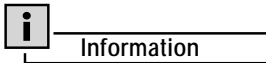


Installation & Set Up Manual

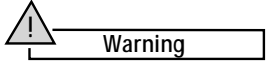


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INSTRUCTION MANUAL INTRODUCTION

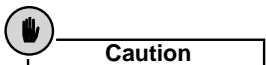


These instructions only concern the installation and use of the NK CONTROL SYSTEM for controlling automatic doors with sliding wings.



During the assembly and installation of the automation and the testing of the door, you can be injured if you do not obey the safety warnings in this manual. READ the Instruction Manual carefully before any operations.

THE INSTRUCTIONS MUST BE AVAILABLE WITH THE SYSTEM SO THEY CAN BE CONSULTED FOR ALL USE AND MAINTENANCE PURPOSES.



All the data in the Manual must be considered purely indicative. The manufacturer declines any responsibility for possible inaccuracies in the present manual due to misprints or typing errors. The Company reserves the right to modify the product and make any improvements without giving prior notice.

SYMBOLS USED

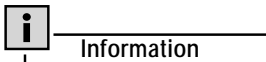
The symbols used in this manual have the following meaning:



This symbol precedes important warnings for the SAFETY of people and the environment.



This symbol precedes important warnings for the safety of the PRODUCT and any connected property.



This symbol precedes useful INFORMATION.

GLOSSARY AND ABBREVIATIONS

The instruction manual uses suitable technical terms for professionals working in the technical sector for which it is intended. The following glossary explains the specific meaning of some terms and abbreviations used in the text:

- Automation** a complete assembly of all the mechanical, electrical-electronic and structural components for driving and controlling the automatic movement of the specific opening/closing device (doors, window, gate, bar). In general, synonym for automated opening (doors, windows, gates, etc.);
- Beam** support structure for all the components of the sliding door automation and wings;
- N.C.** abbreviation used to indicate a Normally Closed contact;
- N.O.** abbreviation used to indicate a Normally Open contact;
- V AC** abbreviation used to express the value of an AC voltage;
- V DC** abbreviation used to express the value of a DC voltage.

GENERAL SAFETY STANDARDS

Carefully read the instructions before starting to install the product.



Packing materials (plastic, polystyrene, etc.) must not be dispersed in the environment and must not be left where children can find them as they are a potential source of danger.

INCORRECT INSTALLATION OF THE UNIT MAY CAUSE SERIOUS DANGER. FOLLOW ALL THE INSTALLATION INSTRUCTIONS CAREFULLY.

Only professionally qualified personnel should install the product. We recommend operating in a well-lit and healthy environment, in compliance with the safety regulations in force. We recommend the use of approved protective clothing (safety shoes, protective goggles, gloves and helmet). Do not wear articles of clothing that could get caught. Take adequate safety measures to prevent the risk of injury caused by sharp splinters and the possible risks of crushing, knocks and cuts or amputation. We recommend strict observation of the national regulations for safety in work sites (in Italy, Legislative Decree 528/99 coordinated with Legislative Decree 494/96 "Implementation of Directive 92/57/EEC concerning the minimum rules and regulations on health and safety at work to be observed when working on temporary or mobile sites").



For further Safety Guide information regarding installing pedestrian sliding doors - please visit our website:

www.nvmgroup.co.uk. Cordon off the yard to prevent any unauthorised persons from passing through the working area. Do not leave the working area unattended. Installation, electrical connections and adjustments must be carried out in a professional manner in compliance with the Good Manufacturing and Workmanship regulations in force in the country where the automation is installed. The manufacturer of the device is not responsible for the non-observance of professional standards of work in the construction of the power-driven structure, nor for any damage which may be caused by the use of the drive. Incorrect installation may be dangerous.

Follow the manufacturer's instructions.

Before starting the installation, check the product is intact and that the existing structure is suitably strong and stable. Also ensure it complies with current standards for the sector. The electrical system supplying power to the automation must be installed by an expert and qualified electrician, in accordance with national standards of the installation country (for Italy Law 46/90).

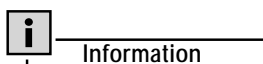
Before connecting the electrical mains make sure that the data on the rating plate corresponds to the specifications of the electric mains supply.

The protective measures on the primary coil must be adopted on site.

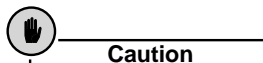
Use a 6A differential switch-overload 30 mA as main switch.

Arrange and fasten cables with the special clamps.

Only specialised technicians, trained to do the job, should test and put the door into service, as well as carrying out the periodic checks and any maintenance.



We strongly recommend following a specialised training course. Installers should contact the supplier for information on courses.



The automation cannot be tested and put into service until the sliding door has been verified as complying with the standards of MACHINERY DIRECTIVE 89/392/EEC, to which the complete door, fitted and installed, is subject. The installer must at all times use and keep the TECHNICAL DOSSIER of the automatic door and must follow all of the provisions contained in it.

At the end of the work the installer must check the installation has been carried out correctly and the automation works properly.

THE RISKS connected to the operation of the sliding door MUST BE ASSESSED making sure there are no dangerous crushing or shearing points. If necessary special preventive measures must be taken and all of the signs required by the regulations in force to warn of any dangerous zones must be attached.

Every installation must clearly indicate the ID data for the power-driven system.

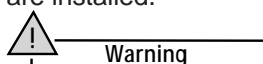
The installer must provide all the information about the automatic, manual and emergency functioning of the power-driven door and deliver the corresponding instructions to the system user.

Before carrying out any maintenance or repairs or replacing any parts, whether mechanical or electrical, disconnect the mains power supply.

Only use original spare parts for any repairs or for replacing parts.

The guarantee is void if this product is used in combination with others of other brands.

The manufacturer of the drive declines any responsibility if components incompatible with safety and correct operation are installed.



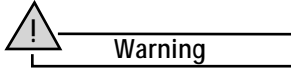
In the event of any faults disconnect the operator from the mains power supply using the main switch. Do not try to repair the main unit. Contact the installer or other specialist assistance centre. Failure to follow these instructions may result in hazardous situations.

TAB. 1

1.1 ENVISAGED USE AND FIELD OF APPLICATION

NK CONTROL SYSTEM is used for electronic control of NK series sliding door automations.

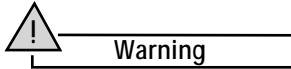
The field of application is limited to automatic doors with one or two horizontal sliding wings used in civil, public or industrial applications, in dry areas, in covered entrance areas and foot traffic passageways.



Do not use the product for purposes other than those envisaged by the manufacturer or for any improper use.

Do not tamper with or modify the product.

The product must only be installed using APRIMATIC material.



Keep children away from the operating range of the device at all times.

Keep control devices in a safe place to prevent use by children or unauthorised people.

1.2 TECHNICAL FEATURES

See Table 1.

Before installing the product, check that the temperature range marked on the drive is suitable for the location.

