

DIP 1	ON = Loop 1 frequency LOW
	OFF= Loop 1 frequency HIGH
DIP 2	ON = Loop 2 frequency LOW
	OFF= Loop 2 frequency HIGH

When one of the dip-switches is changed, we recommend performing a new calibration. If two loops are installed, select different frequencies for each loop.

NOTES FOR MAKING THE LOOPS
The loop must be made at least 15 cm from fixed metal objects, at least 50 cm from moving metal objects and no more than 5 cm from the surface of the final paving.

Use a standard unipolar cable measuring 1.5 mm² in diameter (if the cable is laid below ground level directly, it must have double insulation). Make a preferably square or rectangular loop, by preparing a cable runner in PVC or by tracing the paving as shown in figure 44 (corners must be cut at a 45° angle to avoid cable breaks). Lay the cable using the number of windings shown in the table. The two ends of the cable must be twisted together (at least 20 times per metre) from the loop to the detector. Avoid splicing a cable (if necessary, weld the conductors and seal the splice using a heat-shrinking sheath) and keep it separate from the mains power lines.

Loop Perimeter	Nr. of Windings
less than 3 m	6
from 3 to 4 m	5
from 4 to 6 m	4
from 6 to 12 m	3
more than 12 m	2

Fig. 44

11.6 E850 BOARD START-UP

11.6.1 VERIFYING THE BOARD LEDs

Before final start-up of the E850 electronic control unit, check the activation status of the board LEDs.

The LEDs indicate the status of the board inputs and are extremely important for movement of the automated system:

LED ON 🔴 : contact CLOSED

LED OFF ⬜ : contact OPEN

Figure 45 shows the standard LED configuration with the automated system CLOSED and ready to open.

The FSW OP (DL5), STOP (DL4), FSW CL (DL3) and FCO FCC (DL8) inputs are safety inputs with N.C. (normally closed) contact, therefore the corresponding LEDs are ON.
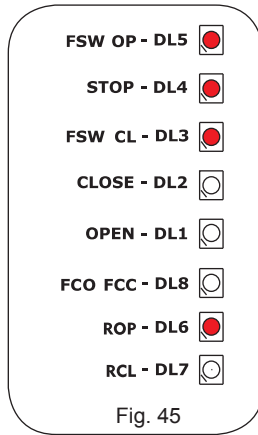
The **FCA** and **FCC LEDs** are the N.C. contacts of the limit switches which, if engaged, will open thus turning off the corresponding LED:

FSW OP - DL5	🔴
STOP - DL4	🔴
FSW CL - DL3	🔴
CLOSE - DL2	⬜
OPEN - DL1	⬜
FCO FCC - DL8	⬜
ROP - DL6	🔴
RCL - DL7	⬜

Fig. 45

With the Automated System CLOSED	FCO FCC - DL8 ⬜	**FCC ENGAGED**
	ROP - DL6 🔴	
	RCL - DL7 ⬜	
With the Automated System OPEN	FCO FCC - DL8 ⬜	**FCO ENGAGED**
	ROP - DL6 ⬜	
	RCL - DL7 🔴	

11.6.2 VERIFYING THE BUS STATUS

Consult this paragraph if BUS photocells are installed, as described in paragraph 11.4.3.

Enter the basic programming level and visualise the on-screen programming parameter ƅu.
This parameter must feature a horizontal centre line to confirm that all the BUS photocell pairs are engaged and, if necessary, press + to check the devices entered, as described in **paragraph 11.5.3**.

11.7 TESTING THE AUTOMATED SYSTEM

Once programming is completed, ensure that the system is operating correctly.
Especially check that the automated system power is correctly adjusted and that the safety devices connected to it operate accordingly.

11.8 EXPERT PROGRAMMING LEVEL

The expert programming level is used only if you wish to perform an advanced customisation of the operating logics.

⚠️ **Before making changes at this level, ensure that the parameters you wish to change and their effect on the automated system are fully understood.**

To access EXPERT PROGRAMMING LEVEL, **press F and, holding it, press + for approximately 10 seconds**. The use of **F**, **+** and **-** is the same as in the other two programming levels.

