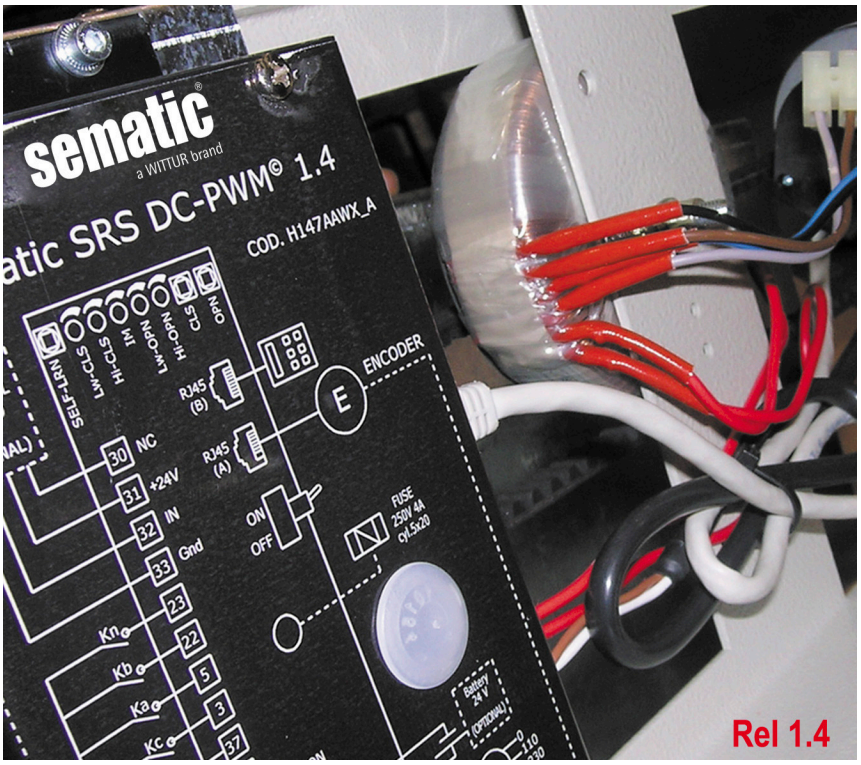
WITTUR

DRIVE - INSTRUCTION MANUAL

SRS© DC-PWM Drive

Code	**PM.2.004922.EN**
Edition	**2020-07-22**
Version	**A**
SEM ID	**810-000-000**



safety in motion™

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We care about your integrated solution!]

COMPONENT SYSTEMS

- *Automatic lift doors*
- *Frame and frameless glass doors*
- *Enhanced car door operator solutions*
- *Complete cabins*
- *Car Frames*
- *Custom integrated packages*
- *Special lift doors, cabins and car frames*

ELEVATOR SYSTEMS & SUBSYSTEMS

- *Rope traction elevators*
- *Machineroomless roped elevators*
- *Modular hydraulic elevators*
- *Hydraulic elevators*
- *Panoramic elevators*
- *Hospital elevators*
- *Special executions*

1 PREFACE

This manual has been drafted taking into account that the Company installing genuine Sematic products will comply with the following necessary requirements:

- *personnel responsible for the installation and/or maintenance of the doors must be familiar with the General and Specific regulations in force on the subjects of work safety and hygiene (89/391/CEE - 89/654/CEE - 89/656/CEE);*
- *personnel responsible for the installation and/or maintenance must be familiar with the Sematic product and must have been trained by Sematic or by an authorized Sematic agent;*
- *installation equipment used must be in good working order with all measuring instruments calibrated (2009/104/EC).*

Sematic:

- *undertakes to update the present manual and send the customer copies of all new updates together with material;*
- *within its continuous product improvement policy, reserves the right to make changes to the designs and materials of its products. Sematic will give an agreed reasonable time to all its customers to allow them to adapt to the new changes their complementary current constructions;*
- *guarantees a good performance only of the original parts sold directly and correctly installed.*

Therefore:

parts manufactured and/or added to the Sematic product without having it checked by Sematic, or non-original parts based upon a Sematic design (even if supplied by authorised agents) cannot be considered under guarantee since the following conditions have not been ensured:

1. *Quality control of raw material supply*
2. *Process control*
3. *Product control*
4. *Conformity tests according to Sematic specifications*

Furthermore, Sematic

- *guarantees the performance life of its products only if correctly stored (indoors storage at temperatures ranging between -10 and +60 °C out of direct sunlight) and correctly installed;*
- *guarantees the perfect performance of the products installed in environments with temperatures between -10 and +60 °C and with a non-condensing, relative humidity level inbetween 20% and 80%. (Special note: for temperatures and humidity rates outside these ranges, please consult our Technical Dept.)*

The product is compliant with the following EU Directives:

- *98/37/CE Machinery Directive and subsequent modifications (when applicable)*
- *2014/33/EU Lifts Directive*
- *93/68/CEE Markings*
- *90/269/CEE Heavy loads handling*
- *Noise (Acoustic emission) 86/188/CEE modified according to Directive 98/24/CEE*
- *Electromagnetic compatibility 2014/30/EU*
- *Low Voltage Directive 2014/35/EU*

and with the following particular standards:

- *EN81-1/2;*
- *EN81-20/50;*
- *AS1735;*
- *EN12015/EN12016;*
- *GB7588 + XG1;*

The present document has been drafted in accordance with EN13015

Taking into account, during all project planning, the Risk Assessments relating to:

a. ***RISKS OF MECHANICAL HAZARDS***
- *Squeezing during operations*
- *Squeezing after Trapping caused by friction (glass panels)*
- *Cuts caused by sharp edges, or static sharp pieces*

b. ***RISKS OF ELECTRICAL HAZARDS***
- *Persons in contact with energized parts (direct contact)*
- *Persons in contact with parts that become energized due to a fault (indirect contact)*

c. ***RISKS OF OVERHEATING***

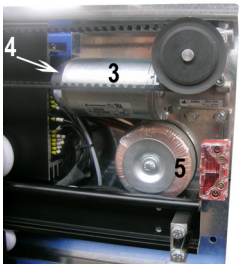
d. ***RISKS GENERATED BY NOISE***

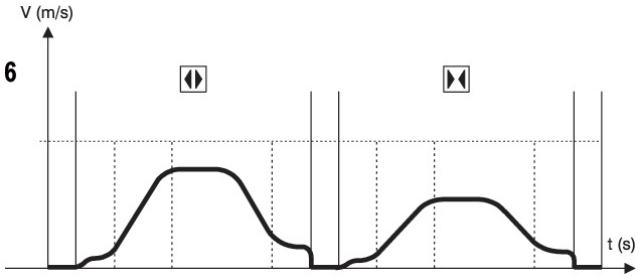
e. ***RISKS GENERATED BY VIBRATION***

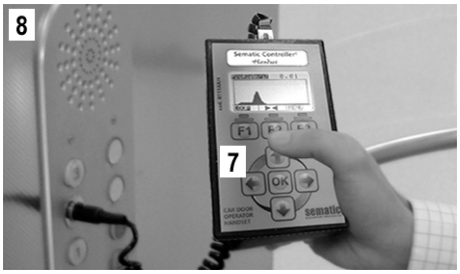
f. ***RISKS GENERATED BY MATERIALS AND SUBSTANCES***

OUR COMPONENTS ARE INTENDED FOR ELEVATOR USE ONLY

2 WHAT IS THE SRS DC-PWM©?







The System consists of:

- *a Car Door Operator (1)*
- *a microprocessor-based Door Controller (2)*
- *a DC Motor (3) with feedback signals (4)*
- *a 230/115Vac - 24Vac transformer (5)*

The "Sematic SRS DC-PWM©" controller automatically controls the opening and closing of the lift doors, monitoring the timing, current variations, speeds (high speed, low speed), various safety systems (reversing system, etc.) and faults (high voltage, signal failure, ...).