1.3 BASE SYSTEM COMPONENTS

The CONTROL NK SYSTEM includes the base components illustrated in fig.1.

1.4 ACCESSORY DEVICES

The ACCESSORY devices which can be installed are listed in fig.2.

CAUTION: Correct functioning of the automation requires the installation of the control device: Key selector.

IMPORTANT! Also consult the specific instructions supplied with each accessory.

POWER SUPPLY VOLTAGE	230 V ~ (+/- 10 %) / [115V on demand]
EXTERNAL DEVICE VOLTAGE	24 V
CARD PROTECTIONS	20 A rapid fuse for card power supply - short-circuit electronic threshold at 45 A
POWER SUPPLY UNIT PROTECTIONS	two 3,15/[6,3] A delayed network fuses
ACCESSORY POWER SUPPLY PROTECTION	one 1 A rapid fuse
TEMPERATURE RANGE	- 20 ÷ + 70 °C
EMERGENCY BATTERIES	two 12V - 2Ah - maintenance-free batteries
BATTERY-CHARGER	built into CONTROL NK card
AUTOMATIC DIAGNOSTICS	buzzer signals
SERIAL COMMUNICATION PORT	RS 232
OPENING SPEED ADJUSTMENT	11 - 75 cm/s (1 wing) 22-150cm/s(2wings)
CLOSING SPEED ADJUSTMENT	DIP SWITCH at 50%
	11 - 50 cm/s (1 wing) 22-100cm/s(2wings)
	DIP SWITCH at 100%
	11 - 75 cm/s (1 wing) 22-150cm/s(2wings)
APPROACH SPEED	self-learned (approx. 6 cm/s)
INVERSION SENSITIVITY	adjustable
DOOR OPENING TIME	0 - 45 secs. (continuously adjustable)
TRIMMER-ADJUSTABLE PARAMETERS: ✓ electric lock activation delayo, ✓ opening and closing approach speed, ✓ thrust force (torque adjustment using current control), ✓ open door pause time, ✓ opening speed, ✓ partial wing opening percentage	
DIP-SWITCH ADJUSTABLE PARAMETERS: ✓ fixed or adaptive partial opening, ✓ break-in response ON/OFF, ✓ master/slave mode ON/OFF, ✓ closing speed (as percentage of opening speed), ✓ photocell contact type, ✓ emergency operation (opening or closing), ✓ electric lock "exit only" mode ON/OFF, ✓ settings during power failure: continuation or application of the last operation (using emergency batteries), ✓ settings if emergency batteries reach critical threshold during power failure: >last operation (opening or closing), >electric lock maintained, >electric lock OFF.	

English

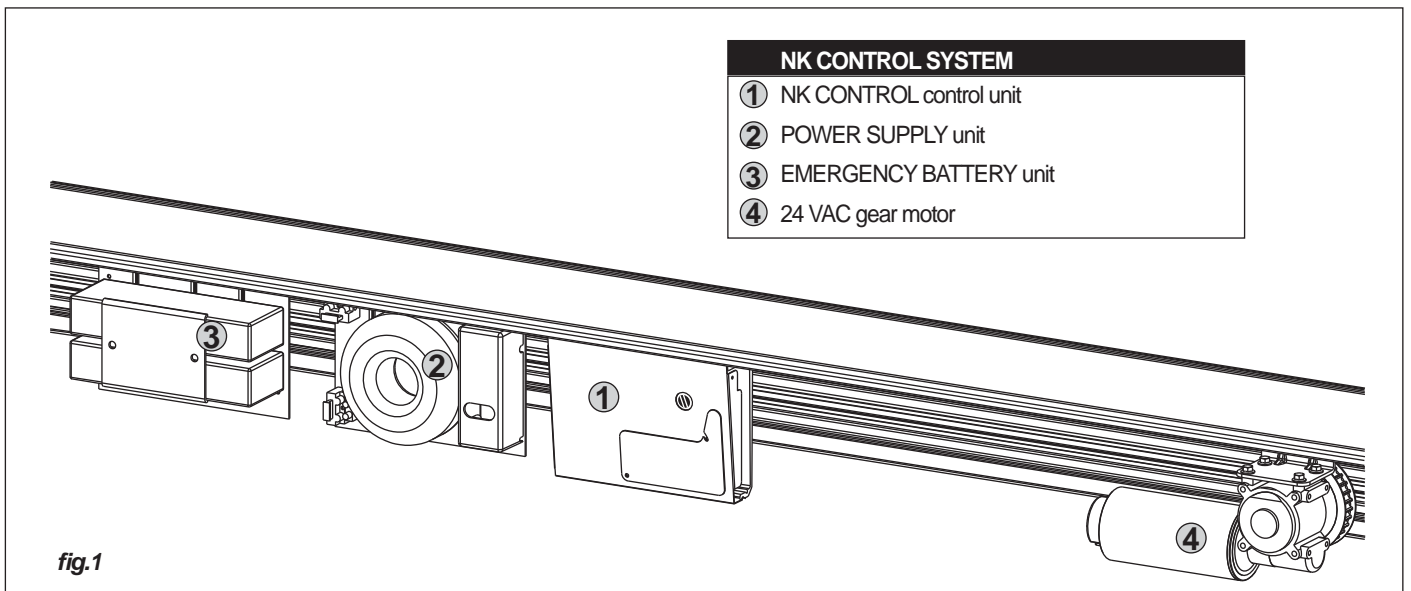
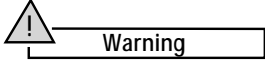


fig.1

2. SYSTEM PREPARATION AND POWER SUPPLY

Prepare the electrical connections for the system safety and control devices as illustrated in the diagram in **fig. 2**, referring to the warnings provided in this Manual. For every device installed outside the door, prepare suitable cableways (external or underground) up to the installation point.



The entire system must be created by qualified personnel in full compliance with the current standards in the country where the unit is installed.

230VAC POWER SUPPLY / [115V on demand] - 3x1.5 mm cable (dimension the cross-section in relation to the length of the line). Prepare the mains power supply cable on the right-hand (as seen from the inside). If it is necessary to use automation power supply cable sheathing, apply this sheathing before connecting the cable itself to the derivation boxes.

IMPORTANT! Always install, upstream of the line, a mains switch which guarantees a multipole cut-off with minimum contact opening of 3 mm (connect it to a 6 A differential overload switch with sensitivity of 30 mA).