EXPERT PROGRAMMING LEVEL (F) + (+) 10 sec		
Display	**Function**	**Setting**
01	If this function is activated, automatic **closing occurs** after the pause time.	Y = automatic closing no = disabled
02	When this function is activated, **2-input** operating mode is obtained: OPEN for opening and CLOSE for closing.	Y = 2-input operation no = disabled
03	Activation of **OPEN** and **CLOSE input** levels recognition **(command held)**. That is to say, the board recognises the level (e.g. if with OPEN held you press STOP; when the latter is released, the automated system will continue to open). If 03 is disabled, the board commands a manoeuvre only if there is an input variation.	Y = level recognition no = recognition at status variation
04	Activation of DEAD-MAN opening (command always pressed). Releasing the OPEN command will stop operation	Y = active no = disabled
05	When this function is activated, the **OPEN command** during opening will stop movement. If the parameter 06 is "no", the system is ready for opening. If the parameter 06 is "Y", the system is ready for closing.	Y = stops when opening no = disabled
06	When this function is activated, the **OPEN command** during opening will reverse movement. If the parameters 05 are 06 are "no", OPEN will have no effect during opening.	Y = reverses when opening no = disabled
07	When this function is activated, the **OPEN command** during pause stops operation. If the parameters 07 and 08 are "no", OPEN resets the pause time.	Y = stops when paused no = disabled
08	When this function is activated, the **OPEN command** during pause causes closing. If the parameters 07 and 08 are "no", OPEN resets the pause time.	Y = closes when paused no = disabled
09	When this function is activated, the **OPEN command** during closing stops operation, otherwise it reverses movement.	Y = stops no = reverses
10	Activation of DEAD-MAN closing (command always pressed). Releasing the **CLOSE command** will stop operation	Y = active no = disabled
11	When this function is activated, the **CLOSE command** has priority over OPEN, otherwise OPEN has priority over CLOSE.	Y = active no = disabled
12	When this function is activated, the **CLOSE command** commands closing when released. As long as CLOSE is activated, the unit stays in closing pre-flashing mode.	Y = closes when released no = closes immediately

Display	Funzione	Impostazione
13	When this function is activated, the **CLOSE command** during opening stops operation, otherwise the **CLOSE command** commands immediate reverse or when opening is completed (see also parameter 14)	Y = CLOSE stops no = CLOSE reverses
14	When this function is activated and if the parameter 13 is "no", the **CLOSE command** commands immediate closing at the end of the opening cycle (stores CLOSE). If the parameters 13 and 14 are "no", CLOSE commands immediate closing.	Y = closes at the end of opening no = inmediate closure
15	When this function is activated, with the system stopped by a STOP another **OPEN command** moves in the opposite direction. If the parameter 15 is "no", it always closes.	Y = moves in the opposite direction no = always closes
16	When this function is activated, during closing, the **CLOSING SAFETY DEVICES** stop and allow motion to resume when they are no longer engaged, otherwise they immediately reverse opening.	Y = closes when no longer engaged no = immediate reversal
17	When this function is activated, the **CLOSING SAFETY DEVICES** command closing when they are no longer engaged (see also parameter 18).	Y = closes when FSW is no longer engaged no = disabled
18	When this function is activated and if the parameter 17 is Y, the unit will wait for the opening cycle to end before executing the closing command sent by the **CLOSING SAFETY DEVICES**.	Y = closes at the end of opening no = disabled
19	When this function is activated, during closing, **LOOP2** stops and allows motion to resume when no longer engaged, otherwise it immediately reverses to opening.	Y = closes when no longer engaged no = immediate reversal
20	When this function is activated, **LOOP2** commands closing when it is no longer engaged (see also parameter 21).	Y = closes if **LOOP2** is clear no = disabled
21	When this function is activated and if the parameter 20 is Y, the unit will wait for the opening cycle to end before executing the closing command sent by **LOOP2**.	Y = closes at the end of opening no = disabled
22	When this function is activated, the **LOOP1** commands have priority over those of **LOOP2**.	Y = active no = disabled
23	**LOOP 1** commands opening and, once completed, it closes if no longer engaged (useful in case of vehicle back-up with consecutive loops). If disabled, when **LOOP 1** is no longer engaged, it does not close.	Y = closes if **LOOP1** is clear no = disabled
24	**NOT USED**	/
25	**A.D.M.A.P Function** When this function is activated, the result is operation of **safety devices compliant with French standards.**	Y = active no = disabled
26	When this function is activated, the **CLOSING SAFETY DEVICES** during closing stop and reverse movement when they are no longer engaged, otherwise they reverse immediately.	Y = stops and reverses when no longer engaged. no= reverses immediately
27	**NO EFFECT**	/
A1	**PRE-FLASHING:** Lets you adjust, in 1 sec steps, the desired duration of pre-flashing, from a minimum of **00** to a maximum of **10** seconds	05
A2	**TIMEOUT FOR REVERSE WHEN CLOSING:** If this function is activated, during closing you can decide to reverse or stop movement when the timeout elapses (the closing limit switch is not reached).	Y = reverses no = stops
A3	**OPENING AT POWER UP:** In the event of a power failure, once it is restored, you can command opening by enabling this function (only if the automated system is not closed, FCC clear).	Y = opens no = remains stationary
St	**AUTOMATED SYSTEM STATUS:** Exit programming, store settings and return to gate status display (see paragraph 11.5.1.).	