There are two independent speed curve profiles for the opening and closing cycles (6) which can be modified by means of the door controller regulation trimmers. or by means of the Sematic handset (an optional 8 digit keypad and display accessory which can be connected to the card by an RJ45 plug).

The handset (7) is a key pad that allows viewing and modification of the function parameters stored in the controller.
It is important to use the Sematic handset for installation or maintenance, as it enables viewing and/or variation of the Encoder parameters, systems, and operation errors.

Furthermore, it is possible to use the Sematic handset directly from the inside of the car (8).
Making it possible to monitor and modify the door operating parameters from a completely safe position, and also to control the movement of the coupled car and landing doors during their effective operating cycle.

Warning: please note that SRS DC-PWM© door controller has a power limitation and is available only with reduced size doors.
If the door installation does not allow the correct operation of the doors, alternative high powered drives are available.
Please contact our sales department.

Note: the pictures on this document are examples only; real components appearances may differ according to supplied configuration of door operator and motor.

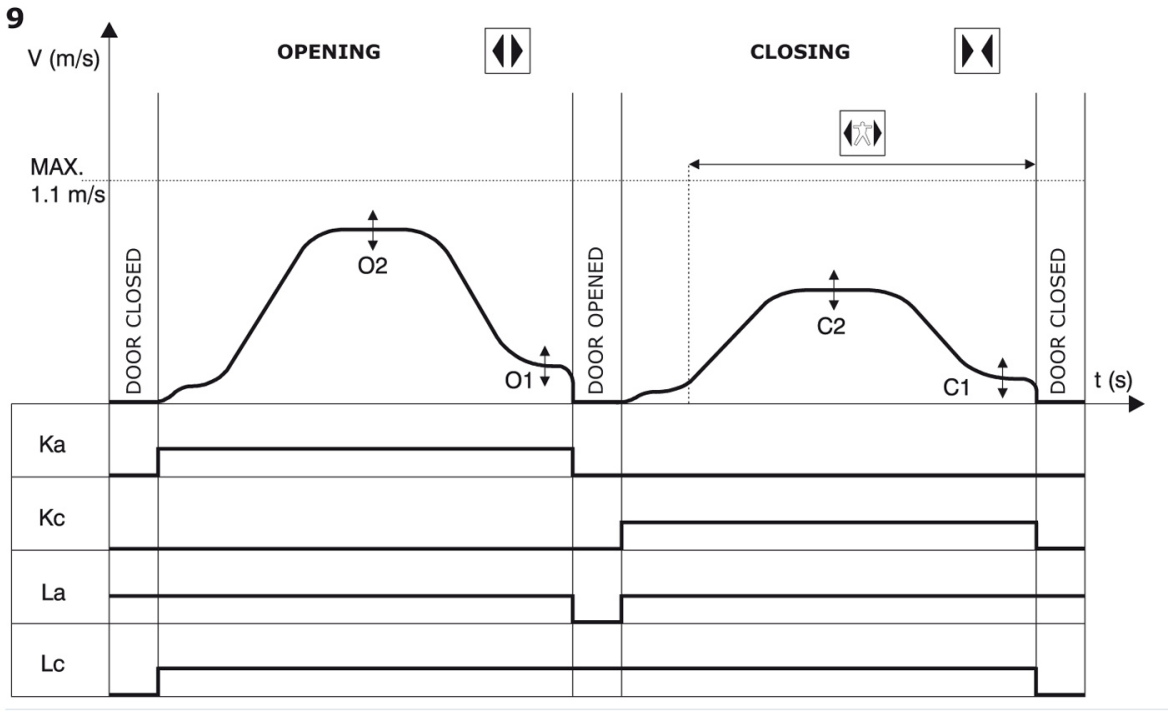
2.1 SPEED PROFILE (9)

Opening cycle

O1	Opening low speed
O2	Opening hight speed

Closing cycle

C1	Closing low speed
C2	Closing hight speed



Key

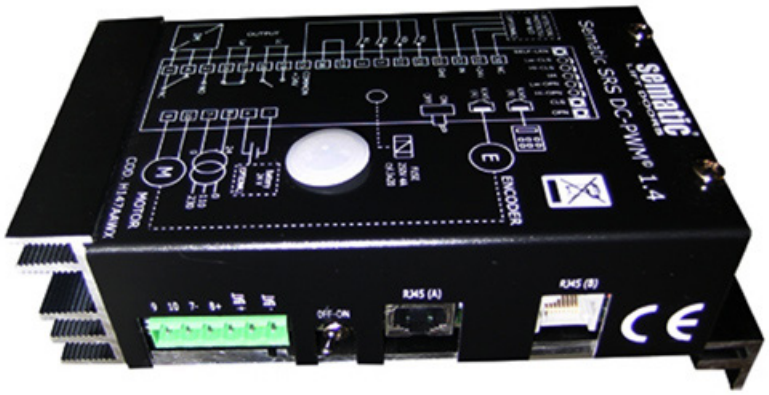
Ka	Door opening
Kc	Door closing
La	Open Limit
Lc	Close limit
	Closing cycle
	Active reversing system
	Opening cycle

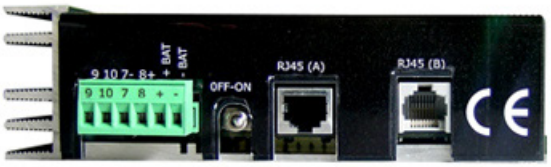
3 GENERAL FEATURES

3.1 TECHNICAL INFORMATION

MAIN SUPPLY VOLTAGE	Controller: 24 ± 10% Vac, 50-60 Hz Transformer: 230 Vac - Primary (115 Vac Option) 24 Vac - Secondary
TYPICAL POWER CONSUMPTION	80 VA
PEAK POWER CONSUMPTION	100 VA
MOTOR OVERLOAD PROTECTION	@In <15 minutes @2In <3 minutes
OPERATIONAL TEMPERATURE RANGE	from -10°C to +60°C
HUMIDITY	non-condensing between 20% and 80%
PROTECTION	rapid cartridge fuse [5x20, 4 A]
PERFORMANCE SPEED	separately adjustable for opening and closing through regulation trimmers
REVERSAL SENSITIVITY	variable, only operational on door close cycle; adjustable through regulation trimmer

