

CE



For projecting
and non-projecting
up-and-over doors,
and sectional doors



Spin10KCE
Spin11KCE

Instructions and warnings for the fitter

Istruzioni ed avvertenze per l'installatore

Instructions et recommandations pour l'installateur

Anweisungen und Hinweise für den Installateur

Instrucciones y advertencias para el instalador

Instrukcje i uwagi dla instalatora

Aanwijzingen en aanbevelingen voor de installateur

COMPANY
WITH QUALITY SYSTEM
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Spin10KCE

Spin11KCE

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1) Warnings

Important instructions for installation safety

⚠ Incorrect installation may cause serious injury. Carefully follow all installation instructions.

This manual contains important information regarding safety; before you start installing the components, it is important that you read all the information contained herein. Store this manual safely for future use.

In this manual when all data, warnings and other information related to all products are stated, the range name "SPIN". The description of individual products can be found in chapter "2 Product description"

Considering the hazards that may exist during the installation and operation of SPIN, installation must be carried out in strict compliance with current legislation, standards and regulations. This chapter provides details of general warnings. Other, more specific warnings are detailed in Chapters "3.1 Preliminary Checks" and "5 Testing and commissioning".

⚠ According to the most recent European legislation, the production of automatic doors or gates is governed by the provisions listed in Directive 98/37/EC (Machine Directive) and, more specifically, to provisions: EN 12445; EN 12453 and EN 12635, which enable manufacturers to declare the presumed conformity of the product.

Please access "www.niceforyou.com" for further information, and guidelines for risk analysis and how to draw up the Technical Documentation.

- This manual has been especially written for use by qualified fitters. Except for the enclosed specification "Instructions and Warnings for Users of the SPIN gearmotor" which is to be removed by the installer, none of the information provided in this manual can be considered as being of interest to end users!

- Any use or operation of SPIN which is not explicitly provided for in these instructions is not permitted. Improper use may cause damage and personal injury.
- Risk analysis must be carried out before starting installation, to include the list of essential safety requisites provided for in Enclosure I of the Machine Directive, indicating the relative solutions employed. N.B. Risk analysis is one of the documents included in the "Technical Documentation" for this automation.
- Check whether additional devices are needed to complete the automation with SPIN based on the specific application requirements and dangers present. The following risks must be considered: impact, crushing, shearing, dragging, etc. as well as other general dangers.
- Do not make modifications to any components unless such action is specified in this manual. Operations of this type are likely to lead to malfunctions. NICE disclaims any liability for damage resulting from modified products.
- During installation and use, ensure that solid objects or liquids do not penetrate inside the control unit or other open devices. If necessary, please contact the NICE customer service department; the use of SPIN in these conditions can be dangerous.
- The automation system must not be used until it has been commissioned as described in chapter 5: "Testing and commissioning".
- The packing materials of SPIN must be disposed of in compliance with local regulations.
- If a fault occurs that cannot be solved using the information provided in this manual, refer to the NICE customer service department.
- In the event that any automatic switches are tripped or fuses blown, you must identify the fault and eliminate it before resetting the switches or replacing fuses.
- Disconnect all the power supply circuits before accessing the terminals inside the SPIN cover. If the disconnection device is not identifiable, post the following sign on it: "WARNING: MAINTENANCE WORK IN PROGRESS".

2) Product description

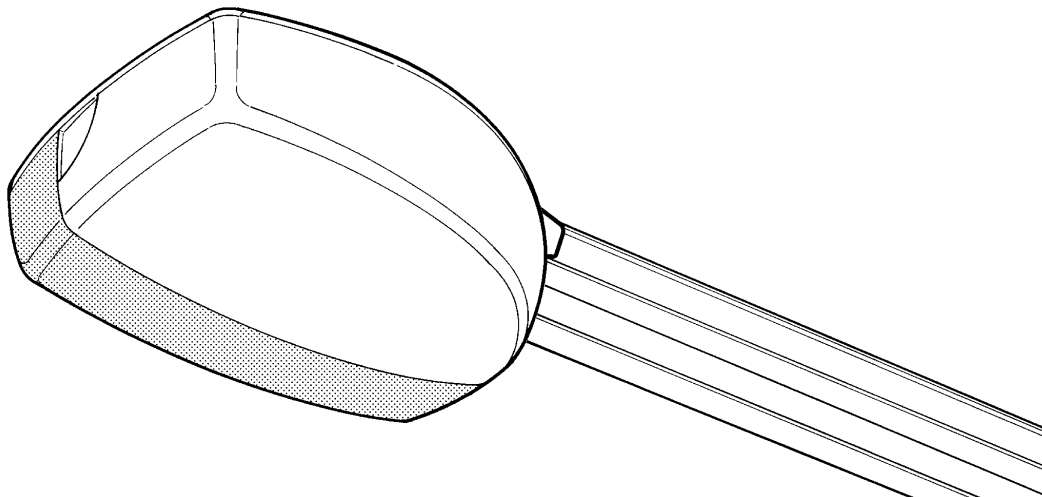
SPIN is a range of gearmotors designed for the automation of sectional doors and, in combination with accessory SPA5 (supplied separately), protruding or non-protruding spring or counterweight overhead doors.

SPIN operates with electric power. In the event of a power failure, the gearmotor can be released in order to move the door manually. The products described in tables 1 belong to the SPIN range.

Table 1: Description of the SPIN components

Model:	Gearmotor	Guide	Radio receiver	Radio Transmitter
SPIN10KCE	SN6011	3x1m	Incorporated	FLO2R-S*
SPIN11KCE	SN6011	3m	Incorporated	FLO2R-S*

* see paragraph "4.5 radio receiver" for the types of transmitters that can be used.



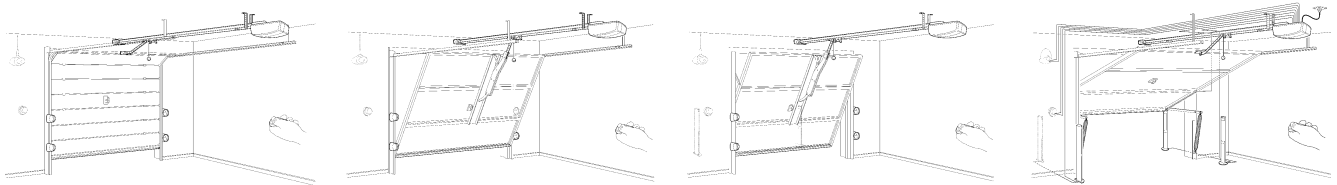
2.1) Operating limits

Chapter 8 "Technical Characteristics" provides the data needed to determine whether the products of the SPIN line are suitable for the intended application.

The structural characteristics of the SPIN products make it suitable for use on sectional and overhead doors within the limits shown in Tables 2, 3 and 4.

Table 2: SPIN gearmotor operating limits

Model:	SECTIONAL door		OVERHEAD door, non-protruding (with accessory SPA5)		OVERHEAD door, protruding (with accessory SPA5) or with springs (without SPA5)	
	Height	Width	Height	Width	Height	Width
SPIN10KCE	2.4m	3.7m	2.2m	3.5m	2.8m	3.5m
SPIN11KCE	2.4m	3.7m	2.2m	3.5m	2.8m	3.5m



The measurements in table 2 are guideline only and can be used as a general estimate only. The effective suitability of SPIN for automating a specific door depends on the degree of door leaf balancing, guide friction and other aspects, including occasional phenomena such as wind pressure or the presence of ice, which could obstruct leaf movement.

To establish effective conditions, the force required to move the leaf throughout its stroke must be measured, to ensure that this value does not exceed the "rated torque" specified in chapter "8 Technical specifications"; also, to calculate the number of cycles/hour and consecutive cycles, the data in tables 3 and 4 must be taken into account.

Table 3: limits related to leaf height

Leaf height	Max. no. of cycles/hour	Max. no. of consecutive cycles
Max. 2	16	8
2÷2,5	12	6
2,5÷3	10	5
3÷3,5	8	4

Table 4: limits in relation to force required to move door leaf

Force required to move leaf N	Cycle reduction percentage
Max. 200	100%
200÷300	70%
300÷400	25

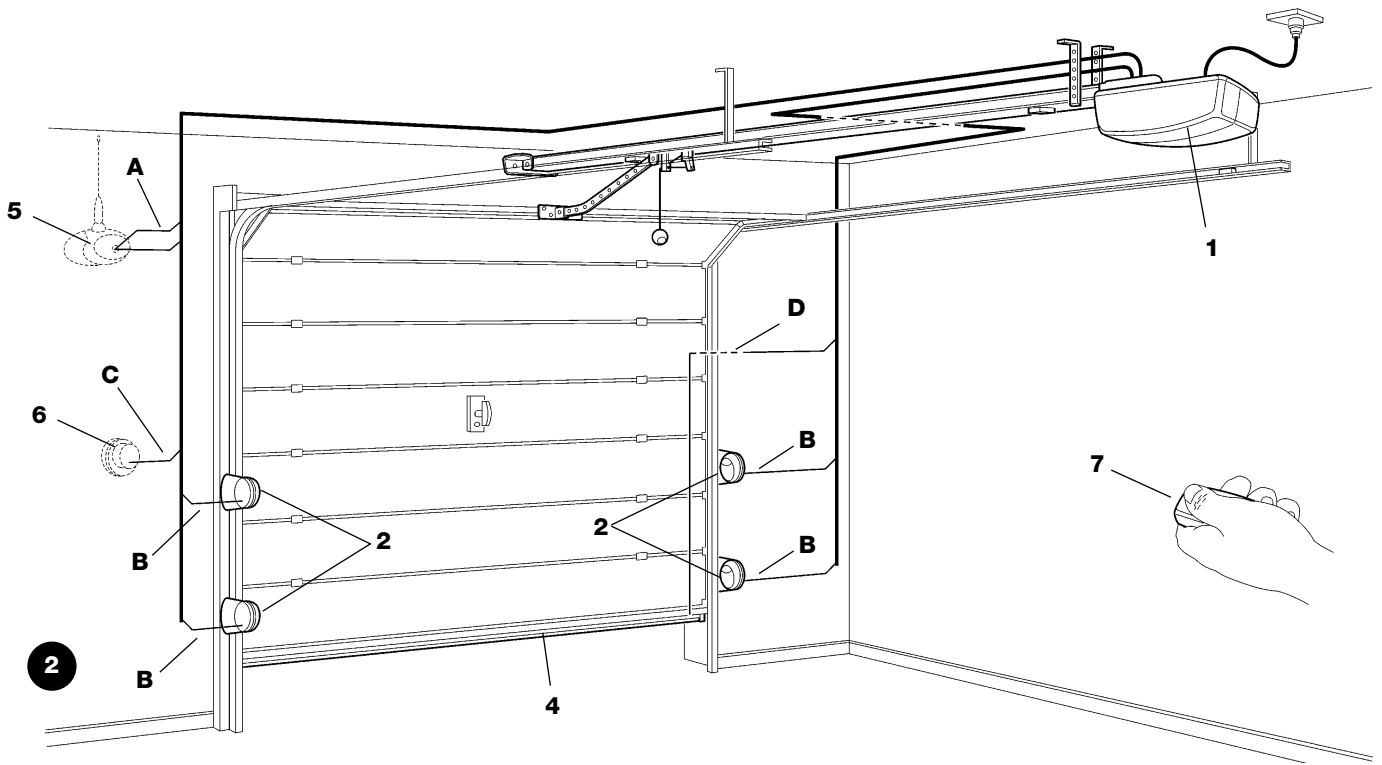
The height of the door enables a calculation of the maximum number of cycles per hour and consecutive cycles, while the force required to move the door enables a calculation of the percentage of cycle reduction; for example, if the leaf height is 2.2 m this would enable 12 cycles per hour and 6 consecutive cycles, but if a force of 250N is required, these would have to be reduced to 70%, resulting therefore in 8 cycles per hour and around 4 consecutive cycles.

To avoid overheating, the control unit has a limiter that is based on the motor operation and duration of cycles, and trips when the maximum limit is exceeded.

