

## QC600

0,75 kW

## QC600S

2,20 kW

## QC600W

3,00 kW

MULTIFUNCTION CONTROL UNIT WITH INVERTER



Version **F**  
with emergency STOP



# IMPORTANT SAFETY INSTRUCTIONS

## Specific use

The control unit is specifically for doors moved with a motor.

Safe operation is only guaranteed with normal specific use. The motor must be protected against rain, weather and aggressive environmental conditions.

No liability is accepted for damage caused by other applications or failure to observe the information in the manual.

No modifications are permitted, otherwise the declaration of conformity will be deemed void.

## Safety information

Installation and commissioning must be carried out by trained personnel.

Only technically trained electricians are authorised to work on electrical equipment. They must be able to assess the tasks assigned to them, recognise potential danger zones and be able to implement appropriate safety measures.

Installation must be carried out after disconnecting the general power supply.

Observe existing regulations.

Cover and protect the devices.

Only use with cover and protection devices installed.

Ensure that the seals are correctly positioned and that the cable glands are properly tightened.

Attention: it is highly recommended to activate the impulsive mode only after having finished programming the control unit. In particular during adjustment of the mechanical limit switches, use the dead man mode.

When adjusting the encoder limit switches, the control unit will only allow operation in dead man's mode.

## Spare Parts

Use only original spare parts.



**NEVER TOUCH THE INTERNAL ELEMENTS WITHIN 15 MINUTES AFTER POWER OFF. WAIT TILL IT IS COMPLETELY DISCHARGED.**

## DIRECTIVES

Directives – EMC Directive 2014/30/EU	EN 61000-6-3 (2007) + A1:2011 Emission – Residential EN 61000-6-1 (2007) Immunity – Residential EN 61000-6-4 (2007) Emission – Industry EN 61000-6-2 (2005) Immunity – Industry EN 61000-4-3 (2006) +A1(2008) +A2(2010) RF-field immunity EN 60335-1 (2012)/AC:2014 Safety – Part 1: General requirements
Directive – Low Voltage Directive LVD 2014/35/EU	EN 60335-1 (2012)/AC:2014 Safety of Household and similar electrical appliance/ Part 1. EN335-2-103:2015
TÜV type tested according to:	EN 12453 (2017) Industrial, Commercial and garage doors and gates. Safety in use. EN ISO 13849-1:2015 Safety of machinery

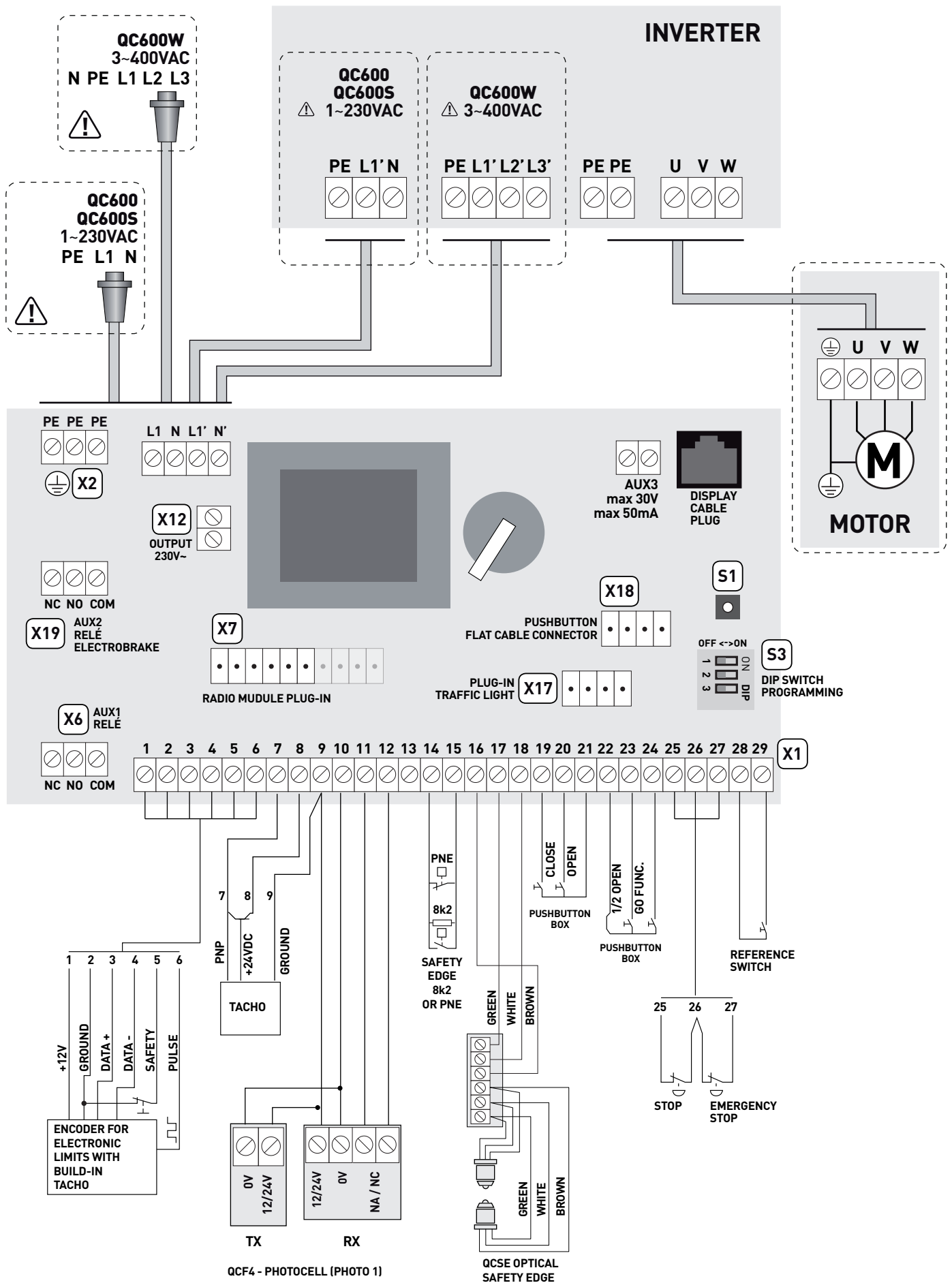
## 1\_ TECHNICAL DETAILS

Installation	Vertical on a vibration free and flat wall
Temperature range (operating)	-10...+50°C
Humidity	less than 93% RH non-condensing.
Vibration	Low-vibration installation, wall mounted.
Dimension	445 x 215 x 150 mm
Supply voltage:	<b>QC600/QC600S</b> : 1~230VAC; 50/60 Hz; ± 10% [ L1, N, GROUND ] <b>QC600W</b> : 3~400VAC; 50/60 Hz; ± 10% [ L1, L2, L3, N, GROUND ] Mains fuse max: 3 x 10A Rated insulation voltage $U_i = 400V$
Transformer	Max 13 VA , VDE 0570/EN61558 <b>QC600/S</b> : Primary 230VAC winding is thermal protected by built-in thermal transformer fuse. <b>QC600W</b> : Primary 400VAC winding is thermal protected by built-in thermal transformer fuse. Both secondary windings are overload protected by multifuses.
Motor output	<b>QC600</b> Max motor load by 3~230VAC: 0.75kW / Max motor current: 5 A
	<b>QC600S</b> Max motor load by 3~230VAC: 2,2 kW / Max motor current: 10 A
	<b>QC600W</b> Max motor load by 3~400VAC: 3,0 kW / Max motor current: 10 A
Emergency stop, Stop, Thermo spec. door stop and Safety chain	Function as normal stop command and disconnect power to contactor coils
24VDC Output (terminals X1 8-9)	24VDC ± 20% (non-regulated), Max load: 160mA (if no plug-in module is used, else there currents must be subtracted)
Safety edge input	PNE/air switch Electric type - 8k2 termination ± 10% Optical type Performance level C, Category 2
Optical safety edge	Input voltage high (green): 2.5 - 5.0 Volt. Input voltage low (green): < 0.5 Volt. Input frequency range (green): 250 - 2000 Hz (50% duty-cycle) Pulse interval maximum (green): 7.0 mS (when not 50% dutycycle)
Photo input	terminal 10 [PHOTO +24V] for power supply and terminal 9 [-] for earth. terminals [11-12] for NC signal for photocell 1 terminals [11-13] for NC signal for photocell 2
Electronic limits	RS385, Data+ Data-, terminated with 120 Ohm
Relé (AUX1)	Max 230 Vac / 5 A (X6)
Relé (AUX2)	Electrobrake relé - NO / NC - 230V~/5A (X6)
Relé (AUX3)	Solid state relé - NO - max 30V/50mA

### 1.1\_ INVERTER FEATURES

	<b>QC600</b>	<b>QC600S</b>	<b>QC600W</b>
Rated motor power	max 0.75 kW	max 2.20 kW	max 3.00 kW
Rated motor voltage	3~230V	3~230V	3~400V
Rated motor current	5 A	10 A	10 A
Rated motor speed	500 - 4000 rpm		
Rated motor frequency	10 - 100 Hz		

<b>Inverter UP Direction</b>		<b>Inverter DOWN Direction</b>	
High frequency	20 - 100 Hz	High frequency	10 - 100 Hz
Low frequency	20 - 100 Hz	Low frequency	10 - 100 Hz
Acceleration time	0.1 - 10 sec	Acceleration time	0.1 - 10 sec
Dec. time full to low	0.1 - 10 sec	Dec. time full to low	0.1 - 10 sec
Dec. time full to STOP	0.1 - 10 sec	Dec. time full to STOP	0.1 - 10 sec
Low speed setpoint before UP limit	5 - 50 % of run range	Low speed setpoint before DOWN limit	5 - 50 % of run range



## 2\_ ENCLOSURE INSTALLATION

For a correct installation:

- Install where the control unit can be protected from rain or adverse weather conditions
- Mounting must be vertical
- The surface has to be checked for flatness, slope and freedom from vibrations
- Do not install in an area of potential risk of condensation
- It is important that the door can be clearly seen from the position of the control through its travel
- Install in an area not accessible to children or unauthorized persons
- Do not perform any electrical connections before the enclosure installation is completely accomplished

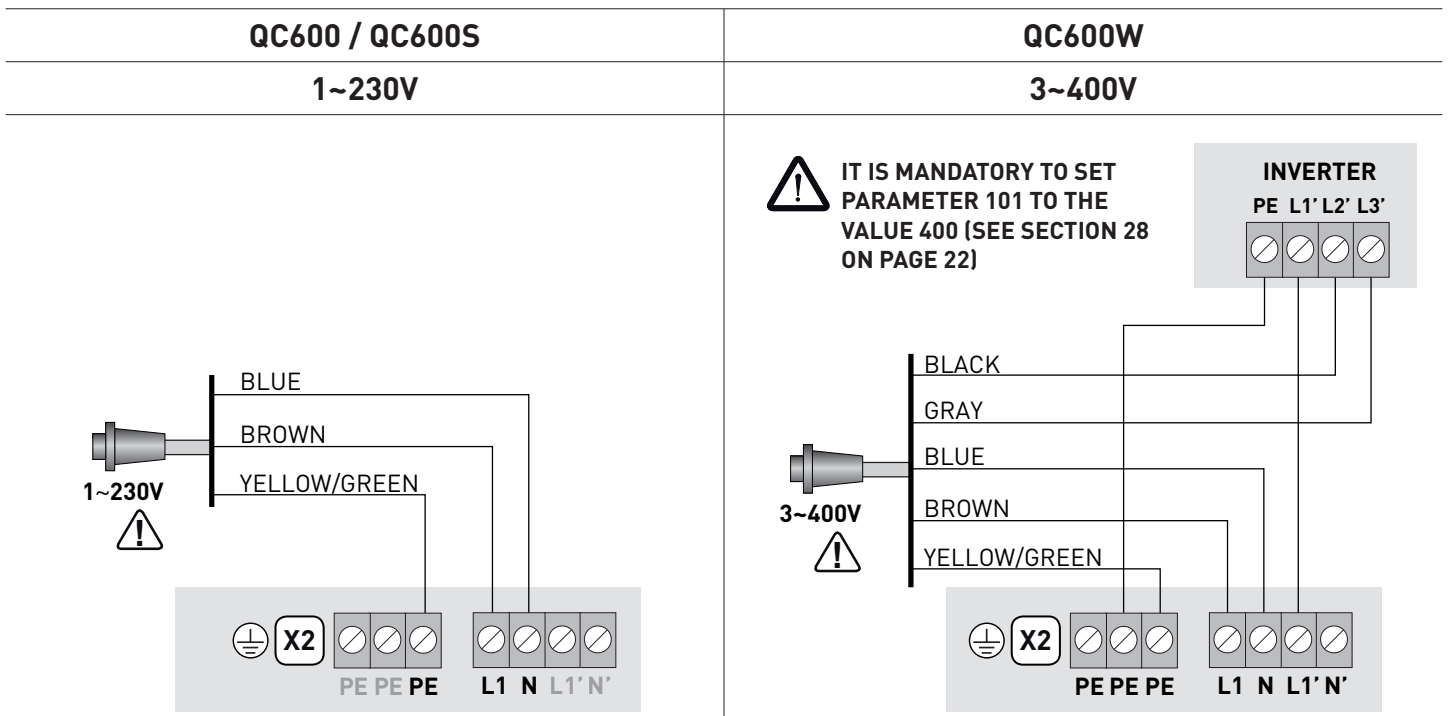
## 3\_ ELECTRICAL OPERATING INSTRUCTIONS (Read carefully and respect the connection's sequence)

**IMPORTANT! All the connection operations must be performed only after the main power supply has been disconnected. TURN OFF THE MAIN POWER SWITCH BEFORE ANY OTHER OPERATION!**

### 3.1\_ CONTROL UNIT POWER SUPPLY

**WARNING! The installation must include an automatic cut off switch with minimum distance between the contacts of at least 3 mm.**

**WARNING: if you power a motor with a power mode other than that for which it is set you can damage the motor and the control unit and put at risk the safety of the installer.**



If you need to disconnect the power cable and then to reconnect it or change the control unit wiring sequence, you HAVE TO connect the wires properly, restoring the original configuration.