3.2 DOOR CONTROLLER SRS DC-PWM©

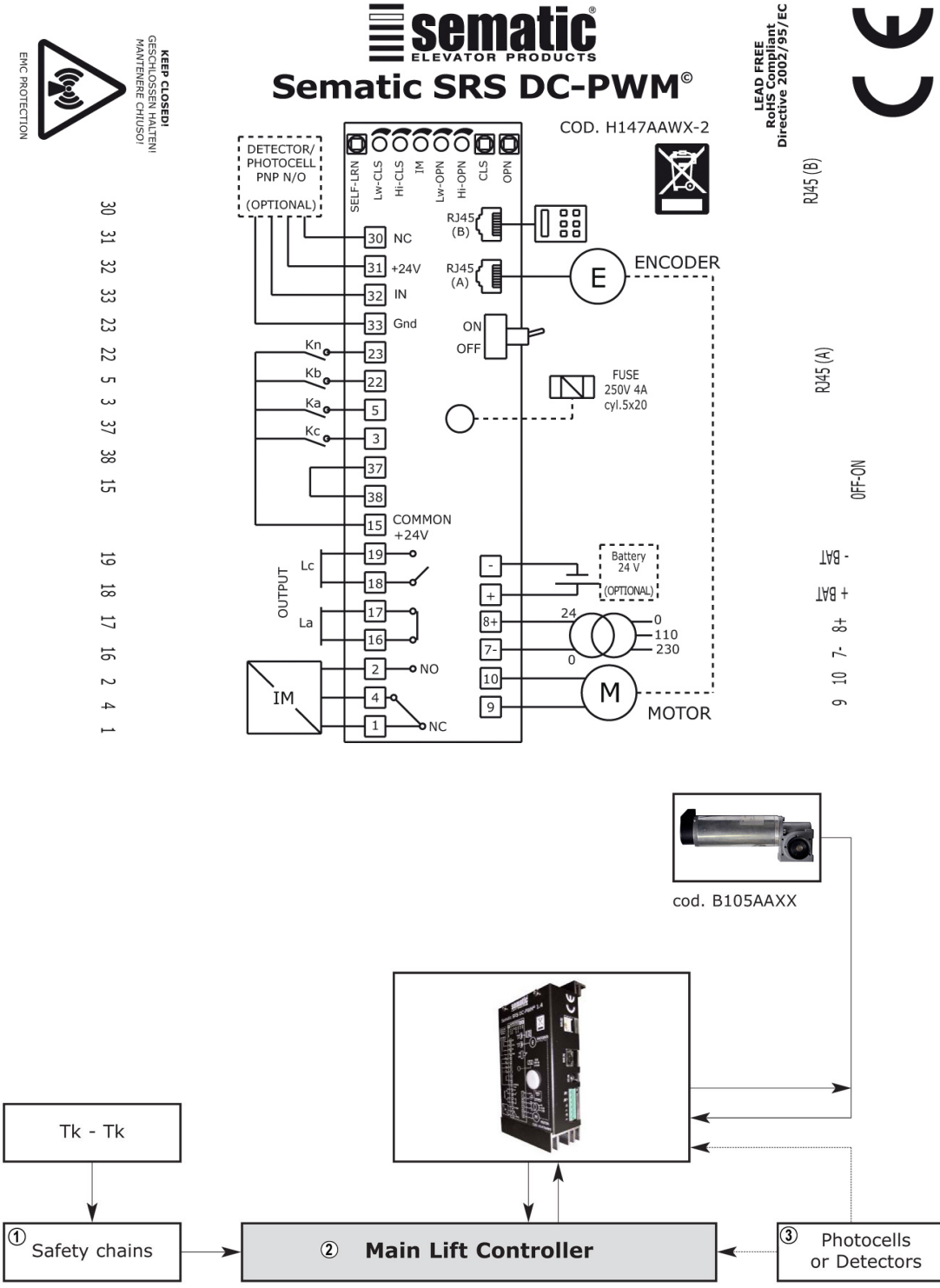




1. *6 poles connector for motor, 24 Vac power supply and auxiliary battery supply*
2. *Power ON / OFF switch*
3. *RJ45 Connection port (Motor optical Encoder)*
4. *RJ45 Connection port (Handset)*
5. *11 poles connector for in-coming controller signals and detector connections*
6. *7 poles connector for out-going controller signals*

4 SIGNALS TO/FROM THE DOOR CONTROLLER

4.1 CONNECTIONS



1	Safety chains
2	Main Lift Controller
3	Photocells or Detectors

INCOMING SIGNALS FROM THE DOOR CONTROLLER			
Signal	Connector Pins	Contact type & normal state	Note
Opening control Ka (coming from the Main Lift Controller)	Connector pins 5-15	These connections require dry (voltage free) contacts (contact open when inactive)	When the Door Controller is installed on a Front & Rear entrance car, it is important that the opening and closing commands have no common contacts between the two doors. Shielded, Grounded Wire Highly Recommended
Closing control Kc (coming from the Main Lift Controller)	Connector pins 3-15	These connections require dry (voltage free) contacts (contact open when inactive)	
Forced closing control at low speed Kb	Connector pins 15-22	These connections require dry (voltage free) contacts (contact open when inactive)	The main lift controller may signal the forced closing when the photocell (or similar device) shall be made inoperative due to a failure, or after several door closing failures.
Re-opening control Kn	Connector pins 15-23	These connections require dry (voltage free) contacts (both logics available)	See **"3.2 Door Controller SRS DC-PWM©" a pag. 10** for the connection to the door controller
Encoder signals	Connector RJ45 (A)	Factory prewired connector	
Handset (Optional)	Connector RJ45 (B)		

Note: The SRS DC PWM© controller may also work with different input signal Voltage from the Main Lift Controller range from 6 to 24 V CC. To use this feature:

- *Remove the link between terminals 37-38*
- *Connect terminal 37 to the external input signals power source 0V CC*

OUTGOING SIGNALS FROM THE DOOR CONTROLLER			
Signal	Connector Pins	Contact type & Normal state	Notes
Opening limit switch contact La	Connector pins 16-17	These connections provide dry (voltage free) contact.	The contact is open when the door is fully open. Contact rating: 3A 250Vac 30Vdc
Closing limit switch contact Lc	Connector pins 18-19	These connections provide dry (voltage free) contact.	The contact is open when the door is fully closed. Contact rating: 3A 250Vac 30Vdc
Reversing system signal IM	Connector pins 1-4	These connections provide dry (voltage free) contact. (contact normally closed)	This signal is generated by dry (voltage free) Form C contacts (relay within the Door Controller) and is activated only when either a mechanical obstacle (excessive force) prevents the doors from closing, or a signal is received from an external safety device that is connected to the door controller. It is used to signal the main lift controller to interrupt the door close command and give a door open signal. Contact rating: 3A 250Vac 30Vdc
	Connector pins 2-4	(contact normally open)	
Motor	Connector pins 9-10	Factory-prewired connector	

- *For the mechanical installation door operator, refer to the manual "Installation and maintenance of Sematic doors".*
- *The door controller is supplied already mounted on the operator. All the connections between the door controller, the motor and the transformer are pre-wired at Sematic.*

In order to prevent possible damage to the wiring cables by coming into contact with the drive belt, they are fixed to the header as shown in the following image:

Note: *In case of motor replacement be sure to bind the excess cable lenght as above pictured, to avoid any contact of the motor cable with the driving belt.*

Warning:

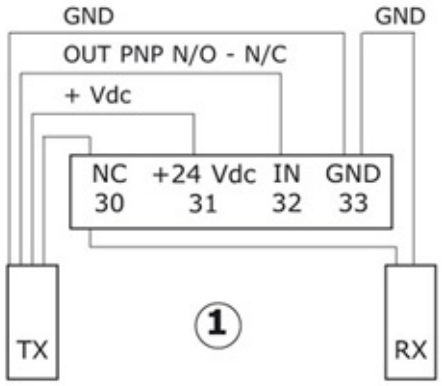
- *to avoid possible induced currents within field wiring, it is recommended to shield the Ka and Kc signals (connector pins 3, 5 and 15) with grounded, shielded cables.*
- *Changes made to the factory wiring length or position can damage the EMC system characteristics and is not recommended.*

4.1.1 Detector/Photocell/Barriers: Signal-Only Connection to the Door Controller (Direct Connection)

This connection requires a dry (voltage free) external relay contact connected to the Door Controller Connector pins 15-23.
It is possible to connect the single output signal from a photocell (or similar device) formed by a voltage free contact, so that the door controller will directly receive the command to re-open. The photocell (or similar device) has therefore an independent power supply and sends only its outgoing signal to the Sematic SRS DC-PWM© controller.
During the reopening of the door the controller sends a signal to the main lift controller through the IM relay contact (green led is on).