Note: 1Kg = 9.81N, for example, 500N = 51Kg

2.2) Typical system

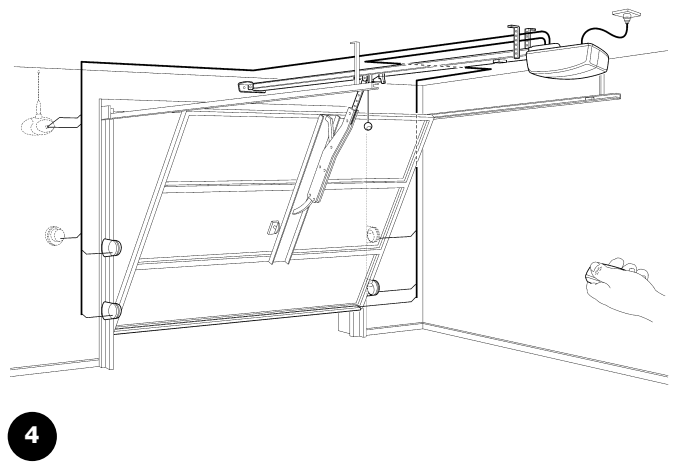
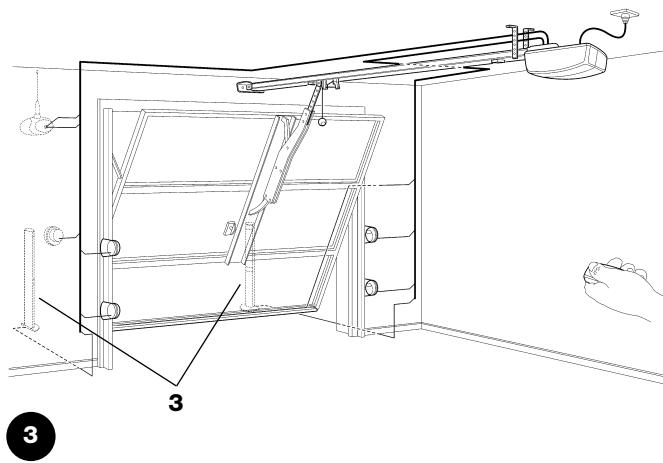
Figure 2 shows a typical system for automating a sectional door.



- 1 SPIN
- 2 Photocells
- 3 Photocells on post (fig. 3)
- 4 Main edge
- 5 Flashing light with incorporated aerial
- 6 Key-operated selector switch
- 7 Radio-transmitter

Figures 3 and 4 show typical installations of a protruding and non-protruding overhead door.

⚠ For installations on overhead doors, the accessory SPA5 is required.



2.3) List of cables

Figure 3 shows the cables needed for the connection of the devices in a typical installation; Table 5 shows the cable characteristics.

⚠ The cables used must be suitable for the type of installation. For example, an H03VV-F type cable is recommended for indoor applications

Table 5: list of cables

Connection	Cable type	Maximum length allowed
A: Flashing light with aerial	N°1 cable 2x0,5mm ²	20m
	N°1 RG58 type shielded cable	20m (recommended less than 5 m)
B: Photocells	N°1 2x0,25mm ² cable for TX	30m
	N°1 4x0,25mm ² cable for RX	30m
C: Key-operated selector switch	N°2 2x0,5mm ² cables (note 1)	50m
D: Primary sensitive edge	N°1 2x0,5mm ² cable (note 2)	30m

Note 1: A single 4x0.5mm² cable can be used instead of two 2x0.5mm² cables.

Note 2: special devices which enable connection even when the leaf is moving must be used to connect edges to the door.

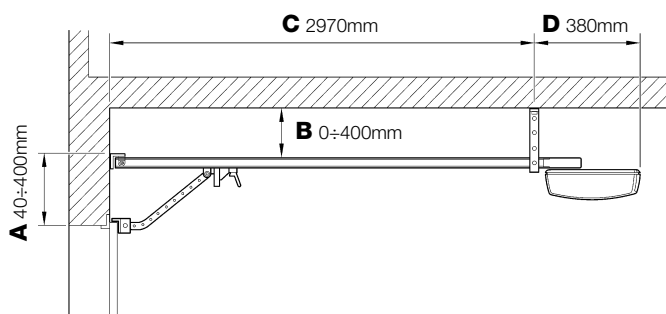
3) Installation

⚠ The installation of SPIN must be carried out by qualified personnel in compliance with current legislation, standards and regulations, and the directions provided in this manual.

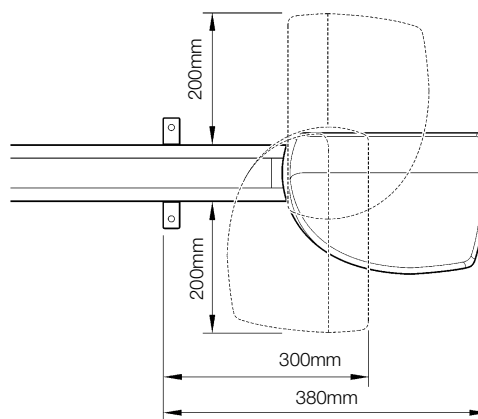
3.1 Preliminary checks

Before proceeding with the installation of SPIN you must:

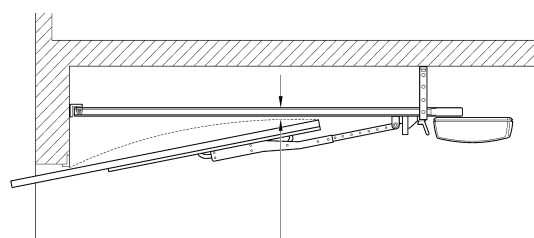
- Verify and ensure after installation that no door parts obstruct public roadways or pavements.
- Check that all the materials are in excellent condition, suitable for use and that they conform to the standards currently in force.
- Make sure that the structure of the gate is suitable for automation.
- Make sure that the force and dimensions of the door fall within the specified operating limits provided in chapter "2.1 Operating limits".
- Check that the static friction (that is, the force required to start the movement of the leaf) is less than half the "maximum torque", and that the dynamic friction (that is, the force required to keep the leaf in movement) is less than half the "nominal torque". Compare the resulting values with those specified in Chapter 8 "Technical Characteristics". The manufacturer recommends a 50% margin on the force, as unfavourable climatic conditions may cause an increase in the friction.
- Make sure that there are no points of greater friction in the opening or closing travel of the door.
- Make sure that the mechanical stops are sturdy enough, and that there is no danger of door derailing.
- Make sure that the door is well balanced: it must not move by itself when it is placed in any position.
- Make sure that the mounting positions of the various devices (photo-cells, keys, etc.) are protected from impacts and that the mounting surfaces are sufficiently sturdy.
- Make sure that the minimum and maximum clearances specified in fig. 5 and 6 are observed.
- Check and ensure that the manual release is fitted at a maximum height of 1.8 m.
- Components must never be immersed in water or other liquids.
- Keep all components of SPIN away from heat sources and open flames; these could damage the components and cause malfunctions, fire or dangerous situations.
- If the door includes an access door, make sure that it does not obstruct normal travel. Mount a suitable interlock system if necessary.
- If the door to be automated is an overhead type, check the distance [E] in Figure 7, i.e. the minimum distance between the upper side of the guide and the maximum point reached by the upper edge of the door. Otherwise SPIN cannot be installed.
- Connect SPIN only to a power supply line equipped with safety grounding system.
- The power supply line must be protected by suitable magneto-thermal and differential switches.



5



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E $65 \div 300 \text{mm}$

3.2 Fitting SPIN

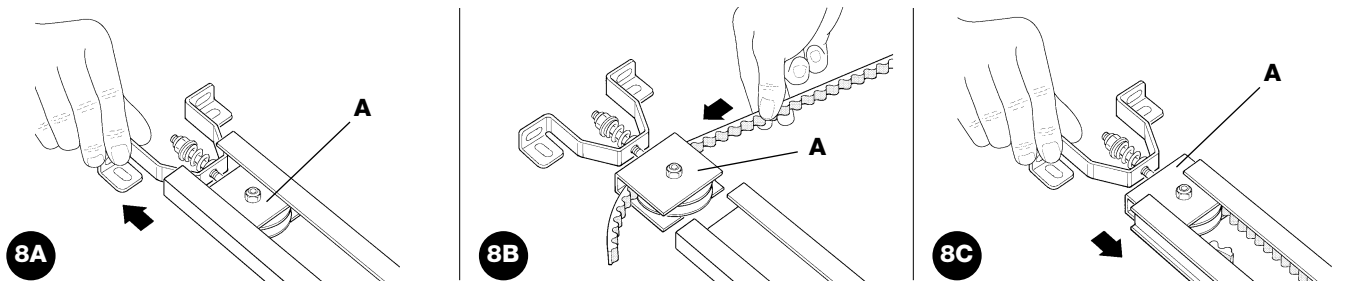
Fixture of the SPIN gearmotor comprises 3 stages.

- Guide assembly (see paragraph 3.2.1 for guides supplied with SPIN10KCE and paragraph 3.2.2 for guide SNA11)
- Mounting the gearmotor to the guide (see paragraph 3.2.3)
- Mounting the gearmotor to the ceiling (see paragraph 3.2.4)

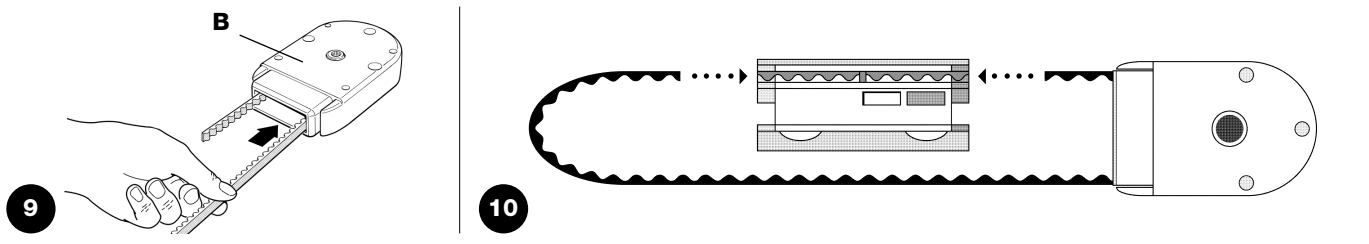
3.2.1 Assembly of guide supplied with SPIN10KCE

The guide that is supplied with SPIN10KCE must be assembled as follows:

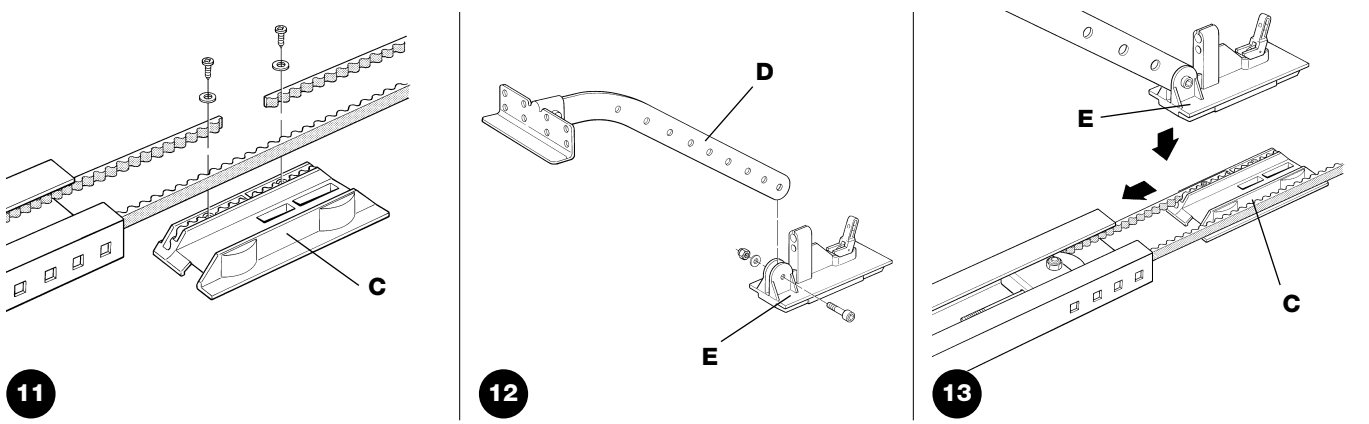
1. Referring to figure 8, remove the belt tensioner device (8a); insert one end of the belt into the pulley (8b); reintroduce the belt tensioner device into the guide (8c).



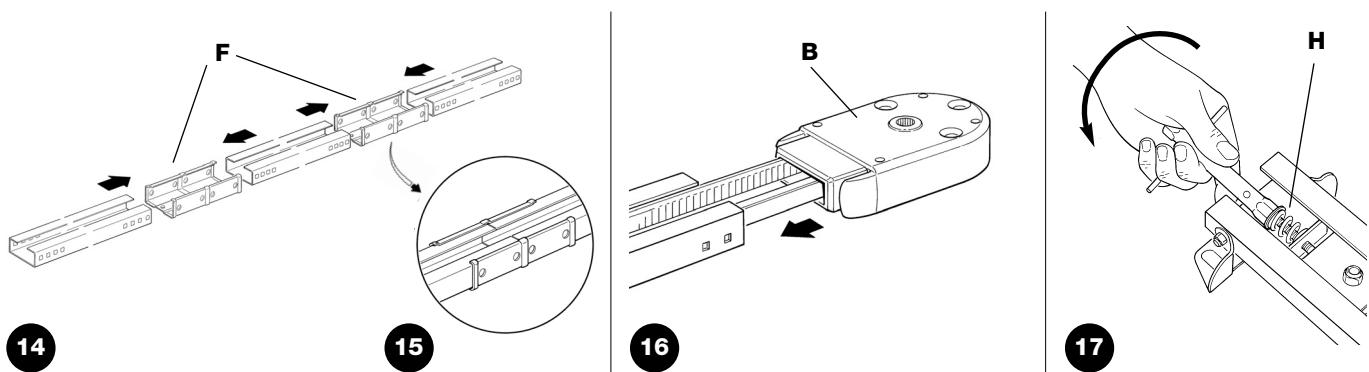
2. Pass the same end of the belt through the head (B), as in figure 9.
Note: Make sure that the belt is correctly positioned: it must be with the teeth facing inwards, straight and without twists.
3. Turn the lower section of the carriage so that the grooves correspond with the two ends of the belt, as in figure 10.