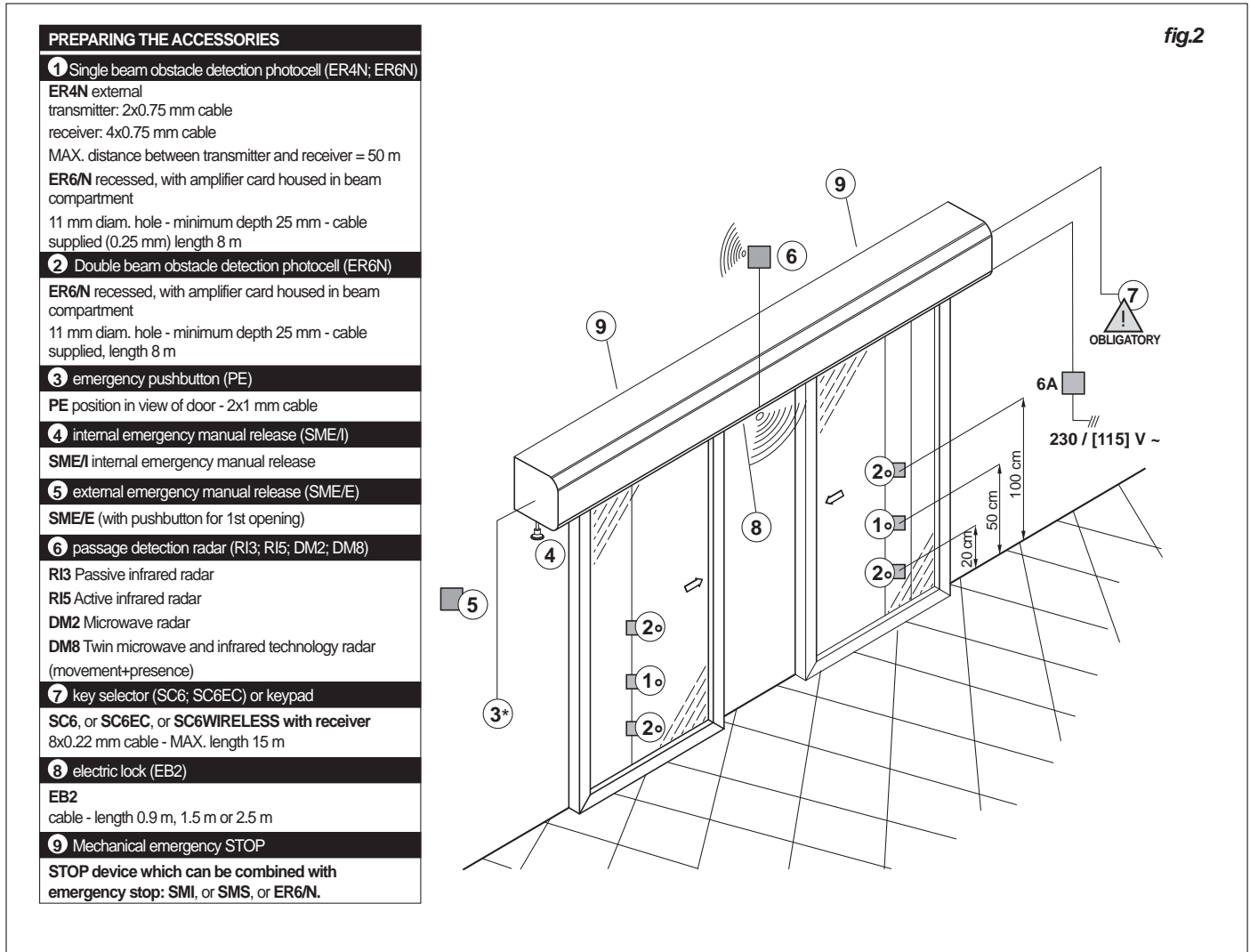
ACCESSORIES The command and control devices and the emergency button must be positioned within sight of the automation, away from moving parts and at a minimum height off the ground of 1.5 m.

Read any other Accessory Device Instructions carefully before carrying out any operations.

Correct functioning of the automation requires the installation of the control device: **Key selector**.

Correct use of the **electric lock** requires that you pay attention to the efficiency of the **Emergency batteries**. If possible, you can also install the external emergency manual release **SME/E** (with first opening command) and/or internal emergency manual release **SME/I** (100% mechanical device).

English



3. POSSIBLE OPERATING MODES

The operating mode required is set using the control device installed (key selector).

NK CONTROL SYSTEM offers the following automatic operating modes.

3.1 Automatic mode

Automatic two-way: automatic opening of the door for inwards and outwards passages; re-closing after the wait time set (both radars are active).

Partial opening: automatic partial opening of the door for inwards and outwards passages; re-closing after the wait time set (both radars are active).

Completely closed (N.L. option): the door is closed and kept in this position indefinitely.

Night lock option: if the electric lock is installed, the door is closed and the wing lock is inserted.

The insertion of the lock is confirmed by LED DL9 ON (visible from the side) - (both radars are deactivated).

Completely open: the door is opened and kept in that position indefinitely.

Entry only: automatic opening of the door for inwards passages ONLY; re-closing after the wait time set (outwards radar not active).

Exit only: automatic opening of the door for outwards passages ONLY; re-closing after the wait time set (inwards radar not active).

3.2 Automatic STOP operation - door stop for mechanical emergency door opener (OPTIONAL)

The STOP function device is useful for installations fitted with the mechanical emergency door opener system. When the STOP is triggered (caused by touching of the wings), the control unit immediately stops the door in its current position and prevents any further operations while the STOP contact is triggered. To reset the contact, position the wings correctly. When the contact is reset, the automation starts to operate again in the mode set previously. If the system is in Automatic two-way mode, the door opens automatically at low speed and remains in this position; at the next radar pulse, automatic mode is restored.

Note: the STOP contact has PRIORITY in all states and over all commands and functions. You can use DIP11 to disable the STOP contact in Night lock mode (see Settings).

3.3 Emergency operation (OPTIONAL PE pushbutton)

You can use a special pushbutton to operate the door as required in emergency situations: total door opening or closing. The emergency operation is a low-speed operation. The type of operation (opening or closing) must always be set using DIP 9 (see Settings)

The door remains stopped in the position set until the pushbutton is released. When the emergency has passed, the set mode is restored. The reset operation is a low-speed operation.

Note: the EMERGENCY operation has PRIORITY in all operating modes and over any other command.

There is one exception: if there is a simultaneous emergency and stop, the automatic STOP operation is performed.

3.4 Master/Slave (M/S) mode

M/S mode allows you to use two automations by means of electrical connections between the two units. The Interlock prevents movement of one door while the other is moving.

IMPORTANT: you must enable M/S mode on both cards using the corresponding dipswitches (see SETTINGS).

3.5 First input operation (OPTIONAL)

This allows you to apply the FIRST INPUT when the door is

closed with the Night lock (electric lock inserted). The 1st input involves the following: release of electric lock, if inserted; one opening operation only; re-closing after the wait time set; return to N.L. (night lock) state.

This function requires installation of a specific device or you can use the external manual release (SME/E) if this is included in the system.

3.6 Wing contact with an obstacle

Obstacle during opening - if the opening is slowed down or stopped by an obstacle, the door stops and the position where the collision took place is saved. During the next 3 operations, the door slows down near the collision point saved and if the obstacle remains, this point is set as the stroke end position. When the obstacle is removed, the complete opening limit is restored automatically by a low-speed movement.