4.1.2 Detector/Photocell/Barriers: Complete Connection to the Door Controller

Complete Connection means that the device is powered by, and sends the re-open signs directly to the Sematic SRS DC-PWM© controller. The controller then sends a signal to the main lift controller through the IM relays contact (green led is on).
It is possible to have the complete connection of detectors or photocells with a 24 Vdc max 100 mA supply and a PNP N/O output, through the connector pins:



33 GND	ground connector pin
32 IN	PNP N/O or N/C signal from detector/photocell/barrier
31 + 24 Vdc	Vdc power supply to detector/photocell/barrier
30 NC	dummy free connector pin (it can be used as a dummy connector for connection between the detectors system components).

5 INSTRUCTION WITHOUT HANDSET

5.1 AUTOMATIC MODE

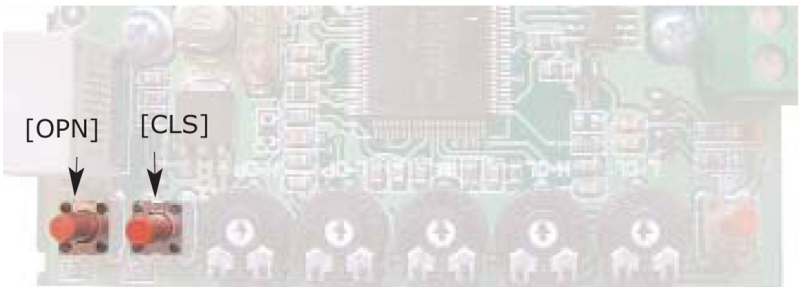
- *All the signals sent by the main lift controller and by the external devices (photocells,etc.) are always active except as in note (*).*
- *If an opening signal is given by the main lift controller, the red led on the door controller printed board starts to flash until the door reaches the La opening limit (red led on, not flashing).*
- *If a closing signal is given by the main lift controller, the red led on the door controller printed board starts to flash until the door reaches the Lc closing limit (red led on, not flashing).*
- *In case of signal loss or failure of the main lift controller the door controller immediately stops the door movement.*

Note *(*): in manual mode the main lift controller signals are not active; if CLS or OPN switches are pressed, the main lift controller signals are automatically excluded.*

5.2 MANUAL MODE

To test the correct door operator function before connecting the main lift controller signals, it's possibile to open or close the door through the two switches [CLS] and [OPN] on the printed board.

- *Keep pressed the [OPN] switch to open the door, the red led on the door controller printed board starts to flash until the door reaches the La opening limit (output contact La open - red led on, not flashing).*
- *Keep pressed the [CLS] switch to close the door, the red led on the door controller printed board starts to flash until the door reaches the Lc closing limit (output contact Lc open - red led on, not flashing).*



6 FUNCTIONS

6.1 REVERSING SYSTEM FORCE

The reverse motion torque parameter sets the sensitivity degree to detect an obstacle during the door closure, thus giving the reopening command. The parameter's value can be manually set with a regulation trimmer [IM] or by means of the handset from a minimum force (high sensitivity) to a maximum force (low sensitivity).
Please note that a minor sensitivity corresponds to higher values and vice versa.

The reversing system is INTERNAL, the reopening of the doors due to obstacle detection is solely controlled by the Door Controller and door reopening is signalled to the main lift controller through the IM contacts (1-4 contacts normally closed, 2-4 contacts normally open).

6.2 FORCED CLOSING (NUDGING)

In the case of photocell failure, after several failed attempts at closure, it is possible to command the closure of the doors in low speed (forced closing) by closing the 15-22 connector pins using a relay (voltage free contact).

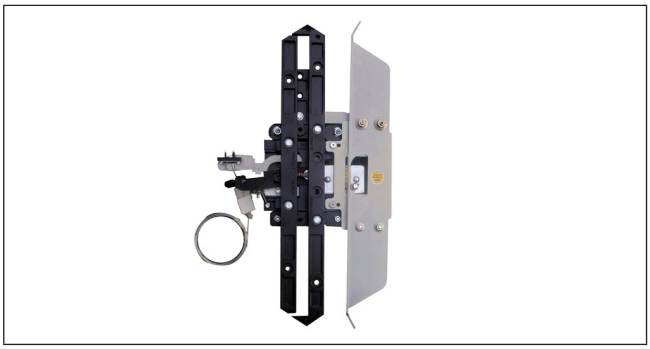
6.3 MOTOR ROTATION DURING CLOSING

This function fixes the motor rotation during the closure command.
The default value gives the motor a clockwise rotation while closing; to set an anticlockwise rotation to the motor during closure, simultaneously press for 5 seconds the buttons [CLS] [OPN] [SELF-LRN] on the electronic board or alternatively select the option shown on the handset display.
The controller resets and the motor rotation is inverted.
Just follow the same instructions to reset the motor in the clockwise rotation.

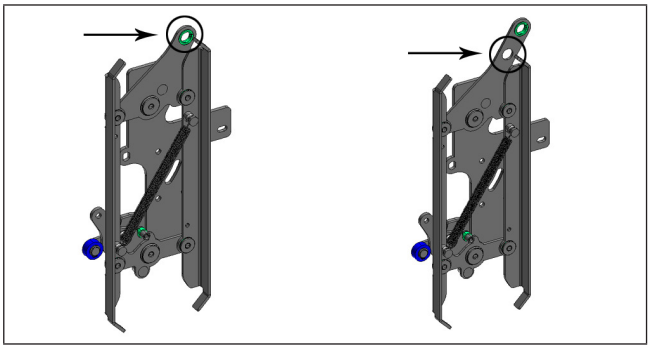
6.4 SKATE TYPE (INSTRUCTION WITH HANDSET)

This function allows the user to set the skate type:

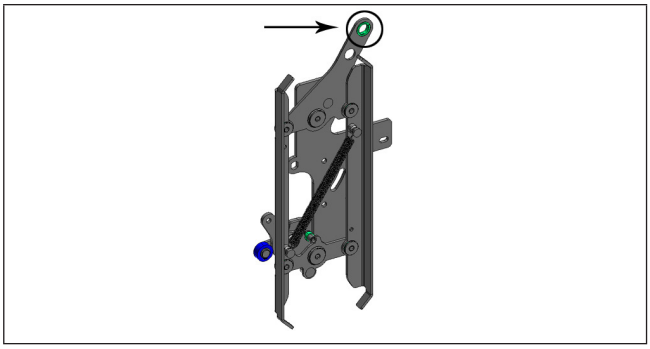
- *Standard (STD) skate (Default): the speed profile setting are optimized for the Sematic standard ALU skate type.*
- *Expansion (EXP and EXP-B) skate: the speed profile setting are optimized for the Sematic 2000 US Expansion skate type.*



00 - STD Skate (Aluminium skate)



01 - EXP Skate
Use this setting when you have a single hole in the upper fixing plate (left picture) or you have two holes and you are connecting the belt to the lower one (right picture)



02 - **EXP Skate-B**
Use this setting when you have two holes in the upper fixing plate and you are connecting the belt to the upper one

Setting a different skate type means telling the controller that different opening dimensions have to be used (20mm std, 90mm exp and 120 mm exp type B) and this allows correct operation in opening and closing cycles.
After selecting the skate type, confirm in sequence the following options:

- *Skate Space*
- *Skate Low Speed*
- *Disable reverse. space*
- *OP. Acel. Start*
- *CL. Decel. End*

6.5 CLOSING REST TYPE (INSTRUCTION WITH HANDSET)

This function allows the user to choose the closing parking mode:

6.5.1 Motor on (default)

The motor is powered during the closing door parking condition and the operator skate arms are closed.