4. Position both ends of the belt into all of the shaped slots of the lower carriage (C). Secure the ends of the belt with the 2 screws (V4.2x9.5) and 2 washers (R05), as in figure 11.
5. Fix the belt guide (D) to the upper carriage (E) with the V6x18 screw and related M6 nut, as in figure 12.
6. Insert the upper carriage (E) into the lower carriage (C) and place the entire carriage assembly inside the guide, as in figure 13.



7. With the aid of a hammer, assemble the three pieces of the guide engaging them into the connection brackets (F) with force, as in figures 14 and 15.
Important: the guides must slide into the brackets until they click into position.
8. Carefully position the belt into the guide, making sure that it is not twisted.
9. Fix the head (B) into the free end of the guide with force, as in figure 16.
10. Finally, tension the belt with the adjustment screw (H) of the belt tensioner device, as in figure 17.
Warning: the gearmotor could break if the belt is too taut and if it is too slack, it could cause unpleasant noise.

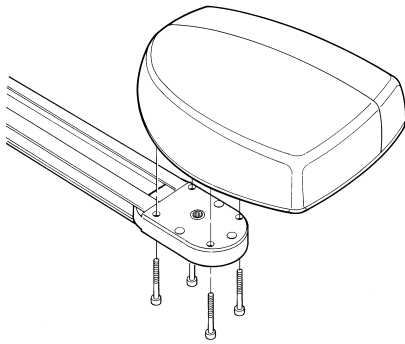


3.2.2) SNA11 guide assembling

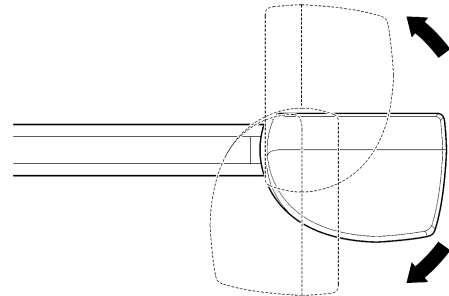
The guide SNA11 guide is already assembled. The only operation required is tensioning the belt by means of the M8 nut (H), as shown in figure 17, until it is sufficiently taut.

3.2.3) Mounting the gearmotor to the guide

1. Join the SPIN gearmotor with the guide head (B); then secure by means of the four V6.3x38, screws, as shown in figure 18.
2. The motor can be rotated in three different positions, as shown in figure 19.



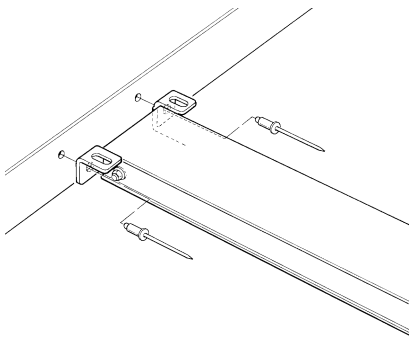
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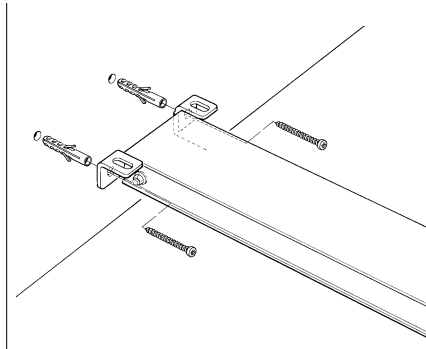
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3.2.4) Fissaggio del motoriduttore al soffitto

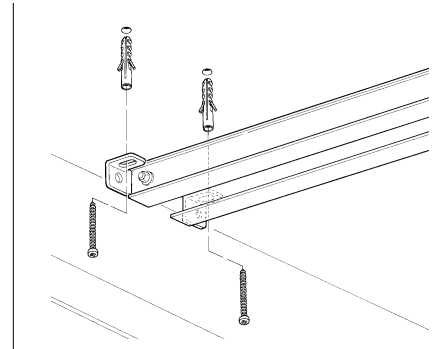
1. On the basis of distances A and B in figure 5, trace the two fixing points of the front guide bracket at the centre of the door. On the basis of the type of support surface, the front bracket can be fixed with rivets, plugs or screws (figures 20, 21). If distances A, and B (figure 5) are sufficient, the bracket can be fixed directly onto the ceiling, as shown in figure 22.



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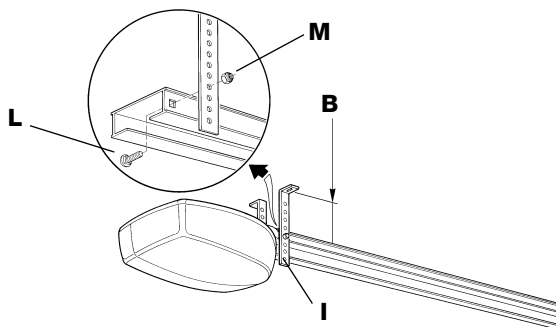


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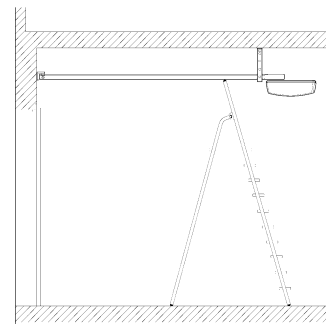


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2. After drilling the holes in the relative points, leaving the gearmotor on the ground, lift the guide from the front section and secure by means of two screws, plugs or rivets, according to the installation surface.
3. Secure the brackets (I) by means of the M6x15 screws (L) and nuts M6 (M) selecting the hole most suited to ensure distance B, as shown in figure 23.
4. Using a ladder, lift the gearmotor until the brackets are touching the ceiling. Trace the drilling points and then return the gearmotor to the ground, as shown in figure 24.

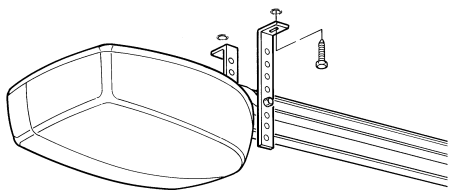


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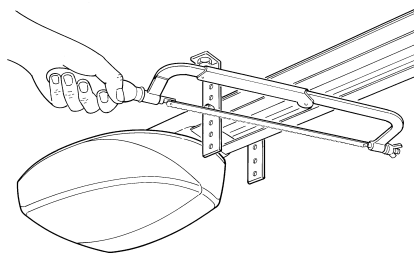


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- 5. Drill at the outlined points and then, using a ladder, lift the gearmotor until the brackets are placed against the drilled holes and secure by means of screws and plugs suited to the support surface, as shown in figure 25.
- 6. Ensure that the guide is perfectly horizontal, then cut off the excess section of the brackets with a saw, as shown in figure 26.

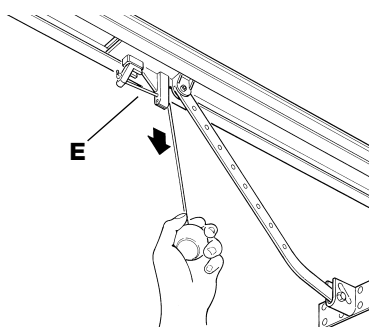


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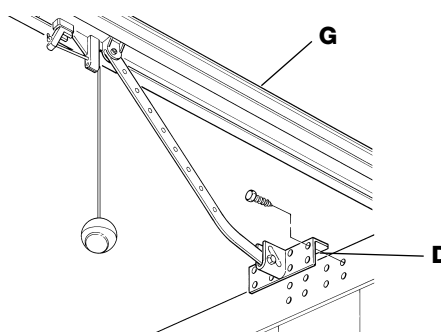


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- 7. With the door closed, pull the cord to release carriage (E), as shown in figure 27.
- 8. Slide the carriage until the leaf connecting bracket (D) on the upper edge of the door is perfectly perpendicular to the guide (G). Then secure the leaf connecting bracket (D) with rivets or screws, as shown in figure 28. Use screws or rivets suited to the leaf material, and ensure that they are able to withstand the maximum force required for leaf opening and closing.

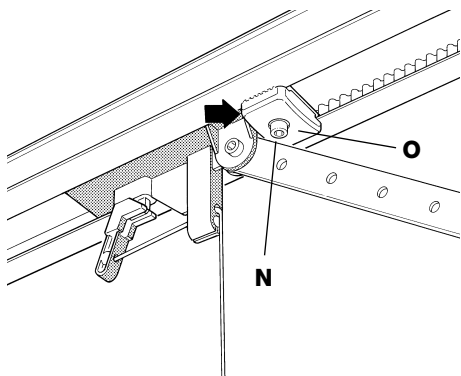


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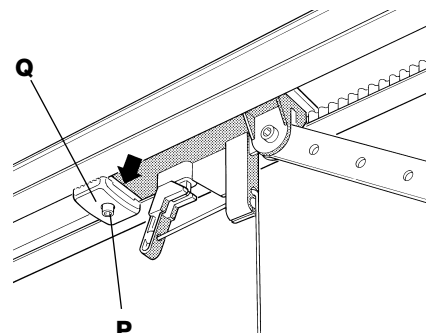


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- 9. Loosen the screws of the two mechanical stops, then move the front mechanical stop (O) in front of the carriage, as shown in figure 29. Push the carriage in the closing direction and, on reaching the position, tighten the screw (N) fully down.
- 10. Manually open the door to the required opening position, move the rear mechanical stop (Q) next to the carriage, as shown in figure 30 and tighten the screw (P) fully down.
- 11. Try to move the door manually. Ensure that the carriage slides easily without friction on the guide and that manual movement does not require excessive force.



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3.3) Installation of the Various Devices

If other devices are needed, install them following the directions provided in the corresponding instructions. Check this in paragraph "3.5 Description of electrical connections" and the devices which can be connected to the SPIN in Figure 2.

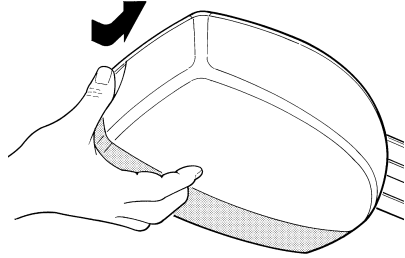
3.4) Electrical connections

⚠ Before you proceed to make any electrical connections make sure that the power supply is disconnected.

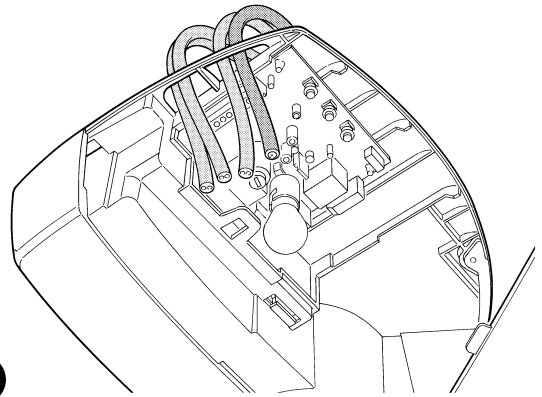
1. Open the protection cover in order to access the electronic control unit of the SPIN. To do this, press the side and rotate as shown in figure 31.

2. Insert all the connection cables towards the various devices through the hole, leaving a length of 20÷30 cm longer than necessary. See Table 5 for information regarding the type of cables and Figure 2 for the connections.