Obstacle during closing - if the closing is slowed down or stopped by an obstacle, the door inverts the movement and the position where the collision took place is saved. Automatically, the door closes again, slowing down near the collision point saved to check if the obstacle remains. If the obstacle remain during the next 3 operations, the door opens and stays open. At the next radar pulse, the door closes, slowing down near the collision point saved, and this point is set as the closing position for future movements. The real closing point is restored automatically when the obstacle is removed.

English

Automatic operating modes		Table 2
Function	Description	
AUTOMATIC TWO-WAY	Applies automatic opening for entrance and exit (entrance and exit radars both active).	
PARTIAL OPENING	Applies partial automatic opening for entrance and exit (entrance and exit radars both active).	
COMPLETELY CLOSED (Night lock)	Closes the door and holds it in this position (both radars NOT active). <i>If the electric lock is installed, the door is closed and locked: NIGHT LOCK.</i>	
COMPLETELY OPEN	Opens the door and holds it in this position (radars and/or photocells NOT active).	
ENTRY ONLY	Applies automatic opening for entrance ONLY (entrance radar active), NOT for exit (exit radar NOT active).	
EXIT ONLY	Applies automatic opening for exit ONLY (exit radar active), NOT for entrance (entrance radar NOT active).	
RESET	Allows you to re-define the automation parameters by running a new learning cycle.	

Note: automatic mode requires the installation of the passage detection radars for ENTRANCE (RADAR 1) and EXIT (RADAR 2). Automatic mode also requires the obstacle photocells which invert the wing movement automatically.

4. BASE SYSTEM CONNECTIONS

The base system components (control unit, power supply unit, gear motor and emergency batteries) are pre-installed on the NK module and connected to each other.

If replacing any parts, apply the connections illustrated in Figs. 3-4-5.

Before powering the system, complete the installation with the accessory devices. Correct functioning of the automation requires the installation of the control device: Key selector. When you have finished ALL the connections, power the system by following the indications in **STARTING UP**.

i Information

NEVER remove the unit guard. Failure to comply with this warning will render the warranty null and void!

4.1 NK CONTROL

NK CONTROL consists of the electronic control CARD, secured to an extruded aluminium profile which acts as SUPPORT for securing it to the Automation Module. The card is protected by a guard which has a port for accessing the programming and signal devices while the terminal boards and connectors are directly accessible at the sides (fig.6).

! Warning

NEVER remove the unit guard. Failure to comply with this warning will render the warranty null and void!

5. ACCESSORY DEVICE CONNECTIONS

Completion of the installation requires connection of the accessory devices used within the system. follow the specific diagrams and instructions provided below.

Always make the connections with the power OFF.

Also disconnect the emergency batteries, if present! If a device is replaced or added after setting-up and starting the system, apply a system RESET.

! Warning

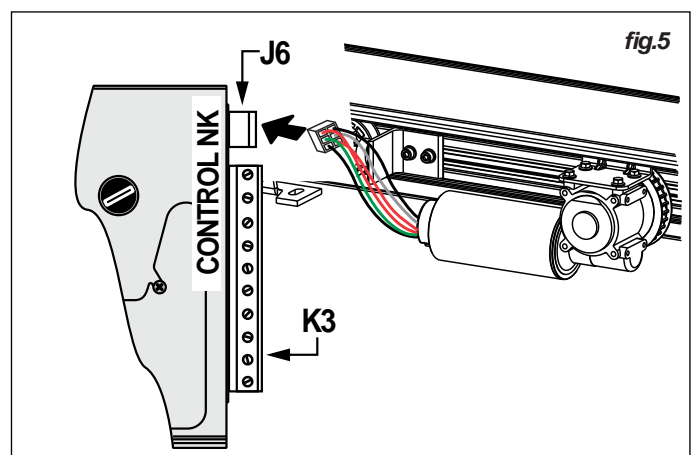
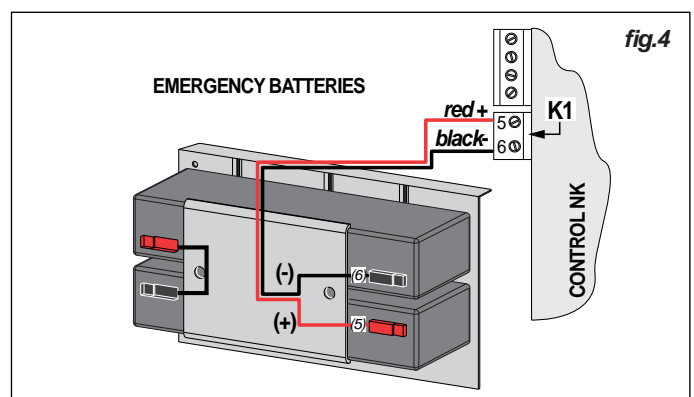
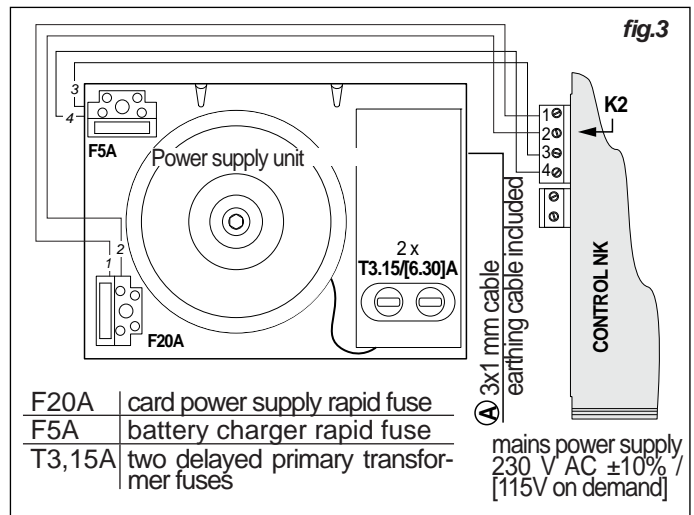
All the command and control devices must be positioned within sight of the automation, away from moving parts and at a minimum height off the ground of 1.5 m.

5.1 KEY SELECTOR (SC6 - SC6EC)

- 1 Connect the power supply cable to the numbered Key selector terminal board, following the colours indicated in Table 4.

NOTE: to access the Key selector terminal board, refer to the Key selector instructions.

- 2 Insert the Selector connector in **J7** on the NK CONTROL card (fig.6).



