







General safety instructions	42	
Symbols used in this manual _____	42	
Importance of this manual _____	42	
Envisaged use _____	42	
Installer's qualifications _____	42	
Automatic safety elements _____	42	
Description of the product	43	
Elements of the complete installation _____	43	
Operator features _____	44	
Functioning modes _____	45	
Obstacle detection functioning _____	45	
Manual drive _____	46	
Declaration of Conformity _____	46	
Unpacking and content	47	
Unpacking _____	47	
Content _____	47	
Installation	48	
Tools and materials _____	48	
Initial conditions and checks _____	48	
Installing the operator _____	49	
Electrical connections _____	51	
Programming and startup	53	
Connection to the power supply and checking of turning direction _	53	
Controls and commands _____	53	
Radio code programming (for RSD only) _____	55	
Total open/close programming _____	56	
Pedestrian open/close programming _____	57	
Selection of modes and control panel functions (SW) _____	57	
Potentiometer adjustment _____	58	
Starting up _____	58	
Maintenance and diagnosis of failures	59	
Maintenance _____	59	
Spare parts _____	59	
Failure diagnosis _____	59	
Scrap _____	60	

1 SYMBOLS USED IN THIS MANUAL

This manual uses symbols to highlight specific texts. The functions of each symbol are explained below:

⚠ Failure to respect the safety warnings could lead to accident or injury.

📌 Instructions which must be followed to prevent deterioration.

🕒 Work sequences or procedures.

📖 Important details which must be respected for correct assembly and operation.

👤 Additional information to help the installer.

♻ Information on care for the environment.

2 IMPORTANCE OF THIS MANUAL

⚠ Read this guide in its entirety before carrying out the installation, and obey all instructions. Failure to do so may result in a defective installation, leading to accidents and failures.

👤 Moreover, this guide provides valuable information which will help you to carry out installation more efficiently.

📖 This manual is an integral part of the product. Keep for future reference.

3 ENVISAGED USE

This device has been designed for installation as part of an automatic opening and closing system for sliding doors and gates.

⚠ This device is not suitable for installation in inflammable or explosive environments.

⚠ Failure to install or use as indicated in this manual is inappropriate and hazardous, and could lead to accidents or failures.

⚠ The installer shall be responsible for ensuring the facility is set up for its envisaged use.

4 INSTALLER'S QUALIFICATIONS

⚠ Installation should be completed by a professional installer, complying with the following requirements:

- He/she must be capable of carrying out mechanical assemblies in doors and gates, choosing and implementing attachment systems in line with the assembly surface (metal, wood, brick, etc) and the weight and effort of the mechanism.

- He/she must be capable of carrying out simple electrical installations in line with the low voltage regulations and applicable standards.

⚠ Installation should be carried out bearing in mind standards EN 13241-1 and EN 12453.

5 AUTOMATIC SAFETY ELEMENTS

This device complies with all current safety regulations. However, the complete system comprises, apart from the operator referred to in these instructions, other elements which should be acquired separately.

📖 The safety of the complete installation depends on all the elements installed. Install only Erreka components in order to guarantee proper operation.

⚠ Respect the instructions for all the elements positioned in the installation.

⚠ We recommend installing safety elements.

👤 For further details, see "Fig. 1 Elements of the complete installation" on page 43.

1 ELEMENTS OF THE COMPLETE INSTALLATION

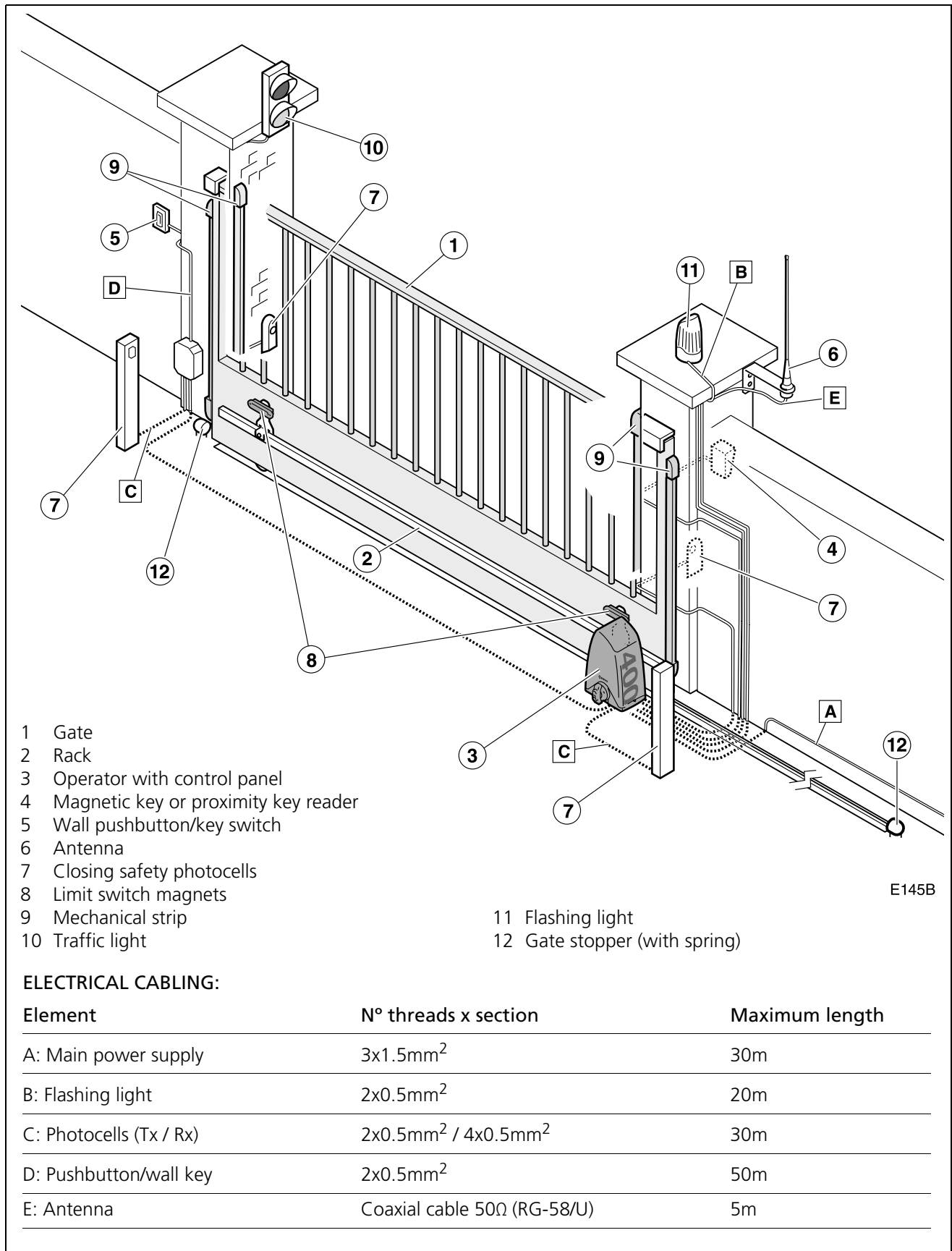


Fig. 1 Elements of the complete installation

▲ The safe and correct operation of the installation is the responsibility of the installer.

☞ For greater safety, Erreka recommends installing photocells (7) and safety strips (9).

2 OPERATOR FEATURES

Model	PUS400EC	PUS400ECM
Power supply (V/Hz)	230/50	125/60
Absorbed current (A)	1,2	2,4
Power consumed (W)	280	280
Capacitor (µF)	8	20
Protection class (IP)	44	44
Maximum torque (Nm)	12	12
Maximum speed (m/min)	10	12
Locking	Yes	Yes
Operating temperature (°C)	-20 / +55	-20 / +55
Duty cycle S3 (%)	25	25
Weight (Kg)	9	9
Maximum weight of gate (kg)	400	400

PUMA operators are constructed to form part of a sliding gate automation system.

This operator, with built-in control panel, is equipped with a slowdown system which reduces speed at the end of the opening and closing operations, in order to prevent impacts and bangs to the gate.

This operator allows us to fulfil the requirements of standard EN 12453 without the use of peripheral elements.

General features

- Power supply (earthed):
PUS400EC: 230Vac/50Hz
PUS400ECM: 125Vac/60Hz
- Control of open/close by way of encoder
- Adjustable maximum thrust
- Adjustable standby time in automatic cycle
- Closing safety device cable connectors (photocells or mechanical strips)
- Cable connector for emergency stop pushbutton (STOP)
- Connector for plug-in receiver
- Connector for traffic light card
- 24Vdc cable connector for peripheral connection

Notable features

Flashing light

The light remains on during the opening and closing operations.

The light goes off when the operation finishes. The light goes off whenever operation is interrupted at an intermediate point.

Operation advance warning function (DIP2=ON)

This function delays the start of operation by three seconds, during which time the flashing light comes on to warn us that operation is about to begin.