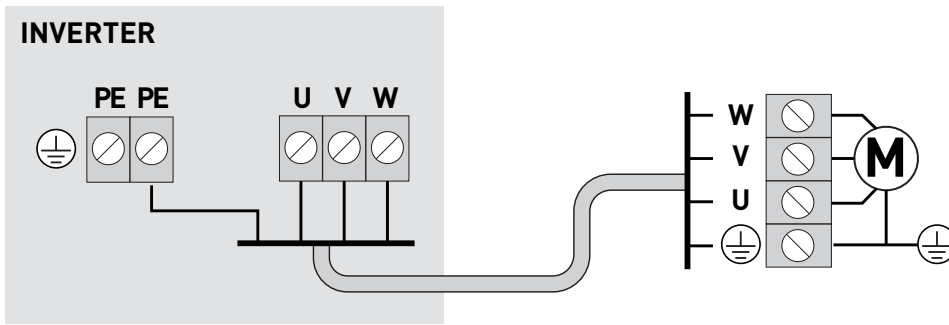
**Take care to connect the ground wire to the X2 terminal.**

**WARNING: if you connect the wires differently from what is shown in the diagrams you can damage the motor and the control unit and endanger the safety of the installer.**

### 3.2\_ CONNECTING THE CONTROL TO THE MOTOR

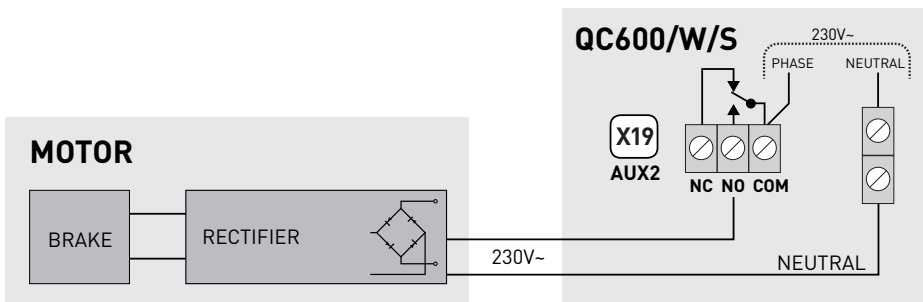
**IMPORTANT! All the connection operations must be performed only after the main power supply has been disconnected. TURN OFF THE MAIN POWER SWITCH BEFORE ANY OPERATION!**

Here below you will find the power supply diagram:



### 3.3 ELECTROBRAKE CONNECTION

Connect one of the terminals of the electric brake wire to neutral connection straightener (flying clamp) and the other Terminal to the Terminal AUX2 the terminal box X6:



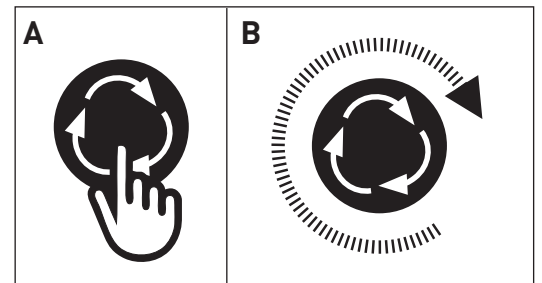
### 4\_ EMERGENCY STOP BUTTON

There is an EMERGENCY STOP button on the cover of the QC600F.

A. Press the button to instantly deactivate all functions of the control unit.

The message STOPPED appears on the display.

B. Turn the button clockwise to reactivate the control unit.

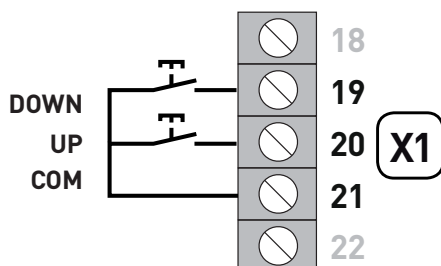


### 4.1\_ INTEGRATED PUSHBUTTON AND ADDITIONAL CONTROL PUSHBUTTONS

The integrated pushbutton on the cover of the control unit is connected to "DISPLAY RS385" connector. You can connect additional control pushbuttons through the terminals from 19 to 21 of X1 connector.

1. connect a normally open button to the contacts [21] and [20] for the UP command;
2. connect a normally open button to the contacts [21] and [19] for the DOWN command

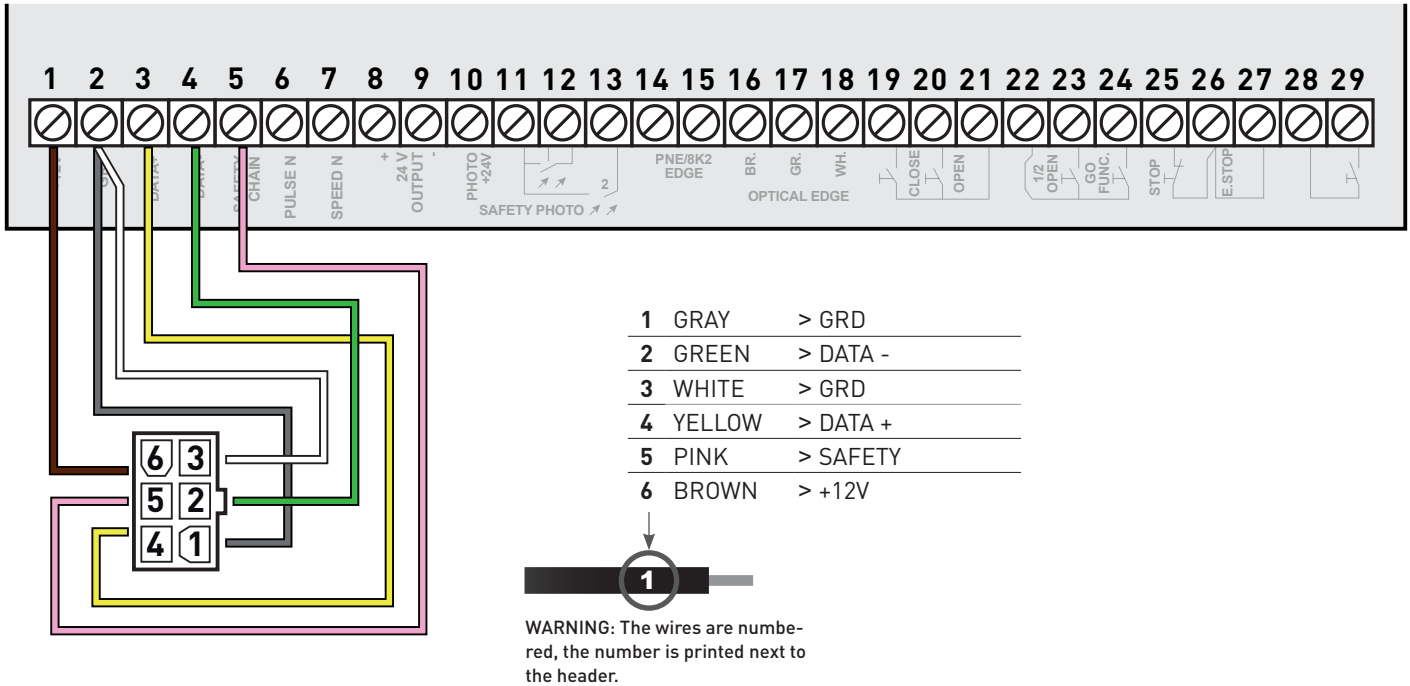
**PAY ATTENTION AT THE CONNECTIONS! No line voltage (230V~ or other external devices) can be connected to the buttons otherwise the unit is damaged.**



## 5\_ ELECTRONIC LIMITS WITH ENCODER

The encoder limits switch wires are connected according to the diagram of fig. 3.

**ATTENTION:** if you connect a control unit pre-set for mechanical limits to a motor with encoder limits, the motor does not perform correctly. In particular, the motor will not find the limit positions and this could put at risk the safety of people and/or things.



## 6\_ CONTROL UNIT SET-UP

The set-up must be performed with the motor off. Follow carefully the steps as described in the procedures, **DO NOT** activate any safety, hand controls or radio controls unless specifically requested by the procedure.

Basically the set-up of the control and the right coupling control/motor must be performed by the installer.

### 6.1\_ SET-UP MODE ACTIVATION

To enter the control unit programming mode place the DIP1 of the switch (S3) in ON.

**During set-up the control unit will work only in dead man mode.**

To return to the normal operating mode, place the DIP1 of the switch (S3) in OFF.

### 6.2\_ BASIC PROGRAMMING

The control unit is supplied with a basic setting performed at the factory which can be restored at any time with the reset procedure (see paragraph 7).

Before beginning the programming procedure:

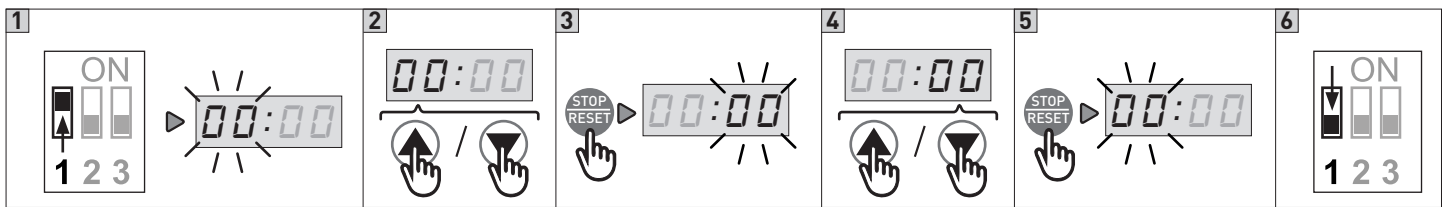
1. Open the cover of the unit
2. Make sure all the connections have been made correctly and that the emergency stop or other safety devices are not activated. Otherwise the display shows the stop symbol active [---]:
3. Find the buttons UP - DOWN - STOP and the 3 switches (S3) on the board
4. Ensure that the LED D10 is not flashing (in case it flashes, check again point 2)

### 6.3\_ PARAMETER EXPLANATION



PARAMETER  
digits

VALUE  
digits



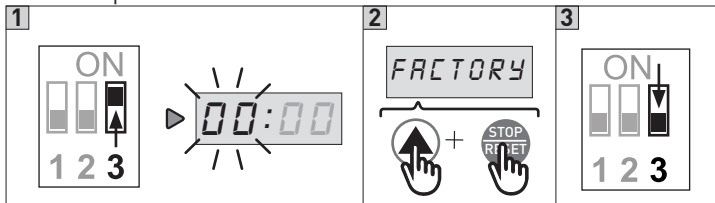
**STOP button:** to switch from **PARAMETER** field to **VALUE** field.