Key selector		Table 4
Cable colour	Terminal number	
RED	1	
GREEN	2	
WHITE	3	
PINK	4	
GREY	5	
LIGHT BLUE	6	
BROWN	7	
YELLOW	8	

NK CONTROL

K1	battery unit connector	F 1A	24V accessory fuse
K2	power supply unit connector	P1-8	Adjustment TRIMMERS
K3	accessory device connection terminal board	DP1	Programming dipswitches
J3	connector not used (optional)	DP2	reserved for factory settings
J4	multifunction keypad connector (optional)	SW1	RESET key
J6	motor and encoder connection	SW2	RADAR key
J7	key selector connector (optional)	JP1	Buzzer OFF jumper
J8*	optional input/output connector	DL2	GREEN MAINS presence LED
J9	electric lock connector (optional)	DL9	electric lock activated LED
J10**	± 24V radio receiver connector (optional)	LED	system state signal LEDs

* maintenance cycle count function output
 ** first input function input

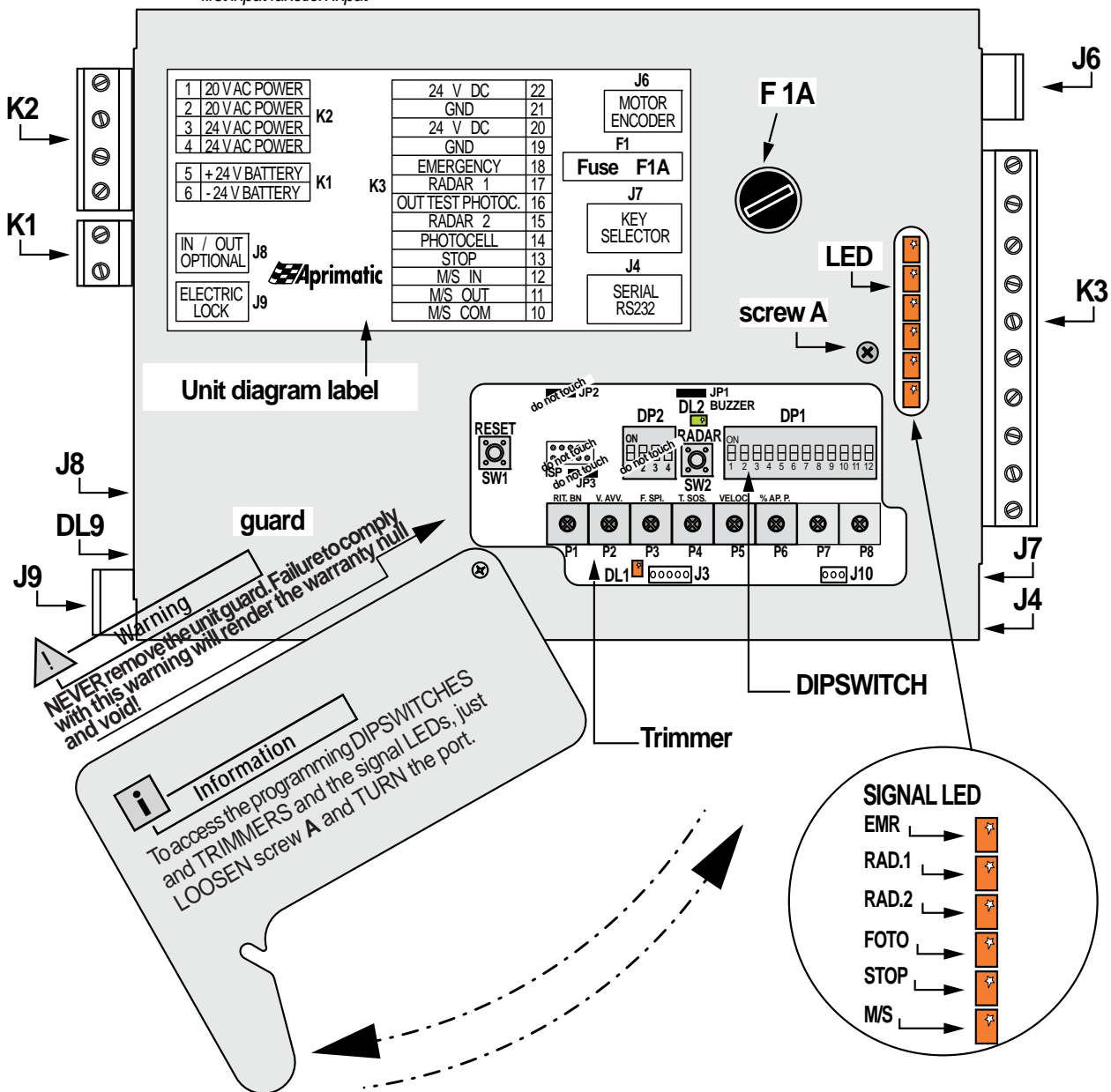


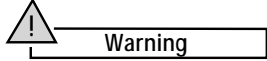
fig.6

English

5.2 OPTIONAL ACCESSORIES

The following accessory devices which may be used within the system are connected to the card with a quick-fit connector or using the removable terminal board **K3** (13 screw-in pins).

The possible connections are illustrated in the diagram in **Fig.7**.



Always make the connections with the power OFF. Also disconnect the emergency batteries, if present! If a device is replaced or added after setting-up and starting the system, apply a system RESET.

5.2.1 Emergency (PE pushbutton)

Connect an emergency pushbutton fitted with an N.C. type contact following the diagram in **fig.7**.

WARNING: use a turn release maintained push-button.

If not used, the emergency contact must be jumpered as it is an N.C. type contact.

Note: you can also apply this command using alarm systems (fire alarms, etc.) connected, following the instructions for such devices installed.

5.2.2 STOP (door stop for mechanical emergency door opener)

Connect the STOP device fitted with N.C. type contact (SMI or SMS sensor or ER6/N photocell), following the diagram in **fig.7** and the instructions provided with the device itself.

If not used, the stop contact must be jumpered as it is an N.C. type contact.

5.2.3 Electric lock

Connect the electric lock to the NK CONTROL card using the connector **J9** (**fig.7**), following the instructions provided with the device.

5.2.4 First input function

Connect the **SME/E** or a similar pushbutton/device with N.O. contact following the diagram in **fig.7** and the instructions provided with the device installed.

Note: the first input function is only active in Night lock mode.

5.2.5 Radar

Connect the RADARS following the diagram in **fig.7** and the instructions provided with the devices installed.

RADAR 1 = ENTRANCE Radar.

RADAR 2 = EXIT Radar.

5.2.6 Photocells: ER4N or ER6N type

Connect the **ER4N** or **ER6N** type photocells following the diagram in **fig.7** and the instructions provided with the devices installed.

The photocell contact may be N.O. or N.C. depending on the corresponding dipswitch setting (see Settings). If N.C., the contact must be jumpered when not used.

Note: the ER6N photocells consist of: transmitter, receiver and separate amplifier. The amplifier card, usually housed in the beam, must be connected to the unit as specified in **fig.7.**

5.3 MASTER/SLAVE (M/S) FUNCTION

Connect the two automation units in Interlock mode following the diagram in **fig.7**.

