

NET230N

Operating Instructions

NET230N

Universal control panel for
230V operators
Operating instructions and warnings

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1 WARNINGS SUMMARY

Read these warnings carefully; failure to respect the following warnings may cause risk situations.

⚠ WARNING USING THIS PRODUCT UNDER UNUSUAL CONDITIONS NOT FORESEEN BY THE MANUFACTURER CAN CREATE SITUATIONS OF DANGER, AND FOR THIS REASON ALL THE CONDITIONS PRESCRIBED IN THESE INSTRUCTIONS MUST BE RESPECTED.

⚠ WARNING **DEA** SYSTEM REMINDS ALL USERS THAT THE SELECTION, POSITIONING AND INSTALLATION OF ALL MATERIALS AND DEVICES WHICH MAKE UP THE COMPLETE AUTOMATION SYSTEM, MUST COMPLY WITH THE EUROPEAN DIRECTIVES 2006/42/CE (MACHINERY DIRECTIVE), 2004/108/CE (ELECTROMAGNETIC COMPATIBILITY), 2006/95/CE (LOW VOLTAGE ELECTRICAL EQUIPMENT). IN ORDER TO ENSURE A SUITABLE LEVEL OF SAFETY, BESIDES COMPLYING WITH LOCAL REGULATIONS, IT IS ADVISABLE TO COMPLY ALSO WITH THE ABOVE MENTIONED DIRECTIVES IN ALL EXTRA EUROPEAN COUNTRIES.

⚠ WARNING UNDER NO CIRCUMSTANCES MUST THE PRODUCT BE USED IN EXPLOSIVE ATMOSPHERES OR SURROUNDINGS THAT MAY PROVE CORROSIVE AND DAMAGE PARTS OF THE PRODUCT.

⚠ WARNING TO ENSURE AN APPROPRIATE LEVEL OF ELECTRICAL SAFETY ALWAYS KEEP THE 230V POWER SUPPLY CABLES APART (MINIMUM 4MM IN THE OPEN OR 1 MM THROUGH INSULATION) FROM LOW VOLTAGE CABLES (MOTORS POWER SUPPLY, CONTROLS, ELECTRIC LOCKS, AERIAL AND AUXILIARY CIRCUITS POWER SUPPLY), AND FASTEN THE LATTER WITH APPROPRIATE CLAMPS NEAR THE TERMINAL BOARDS.

⚠ WARNING ALL INSTALLATION, MAINTENANCE, CLEANING OR REPAIR OPERATIONS ON ANY PART OF THE SYSTEM MUST BE PERFORMED EXCLUSIVELY BY QUALIFIED PERSONNEL WITH THE POWER SUPPLY DISCONNECTED WORKING IN STRICT COMPLIANCE WITH THE ELECTRICAL STANDARDS AND REGULATIONS IN FORCE IN THE NATION OF INSTALLATION.

⚠ WARNING USING SPARE PARTS NOT INDICATED BY **DEA** SYSTEM AND/OR INCORRECT RE-ASSEMBLY CAN CREATE RISK TO PEOPLE, ANIMALS AND PROPERTY AND ALSO DAMAGE THE PRODUCT. FOR THIS REASON, ALWAYS USE ONLY THE PARTS INDICATED BY **DEA** SYSTEM AND SCRUPULOUSLY FOLLOW ALL ASSEMBLY INSTRUCTIONS.

⚠ WARNING INCORRECT ASSESSMENT OF THE IMPACT FORCES CAN CAUSE SERIOUS DAMAGE TO PEOPLE, ANIMALS OR THINGS. **DEA** SYSTEM REMINDS THE INSTALLER MUST VERIFY THAT THE IMPACT FORCES, MEASURED AS INDICATED BY THE STANDARD EN 12445, ARE ACTUALLY BELOW THE LIMITS SET BY THE STANDARD EN12453.

⚠ WARNING THE COMPLIANCE OF THE INTERNAL SENSING OBSTACLES DEVICE TO REQUIREMENTS OF EN12453 IS GUARANTEED ONLY IF USED IN CONJUNCTION WITH MOTORS FITTED WITH ENCODERS.

⚠ WARNING ANY EXTERNAL SECURITY DEVICES USED FOR COMPLIANCE WITH THE LIMITS OF IMPACT FORCES MUST BE CONFORM TO STANDARD EN12978.

⚠ WARNING IN COMPLIANCE WITH EU DIRECTIVE 2002/96/EC ON WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE), THIS ELECTRICAL PRODUCT SHOULD NOT BE TREATED AS MUNICIPAL MIXED WASTE. PLEASE DISPOSE OF THE PRODUCT AND BRING IT TO THE COLLECTION FOR AN APPROPRIATE LOCAL MUNICIPAL RECYCLING.

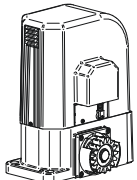
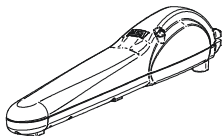
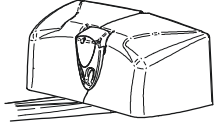
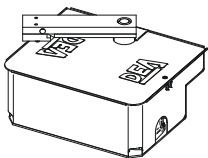
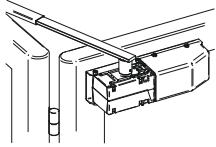
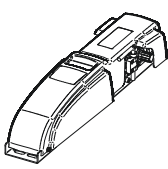
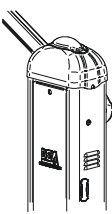
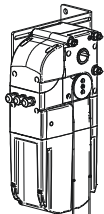
2 PRODUCT DESCRIPTION

NET230N is a universal control panel for **DEA** System 1 or 2 230V operators automations with or without encoder.

The main feature of this control board is its ease of configuration of inputs and outputs according to any needs thus ensuring adaptability to any type of automation. It is therefore easy to set up and exclude all unnecessary functions.

3 TECHNICAL DATA

	TYPE 00	TYPE 01	TYPE 02	TYPE 03	TYPE 04
	LIVI 6NET LIVI 9NET GULLIVER REV	GHOST 100 / 200 LOOK - MAC OLI LIVI 500P LIVI 502 (R/EN) 550PL	LIVI 902 (R/EN/F)	PASS STOP	LATO 220
Power supply (V)	230 V ~ ±10% (50/60 Hz)				
Fuse F2 (A)	5A				
Fuse F1 (A)	160mA				
Outputs 230V motors (maximum output current) (W)	2 x 600W				
Auxiliaries power supply output	24 V ~ max 200mA				
“Warning” output	230 V ~ max 150W				
Electric lock output	max 1 art. 110 or 24V === output max 5W configurable				
230V Flashing light output	230 V ~ max 40W				
24V Flashing light output	24 V === max 100mA (for led flashing light) art. LED24AI or open gate warning light/courtesy light				
Operating temperature range (°C)	-20÷50 °C				
Receiver frequency	433,92 MHz				
Transmitters type of coding	HCS fix-code - HCS rolling code - Dip-switch				
Max remote controllers managed	100				

				
Livi 6NET - Livi 9NET REV - Gulliver	Look - Mac - Oli	Livi 500 (R/EN) Livi 502 (R/EN)	Ghost 100 - Ghost 200	Livi 550PL
			* If you are not using DEA operators, set the parameter “Selection type of operator” to the closer value as family type and performances	
Livi 902 (R/EN/F)	Pass - Stop	LATO 220		

4 CONFIGURATION OF THE CONTROL PANEL

The universal control unit NET230N can be used for the management of the following types (TYPE) of closures motorized by DEA System: swing and sliding gates, overhead doors and barriers.