**UP / DOWN buttons:** to increase or decrease the size of the fields **PARAMETER** and **VALUE**

1. Put DIP switch 1 (S3) in ON position, PARAMETER digits start blinking
2. Select by UP / DOWN buttons the number desired
3. Confirm by STOP button the PARAMETER selected. The VALUE digits start blinking
4. Select by UP / DOWN buttons the number desired
5. To confirm the VALUE selected and return to PARAMETER field press STOP button
6. To leave the set-up mode, place the DIP1 in OFF.

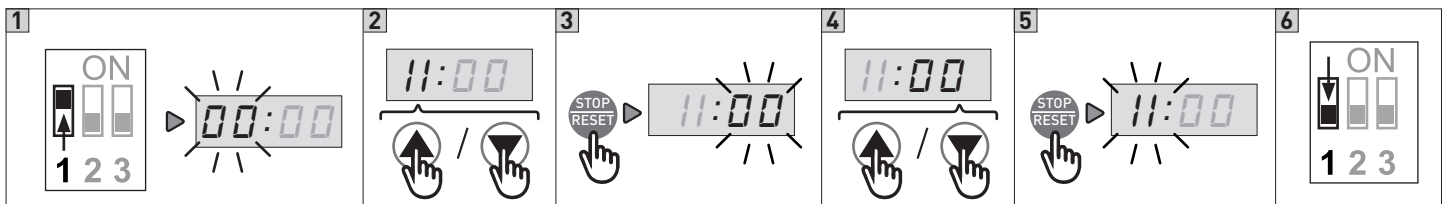
## 7\_ RESET PROCEDURE

The reset procedure allows to erase the settled data of the control unit memory and to return to the default programming.



1. Put DIP 3 (S3) to ON position
2. Within 2 seconds press simultaneously the STOP / UP buttons  
Display will show FAC blinking and the control unit software version number.
3. To leave the set-up mode, place the DIP3 in OFF.

## 8\_ SELECTION OF THE DIGITAL LIMIT SWITCH WITH ENCODER (PARAMETER 11):



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Select by UP / DOWN buttons the number 11
3. Confirm by STOP button the PARAMETER selected. The VALUE digits start blinking
4. Depending on the engine GAPOSA used, select by UP / DOWN buttons the VALUE:
  - VALUE 00: Not in use
  - VALUE 01: Not in use
  - VALUE 02: Not in use
  - VALUE 03: Not in use
  - VALUE 04: Not in use
  - **Value 05: Encoder limits - clockwise rotation (considering the standard phase connection sequence)**  
BRD18018 / 25012M  
RAPIDO 50180 / 40130 / 60130 / 6090 / 7045  
BHS/BBS 50 / 70 / 100 / 120  
RAPIDO 9090 / 12045 / 120140 / 18090
  - **Value 06: Encoder limits - anticlockwise rotation (considering the standard phase connection sequence)**  
BRD 25012T  
SIDONE MIDI 40014 / 55012 / 65012 / 25060 / 45035  
SIDONE MAXXI 75015 / 100010 / 14008 / 18006

To confirm the VALUE selected and return to PARAMETER digits press STOP button

5. To leave the set-up mode, place the DIP1 in OFF.

**WARNING:** after selecting the type of digital limit switch with encoder it is necessary to cut off the power supply (by disconnecting the plug or by turning OFF the main switch) and then to connect it once again in order to allow the communication between the encoder and the control unit.

### IMPORTANT NOTES

Please follow the installation requirements of the GAPOSA motors. For example, if an encoded motor is installed in a way which the encoder direction is reversed, it will not run correctly and may put at risk things and/or people.

GAPOSA disclaims any responsibility from the consequences of an installation not accomplished according to this policy.

After the selection of the encoder limit switch, it is necessary to proceed with the limit switches adjustment (see section 9.1).

## 9\_ ENCODER LIMIT SWITCH

Check that motor and control unit are connected as shown in section 5.

By following the instructions in section 8.1, select the parameter 11 to the value 05 or 06 **depending on the engine GAPOSA used**.

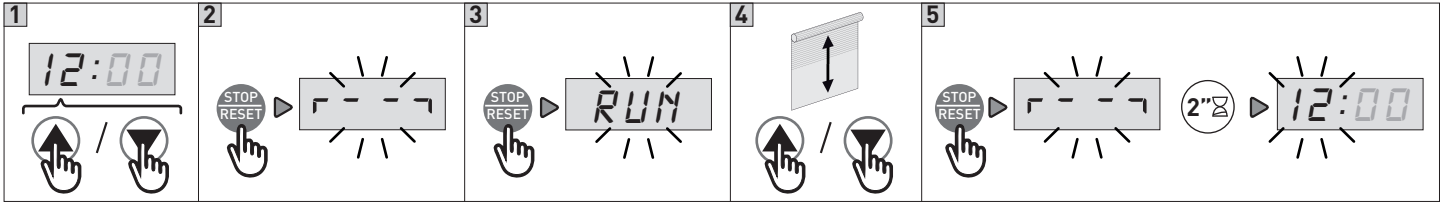
In this case the D15 LED will flash 2 times until both limit switches are not set.



In case the LED D15 blinks only one time, it is necessary to check the correct connection between encoder and control unit and that the correct limit switch type selecting procedure has been accomplished as shown in paragraph 6.2 including the shutdown of the unit after the selecting step in the case of standard GAPOSA encoder.

### Note:

- the **INTERMEDIATE POSITION** function cannot be activated during programming (parameter 16) - Paragraph 16;
- the **additional photocell on the door frame** cannot be active during programming (parameter 31);
- When you change the limit switch positions the operating time (parameter 51) will be reset to the factory default settings.

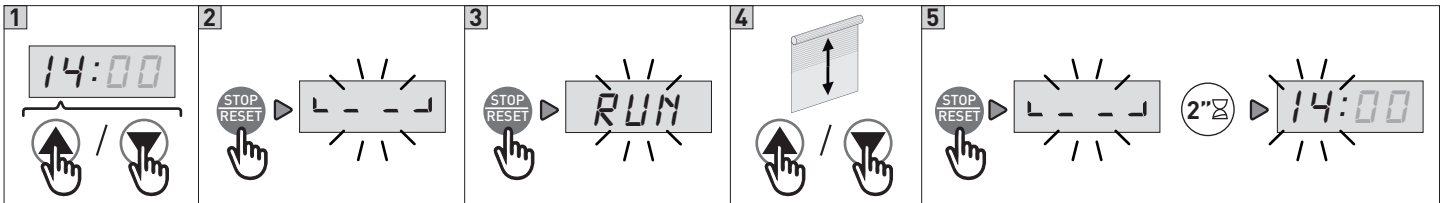
### 9.1\_ UP LIMIT SWITCH ADJUSTMENT (PARAMETER 12)





1. Following the PARAMETERS and VALUES management procedure described in Section 6.3, select the PARAMETER 12
2. Using the buttons UP and DOWN select the PARAMETER 12
3. Access the field VALUE pressing STOP. The field VALUE shows the flashing symbol 
4. Press button STOP once again and the unit, showing the message **RUN**, is ready to move the door
5. Use buttons UP and DOWN to reach the exact UP limit position.
6. Press the STOP button (S1) to confirm the position. The display will show the symbol  for 2 seconds and then the PARAMETER field will start flashing again (showing the number 12).

**To leave the set-up mode, place the DIP1 in OFF.**

### 9.2\_ DOWN LIMIT SWITCH ADJUSTMENT (PARAMETER 14)



1. Following the PARAMETERS and VALUES management procedure described in Section 6.3, select the PARAMETER 12
1. With the DIP1 of the S3 switch in ON and the PARAMETER field still blinking
2. Select by UP / DOWN buttons the parameter 14
3. Access the field VALUE pressing STOP. The field VALUE shows the flashing symbol 
4. Press button STOP once again and the unit, showing the message **RUN**, is ready to move the door
5. Use buttons UP and DOWN to reach the exact DOWN limit position.
6. Press the STOP button (S1) to confirm the position. The display will show the symbol  for 2 seconds and then the PARAMETER field will start flashing again (showing the number 14).

**To leave the set-up mode, place the DIP1 in OFF.**

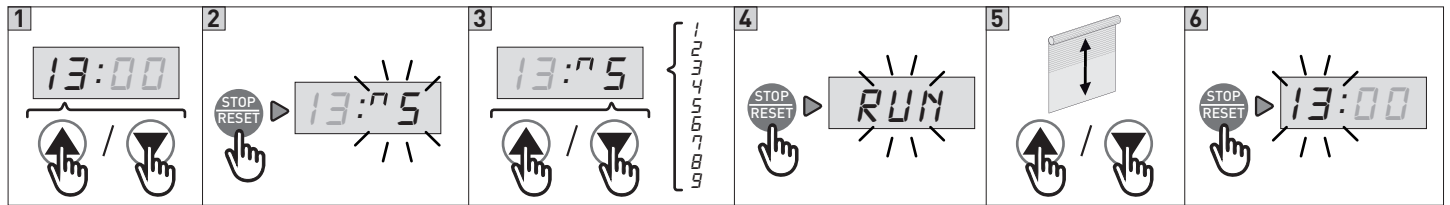
Once the programming phase is correctly accomplished, the LED D15 stops flashing.

**If the LED D15 continues flashings with a sequence of 2 flashes the limit switches are not duly set.**

Once the limits are set, to tune only one of the two limit positions go to the single parameter 12 or 14 as previously explained.

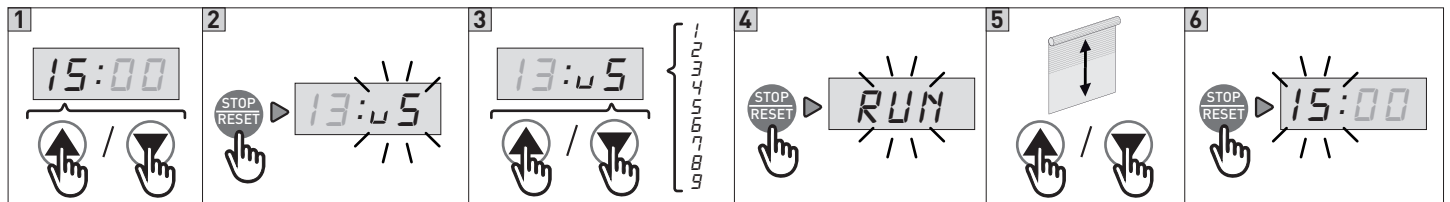
If the LED D15 shows a sequence of 4 flashes it means that an incorrect encoder direction of rotation has been entered in parameter 11. Change the value of parameter 11 by choosing the opposite direction of rotation according to paragraph 6. Once the value changed, start with the limit switch adjustment procedure once again.