Traffic light

A plug-in receiver can be connected if the AEPS1-001 card is installed. Using colour lights, these will indicate the suitability or otherwise of crossing the gate.

- Off: gate closed
- Green light: gate open, free passage
- Red light: gate in movement, passage forbidden
- Flashing green light: open gate about to close (in automatic mode)

Slowdown function (DIP 8=ON)

Function which reduces the speed of the motor at the end of the opening and closing operation.

STOP pushbutton (emergency stop)

This control panel allows an emergency stop pushbutton to be installed (STOP). This pushbutton is of NC type (normally closed). The opening of this contact produces the immediate halting of the gate.

3 FUNCTIONING MODES

Automatic mode (DIP4=ON)

Opening: this begins by activating the key command (transmitter, magnetic key, key switch, etc).

- **Step-by-step opening (DIP3=ON):** if the key command is activated during opening, the gate comes to a halt. The gate closes if operated again.
- **Collective opening (DIP3=OFF):** during opening, the control panel does not obey the key commands.

Standby: the gate remains open during the programmed time.

- **Automatic mode optional (only if DIP5=ON):** if, during standby, the key command is activated, the gate begins to close.
- **Non-automatic mode optional (DIP5=OFF):** if, during standby, the key command or the photocell is enabled, standby time starts again.

Closing: the closing operation starts once stand-by time is finished.

- **If, during closing, the key command is activated, the gate stops and then inverts operation direction and opens completely.**



Step-by-step mode (DIP4=OFF)

Opening: this begins by activating the key command (transmitter, magnetic key, key switch, etc).

- **Step-by-step opening (DIP3=ON):** if the key command is activated during opening, the gate comes to a halt. The gate closes if operated again.
- **Collective opening (DIP3=OFF):** during opening, the control panel does not obey the key commands.

Standby: the gate remains open until a key command is received.

Close: the closing process begins by running the key command (transmitter, magnetic key, key switch, etc).

- **If, during closing, the key command is activated, the gate stops and then inverts operation direction and opens completely.**

4 OBSTACLE DETECTION FUNCTIONING

The gate can detect an obstacle in two ways:

A- Detection by photocell or strip

Closing safety device (SG.C)

During opening: the closing safety device (SG.C.) does not run.

During closing: if, during closing, the closing safety device (SG.C) is enabled, the gate inverts operation direction and opens completely.

B- Direct detection (built-in safety) (DIP7=ON)

During opening

If, during opening, the gate collides with an obstacle, the gate inverts the operation direction and gently closes, remaining on standby until a new key command is received.

During closing

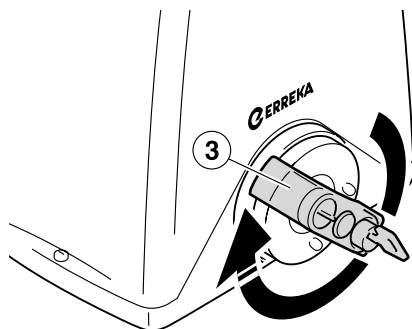
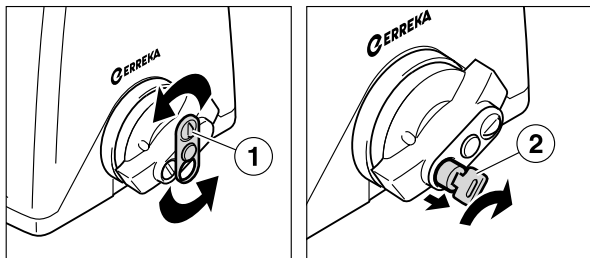
If, during closing, the gate collides with an obstacle, it inverts operation direction and opens completely.

5 MANUAL DRIVE

In the event of need, the gate may be operated manually:

Unlocking for manual operation

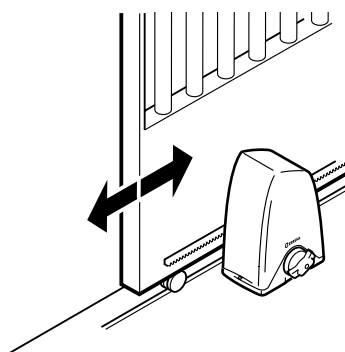
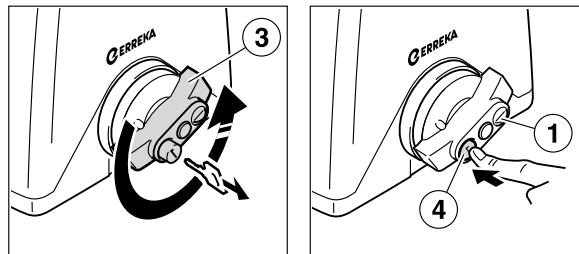
- 1 Turn the cover (1) 180° to reveal the cylinder.
- 2 Introduce the key (2) and turn clockwise without forcing it.
 - The cylinder will protrude a few millimetres, pushed by a spring.
- 3 Turn the handle (3) anti-clockwise 270° until it reaches the stopper, without forcing it.
 - The gate can now be operated manually.



D145I

Motorised operation locking

- 1 Turn the handle (3) anti-clockwise 270° until it reaches the stopper, without forcing it. Turn the key anti-clockwise and remove it.
- 2 Push the cylinder (4) inwards and turn the cover (1) to cover it.
- 3 Move the gate manually until the operator locks.



D145L

6 DECLARATION OF CONFORMITY

Erreka Automatismos declares that the PUMA operator has been designed for use in a machine or for assembly along with other elements in order to form a machine in line with Directive 89/392 EEC and successive modifications.

The PUMA operator allows us to carry out installations in line with the standards EN 13241-1 and EN 12453.

The PUMA operator complies with safety legislation in line with the following directives and standards:

- 73/23 EEC and successive modification 93/68 EEC
- 89/366 EEC and successive modifications 92/31 EEC and 93/68 EEC
- UNE-EN 60335-1

1 UNPACKING

1 Open the package and remove the contents from within.

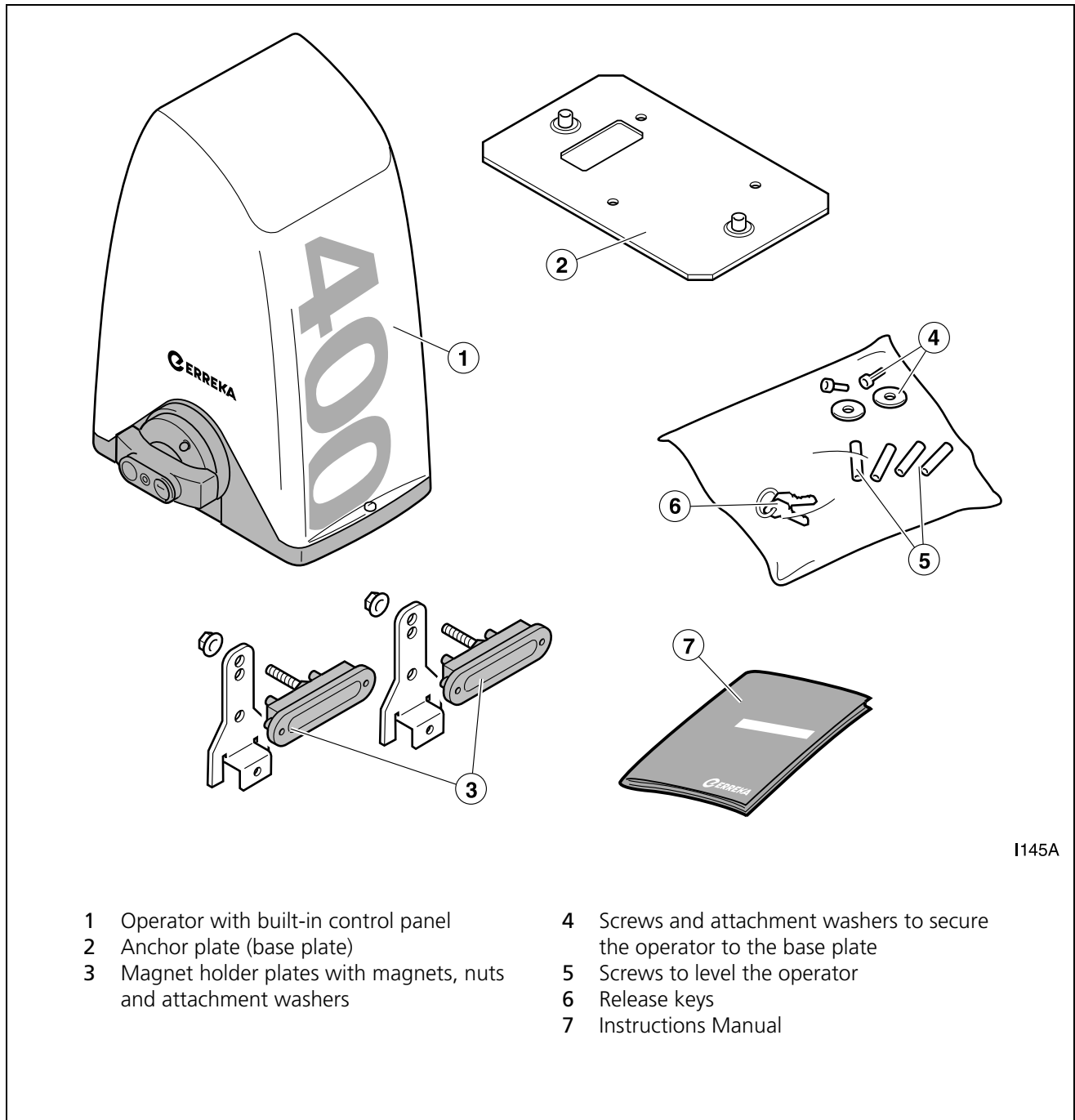
♻️ Discard the packaging in an environmentally friendly manner, using recycling containers.