IMPORTANT: you must enable M/S mode on both cards using the corresponding dipswitches (see Settings).

fig.7

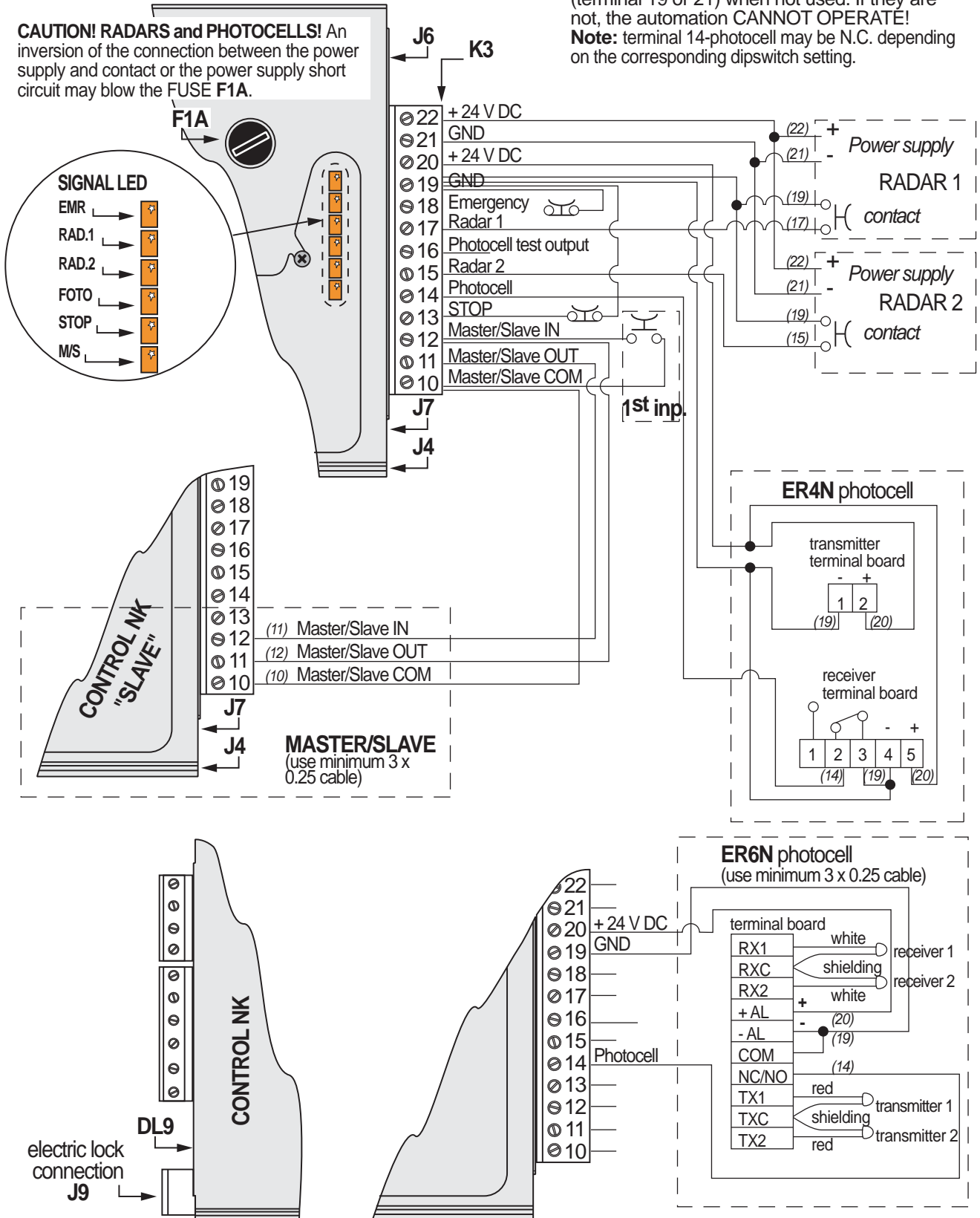
NK CONTROL Block diagram

CAUTION! RADARS and PHOTOCELLS! An inversion of the connection between the power supply and contact or the power supply short circuit may blow the FUSE F1A.

CAUTION!

The **N.C. contacts** (terminals 18-Emergency and 13-Stop) must be jumpered to the earthing (terminal 19 or 21) when not used. If they are not, the automation **CANNOT OPERATE!**

Note: terminal 14-photocell may be N.C. depending on the corresponding dipswitch setting.



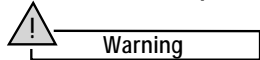
English

SDK900 SERIES Automatic Sliding Doors

6. START-UP

When you have completed and checked the electrical connections, before powering the system, make the DIPSWITCH SETTINGS for DIPSWITCH unit DP1 as described below.

6.1 SETTINGS (DIP-SWITCH UNIT DP1)



NEVER TOUCH THE DP2 UNIT DIPSWITCHES. Failure to comply with this warning will render the warranty null and void! This operation is strictly reserved for the factory settings! Touching the DP2 UNIT DIPSWITCHES could damage the system and/or the components!

Table 6 illustrates the possible settings using the DIPSWITCH unit DP1.

1 Partial opening - when traffic is considerable, it is established if the partial opening remains as set using the trimmer P6 or is adapted (it increases automatically as the traffic increases and vice versa).

2 Break-in - if there is a break-in attempt, it is established if the automation is free (the gear motor is not triggered) or resistant (the motor prevents wing opening).

3 M/S - Master/Slave mode is enabled or disabled when two automations are connected to each other.

4 Closing speed - adjusts the closing speed value as a percentage of the opening speed (also see Trimmer P5).

5 Photocell - to set the type of contact used for the obstacle detection photocells: NO or NC.

6 Continuation during power failure - if the mains power fails, continuation of the mode set is enabled or disabled (using the emergency batteries). If continuation is disabled, when there is a power failure, the operation set using DIP7 is carried out immediately.

7 Last operation during power failure - if the mains power fails, this establishes the operation for the automation to perform using the emergency batteries: opening or closing. The door stops in this position until the power returns.

Note: Dipswitches 6 and 7 are connected: if continuation is enabled, the last operation is only carried out when the batteries reach the critical voltage threshold; if not, the last operation is carried out when the power fails.

Note: when the power returns, the automation starts to operate again in the mode set previously.

8 Exit only electric lock - enables or disables the lock for every closing operation when the automation is in automatic EXIT ONLY mode.

9 Emergency - establishes the operation which the automation performs if the emergency button is pressed: opening or closing (the door stops in this position).

Note: when the PE emergency pushbutton is released, the automation starts to operate again in the mode set previously.

10 N.L. mode power failure - establishes electric lock maintained or OFF if there is a power failure when the door is set to Night lock mode.