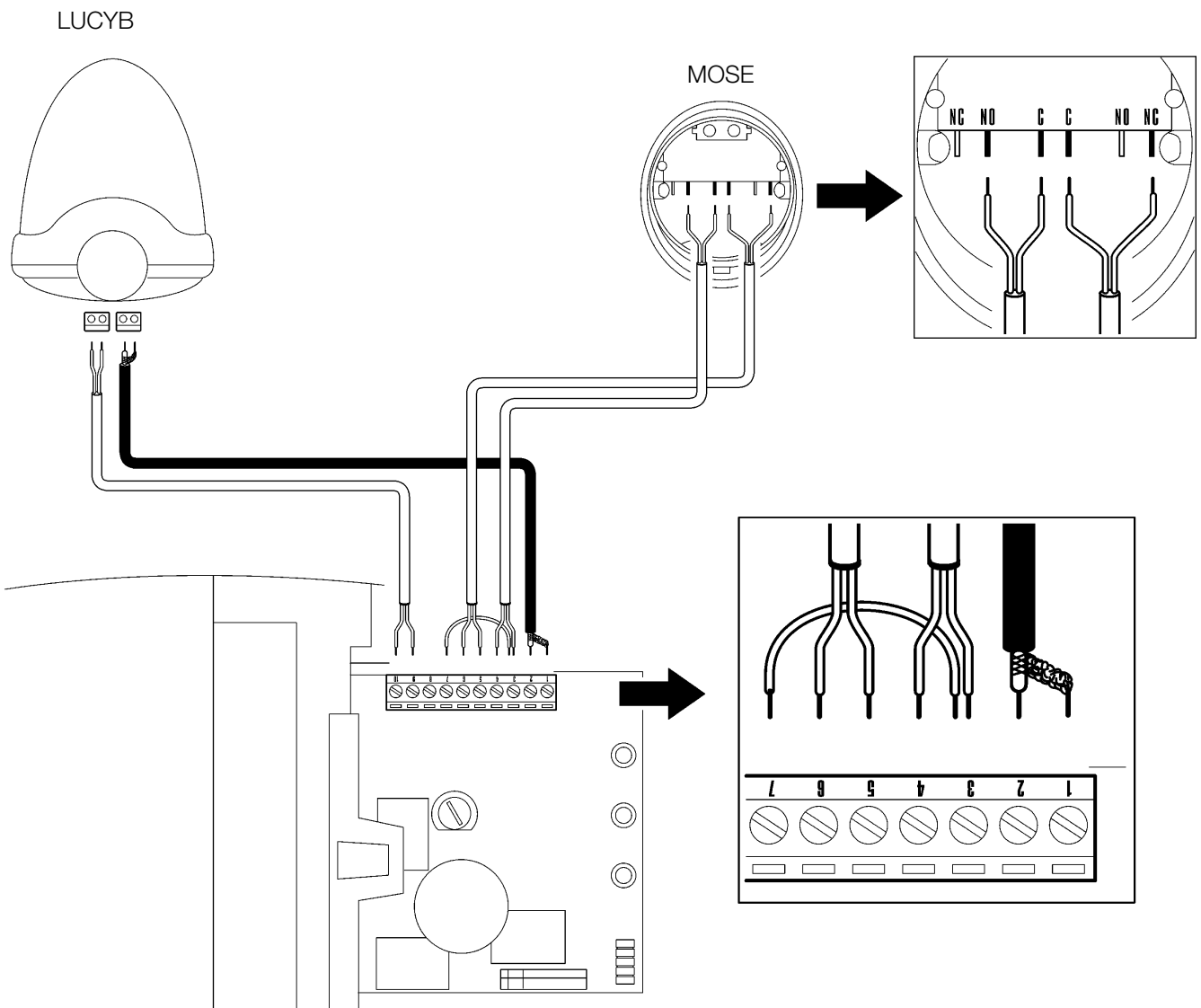
3. Connect up the cables according to the diagram in Figure 33.



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3.5) Description of the electrical connections

The following is a brief description of the electrical connections; for further information please read "7.3 Adding or Removing Devices" paragraph.

Terminals	Function	Description
1 – 2	Aerial	connection input for the radio receiver aerial. The aerial is incorporated in LUCY B; alternatively an external aerial can be used or leave a section of wire already present on the terminal, to serve as an aerial.
3 – 4	Step-by-step	input for devices which control movement. It is possible to connect "Normally Open" devices up to this input.
5 – 6	Stop	input for the devices which block or eventually stop the manoeuvre in progress. Contacts like "Normally Closed", "Normally Open" or constant resistance devices can be connected up using special procedures on the input. Please refer to Paragraph "7.3.1 STOP Input" for further information about STOP.
3 - 7	Photo	Input for safety devices such as photocells. Cut-in during closure, reversing the manoeuvre. "Normally closed " type contacts can be connected. Further PHOTO information on the can be seen in paragraph "7.3.2 PHOTO input"
6 – 8	Phototest	Whenever a manoeuvre is begun, the relative safety devices are checked and only if everything is in order will the manoeuvre start. All this is only possible if a special configuration of the connections is used; in practice, the "TX" photocell transmitters are powered separately from the "RX" receivers. Please refer to Paragraph "7.3.2 PHOTO Input" for further information about the connection.
9 – 10	Flashing light	a NICE "LUCY B" flashing light can be connected on this output with a car type 12 V 21 W lamp. During the manoeuvre the unit flashes at intervals of 0.5 s.

4) Final checks and start up

The manufacturers recommend you unhook the carriage and position the leaf at approximately half travel before starting the checking and start up phase of the automation. This will ensure the leaf is free to move both during opening and closure.

4.1) Power Supply Connection

To power SPIN just insert the plug in a power outlet. If necessary, use a commercial adapter if the plug on the SPIN unit does not correspond to the socket available.

⚠ Never cut or remove the cable supplied with SPIN. If not already available, the power socket for SPIN connection must be made by qualified and experienced personnel in strict observance of current legislation, standards and regulations.

The power supply line must be protected from short circuits and ground leakage; a device must be provided to enable the disconnection of the power supply during the installation and maintenance of SPIN (the plug with outlet are suitable for this purpose).

As soon as SPIN is energized, you should check the following:

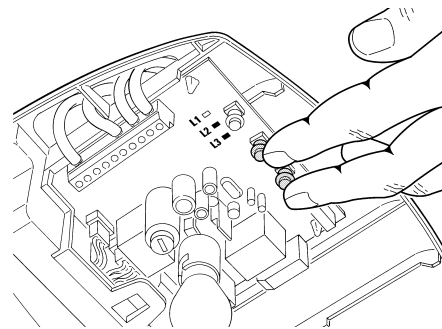
1. Make sure that the "OK" LED flashes regularly, with about one flash per second.
2. Check that the motor does not control the movement of the door and that the courtesy light is off.

If the above conditions are not satisfied, you should immediately switch off the power supply to the control unit and check the electrical connections more carefully.

For more useful information about finding and analysing failures see also chapter "7.6 Troubleshooting"

4.2) Recognition of the door opening and closing positions

The control unit must be made to recognize the opening and closing positions of the door. In this phase, the door stroke from the closing mechanical stop to the opening mechanical stop is detected. In addition to position, the STOP input configuration is detected and memorised in this phase as well as the existence or non-existence of the PHOTO input "Phototest".



1. Ensure that the drive belt is correctly tensioned and that the two mechanical stops are fully secured.
2. Engage the carriage.
3. Press keys [◀ ▶] and [Set] and hold them down.
4. Release the keys when the manoeuvre starts (after approx. 3 s)
5. Wait for the control unit to complete the recognition stage: closing, opening and closing again of the door.
6. Push the [Step-by-Step] key to perform a complete opening manoeuvre.
7. Push the [Step-by-Step] key to close.

During these manoeuvres, the control unit memorises the force required for opening and closing.

If at the conclusion of the self-learning process the L2 and L3 flash, it means that an error has occurred; see paragraph 7.6 "Troubleshooting".

It is important that these manoeuvres are not interrupted, e.g. by a STOP command.

If this occurs, the learning process described in point 1 must be repeated.

The recognition stage of the positions, and of the STOP and PHOTO input configuration can be repeated again at any time, even after the installation (for example, if one of the mechanical stops is removed); just repeat the procedure starting from step

⚠ During the position search process, if the belt is not sufficiently tensioned, it may slip on the pinion. If this occurs, press the [Stop] key to interrupt self-learning; tension the belt by tightening the M8 nut (D) as shown in figure 11, then repeat self-learning from point 1.

⚠ Self-learning of the door opening and closing positions is only possible after the radio transmitter memorisation and deletion time interval has elapsed (see paragraph 4.5 Radio receiver).

4.3) Checking door movements

On completion of the recognition of the opening and closing positions, it is advisable to carry out a number of manoeuvres in order to check the door travels properly.

1. Press the [Step-by-Step] key to open the door. Check that door opening occurs regularly, without any variations in speed; the door must only slowdown and stop when it is between 30 and 20 cm from the opening mechanical stop. Then, at 2÷3 cm from the mechanical opening stop the limit switch will trigger.
2. Press the [Step-by-Step] key to close the door. Check that door closing occurs regularly, without any variations in speed; the door must only slowdown and stop when it is between 30 and 20 cm

from the closing mechanical stop. A brief opening manoeuvre is then performed to release belt tension.

3. During the manoeuvre, check that the flashing light (if any) flashes at a speed of 0.5 seconds on and 0.5 seconds off.
4. Open and close the gate several times to make sure that there are no points of excessive friction and that there are no defects in the assembly or adjustments.
5. Check that the fastening of the gearmotor, the guide and the mechanical stops are solid, stable and suitably resistant, even if the door accelerates or decelerates sharply.

4.4) Pre-set functions

The SPIN control unit has a number of programmable functions. These functions are set to a configuration which should satisfy most automations. However, the functions can be altered at any time by means of a

special programming procedure. Please refer to paragraph "7.2 Programming" for further information about this.

4.5) Radio receiver

A radio receiver is incorporated in the control unit of SPIN for remote control, operating at a frequency of 433.92 MHz compatible with the following types of transmitter:

Table 6: Transmitters

FLO	FLO1 – FLO2 – FLO4 VERY VE
FLOR	FLOR1 – FLOR2 – FLOR4 VERY VR ERGO1 – ERGO4 – ERGO6 PLANO1 – PLANO4 – PLANO6 OPERA range transmitters
SMILO	SM2 – SM4

Since the type of coding is different, the first transmitter that is introduced also determines the type introduced afterwards. Up to 160 transmitters can be memorised.

Memorisation and deletion of transmitters must be performed within the first 10 seconds after powering up the unit. In this time interval, the control unit key [RADIO] is used for radio memorisation and deletion functions. 10 seconds after the last flash of led L1 or after the last key is pressed, the key is disabled and led L1 is dedicated to programming. The courtesy light flashes once to indicate the end of the interval in which radio memorisation functions are enabled.

4.5.1) Memorization of Radio Transmitters

Each radio transmitter is recognised by the radio receiver by means of a “code” which is different from that of any other transmitter. A “memorisation” phase must therefore be performed in order to allow the receiver to recognise each single transmitter. Transmitters can be memorised in 2 modes:

Mode I: in this mode the function of the transmitter keys is fixed and each key corresponds to the command in the control unit shown in Table 7; a single memorisation phase is carried out for each transmitter, during which all the transmitter keys are memorised. It doesn't matter which key is pressed and just one memory sector is occupied. A transmitter can normally only control a single automation in Mode I.

Mode II: In this mode, each transmitter key can be associated with one of the 4 possible control unit commands shown in Table 8; only one key is memorised for each stage, namely the one which was pressed during memorisation. One memory section is occupied for each key.

In Mode II, different keys on the same transmitter can be used in order to give the same automation more than one command or to control more than one automation. For example, in Table 9, only automation “A”, is controlled, and the T3 and T4 keys are associated with the same command. Alternatively, three automations are controlled in the example shown in Table 10, namely “A” (keys T1 and T2), “B” (key T3) and “C” (key T4).

⚠ Since the memorization procedures are timed (10s), you must read the instructions in the following paragraphs before you proceed with their execution.

Table 7: Memorisation mode I

T1 Key	“Step-by-step” command
T2 Key	“Partial opening” command
T3 Key	“Open” command
T4 Key	“Close” command

Note: single-channel transmitters only have a T1 key, two channel transmitters only have T1 and T2 keys.

Table 8: commands available in Mode II

1	“Step-by-step” command
2	“Partial opening” command
3	“Open” command
4	“Close” command

Table 9: 1st example of memorization in Mode II

T1 Key	“Open” command	Automation A
T2 Key	“Close” command	Automation A
T3 Key	“Partial opening” command	Automation A
T4 Key	“Partial opening” command	Automation A

Table 10: 2nd example of memorization in Mode II

T1 Key	“Open” command	Automation A
T2 Key	“Close” command	Automation A
T3 Key	“Step-by-step” command	Automation B
T4 Key	“Step-by-step” command	Automation C

4.5.2) Memorization Mode I

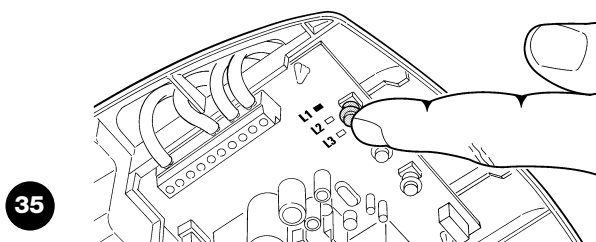


Table 11: to memorize a transmitter in mode I

	Example
1. Press the radio key on the control unit and hold it down (approx. 4 s)	4s
2. Release the key when the radio LED on the control unit lights up	4s
3. Within 10s, press any key on the radio transmitter to be memorized and hold it down for at least 3s	3s
4. If the memorization procedure is successful, the radio LED on the control unit will flash 3 times.	x3

If there are other transmitters to memorise, repeat step 3 within another 10s seconds. The memorisation phase finishes if no new codes are received for 10 seconds.

4.5.3) Memorization Mode II

Table 12: to memorize the key of a transmitter in mode II

	Example
1. Press the radio key on the control unit as many times as the number corresponding to the desired command, according to the table 8	1...4
2. Make sure that the radio LED on the control unit makes as many flashes as the number corresponding to the desired command	1...4
3. Within 10s, press any key on the radio transmitter to be memorized and hold it down for at least 3s	3s
4. If the memorization procedure is successful, the LED on the receiver will flash 3 times.	x3

If there are other transmitters to memorise for the same type of command, repeat step 3 within another 10 seconds. The memorisation phase finishes if no new codes are received for 10 seconds.