6.5.2 Motor off

This option has been introduced for decrease/avoid the power consumption of the plant (so to preserve the use of the motor) when it is found in close position.
Important note: during the car travel it is necessary that the Main Lift controller gives the closing Kc command, to allow the skate arms closing during the movement.

6.5.3 PM activation Delay (Default 300 sec.)

This sub-parameter represents the delay in entering the open skate parking phase after the activation event represented by the disabling of the closing command KC. So the system waits for a time equal to the parameter, before opening the skates and going into energy saving condition.

6.5.4 PM Opening space (Default 20 mm for STD skate, default 90 mm for EXP skate, default 120 mm for EXP-B skate)

The value represents the size of the space reached by the skate when it is completely open during open skate parking.

6.5.5 PM position error (Default 5 mm)

This sub-parameter represents the space threshold (with relation to the open skate parking point represented by the PM ACTIVATION DELAY parameter) within which the panels can move. When the set value is exceeded the controller loses the door closed signal LC and activates immediate automatic closure of the skate. During this last operation the Main Lift Controller should however give the closing or opening command to the door operator.

6.6 MOTOR (INSTRUCTION WITH HANDSET)

Controller Sematic Residential System can be used with differents motors as indicated at paragraph 4.1.
As setting deafult the controller automatically recognize the model DC-PWM B105AANX.
Using the DC.PWM B105AAXX model you have to select it manually

6.7 MAX CURRENT END CL (INSTRUCTION WITH HANDSET)

This parameter allows to reduce the current to the motor during the final phase of closing skate.
Keeping OFF (default) if the system is powered through a 24Vac and150VA transformer supplied by Sematic.
Press ON only if the controller is powered with continuous tension (24Vdc) and reduced power (<150VA)

6.8 LA THRESOLD (INSTRUCTION WITH HANDSET)

6.9

This parameter allows the regulation of the activating point of the LA outgoing used for the open door's segnalation.
Default value is 0,08m

- *Increase the data to allows the activation of the outgoing LA before the door is completely open.*
- *Decrease the data to delay the activation of the outgoing LA .*
- *Note: Excessive reduction of this value could compromise the regular functioning of LA's signal*

6.10 ALARMS

The Sematic SRS DC-PWM© controller has the ability to diagnose and record a number of anomalous situations; such diagnostics are very helpful to the maintenance personnel to assist in locating possible operational problems. When any monitored error occurs, the Door Controller will signal it with the leds: the red led is on and the green led flashes showing the error code (the flash number corresponds to

the alarm code). It is possible to find the last five alarms on the handset shown in the diagnostic menu.
If the handset is available, it is possible to visualize the last occurred alarms (see **"8.6.1 Consulting the Maintenance Menu with the Handset" a pag. 24**.
The following table shows the type of signalling and the relevant alarm detected by the Door Controller:

ALARMS TABLE			
Visualized code	Viewed error	Error description	Action undertaken by Door controller
cod. 02 2 flashes +pause	Over current protection	Motor over current due to door mechanical strain (Note 1)	Auto reset when proper condition is restored
cod. 04 4 flashes +pause	Power-on motor inverted	Inverted motor connection or inverted Encoder channels. Door performs a jerk and then stops (Note 2)	Auto reset, after about 20 seconds, when normal operating conditions are restored; after 5 trials in 5 minutes the system stops operation and waits for external manitenance.
cod. 05 5 flashes +pause	Encoder jerk	Interruption of the motor's Encoder cables, or interruption of the motor cables after system's start up or the connecting plug to the Encoder motor is inverted	
cod. 07 7 flashes +pause	Motor jerk	Interruption of the motor cables	
cod. 08 8 flashes +pause	Over-voltage	Over-voltage in the power supply, it works every time the power voltage is over circa 50 V.	Auto reset when proper condition is restored (Power supply lower than 45 V.)
cod. 09 9 flashes +pause	PWM-Trip	Impulse over-current (shunt short circuit)	Auto reset, after about 20 seconds, when normal operating conditions are restored; after 5 trials in 5 minutes the system stops operation and waits for external manitenance.

Notes:

1. *This alarm indicates an excessive strain on the operator's functioning; it is advisable to check that the system has minimum friction, especially during the opening phase.*
2. *If both connections (motor and Encoder signals) are inverted, the door opens when a closing signal is received and closes with an opening signal. The Door Operator is pre-wired and tested by the manufacturer; special attention must be taken when replacing motor and/or cables.*

7 TRIAL OPERATIONS BEFORE SETTING AT WORK

To avoid damage, check that the power supply voltage is within the rated values before connecting. The controller turns off if the power voltage is under 15 V.
Before the lift is commissioned, a self-learning cycle must be carried out.

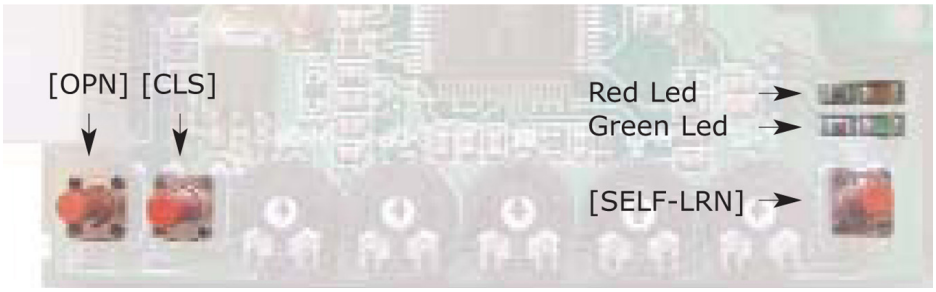
7.1 SELF-LEARNING

The self-learning cycle allows the Door Controller to store the running distance between the closing and opening limit. It can only be activated manually and must be carried out under direct supervision of maintenance personnel (i.e. the Door Controller must store the correct data).

Important!

- *During the self-learning cycle please check carefully that the panels slide freely and that the Door Operator completes its total expected travel. The self-learning cycle is essential if a replacement Door Controller has been installed.*
- *Every time the system is re-powered and an opening/closing signal is given (for instance after power supply interruption) it performs a reset cycle, i.e. it searches for a closing limit at low speed, not a self-learning cycle.*

7.2 SELF-LEARNING CYCLE PROCEDURE (WITHOUT USING THE HANDSET)

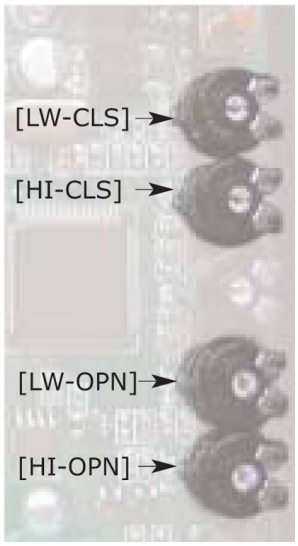


- *Power the system*
- *Turn "ON" the door controller*
- *Press the self-learning switch [SELF-LRN]to start up the self-learning cycle.*
- *Give a closing signal through the [CLS] switch on the printed board or through the main lift controller.*
- *When a closing command is given, the Door Controller carries out a closing cycle at low speed (both red and green leds are flashing) or it remains in closed position if the doors are already closed (green led is flashing and red led is on).*
- *After the doors have completely closed, give an opening command through the [OPN] switch on the printed board or through the main lift controller opening signal: the Door Controller carries out an opening cycle at low speed (both red and green leds are flashing) until the door reaches the opening limit. During this operation please check carefully that the operator completes its total expected travel.*

At the end of the opening cycle, the self-learning cycle is complete (red led on and green led off).