### 9.3\_ UP LIMIT SWITCH POSITION TUNING (PARAMETER 13)



- Following the PARAMETERS and VALUES management procedure described in Section 6.3, select the PARAMETER 13
  - Select parameter 13 using the buttons UP and DOWN
  - Access the field VALUE pressing STOP. In the field VALUE symbol **75** flashes
  - Using the buttons UP and DOWN vary the value:
    - Value from 4 to 1: progressively decrease the UP position
    - Value from 6 to 9: progressively increase the UP position.
    - The adjustment range is max  $\pm 0.8\%$  of the travel of the door.
    - If the value is not to be changed you can return to the field PARAMETER pressing the STOP button (S1)
    - After modifying the VALUE press the STOP button (S1) to confirm: the display will show **RUN**
  - You can test the varied position of the door by moving it through the buttons UP and DOWN.
  - Press the STOP button (S1) once again to confirm the tuning and return to the PARAMETER field.
- To leave the set-up mode, place the DIP1 in OFF.**

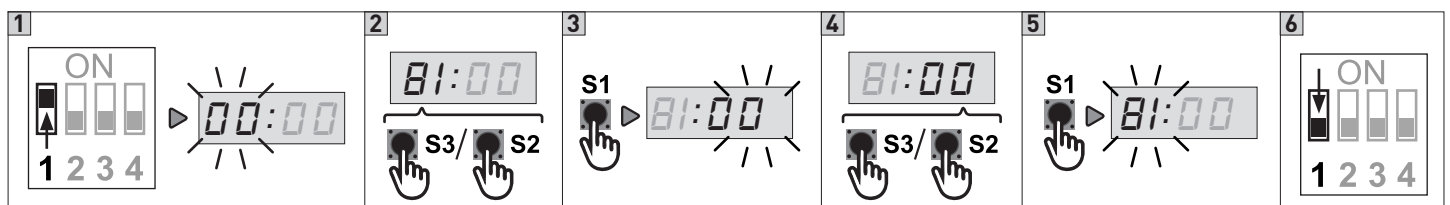
### 9.4\_ DOWN LIMIT SWITCH POSITION TUNING (PARAMETER 15)



- Following the PARAMETERS and VALUES management procedure described in Section 6.3, select the PARAMETER 15
  - Select parameter 15 using the buttons UP and DOWN
  - Access the field VALUE pressing STOP. In the field VALUE symbol **75** flashes
  - Using the buttons UP and DOWN vary the value:
    - value from 4 to 1: progressively decreases the DOWN position
    - value of 6 to 9: progressively increases the DOWN position.
    - The adjustment range is max  $\pm 0.8\%$  of the travel of the door.
    - If the value is not to be changed you can return to the field PARAMETER pressing the STOP button (S1)
    - After modifying the VALUE press the STOP button (S1) to confirm: the display will show **RUN**
  - You can test the varied position of the door by moving it through the buttons UP and DOWN.
  - Press the STOP button (S1) once again to confirm the tuning and return to the PARAMETER field.
- To leave the set-up mode, place the DIP1 in OFF.**

### 9.5\_ DELAY TIME INDICATION OF MISSING ENCODER POSITION (PARAMETER 81)

Display shows **E:09** after pre-set operation time without change of encoder position.  
 Failure can be reset by hold-to-run steps to find both end limits or relearning of limits



- Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
- Select by UP / DOWN buttons the number 81
- Access the field VALUE pressing STOP. The VALUE digits start blinking
- Using the buttons UP and DOWN vary the value
  - Value 00: 1 sec.
  - Value 01: 2 sec.
  - Value 02: 4 sec.
  - Value 03: 4 sec. After operation without change of encoder position the door will stop and error code **E:09** will be automatically reset. ATTENTION: no limit monitoring by selecting value 03
- Press the STOP button to confirm the tuning and return to the PARAMETER field.
- To leave the set-up mode, place the DIP1 in OFF.**

## 10\_ OPERATION MODE (PARAMETER 01)

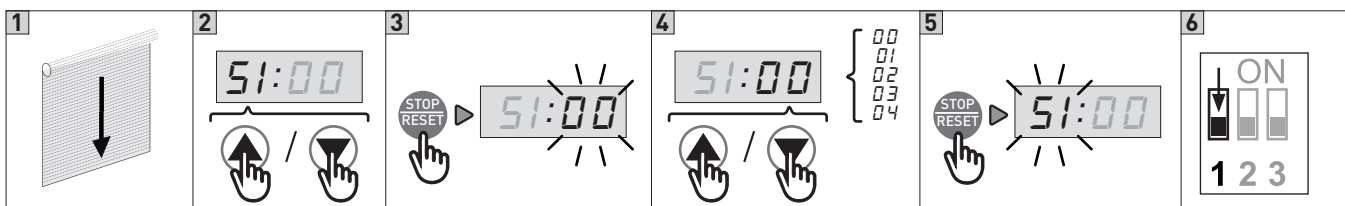
The control unit is pre-set in dead-man control mode (PARAMETER 01, VALUE 01).  
It is possible, however, to define different working modes by modifying the value of PARAMETER 01:

01:01	Hold-to-run UP Hold-to-run DOWN (Put a bridge in X3 terminal 23-24 when there is no safety device)
01:02	Impulsive UP Hold-to-run DOWN (Put a bridge in X3 terminal 23-24 when there is no safety device)
01:03	Impulsive UP; Impulsive DOWN. REQUIRED WITH RADIO MODULE QCMR500-OPTIONAL.
01:04	Not in use

**Warning: it is highly recommended to activate the impulsive mode only after having completed the set-up and adjustments of the control unit. In particular, during the mechanical limit switches adjustment select always the dead-man operation mode.** During the encoder limit switches set-up the control unit will only allow the dead-man working mode.

## 11\_ WORKING TIME SET-UP (PARAMETER 51)

**PARAMETER 51 defines the working time of the door. WARNING! The default parameter is the 51:02 that is to say a working time of 40 seconds.** To turn off or modify the working time, follow this procedure:

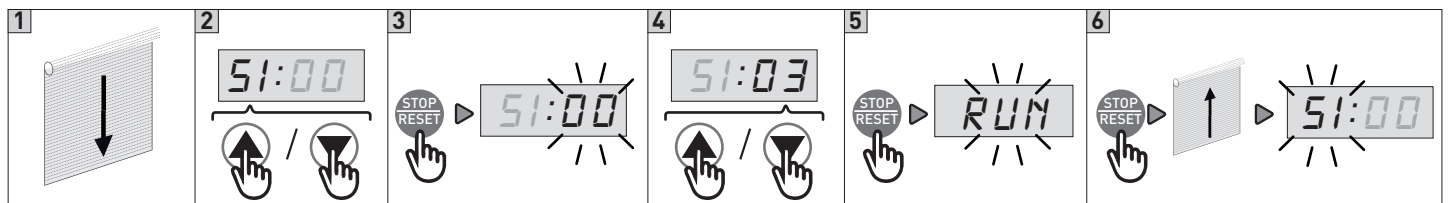


1. Close the door and stop at the DOWN limit position.
2. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
3. Using the buttons UP and DOWN select the parameter 51
4. Access the field VALUE pressing STOP
5. Using the buttons UP and DOWN vary the value
  - value 00: Function inactive
  - value 01: Working time 20 seconds
  - value 02: Working time 40 seconds (default)
  - **value 03: Activate the self learning function to determine the working time.**  
**Caution: In order to use this function the limit switches must be already adjusted.**
  - value 04: Working time 60 seconds
6. Place the DIP1 again in OFF to be out of the set-up mode

By selecting a working time, the control unit verify if the door moving time exceeds the predetermined value: if this happens the door will stop and the display will shows the error code E:03.

### 11.1\_ RUN TIME CONTROL - AUTOMATIC LEARNING

Both limits must be set before selecting automatic run time



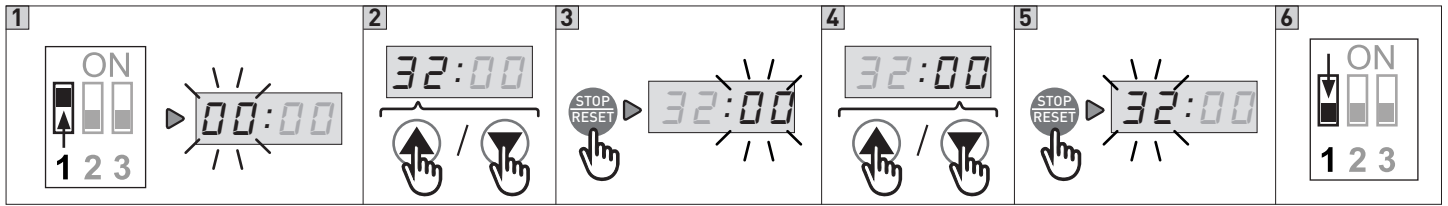
1. Close the door and stop at the DOWN limit position.
2. Following the PARAMETERS and VALUES management procedure described in Section 6.3, select the PARAMETER 51
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN select the value 03
5. Press STOP to confirm. The control unit, showing **RUN** is ready to move the door
6. Using the UP button move the door from the closed position to the open position without interruptions.  
Once the UP limit switch is reached, the door stops, **RUN** stops flashing and the display will automatically return to field PARAMETER.

To leave the set-up mode, place the DIP1 in OFF.

## 12\_ AUTOMATIC CLOSING (PARAMETER 32)

Parameter 32 allows the selection of the door automatic closing after a selectable period of time.

**Important: parameter 32 is visible and accessible only if parameter 01 has been set in impulsive mode**



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 32
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value

- The value 00 in the field VALUE inhibits the automatic closing;

- A value greater than 0, from 1 to 990, indicates the number of seconds to wait before the activation of the automatic closing:

**NOTE: From 0 to 99 the change is made every second by using the buttons UP and DOWN.**

**Over 99 the change is made every 10 seconds and the value will flash quickly: for example, the VALUE 18 corresponds to 180 seconds, the value 19 to 190 seconds ...**

**If you keep the UP button pressed you will get a fast increase of the value**

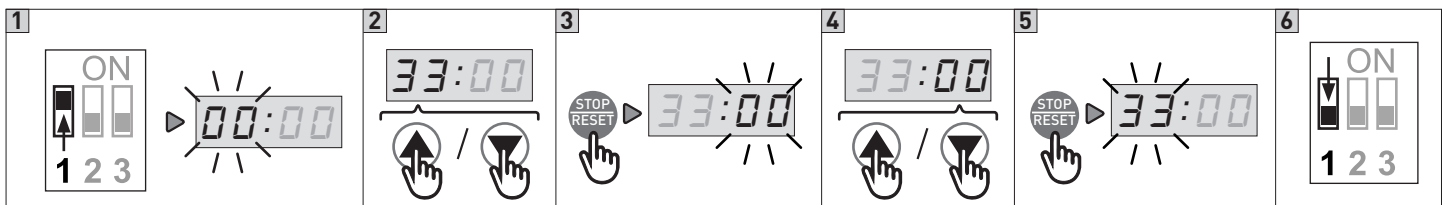
5. Press STOP to confirm

6. To leave the set-up mode, place the DIP1 in OFF.

**Warning: the interlock function prevents the automatic closing when activated. For details see section 11 (INTERLOCK)**

## 13\_ CAR WASH FUNCTION (PARAMETER 33)

Count down of auto closing time starts, only if photo has been activated more than "photo active time". Door shall be complete closed before start of a new cycle.



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 33
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value

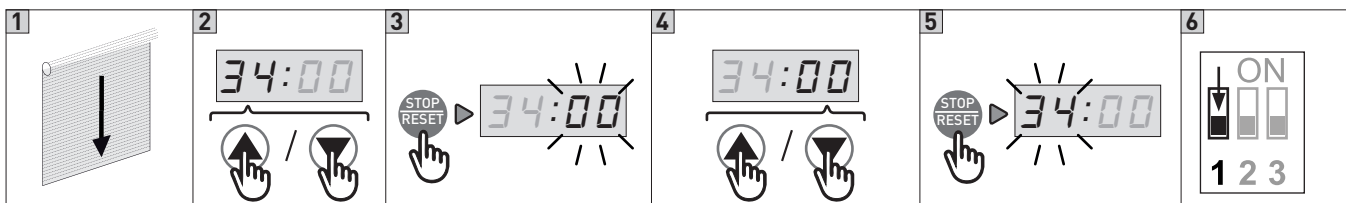
- Value 00: No car wash function

- Value 01: Photo active time in 0,1 sec. Units (e. g. 15 = 1,5 sec.) (Adjustable 1 – 30 units – 0,1 sec. to 3,0 sec.)

5. Press the STOP button to confirm the tuning and return to the PARAMETER field.

6. To leave the set-up mode, place the DIP1 in OFF.

## 14\_ "FORCED" CLOSING (PARAMETER 34) Only when car wash function is selected in parameter 33



1. Close the door and stop at the DOWN limit position.
2. Following the PARAMETERS and VALUES management procedure described in Section 6.3, select the PARAMETER 34
3. Access the field VALUE pressing STOP. The VALUE digits start blinking

Using the buttons UP and DOWN vary the value

- Value 00: No forced closing

- Value 01: Forced closing after 2 min. (even though photo has not been activated)

- Value 02: Forced closing after 5 min. (even though photo has not been activated)

- Value 03: Forced closing after 10 min. (even though photo has not been activated)

- Value 04: Forced closing after 20 min. (even though photo has not been activated)

4. Press the STOP button to confirm the tuning and return to the PARAMETER field.

**To leave the set-up mode, place the DIP1 in OFF.**

## 15\_ INTERLOCK (PARAMETER 36)

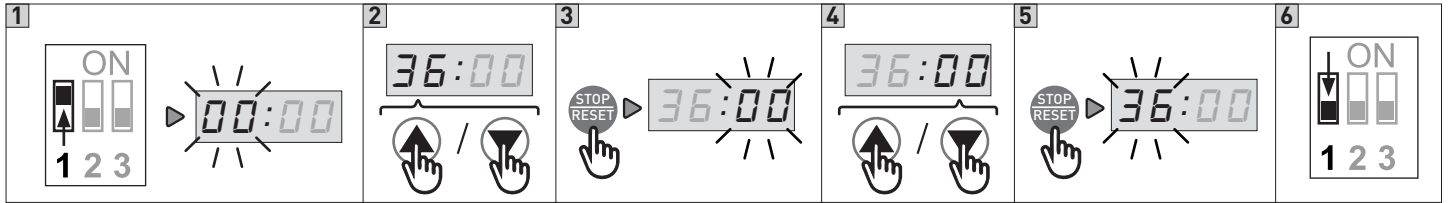
The Interlock function stops the automatic closing if activated, to prevent a closing of the door.

