

IMPORTANT REMARKS



TO REDUCE THE RISK OF SEVERE INJURY OR DEATH READ THE FOLLOWING REMARKS CAREFULLY BEFORE PROCEEDING WITH THE INSTALLATION. PAY PARTICULAR ATTENTION TO ALL THE PARAGRAPHS MARKED WITH THE SYMBOL . NOT READING THESE IMPORTANT INSTRUCTIONS COULD COMPROMISE THE CORRECT WORKING ORDER OF THE SYSTEM.



- These instructions are aimed at professionally qualified "**INSTALLERS OF ELECTRICAL EQUIPMENT**" and must respect the local standards and regulations in force. All materials used must be approved and must suit the environment in which the installation is situated.
- All maintenance operations must be carried out by professionally qualified technicians. Before carrying out any cleaning or maintenance operations make sure the power is disconnected at the mains and the battery is disconnected.
- **Attention!** before moving dip "10" from the "**OFF**" position read the paragraph "**manoeuvring without safety devices**" on page 11 carefully.
- The manufacturer accepts no liability for situations arising from an installation which does not conform to the local standards and regulations in force.
- This appliance must be used exclusively for the purpose for which it has been made. "i.e. **for the automation of fold-up garage doors**" Any non authorised modifications are to be considered improper and therefore dangerous.

Use

The automation unit **GL124EBSS** is suitable for moving fold up garage doors with the following dimensions:

- maximum height **2,7 m** with a **3,0 m** long guide
- maximum height **3,2 m** with a **3,5 m** long guide
- maximum height **4,2 m** with a **4,5 m** long guide
- maximum height **5,7 m** with a **6 m** long guide

IMPORTANT SAFETY INSTRUCTIONS

It is the responsibility of the installer to make sure that the following public safety conditions are satisfied:

- 1) Make sure that there are no dangerous sharp edges.
- 2) Make sure that the end-user is aware that children and/or pets must not be allowed to play within the area of a garage door installation. If possible include this in the warning signs.
- 3) A correct earth connection is fundamental in order to guarantee the electrical safety of the machine
- 4) If you have any questions about the safety of the door operating system, do not install the operator. Contact your dealer for assistance.

TECHNICAL DESCRIPTION OF THE AUTOMATION

311/GL124EBSS Propulsion unit complete with a radio control receiver, buffer batteries and encoder controlled travel limits.

- Motor power supply **24 Vdc**.
- The reduction unit stator is made of die cast aluminium and contains a never ending screw and a helicoidal crown wheel made of thermoplastic, lubricated with permanently fluid grease.
- Electronic programmer with a battery charger and an incorporated radio receiver.
- Buffer battery **NiMH** for emergency movement.
- Courtesy light.
- Carter in reinforced fibre ABS fitted with:
 - safety closing system for the battery well;
 - accessible programming zone;
 - removable terminal board cover;
 - rubber cable clamp;
 - tool for programming and removing the fuses.
- Protective cover and transparent inspection panel in shockproof polycarbonate.

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TECHNICAL DESCRIPTION OF THE CHAIN GUIDE

320/GL124S35 Chain guide **3,5 m**.

320/GL124S45 Chain guide **4,5 m**.

320/GL124S60 Chain guide **6 m**.

- Chain guide in extruded aluminium.
- Chain drive head in nylon fibre.
- Drive pinion in stainless steel.
- Transmission with chain tightener.
- Drag carriage in nylon fibre with wheel translation.
- Adjustable ceiling fitting.

USER INSTRUCTIONS

During the opening/closing manoeuvre check for correct operation and activate the emergency stop button in case of danger. The appliance must not be activated in the dark therefore make sure that the night lights function correctly. The appliance can be manually released in case of emergency (see manual manoeuvre on page 16).

Periodically check the moving parts for wear and tear and grease if required, using lubricants which maintain their friction levels unaltered throughout time and are suitable for temperatures of **-20° to +70°C**. In case of failure or operational anomalies switch off the power at the mains and disconnect the battery do not attempt to repair the appliance yourself.

Periodically check the correct operation of all safety devices (photo-electric cells etc.).

Eventual repair work must be carried out by specialised personnel using original spare parts. The appliance is not suitable for continuous operation and must be contained within the value stipulated (see technical data on page 60).

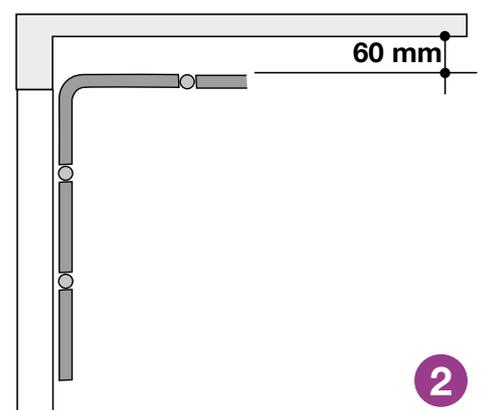
INSTALLATION INSTRUCTIONS

The minimum controls which may be installed are SEQUENTIAL-STOP, these controls must be installed at a height between **1,5** and **1,8 m** in a location not accessible to children. Warning signs or adhesive should be placed near the commands indicating the points where the risk of crushing exists.

Important: Before starting with the installation of the system check that the structure which is to be automated is in good working order and respects the local standards and regulations in force.

To this end make sure that the garage door is sufficiently rigid (if necessary reinforce the structure) and check that the door guide rails slide freely (we advise you to lubricate all moving parts).

Check that the minimum distance between the open door and the ceiling is not less than **60 mm** (fig. 2).



Important! The aluminium carriage guide is complete and ready to be fitted rapidly into the automation.

It is available in different lengths according to the type of installation at hand (the type of door that needs to be automated).

The carriage guide is based on the principle of chain transmission and is fitted with fine tuning transmission to enable you to set the exact position (giving the correct tension to the chain).