7.3 SPEED PROFILE REGULATION TRIMMERS (WITHOUT HANDSET)

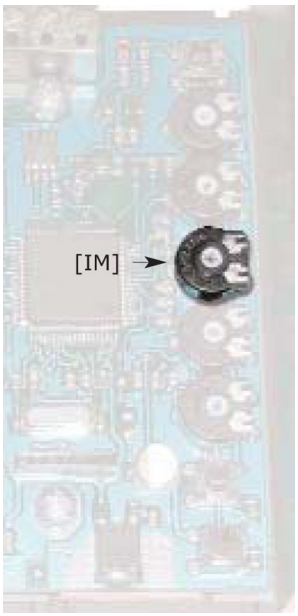
To set up both opening and closing speed profiles there are four trimmer on the printed board as shown in the following picture:



- *[HI-OPN] trimmer sets the high opening speed (turn-ing it clockwise will set the high opening speed from the minimum speed value to the maximum speed value)*
- *[LW-OPN] trimmer sets the low opening speed (turn-ing it clockwise will set the low opening speed from the minimum speed value to the maximum speed value)*
- *[HI-CLS] trimmer sets the high closing speed (turn-ing it clockwise will set the high closing speed from the minimum speed value to the maximum speed value)*
- *[LW-CLS] trimmer sets the low closing speed (turn-ing it clockwise will set the low closing speed from the minimum speed value to the maximum speed value)*

Note: *the trimmer set value is saved in permanent memory only if the trimmer stays inactive for minimum, 2 seconds.*

7.4 REVERSING SYSTEM FORCE SETTING (WITHOUT HANDSET)



The reverse motion torque parameter sets the sensitivity degree to detect an obstacle during the door closure, thus giving the reopening command. The parameter's value can be manually set through the [IM] regulation trimmer (turning it clockwise will set the reversing system force from the minimum value to the maximum value)
Please note that a minor sensitivity corresponds to higher values and vice versa.

8 INSTRUCTION WITH HANDSET

8.1 HANDSET (OPTIONAL)

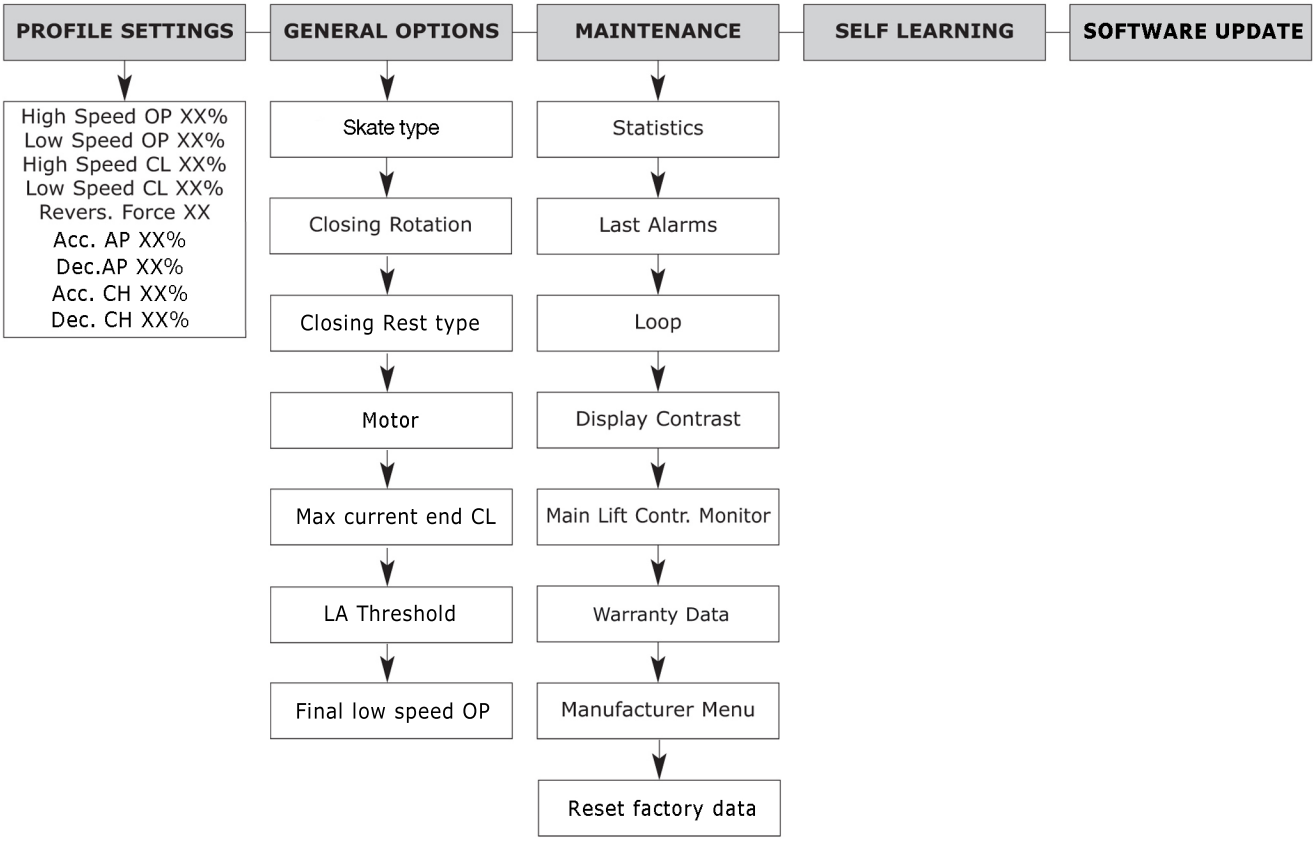
Fig. 1 Optional Kit - cod. B147AABX

Recommendation!
Although the handset (see picture 1) can be directly connected by the installer/maintenance personnel to the door controller on the car's roof, the ideal situation is to have a connection with the door controller inside the car (see picture 2).
In this way the installer/maintenance personnel can work in absolutely safe conditions and can control the movement of the coupled doors during their effective operational mode.
To make this connection, ask Sematic for the appropriate adapter cod. B147AABX (see picture 3) (a 16 mm. diameter hole is required in any chosen position within the Car walls).

Note: when the handset is connected to the controller the display shows the warrantly expiration date (2 years from the manufacturer date) and the activity hours left before warrantly expiration. Subsequently choose the language by means of the keys ↓ and ↑ and confirm the choice through the "OK" key.

Important note: when the handset is connected, all the signals from the main lift controller (but not the K2TB, if used) and Kn are ignored; this in order not to interfere with the commands sent through the handset.
The output LA and LC are both kept OPEN (not valid condition in normal operation).
If Monitor menu is selected also Kn is monitored. When the MLC Monitor menu is selected, though, the system performs as if the handset was not connected at all, allowing the complete monitoring of input/output signals by means of the handset.

8.2 USER HANDSET MENUS AND SUBMENUS



8.3 SELF-LEARNING CYCLE USING THE HANDSET

By using the handset to operate a self-learning cycle, interferences with possible signals coming from the main lift controller are avoided

- *Power the system*
- *Turn "ON" the door controller; if there are any closing or opening signals from the main lift controller, the operator will perform the relevant reset cycle in low speed up to the end run limit*
- *Connect the handset to RJ45 connector*
- *Using keys ↑ and ↓ choose the required language and confirm with the "OK" key*
- *Using keys ↑ and ↓ run through the MAIN MENU and choose "SELF LEARNING"*
- *Using the "OK" key confirm the option*
- *If the operator is not on a closing position use key F2 (><) to allow the door to complete a closing cycle in low speed*
- *Once the closure has been made, push again key F2 (<>) to allow a complete opening cycle in low speed*

During this operation please check carefully that the operator completes its total expected travel.
At the end of the opening cycle the self-learning cycle is completed.
This will be signalled with the information "Self-learning completed".