The countdown on the display shows the value of the pre-set waiting time. To activate the Interlock function, with the door in its UP limit position, hold the STOP button or the emergency stop button for more than 5 seconds.

To deactivate the interlock mode press DOWN button. In case you want to disable the interlock function, choose the value 00 in parameter 36.

**ATTENTION! Parameter 36 is visible and selectable only if the automatic closing has been selected in parameter 32.**

To enable the Interlock function:



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 36
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: interlock function OFF;
  - Value 01: interlock function ON;
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. **To leave the set-up mode, place the DIP1 in OFF.**

## 16\_ INTERMEDIATE POSITION (PARAMETER 16)

It is possible to set an intermediate position of the door through the parameter 16.

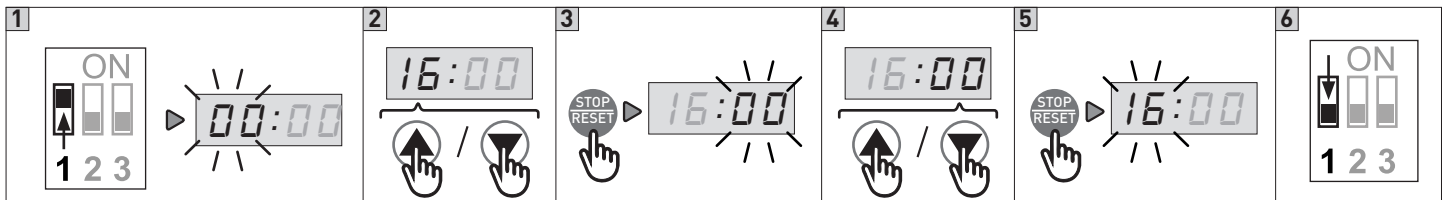
In this case the PARAMETER 16 must be selected at VALUE 00.

**If you are using a selector, this one must be connected to terminals 22 and 23 of X1.**

If you open the contact of the selector, the use of the intermediate position is inhibited.

If you close the contact of the selector, pressing the UP button, the door stops at the intermediate position.

The intermediate position can be adjusted by setting the PARAMETER 16 at values from 02 to 07 with a progressive change of the intermediate position from 50% to 75% of the travel.



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the parameter 16
3. Access the field VALUE pressing STOP
4. Using the buttons UP and DOWN vary the value
  - VALUE 02: Intermediate position at 50% of the travel
  - VALUE 03: Intermediate position at 55% of the travel
  - VALUE 04: Intermediate position at 60% of the travel
  - VALUE 05: Intermediate position at 65% of the travel
  - VALUE 06: Intermediate position at 70% of the travel
  - VALUE 07: Intermediate position at 75% of the travel
5. Press STOP to confirm
6. **To leave the set-up mode, place the DIP1 in OFF.**

**If you are using an additional button, this one must be connected to terminals 22 and 23 of X1.**

In this case the UP button allows the opening of the door up to the UP limit position.

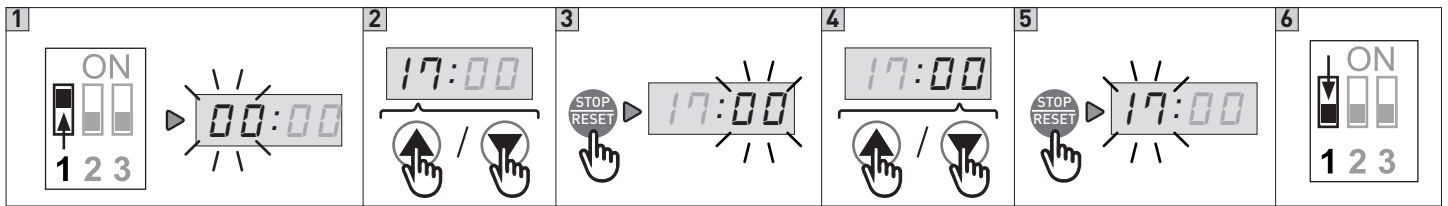
While, to move the door to the intermediate position you have to press the additional button.

The intermediate position can be determined by setting the PARAMETER 16 with values from 08 to 13 with a progressive change of the intermediate position from 50% to 75% of the travel:

- VALUE 08: Intermediate position at 50% of the travel
- VALUE 09: Intermediate position at 55% of the travel
- VALUE 10: Intermediate position at 60% of the travel
- VALUE 11: Intermediate position at 65% of the travel
- VALUE 12: Intermediate position at 70% of the travel
- VALUE 13: Intermediate position at 75% of the travel

## 16.1\_ AUTOMATIC CLOSING FROM INTERMEDIATE POSITION (PARAMETER 17)

You can set the automatic closing even from the intermediate position setting the PARAMETER 17.



### Activate the automatic closing function (paragraph 12)

1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 17
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: Automatic closing (from intermediate position) OFF
  - Value 01: Automatic closing (from intermediate position) ON
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. To leave the set-up mode, place the DIP1 in OFF.

## 17\_ SAFETY DEVICES

### 17.1\_ SAFETY BEAMS (PARAMETER 31)

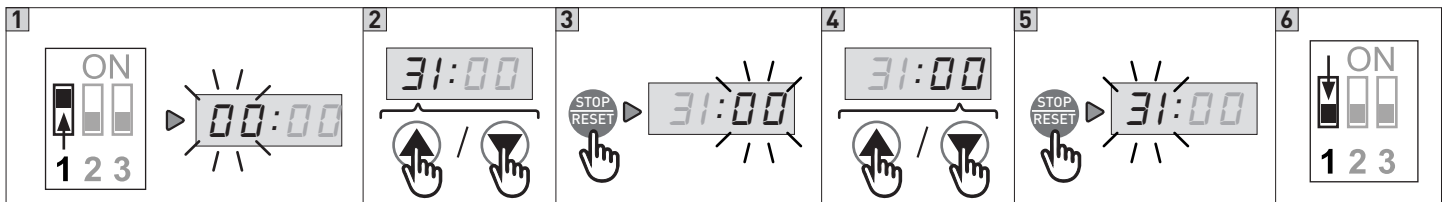
#### Refer to the safety beams instructions for the DC supply.

- terminal 10 [PHOTO +24V] for power supply and terminal 9 [-] for ground.
- terminals [11-12] for NC signal for photocell 1
- terminals [11-13] for NC signal for photocell 2

**ATTENTION! Both the transmitter and the receiver of the safety beams must be connected to the same terminals.**

Through parameter 31 you can conform the control unit to the type of connection that you are going to select, in order to activate the corresponding test functions.

This test allows the control unit to constantly check of short circuits or malfunctions that could compromise the safety of the device. The test thus allows to ensure the safety even in case of single failure as required by the standards EN13241-1 and EN-12453.



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 31
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: No safety beams connected
  - Value 01: Connection PHOTO 1
  - Value 02: Connection PHOTO 2
  - Value 03: Connection PHOTO 1 and 2
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. To leave the set-up mode, place the DIP1 in OFF.

### 17.1.1\_ ADDITIONAL PHOTO MOUNTED IN THE DOOR FRAME (ONLY POSSIBLE WITH ELECTRONIC LIMITS).

After selecting the right parameter value run mode is available by pressing stop. Location of photo will now be learned by running from close to open position. The door will stop when the photo is no longer blocked and the control unit will change back to parameter number automatically

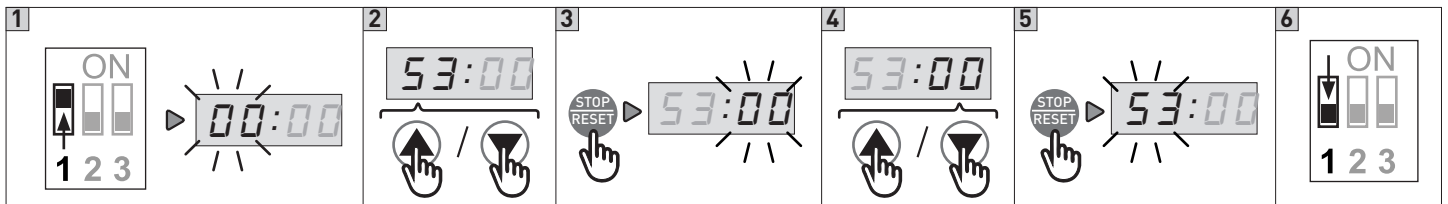
Using the buttons UP and DOWN vary the value:

- Value 04: Photo 1 connected and mounted in the door frame
- Value 05: Photo 2 connected and mounted in the door frame
- Value 06: Photo 1 and 2 connected and photo 1 mounted in the door frame
- Value 07: Photo 1 and 2 connected and photo 2 mounted in the door frame

Install additional safety photo cells in the door track to protect the photo cells from the sun and knocks. After the installation the photo cells will automatically be disabled when the door passes the photo beam.

**Avoid mounting the photo receiver on the door side where the sun is shining directly on the sensor when the sun is low!**

### 17.1.2\_ REVERSE TIME - Photo (PARAMETER 53)



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 53
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value ...: Reverse time of Photo in 1/100 seconds. 0.05 – 0.99 sec. Example: 30 = 0.30 sec.This reverse time is also used as force reversing time.
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. **To leave the set-up mode, place the DIP1 in OFF.**

### 17.2\_ SAFETY EDGE (PARAMETER 21)

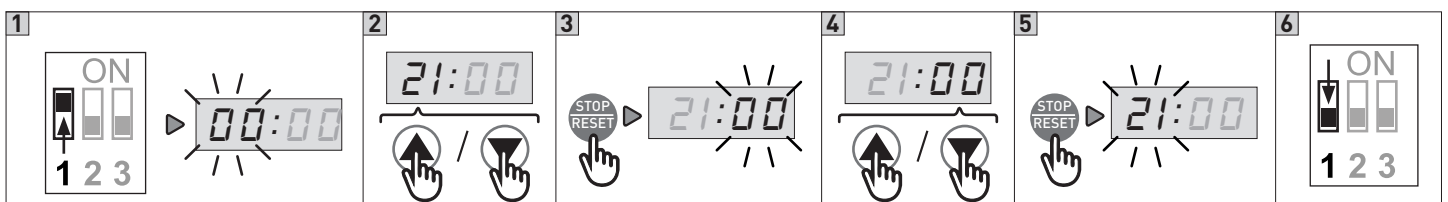
Safety edge connection: in case of resistive safety edges type 8k2 ohm or pneumatic safety edges, connect the wires to the terminals 23 and 24 of X3;

In case of optoelectronic safety edge, connect the wires to the terminals 25, 26 and 27 of X3 (respecting the color order).

#### Warning:

- if you choose the optical safety edge (VALUE 03) the terminals 23 and 24 DO NOT have to be connected by a jumper.
- if you DO NOT want to use a safety edge, select the VALUE 01 and connect the terminals 23 and 24 with a jumper. The terminals 25, 26 and 27 of X3 must not be connected.
- the safety edge must be connected before the selection of PARAMETER 21, but do not activated them. If this happens, the control unit shows an error signal on the display the code **ERR**. The same happens if you choose a parameter that does not match with the connected terminals.

Through PARAMETER 21 you can select the type of safety edge.