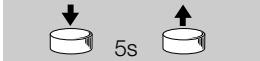
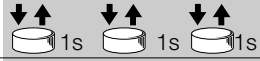

4.5.4) "Remote" memorization

A new radio transmitter can be memorized without directly operating the keys on the receiver. You need to have a pre-memorized operational radio transmitter. The "new" radio transmitter will inherit the characteristics of the old one, i.e. if the old radio transmitter was memorized in Mode 1, the new one will also be memorized in Mode 1. In this case, during the memorization stage you can press any key on the transmitters. If, on the other hand, the old transmitter was memorized in Mode II, the new one will also be memorized in Mode II: you must

press the key on the old transmitter which corresponds to the desired command, and the key on the new transmitter to which you wish to associate that command.




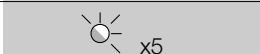
⚠ Programming via radio may be done on all the receivers within the range of the transmitter; therefore, only the one involved in the operation should be kept switched on.

Holding the two transmitters, position yourself within the operating range of the automation and perform the following operations:

Table 13: for the "Remote" memorization of a transmitter	Example
1. Press the key on the new radio transmitter and hold it down for at least 5s, then release it.	
2. Press the key on the previously memorized transmitter slowly 3 times.	
3. Press the key on the new radio transmitter once slowly.	

At this point the new radio transmitter will be recognized by the receiver and will assume the characteristics of the previously memorized one. If there are other transmitters to be memorized, repeat all the steps above for each new transmitter.

4.5.5) Deleting the Radio Transmitters

Table 14: to delete all the radio transmitters	Example
1. Press the radio key on the control unit and hold it down	
2. Wait until the radio LED lights up, then wait until it goes off, then wait until it has flashed 3 times	
3. Release the radio key precisely upon the third flash.	
4. If the procedure is successful, after a few moments the LED will flash 5 times.	

5) Testing and commissioning

This is the most important stage in the automation system installation procedure in order to ensure the maximum safety levels. Testing can also be adopted as a method of periodically checking that all the various devices in the system are functioning correctly.

⚠ Testing of the entire system must be performed by qualified and experienced personnel who must establish which tests to conduct on the basis of the risks involved, and verify the compliance of the system with applicable regulations, legislation and standards, in particular with all the provisions of EN standard 12445 which establishes the test methods for automation systems for gates and doors.

5.1) Testing

Each component of the system, e.g. safety edges, photocells, emergency stop, etc. requires a specific testing phase. We therefore recommend observing the procedures shown in the relative instruction manuals.

To test SPIN proceed as follows:

1. Make sure that the provisions contained in chapter 1 «WARNINGS» have been carefully observed.
2. Release the door by pulling the release cord downwards. Check that the door can be manually manoeuvred with a force no greater than 225N.
3. Engage the carriage again.
4. Using the selector switch or the radio transmitter, test the opening and closing of the door and make sure that the door moves in the intended direction.
5. The test should be carried out a number of times to make sure that the gate moves smoothly, that there are no points of excessive friction and that there are no defects in the assembly or adjustments.
6. Check the proper operation of all the safety devices, one by one (photocells, sensitive edges, etc.).

In particular, each time a device is activated the "OK" LED on the control unit flashes 2 times quickly, confirming that the control unit recognizes the event.

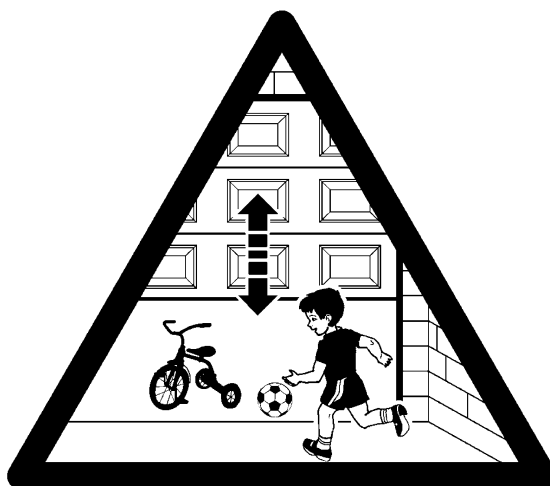
7. To check the photocells and make sure that there is no interference with other devices, pass a 5 cm diameter, 30 cm long cylinder on the optical axis, first near TX, then near RX and finally at the mid-point between them and make sure that in all these cases the device is triggered, switching from the active to the alarm status and vice-versa; finally, that it causes the intended action in the control unit; for example that it causes the reversal of the movement during the closing manoeuvre.
8. If the dangerous situations caused by the movement of the door have been safeguarded by limiting the force impact, the user must measure the impact force according to EN Standard 12445. If the adjustment of the "speed" and control of the "motor force" are used to assist the system for the reduction of the impact force, try to find the adjustment that gives the best results

5.2) Commissioning

Commissioning can take place only after all testing phases have been terminated successfully. It is not permissible to execute partial commissioning or to enable use of the system in makeshift conditions.

1. Prepare and store for at least 10 years the technical documentation for the automation, which must include at least: assembly drawing of the automation, wiring diagram, analysis of hazards and solutions adopted, manufacturer's declaration of conformity of all the devices installed (for SPIN use the annexed CE declaration of conformity); copy of the instruction manual and maintenance schedule of the automation.
2. Post a permanent label or sign near the door detailing the operations for the release and manual manoeuvre (refer to the figures in "Instructions and warnings for users of the SPIN gearmotor").
3. Post a permanent label or sign near the door containing this picture (min. height 60 mm).

4. Post a label on the door providing at least the following data: type of automation, name and address of manufacturer (person responsible for the "commissioning"), serial number, year of manufacture and "CE" marking.
 5. Prepare the declaration of conformity of the automation system and deliver it to the owner.
 6. Prepare the "Installation instructions and warnings" of the automation system and deliver it to the owner.
 7. Prepare the maintenance schedule of the automation system and deliver it to the owner; it must provide all directions regarding the maintenance of all the automation devices.
- Before commissioning the automation system inform the owner in writing regarding dangers and hazards that are still existing (e.g. in the "Installation instructions and warnings").



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6) Maintenance and Disposal

This chapter provides information about how to draw up a maintenance schedule, and the disposal of SPIN.

6.1) Maintenance

The automation must be subjected to maintenance work on a regular basis, in order to guarantee it lasts.

⚠ The maintenance operations must be performed in strict compliance with the safety directions provided in this manual and according to the applicable legislation and standards.

If other devices are present, follow the directions provided in the corresponding maintenance schedule.

1. SPIN requires scheduled maintenance work every 6 months or 3,000 manoeuvres after previous maintenance.

2. Disconnect the power supply
3. Check for any deterioration of the components which form the automation, paying special attention to erosion or oxidation of the structural parts. Replace any parts which are below the required standard.
4. Check the wear and tear on the moving parts: belt, carriage, pinions and the door components; if necessary replace them. Connect the electric power sources up again, and carry out all the tests and checks described in paragraph 5.1 "Testing".

6.2) Disposal

SPIN is constructed of various types of materials, some of which can be recycled: steel, aluminium, plastic, electric cables; while others must be disposed of (batteries and electronic boards).

⚠ Some electronic components may contain polluting substances; do not pollute the environment. Enquire about the recycling or disposal systems available in compliance regulations locally in force.

1. Disconnect the power supply of the automation system.
2. Disassemble all the devices and accessories, following in reverse order the procedures described in chapter 3 "Installation".
3. Wherever possible, separate any parts which can or must be recycled or disposed of in different ways, e.g. metal parts must be disposed of separately from plastic ones, as must the electronic cards etc.
4. Sort the various materials and consign them to local licensed firms for recovery and disposal.

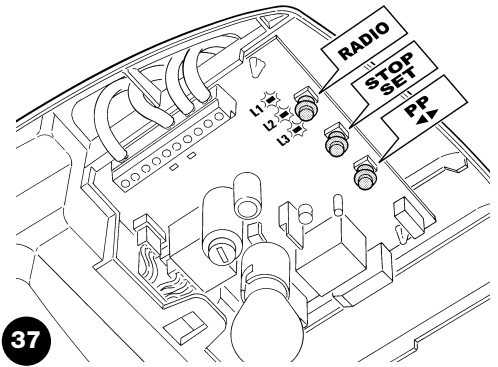
7) Further information

This chapter deals with the options for programming, personalisation, diagnostics and troubleshooting for the SPIN gearmotor.

7.1) Programming keys

The SPIN control unit is fitted with 3 keys which can be used both for the control of the unit during testing and the programming procedure:

RADIO	Within the first 10 seconds after power-up, perform the "RADIO" function to enable memorisation and deletion of the radio transmitters used with SPIN. After this time interval, the key is no longer used.
Stop SET	The STOP key stops the manoeuvre; if pressed for more than 5 seconds, it enables entry to programming mode as described below.
SS ◀▶	The SS key enables door opening and closing commands; otherwise this key can be used to scroll up through the programming steps.



7.2) Programming

The SPIN control unit is equipped with a number of programmable functions; function settings are entered by means of the 2 keys on the control unit: [◀▶] and [Set] and are displayed by means of 3 leds: **L1**, **L2**, **L3**.

There are two types of programming:

Programming on power-up: This type of programming can be performed only immediately after switching on SPIN. Press and hold [Set] during power-up of the control unit to activate this programming mode.

Standard programming: This programming mode can be used at any time and is activated by pressing and holding [Set].

For both modes, the programming and programmable functions available are divided into 2 levels:

Level 1: functions settable in ON-OFF mode (enabled or disabled); in this case leds **L1**, **L2**, and **L3** indicate a function, if lit the function is enabled, if off the function is disabled; see Tables 15 and 15a.

Level 2: parameters settable on a scale of values (from 1 to 3); in this case each led **L1**, **L2**, **L3** indicates a set value from the possible 3; see Tables 17 and 17a.

7.2.1) Level 1 functions (ON-OFF functions)

Table 15: List of programmable functions in "Programming on power-up" mode

N°	Description	Example
L1	Variable Sensitivity	This function enables the user to enable or disable sensitivity with which obstacles are detected. The factory setting of sensitivity is variable (led L1 off): Greater sensitivity in the case of low motor force, and less sensitivity where the motor force increases. All with the aim of ensuring optimal detection precision. Variable sensitivity can be disabled, and 3 "fixed" levels of motor force remain (led L1 lit).
L2	Phototest/Electric block	This function enables the user to enable output 8 of the terminal board for operation with Phototest or with an Electric block. The factory setting of output 8 is with the "phototest" function enabled (led L2 off). Alternatively the output can be programmed on the SPIN control unit for control of an electric block (led L2 lit).
L3	Partial open	This function enables the selection of a long or short partial opening interval. The factory setting for partial open is long (approx. 1 m, led L3 lit). Alternatively partial open can be set to short (approx. 15cm, led L3 off).

At the end of the "Programming on power-up" procedure, leds **L1**, **L2** and **L3** indicate the status of the functions in "Standard programming" mode.





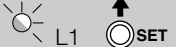
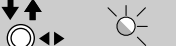


Table 15a: List of programmable functions in "Standard programming" mode

N°	Description	Example
L1	Closing speed	This function enables the selection of the motor speed during the closing manoeuvre, from 2 levels: "high" and "low". The factory setting is "high" (led L1 lit). Alternatively the function can be disabled to set the "low" speed (led L1 off).
L2	Opening speed	This function enables the selection of the motor speed during the opening manoeuvre, from 2 levels: "high" and "low". The factory setting is "high" (led L2 lit). Alternatively the function can be disabled to set the "low" speed (led L2 off).
L3	Automatic closure	This function enables automatic closure of the door after a programmed pause; the default Pause Time is set at 30 seconds but may be modified to 15 or 60 seconds. The factory setting is "semiautomatic" as Automatic closure is disabled (led L3 off).



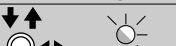


During normal operation of SPIN, leds **L1**, **L2** and **L3** are lit or off depending on the status of the associated function in Standard programming mode, for example **L3** is lit if the function "Automatic closure" is enabled. **L1** also displays the status of the "radio" function in the first 10 seconds after power-up.

7.2.2 Level 1 programming (ON-OFF functions)

By default level 1 functions are set as shown in tables 15 and 15a, but can be modified at any time as shown in tables 16 and 16a. Take care during modification procedures, as there is a maximum time interval of 10 seconds between pressing one key and another; otherwise the system exits the procedure automatically memorising the changes made up to that time.

Table 16: To modify the ON-OFF functions in “programming on power-up” mode	Example
1. Switch off SPIN (for example by removing fuse F1)	
2. Press and hold [Set]	
3. Switch on SPIN (for example by inserting fuse F1)	
4. Wait for the flashing signal indicating control unit start-up and keep [Set] pressed until L1 starts to flash (approx. 6s)	
5. Release the key [Set] when led L1 starts to flash	
6. Press key [◀▶] to move the flashing led to the led associated with the function to be modified	
7. Press [Set] to change the status of the function (short flash = OFF; long flash = ON)	
8. Wait 10s to exit the programming mode automatically after the maximum time interval.	