11.8.1. PERSONALISING THE OPERATING LOGIC

The expert programming level values vary depending on the operating logic chosen at the basic programming level.
The expert programming level is for personalising one of the selectable logics should a non-standard operating mode be required.

To make effective the change of one or more expert programming level parameters that personalise the set operating logic, proceed as follows:

Select the basic logic that most suits your needs.
Enter the expert programming level and change the desired parameters.
Exit expert level from the basic level and select the logic Cu.

The logic Cu activates the changes made at expert level.

1 11.9 OPERATING LOGICS TABLES

A: AUTOMATIC logic (Tab. 1/a)

A1: AUTOMATIC 1 logic (Tab. 1/b)

EP: STEP-BY-STEP logic (Tab. 1/c)

E: SEMI-AUTOMATIC logic (Tab. 1/d)

PE: PHOTOCELL AUTOMATIC logic (Tab. 1/e)

C: DEAD-MAN logic (Tab. 1/f)

CU: CUSTOM logic (this logic cannot be selected; it appears automatically each time you go to the parameter ⌐⌐ and any parameter is changed from its default setting).

Tab. 1/a

"A" LOGIC	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens and closes after the pause time	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
AT OPENING	no effect (1)	recloses the gate	stops operation	see Advanced Programming level	no effect	stops and when no longer engaged opens (stores CLOSE)
OPEN IN PAUSE	recharges pause time (1)	recloses the gate	stops operation	no effect	recharges pause time (CLOSE disabled)	recharges pause time (CLOSE disabled)
AT CLOSURE	reopens the gate	no effect	stops operation	no effect	reverses to opening (see 2nd lev. prog.)	stops and when no longer engaged opens (stores CLOSE)
STOPPED	closes the gate	closes the gate	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect (OPEN/CLOSE disabled)

Tab. 1/b

"A1" LOGIC	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens and closes after the pause time	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
AT OPENING	no effect (1)	recloses the gate	stops operation	see 2nd lev. prog.	continues to open and recloses immediately	stops and when no longer engaged opens (stores CLOSE)
OPEN IN PAUSE	recharges pause time (1)	recloses the gate	stops operation	no effect	stops and when no longer engaged closes immediately	recharges pause time (CLOSE disabled)
AT CLOSURE	reopens the gate	no effect	stops operation	no effect	reverses to opening (see 2nd lev. prog.)	stops and when no longer engaged opens (stores CLOSE)
STOPPED	closes the gate	closes the gate	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect (OPEN/CLOSE disabled)

Tab. 1/c

"EP" LOGIC	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens the gate	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
AT OPENING	stops operation (1)	recloses the gate	stops operation	see 2nd lev. prog.	no effect	stops and when no longer engaged opens (OPEN stops - CLOSE is stored)
OPEN IN PAUSE	recloses the gate (1)	recloses the gate	no effect (OPEN/CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)
AT CLOSURE	stops operation	no effect	stops operation	no effect	reverses to opening (see 2nd lev. prog.)	stops and when no longer engaged opens (OPEN stops - CLOSE is stored)
STOPPED	resumes motion in the opposite direction. After STOP always closes	closes the gate	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect (OPEN stops - CLOSE is stored)

↺ In brackets, the effects on the other inputs when the pulse is active.

"E" LOGIC	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens the gate	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
AT OPENING	stops operation	recloses the gate	stops operation	see 2nd lev. prog.	no effect	stops and when no longer engaged opens (OPEN stops - CLOSE is stored).
OPEN IN PAUSE	recloses the gate	recloses the gate	no effect (OPEN/CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)
AT CLOSURE	reopens the gate	no effect	stops operation	no effect	reverses to opening (see 2nd lev. prog.)	stops and when no longer engaged opens (OPEN stops - CLOSE is stored).
STOPPED	closes the gate	closes the gate	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN stops - CLOSE is stored)

Tab. 1/e

"PE" LOGIC	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens and closes after the pause time	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
AT OPENING	no effect (1)	recloses the gate	stops operation	when no longer engaged, reverses immediately	continues to open and recloses immediately	stops and when no longer engaged opens (stores CLOSE)
OPEN IN PAUSE	resets pause time (1)	recloses the gate	stops operation	no effect	stops and when no longer engaged closes immediately	recharges pause time (CLOSE disabled)
AT CLOSURE	reopens the gate	no effect	stops operation	no effect	reverses to opening (see 2nd lev. prog.)	stops and when no longer engaged opens (stores CLOSE)
STOPPED	closes the gate	closes the gate	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect (OPEN/CLOSE disabled)

Tab. 1/f

"C" LOGIC	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens the gate	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
AT OPENING	no effect	closes the gate	stops operation	see 2nd lev. prog.	no effect	stops and when no longer engaged see 2nd lev. prog.
OPEN IN PAUSE	no effect	closes the gate	no effect (OPEN/CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)
AT CLOSING	opens the gate	no effect	stops operation	no effect	stops operation	stops operation
STOPPED	opens the gate	closes the gate	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)