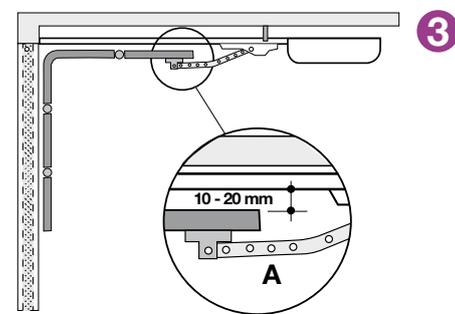
The chain tightener is normally supplied slightly slack.

Caution! The chain guide must be positioned between **10 and 20 mm** above the upper edge of the door.

This position will guarantee optimum operation and will ensure that the garage door does not grate against the chain guide during normal operation (fig. 3).

Guide preparation and assembly.

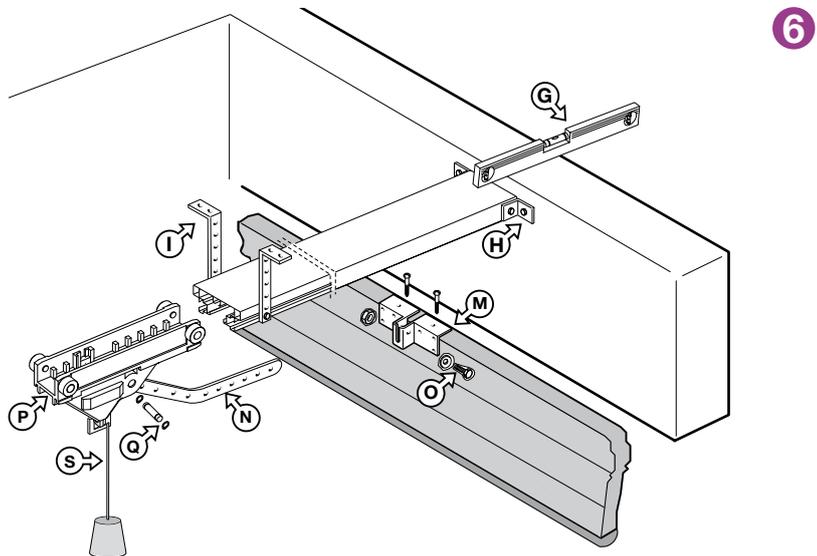
- Loosen the chain slightly by rotating the self-tapping nut using a box spanner (fig. 4).
- Mount the drilled guide supports and position them correctly on the sliding pawls fitted on the guide (fig. 5).
- Position the guide fastening front brackets "H", along with their relative holding plates (inserted into the rebate in the aluminium guide), using the supplied screws (fig. 6).
- Fasten the release cord to the hooking/unhooking element of the carriage.
- Mark the exact middle of the door width and draw a perpendicular line on the ceiling to make the installation of the aluminium guide easier (fig. 6).
- The aluminium guide should be fitted perpendicularly to the door (measured with a spirit level "G") and parallel to the ceiling (fig. 6).
- Fit the front brackets "H" of the aluminium guide to the upper cross piece of the door casement using M6 screws or self-tapping screws 6,3 x 19 (fig. 6).
- Mark the fastening points for the rear drilled guide supports "I" (and central supports if present) on the ceiling making sure you refer to the previously drawn perpendicular line. Drill the holes using a **Ø10 mm** drill bit for rawlplugs (fig. 6).
- Fix the drilled guide supports perpendicularly to the ceiling using M6 screws. Fasten down the front guide fastening screws.
- Release the carriage by pulling slightly and slide it along the guide until it reaches the front near the door.



Fastening to the fold-up door (fig. 6)

- Fix the guide bracket "M" to the upper part of the door on the centre line, using 6 self-tapping screws 4,9 x 19 or rivets.
- Fit the curved lever "N" to the chain guide bracket "M" and to the carriage "P", using the supplied pins and stop rings "Q".

To use the maximum run of the carriage you may have to shorten the curved lever "N" (using the adjustment holes) and move the starting point of the chain guide.



Manual manoeuvre

The motor reduction unit is irreversible and guarantees that door is blocked in the closed position. To release the door (during blackouts) proceed as follows:

- Pull the cord towards the door as shown in figure 7. The motor gears will be freed and the door can be moved manually.

Attention: Do not use the cord to move the door! Use the door's own handle at all times.

- To block the gears pull the cord in the opposite direction as shown in figure 8 and then shut the door. The release mechanism will rearm automatically.



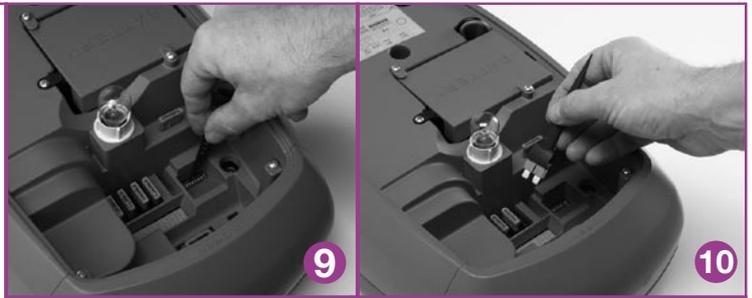
Mounting the propulsion unit to the chain guide.

Note: Before fitting the propulsion guide you are advised to set all the dip-switches on the electronic control unit (fig. 9).

- Remove the transparent protective cover by unhooking and then rotating it (fig. 11). Remove the terminal board connection cover (fig. 12).
- Move the propulsion unit towards the chain guide (line up the drag shaft with the chain guide head) and then insert it by rotating slightly (fig. 13-14) until the propulsion unit and chain guide head are correctly joined.
- Insert the propulsion unit into the guide and fasten down using the three supplied lock bolts and washers (fig. 15).
- Fine tune to make sure that the tension of the chain is correct (fig. 16).