In order to ensure maximum adaptability to each TYPE of closure, the control board provides an initial procedure, performed only at the first turn, for the optimal configuration of inputs, outputs and parameters (see diagram A). Once configured, the control panel will operate in the mode "dedicated" to the TYPE of selected closing. After performing the initial configuration it is sufficient to execute the standard programming for the installation on which it is operating.

All settings remain in memory even in the case of subsequent flare-ups (see diagram B).

If necessary the TYPE of configured closing can be later adjusted following diagram C.

FIRST CONTROL BOARD IGNITION

Configuration after the first ignition

A For the first control panel ignition, proceed as follows:

1. Apply power, the display shows in sequence the writing "r-ES-" and "TYPE" flashing;
2. Press the **OK** button and hold for 5 seconds until the display shows 0000 on the display;
3. Acting on the **+** and **-** keys, select the desired configuration depending on the type of installation (es. 0002) and confirm by pressing the **OK** button;
At this point, the selection will be stored and reloaded each time in the future.
4. Follow signs, "TYPE", "-00-" followed by the symbol of closed gate "----".

Following ignitions

B If you have already saved a configuration, proceed as follows:

Apply power, the display shows in sequence the writing "r-ES-", "TYPE", "-00-" followed by the symbol of closed gate "----".

Modify the existing configuration

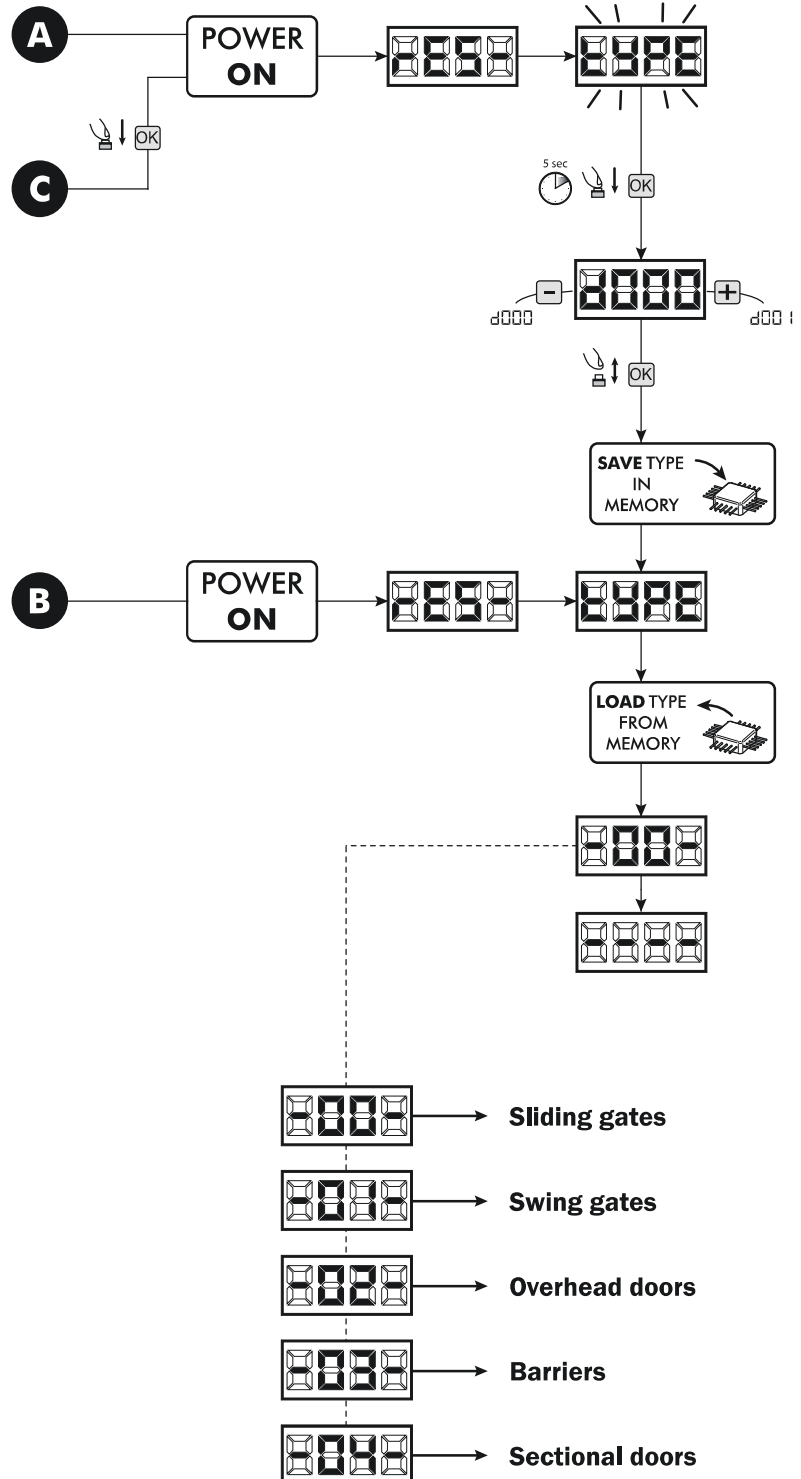
C If you have already saved a configuration and you want to change it, proceed as follows:

1. Hold down the **OK** button and give power, the display shows in sequence the writing "r-ES-" and "TYPE" flashing;
2. Press the **OK** button and hold for 5 seconds until the display shows 0000 (the value changes to match the previous configuration used) on the display;
3. Acting on the **+** and **-**, select the new desired configuration depending on the type of installation (es. 0002) and confirm by pressing the **OK** button;

⚠ Stop the reconfiguration procedure prior to confirmation, involves loading the previous configuration by the control panel without any modification.

⚠ However, if the reconfiguration procedure is brought to an end, the new configuration will take the place of the previous one and will be reloaded each time in the future.

4. Follow signs, "TYPE", "-00-" followed by the symbol of closed gate "----".



5 ELECTRICAL CONNECTIONS

Execute the wiring following the directions of table 1 and diagrams.

WARNING To ensure an appropriate level of electrical safety always keep the 230V power supply cables apart (minimum 4mm in the open or 1 mm through insulation) from low voltage cables (motors power supply, controls, electric locks, aerial and auxiliary circuits power supply), and fasten the latter with appropriate clamps near the terminal boards.

WARNING Connect to the power supply 230 V $\sim \pm 10\%$ 50 Hz through a multi pole switch or a different device that can ensure multi pole disconnection from the power supply, with a contact opening of 3 mm.

WARNING To connect the encoder to the control panel, use only a dedicated cable 3x0,22mm².