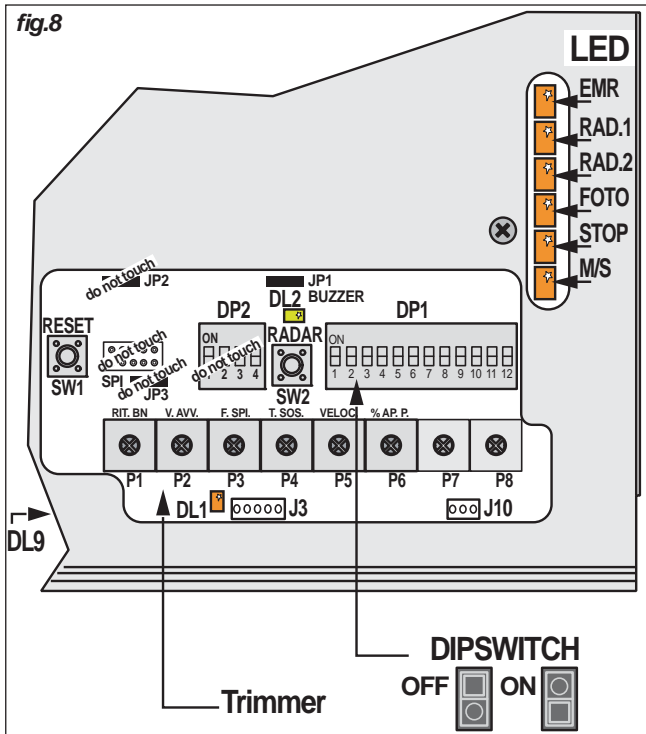
11 N.L. mode stop - enables or disables the Stop with mechanical emergency when the door is set to Night lock mode.

12 not used.

FACTORY SETTINGS (DIPSWITCH UNIT DP1)	Table 7
1 ⇒ OFF (fixed partial opening)	
2 ⇒ OFF (door free after break-in attempt)	
3 ⇒ ON (M/S disabled (1st input enabled))	
4 ⇒ ON (closing speed = 100% of opening speed)	
5 ⇒ ON (photocell contact = NC)	
6 ⇒ OFF (continuation during power failure)	
7 ⇒ ON (last operation = door opening)	
8 ⇒ OFF (electric lock disabled in exit only mode)	
9 ⇒ ON (emergency operation = door opening)	
10 ⇒ OFF (NO door release during power failure)	
11 ⇒ ON (disables STOP in Night lock mode)	
12 ⇒ OFF (not active)	

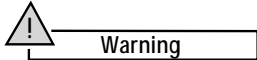
Group DP1 Dip Switches	SETTINGS Table 6	
	Position 0 (OFF)	Position 1 (ON)
1 Partial opening	fixed	adaptative
2 Break-in	free	resists
3 Master-Slave	M/S enabled	M/S disabled
4 Closing speed	75% opening speed	equal to opening speed*
5 Photocell	N.O.	N.C.
6 Continuation during power failure	enabled	disabled
7 Last operation during power failure	closes	opens
8 Exit only electric lock	disabled	enabled for every closing op.
9 Emergency	closes	opens
10 N.L. mode power failure	releases the door	maintains lock
11 N.L. mode STOP input	STOP disabled	STOP enabled
12 not active		

* self-learned/set with trimmer P5



LED	Function	Table 8
DL1	diagnostics and alarms	
DL2 (green)	mains power supply presence	
DL9 (visible on J9 connector side)	lock inserted	
accessory devices connected to terminal board K3 as per diagram in Fig. 7:		
EMR	EMERGENCY pushbutton	
RAD.1	ENTRANCE Radar	
RAD.2	EXIT Radar	
FOTO	photocell	
STOP	STOP pushbutton	
M/S	Master/Slave mode	

6.2 POWER-ON



When you first start the system, make sure that nobody is near the automatic door.

Check the external devices connected and check the state of the LEDs.

ALWAYS CHECK THE SETTINGS AND ADJUSTMENTS ON THE BASIS OF THE CONFIGURATION OF YOUR SYSTEM AND OPERATING REQUIREMENTS.

The factory settings are listed in **Table 7**.

When you have carried out all the required checks, power the system for start-up, connecting the mains power supply first and then the emergency batteries, if present.

At POWER-UP, the automation runs the self-learning procedure for the operating parameters.

Note: at Power-up, the unit emits 3 "beeps" alongside 3 DL1 LED flashes; the self-learning procedure involves cyclical "beeping".

Check that the procedure is run correctly (as described in **Reset**) until it ends with the door stopped in the CLOSED position.

Run a few complete door operation cycles. This helps the system to complete the operating set-up procedure automatically.

Only if you have specific operating requirements is it necessary to make further adjustments using the TRIMMERS (see **Adjustments**).

*All the trimmers are set about halfway during the factory settings.
Do NOT change these positions before power-up.
After the self-learning procedure and after a few complete door runs, you can adjust the trimmers for system fine tuning for your specific requirements.*

7. ADJUSTMENTS (TRIMMERS)

The operating adjustments are applied using the TRIMMERS and are also saved and maintained if there is a power failure or a Reset.

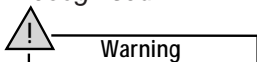
Table 9 illustrates the possible adjustments.

Note: any adjustments applied while the door is moving are learned at the end of the cycle and applied at the next operation.

P1 adjusts the time between the electric lock activation command and the insertion of the lock.

P2 further adjusts the self-learned approach speed value.

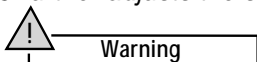
P3 further adjusts the value of the self-learned thrust force and, therefore, the limit beyond which an obstacle is recognised.



if you increase the thrust force value, you increase the obstacle detection threshold which opposes the movement of the door!

P4 sets the time for which the door remains open before closing again automatically.

P5 further adjusts the self-learned opening speed value.



Be extremely careful when adjusting P5. Apply the adjustments gradually and check the adjustments regularly to make sure there is no knocking against the limit switch at the end of the stroke!

NOTE: the closing speed can be adjusted in terms of the opening speed (**DIP4**).

P6 adjusts the partial opening, as a percentage of complete opening.

P7 and **P8** are not used.

Trimmer	Adjustment	Values Table 9
P1 RIT. BN	Night lock delay time	0 secs 90 secs
P2 V. AVV.	Opening and closing approach speed (% of self-learned speed)	- 2% + 2%
P3 F. SPI.	Thrust force (torque adjustment using current control)	min. max.
P4 T. SOS	Opening pause time	0 secs 45 secs
P5 V. AP.	Opening speed	min. max.
P6 % AP. P.	Partial opening (% of wing opening)	10% 99%
P7 X. XX.	DISABLED	DISABLED
P8 X. XX.	DISABLED	DISABLED

8. FUNCTIONING TESTS

At the end of the adjustment procedure, you must check that the automation is operating correctly.

Check the behaviour of the complete system after connecting, when the power returns or after a reset by running at least 3 complete operating (opening/closing) cycles. **This fine tunes the system.**

If there are any problems, see **Error conditions**.