Note: If you need to remove the propulsion unit make sure you first loosen the chain.

- Wire up the unit using the supplied rubber cable clamps (see electrical connection).



ELECTRONIC PROGRAMMER

Electronic programmer for a direct current motor with an incorporated radio receiver card, which allows the memorisation of **300 user codes** (see "Remote Control" on page 21).

The "rolling code" type decoder uses **433,92 MHz** series transmitters. The travel speed is electronically controlled, starting slowly and increasing in speed; the speed is reduced as it nears the travel limit so as to enable a controlled smooth stop.

Programming is carried out using one button and allows you to set the current sensor and the overall travel distance for the door. The logic carries out encoder controlled positioning.

The intervention of the anticrush/antidrag sensor causes a brief travel direction inversion (**8 cm**) and then blocks the door.

- ⚠ After having installed the device, and **before powering up the programmer**, release the carriage (manual manoeuvring) and move it manually, checking that it moves smoothly and has no unusual points of resistance.

- The controlled load output (binding post 9) is aimed at reducing battery power consumption during blackouts; photocells and other safety devices should be connected to this output.

- When a command is received, via radio or via wire, the electronic programmer routes voltage to the **CTRL 30 Vdc** output. It then evaluates the state of the safety devices and if they are at rest it will activate the motor.

- Connecting devices to the controlled output contact also allows you to carry out the autotest function (enabled using DIP 8) and check that the safety devices are functioning correctly.

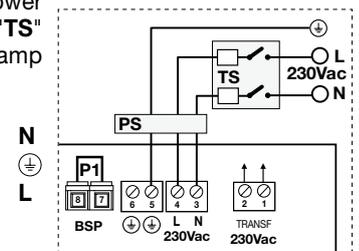
- ⚡ The presence of the electrical current sensor does not dispense with the obligation to install photoelectric cells and other safety devices foreseen by the **safety standards in force**.

- ⚠ Before connecting the appliance make sure that the voltage and frequency rated on the data plate conform to those of the mains supply.
- An all pole trip switch with at least **3 mm** between the contacts must be installed between the unit and the mains supply.
- Don't use cables with aluminium conductors; don't solder the ends of cables which are to be inserted into the binding posts; use cables marked **T min 85°C** and resistant to atmospheric agents.
- The terminal wires must be positioned in such a way that both the wire and the insulating sheath are tightly fastened (a plastic jubilee clip is sufficient).

ELECTRICAL CONNECTION 230 Vac

- Connect the control and security device wires.
- Run the **230 Vac** mains power supply through the trip switch "TS" and the through the cable clamp "PS" to the terminal board:

- connect the neutral to post
- connect the earth to post
- connect the live to post



- ⚠ **Attention!** make sure that the contact "P1" (BSP) has been connected to a normally closed contact (**Vmax = 30 Vdc, Imax = 3A**); otherwise the binding posts "7-8" must be bridged.

PROGRAMMING PROCEDURE (Setting the programmer and the current sensor)

- The installation of both the opening and closing stop buffers is absolutely **obligatory**.
- Make sure that the safety devices are at rest and the programmer is receiving mains power otherwise you will not be able to enter programming.
- Make sure that the chain is attached to the carriage before starting programming

ATTENTION! If you change the dip settings during normal operation you will have to memorise them. When the display is off press the "PROG" button once. The symbol "diP" will appear on the display confirming correct memorisation.

Setting the storing codes via radio function (DIP 9) ON
 Dip 9 "ON" = Storing codes via radio enabled
 Dip 9 "OFF" = Storing codes via radio disabled

Forced manual manoeuvre function (DIP 10) ON
 Dip 10 "ON" = If the **UPM** enable bridge "J7" has been cut, the manual manoeuvring mode without safety devices **FTCI, FTCS, CSP, CSPF** is enabled.
 Dip 10 "OFF" = Resets the normal operating mode (active safety devices)

- **Attention!** before moving dip "10" from the "OFF" position read the paragraph "manoeuvring without safety devices" on page 22 carefully.

Dip-switch settings DS1

Sequential command TD/CH1 (DIP 1) ON
 Dip 1 "ON" = Sequential command "open-close" Travel direction inversion only during closing.

Dip 1 "OFF" = Sequential command "open-block-close-block"
Note: the command can be limited just to the opening function by programming the work time with **DIP1=DIP2=ON**.

To remove this particular function reprogram the system with either DIP 1 or DIP 2 in the "OFF" position

Automatic reclosing (DIP 2) ON
 Dip 2 "ON" = Automatic reclosing enabled
 Dip 2 "OFF" = Automatic reclosing disabled

Pre-flashing (DIP 3) ON
 Dip 3 "ON" = Pre-flashing activated
 Dip 3 "OFF" = Pre-flashing excluded

Warning light output (DIP 4) ON
 Dip 4 "ON" = Warning light output intermittent
 Dip 4 "OFF" = Warning light output fixed

Motor movement direction (DIP 5) ON
 Dip 5 "ON" = Inverted movement*
 Dip 5 "OFF" = Standard movement

* Used for sliding garage doors.

FTCI mode (DIP 6) ON
 Dip 6 "ON" = **FTCI** also active during block
 If the photocell is in alarm and the door is blocked no movement commands will be accepted (not even an opening command).

Dip 6 "OFF" = **FTCI** only active during closing
 In both cases activating the **FTCI** security device during closing will force travel direction inversion.