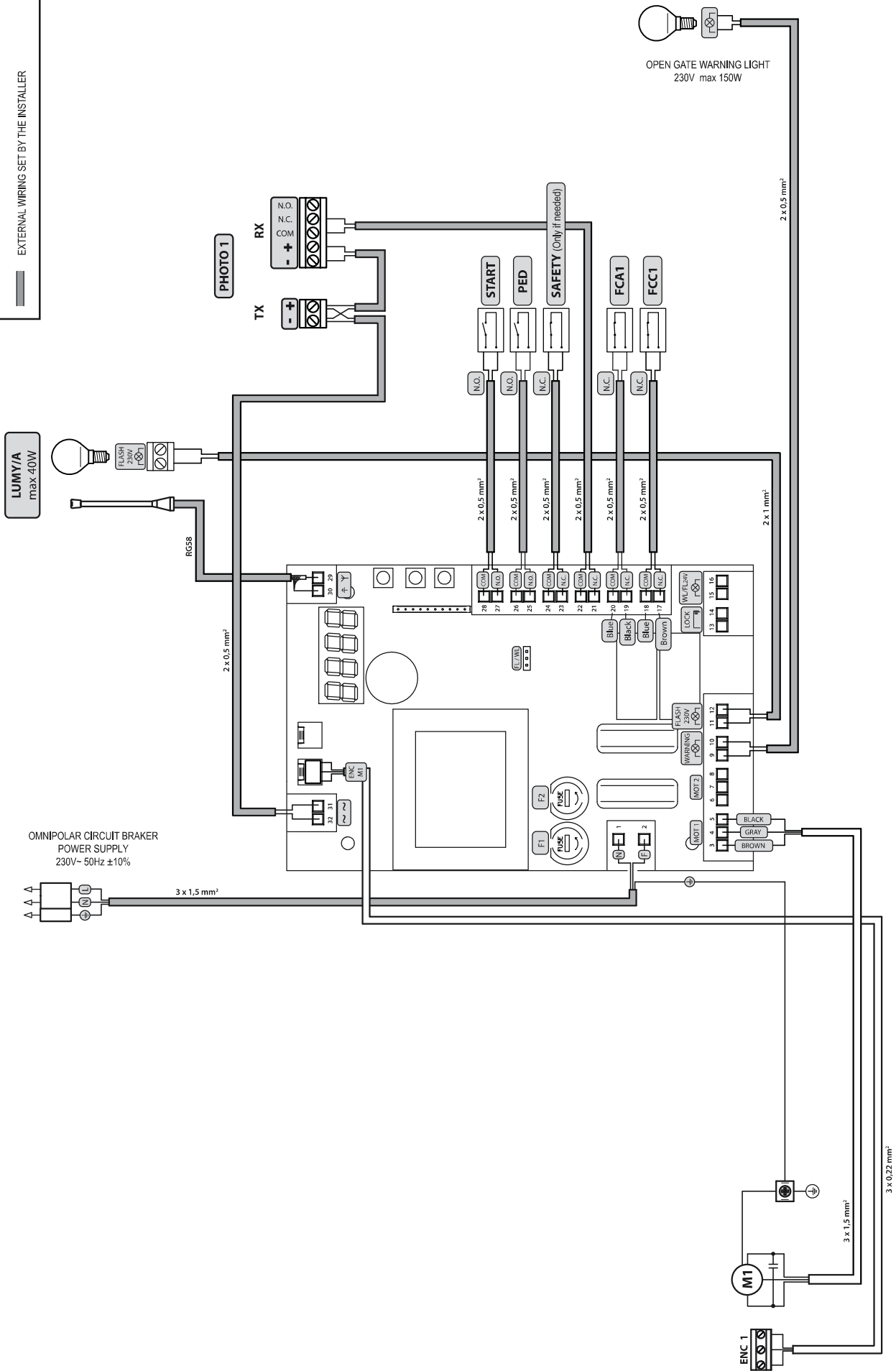
Table 1 “terminal board connections”

1-2		230 V $\sim \pm 10\%$ (50/60 Hz) power supply input																																																																																				
3-4-5		Operator 1 output 230 V \sim max 600W																																																																																				
6-7-8		Operator 2 output 230 V \sim max 600W (if present)																																																																																				
9-10		230 V \sim max 150 W output for open gate fix warning light (if P052=0) or courtesy light (if P052>1)																																																																																				
11-12		Flashing light output 230 V \sim max 40W																																																																																				
13-14		13 (+) “Boost” output for electric-lock, max 1 x art. 110 (if P062=0), 24V pulse output, max 5W (if P062=1), step by step (if P062=2), electro-brake output for not self-locking operators (if P062=3), output for electric-lock power supply via external relay (if P062=4), output for electro-magnets power supply for barriers (if P062=5) or temporized output (if P062>5).																																																																																				
		14 (+)																																																																																				
15-16																																																																																						
		Output 24V \equiv max 100mA; by selecting the FL/WL jumper, you can get a clone of the 230 Flash output as a 24V (if set FL) or as a Warning output (if set WL). Warning: the output capacity allows to use LED flashing lights only.																																																																																				
		<table border="1"> <thead> <tr> <th></th> <th>TYPE 00</th> <th>TYPE 01</th> <th>TYPE 02</th> <th>TYPE 03</th> <th>TYPE 04</th> </tr> </thead> <tbody> <tr> <td colspan="6" style="text-align: center;">If unused, short circuit</td> </tr> <tr> <td>17</td> <td>014 (FCC 1)</td> <td>011 (STOP)</td> <td>000 (NONE)</td> <td>000 (NONE)</td> <td>014 (FCC 1)</td> </tr> <tr> <td>18 - Com</td> <td>N.C.</td> <td>N.C.</td> <td>N.O.</td> <td>N.O.</td> <td>N.C.</td> </tr> <tr> <td>19</td> <td>012 (FCA 1)</td> <td>009 (PHOTO 2)</td> <td>000 (NONE)</td> <td>000 (NONE)</td> <td>012 (FCA 1)</td> </tr> <tr> <td>20 - Com</td> <td>N.C.</td> <td>N.C.</td> <td>N.O.</td> <td>N.O.</td> <td>N.C.</td> </tr> <tr> <td>21</td> <td>008 (PHOTO 1)</td> <td>008 (PHOTO 1)</td> <td>011 (STOP)</td> <td>000 (NONE)</td> <td>011 (STOP)</td> </tr> <tr> <td>22 - Com</td> <td>N.C.</td> <td>N.C.</td> <td>N.C.</td> <td>N.O.</td> <td>N.C.</td> </tr> <tr> <td>23</td> <td>010 (SAFETY)</td> <td>010 (SAFETY)</td> <td>010 (SAFETY)</td> <td>000 (NONE)</td> <td>000 (NONE)</td> </tr> <tr> <td>24 - Com</td> <td>N.C.</td> <td>N.C.</td> <td>N.C.</td> <td>N.O.</td> <td>N.O.</td> </tr> <tr> <td>25</td> <td>002 (PED.)</td> <td>002 (PED.)</td> <td>008 (PHOTO 1)</td> <td>008 (PHOTO 1)</td> <td>008 (PHOTO 1)</td> </tr> <tr> <td>26 - Com</td> <td>N.O.</td> <td>N.O.</td> <td>N.C.</td> <td>N.C.</td> <td>N.C.</td> </tr> <tr> <td>27</td> <td>001 (START)</td> <td>001 (START)</td> <td>001 (START)</td> <td>001 (START)</td> <td>001 (START)</td> </tr> <tr> <td>28 - Com</td> <td>N.O.</td> <td>N.O.</td> <td>N.O.</td> <td>N.O.</td> <td>N.O.</td> </tr> </tbody> </table>		TYPE 00	TYPE 01	TYPE 02	TYPE 03	TYPE 04	If unused, short circuit						17	014 (FCC 1)	011 (STOP)	000 (NONE)	000 (NONE)	014 (FCC 1)	18 - Com	N.C.	N.C.	N.O.	N.O.	N.C.	19	012 (FCA 1)	009 (PHOTO 2)	000 (NONE)	000 (NONE)	012 (FCA 1)	20 - Com	N.C.	N.C.	N.O.	N.O.	N.C.	21	008 (PHOTO 1)	008 (PHOTO 1)	011 (STOP)	000 (NONE)	011 (STOP)	22 - Com	N.C.	N.C.	N.C.	N.O.	N.C.	23	010 (SAFETY)	010 (SAFETY)	010 (SAFETY)	000 (NONE)	000 (NONE)	24 - Com	N.C.	N.C.	N.C.	N.O.	N.O.	25	002 (PED.)	002 (PED.)	008 (PHOTO 1)	008 (PHOTO 1)	008 (PHOTO 1)	26 - Com	N.O.	N.O.	N.C.	N.C.	N.C.	27	001 (START)	001 (START)	001 (START)	001 (START)	001 (START)	28 - Com	N.O.	N.O.	N.O.	N.O.	N.O.
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29		Aerial signal input																																																																																				
30		Ground aerial input																																																																																				
31-32		24 V \sim max 200mA power supply output for auxiliary devices																																																																																				