➲ In brackets, the effects on the other inputs when the pulse is active.
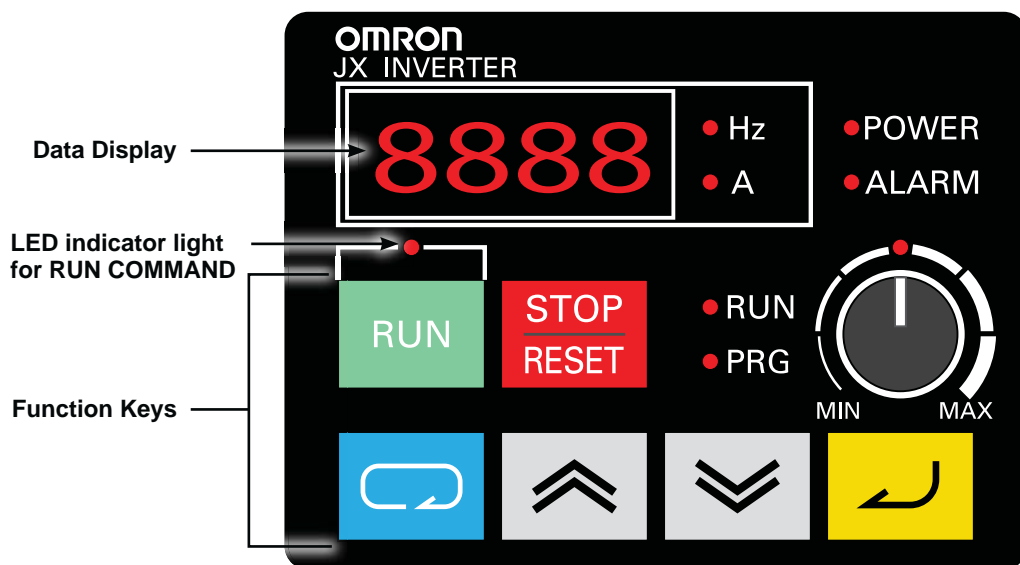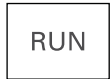
12 OMRON INVERTER CONTROL UNIT

12.1 DESCRIPTION OF THE INVERTER CONTROL PANEL
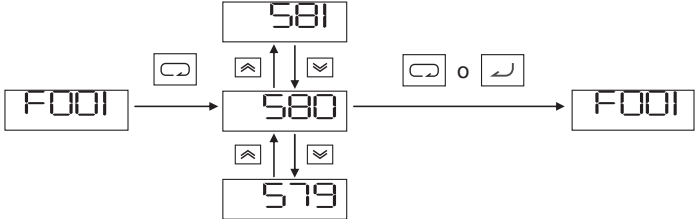
Fig. 46

	Name	Description
○POWER	POWER LED	On when the control circuit is powered.
○ALARM	ALARM LED	On when there is an inverter fault.
○RUN	RUN LED (during a RUN command)	On when the inverter is running.
○PRG	PROGRAM LED	On when the set value of each function is indicated on the data display. Flashing when in "warning" mode (when the set value is not valid).
8888	Data display	Displays the important data, such as reference frequency, output current and set values.
○ Hz ○ A	Data display LED	On depending on the indication on the data display. Hz: frequency A: current
○	RUN command LED	On when the RUN command is set on the programming panel (the RUN key on the programming panel is enabled for operation).
RUN	RUN key	Activates the inverter. Available only when operation is selected using the programming panel. (Ensure that the RUN command LED is on) Forward/Back rotation depends on the setting of "F004"
STOP RESET	STOP/RESET key	Reduces the speed and stops the inverter. Same function as the RESET key when there is an inverter fault.

	Name	Description
	Mode key	Lets you go to the following modes: monitor (d000), basic operation (F000) and extended operation (A000, b000, C000, H000). This key also lets you change visualisation as shown below. [Further information] To go from "d001" mode to any operating mode, press and hold the Mode key for 3 seconds. Note: always press "enter" to store modified data.
	ENTER key	Enters and stores modified data. (To change the set value, remember to press Enter) Do not press Enter if you do not wish to store changes (e.g. when a change is made inadvertently).
	Increase key	Changes the mode. Also, it increases the set value of each function.
	Decrease key	Changes the mode. Also, it decreases the set value of each function.

FAAC

12.2 PROGRAMMING THE INVERTER

⚠️ **WARNING: DO NOT CHANGE parameters other than those indicated in this section. Incorrect changes can be dangerous for people, things or the C850 motor.**

The inverter parameters have all been set on default values by the manufacturer during testing.