FTCS input management (DIP 7) ON
 Dip 7 "ON" = Safety edge management (**CSP**)
 Dip 7 "OFF" = Stop photocell management

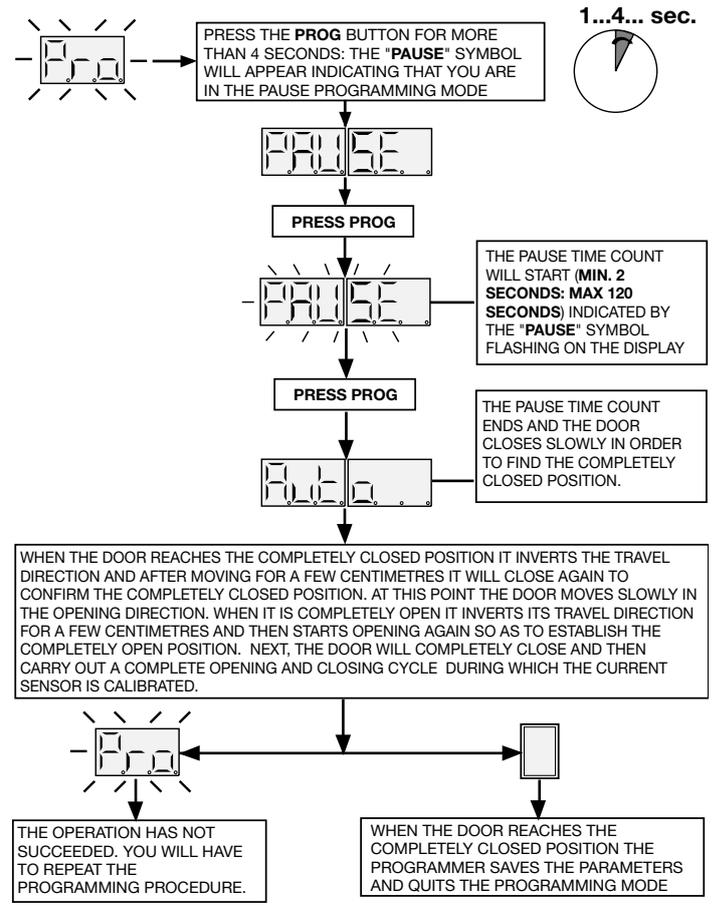
Set the dip according to the safety device you have connected to the **FTCS** input to enable correct operation. If this input is not used it must be bridged and the dip must be moved to "OFF".

Photocell test (DIP 8) ON
 Dip 8 "ON" = Photocell test enabled**
 Dip 8 "OFF" = Photocell test disabled

If you enable the safety device test you will have to connect both the transmitter as well as the reception part to the controlled load binding post (**CTRL 30 Vdc**).

When the test is active there will be a one-second time lapse between the reception of the command and its execution.

** If the **FTCS** input has been set to the safety edge function it will not undergo the test. If it is set to the stop photocell function it will be tested at the same time as the inverting photocells.



CURRENT SENSOR
 The programmer checks the electrical input to the motor, detecting any eventual increase in effort above the normal operating limits and intervenes as an additional safety device. When the sensor intervenes the door will automatically invert for **8 cm**, both in the closing as well as the opening direction, to free the obstacle it will then stop for **3 minutes** and then continue moving in the original direction after a **10 second** preflashing period has elapsed.

REPOSITIONING

It is carried out after a programmer reset or an encoder error because position control will be lost. No external signal will be given but the symbol will flash on the display.

To carry out repositioning you may send a (**TA, TC** or **TD**) command to the programmer and this will move the door, slowly, to the completely closed position (2 times as in the programming procedure) in order to recover the correct position. At this point the programmer will function normally.

No commands will be accepted during repositioning but the security devices will cut in and block all movement if they go into alarm.