Note: points 6 and 7 can be repeated during the same programming phase to set other functions to ON or OFF.

Table 16a: To modify the ON-OFF functions in “standard programming” mode	Example
1. Press and hold [Set] for approx. 3s	
2. Release the key [Set] when led L1 starts to flash	
3. Press key [◀▶] to move the flashing led to the led associated with the function to be modified	
4. Press [Set] to change the status of the function (short flash = OFF; long flash = ON)	
5. Wait 10s to exit the programming mode automatically after the maximum time interval.	

Note: points 3 and 4 can be repeated during the same programming phase to set other functions to ON or OFF

7.2.3) LEVEL 2 functions (adjustable parameters)

Table 17: List of level 2 programmable functions in “Programming on power-up” mode

Input leds	Parameter	Led (level)	Value	Description
L1	Sensitivity variable	L1	High	When variable sensitivity is enabled, it can be set to three different activation thresholds. “High” variable sensitivity is most suited to small size correctly balanced doors.
		L2	Medium	
		L3	Low	
L2	Belt recovery	L1	No recovery	Sets the belt recovery value. After complete closure of the door, a very brief opening manoeuvre is activated, settable with this parameter.
		L2	Minimum recovery	
		L3	Maximum recovery	
L3	Closing slowdown	L1	Short	Sets the slowdown time interval during the closing manoeuvre.
		L2	Medium	
		L3	Long	

Note: “■” Represents factory settings.

Table 17a: List of level 2 programmable functions in “Standard programming” mode

Input leds	Parameter	Led (level)	Value	Description
L1	Motor force	L1	Low	Sets the maximum force generated by the motor to move the door.
		L2	Medium	
		L3	High	
L2	SS function.	L1	Open, Stop, Close, Open	Adjusts the sequence of commands associated with the SS input or the 1st radio command (see tables 7 and 8).
		L2	Open, Stop, Close, Stop	
		L3	Apartment block	
L3	Pause Time	L1	15 seconds	Adjusts the pause time, i.e. time before automatic re-closure. Is effective only if automatic closure is enabled
		L2	30 seconds	
		L3	60 seconds	

Note: “■” Represents factory settings.





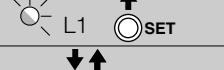






All parameters can be adjusted as required without any contraindications, only the “Motor force” setting may require special attention:

- Use of high force values are not recommended to compensate for the fact that the leaf has anomalous points of friction; excessive force may impair the safety system and damage the leaf.
- If the “Motor force control” is used in support of the system for impact force reduction, after each adjustment the force measurement procedure must be performed, as envisaged by standard EN 12445.
- Wear and atmospheric conditions influence movement of the gate; force settings should be checked periodically.

7.2.4) Level 2 programming (adjustable parameters)


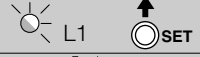






By default the settable parameters are set as shown in Tables 17 and 17a with: “■” but can be modified at any time as shown in Tables 18 and 18a. Take care during modification procedures, as there is a maximum time interval of 10 seconds between pressing one key and another; otherwise the system exits the procedure automatically memorising the changes made up to that time.

Table 18: To modify the adjustable parameters in “programming on power-up” mode

	Example
1. Switch off SPIN (for example by removing fuse F1)	
2. Press and hold [Set]	
3. Switch on SPIN (for example by inserting fuse F1)	
4. Wait for the flashing signal indicating control unit start-up and keep [Set] pressed until L1 starts to flash (approx. 6s)	
5. Release the key [Set] when led L1 starts to flash	
6. Press key [◀▶] to move the flashing led to the “input led” associated with the parameter to be modified	
7. Press and hold [Set] during steps 5 and 6	
8. Wait approx. 3s after which the led associated with the current level of the parameter to be modified will light up	
9. Press key [◀▶] to move the led associated with the parameter value.	
10. Release [Set]	
11. Wait 10s to exit the programming mode automatically after the maximum time interval.	

Note: Points 6 to 10 can be repeated during the same programming phase to modify other parameters

Table 18a: To modify the adjustable parameters in “standard programming” mode










	Example
1. Press and hold [Set] for approx. 3s	
2. Release the key [Set] when led L1 starts to flash	
3. Press key [◀▶] to move the flashing led to the “input led” associated with the parameter to be modified	
4. Press and hold [Set] during steps 5 and 6	
5. Wait approx. 3s after which the led associated with the current level of the parameter to be modified will light up	
6. Press key [◀▶] to move the led associated with the parameter value.	
7. Release [Set]	
8. Wait 10s to exit the programming mode automatically after the maximum time interval.	 10s

Note: Points 3 to 7 can be repeated during the same programming phase to modify other parameters

7.2.5) LEVEL 1 programming examples (ON-OFF functions)

This example shows the sequence of operations required to change the factory setting of the functions to deactivate the function of “Variable Sensitivity” (L1) and activate “Short Partial Open” (L3).








Table 19: Example of LEVEL 1 programming in “Programming on power-up” mode

	Example
1. Switch off SPIN (for example by removing fuse F1)	
2. Press and hold [Set]	
3. Switch on SPIN (for example by inserting fuse F1)	
4. Wait for the flashing signal indicating control unit start-up and keep [Set] pressed until L1 starts to flash (approx. 6s)	
5. Release [Set]	
6. Press [Set] once to change the status of the function associated with L1 (Variable Sensitivity) led L1 now emits long flashes	
7. Press [◀▶] twice to move the flashing led onto led L3	
8. Press [Set] once to change the status of the function associated with L3 (Partial open) led L3 now emits long flashes	
9. Wait 10s to exit the programming mode automatically after the maximum time interval	 10s

On standby to exit programming mode, leds L1 and L3 must remain lit to indicate that the functions “Variable Sensitivity disabled” and “Short Partial Open” are active.

This example shows the sequence of operations required to change the factory setting of the functions to activate the functions of “High opening speed” (L2) and “Automatic Closure” (L3).

Table 19a: Example of LEVEL 1 programming in “Standard programming” mode

	Example
1. Press and hold [Set] for approx. 3s	 3s
2. Release the key [Set] when led L1 starts to flash	
3. Press the key [◀▶] once to move the flashing led onto led L2	
4. Press [Set] once to change the status of the function associated with L2 (Opening speed) led L2 now emits long flashes	
5. Press the key [◀▶] once to move the flashing led onto led L3	
6. Press [Set] once to change the status of the function associated with L3 (Automatic closure) led L3 now emits long flashes	
7. Wait 10s to exit the programming mode automatically after the maximum time interval	 10s

At the end of these operations leds L2 and L3 must remain lit to indicate that the functions “High opening speed” and “Automatic closure” are enabled.

7.2.6) Examples of LEVEL 2 programming

This example shows the sequence of operations required to change the factory setting of the parameters and set the functions of “Belt Recovery” to no recovery (input on L2 and level on L1) and set “Closing slowdown” to long (input on L3 and level on L3).

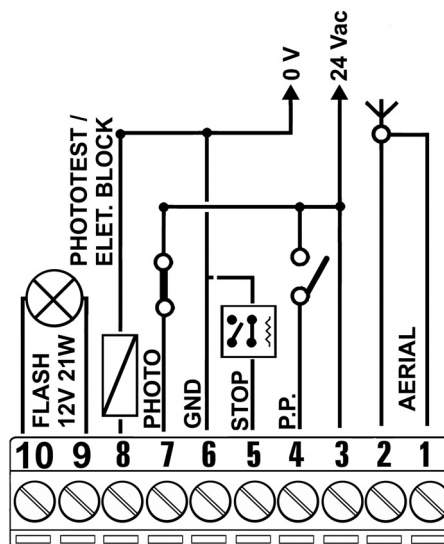
Table 20: Example of LEVEL 2 programming in “Programming on power-up” mode	Example
1. Switch off SPIN (for example by removing fuse F1)	
2. Press and hold [Set]	
3. Switch on SPIN (for example by inserting fuse F1)	
4. Wait for the flashing signal indicating control unit start-up and keep [Set] pressed until L1 starts to flash (approx. 6s)	
5. Release [Set]	
6. Press the key [◀▶] once to move the flashing led onto led L2	
7. Press and hold [Set] during steps 8 and 9	
8. Wait approx. 3s until led L2 lights up, indicating the current level of “Belt recovery”	
9. Press the key [◀▶] once to move the illuminated led onto L1, to eliminate “Belt recovery”	
10. Release [Set]	
11. Press the key [◀▶] once to move the flashing led onto led L3	
12. Press and hold [Set] during steps 13 and 14	
13. Wait approx. 3s until led L2 lights up, indicating the current level of “Closing slowdown”.	
14. Press the key [◀▶] once to move the illuminated led onto L3, indicating the new value of “Closing slowdown”.	
15. Release [Set]	
16. Wait 10s to exit the programming mode automatically after the maximum time interval.	

This example shows the sequence of operations required to change the factory setting of the parameters and set the functions of “Motor Force” to high (input on L1 and level on L3) and increase the “Pause Time” to 60s (input on L3 and level on L3).

Table 20a: Example of LEVEL 2 programming in “Standard programming” mode	Example
1. Press and hold [Set] for approx. 3s	
2. Release the key [Set] when led L1 starts to flash	
3. Press and hold [Set] during steps 4 and 5	
4. Wait approx. 3s until led L2 lights up, indicating the current level of “Motor Force”	
5. Press the key [◀▶] once to move the illuminated led onto L3, indicating the new value of “Motor Force”	
6. Release [Set]	
7. Press [◀▶] twice to move the flashing led onto led L3	
8. Press and hold [Set] during steps 9 and 10	
9. Wait approx. 3s until led L2 lights up, indicating the current level of “Pause Time”.	
10. Press the key [◀▶] once to move the illuminated led onto L3, indicating the new value of “Pause Time”.	
11. Release [Set]	
12. Wait 10s to exit the programming mode automatically after the maximum time interval.	

7.3) Adding or removing devices

Devices can be added or removed at any time on an automation using SPIN. In particular the inputs STOP and PHOTO can be connected to various types of device as indicated in paragraphs “7.3.1 STOP Input” and 7.3.2 Photocells. The figure shows the wiring diagram for connection of the various devices.



7.3.1) STOP input

STOP is the input that causes immediate shutdown of the movement followed by a brief inversion of the manoeuvre. This input can be connected to devices with contact types Normally Open (NO), Normally Closed (NC) or devices with a constant resistance of $8,2K\Omega$, such as sensitive edges.

The control unit recognises the type of device connected to the STOP input during the self-learning phase (see paragraph “4.2 – Learning the door opening and closing positions”); after which a STOP command is activated whenever a variation with respect to the learned status is detected.

When set accordingly, more than one device can be connected to the STOP input, also different from one another:

- Several NO devices can be connected in parallel with no limit to number.
- Several NC devices can be connected in parallel with no limit to number.
- Several devices with a constant resistance of $8,2K\Omega$ can be connected “in cascade” with a single terminating resistance of $8,2K\Omega$
- It is possible to combine two NO and NC contacts, placing them in parallel, taking care to place a resistance of $8,2K\Omega$ in series with the NC contact (this also enables the combination of 3 devices: NO, NC and $8,2K\Omega$).

⚠ If the STOP input is used to connect devices with safety functions, only the devices with a constant resistance of $8,2K\Omega$ guarantee safety category 3 against faults in accordance with the standard EN 954-1.

7.3.2) Photocells

The SPIN control unit is equipped with the function “Phototest” which increases the reliability of the safety devices, enabling classification in category 2 in compliance with the standard EN 954-1 regarding the combination of the control unit and safety photocells.

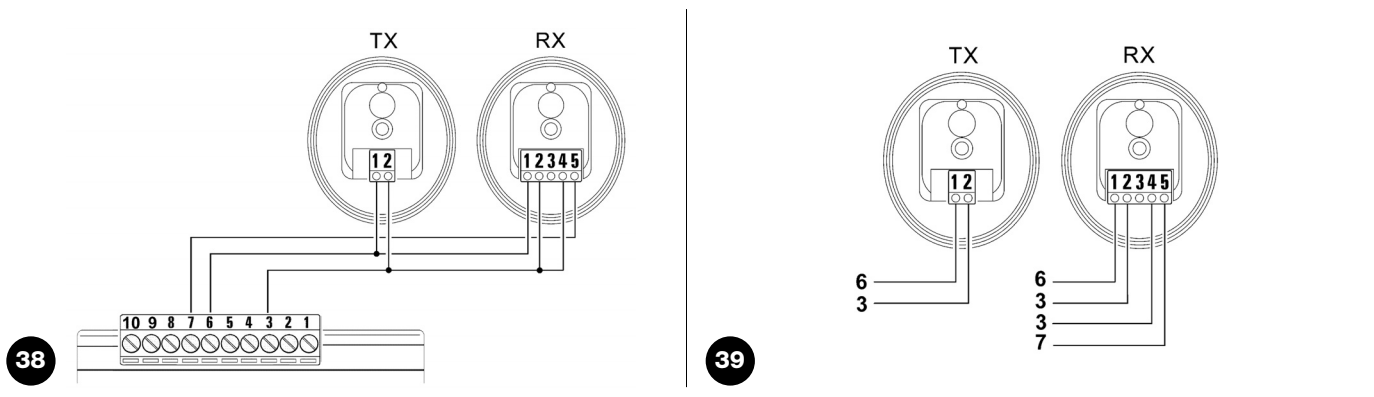
Each time a manoeuvre is started up, all safety devices are checked and only in the case of positive results can the manoeuvre be started. If however the test fails (photocell “blinded “ by sun, cables shorted etc) the fault is identified and the manoeuvre is disabled.