Among all of them, the installer only has available a few programmable inverter parameters:

A020 = Deceleration Speed (Value Range = 0-20Hz / Default Value = 10)

A021 = Running Speed (Value Range = 50-120Hz / Default Value = 50)

F002 = Acceleration Time (Value Range = 0.01-99.99 / Default Value = 2.5)

F003 = Deceleration Time (Value Range = 0.01-99.99 / Default Value = 2.5)

PROGRAMMING THE A020 DECELERATION SPEED
For programming, proceed as follows:

- with the gate stationary and powered, the inverter display will show 0.0;

- press the BLUE button, and the display will show the first group of parameters d001;

- press the GREY button until the parameter group A appears;

- press the BLUE button, and the display will show A001;

- press one of the two GREY buttons until A020 appears;

- press the BLUE button, and the display will show the value of the parameter;

- press one of the two GREY buttons until the desired value appears;

- press the YELLOW button to confirm;

- to exit programming, press the BLUE button for 5 sec, until d001 appears;

- press the BLUE button to exit, and the display will show 0.0.

PROGRAMMING THE A021 RUNNING SPEED
For programming, proceed as follows:

- with the gate stationary and powered, the inverter display will show 0.0;

- press the BLUE button, and the display will show the first group of parameters d001;

- press the GREY button until the parameter group A appears;

- press the BLUE button, and the display will show A001;

- press one of the two GREY buttons until A021 appears;

- press the BLUE button, and the display will show the value of the parameter;

- press one of the two GREY buttons until the desired value appears

- press the YELLOW button to confirm;

- to exit programming, press the BLUE button for 5 sec, until d001 appears;

- press the BLUE button to exit, and the display will show 0.0.

PROGRAMMING THE F002 ACCELERATION TIME
For programming, proceed as follows:

- with the gate stationary and powered, the inverter display will show 0.0;

- press the BLUE button, and the display will show the first group of parameters d001;

- press the GREY button until the parameter group F appears;

- press the BLUE button, and the display will show F001;

- press one of the two GREY buttons until F002 appears;

- press the BLUE button, and the display will show the value of the parameter;

- press one of the two GREY buttons until the desired value appears;

- press the YELLOW button to confirm;

- to exit programming, press the BLUE button for 5 sec, until d001 appears;

- press the BLUE button to exit, and the display will show 0.0.

PROGRAMMING THE F003 DECELERATION TIME
For programming, proceed as follows:

- with the gate stationary and powered, the inverter display will show 0.0;

- press the BLUE button, and the display will show the first group of parameters d001;

- press the GREY button until the parameter group F appears;

- press the BLUE button, and the display will show F001;

- press one of the two GREY buttons until F003 appears;

- press the BLUE button, and the display will show the value of the parameter;

- press one of the two GREY buttons until the desired value appears;

- press the YELLOW button to confirm;

- to exit programming, press the BLUE button for 5 sec, until d001 appears;

- press the BLUE button to exit, and the display will show 0.0.

12.3 12.3 INVERTER DEFAULTS

Contents	Description	Value	Unit
A001	Reference frequency selection	02	
A002	RUN command selection	01	
A003	Basic frequency	50	Hz
A004	Maximum frequency	120	Hz
A005	O/IO Selection	02	
A011	O Start Frequency	0.00	Hz
A012	O End Frequency	0.00	Hz
A013	O Start ratio	0	%
A014	O/IO Final ratio	100	%
A015	O, IO Sampling	01	
A016	O, IO Sampling	8	
A020	Multi-speed reference 0	10.0	Hz
A021	Multi-speed reference 1	50.0	Hz
A022	Multi-speed reference 2	0.0	Hz
A023	Multi-speed reference 3	0.0	Hz
A024	Multi-speed reference 4	0.0	Hz
A025	Multi-speed reference 5	0.0	Hz
A026	Multi-speed reference 6	0.0	Hz
A027	Multi-speed reference 7	0.0	Hz
A028	Multi-speed reference 8	0.0	Hz
A029	Multi-speed reference 9	0.0	Hz
A030	Multi-speed reference 10	0.0	Hz
A031	Multi-speed reference 11	0.0	Hz
A032	Multi-speed reference 12	0.0	Hz
A033	Multi-speed reference 13	0.0	Hz
A034	Multi-speed reference 14	0.0	Hz
A035	Multi-speed reference 15	0.0	Hz
A038	Motion frequency	6.00	Hz
A039	Motion stop selection	00	
A041	Torque boost selection	00	
A042	Manual torque boost voltage	1.8	%
A043	Manual torque boost frequency	10.0	%
A044	V/f characteristics selection	00	
A045	Output voltage gain	100	%
A051	DC injection braking selection	00	
A052	DC injection braking frequency	0.5	Hz
A053	DC injection braking delay time	0.0	Sec
A054	DC injection braking power	50	%
A055	DC injection braking time	0.5	Sec
A056	DC injection braking mode selection	01	
A061	Upper frequency limit	0.0	Hz
A062	Lower frequency limit	0.0	Hz
A063	Jump frequency 1	0.0	Hz
A064	Jump frequency 1 amplitude	0.5	Hz
A065	Jump frequency 2	0.0	Hz
A066	Jump frequency 2 amplitude	0.5	Hz
A067	Jump frequency 3	0.0	Hz
A068	Jump frequency 3 amplitude	0.5	Hz
A071	PID selection	00	
A072	PID P Gain	1.0	
A073	PID I Gain	1.0	Sec
A074	PID D Gain	0.00	Sec