- *Press key F1 (EXIT) to restore the "MAIN MENU "*

8.4 SPEED PROFILE ADJUSTMENTS USING THE HANDSET

This option allows the modification of the speed profiles, on the handset display are shown all the possible trimmer settings (see **"6 Functions" a pag. 15**.

- *Connect the handset to RJ45 connector*
- *Using keys ↑ and ↓ choose the required language and confirm with the "OK" key*
- *Using keys ↑ and ↓ run through the "MAIN MENU" and choose "PROFILE SETTINGS";*
- *Press the "OK" key to confirm the option*
- *On the display the following options are viewed:*
  - *High speed OP XX %*
  - *Low speed OP XX %*
  - *High speed CL XX %*
  - *Low speed CL XX %*
  - *Revers. force XX N*
  - *Acc.AP*
  - *Dec.AP*
  - *Acc.CH*
  - *Acc.CH*
- *Using keys ↑ and ↓ to run through the menu "PROFILE SETTINGS" and choose the required option*
- *Use keys ← and → to increase or decrease the selected parameter current value (percentage of the maximum value for the speed or the exact newton value for the reversing force).*
- *Press key F2 (<> - ><) to check the door operation with the new set profile*
- *To save in permanent memory the set value press ↑ or ↓ or key F3*
- *The following options are available:*
  - *"MENU": press key F3 to restore the "MAIN MENU";*

The value shown in this menu is connected to the trimmer set value: modifying one trimmer position you can see the real time parameter variation on the handset display (for trimmer rotations over the 4% of the maximum value)

8.5 GENERAL OPTIONS

- *Connect the handset to RJ45 connector*
- *Use keys ↑ and ↓ to choose the required language and confirm with the "OK" key.*
- *Use keys ↑ and ↓ to run through the "main menu" and choose "GENERAL OPTIONS";*
- *Press the "OK" key to confirm the option*
- *The GENERAL OPTION menu allows the Door Controller to operate by means of the following parameter option:*
  - *CLOSING ROTATION*
  - *SKATE TYPE*
  - *CLOSING REST TYPE*
  - *MOTOR*
  - *MAX CURRENT END CL*
  - *LA THRESOLD*

8.5.1 Closing Rotation with the Handset

- *See **"6.3 Motor Rotation during closing" a pag. 15** for the meaning of this parameter*
- *Using keys ↑ and ↓, run through the GENERAL OPTIONS and choose the CLOSING ROTATION option*
- *Press the "OK" key to confirm the choice*
- *The following options are viewed on the display:*
  - *CLOCKWISE*
  - *ANTICLOCKWISE*
- *Using keys ↑ and ↓, choose the required option and press the "OK" key to confirm it*
- *The display shows the confirmed option and restores the menu GENERAL OPTIONS*
- *The following options are available:*

- *"BACK": Press key F1 to restore the menu PROFILE SETTINGS*
- *"MENU": Press key F3 to restore the MAIN MENU*

8.5.2 SKATE TYPE (select by keypad)

8.5.3

- *For the meaning of thsi parameter see point* ***"6.1 Reversing System Force" a pag. 15***
- *Using keys ↑ and ↓ run through menu GENERAL OPTION selecting SKATE TYPE*
- *Press Ok to confirm the chioce*
- *The display confirm the following option:*
  - *Standard skate*
  - *EXP skate*
  - *EXP-B skate*
- *Using keys ↑ and ↓ select the required option and press Ok to confirm.*
- *Keeping the same values on the screen, press OK to confirm the following options:*
-
  - *Skate space*
  - *Skate low speed OP*
  - *Skate low speed CL*
  - *Disable reversing space*
  - *OP Accell. Start*
  - *CL Decell. end*
- *The display will show the confirmed "skate type" and the controller will store the settings coming back to the menu "General option"*

Following options are available:

- *"Back": pushing key F1 go back to "Main Menu"*
- *"Menu": pushing key F2 go back to "Main Menu"*

8.5.4 CLOSING REST TYPE (select by keypad)

- *For the meaning of thsi parameter see point* ***"6.5 Closing Rest type (Instruction with handset)" a pag. 16***
- *Using keys ↑ and ↓ run through menu GENERAL OPTION selecting CLOSING REST TYPE*
- *Press Ok to confirm the chioce*
- *The display confirm the following option:*
  - *Closed skate*
  - *Open skate*
- *Using keys ↑ and ↓ select the required option and press Ok to confirm.*
- *Keeping the same values on the screen, press OK to confirm the following options:*
-
  - *PM ritardo attivazione*
  - *PM apertura scivolo*
  - *PM errore di posizione*
- *The display will show the confirmed "CLOSING REST TYPE" and the controller will store the settings coming back to the menu "General option"*

Following options are available:

- *"Back": pushing key F1 go back to "Main Menu"*
- *"Menu": pushing key F2 go back to "Main Menu"*

8.5.5 MOTOR (select by keypad)

For the meaning of this parameter see point **"6.6 Motor (Instruction with handset)" a pag. 16**

- *Using keys ↑ and ↓ run through menu GENERAL OPTION selecting MOTOR*
- *Press Ok to confirm the chioce*
- *The display confirm the following option:*
  - *DC-PWM B105AANX*
  - *DC-PWM B105AAXX*
- *Using keys ↑ and ↓ select the required option and press Ok to confirm.*
- *Keeping the same values on the screen, press OK to confirm the following options:*

8.5.6 MAX CURRENT END CH (select by keypad)

For the meaning of this parameter see point **"6.7 Max current end CL (Instruction with handset)" a pag. 16**

- *Using keys ↑ and ↓ run through menu GENERAL OPTION selecting MAX CURRENT END CH*
- *Press Ok to confirm the chioce*
- *The display confirm the following option:*
  - *OFF*
  - *ON*
- *Using keys ↑ and ↓ select the required option and press Ok to confirm.*
- *Display wills howthe parameter's value "Max current end CH"confirmed and the controller will store the settings coming back "General options"*

Following options are available:

"Back": pushing key F1 go back to "Main Menu"

"Menu": pushing key F2 go back to "Main Menu"

8.5.7 LA THRESOLD

For the meaning of this parameter see point **"6.8 LA Thresold (Instruction with handset)" a pag. 16**

- *Using keys ↑ and ↓ run through menu GENERAL OPTION selecting LA THRESOLD*
- *Press Ok to confirm the chioce*
- *On the display will be showed the parameter "LA THRESOLD"*
- *Using keys ↑ and ↓ for increase and decrease the value*
- *Press OK to store the setting data*
- *After that on the display will be showed the parameter "FIANL LOW SPEED OP ".*
- *Using keys ↑ and ↓ for increase and decrease the value*
- *Press OK to store the setting data*
- *The controller will store the setting come back to the menu "General Option"*

Following options are available

- *"Back": pushing key F1 go back to "Main Menu"*
- *"Menu": pushing key F2 go back to "Main Menu"*