For the “phototest” function, a specific connection is required of the photocell transmitters (see fig. 40 and 41).

The control unit recognises the connection in “phototest” mode during the self-learning phase (see paragraph “4.2 Learning the door opening and closing positions”)

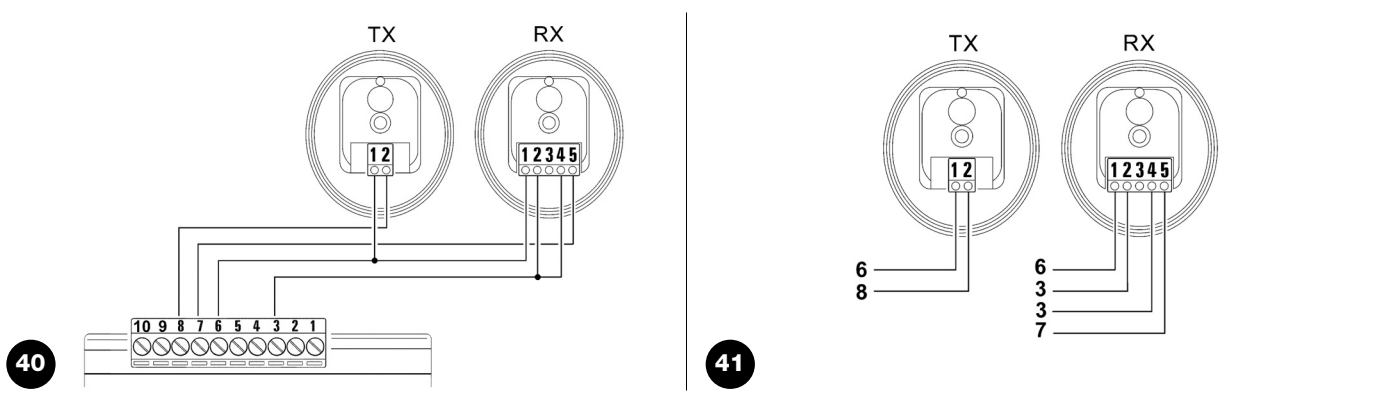
• Connection without “Phototest” function (Figure 38 and 39)

Power the transmitters and receivers directly from the control unit services output (terminals 3 - 6).



• Connection without “Phototest” function (Figure 40 and Figure 41):

Power of the receivers comes directly from the services output (terminals 3 - 6), while that of the transmitters is from the “Phototest” output (terminals 8 - 6). The maximum admissible current on the “Phototest” output is 100mA.



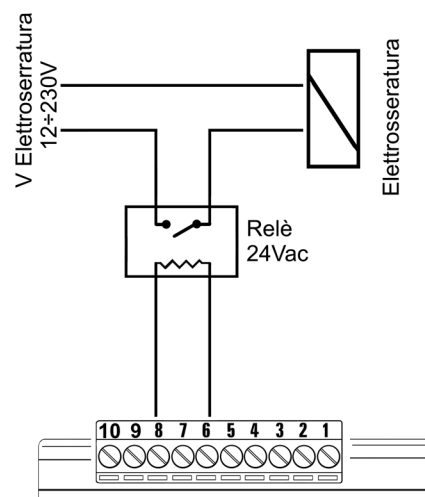
If two pairs of photocells are used, which may interfere with the other, activate the synchronisation mechanism as described in the photocell instructions.

7.3.3) Electric block

The factory setting of the “phototest” output is with the “Phototest” function enabled.

Alternatively the output can be programmed on the SPIN control unit for control of an electric block. On start-up of each opening manoeuvre, the output is activated for 2 seconds; in this way an electric block device can be connected. The output is not activated during the closing manoeuvre and therefore the electric block must have a provision for mechanical reactivation.

The output can control the electric block directly, but only with loads of 24Vac – 2W. The output must be interfaced with a relay, as shown in the figure.



7.4) Special functions

7.4.1) “Always open” Function

The “Always open” function is a control unit feature which enables the user to control an opening manoeuvre when the “Step-by-step” command lasts longer than 3 seconds. This is useful for connecting a timer contact to the “Step-by-step” input in order to keep the door

open for a certain length of time, for example. This feature is valid whatever the “Step-by-step” input programming may be (see the “Step-by-step” properties in table 17).

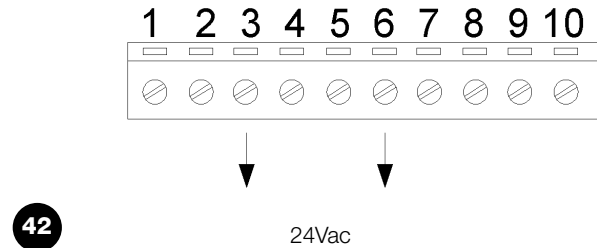
7.4.2) “Move anyway” Function

If one of the safety devices are out of order or malfunctioning, it is still possible to control the door in “Man present” mode. Please refer to the Paragraph “Control with safety devices out of

order” in the enclosure “Instructions and Warnings for users of the SPIN gearmotor”.

7.5) Connection of other devices

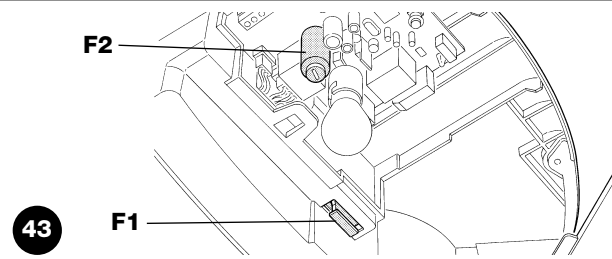
If the user needs to feed external devices such as a proximity reader for transponder cards or the illumination light of the key-operated selector switch, it is possible to tap power as shown in Figure 42. The power supply voltage is 24Vac -30% +50% with a maximum available current of 100mA.



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7.6) Troubleshooting

The following table contains instructions to help you solve malfunctions or errors that may occur during the installation stage or in case of failure.



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Table 21: Troubleshooting

Symptoms	Probable cause and possible solution
The radio transmitter does not control the door and the LED on the transmitter does not light up	Check to see if the transmitter batteries are exhausted, if necessary replace them
The radio transmitter does not control the door and the LED on the transmitter lights up	Check to see if the transmitter has been memorised correctly in the radio receiver. Check that the emission of the transmitters radio signal is correct by means of this empirical test: push a key and rest the LED on the aerial of a normal radio (ideally an economical one) that is switched on and tuned in, as close as possible, to 108.5Mhz FM; a slight crackling sound should be heard.
No manoeuvre starts and the OK LED fails to flash	Check that SPIN is being fed 230 V voltage from the power supply. Check to see if the fuses F1 and F2 are blown; if necessary, identify the reason for the failure and then replace the fuses with others having the same current rating and characteristics.
No manoeuvre starts and the flashing light is off	Make sure that the command is actually received. If the command reaches the Step-by-Step input, the OK led flashes twice indicating that the command has been received.
No manoeuvre starts and the flashing light flashes a few times	Count the flashes and check the corresponding value in table 22.
The manoeuvre starts but it is immediately followed by a reverse run	The selected force could be too low for this type of door. Check to see whether there are any obstacles; if necessary increase the force.

7.7) Diagnostics and Signals

A few devices issue special signals that allow you to recognize the operating status or possible malfunctions.

7.7.1) Signalling with flashing light and courtesy light

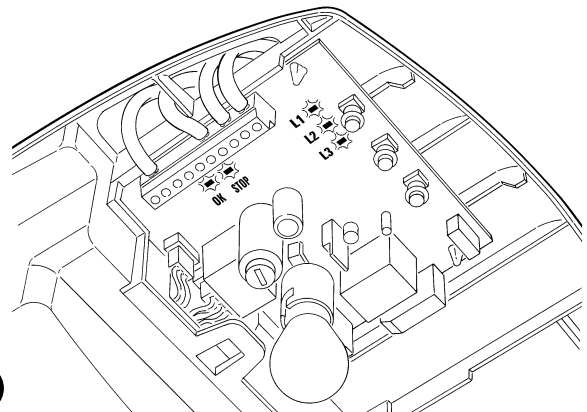
During the manoeuvre the flashing light, if connected, flashes once every second. When something is wrong the flashes are more frequent; the light flashes twice with a second's pause between flashes. The courtesy light gives the same diagnostics signals.

Table 22: FLASH flashing light signalling

Quick flashes	Cause	ACTION
2 flashes 1 second's pause 2 flashes	Triggering of a photocell	At the starting of the manoeuvre, one or more photocells do not enable it; check to see if there are any obstacles. This is normal when there is an obstacle impeding the closing movement.
3 flashes 1 second's pause 3 flashes	Activation of the "motor force" limiting device	During the movement, the door experienced excessive friction; identify the cause.
4 flashes 1 second's pause 4 flashes	Activation of the STOP input	During the movement the STOP input was activated; identify the cause
5 flashes 1 second's pause 5 flashes	Error in the internal parameters of the electronic control unit	Wait at least 30 seconds, then try giving a command; if the condition persists it means there is a serious malfunction and the electronic board has to be replaced.
6 flashes 1 second's pause 6 flashes	The maximum manoeuvre limit/hour has been exceeded	Wait for a few minutes until the manoeuvre limiting device drops to under the maximum limit.
7 flashes 1 second's pause 7 flashes	There is an error in the internal electric circuits	Disconnect all the power circuits for a few seconds and then try giving a command again; if the condition persists it means there is a serious fault on the electronic board or the motor cabling. Check and replace as necessary.

7.7.2) Signals on the control unit

On the SPIN control unit there is a set of LED's each of which can give special indications both during normal operation and in case of malfunctions.



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Table 23: LED's on the control unit's terminals

OK LED	Cause	ACTION
Off	Malfunction	Make sure there is power supply; check to see if the fuses are blown; if necessary, identify the reason for the failure and then replace the fuses with others having the same characteristics.
On	Serious malfunction	There is a serious malfunction; try switching off the control unit for a few seconds; if the condition persists it means there is a malfunction and the electronic board has to be replaced.
One flash every second	Everything OK	Normal operation of control unit
2 Quick flashes	The status of the inputs has changed	This is normal when there is a change in one of the inputs: Step-by-Step, STOP, triggering of photocells or the radio transmitter is used
Series of flashes separated by a second's pause	Miscellaneous	It corresponds to the flashing light or the courtesy signal. See Table 22
STOP LED	Cause	ACTION
Off	Activation of the STOP input	Check the devices connected to the STOP input
On	Everything OK	STOP Input active

Table 24: LED's on the control unit's keys

L1 LED	Description
Off	Correct during normal functioning.
On	Indicates that a radio code that is not in the memory, has been received during normal functioning.
It flashes	<ul style="list-style-type: none"> • Function programming in progress. • Memorising or Deleting the Radio Transmitters
L2 LED	Description
Off	Indicates the slow "Motor speed" during normal functioning.
On	Indicates the fast "Motor speed" during normal functioning.
It flashes	<ul style="list-style-type: none"> • Function programming in progress. • If it flashes together with L3 it means that the user must carry out the recognition of the door opening and closing positions (refer to Paragraph "4.2 Recognition of the door opening and closing positions").
L3 LED	Description
Off	During normal operation the device indicates "Automatic Closing" is inactive.
On	During normal operation the device indicates "Automatic Closing" is active.
It flashes	<ul style="list-style-type: none"> • Function programming in progress. • If it flashes together with L2 it means that the user must carry out the recognition of the door opening and closing positions (refer to Paragraph "4.2 Recognition of the door opening and closing positions").

7.8) Accessories

The following optional accessories are available for SPIN. For information on the complete range of accessories, refer to the Nice s.p.a. product catalogue.

For all versions

- **SPA2** Mechanical release with metal cord. For use in systems which envisage only the automated door as point of access.

For all versions

- **SPA5** Oscillating arm. Required if the door to be automated is an overhead type with springs or counterweights.

8) Technical characteristics

Nice S.p.a., in order to improve its products, reserves the right to modify their technical characteristics at any time without prior notice. In any case, the manufacturer guarantees their functionality and fitness for the intended purposes.
All the technical characteristics refer to a room temperature of 20°C (±5°C).