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 21
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 01: PNE / DW pneumatic
  - Value 02: Safety edge with resistive contact 8k2 ohm
  - Value 03: Optoelectronic edge
  - Value 04: Special LP / DW pneumatic

- Value 05: Wireless edge with test function on X20 s.out

- Value 06: Light curtain with OSE output

5. Press the STOP button to confirm the tuning and return to the PARAMETER field.

6. To leave the set-up mode, place the DIP1 in OFF.

**Note:**

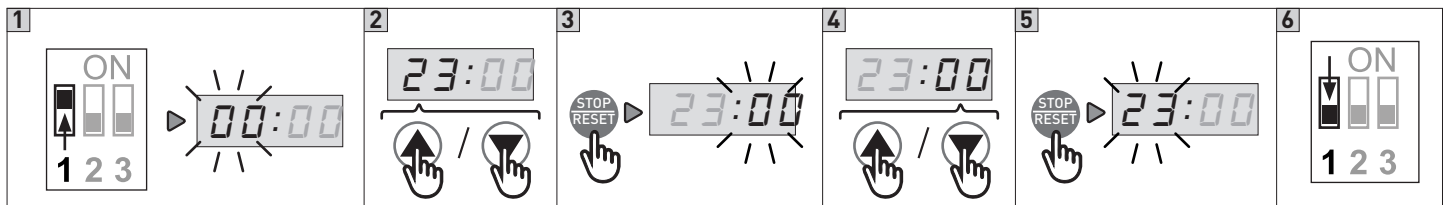
- that actual edge must be connected but not activated before this setup. If the controller has observed a wrong edge select, the display will show **ERR**.
- that nothing must be connected to X3 terminal 23-24 when parameter value 03 or 06 has been chosen.

### 17.3 EXTRA SAFETY EDGE OR WICKET DOOR/SLACK ROPE CIRCUIT (PARAMETER 23)

Connection of the secondary safety contact strip: in the case of a resistive 8k2 ohm or pneumatic type contact strip, connect the conductors of the contact strip to terminals 3 and 4 of connector X20;

**Caution: the moving rib must be connected before PARAMETER 23 is selected. If this happens, the control unit returns an error signal by showing the code **ERR** on the display. The same happens if a parameter is selected which does not correspond to the connected terminals.**

By means of PARAMETER 23, it is possible to determine the type of secondary moving rib used on the door.



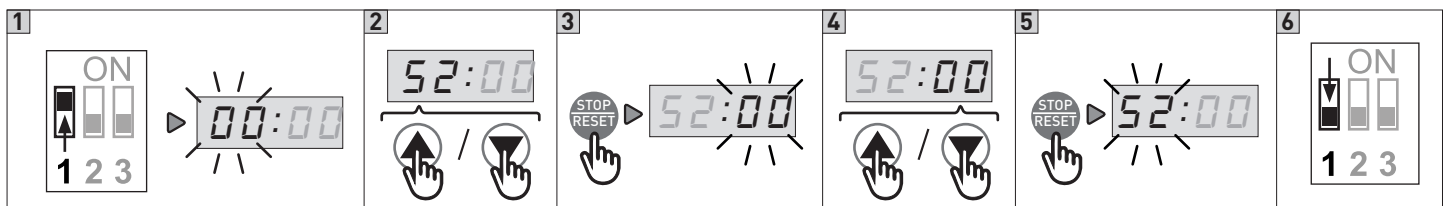
1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 23
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: No extra safety edge list
  - Value 01: Extra safety edge list works parallel with primary safety edge list\*/\*\*
  - Value 02: Extra safety list stops door in opening direction\*
  - Value 03: Extra safety list stops door and reverse a little in opening direction\*
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. To leave the set-up mode, place the DIP1 in OFF.

\* Extra safety list shall be PNE/air switch or 8k2 type and the same type as primary safety edge list

**If parameter 88:03 (lock function), it is not possible to mount extra safety edge.**

\*\* For the anti-shear function, connect a photocell instead of the moving rib.

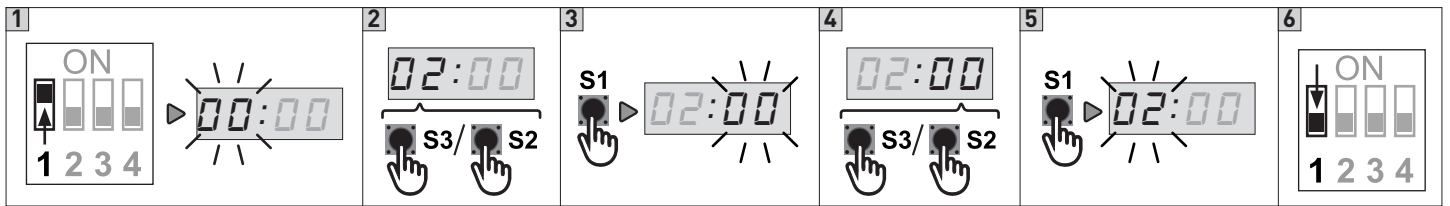
#### 17.3.1 REVERSE TIME - Safety edge (PARAMETER 52)



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 52
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: reverse time is set to minimum 0.004 sec
  - Reverse time of safety edge in 1/100 seconds. 0.00 – 0.99 sec. Example: 01 = 0.01 sec.
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. To leave the set-up mode, place the DIP1 in OFF.

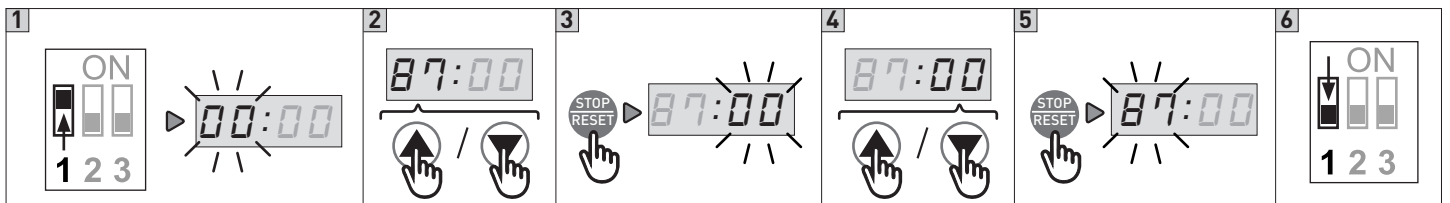
## 18\_ REACTION – FAILURE ON PHOTO OR SAFETY EDGE LIST (PARAMETER 02)

By means of PARAMETER 02, it is possible to determine the behaviour of the damper as a result of an error in the photocell or moving rib.



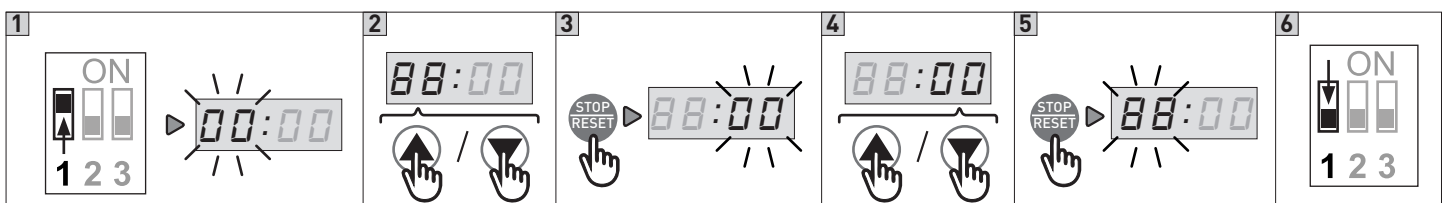
1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 02
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: Hold to run operation not possible when failure on photo or safety edge list.  
**NOTE.** The door cannot close when there is an error on photo or safety edge. By a special code the door can close one time in hold to run mode. Press and hold STOP when pressing 222111 (2 = DOWN push button and 1 = UP push button).
  - Value 01: Hold to run possible when failure on photo or safety edge list.  
**ATTENTION: DO NOT USE 01 WHEN A DEVICE WITH CONSTANT DOWN SIGNAL IS MOUNTED. USAGE OF 01 IS ON CUSTOMERS OWN RISK.**
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. To leave the set-up mode, place the DIP1 in OFF.

## 19\_ Relay AUX 1 (NO/NC - max. 230V/5A) (PARAMETER 87)



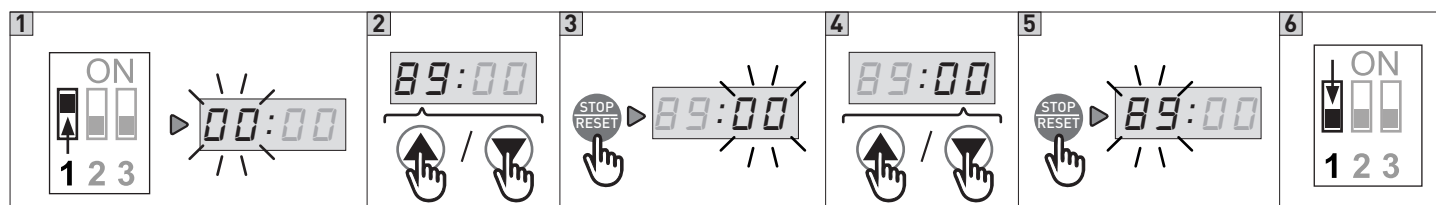
1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 87
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value:
  - Value 00: Relay active when door is running
  - Value 01: Relay active when the door is closed
  - Value 02: Relay active when the door is open
  - Value 03: Relay used for electric lock (ref. sw. input used for lock open check)
  - Value 04: Relay used for wireless edge test signal. (automatic selected when parameter 21 = 5).
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. To leave the set-up mode, place the DIP1 in OFF.

## 20\_ Relay AUX 2 (NO/NC - max. 230V/5A) (PARAMETER 88)



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 88
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value:
  - Value 00: Relay active when door is running
  - Value 01: Relay active when the door is closed
  - Value 02: Relay active when the door is open
  - Value 03: Relay used for electric lock (ref. sw. input used for lock open check)
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. To leave the set-up mode, place the DIP1 in OFF.

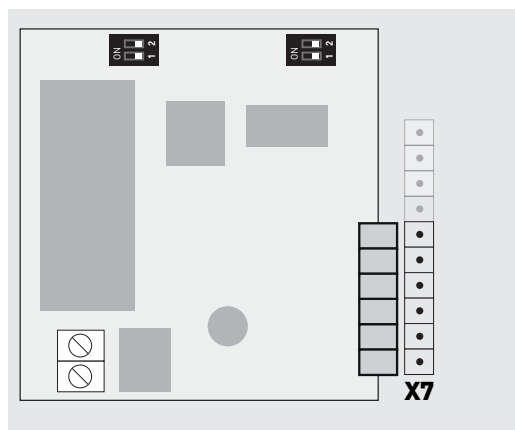
## 21\_ Relay AUX 3 (Relay stato solido) (PARAMETER 89)



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the parameter 89
3. Access the field VALUE pressing STOP
4. Select the preferred value by pressing buttons S2 and S3:
  - VALUE 00: active relé while the door is moving
  - VALUE 01: active relé while the door is in the DOWN limit switch position
  - VALUE 02: active relé while the door is in the UP limit switch position
  - VALUE 03: the relé is used for the electric closure: it activates for one second during the opening and ONLY if the door is closed
5. Press STOP to confirm
6. To leave the set-up mode, place the DIP1 in OFF

## 22\_ ADDITIONAL RADIO RECEIVER SLOT QCMR500 (OPTIONAL) - "GO FUNTION"

**WARNING:** The QCMR500 in conjunction with the QC600 inhibits the use of the second photocell on terminal block X12 input PHOTO1



The control unit can be radio operated thanks to the QCTE transmitter that allows the storage of 1997 radio codes. The QCTE transmitter must be matched to the QCMR500 radio receiver slot, already connected to slot X7 (see page 6).

**Please look at the instructions attached to the QCMR500 slot in order to connect it to the control unit and to match it to the transmitter.**

**NOTE: Set working mode: 01:03 Impulsive UP; Impulsive DOWN. REQUIRED WITH RADIO MODULE QCMR500-OPTIONAL.**

**Once the QCMR500 slot is inserted, you can set up its operation mode through PARAMETER 35 (parameter 35 is visible ONLY if the photocell is active through parameter 31):**



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 35
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: **GENERAL MODE OF OPERATION**  
the signal of the transmitter always commands the opening, except when the door is already completely opened. In this case it commands the closure.
  - Value 01: **GENERAL MODE OF OPERATION + STOP**  
the signal stops the movement of the door **ONLY** while opening
  - Value 02: **MODE OF OPERATION "ONLY UPING"**  
the signal of the transmitter only activates the opening of the door. If the door is closing, the signal changes the movement till the UP limit switch position has been reached.