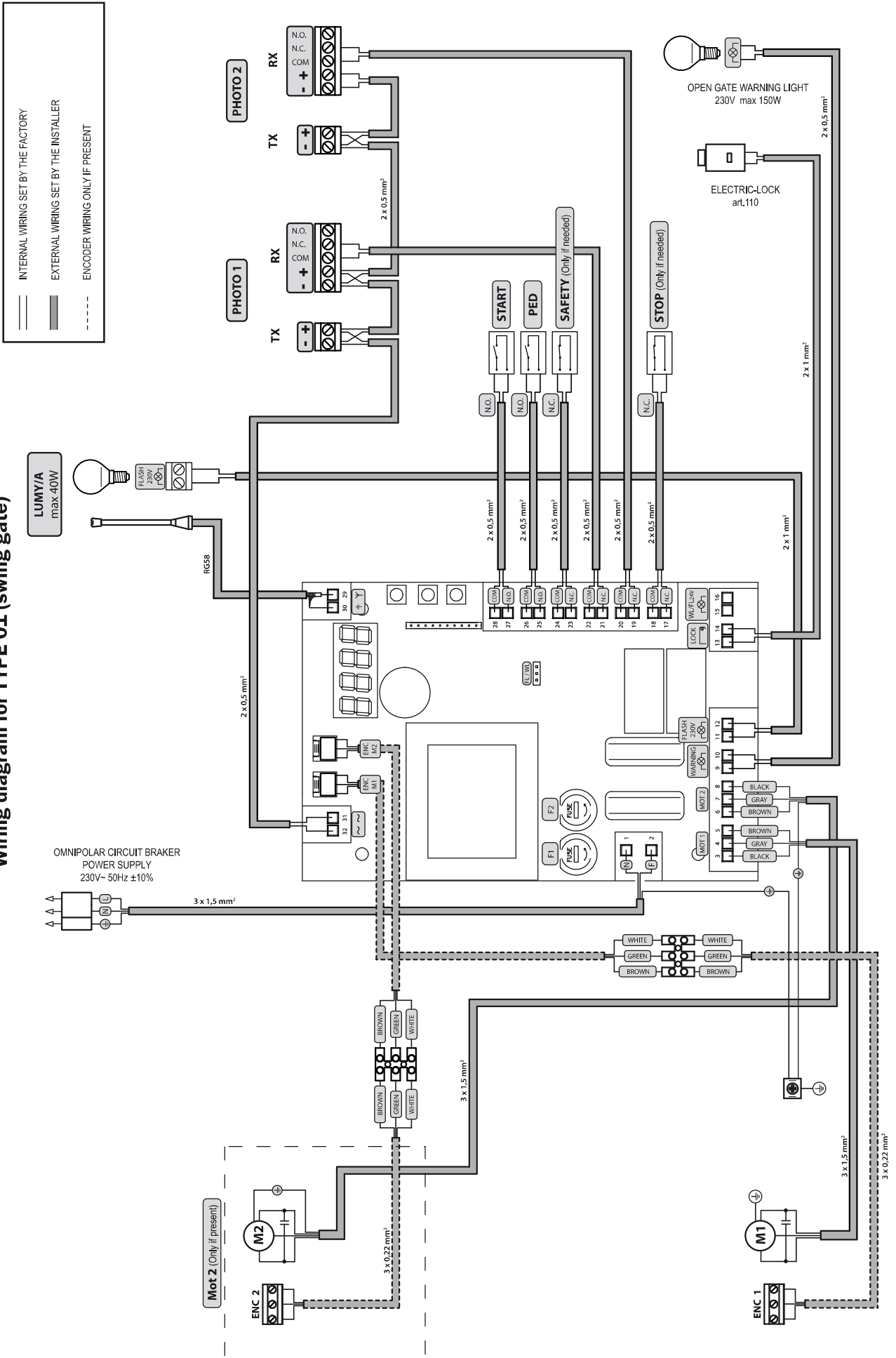
If the installation requires different commands and / or additional to the standard, you can configure each input to the required rate.
Refer to Chapter “Advanced Programming”.

Wiring diagram for TYPE 00 (sliding gate)