⚠️ **Do not leave the packaging within the reach of children or handicapped people, as it may cause injury.**

2 Check the content of the package (see figure below).

🔧 Should it be noticed that a piece is missing or deteriorated, contact the nearest technical service.

2 CONTENT



I145A

- 1 Operator with built-in control panel
- 2 Anchor plate (base plate)
- 3 Magnet holder plates with magnets, nuts and attachment washers

- 4 Screws and attachment washers to secure the operator to the base plate
- 5 Screws to level the operator
- 6 Release keys
- 7 Instructions Manual

Fig. 2 Content

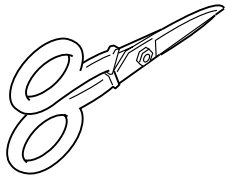
1 TOOLS AND MATERIALS



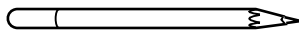
Set of screwdrivers



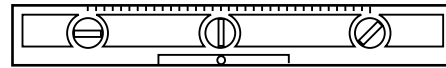
13 mm Fixed wrenches



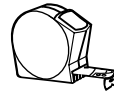
Electrician's scissors



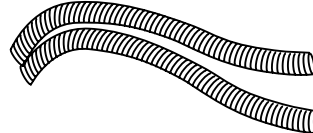
Marker pencil



Spirit level



Tape measure



Underground electrical cable ducts

2 INITIAL CONDITIONS AND CHECKS

Initial conditions of the gate

▲ Check that the size of the gate is within the admissible range of the operator (see the technical features of the operator).

▲ If the gate to be automated has a personnel door, use a safety device to prevent the operator from running with the personnel door open.

☞ We recommend installing opening and closing stoppers in order to prevent inertia from taking the gate beyond the limit switches.

☞ The gate must be easy to handle manually, namely:

- It must be balanced, in order to ensure the effort made by the motor is minimum.
- There should be no stiffness throughout its open/close.

▲ Do not install the operator in a gate which does not work correctly in manual operation, as this may lead to accidents. Repair the gate before installing.

Environmental conditions

▲ This device is not suitable for installation in inflammable or explosive environments.

▲ Check that the admissible environmental temperature range for the operator is suitable for the location.

Electrical power supply installation

▲ Ensure the power supply installation fulfils the following requirements:

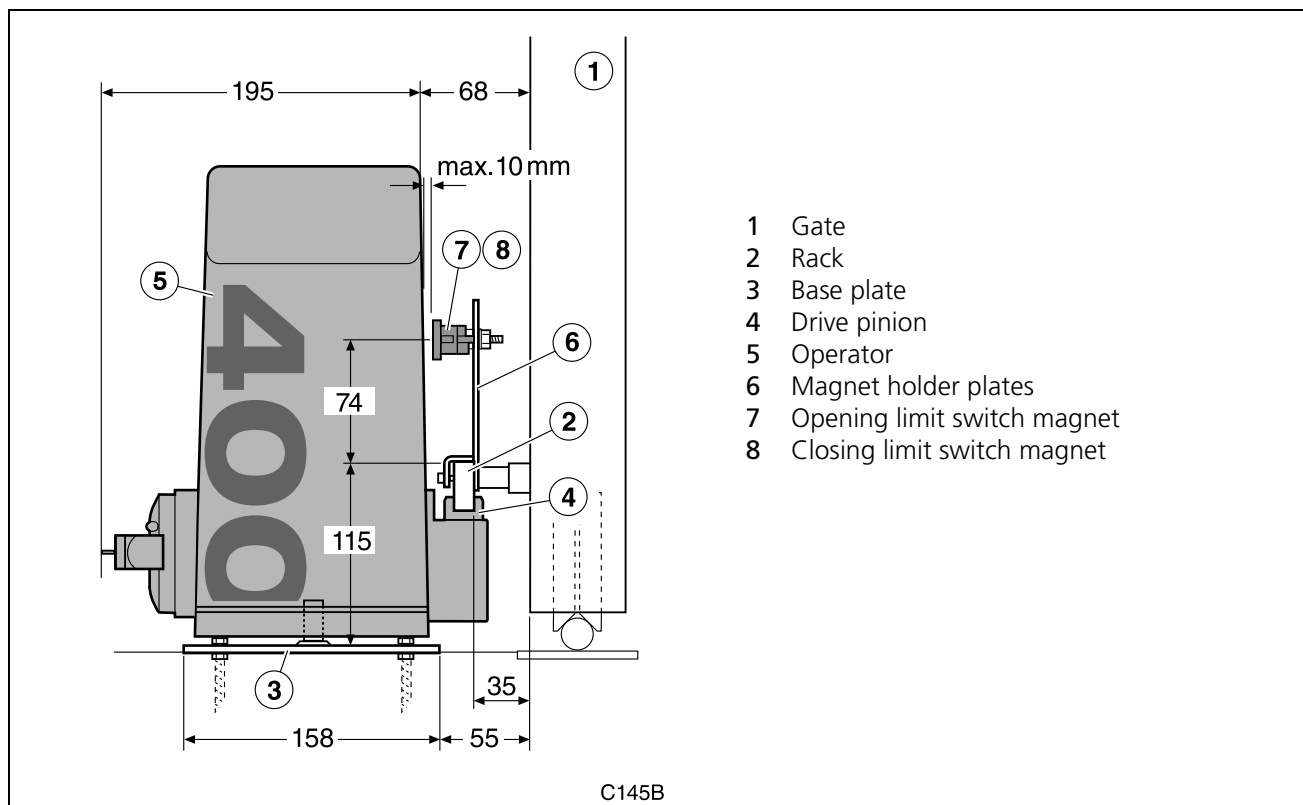
- The nominal voltage of the installation must coincide with that of the control panel.
- The installation must be able to support the power consumed by all the automatic key devices.
- The installation must be earthed.

- The electrical installation must comply with low voltage regulations.
- The installation elements must be properly secured and in a good state of conservation.

▲ If the electrical installation does not comply with the foregoing requirements, repair before installing the automatic key device.

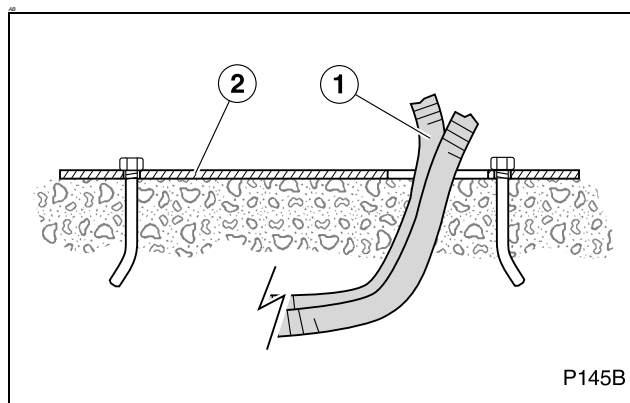
3 INSTALLING THE OPERATOR

Assembly positions and levels



! Procedure

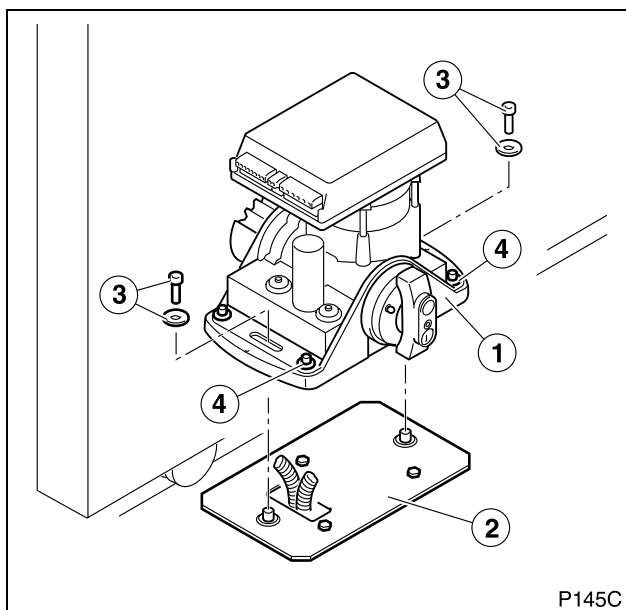
Secure the base plate to the floor



- 1 Position the ducts (1) for electrical installation.
- 2 Secure the base plate (2) to the floor, taking into account the assembly levels.
 - Introduce the anchor bolts in the base when the cement is still wet.
- 3 Level the base plate (2).