- Value 03: **MODE OF OPERATION "STEP BY STEP"**

every time the signal of the transmitter is activated, it accomplishes the following commands:

UP > STOP > DOWN > STOP sequentially.

**NOTE: if the AUTOMATIC CLOSURE has been programmed, during the pause the signal of the transmitter will extend the pause by resetting the timer of the automatic closure.**

5. Press the STOP button to confirm the tuning and return to the PARAMETER field.

6. **To leave the set-up mode, place the DIP1 in OFF.**

**NOTE : the entrance "GO" (terminals 9-10 on X1) follows the same logical of functioning selected for radio receiver (parameter 35).**

## 23\_ AFTER RUN (PARAMETER 22)

Used to prevent that the door reverses when it reaches the floor before the close limit gets activated – for instance if there is dirt in the door opening or if the wires are getting longer

**Monitoring of the PNE/DW air switch safety edge is only active when after run is selected parameter 22:01-50**



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 22
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: No after run (Note! Value 00 = NO monitoring of PNE/DW)\*
  - Value > 00: After run active – after run time 0.01 – 0.50 sec.
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. **To leave the set-up mode, place the DIP1 in OFF.**

**\* Monitoring of the PNE/DW air switch safety edge is only active when after run is selected parameter 22:01-50**

### PROGRAMMING:

Set close limit switch about 1-3 cm over the floor. Adjust the door to the floor by setting the after run time on the right level until the door stops on PNE/DW signal from the safety list.

## 24\_ WIRE TIGHTEN (PARAMETER 29)

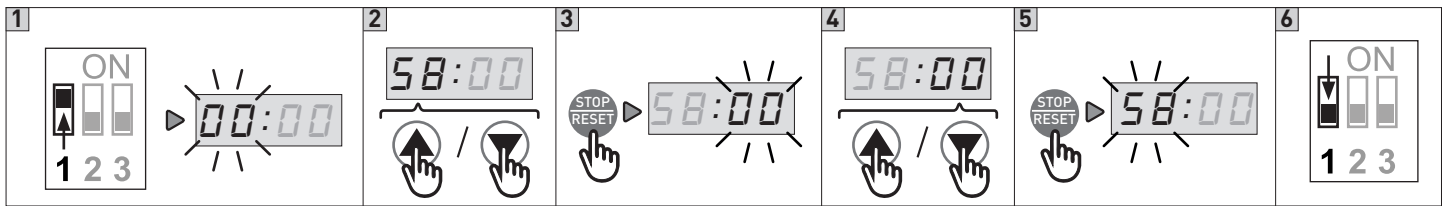
Used to prevent the wire is getting loose when the door is closed. Works as a small pull back time when the door stops on close limit



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 29
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: No wire tighten function
  - Value 01: Wire tighten 5 mS
  - Value 02: Wire tighten 10 mS
  - Value 03: Wire tighten 20 mS
  - Value 04: Wire tighten 30 mS
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. **To leave the set-up mode, place the DIP1 in OFF.**

## 25\_ SERVICE COUNTER (PARAMETER 58)

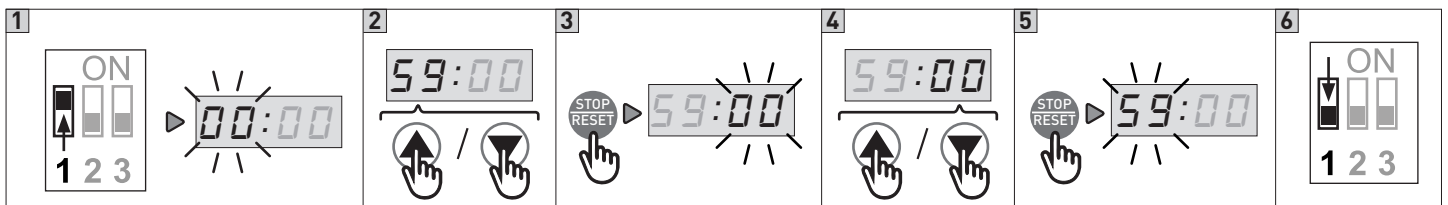
Use service counter to make service interval on doors.



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 58
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: No Service countdown
  - Value 01: 15 open cycles before service **(for test only)**
  - Value 02: 5000 open cycles before service
  - Value 03: 10000 open cycles before service
  - Value 04: 20000 open cycles before service
5. Press the STOP button (S1) once again to confirm the tuning and return to the PARAMETER field.  
**NOTE: Press STOP again minimum 2 sec CLEAR is shown 2 sec. in display to confirm new countdown**
6. To leave the set-up mode, place the DIP1 in OFF.

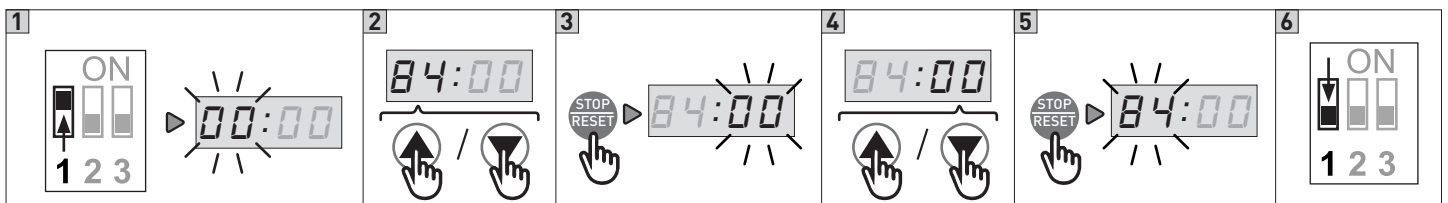
### 25.1\_ SERVICE COUNT REACTION (PARAMETER 59)

Use to choose the default action when the chosen number of cycles is reached.



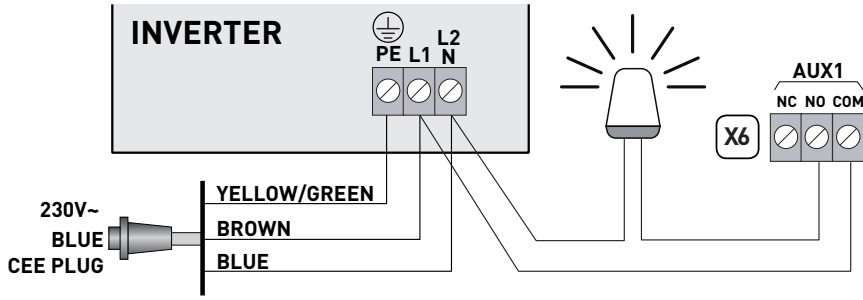
1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 59
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: Display shows **E:04**
  - Value 01: Switch to hold-to-run control and display shows **E:04**
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. To leave the set-up mode, place the DIP1 in OFF.

### 26\_ SPECIAL UP OR DOWN FUNCTION (PARAMETER 84)



1. Put DIP 1 (S3) in ON position, PARAMETER digits start blinking
2. Using the buttons UP and DOWN select the PARAMETER 84
3. Access the field VALUE pressing STOP. The VALUE digits start blinking
4. Using the buttons UP and DOWN vary the value
  - Value 00: Normal open function.
  - Value 01: Special open function: Open signal with high priority.  
**The door will always open on a continuously open signal, even after a stop impulse. (E.g. a fire open signal)**
  - Value 02: Special close function: Close signal with high priority.  
**The door will always close on a continuously close signal, even after a stop impulse. (E.g. a fire close signal)**
5. Press the STOP button to confirm the tuning and return to the PARAMETER field.
6. To leave the set-up mode, place the DIP1 in OFF.

## 27\_ FLASHING LIGHT CONNECTION (230Vac with autolamping) / COURTESY LAMP



## 28\_ INVERTER PARAMETER

**ATTENTION! The programming of the inverter must be carried out exclusively through the integrate keyboard.**

Using the procedure for programming the parameters and values (see section 6.3) set the parameters from 100 to 109 to enter the data on the motor plate used.

100: 1.1	Nominal motor power (kW)
101: 230	rated motor Voltage (V) <b>[QC600/QC600S]</b>
101: 400	rated motor Voltage (V) <b>[QC600W]</b>
102: 5.9	nominal motor current (A)
103: 1400	motor Speed (RPM)
104: 50	nominal motor frequency (Hz)
109: 100	Maximum motor frequency (Hz)

### **RAPIDO** motors

BRD40130 : 2800

BRD50180 : 2800

BRD6090 : 1400

BRD60130 : 2800

BRD7045 : 1400

BRD9090 : 1400

BRD12045 : 1400

BRD120140 : 2800

BRD18090 : 1400

### **MIDI** high speed motors

LP25060RME : 1400

LP45035RME : 1400

### **bbs / bhs** motors

BBS/BHS70 : 1400

BBS/BHS70 : 1400

BHS120 : 1400

BRD140 : 1400

Set the parameters from 110 to 125 with the values you want to set the speed and acceleration of the door opening and closing:

-the speeds are set through the frequency values supplied from the INVERTER to the motor.

-Accelerations/decelerations are set through the values of time (seconds)

-the beginning of the deceleration point is shown as% of the total distance of the openin

Note: values listed below are the default ones

### SETTINGS UPING DIRECTION

110:50 Frequency HIGH speed opening [Hz]

111:10 Frequency LOW speed opening [Hz]

112:1.1 Acceleration time opening [Sec.]

113:1.0 Deceleration time opening, high speed to low speed [Sec.]

114:0.3 Deceleration time to stop [Sec.]

115:30 Low speed set point before open limit [%] of full distance.

### SETTINGS CLOSING DIRECTION

120:30 Frequency HIGH speed closing [Hz]

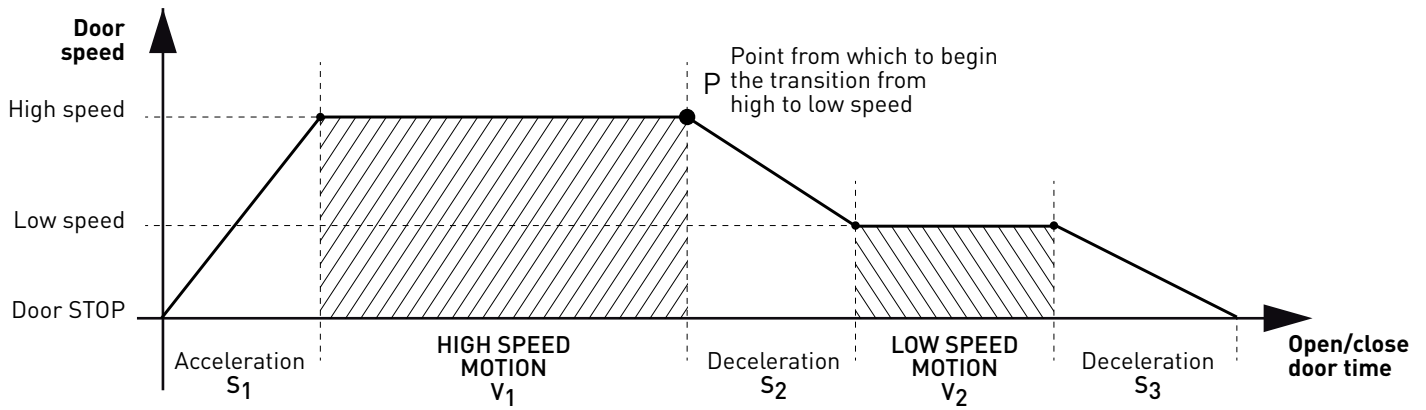
121:10 Frequency LOW speed closing [Hz]

122:1.0 Acceleration time closing [Sec.]

123:2.0 Deceleration time closing, high speed to low speed [Sec.]

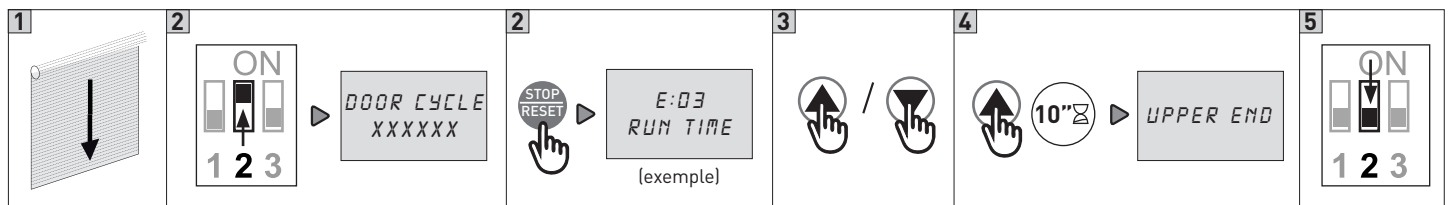
124:0.3 Deceleration time to stop [Sec.]