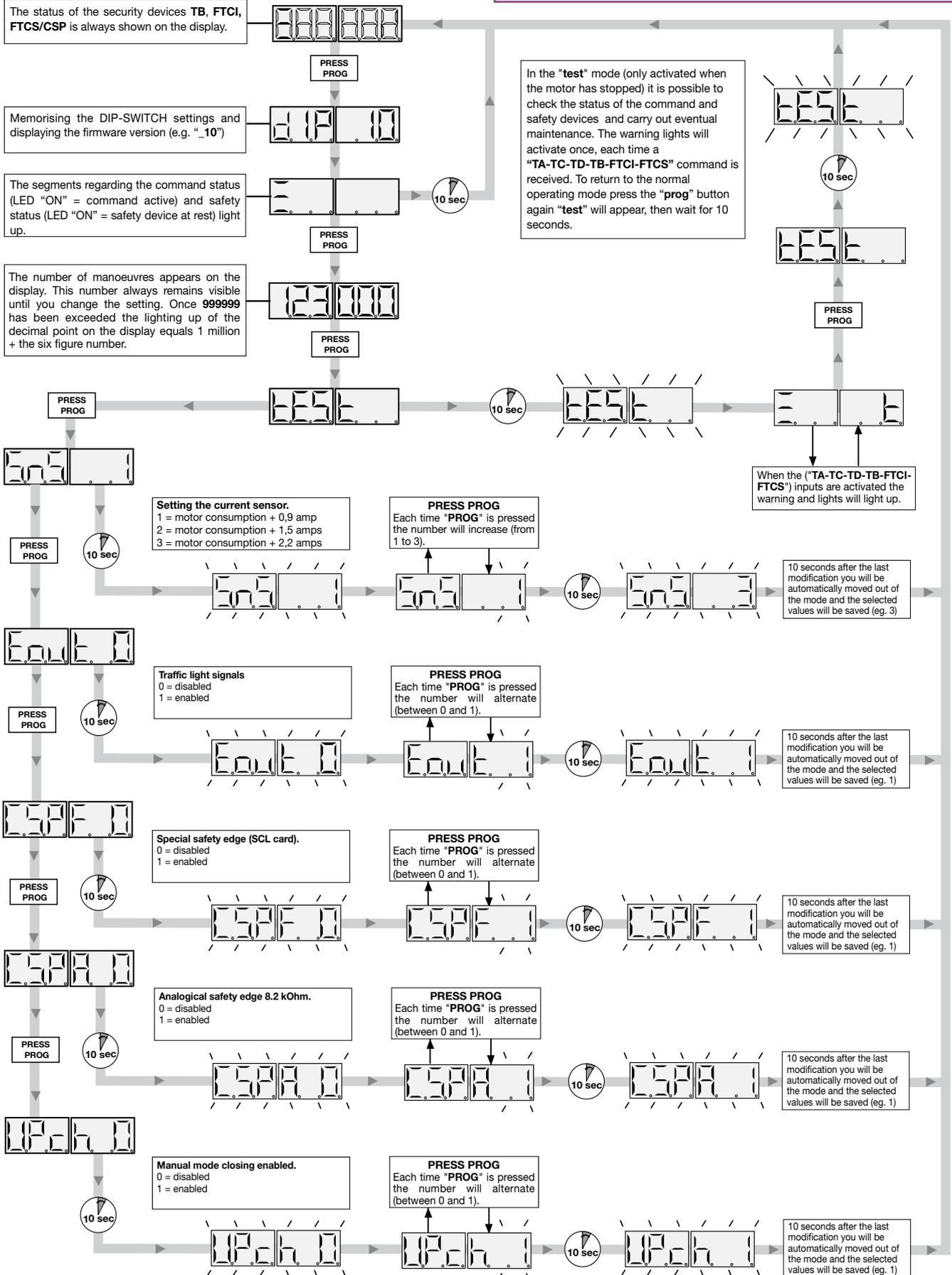
DISPLAY MODE

Using the **PROG** button you can access the following functions in sequence:

- memorising the status of the dip-switches;
- display the status of the command and safety devices;
- display the number of manoeuvres;
- access the "test" mode;
- setting the current sensor sensitivity level;

- enabling the traffic light functions (**SCL** card);
- enabling the special safety edge (**SCL** card);
- enabling the analogical safety edge **8.2 kΩ**;
- enabling closing in the manual mode.

! If you are unable to modify a setting it means that another function with greater priority is impeding it.



REMOTE CONTROL (fig. 1 page 3)

The system can be remotely activated using radio control devices. Each channel can be set to a maximum of 2 functions:

- function 1: sequential command "TD"
- function 2: blocking button "TB"

To set one of the functions to the channels **A-B-C-D** use the selection jumpers "J2"

- in position "A" you can select function 1, **TD**;
- in position "B" you can select function 2, **TB** .

The sequential command can be set (dip "1") to work as "open-block-close-block" or "open-close".

Memory module (M1)

This is extractable, furnished with a non volatile EEPROM type memory and contains the transmitter codes and allows you to memorise up to **300 codes**.

The programmed codes are maintained in this module even during blackouts.

Note: Before memorising the transmitters for the first time remember to cancel the entire memory content.

If the electronic card has to be replaced due to failure, the module can be extracted from it and inserted into the new card. Make sure that the module is correctly inserted as shown in fig. 1.

Signal LEDs "L4" (fig. 1):

Flashing quickly:	cancels a single code
Flashing slowly:	memorises a single code
Permanently lit:	memory full.

TRANSMITTER CODE MANAGEMENT

Memorising a channel (fig. 1)

1. Press and hold down button "P2" **MEMO**: The LED "L4" will flash slowly.
2. At the same time activate the transmitter which is to be memorised.
3. Hold down button "P2" **MEMO** until LED "L4" starts to flash again.
4. Release the button "P2" **MEMO**: The LED will continue to flash.
5. Activate the transmitter again (same transmitter, same channel; if the channel is different or it is a different transmitter the memorisation attempt will abort without success).
6. End of memorisation: the LED "L4" will remain lit for 2 seconds, indicating that the transmitter has been correctly memorised.

Note: It is not possible to memorise a code which is already in memory: if you attempt this, the LED will switch off when you activate the transmitter (point 2).

Only after releasing the button "P2" **MEMO** will you be able to continue the memorising procedure.

If after activating the transmitter for the first time you wait for more than fifteen seconds without activating the transmitter a second time the memorisation attempt will abort without success.

Cancelling a channel (fig. 1)

1. Press and hold down the button "P3" **DEL**: the LED "L4" will flash quickly.
2. Activate the transmitter channel which is to be cancelled.
3. The LED will remain lit for **2 seconds** indicating that the transmitter has been cancelled.

Note: If the user that you wish to cancel is not in memory, the LED will stop flashing; only after releasing the button "P3" will you be able to continue the cancellation procedure.

For both the memorisation and cancellation procedures, if the button is released before activating the transmitter the procedure will abort.

Cancelling all user codes from memory (fig. 1)

1. Keep both buttons pressed down ("P2+P3") for more than four seconds.
2. LED "L4" will remain lit during the entire cancellation time (about 8 seconds).
3. LED "L4" switches off when the cancellation procedure has terminated.

Note: When the memory is almost full the time required to search for a user code could take up to 1 second from when the command was received. If led "L4" remains lit memory is completely full. To memorise a new transmitter you will first have to cancel a code from memory.

Memorising ulterior channels via radio

- Memorisation can be activated by radio (without opening the receiver container) only if **DIP 9** is in position **ON**.

1. Make sure that **DIP 9** is in position **ON**.
2. Using a transmitter, in which at least one channel button "A, B, C or D" has already been memorised in the receiver, press the button in the transmitter as shown in figure.



Note: all the receivers within range when the channel button is pressed (and which have at least one of the transmitter channel buttons memorised) will activate their signal buzzer "B1" (fig. 1).

3. Press one of the channel buttons on the same transmitter. The receivers which do not contain that channel code will sound a five-second long "beep" and will then deactivate. The receivers which contain the channel code will sound a one-second long "beep" and will enter the "programming via radio" mode.
4. Press the previously chosen channel buttons on the transmitter which you wish to memorise; the receiver will sound 2 "beeps" of half a second each after which the receiver will be ready to receive another code.
5. To leave the programming mode wait for **3 seconds** without pressing any buttons. The receiver will sound a **five-second long** "beep" and will then exit the programming mode.