Technical characteristics: SPIN	
Model:	SN6011
Type	Electromechanical gearmotor for the automatic movement of garage doors for residential use, complete with electronic control unit
Pinion	Diameter 9.5 mm, 28 teeth; for guides SNA11 and guides supplied with SPIN10KCE
Peak thrust [corresponds to the force necessary to start a leaf]	9.9Nm [550N]
Nominal torque [corresponds to the force necessary to keep a leaf moving]	4.95Nm [275N]
Speed under no load [corresponds to if "Fast" speed is programmed]	103 rpm [0,14m/s] The control unit enables programming 2 speeds equal to approx. 100% - 60% approx.
Nominal torque speed [corresponds to if "Fast" speed is programmed]	52 rpm [0,07m/s]
Maximum frequency of operating cycles	30 cycles per day (the control unit allows up to the maximum described in tables 3 and 4)
Maximum continuous operating time	3 minutes (the control unit limits the continuous operation up to the maximum described in tables 3 and 4)
Operating limits	In general, SPIN is suitable for the automation of sectional or overhead doors which remain within the dimensions stated in table 2 and limits specified in Tables 3 and 4.
SPIN Power Supply SPIN/V1 Power supply	230Vac (±10%) 50/60Hz. 120Vac (±10%) 50/60Hz.
Max. absorbed power	200W
Insulation class	1 (a safety grounding system is required)
Emergency power supply	No
SPIN Courtesy Light SPIN/V1 Courtesy Light	12V-21W BA15 socket 12V-21W BA15 socket
Flashing Light Output	For 1 LUCYB flashing light (12V, 21 W)
STOP Input	For normally close or normally open contacts or for constant resistance 8,2KΩ with self-recognition (any variation from the memorized status causes the "STOP" command)
Step-by-step Input	For normally open contacts (the closing of the contact causes the "STEP-BY-STEP" command)
Radio AERIAL Input	52Ω for RG58 or similar type of cable
Radio receiver	Incorporated
Programmable functions	6 ON-OFF functions and 6 adjustable functions (see tables 15, 15a and 17, 17a)
Recognition functions	Recognition of the type of "STOP" device (NO or NC contact or 8,2KΩ resistance). Recognition the door opening and closing positions and calculation of the slowdown and partial opening points.
Operating temperature	-20°C ÷ 50°C
Use in acid, saline or potentially explosive atmosphere	No
Protection class	IP 40 use only in indoor or protected environments
Dimensions and weight	225 x 330 h 100 / 3,3Kg

Guide technical characteristics		
Model:	Guide in SPIN10KCE	SNA11
Type	3-piece profile in galvanised steel	single profile in galvanised steel
Guide length	3.15m	3.15m
Guide height	35mm	35mm
Useful stroke	2.6m	2.6m
Belt width	6m	6m
Belt height	6mm	6mm
Resistance to traction	730N	730N

Technical characteristics	incorporated radio receiver
Type	4 channel receiver for incorporated radio command
Frequency	433.92MHz
Coding	Digital Fixed code with 12 Bit code, FLO type Digital Rolling code with 52 Bit code, FLOR type Digital Rolling code with 64 Bit code, SMILO type
Transmitter compatibility (1)	FLO, VERY VE FLOR, VERY VR; only single group: ERGO, PLANO, SMILO
Transmitters memorized	Up to 160 if memorized in mode 1
Input impedance	52Ω
Sensitivity	better than 0.5μV
Range of the transmitters	From 100 to 150 m. The range can vary if there are obstacles or electromagnetic disturbances, and is affected by the position of the receiving aerial
Outputs	/
Operating temperature	-20°C ÷ 55°C

Note 1: the first transmitter that is introduced also determines the type introduced afterwards.

Technical characteristics	transmitter: FLO2	transmitter: FLO2R-S	transmitter: SM2
Type	2 channel transmitter for radio command		
Frequency	433.92MHz		
Coding	Fixed Code with 12 Bit code, FLO type	Digital Rolling code with 52 Bit code, FLOR type	Digital Rolling code with 64 Bit code, SMILO type
Keys	2		
Power supply	12Vdc with 23A battery		
Absorption	25mA		
Battery life	1 year, estimated on the basis of 20 commands/day, each lasting 1s at 20°C (at low temperatures the efficiency of the batteries decreases)		
Irradiated power	100μW		
Dimensions and weight	72 x 40 h 18mm / 30g	72 x 40 h 18mm / 30g	Diameter 48 h14mm / 19g
Protection class	IP40 (suitable for use indoors or in protected environments)		
Operating temperature	-40°C ÷ 85°C		

Instructions and Warnings for users of SPIN gearmotor

Important safety instructions

⚠ Warning: for personal safety it is important to observe these instructions

Keep these instructions in a safe place

These instructions can be incorporated with the "Instructions and warnings for the use of the automation" which the installer must give the owner of the automation, and must be incorporated with them.



Congratulations on your purchase of a Nice automation. Nice S.p.a. produces components for the automation of gates, doors, shutters, rolling shutters and sun awnings: gearmotors, control units, radio controls, flashing lights, photocells and accessories. Nice uses exclusively top quality materials and processes, and by vocation researches into the most innovative solutions to ensure the utmost simplicity of equipment use, with special attention to technical solutions, aesthetics and ergonomics: given the vast range of Nice products, your installer will certainly find the ideal product for your requirements. However, Nice is not the manufacturer of your automation, which is the result of careful analysis, assessment, choice of materials and the set-up of a system by your entrusted installer. Each automation is unique, and only your installer has the experience and professional skills needed to obtain the system that meets your requirements, is safe and reliable over time, and is above all to professional standards, i.e. compliant with all relevant current standards. An automated system is a real commodity, as well as a valid safety system and, with just a little attention, can last for years. Even if the automation in your possession meets the safety levels established by standards, this does not exclude possible residual risks, i.e. the possibility that hazardous situations may be generated, usually due to inadvertent or incorrect use, and for this reason we provide some advice on procedures to avoid any inconvenience.

- **Before using the automation for the first time**, ensure that the installer explains the sources of residual risks, and take care to read the **instruction manual and safety warnings for the user** provided by the installer. Keep the manual for consultation when in doubt and ensure supply to new owners of the automation.
- **Photocells do not constitute actual safety devices, but safety aids.** They are designed using highly reliable technology, but in extreme conditions may be subject to malfunctions or potential faults, and in certain cases these faults are not immediately evident. For this reason, it is good practice to observe the following:
 - Transit is admitted only if the gate or door is completely open with the leafs stationary
 - Transit while the gate or door is closing is **STRICTLY PROHIBITED!**Periodically check correct operation of the photocells and perform the scheduled maintenance at least every six months.
- **Your automation is a machine that performs commands imparted by the user;** negligent or improper use may constitute a hazard: never activate automation controls if persons, animals or objects are present in the operating range
- **Children:** an automation system guarantees a high level of safety, using special detection devices to prevent movement in the presence of persons or objects, thereby guaranteeing constant foreseeable and safe activation. However, it is advisable to ensure that children do not play in the vicinity of the automation to avoid inadvertent activation, and remote controls should always be kept out of reach. **it is not a toy!**

- **Check the system frequently**, in particular all cables, springs and supports to detect possible imbalance, signs of wear or damage. Check monthly that the drive motor inverts when the door touches an object with a height of 50 mm from the ground. Do not use the automation if repairs or adjustments are required; any fault with the installation or an incorrectly balanced door may lead to physical injury.
- **Malfunctions:** If any anomalous condition is noted on the automation, disconnect the power supply from the system immediately and activate the manual release. Never attempt to repair the automation alone; contact your local installer for assistance: in the meantime the system can be used in manual mode, after releasing the gearmotor as described below.
- **Maintenance:** As with all machinery, the automation requires periodic maintenance to ensure optimal operation, extended lifetime and complete safety. Arrange with your local installer to draw up a periodic maintenance schedule; Nice recommends maintenance every 6 months in the case of normal domestic use, but this interval may vary according to the intensity of use. Checks, maintenance and repairs must be performed exclusively by qualified personnel.
- Even if you possess the skills, never modify the system or automation programming and adjustment parameters: your installer is exclusively responsible for these operations.
- Testing, periodic maintenance and any repairs must be documented by the person performing the operations and the relative documents must be kept by the system owner.

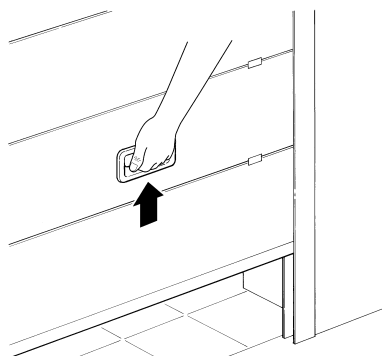
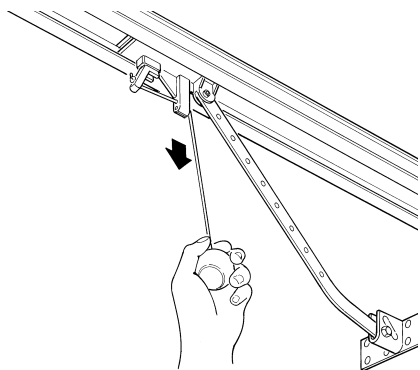
The only operations that can be performed by the user, and recommended by the manufacturer, are cleaning of the photocell lenses and removal of any leaves or stones that may obstruct the automation. To prevent persons from activating the door, before proceeding, remember to **release the automation** (as described below), **disconnect all power sources** (including the buffer batteries if fitted) and use exclusively a cloth slightly dampened with water for cleaning

- **Disposal:** At the end of the automation's lifetime, ensure that it is disposed by qualified personnel and that the materials are recycled or scrapped according to current standards in the place of use.
- **In the event of breakage or power supply failure:** While awaiting arrival of your installer, or the return of power, the automation can be activated like a normal manual door. To enable this, the manual release must be operated: this operation has been specifically researched by Nice to ensure optimal and simple use at all times, without the need for special tools or physical strength.



Manual movement and release: before carrying out this operation please note that release can only occur when the leaf is stopped.

1. Pull the release cord down until you hear the release of the carriage.
2. The door can now be moved manually
3. To restore automation operation return the door to the initial position until you hear the carriage engage.



Control with safety devices out of order: If the safety devices are malfunctioning, it is still possible to control the door.

- Operate the door control device (remote control or key-operated selector switch etc.). If the safety devices enable the operation, the door will open and close normally, otherwise the flashing light flashes a few times but the manoeuvre does not start (the number of flashes depends on the reason why the manoeuvre is not enabled).
- In this case, actuate the control again within 3 seconds **and keep it actuated**.
- After approximately 2 s the door will start moving in the “man present” mode, i.e. so long as the control is maintained the door will keep moving; as soon as the control is released the door will stop.

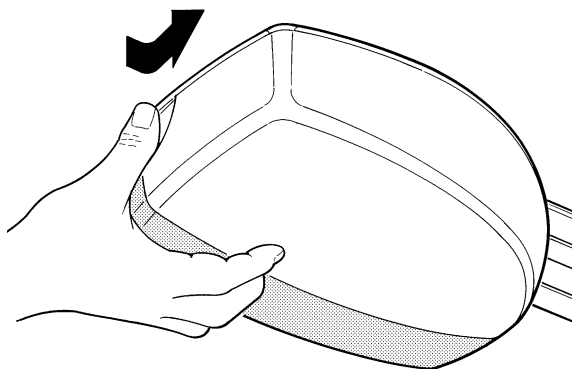
If the safety devices are out of order the automation must be repaired as soon as possible.

Replace the Remote Control Battery: if your radio control after a period of time, seems not to work as well, or not to work at all, it may simply be that the battery is exhausted (depending on the type of use, it may last from several months up to one year and more). In this case you will see that the light confirming the transmission is weak, or does not come on, or comes on only briefly. Before calling the installation technician try exchanging the battery with one from another operating transmitter: if the problem is caused by a low battery, just replace it with another of the same type.

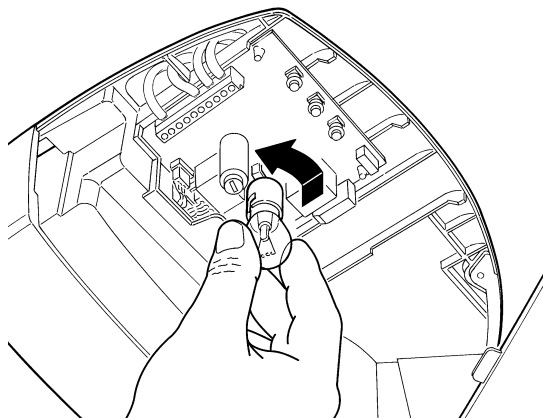
Warning: The batteries contain polluting substances: do not dispose of them together with other waste but use the methods established by local regulations.

Lamp replacement: before proceeding, disconnect SPIN from the power supply.

1. Press the white cover and turn to remove.



2. Push the lamp up and rotate to remove. Insert a new 12V / 21W lamp with BA15 socket.



Are you satisfied? If you wish to install another automation system in your home, call your old installation technician and use Nice products. You will get the services of a specialist and the most advanced products available on the market, superior performances and maximum system compatibility.

Thank you for reading these instructions. We feel confident that you will be well satisfied with your new system: for any present or future requirements, please contact your reliable installation technician.