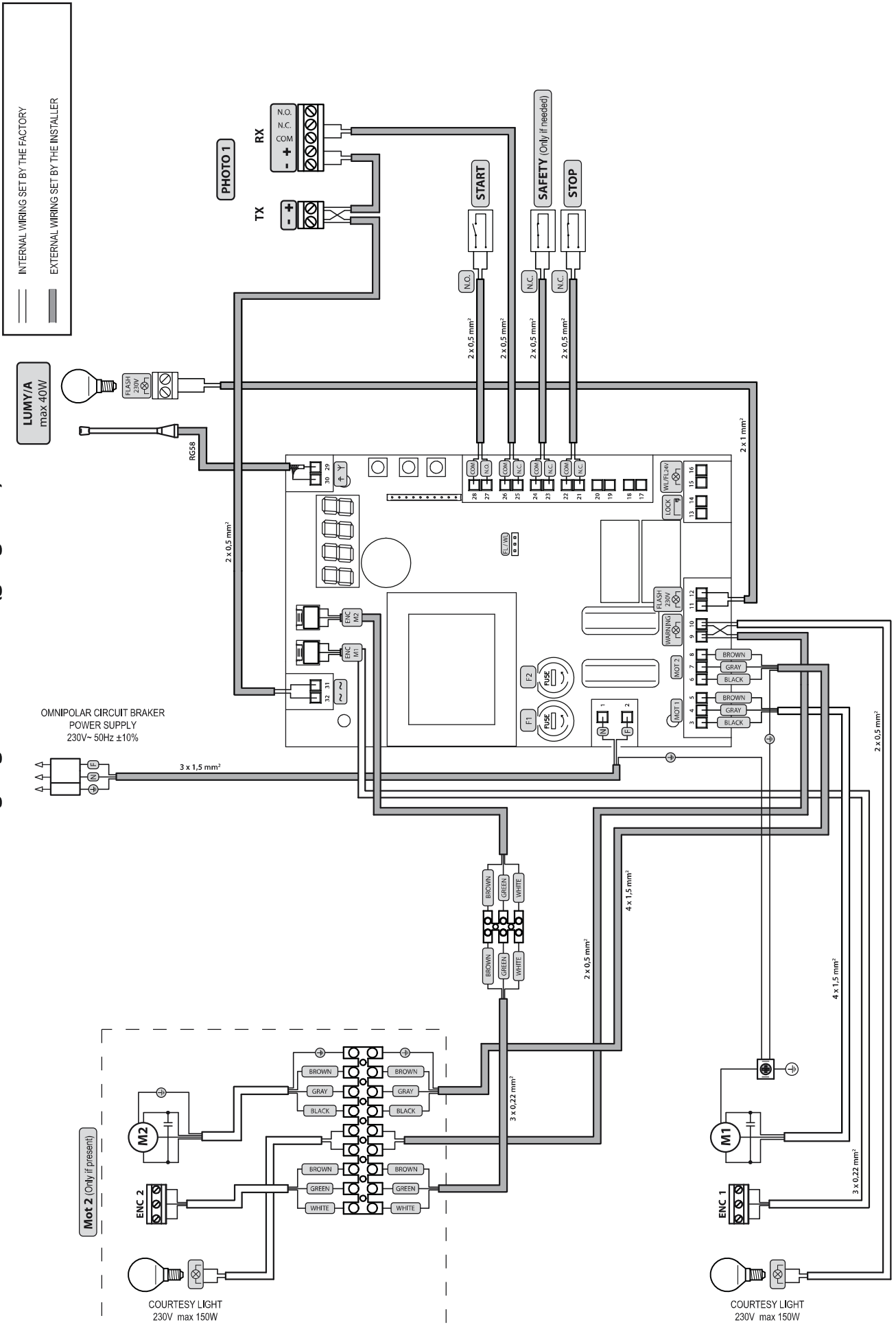
INTERNAL WIRING SET BY THE FACTORY
 EXTERNAL WIRING SET BY THE INSTALLER



Wiring diagram for TYPE 01 (swing gate)

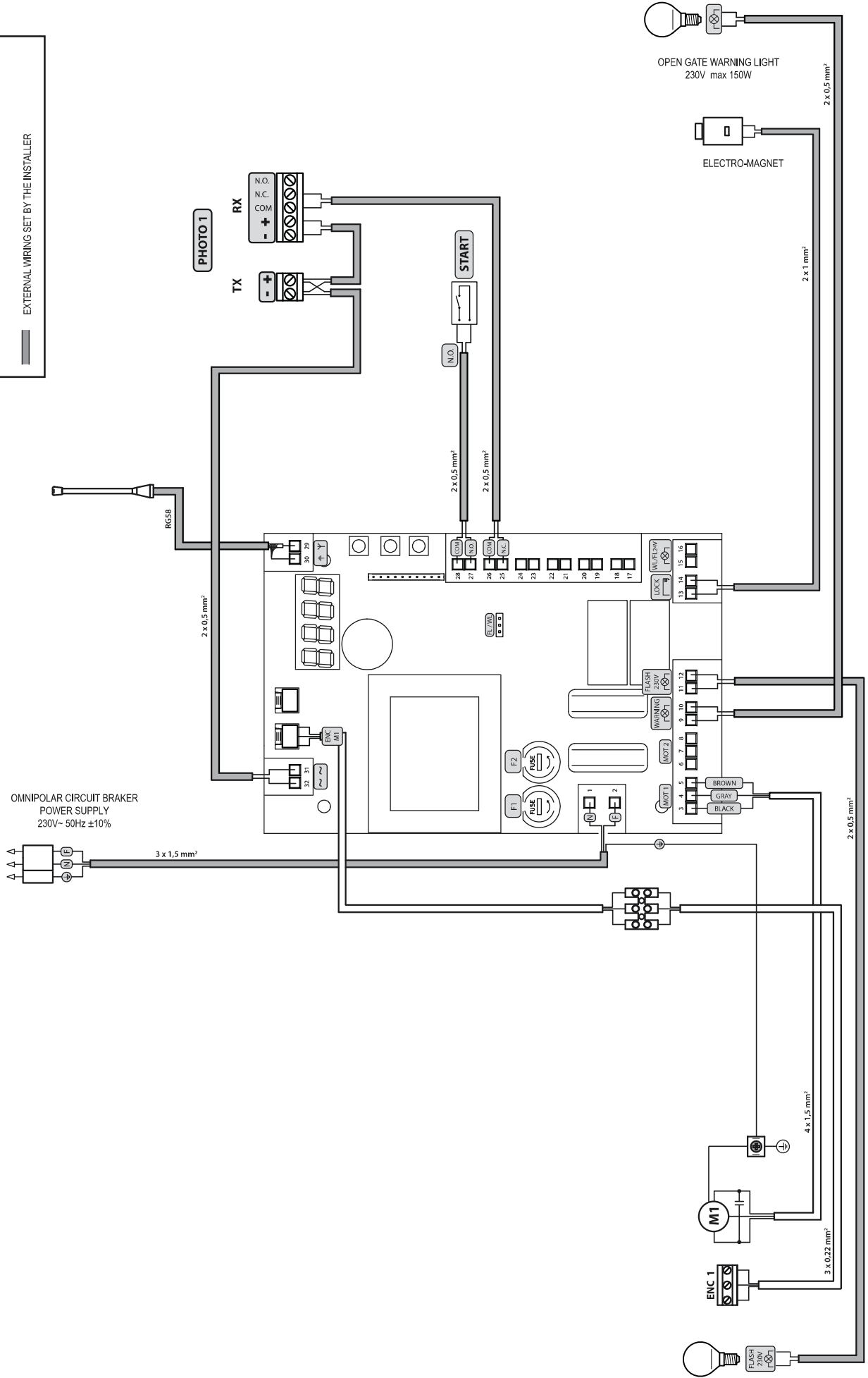


Wiring diagram for TYPE O2 (garage door)