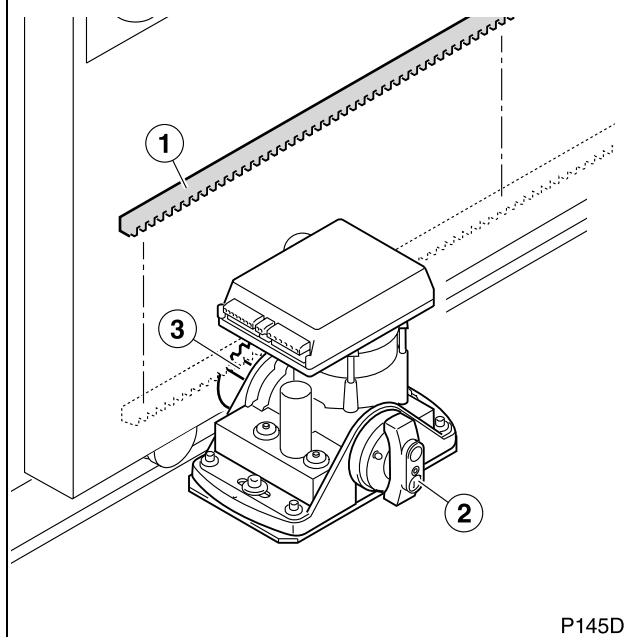
Position the operator



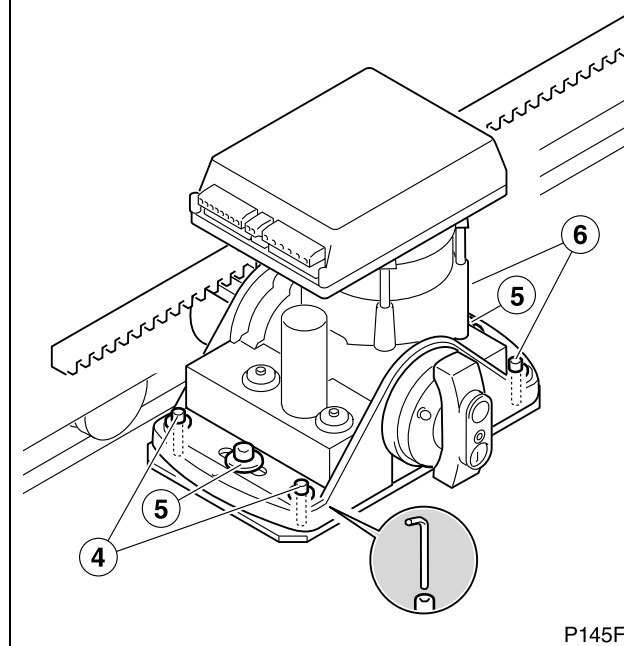
- 1 Position the operator (1) on the base plate (2) and secure it with the supplied screws and washers (3).
 ⚠ Do not tighten the screws yet.
- 2 Level the operator using the four threaded studs (4).

Position the rack and secure the operator

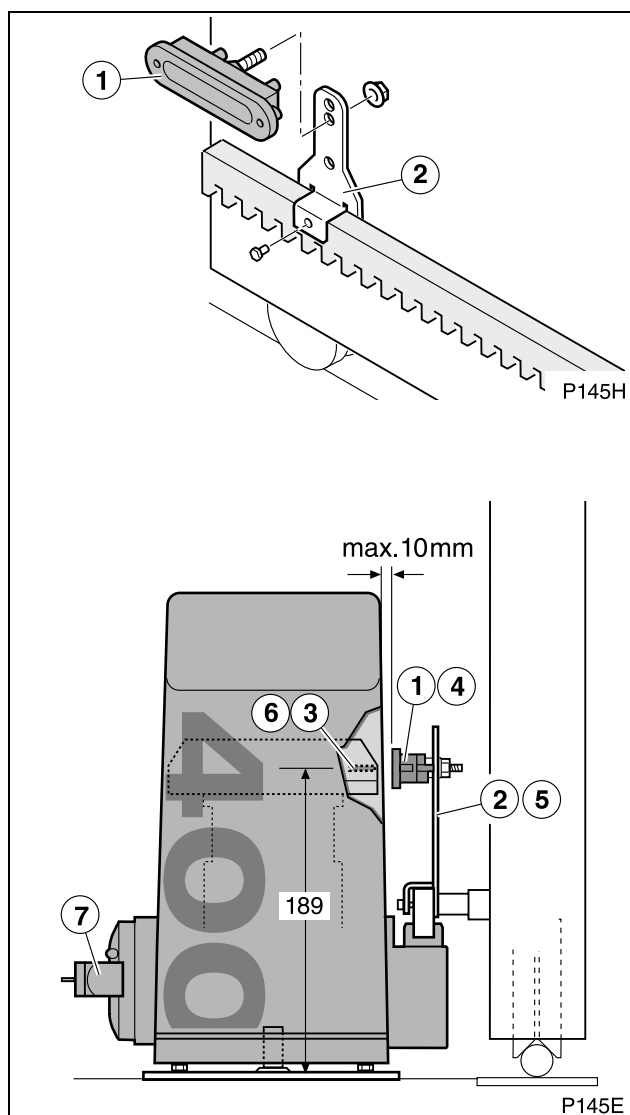
- 1 Position the rack (1) on the gate and secure it provisionally.
 ⚠ Check the rack instructions.
- 2 Unlock the operator using the handle (2).
- 3 Manually move the gate throughout the run to check that the pinion (3) moves correctly on the rack.
- ❗ There should be a slight gap (approximately 1-2 mm) between the teeth of the pinion and the rack.



- 4 Definitively secure the rack. If necessary, adjust the height of the operator with the threaded studs (4).
- 5 Secure the operator by turning the screws firmly (5).



Mount the magnetic limit switches



1 Move the gate manually to the opening position, and position the opening magnet (1) with the respective magnet-holder plate (2).

☞ In the gate open position, the magnet (1) must be opposite the magnetic opening limit switch (Hall effect sensor) (3).

① Distance between the magnets and the operator frame: 10 mm at most.

2 Move the gate manually to the closing position, and position the closing magnet (4) with the respective magnet-holder plate (5).

☞ In the gate closed position, the magnet (4) must be opposite the magnetic closing limit switch (Hall effect sensor) (6).

① Distance between the magnets and the operator frame: 10 mm at most.

3 Lock the operator using the handle (7).



4 ELECTRICAL CONNECTIONS

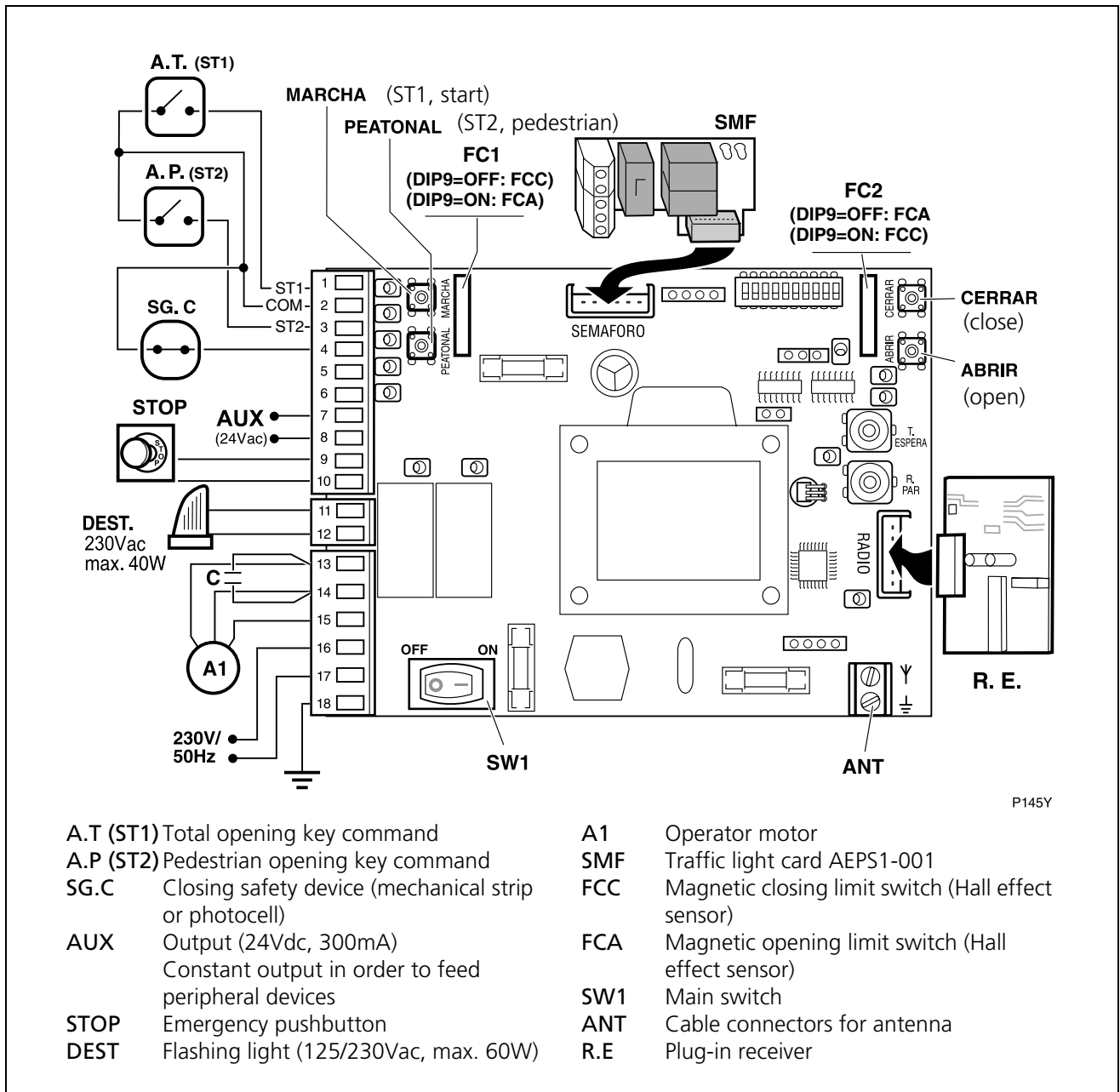
▲ Complete the installation in line with low voltage regulations and applicable rules.