Contents	Description	Value	Unit
A075	PID Scale	1.00	Times
A076	PID feedback selection	00	
A077	Inverted PID function	00	
A078	PID output limitation function	0.0	%
A081	AVR selection	02	
A082	AVR voltage selection	230	V
A085	RUN mode selection	00	
A086	Energy savings response/Precision adjustment	50.0	%
A092	Acceleration time 2	10.00	Sec
A093	Deceleration time 2	10.00	Sec
A094	2-phase acceleration/deceleration selection	00	
A095	2-phase acceleration frequency	0.0	Hz
A096	2-phase deceleration frequency	0.0	Hz
A097	Acceleration type selection	01	
A098	Deceleration type selection	01	
A101	O/IO Start-up frequency	0.0	Hz
A102	O/IO Final frequency	0.0	Hz
A103	O/IO Start-up ratio	0	%
A104	O/IO Final ratio	100	%
A105	IO start-up selection	01	
A141	Input A operating frequency setting	01	
A142	Input B operating frequency setting	02	
A143	Operator selection	00	
A145	Frequency addition quantity	0.0	Hz
A146	Frequency addition direction	00	
A151	VR Start-up frequency	0.0	Hz
A152	VR Final frequency	0.0	Hz
A153	VR Start-up ratio	0	%
A154	VR Final ratio	100	%
A155	VR start-up selection	01	
b001	New attempt selection	00	
b002	"Allowed time for temporary power interruption"	0.3	Sec
b003	New attempt wait time	1.0	Sec
b004	"Temporary power interruption/Sub voltage drop during stop selection"	00	
b005	"New attempt time selection for temporary power interruption"	00	
b011	Start-up frequency at frequency extraction restart	00	
b012	Electronic heat level	7.10	A
b013	Electronic heat characteristics selection	01	
b021	Overload limit selection	00	
b022	Overload limit level	10.65	A
b023	Overload limit parameter	1.0	Sec
b028	Overload limit origin selection	00	
b029	"Deceleration speed constant at frequency extraction restart"	0.5	Sec
b030	Frequency extraction restart level	7.10	A
b031	Software block selection	01	
b050	"No stop in case of temporary power interruption function selection"	00	
b051	"No start-up voltage stop in case of temporary power interruption function"	0.0	V

ENGLISH

Translation of the original instructions

Contents	Description	Value	Unit
b052	"No stop deceleration level stop in case of temporary power interruption function"	0.0	V
b053	"No deceleration time stop in case of temporary power interruption function"	1.0	Sec
b054	"No deceleration start amplitude stop in case of temporary power interruption function"	0.0	Hz
b055	"Proportional gain overvoltage protection during deceleration"	0.2	
b056	"Integral time overvoltage protection during deceleration"	0.2	Sec
b080	AM adjustment	100	
b082	Start-up frequency	0.5	Hz
b083	Bearing frequency	12.0	KHz
b084	Initialisation selection	00	
b085	Initialisation parameter selection	01	
b086	Conversion of frequency conversion	1.0	
b087	STOP key selection	00	
b088	Free rotation stop selection	00	
b089	Monitoring display selection	01	
b091	Stop selection	00	
b092	Cooling fan control	01	
b130	Overvoltage LAD stop function	00	
b131	Overvoltage LAD stop function level setting	380	V
b133	"Overvoltage protection during deceleration function selection"	01	
b134	"Overvoltage protection level during deceleration setting"	395	V
b140	Overcurrent suppression function	01	
b150	Automatic bearing reduction	00	
b151		00	
C001	Multi-function input selection 1	00	
C002	Multi-function input selection 2	01	
C003	Multi-function input selection 3	02	
C004	Multi-function input selection 4	18	
C005	Multi-function input selection 5	12	
C011	Multi-function input 1 operation selection	00	
C012	Multi-function input 2 operation selection	00	
C013	Multi-function input 3 operation selection	00	
C014	Multi-function input 4 operation selection	00	
C015	Multi-function input 5 operation selection	00	
C021	Multi-function output terminal selection 11	00	
C026	Relay output function selection (AL2, AL1)	05	
C028	AM selection	00	
C031	Multi-function output 11 terminal contact selection	00	
C036	Relay output contact selection (AL2, AL1)	01	
C038	Light load signal output mode	01	
C039	Light load detection level	7.10	A
C041	Overload warning level	7.10	A
C042	Arrival frequency during acceleration	0.0	Hz
C043	Arrival frequency during deceleration	0.0	Hz
C044	PID excessive deviation limit	3.0	%
C052	PID FB upper limit	100.0	%
C053	PID FB lower limit	0.0	%
C070	Operator/Modbus selection	02	