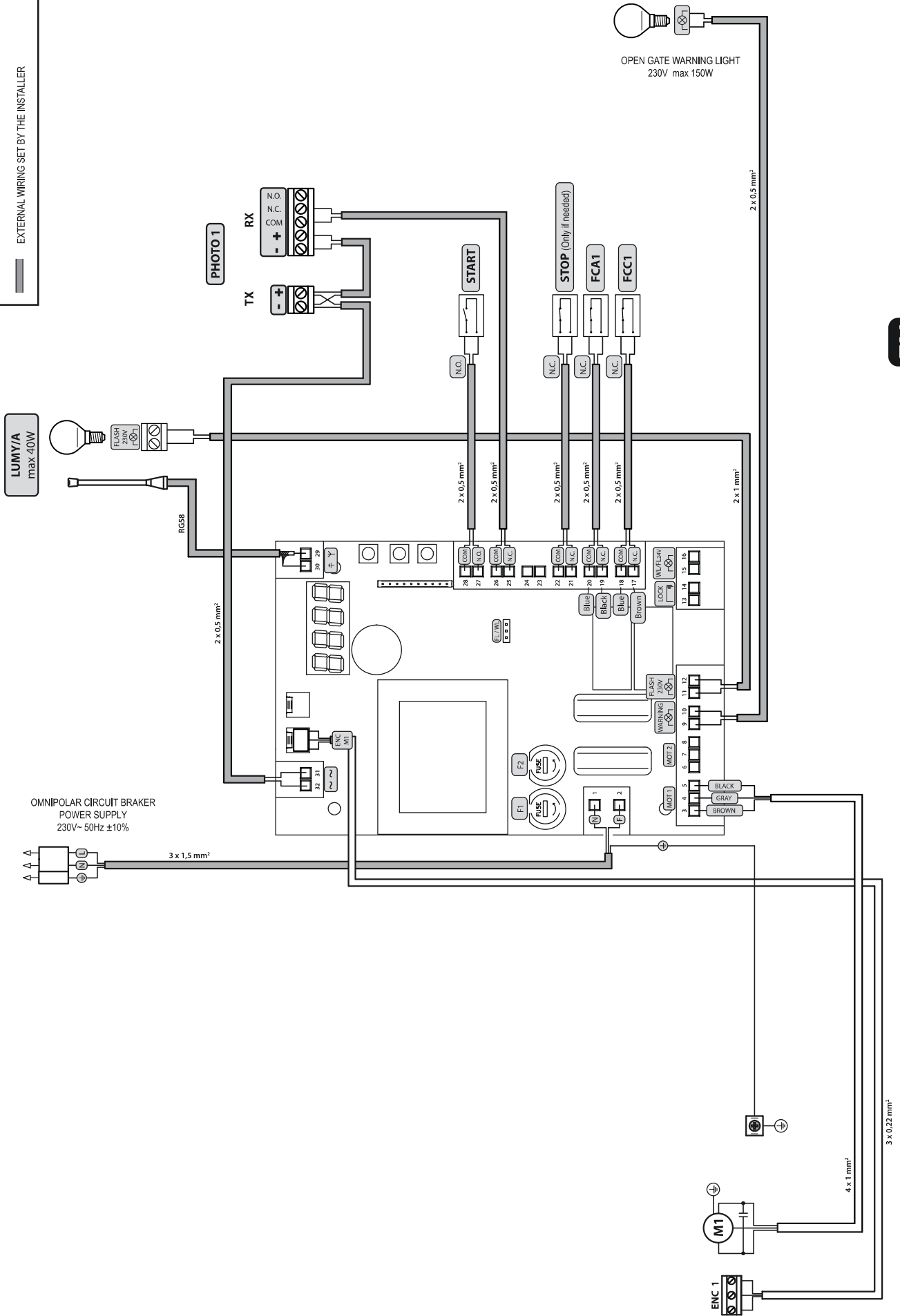
Wiring diagram for TYPE 03 (barrier)

INTERNAL WIRING SET BY THE FACTORY
 EXTERNAL WIRING SET BY THE INSTALLER



Wiring diagram for TYPE 04 (sectional door)

INTERNAL WIRING SET BY THE FACTORY
 EXTERNAL WIRING SET BY THE INSTALLER



6 STANDARD PROGRAMMING

WARNING For reversible motors with electromagnetic brake, remember to set P062=3.

1 Power Supply

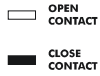
Give power supply, the display shows the following symbols "rES-", "TYPE", "-01-" (or the Type selected) and then "----".



* If the control panel has already been programmed and the power fails or is switched off - once power is returned and a START command is given, the position reset procedure is performed (see "rESP" in the table "WORKING STATUS MESSAGES" on page 40).

2 Visualisation of inputs and operations-counter status

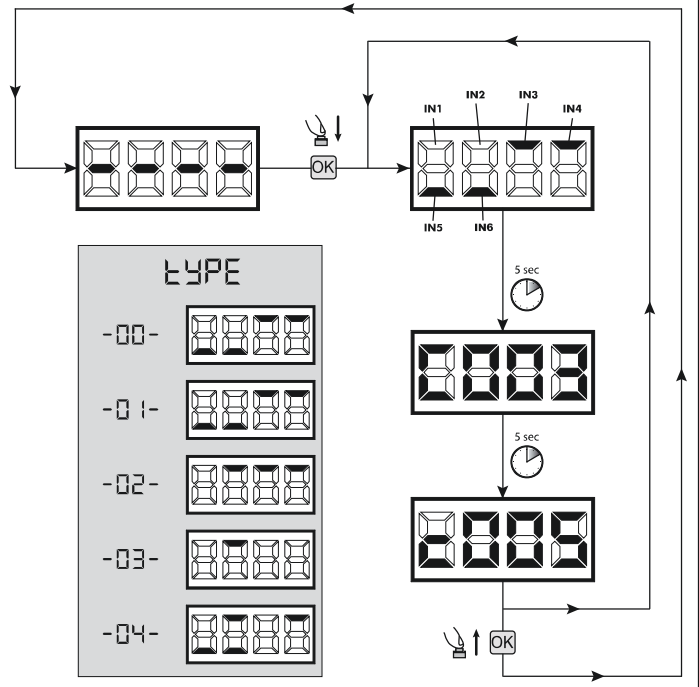
1. Press the **OK** key for 15 seconds;
2. The display will show respectively:
Inputs status (check it's correct);



Total operations counter (* see P064):
i.g.: **0003** = 3x100* = 3000 operations performed

Maintenance operations-counter (* see P065):
i.g.: **0005** = 5*x500 = 2500 operations remaining before the maintenance intervention request (c--- = manoeuvres-counter disabled)

3. Hold down the **OK** key to display a cyclic 3 options, or release the **OK** button to exit the parameter.



3 Selection type of operators

! IMPORTANT !

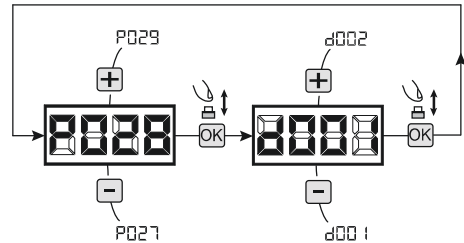
1. Scroll down the parameters with **+** and **-** keys until you visualise P028;
2. Access the parameter by pressing the **OK** key;
3. Acting on **+** and **-** keys, set:

Type 00	Type 01	Type 02	Type 03	Type 04
<ul style="list-style-type: none"> • 005 6NET • 006 9NET • 007 Gulliver - Rev 	<ul style="list-style-type: none"> • 001 Look - Mac • 002 Ghost • 003 Livi 500 - 500MT - 502 - 502EN - 550PL • 004 Livi 500P - 500MT/RF - 502R - 502R/EN - 502L • 005 Oli 	<ul style="list-style-type: none"> • 003 Livi 902EN • 004 Livi 902R - 902R/EN/F 	<ul style="list-style-type: none"> • 003 Pass • 004 Stop 	<ul style="list-style-type: none"> • 000 Lato

Warning: Selecting the OLI operators, all indicated values related to the operator force (P037 - P038 - P039 - P040), are automatically set to 100% without any possibility of change. For this type of operator, the obstacle detection is not active and the adjustment of the thrust force can be executed acting on the operator valves only.

Warning: If you are using non **DEA** System operators, set the parameter on the closer value for family type and performances (refer to table on page 22).

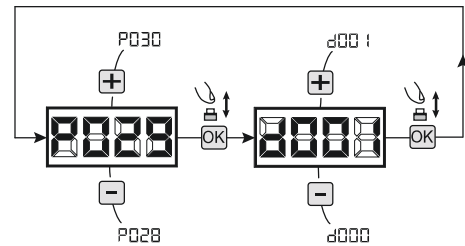
4. Confirm your choice by pressing the **OK** key (display returns again to P028).