▲ Use cables with sufficient section, always earthed.

▲ Check the manufacturer's instructions for all the elements installed.

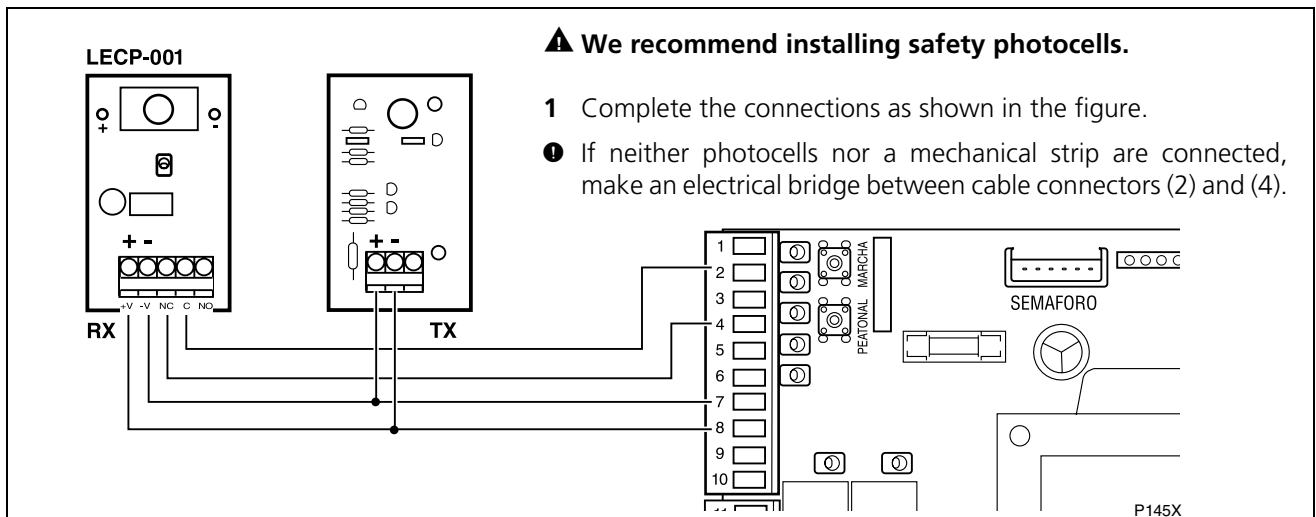


General connections



P145Y

Connection of safety transmitter-receiver photocells in closing (SG.C)



P145X

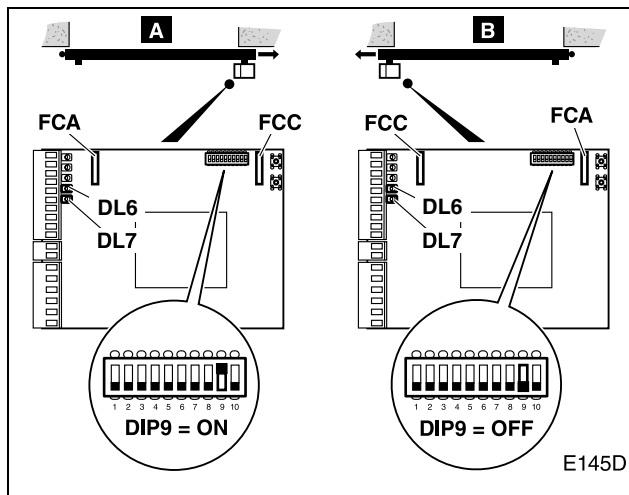
1 CONNECTION TO THE POWER SUPPLY AND CHECKING OF TURNING DIRECTION

The correct operation of the operator and of the complete system will only be achieved after programming. However, prior to programming, it is necessary to carry out the checks listed below.

▲ Before carrying out any gate movement, ensure there is no person or object in the radius of action of the gate and the drive mechanisms.

- 1 Connect the control panel power supply.
- 2 Check the turning direction of the operator using the mini-pushbuttons PUL1 (close) and PUL2 (open).
 - ✎ If the turning direction of the operator is not correct, interchange the connection cables (black cables) in their corresponding connector (see "Electrical connections" on page 51).

Limit switches configuration (DIP9)



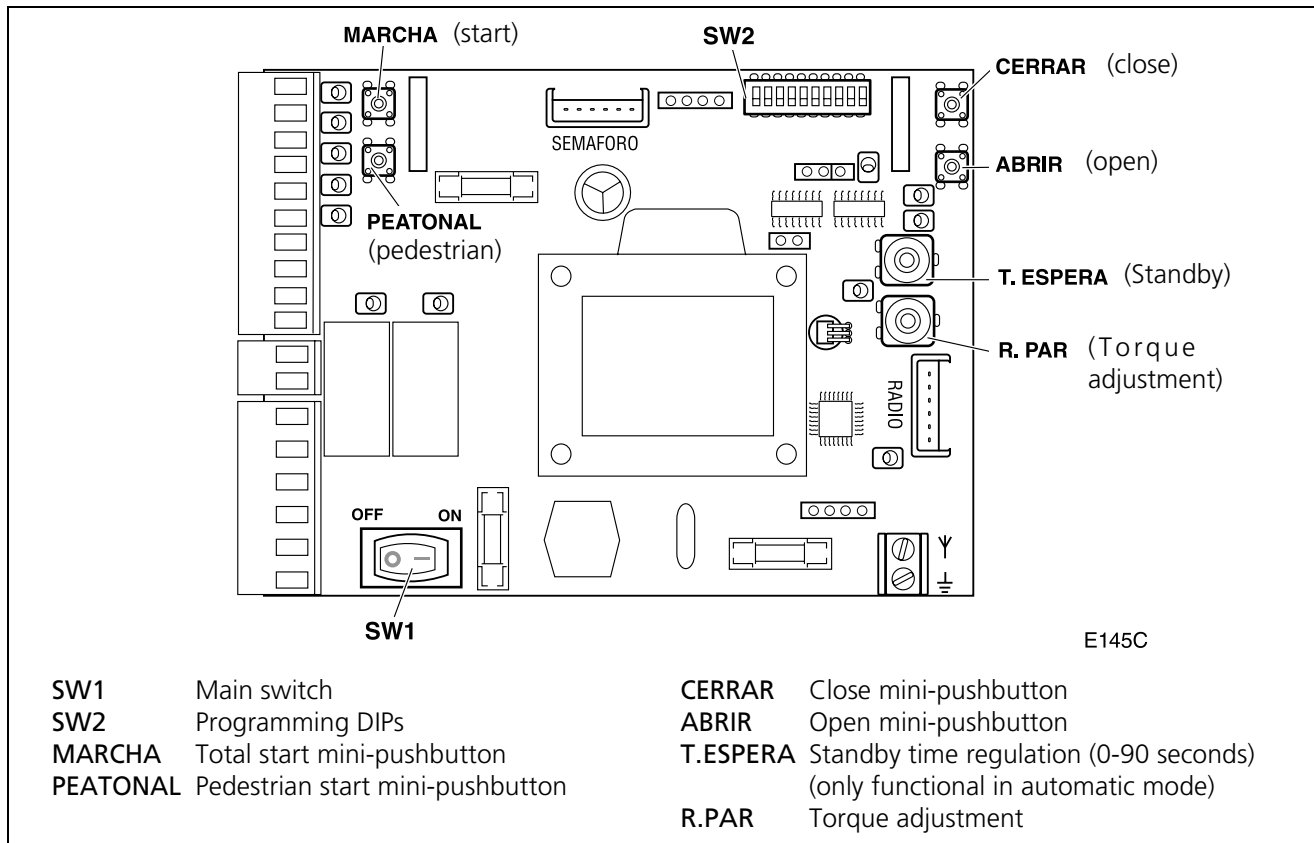
The limit switches must be configured in accordance with the operator assembly position with regards to the leaf:

- When the gate opens to the right (detail **A**), place DIP9 in ON.
- When it opens to the left (detail **B**), place DIP9 in OFF.