Contents	Description	Value	Unit
C071	"Communication speed selection (baud rate selection)"	04	
C072	Communication station nr. selection	1	
C074	Communication parity selection	01	
C075	Communication stop bit selection	1	
C076	Communication error selection	02	
C077	Communication error timeout	0.00	Sec
C078	Communication wait time	0	ms
C081	O Adjustment	100.0	%
C082	IO Adjustment	100.0	%
C086	AM offset adjustment	0.0	V
C091	Reserved	00	
C101	UP/DOWN selection	00	
C102	Reset selection	00	
C141	Input A logic operation function	00	
C142	Input B logic operation function	01	
C143	Logic operator selection	00	
C144	Output 11 terminal delay ON	0.0	Sec
C145	Output 11 terminal delay OFF	0.0	Sec
C148	Output relay delay ON	0.0	Sec
C149	Output relay delay OFF	0.0	Sec
F001	Output frequency monitoring/setting	80.0	Hz
F002	Acceleration time 1	2.50	Sec
F003	Deceleration time 1	2.50	Sec
F004	Operator rotation direction selection	00	
H003	Motor capacity selection	1.50	kW
H004	Motor pole number selection	4	Pole(s)
H006	Stabilisation parameter	100	%
d001	Output frequency monitoring	0.0	Hz
d002	Output current monitoring	0.0	A
d003	Rotation direction monitoring	o	
d004	PID feedback value monitoring	0.00	
d005	Multi-function input monitoring	0	
d007	Output frequency monitoring (after conversion)	0.00	
d013		0	
d016		1	
d017		49	
d018	Tab temperature monitoring	22.8	C
d080	Error frequency monitoring	0	
d081	Error monitoring 1 (most recent)	---	
d082	Error monitoring 2	---	
d083	Error monitoring 3	---	
d104	Electronic heat monitoring	0.0	%

12.4 INVERTER ERROR

Alarm Code	Alarm Name	Alarm Description
E 05	Stop due to overload	Excessive motor strain

Troubleshooting:
1. Sliding leaf too heavy.
2. Obstacle preventing correct movement of the sliding leaf.

Alarm Code	Alarm Name	Alarm Description
E 07	Stop due to overvoltage	• Input power voltage too high or deceleration too fast. • The currents generated could damage the inverter.

Troubleshooting:
1. Ensure that the power voltage of terminals L and N is correct.

2. Press STOP/RESET on the inverter.

3. Check the RUNNING SPEED, inverter parameter A021, and reduce the speed, if necessary.
4. Check the MINIMUM STOP SPACE in chart 1 in section 6.2 FINAL ADJUSTMENT OF THE LIMIT SWITCHES, and, if necessary, increase the stop space by adjusting the limit switches.
5. Check the DECELERATION SPACE, as shown in section 6.2 FINAL ADJUSTMENT OF THE LIMIT SWITCHES, and, if necessary, increase the deceleration space by adjusting the limit switches.
6. Check the DECELERATION set in the parameter F003, as shown in section 6.2 FINAL ADJUSTMENT OF THE LIMIT SWITCHES, paragraphs 13 and 14, and, if necessary, increase the deceleration value.

NOTE: In case of other ERROR warnings, wait (10 sec) for the inverter to reset automatically.
If the ERROR persists, press STOP/RESET

12.5 OPTIONAL ACCESSORIES

12.5.1 EXTERNAL PROGRAMMING KEYBOARD

The external programming keyboard is an optional accessory for remotely programming the inverter parameters using the provided RJ45 standard cable connection.

The keyboard memory lets you save and store up to 4 customised programming settings, made available for future use.

The keyboard features an LCD display (Fig. 47).