Note: When the memory is entirely occupied the buzzer will sound 10 rapid "beeps" and will automatically leave the "programming via radio" mode.

Led "L4" will remain lit on the receiver.

The same signal is given each time you try to enter "programming via radio" when the memory is full.

CONNECTING THE ANTENNA

Connect an **ANS400** tuned antenna using a coaxial cable **RG58** (impedance **50Ω**) with a maximum length of **15 m**.

FUNCTION MODES

1) Automatic

This is selected by enabling automatic reclosing (dip "2" in position "ON"). Starting from the completely closed position the sequential command starts a complete function cycle that terminates with automatic reclosing.

Automatic reclosing starts after the programmed pause period has elapsed when the opening cycle has been completed or straight away after the intervention of a photoelectric cell (the intervention of a photoelectric cell causes the pause time to be reset).

During the pause time the symbol  will flash on the display and pressing the blocking button during this period will stop automatic reclosing and consequently stop the display from flashing.

2) Semiautomatic

Selected by deactivating automatic reclosing (dip "2" in position "OFF"). Work cycle control using separate opening and closing commands.

When the door has reached the completely open position the system will wait until it receives a closing command either via an external control button or via radio control, before completing the cycle.

Note: the integrated courtesy light switches on each time a movement command is given; switching off occurs when the motor stops:

- after 60 seconds (with mains power supply);
- after 15 seconds (with battery powered operation).

The indicator lamp flashes slowly during opening and quickly during closing; it remains lit when the door is not completely closed.

3) Emergency manoeuvre

If the electronic programmer no longer responds to commands due to a malfunction you may use the **EMRG1** or **EMRG2** inputs to move the door manually. The **EMRG1** or **EMRG2** inputs directly command the motors without passing through the logic control. The door is moved slowly.

- **EMRG1**: open (closes if dip 5 = "ON")
- **EMRG2**: close (opens if dip 5 = "ON")



Attention! During the emergency manoeuvre all safety devices are disabled and there is no door positioning control: release the commands before you are at the mechanical travel buffer. Only use the emergency manoeuvre in cases of extreme necessity.

After you have carried out an emergency manoeuvre the electronic programmer will lose the position of the door ( on the display) and therefore when normal operation is restored you will have to carry out a repositioning manoeuvre (see page 19).

TRAFFIC LIGHT SIGNALS

The traffic light signals are controlled by the optional card "**SCL**", which supplies 4 potential free contacts to manage the red and green lights (two internal and two external).

Enabling traffic light signals will have the following effect on the electronic programmer:

- the sequential command **TD / via radio** is ignored completely;
- automatic reclosing and pre-flashing are always enabled despite the user settings made on the dip-switch;
- pre-flashing, which is normally set to 2 seconds, is increased to 4 seconds when the starting point is either the completely open or completely closed position;
- it is only possible to give an opening command (**TAI** from the inside, **TAE** from the outside) when the red light is off or flashing in the direction you are interested in (entering or exiting);
If you give another **TA** command from the direction in which the green light is lit (during the pause for automatic reclosing) the pause time will be repeated; commands can only be given from the other direction when reclosing has started.
- the door cannot be permanently blocked apart from when the current sensor or safety edge intervenes or the **TB** blocking button has been pressed.

The current sensor only has a temporary effect because movement will start again after 3 minutes has elapsed in order to guarantee complete closing. After the **TB** button has intervened an external command will be required to move the door again;



If traffic light signals are not required set parameter "**Eout 0**" to zero: after 5 seconds the contacts **R_I** and **R_E** on the **SCL** card will close indicating that they have been excluded.

If you are using traffic light signals but the **SCL** is malfunctioning, the electronic programmer controlling the motors will continue to function without indicating the problem and will not be limited in its functions.

MANUAL MODE CLOSING MANOEUVRE

If you set parameter **UPch 1** (page 20) the closing manoeuvre will be activated by a continuous **TC** command and will only stop when the button is released.

Automatic reclosing is completely excluded and the sequential command **TD / via radio** will only work in the opening direction. The **FTCS** input works as a blocking device.

Activating the traffic light management functions will reactivate completely automatic operation (even in the closing direction). The photocells and the safety edge (if installed) and the current sensor work in the standard mode. To move straight away in the closing direction release "**TC**" and press it again.

MANUAL MANOEUVRE WITHOUT SAFETY DEVICES

It is possible to activate a function mode that will ignore the external safety devices **FTCI**, **FTCS**, **CSPF**, **CSPA** (but not **TB** or the current sensor).



To enable this function you must install the opening (**TAI**) and closing (**TC**) commands near the door so that you can visually control the movement of the system.
Cutting the "**UPM ENABLE**" contact (see fig. 18) on the mother board means that you assume all responsibility for the incorrect use of the system without safety devices enabled.



Before enabling the mode carry out the following:

- program the travel distance in the usual way (with the safety devices **FTCI** and **FTCS** bridged with the common contact for all inputs and outputs);
- cut the contact "**J7**" (**UPM ENABLE**, fig. 17);
- move **DIP10** to the "**ON**" position;
- press the **PROG** button to read the Dip-switch settings ("**dip**").

NOTE: you can return to the automatic function by setting **DIP10** to the "**OFF**" position (remember however to reinstall the missing safety devices). Returning to the standard mode will force a repositioning manoeuvre.

The manual manoeuvring mode requires you to continuously activate the contacts (**TAI** or **TC**) for 5 seconds, after which the motors will move even if the above mentioned safety devices are in alarm (not present or bridged).

The motor will block: 1) when the button is released; 2) when **TAI** and **TC** are activated simultaneously; 3) when the current sensor is activated; 4) when the **TB** button is pressed.