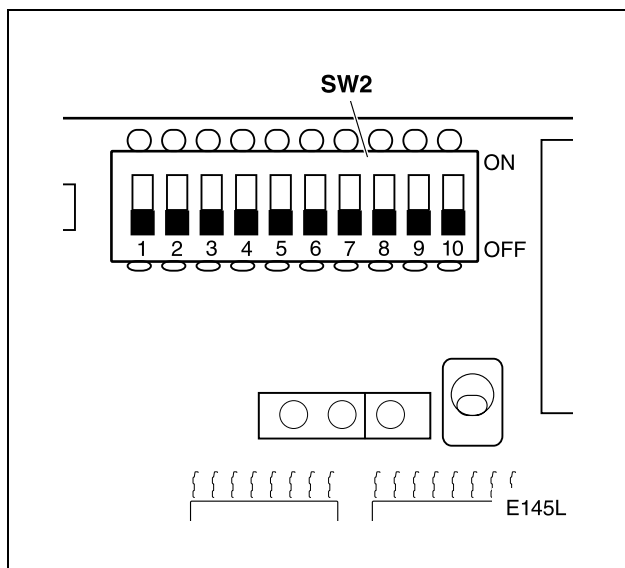
Proceed as follows to check the configuration:

- Place a magnet on FCC: DL6 should come on.
- Place a magnet on FCA: DL7 should come on.

2 CONTROLS AND COMMANDS



SW2 functions



Functions during programming (DIP1=ON)

- DIP2=ON:** total open/close programming (see page 56)
- DIP3=ON:** pedestrian open/close programming (see page 57)
- DIP4=ON:** total opening radio code programming (see page 55)
- DIP6=ON:** pedestrian opening radio code programming (see page 55)

Functions during use (DIP1=OFF)

DIP2: advance warning

- ☞ **DIP2=ON:** the flashing light comes on and the operation begins after a 3 second warning.
- ☞ **DIP2=OFF:** the flashing light comes on and the operation begins immediately.

DIP3: step-by-step or collective opening

- ☞ **DIP3=ON: step-by-step opening** (the panel obeys the key commands during opening).
- ☞ **DIP3=OFF: collective opening** (the panel does not obey the key commands during opening).

DIP4: automatic or step-by-step closing mode (in total and pedestrian operation)

- ☞ **DIP4=ON: automatic mode** (the gate closes automatically after the standby time has passed, which is adjusted using T.E.).
- ☞ **DIP4=OFF: step-by-step mode** (the gate only closes when receiving the key command).

DIP5: automatic mode optional (only if DIP4=ON)

- ☞ **DIP5=ON:** during standby, the gate obeys the key commands (this can be closed before standby time finishes).
- ☞ **DIP5=OFF:** the gate cannot be closed until standby time finishes.

DIP6: no function

- ☞ Place always in OFF

DIP7: encoder activation

- ☞ **DIP7=ON:** encoder enabled
- ☞ **DIP7=OFF:** encoder disabled

DIP8: slow down function

- ☞ **DIP8=ON:** the gate reduces its speed before reaching the stopper.
- ☞ **DIP8=OFF:** the gate reaches the stopper at high speed.

DIP9: limit switches configuration

- ☞ **DIP9=ON:** gate which opens to the right
- ☞ **DIP9=OFF:** gate which opens to the left

DIP10: Type of slowdown (only if DIP8=ON)

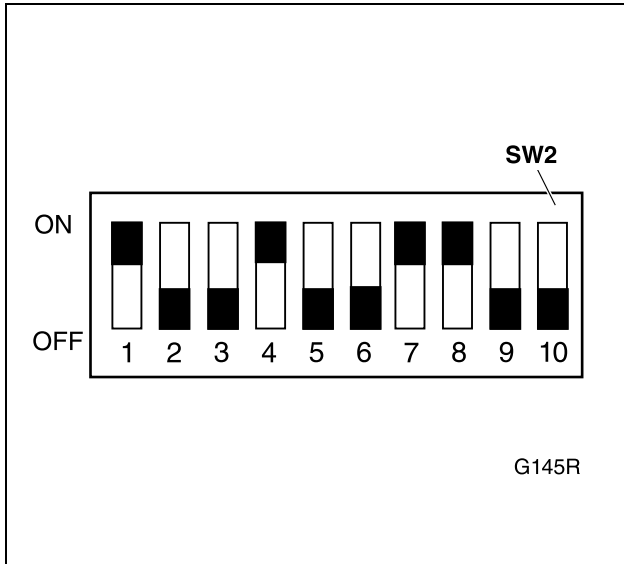
- ☞ **DIP10=ON:** progressive deceleration (deceleration ramp 1.5 seconds)
- ☞ **DIP10=OFF:** Sudden deceleration



3 RADIO CODE PROGRAMMING (FOR RSD ONLY)

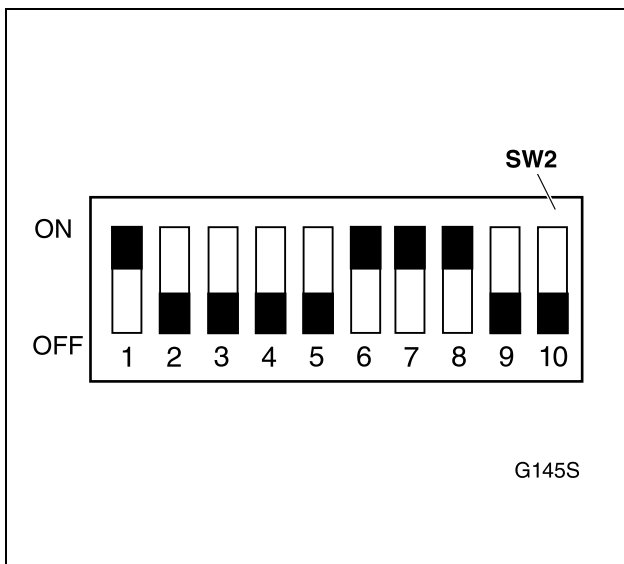
- ☞ When using the ERREKA RSD plug-in receiver (decoder-free receiver, trinary code, 433Mhz), the radio code can be programmed in the control panel itself, as explained below. In other cases, follow the instructions of the plug-in receiver used.
- ☞ The programming of the radio in total and pedestrian opening are independent. Different transmitters can be used with different codes.

Total opening code programming



- 1 Connect the control panel power supply (SW1 in ON).
- 2 Close the leaf of the gate by pressing PUL1.
- 3 Place DIP1 and DIP4 in "ON"; DIP2, DIP3, DIP5 and DIP6 in "OFF".
 - 📌 DL3 lights up.
- 4 Select the required code in the transmitter.
- 5 Press the channel to be used for total opening.
 - 📌 If programming has been carried out correctly, DL2 flashes.
- 6 Place DIP1 and DIP4 in "OFF" (DL2 and DL3 will go off).
- 7 Disconnect and reconnect the panel power supply.

Pedestrian opening code programming



- 1 Connect the control panel power supply (SW1 in ON).
- 2 Close the leaf of the gate by pressing PUL1.
- 3 Place DIP1 and DIP6 in "ON"; DIP2, DIP3, DIP4 and DIP5 in "OFF".
 - 📌 DL3 lights up.
- 4 Select the required code in the transmitter.
- 5 Press the channel to be used for pedestrian opening.
 - 📌 If programming has been carried out correctly, DL2 flashes.
- 6 Place DIP1 and DIP6 in "OFF" (DL2 and DL3 will go off).
- 7 Disconnect and reconnect the panel power supply.