8.6 MAINTENANCE MENU - DIAGNOSTICS AND ALARM MANAGEMENT

8.6.1 Consulting the Maintenance Menu with the Handset

- *Connect the handset to the RJ45 connector*
- *Using keys ↑ and ↓ to choose the required language and confirm with the "OK"*
- *Using keys ↑ and ↓ to run through the "MAIN MENU"and choose "MAINTENANCE"*
- *Press "OK" to confirm the choice*
- *The following options are viewed on the display:*
  - *STATISTICS*
  - *LAST ALARMS*
  - *LOOP*
  - *DISPLAY CONTRAST*
  - *MLC MONITOR (MAIN LIFT CONTROLLER MONITOR)*
  - *WARRANTY DATA*
  - *SET FACTORY DEFAULT*
  - *MANUFACTURER MENU*
- *The following options are available*
  - *"BACK": Press key F1 to restore the MENU MAINTENANCE*
  - *"MENU": Press key F3 to restore the MAIN MENU*
- *Using keys ↑ and ↓, run through the MAINTENACE menu and choose the required option*
- *Press "OK" to confirm the choice*

If the option **STATISTICS** is chosen, the display shows the door total working time expressed in days:hours:minutes, the cycle total number which have been performed in this working time and the manufacture date. The following options are available:

- *"BACK": Press key F1 to restore the menu Maintenance*
- *"MENU": Press key F3 to restore the Main Menu*

If the option **LAST ALARMS** is chosen the display shows the last occurred alarms showing their code, the relevant description and time of occurrence (day :hour :minute from the door controller start-up). Using keys ↑ and ↓, run through the stored alarm list. The following options are available:

- *"BACK": Press key F1 to restore the menu MAINTENANCE*
- *"CANC": Press key F2 to cancel all stored alarms*
- *"MENU": Press key F3 to restore the MAIN MENU*

The showed alarms are those as in table in **"6.10 Alarms" a pag. 16**

If the option **LOOP** is chosen is possible to make some door trial opening and closing cycle.

The following options are available

- *"Loop": Pressing key F1 the door performs a number of consequent opening and closing cycles until key F1 is pressed again*
- *"<>" or " >< ": Press key F2 to let the doors respectively open or close*
- *"MENU": Press key F3 to restore the Main Menu*

If the option **DISPLAY CONTRAST** is chosen, the display shows a dark square and allows the setting of the LCD contrast, by means of the ← and → keys; adjust to best view and confirm with "OK" key.

The following options are available:

- *"BACK": Press key F1 to restore the menu MAINTENANCE*
- *"MENU": Press key F3 to restore the MAIN MENU*

If the option **MAIN LIFT CONTROLLER MONITOR** is chosen, the system accepts the Main Lift Controller signals; the display shows a complete list of the input/output signals with their value.

When the input or output signal is activated the character on the display will change their graphic in white with dark background.

The following options are available:

- *"BACK": Press key F1 to restore the menu MAINTENANCE*
- *"MENU": Press key F3 to restore the MAIN MENU*

If the option **WARRANTY DATA** is chosen, the display shows:

- *warranty expiration date*
- *the activity hours left before warranty expiration*
- *the software version in use*

- *the motor code in use*

The following options are available:

- *"BACK": Press key F1 to restore the menu MAINTENANCE*
- *"MENU": Press key F3 to restore the MAIN MENU*

The access to the **MANUFACTURER MENU** is reserved, protected by password.

If the option **SET FACTORY DEFAULT** is chosen, the original factory parameters will be restored:

- *"BACK": Press key F1 to restore the menu MAINTENANCE*
- *"MENU": Press key F3 to restore the MAIN MENU*

9 CONTROLLER SOFTWARE UPGRADE

- *Connect the handset to the RJ45 connector*
- *If necessary, using keys ↑ and ↓ choose the required language and confirm with the "OK" key*
- *Using keys ↑ and ↓, run through the MAIN MENU and choose "UPDATE"*
- *Press "OK" to confirm the choice*
- *Display shows the last available update and the software version in use at the moment.*
- *Press "OK" to confirm the software update*
- *Controller operates a reset and the display shows "Upload" with the progression value of data loading*
- *At the end of the upload the controller operates a reset*
- *It is anyway advisable to SET FACTORY DEFAULT from the PROFILE SETTINGS menu and to run a new SELF-LEARNING CYCLE, checking the parameter settings.*

In case of interruption of connection between handset and controller during the data transfer, turn "off" the controller, turn it "on" again and reconnect the handset.The upload starts again from the beginning.

10 DOOR OPERATOR MAINTENANCE

At least once a year complete the following checks:

- *Clean the doors (tracks, bottom tracks, belts etc.) from dust or debris as this maintains the door good mechanical operation*
- *Check the electric connections and their fitting to the connectors*
- *Check that the door operator toothed belt is tight enough and in good working condition*
- *Check and clean the cable connections of the motor and of the motor Encoder*

11 SPARE PARTS

It is possible to order all the Sematic Drive System© spare parts using the spare parts catalogue, by specifying the required quantity and the code of the ordered piece.

The spare parts manual is extremely important to avoid misunderstandings and to ensure a rapid supply of the correct spare parts. The spare parts catalogue, with photographs and details will make the Sematic doors spare parts purchase easy and quick.

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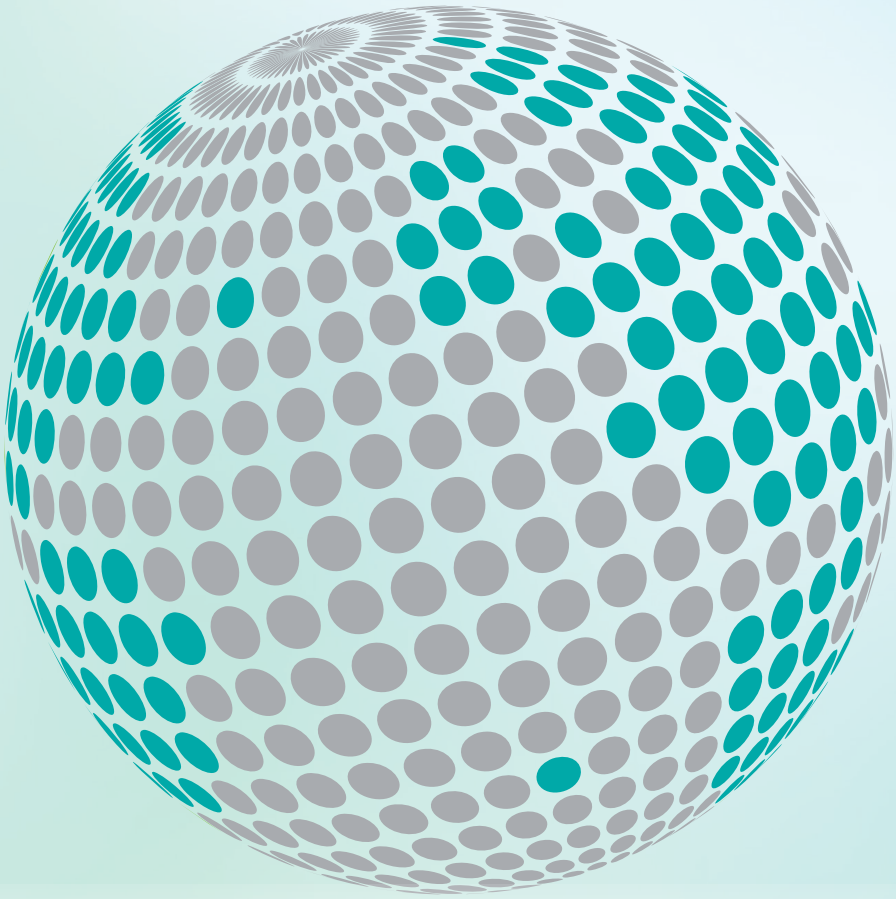

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