PARTICULAR DETAILS

- The controlled load output (binding post 9) never gives voltage in output.
- The courtesy light activates together with the motor and remains active for 60 seconds after the motor has stopped moving.
- The current sensor guarantees the blocking of the door when faced with an obstacle but doesn't respect the standards of force limitation.
- Encoder and direction errors are managed in a less stringent way giving you more freedom of movement.
- Rapid travel direction inversion following the intervention of the current sensor is set to **8 cm** (measured from the runner guide) or a maximum of 5 seconds. **Attention!** The amount of movement depends on the position of the door with respect to the fixed structure and the type of panels used (sectional doors): in this case it only has the scope of freeing the door from the pressure applied (by the object blocking the movement) to the panels.
- If a command device has stuck you will have to release all commands before trying to move the door otherwise non of the commands will be considered (this avoids accidental activation).
- If the EEPROM cannot be read the indication "**Pro**" will appear on the display indicating an anomalous situation.

It may be possible to resolve this situation by simply resetting the electronic programmer. If this doesn't work you will have to program the travel distances again.

MOVEMENT AND REPOSITIONING COMMANDS

- If after holding the command for **5 seconds** the door doesn't move it means that the position has been lost; in this case activate the command for another **15 seconds** (total of **20 seconds**) and the door will start to move.
- To allow correct repositioning, move the door to the completely closed position and release the command at that point.

BATTERY POWERED OPERATION

This device allows the propulsion unit to work during blackouts.

- The programmer has a built in charger for **NiMH 24V** batteries that is managed by a dedicated microcontroller. The control chip adjusts the voltage according to the condition of the batteries.



To avoid the risk of overheating only use batteries supplied by the manufacturer **SPN 999506**.

If the batteries present signs of damage they must be replaced immediately.



The batteries must only be installed/removed by qualified personnel. Used batteries must not be thrown into domestic rubbish bins and they must be disposed of according to the local standards and regulations in force.



- To indicate that the programmer is working off battery power when the door is completely closed a hyphen  flowing around the perimeter of the display will appear.

If the battery is under charged a hyphen  flowing around the lower half of the display will appear. When the battery is almost completely flat the symbol  will appear and the programmer will be blocked.

- The unit returns to normal operation once the power supply brought back on line. To use the batteries again they must first be allowed to recharge.

The battery charge time with batteries in good condition can take up to a maximum of **12 hours**.

If the time required is greater you should consider replacing the batteries. You are however advised to replace the batteries every three years.

- When the door has stopped the controlled external devices (**CTRL 30 Vdc**) do not receive power in order to increase the autonomy of the battery.

When a command is received however (via radio or via cable) the programmer sends power to the controlled external devices and checks their security status. It follows therefore that the command will be carried out (security devices at rest) with a one second delay to give time to restore the correct operation of the devices.

If after this period a security device is found to be in alarm the command will not be carried out, power to the external devices will be cut off and the programmer will return to stand-by.

Note! If you wish to use an external receiver it must be wired to the binding posts 10-11 (fig. 1) otherwise a command sent **via radio** will not be able to activate the door.

- The self-sufficiency of the system when it is running on battery power is dependent on the ambient conditions and on the load connected at binding posts 10-11 (power is always routed there during blackouts).



When the batteries are completely flat (during blackouts) the programmer will lose the position of the door and therefore when power returns (after the first command given) you will have to carry out the repositioning procedure (see page 19). For this reason you should avoid leaving the **electronic programmer without power** for lengthy periods (more than two days).

- You cannot enter the programming mode when running off battery power.
- During blackouts the battery supplies power to both the logic and the motor control parts of the programmer. For this reason during battery powered operation the voltage supplied to the motor is less than that normally applied and the motor will move more slowly and will not decelerate as it reaches the travel limits.

Signal LEDs (fig. 1)

L1: lit when the battery is not properly connected during blackouts.

L3: indicates the function mode as follows:

Off: missing batteries or the electronic programmer is running off battery power (during a blackout)

During the first 20 seconds of operation from the start up of the electronic programmer the battery charger is blocked and will not supply any function indications;

Brief flashing: voltage variation has been detected at the battery charger binding posts (e.g. when the batteries are being connected or removed);

Single flashes: this repeats every 2 seconds indicating that the batteries are being topped up to maintain their level;

Remains lit: the batteries are charging. The charge time depends on a number of factors and can last from 8 to a maximum of 12 hours. If you use the motors during this period the charge time will increase.

Battery check

With the door in the completely closed position and the display switched off:

Check that LED "**L3**" (battery charging) is off;

Switch off the power at the mains and make sure that the symbol  appears on the display. Give a movement command and measure the overall voltage for both batteries. The reading should be about **22 Vdc**.

MAINTENANCE



To use the **24 month** or **100000** manoeuvre guarantee, read the following notes carefully.

The motor does not normally require particular maintenance; in any case the **24 month** or **100000** manoeuvre guarantee is only valid if the following controls have been observed and eventual maintenance has been carried out to the machine "**sectional door**":

- correct lubrication (greasing) of the moving parts.

INDICATIONS ON THE DISPLAY (D1, page 18)

Start up display (shown for 2 seconds:)

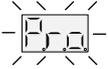


"124" = ECU model; firmware version "_10"



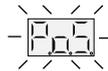
Indicates the dip-switch setting memorisation stage and firmware version

Alarm indications



System not programmed

You have to enter the programming mode to program the system



Out of position

During normal operation it indicates that the **repositioning** procedure must be carried out (see page 19). In this case any commands received (**TA**, **TC** or **TD**) will automatically start this procedure.



Memory parameter error

Continue programming the system and if the indication persists reset the electronic programmer after having disconnected the batteries and switching off the power at the mains. If the error persists contact the after sales service persists.



Block during encoder programming

This happens when an N.C. contact is activated (**TB**, **FTCI**, **FTCS/CSP**) during encoder programming or repositioning. Once the passive state of the security devices has been reset the door will start moving again automatically. It also happens if a blackout occurs during programming.