☞ *For complete keyboard functions, see the dedicated instructions.*
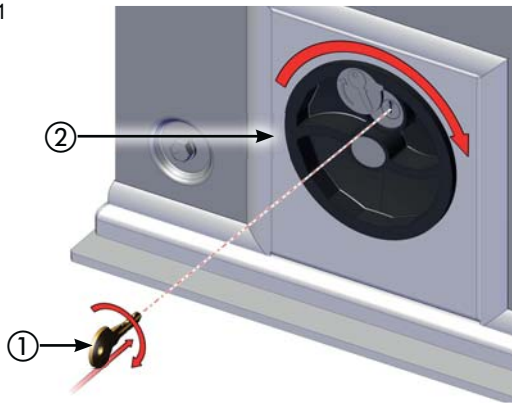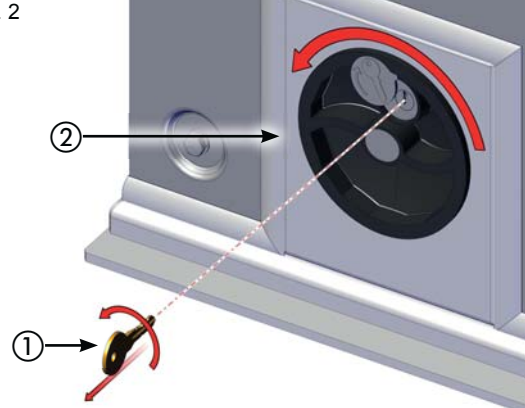

Abb. 47

USER'S GUIDE C850

Fig. 1

Fig. 2

Read the instructions carefully before using the product and keep them for future consultation.

GENERAL SAFETY RULES

If installed and used correctly, the C850 automated system will ensure a high degree of safety.

Some simple rules regarding behaviour will avoid any accidental trouble:

- Do not stand near the automated system and do not allow children and other people or things to stand there, especially while it is operating.
- Keep radiocontrols or any other pulse generator well away from children to prevent the automated system from being activated involuntarily.
- Do not allow children to play with the automated system.
- Do not willingly obstruct gate movement.
- Prevent any branches or shrubs from interfering with gate movement.
- Keep light signalling systems efficient and clearly visible.
- Do not attempt to manually operate the gate unless it has been released.
- In the event of malfunctions, release the gate to allow access and wait for qualified technical personnel to do the necessary work.
- After enabling manual operation, switch off the power supply to the system before restoring normal operation.
- Do not make any alterations to the components of the automated system.
- Do not attempt any kind of repair of direct action whatsoever and contact qualified personnel only.
- Call in qualified personnel at least every 6 months to check the efficiency of the automated system, safety devices and earth connection.

DESCRIPTION

The C850 automated system is ideal for controlling vehicle access areas of medium transit frequency.

The C850 automated system for sliding gates is an electro-mechanical operator transmitting motion to the sliding gate via a rack pinion or chain appropriately coupled to the gate.

Operation of the sliding gate is controlled by an electronic control unit housed inside the operator.

When, with the gate closed, the unit receives an opening command by radiocontrol or from another suitable device, it activates the motor until the opening position is reached.

If automatic operation was set, the gate re-closes automatically after the selected pause time has elapsed.

If the semi-automatic operation was set, a second pulse must be sent to close the gate again.

An opening pulse during re-closing, always causes movement to be reversed.

A stop pulse (if provided) always stops movement.

The light signalling indicates that the gate is currently moving.

For details on sliding gate behaviour in different function logics, consult the installation technician.

The automated systems include obstacle-detection and/or safety devices (photocells, edges) that prevent the gate from closing when there is an obstacle in the area they protect.

The system ensures mechanical locking when the motor is not operating and, therefore, it is not necessary to install any lock.

Manual opening is, therefore, only possible by using the release system.

A handy manual release makes it possible to move the gate in the event of a power failure or malfunction.

MANUAL OPERATION

To manually move the gate, we recommend cutting off electrical power. Rotating the knob prevents any motor movement.

To release the operator proceed as follows:

1. Insert the key provided and turn it clockwise as shown in Fig.1 ref.1.
2. Turn the release system clockwise, until the mechanical stop is reached, Fig.1 ref.2.
3. Open and close the gate manually.

RESTORING NORMAL OPERATION

To restore normal operation proceed as follows:

1. Turn the release system anti-clockwise, until its stop is reached, Fig.2 ref.2.
2. Turn the key anti-clockwise and remove it from the lock, Fig.2 ref.1.

Turning the release system knob clockwise will prevent any movement of the motor.

Operator releasing and locking operations can be carried out in any gate position.

MAINTENANCE

We recommend checking system operation every six months, with special attention to the safety and release devices.

REPAIRS

For any repairs, contact the authorised Repair Centres.

AVAILABLE ACCESSORIES

Refer to catalogue for available accessories.

MAINTENANCE REGISTER

Installation technician _____

Customer _____

Type of system _____

Serial number _____ Activation _____

Installation date ___/___/___

System configuration

PART	MODEL	SERIAL NUMBER
Actuator	FAAC C850	
Safety device 1		
Safety device 2		
Photocell pair 1		
Photocell pair 2		
Control device 1		
Control device 2		
Remote control		
Flashing lamp		
Other device		

Date	Description of job	Signatures
		Technician
		Customer
		Technician
		Customer
		Phnician
		Customer
		Technician
		Customer
		Technician
		Customer
		Technician
		Customer

Indication of residual risks and of foreseeable improper use

_____

_____

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