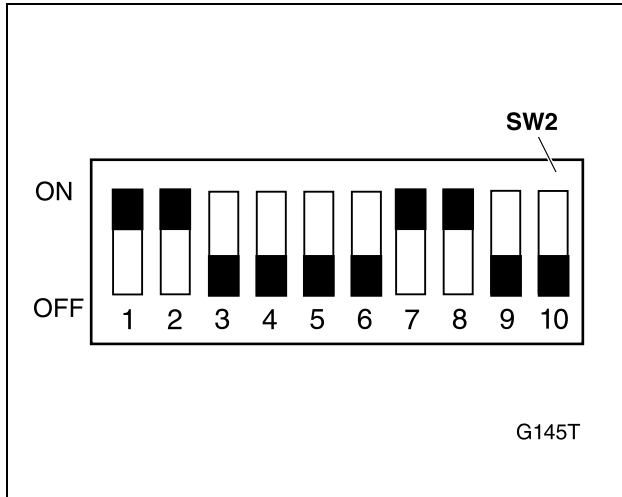


4 TOTAL OPEN/CLOSE PROGRAMMING

The programming of the gate open/close is done using the transmitter, the ST1 mini-pushbutton or the total key command (A.T.).

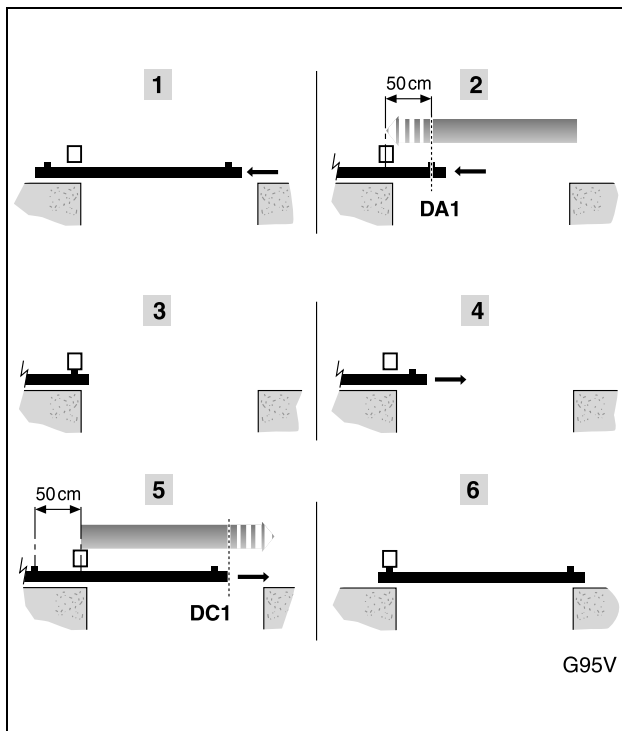
⚠ Before making the programming, ensure there is no person, animal or object in the radius of action of the gate and the mechanism.

Start programming mode



- 1 Ensure that DIP9 is configured correctly (see "Limit switches configuration (DIP9)" on page 53).
- 2 Close the gate by pressing PUL1.
- 3 Place DIP7 in "ON" to enable the encoder.
 - ⓘ If the encoder is not enabled (DIP7=OFF), operation times will be memorised.
- 4 Place DIP8 in "ON" (slowdown).
- 5 Place DIP1 and DIP2 in "ON"; DIP3, DIP4, DIP5 and DIP6 in "OFF".
 - ⓘ DL3 lights up, indicating that it is in programming mode.

Programme the slowdown start points



- 1 **Start to open the gate:** press ST1; the gate begins to open.
- 2 **Start slowdown in opening:** press ST1 (or A.T. or the transmitter) when the opening limit switch magnet is approximately 50 cm from the end of the run, in order to start slowdown (DA1).
- 3 **Wait for the gate to come to a halt** due to the action of the opening limit switch.
- 4 **Start closing the gate:** press ST1; the gate begins to close.
- 5 **Start slowdown in closing:** press ST1 (or A.T. or the transmitter) when the closing limit switch magnet is approximately 50 cm from the end of the run, in order to start slowdown (DC 1).
- 6 **Wait for the gate to come to a halt** due to the action of the closing limit switch.

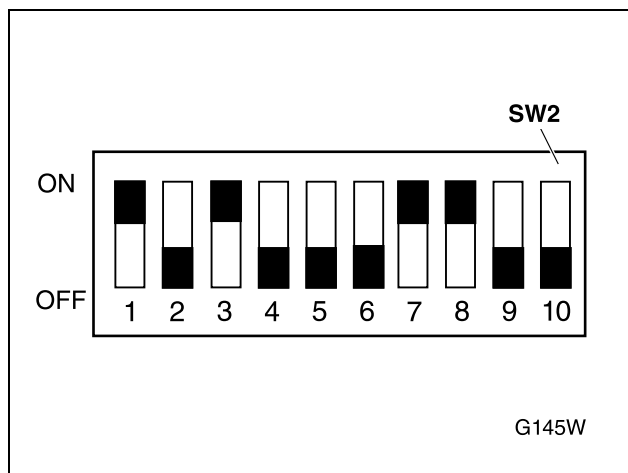
Finish the programming mode

- ⓘ The total opening and closing of the gate will be memorised.
- ⓘ The positions in which the gate begins to slow down, both on opening and in closing, will also be memorised.

- 1 Place DIP1 and DIP2 in "OFF".
 - ⓘ DL3 will remain off.

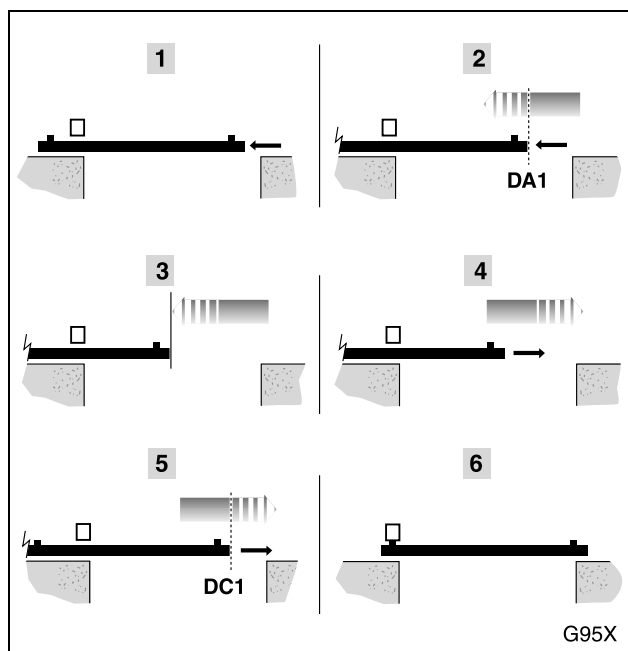
5 PEDESTRIAN OPEN/CLOSE PROGRAMMING

Start programming mode



- 1 Ensure that DIP9 is configured correctly (see "Limit switches configuration (DIP9)" on page 53).
- 2 Close the gate by pressing PUL1.
- 3 Place DIP7 in "ON" to enable the encoder.
 - ⓘ If the encoder is not enabled (DIP7=OFF), operation times will be memorised.
- 4 Place DIP8 in "ON" (slowdown).
- 5 Place DIP1 and DIP3 in "ON"; DIP2, DIP4, DIP5 and DIP6 in "OFF".
 - ⓘ DL3 lights up, indicating that it is in programming mode.

Programme the slowdown start points



- 1 **Start to open the gate:** press ST2; the gate begins to open.
- 2 **Start slowdown in opening:** press ST2 (or A.P. or the transmitter) at the point chosen for the start of slowdown (DA1).
- 3 **Finish the pedestrian opening:** press ST2 at the required position for the end of pedestrian opening.
- 4 **Start closing the gate:** press ST2; the gate begins to close.
- 5 **Start slowdown in closing:** press ST2 (or A.P. or the transmitter) at the point chosen for the start of slowdown (DC1).
- 6 **Wait for the gate to come to a halt** due to the action of the closing limit switch.

Finish the programming mode

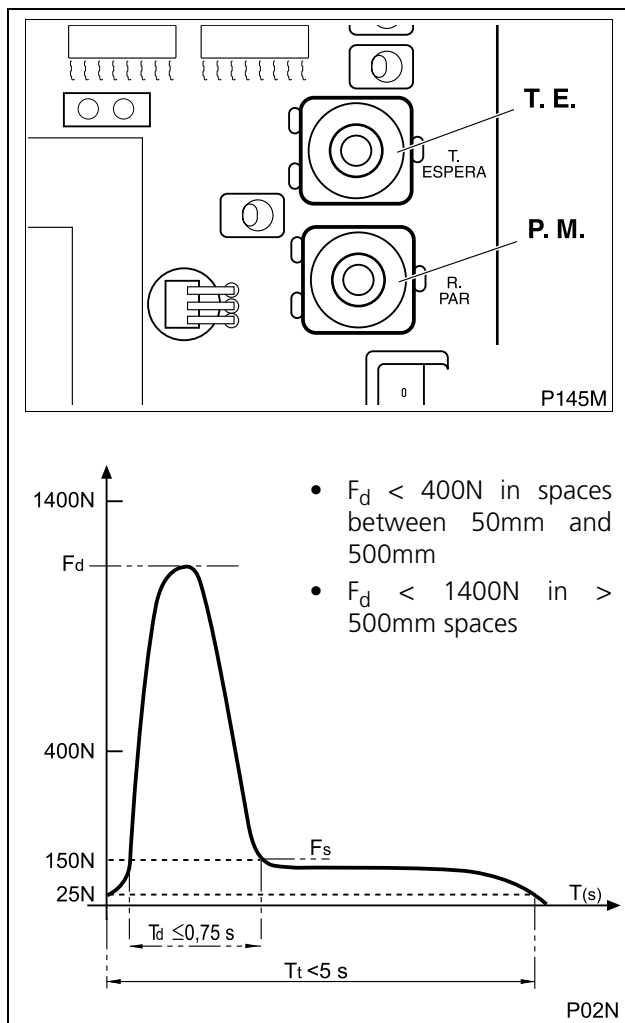
- ⓘ The pedestrian opening and closing of the gate will be memorised.
- ⓘ The positions in which the gate begins to slow down, both on opening and in closing, will also be memorised.