8.1 SYSTEM RESET (SELF-LEARNING)

You can apply a RESET using the RESET key on the unit or using the key selector installed (see the instructions enclosed with the control device installed).

The RESET procedure re-runs the self-learning procedure for the automation operating parameters:

- **thrust force required**
- **wing weight**
- **stroke span**
- **opening/closing speed**
- **approach speed and braking distance**
- **presence/absence of the optional Electric lock and Emergency battery devices.**

IMPORTANT: if the self-learning is interrupted, apply a RESET.

Note: during the self-learning, the settings and adjustments are ignored.

8.2 LED SIGNALS

Table 8 and Fig. 8 illustrate the LEDs on the card.

Note: LED DL1 (ON) is associated to the buzzer signals emitted by the unit.

8.3 BUZZER SIGNALS

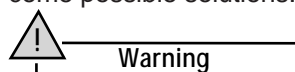
Table 10 illustrates the buzzer signals associated to the STATES/ERRORS detected by the system.

Note: the buzzer signals are associated to LED DL1 (ON).

IMPORTANT: the buzzer may be disabled by disconnecting jumper JP1.

8.4 ERROR CONDITIONS

Table 11 illustrates the possible system malfunctions or faults, the associated diagnostic signals, the probable causes and come possible solutions.



Before replacing any parts, disconnect the power. If the emergency batteries are present, disconnect these too!

Application of the Reset procedure is confirmed by a continuous buzzer beep followed by alternating beeping until the self-learning procedure is completed.

- The self-learning procedure stages are as follows:*
- a. electric lock presence test (if the electric lock is installed, it is enabled and the lock is disengaged)
 - b. complete door opening
 - c. repetition of the electric lock presence test
 - d. complete door closing
 - e. partial door opening
 - f. complete door closing and door stopping in this position

Signal (pause: 1 sec.)	Corresponding ALARM condition	Table 10
no beeps	no alarm	
1 beep	self-learning in progress	
4 beeps	short circuit	
5 beeps	encoder faulty	

Signal (pause: 5 secs.)	Corresponding WARNING
no beeps	no warning
1 beep	self-learning failed
2 beeps	no mains power
3 beeps	low battery level with mains power present
4 beeps	critically-low battery level with mains power present
5 beeps	low battery level with mains power not present
6 beeps	battery running out
7 beeps	electric lock prevented from locking the door

Pay attention to both the number of beeps in sequence and the interval between the beeps, as the two signal groups have a different pause time between one beep sequence and the next: 1 sec. for ALARMS and 5 secs. for WARNINGS.

If there are simultaneous signals, the system gives priority to the ALARM signal. If there are simultaneous signals from the same signal group, the system gives priority to the more serious one.

Note: the seriousness of the signal is expressed by the number of buzzer beeps in sequence e.g. 1 beep = minimum seriousness; 5 beeps = MAX. seriousness.

Type of fault/Malfunction	Probable cause	Possible solution Table 11
⊗ The door does not move; program blocked and alternating buzzer signal: 14 beeps with pause of 1 sec.	⊖ Motor short circuit. ⊖ Motor current overload.	⊕ Check the connections and, if required, replace the motor. After solving the problem, apply a RESET.
⊗ At power-up, after a reset or during the movement, the automation is blocked in both directions or makes incorrect movements. On reset, the problem remains and there is an alternating buzzer signal: 5 beeps with pause of 1 sec.	⊖ Door blocked by an external element (mechanical lock, obstacle or similar). ⊖ Motor disconnected or faulty. ⊖ Encoder or connection cable faulty	⊕ Remove the cause of the block and apply a RESET. ⊕ Check the connections and, if required, send the motor and/or unit to an authorised repair centre.
⊗ Door closed and blocked: at power-up or after a reset, the door does not move and does not apply the reset.	⊖ Automation in Night lock mode. ⊖ Electric lock prevented releasing; the release operation fails.	⊕ Select the operating mode required. ⊕ Release the door manually, following the specific instructions for the device. After solving the problem, apply a RESET. ⊕ If there is an electrical fault with the electric lock, disconnect the device and apply a reset to use the automation while the repairs are being carried out
⊗ Automation operating normally and alternating buzzer signal: 7 beeps with pause of 5 secs.	⊖ Electric lock prevented from locking the door. The user is warned that the lock did not engage. After 5 failed attempts, the lock is disabled; the door is closed without being locked. The automation still operates.	⊕ Check the electric lock mechanics and connections. ⊕ If required, replace the electric lock. ⊕ If there is an electrical fault, disconnect the electric lock and apply a reset to end the signal and use the automation while the repairs are being carried out.
⊗ Automation operating normally and alternating buzzer signal: 5 beeps with pause of 5 secs. until problem is solved.	⊖ Low emergency battery unit charging level or fault.	⊕ With the mains power ON, the battery charging level is restored within a few hours. ⊕ If there is a fault, replace the emergency battery unit.
⊗ At power-up or after a reset, the door does not move and does not apply the reset. Continuous buzzer signal	⊖ External RESET button open, faulty or jammed. ⊖ Key selector not connected or with cable disconnected. ⊖ STOP contact open, faulty or jammed. ⊖ EMERGENCY button not released. If this button is not installed, the jumpering for the corresponding NC contacts has not been applied correctly.	⊕ Check the state of the RESET button and the STOP contact using a tester. If required, restore the correct conditions. ⊕ Check that the selector is connected correctly. ⊕ Check the state of the EMERGENCY button (if installed). If required, restore the correct conditions. If this button is not installed, check the jumper on the contacts using a tester.
⊗ At power-up or after a reset, the door does not move or makes unusual movements during both self-learning and with the radar pulses. Continuous buzzer signal.	⊖ RESET button and/or Key selector connection error.	⊕ Carefully check the connections made, using the instructions as reference.
⊗ The automation is suddenly blocked in random positions and engages the electric lock. At times, it is not released, not even after a reset command. Continuous buzzer signal.	⊖ RESET button faulty: opens the NC contact randomly.	⊕ Check and reset the reset buttons installed and the one on the control card.
⊗ The door does NOT close again after applying a normal opening cycle. or ⊗ The door does NOT complete the learning cycle (started normally with the opening) and remains open.	⊖ The EMERGENCY button has been pressed during the opening stage and has not been released or the jumper on the contacts for this button has been interrupted/disconnected. ⊖ Presence of an obstacle which breaks the photocell beam or photocell problem: obscured (dirty), misaligned or faulty (if the contact is NC); or similar problem with RADAR. ⊖ STOP contact open, faulty or jammed	⊕ Release the EMERGENCY button or restore the jumper on the EMERGENCY button contacts. ⊕ Eliminate any obstacles or reset the correct photocell or radar conditions. If a fault is probable, before replacing any parts, check that the power supply and/or signal cable to and from the control card is not damaged. ⊕ If required, restore the correct STOP contact conditions.