4 Selection operating with or without encoder

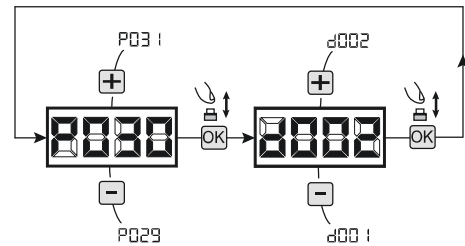
! IMPORTANT !

1. Scroll down the parameters with **+** and **-** keys until you visualise P029;
2. Access the parameter by pressing the **OK** key;
3. Acting on **+** and **-** keys, set:
 - d000=for operators with encoder;
 - d001=for operators without encoder (Slow down is activated);
 - d002=for operators without encoder (Slow down not activated);
4. Confirm your choice by pressing the **OK** key (display returns again to P029).



5 Selection 1 or 2 operators functioning

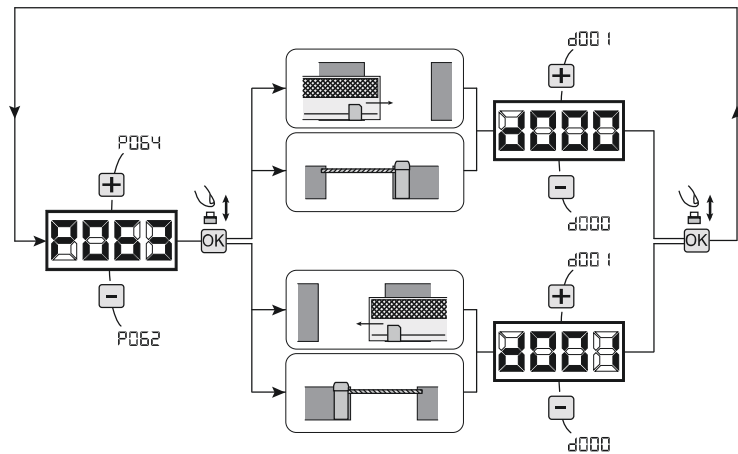
1. Scroll down the parameters with **+** and **-** keys until you visualise P030;
2. Access the parameter by pressing the **OK** key;
3. Acting on **+** and **-** keys, set:
 - d001=for a single motor operating;
 - d002=for 2 motors operating;
4. Confirm your choice by pressing the **OK** key (display returns again to P030).



6 Selection of direction of motion (only Type 00 and Type 03)

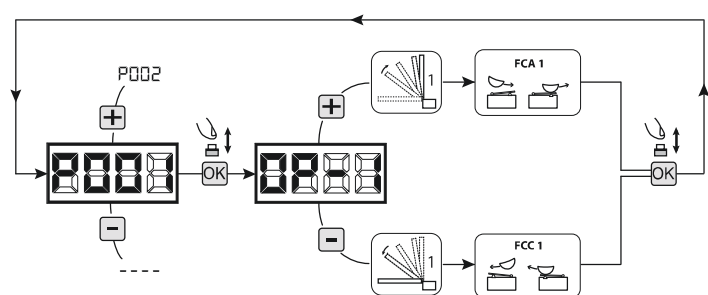
1. Scroll down the parameters with **+** and **-** keys until you visualise P063;
2. Access the parameter by pressing the **OK** key;
3. Acting on **+** and **-** keys, set:
 - d000=motor in standard position;
 - d001=motor in inverted position;
4. Confirm your choice by pressing the **OK** key (display returns again to P063).

Warning: The parameter automatically reverses the motors output open/close and any limit switch input open/close.



7 How to adjust the limit switch

1. Scroll down the parameters until you visualize P001;
2. confirm by pressing the **OK** key;
3. by pressing **+** (**OPEN**) and **-** (**CLOSE**), move the leaf in the opening position and adjust the limit switch cam so that it pushes the microswitch in that point;
Repeat adjusting the closing limit switch.
4. Confirm by pressing the **OK** key (display shows again P001).



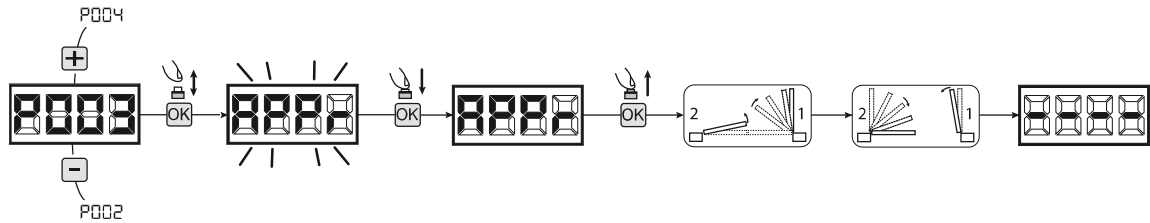
WARNING If the Operator 2 is present, repeat the previous settings using P002.

8 Motor stroke learning

1. Scroll down the parameters with **+** and **-** keys until you visualise P003;
2. Access the parameter by pressing the **OK** key;
3. When "PPPr" flashes, continue pressing the **OK** key;
4. Release the **OK** key when "PPPr" stops flashing; Start the learning procedure with operator 1 opening (if it starts closing, disconnect the power supply, inverse the operator cables and repeat the operation);
5. Wait for the door (or doors in case of using 2 motors) searches and stops on the opening stop and then on the closing stop.
If you want to anticipate the stopping strokes in opening, you can manually intervene by giving an impulse to "Start" button (or pressing the "OK" on the control panel) simulating the stroke.

Warning: For operators without encoder, the stroke is not detected, so it **MUST** be simulated both while opening and while closing (for both operators) by pressing the **OK** key.

6. Once the procedure is ended, the display will show "----".

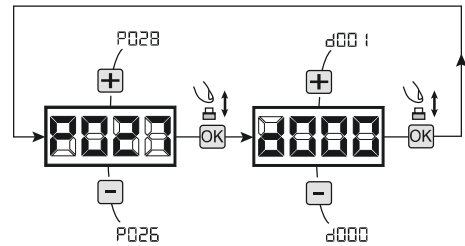


WARNING (only Type 01 and Type 03) Once you have executed the learning stroke, operate a complete cycle (opening/closing) and then check the manual release to make sure it is working properly. If it's to "hard" increase the value of P057 of 1 or more.