- 1 Place DIP1 and DIP3 in "OFF".
 - ⓘ DL3 will remain off.

6 SELECTION OF MODES AND CONTROL PANEL FUNCTIONS (SW)

- ☞ Using SW2, choose the required options (see "SW2 functions" on page 54).

7 POTENTIOMETER ADJUSTMENT



Open gate standby time (T.E.)

If automatic or alternative automatic functioning mode has been programmed, regulate T.E. to adjust the standby time with the gate open (before automatic closing begins).

Minimum value: 0 seconds; maximum value: 90 seconds

Torque regulation (P.M)

▲ Correct torque and speed adjustment is of vital importance for the gate to stop automatically when coming across a possible obstacle without producing any injury or damage. Increased torque produces a more violent impact.

1 Adjust the torque limitation potentiometer (P.M) at the lowest value possible, compatible with the proper operation of the gate.

2 Measure the impact force and compare it to the values indicated in Standard EN12453:2000. If the values measured are higher than those in the Standard, reduce the torque.

☞ The torque regulator must be adjusted in a manner which respects the values indicated in standard EN 12453:2000, as shown in the attached chart. The measurements must be made in line with the method described in standard EN 12445:2000.

8 STARTING UP

Final checks

Following installation and programming, start up the gate and check all the devices installed.

- 1 Check the correct operation of the key commands (transmitter, pushbutton and wall key).
 ⓘ See "Functioning modes" on page 45.
- 2 Check the correct operation of the safety devices (photocells or mechanical strips).
 ⓘ See "A- Detection by photocell or strip" on page 45.

▲ If the system does not work correctly, find out why and put it right (see section "Failure diagnosis" on page 59).

User instruction

- 1 Instruct the user with regards to the use and maintenance of the installation and provide him/her with the user guide.
- 2 Signpost the gate, showing that it opens automatically and indicating how to operate it manually. Where appropriate, indicate that operation is using the remote control.

1 MAINTENANCE

▲ Disconnect the device from the power supply before carrying out any maintenance operation.

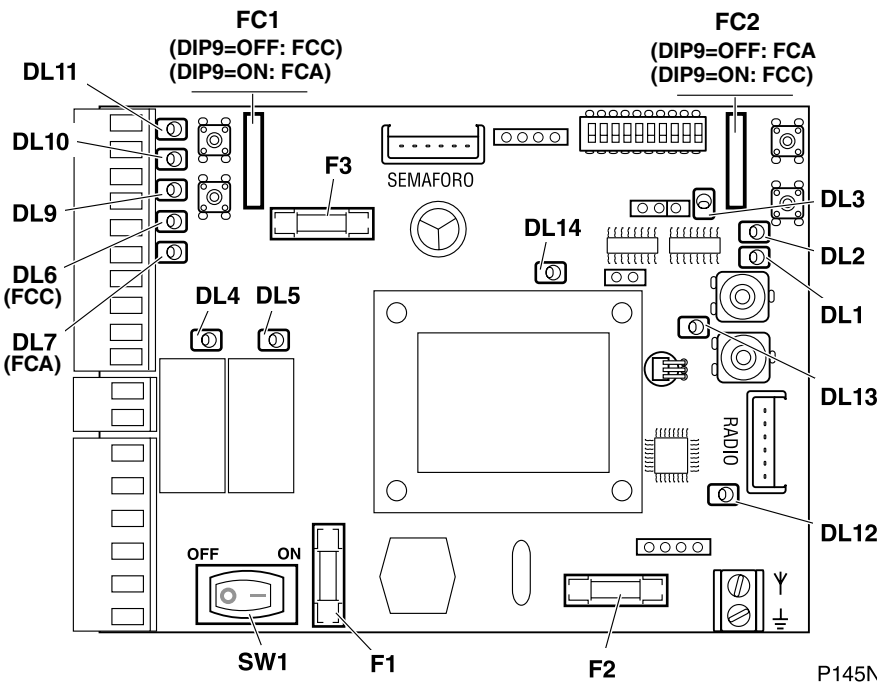
- 1 Frequently check the installation in order to detect any imbalance or sign of deterioration or wear. Do not use the device if any repair or adjustment is necessary.
- 2 Check that the operation and safety devices (photocells or safety strips), as well as their installation, have not suffered any damage from the weather or external agents.

2 SPARE PARTS

- ▲ If the device needs repairing, go to an authorised assistance centre or manufacturer; never try to repair it yourself.**
- ▲ Use only original spare parts.**

3 FAILURE DIAGNOSIS

Diagnosis items



- F1 Motor fuse (5x20):
PUS400EC: 2.5A
PUS400ECM: 4A
- F2 Electronic fuse (5x20; 500mA)
- F3 FT and AUX24V outputs fuse (5x20; 315mA)
- FCC Closing limit switch (Hall effect sensor)
- FCA Opening limit switch (Hall effect sensor)

- DL1 Gate open
- DL2 Radio code programming indicator / Receiving radio code
- DL3 Radio code or operation programming
- DL4 Opening relay enabled
- DL5 Closing relay enabled
- DL6 Closing limit switch contacts closed
- DL7 Opening limit switch contacts closed
- DL9 Closing safety device contacts closed
- DL10 Pedestrian key command contacts closed

- DL11 Total key command contacts closed
- DL12 Radio key command
- DL13 Encoder signal
 - i** Operator working: DL13 comes on intermittently, since the encoder sends the signal in the form of pulses.
 - i** Operator shutdown: DL13 may be on or off, indistinctly, depending on the position of the encoder (high pulse or low pulse).
- DL14 Power supply



Problem	Cause	Solution
The operator does not work and no LED indicator comes on	Main switch SW1 in "OFF"	Place SW1 in "ON"
	Power supply voltage absent	Reestablish the power supply
	Electronic fuse F2 blown	Replace F2 using another fuse of the same value and investigate the cause of failure of F2
	Transformer or panel failed	Call the technical service
The operator does not work when the key commands are activated DL14 lit up, DL9 lit up, DL10 and DL11 off when operating the key commands	The key commands signal does not reach the control panel	Check the key command devices and the connections
The operator does not work when the key commands are activated DL14 lit up, DL9 lit up, DL10 and DL11 light up when pressing ST1 and ST2 respectively and DL4 and DL5 light up briefly	Fuse F1 blown	Replace F1 using another fuse of the same value and investigate the cause of failure of F1
	Operator connections	Check connections
	Encoder defective	Call the technical service
The operator does not work when the key commands are activated DL1 and DL3 lit up and flashing quickly	STOP contact open (emergency stop pushbutton enabled or cables disconnected)	Close STOP contact
The leaf does not reach the stopper	Hard points in the gate run	Move by hand and remove the hard points
	Open/close programming incorrect	Carry out the programming correctly
	Limit switch magnets incorrectly positioned	Adjust the limit switch magnets in the gate
	Motor sensitivity very high, not suitable for the weight of the gate	Adjust motor sensitivity using the P.M. potentiometer
The gate opens but does not close DL9 off	Closing safety device (photocell o strip) enabled	Remove any possible obstacles
	Fuse F3 blown (photocell without supply)	Replace F3 using another fuse of the same value and investigate the cause of failure of F3
The gate opens but does not close DL7 remains off always	Closing limit switch continuously enabled or deteriorated	Call the technical service
The gate closes but does not open DL8 remains off always	Opening limit switch continuously enabled or deteriorated	Call the technical service

4 SCRAP

⚠ The operator, up until the end of its useful life, must be dismantled at its location by an installer who is as well qualified as the person who completed the assembly, observing the same precautions and safety measures. In this manner possible accidents and damage to adjacent facilities will be avoided.

♻ The operator must be deposited in the appropriate containers for subsequent recycling, separating and classifying of the different materials in line with their nature. NEVER deposit it in domestic rubbish or in landfills which are not suitably controlled, as this will cause environmental contamination.