Encoder count error

This happens when the programmer sends a command to the motor but movement is not detected. If the motor begins to move it means there is a problem with the encoder signal. Check the connections and carry out repositioning. If the motor doesn't move check the connections for each motor and the condition of the fuses "**F2**" and "**F4**" then carry out repositioning. If the motor still doesn't work you may have a mechanical or electronic problem.

Operational indications



Pause time programming



Automatic programming under way



Opening stage



Block



Pause for automatic reclosing (if activated)



Closing stage



Current sensor updating
(only during programming)



Opening + compensation sensor



Closing + compensation sensor



Test mode



Battery mode with a fully charged battery

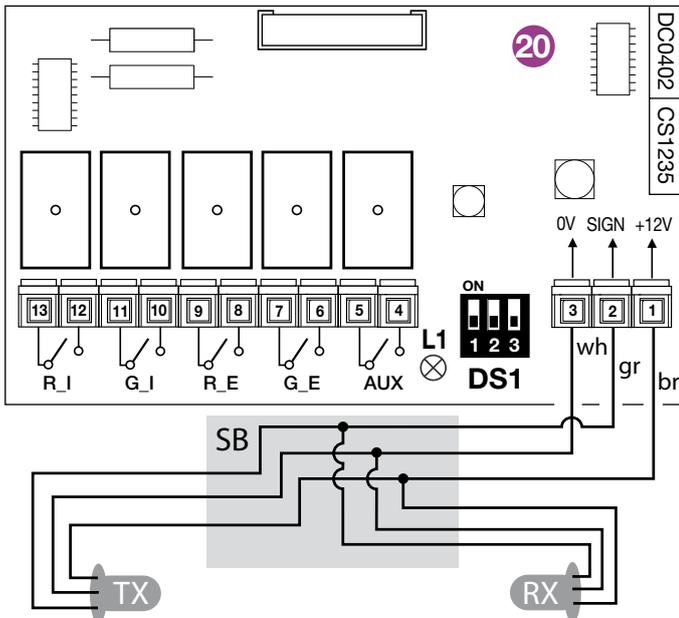


Battery mode with an undercharged battery



Block caused by a completely flat battery

OPTIONAL INTERFACE SCL



Legend

- SB - shunt box
- RX - reception sensor
- TX - transmission sensor
- L1 - power supply led
- DS1 - selection dip-switch

Connection cable Tx-Rx lenses

- wh - white wire
- gr - green wire
- br - brown wire



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Connecting the optional card "SCL"

- Insert the optional card "A" fig 19.
- Pass the card connection wires through the cable clamp "B" and then through the opening "C" fig 18.
- Wire up and then insert the terminal blocks into the card "A"

Once the card has been inserted into the connector "J6" on the programmer the following functions become available:

- 1) traffic light control signals;
- 2) interface with the special infrared safety edge;
- 3) controlling the activation of garage lights or air circulation fans.



The power supply for the indicator lamps and the "AUX" contact must be drawn from an external source.

If the card is not present or is not being used leave the "Eout" and "CSPF" parameters set to the value "0" (page 20).

The traffic light and CSPF safety edge functions are enabled/disabled separately one from the other.

The settings for the AUX output must be set directly on the SCL card using the dedicated dip switches.

Terminal board description

- 1 +12Vdc powersupply output for the special safety edge (max. 60mA).
- 2 Signal input from the special safety edge.
- 3 0 Vdc power supply for the special safety edge.
- 4-5 Potential free contact NO powering the fan/garage lights (230 Vac 5A)
- 6-7 Potential free contact NO powering the green external traffic light signal (230 Vac 5A)
- 8-9 Potential free contact NO powering the red external traffic light signal (230 Vac 5A)
- 10-11 Potential free contact NO powering the green internal traffic light signal (230 Vac 5A)
- 12-13 Potential free contact NO powering the red internal traffic light signal (230 Vac 5A)

Description dip-switch DS1

- DIP1 **ON**: enables management of the special safety edge
OFF: disables management of the special safety edge (the security device is always deemed to be at rest)
- DIP2 **ON**: the AUX contact remains closed until the door is completely shut
OFF: the AUX contact is only activated once (for the time selected in DIP3) each time the command TAI / TAE activates the door
- DIP3 **Only with DIP2=OFF**:
ON: activates the AUX output for 30 seconds
OFF: activates the AUX output for 3 seconds

Traffic light signal control

Green and red traffic light signals can be wired to the terminal board (maximum of 4 lights); the power supply for the lights must be supplied externally as the terminal board is only fitted with potential free switch contacts. The function modes with their relative signals are laid out in the table at the bottom of the page.

Controlling the safety edge

The safety edge has two sensors (each with a protruding three-wire cable) fitted into the rubber profile. These wires should be connected in parallel by joining the wires with the same colour and then connecting them to the terminal board as follows:

- terminal board 1 brown wires (power supply +12 Vdc)
- terminal board 2 green wires (signal)
- terminal board 3 white wires (power supply 0 Vdc)

The safety edge is recognised by moving DIP1 to the "ON" position.

To economise on battery power during blackouts, power will not be routed to the safety edge unless the door is moving.

The "safety test" is never carried out for this device.

Alarm indications

No ulterior indications will be given if there is a problem with the optional SCL card as the display on the programmer will allow you to verify the status of the individual safety devices.

STATUS	Contact R_I	Contact G_I	Contact R_E	Contact G_E
Door closed	open	open	open	open
Pre-flashing stage	intermittent	open	intermittent	open
Movement stage (opening/closing)	closed	open	closed	open
Door stopped but not completely closed	closed	open	closed	open
Door completely open (TAI command)	open	closed	closed	open
Door completely open (TAE command)	closed	open	open	closed
Problem with the optional card	closed	open	closed	open