125:30 Low speed set point before close limit [%] of full distance.



Note! All acceleration/deceleration times, are seconds from 0 Hz → max Hz / max Hz → 0 Hz. (Max Hz = parameter 109)

## 29\_ ELECTRONIC COUNTER AND LAST 10 ERRORS

















1. Close the door and stop at the DOWN limit position **(The door cannot be moved when display status is active)**
2. Switch DIL switch 2 to ON. The display shows the number of door cycles (openings).
3. Press STOP to see last 10 E:xx errors. If there are no errors the display will show: NO ERROR
4. Press UP to select newer error  
Press DOWN (down) to select older error  
By the end of the registered 10 errors the display will show: No newer error / No older error
5. Reset of last 10 errors by pressing UP at least 10 sec. when "upper end" is shown.
6. **To leave the set-up mode, place the DIP2 in OFF.**

## 30\_ DISPLAY IN RUN MODE

The display will in run mode show status of limits, some inputs or error codes if they occurs.

When power up the software version is showed shortly.

 <p>STANDBY</p>	<ul style="list-style-type: none"> <li>Nothing active. (4 chairs symbol)</li> <li>Door is stopped between limits and no errors are found.</li> </ul>	 <p>GO FUNCTION</p>	<p>GO function active (Note that the door only can be closed by GO function, when photo is installed)</p>
 <p>GATE OPEN</p>	<p>Open limit active</p>	 <p>PHOTO 1 ACTIVATED</p>	<p>Photo 1 active Photo 2 is external photo cells mounted in the screw terminals X12.</p>
 <p>GATE CLOSED</p>	<p>Close limit active</p>	 <p>PHOTO 2 ACTIVATED</p>	<p>Photo 2 active Photo 2 is external photo cells mounted in the screw terminals X3.</p>
 <p>HALF OPEN</p>	<p>1/2 open limit active</p>	 <p>SAFETY EDGE ACTIVATED</p>	<p>Safety Edge active</p>
 <p>STOPPED</p>	<p>Stop active</p>	 <p>SETUP ERROR</p>	<p>Safety list not mounted correct / wrong selection in parameter 21.</p>
 <p>OPEN</p>	<p>UP push-button active</p>	 <p>OPENING</p>	<p>Door running up</p>
 <p>CLOSE</p>	<p>DOWN push-button active</p>	 <p>CLOSING</p>	<p>Door running down</p>
<p>Service required</p>	<p><b>Error code. Door is running without command</b> Service needed. Fatal error. Move the door manual to middle position without power. Change from normal mode to programming mode on DIP switch no. 1. This will clear the SER error. If the door is running again in 1 sec. without command when power is on then the PCB is defect.</p>		
<p>E:01 Edge fail</p>	<p><b>Error code. Edge monitoring</b> Error code Monitoring failure of safety edge if this function is activated. Check or adjust safety edge list. See chapter 1.5.</p>		
<p>E:03 Run time</p>	<p><b>Error code. Run time</b> Error code. Door is stopped on run time control. See chapter 1.10.</p>	<p>E:04 Service counter expired</p>	<p><b>Error code. Service</b> Service counter decremented to 0 Reset for new countdown</p>
<p>E:05 Photo circuit fail</p>	<p><b>Error code. Photo</b> Failure in photo circuit. (Test cycle after last stop failed, Press stop to start new test)</p>	<p>E:06 Safety Edge fail</p>	<p><b>Error code. Safety Edge</b> Failure in edge circuit. (Test cycle after last stop failed, Press stop to start new test)</p>
<p>E:09 No Position change</p>	<p><b>Error code. no change of encoder position, when running.</b> Door started, but the position is not changing. Door is stopped after delay time and E:09 failure is shown about 1 sec. Possible errors: The door is blocked, disengaged, cable connection error or the encoder magnet is not fixed on the shaft. Reset of E09: both limits shall be founded again by hold-to-run steps. (If it is not possible to find both limits, the limits must be relearned) If necessary, adjust in parameter 81 (delay time) (Parameter 81:03 = autoreset)</p>		
<p>E:20 EEPROM fail</p>	<p><b>Error code. EEPROM Fail</b> Possible error: Limits has been changed, after the force control has been learned. Reset of E20: Try deactivating force control in parameter 41 ( 41:00 ) and after this make a new power-up.</p>	<p>E:21 EEPROM PWR-UP fail</p>	<p><b>Error code. EEPROM Fail</b> EEPROM failure of power-up. Try factory clear or change processor.</p>
<p>Error 12V or 24V</p>	<p><b>Error on 24V and/or 12V voltage circuit.</b> 24/12V is shorted or overloaded.</p>		

## 31\_ PARAMETER LIST (Note: **shaded** values shows factory settings)

<b>01:00</b>	<b>OPERATION MODE</b>	<b>21:00</b>	<b>MOVING EDGE SELECTION</b>
01:01	Hold-to-run UP; Hold-to-run DOWN	21:01	PNE / DW air switch
01:02	Impulse UP; Hold-to-run DOWN	21:02	8k2 ohm resistive band
01:03	Impulse UP; Impulse DOWN	21:03	Optical band
01:04	Impulse UP; Impulse DOWN (0,5 sec reverse by stop on force control in opening direction).	21:04	Special LP DW air switch
<b>02:00</b>	<b>REACTION – FAILURE ON PHOTO OR SAFETY EDGE LIST</b>	21:05	Wireless edge setting. See also parameter 87
02:00	Hold to run operation not possible	<b>22:00</b>	<b>EXTRA RUNNING</b>
02:01	Hold to run possible	22:00	Not active
<b>11:00</b>	<b>LIMIT SWITCH</b>	>00	Active: activation time from 0.01 to 0.50 seconds
11:00	Not in use	<b>23:00</b>	<b>ADDITIONAL MOVING RIB</b>
11:01	Not in use	23:00	No additional moving cost
11:02	Not in use	23:01	Additional moving rib parallel to the main one
11:03	Not in use	23:02	Additional moving rib in open position
11:04	Not in use	23:03	Additional moving rib for slight reversal of motion
11:05	Encoder limit switch - clockwise direction upwards	<b>29:00</b>	<b>CABLE TENSIONING</b>
11:06	Encoder limit switch - anti-clockwise direction upwards	29:00	Not active
<b>12:00</b>	<b>SETTING UP POSITION ELECTRONIC LIMIT SWITCH</b>	29:01	Activation for 5 microseconds
<b>13:00</b>	<b>ASCENT POSITION ADJUSTMENT ELECTRONIC LIMIT SWITCH</b>	29:02	Activation for 10 microseconds
<b>14:00</b>	<b>SETTING DOWN POSITION ELECTRONIC LIMIT SWITCH</b>	29:03	Activation for 20 microseconds
<b>15:00</b>	<b>ELECTRONIC LIMIT SWITCH DOWN POSITION END SETTING</b>	29:04	Activation for 30 microseconds
<b>16:00</b>	<b>INTERMEDIATE POSITION</b>	<b>31:00</b>	<b>PHOTOCELL SETTING</b>
16:00	Not active	31:00	No Photo safety connected
16:01	Active: by mechanical limit switch	31:01	Photo 1 connected
16:02	Active: by limit switch encoder at 50% of open position	31:02	Photo 2 connected
16:03	Active: by limit switch encoder at 55% of opening position	31:03	Photo 1 and 2 connected
16:04	Active: from limit switch encoder to 60% of opening position	31:04	Photo 1 connected and mounted in the door frame.
16:05	Active: from limit switch encoder to 65% of opening position	31:05	Photo 2 connected and mounted in the door frame.
16:06	Active: from limit switch encoder to 70% of opening position	31:06	Photo 1 and 2 connected and photo 1 mounted in the door frame.
16:07	Active: from limit switch encoder to 75% of opening position	31:07	Photo 1 and 2 connected and photo 2 mounted in the door frame.
<b>17:00</b>	<b>AUTOMATIC CLOSING FROM INTERMEDIATE POSITION</b>	<b>32:00</b>	<b>AUTO CLOSE SELECT</b>
17:00	Not active	32:00	Not active
17:01	Active	32:01	Seconds 1 – 990 (after 99 the changing will be in x10 of seconds and the value is flashing quickly - e.g. 18 is 180 seconds)
		<b>33:00</b>	<b>CAR WASH FUNCTION</b>
		33:00	No car wash function
		33:01	Photo active time in 0,1 sec. Units (e. g. 15 = 1,5 sec.) [Adjustable 1 – 30 units – 0,1 sec. to 3,0 sec.]

**34:00 "FORCED" CLOSING**

<b>34:00</b>	No forced closing
<b>34:01</b>	Forced closing after 2 min. (even though photo has not been activated).
<b>34:02</b>	Forced closing after 5 min. (even though photo has not been activated).
<b>34:03</b>	Forced closing after 10 min. (even though photo has not been activated).
<b>34:04</b>	Forced closing after 20 min. (even though photo has not been activated).

**35:00 GO FUNCTION (STEP)**

<b>35:00</b>	Normal go function (Closing is only possible from open limit)
<b>35:01</b>	Special go function (stop command possible in opening direction).
<b>35:02</b>	Go function with open function only.
<b>35:03</b>	Special go function (UP - STOP - DOWN - STOP - UP . . . )

**36:00 INTERLOCK FUNCTION**

<b>36:00</b>	Interlock function OFF
<b>36:01</b>	Interlock function ON

**51:00 RUN TIME CONTROL**

<b>51:00</b>	No run time control
<b>51:01</b>	Run time 20 sec.
<b>51:02</b>	Run time 40 sec.
<b>51:03</b>	Automatic run time - Automatic learning
<b>51:04</b>	Run time 60 sec.

**52:00 REVERSE TIME SAFETY EDGE**

Reverse time of safety edge in 1/100 seconds. 0.00 - 0.99 sec.

**53:00 REVERSE TIME PHOTO**

Reverse time of Photo in 1/100 seconds. 0.00 - 0.99 sec.

**58:00 SERVICE COUNTER**

<b>58:00</b>	No Service countdown
<b>58:01</b>	1000 open cycles before service
<b>58:02</b>	5000 open cycles before service
<b>58:03</b>	10000 open cycles before service
<b>58:04</b>	20000 open cycles before service

**59:00 SERVICE COUNT REACTION**

<b>59:00</b>	Display shows E:04
<b>59:01</b>	Switch to hold-to-run control and display shows E:04

**81:00 DELAY BEFORE ENCODER POSITION LOSS ALARM**

<b>81:00</b>	1 second
<b>81:01</b>	2 seconds
<b>81:02</b>	4 seconds
<b>81:03</b>	4 seconds with automatic reset

**84:00 SPECIAL UPING**

<b>84:00</b>	Normal function
<b>84:01</b>	Special open function: Open signal with high priority. The door will always open on a continuously open signal, even after a stop command. (E.g. a fire open signal)
<b>84:02</b>	Special close function: Close signal with high priority. The door will always close on a continuously open signal, even after a stop command. (E.g. a fire close signal) Safety devices are still active.

**87:00 RELAY AUX 1 (NO - MAX. 230V/5A)**

<b>87:00</b>	Relay active when door is running
<b>87:01</b>	Relay active when the door is closed
<b>87:02</b>	Relay active when the door is open
<b>87:03</b>	Relay used for electric lock (ref. sw. input used for lock open check)
<b>87:04</b>	Relay used for wireless edge test signal. (automatic selected when parameter 21 = 5).

**88:00 RELAY AUX 2 (NO - MAX. 230V/5A)**

<b>88:00</b>	Relay active when door is running
<b>88:01</b>	Relay active when the door is closed
<b>88:02</b>	Relay active when the door is open
<b>88:03</b>	Relay used for electric lock (ref. sw. input used for lock open check)

**89:00 RELAY AUX 3 (SOLID STATE NO - MAX. 30V/50MA)**

<b>89:00</b>	Relay no function
<b>89:01</b>	Relay active control failure (encoder-disengagement sw.- thermo)





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