9 Transmitters learning

9.1 Transmitters coding selection

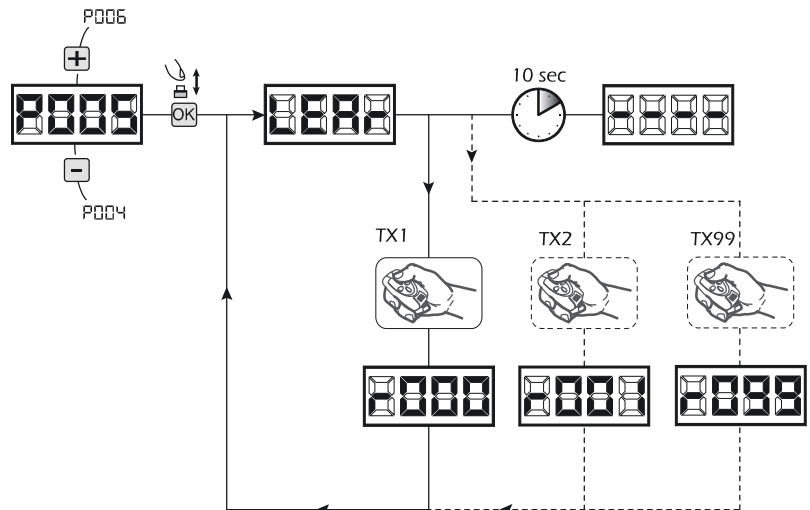
1. Scroll down the parameters with **+** and **-** keys until you visualise P027;
2. Confirm by pressing on the **OK** key;
3. Select the type of transmitter by scrolling **+** and **-** keys:
 - d000=fix rolling-code (**suggested**);
 - d001=complete rolling-code;
 - d002=dip-switch;
4. Confirm by pressing on the **OK** key (display shows again P027).



Warning: If you need to vary the type of encoding, and only if other remotes with different encoding are memorized, you need to erase memory (P004) **AFTER** you have set the new encoding.

9.2 Learning

1. Scroll down the parameters with **+** and **-** keys until you visualise P005;
2. Confirm by pressing on the **OK** key;
3. When the symbol "LEPr" appears, press on any key of the transmitter you want to memorize;
4. The display visualizes the number of the transmitter just memorized and then "LEPr";
5. Memorize all necessary transmitters repeating this procedure from step 3;
6. Wait 10 seconds before quitting the memorization mode, display shows now "----".



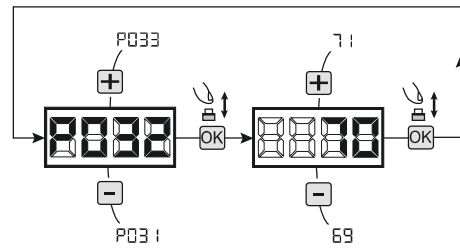
Warning: In the case of rolling code remotes, the receiver can be put into learning mode by pressing the hidden button on a remote control previously learned.

10 Adjustment of operating parameters

If you need to modify the operating parameters (force, speedness etc.):

1. Scroll down the parameters until you visualize the desire parameter (i.g. P032);
2. Confirm by pressing on the **OK** key;
3. By pressing on **+** and **-**, set up the desired value;
4. Confirm by pressing on the **OK** key (display shows the parameters previously selected).

For the complete list of the “Operating Parameters” See the table on page. 37.



11 Programming complete

WARNING At the end of the programming procedure, use the buttons **+** and **-** until the appearance of the symbol “- - -”, the operator is now ready again for new manoeuvres.

To perform any “Advanced Programming” operations (cancellation of the remotes, configuration inputs, etc. ..), see on page 34.

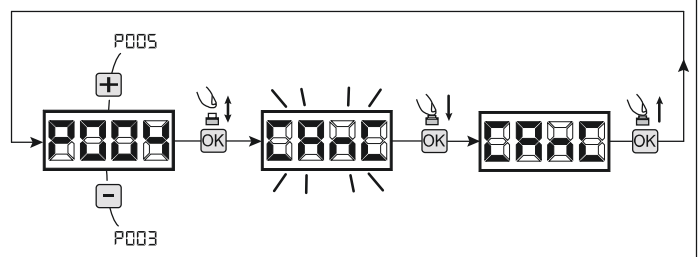
7 ADVANCED PROGRAMMING

Here are some added programming procedures relating to remotes memory management and advanced configuration of the control inputs.

1 Deletion of memorized transmitters

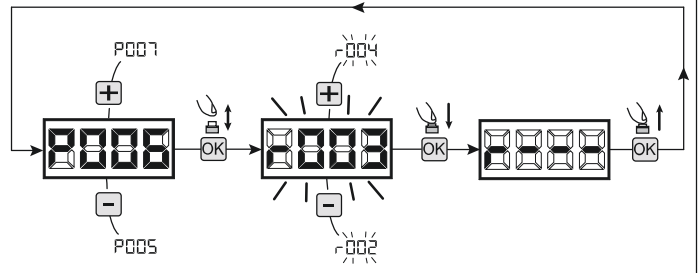
1.1 Deletion of all transmitters

1. Scroll down the parameters until you visualize P004;
2. Confirm by pressing on the **OK** key;
3. When "P004" is flashing, press the **OK** key for a few seconds;
4. Release the **OK** key as soon as "P004" stops flashing;
5. All memorized transmitters have been deleted (display shows again P004).



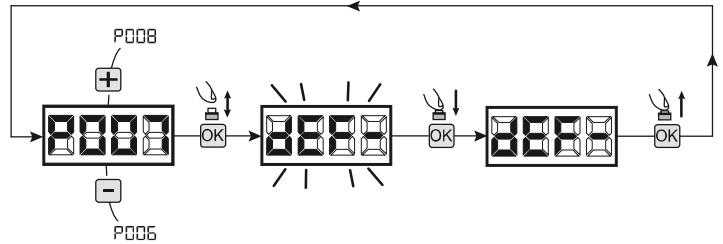
1.2 How to search and delete a transmitter

1. Scroll down the parameters until you visualize P006;
2. Confirm by pressing on the **OK** key;
3. By pressing on **+** and **-**, keys, select the transmitter you want to delete (eg. r 003);
4. When "r 003" flashes, confirm the deletion by pressing the **OK** key for a few seconds;
5. Release the **OK** key when appears "r ---";
6. The selected transmitter is deleted (display shows again P006).



2 Restoring default parameters

1. Scroll through the parameters with the buttons **+** and **-** until the display shows P007;
2. Confirm by pressing on the **OK** key;
3. When "dEF-" is flashing, press the **OK** key for a few seconds;
4. Release the **OK** key as soon as "dEF-" stops flashing; Default parameters for the configuration currently in use are restored;
5. At the end of the operation display returns to P007.



Warning: After you restore the default parameters, you must program the control panel again and adjust all operating parameters, in particular, remember to properly set the operator configuration parameters. (P028 - P029 - P030).

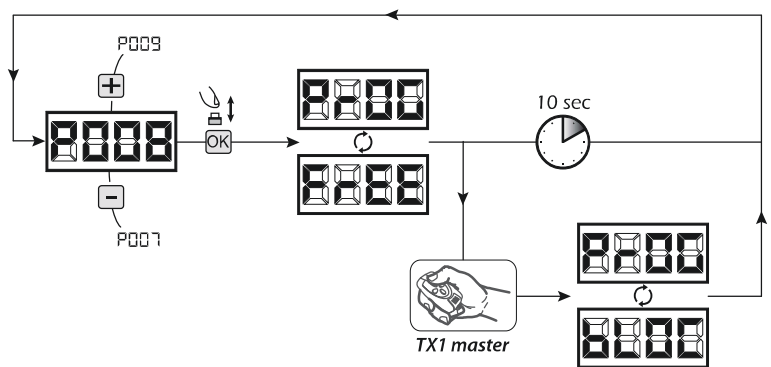
Warning: For reversible motors with electro-brake, remember to set P062 = 3 at the end of the procedure.

3 Locking-Unlocking access to programming

By using a "dip-switch" remote (regardless of the type of remotes already memorized) it's possible to lock-unlock access to the programming of the control panel to avoid tampering. The remote setting is the locking-unlocking code verified by the control board.

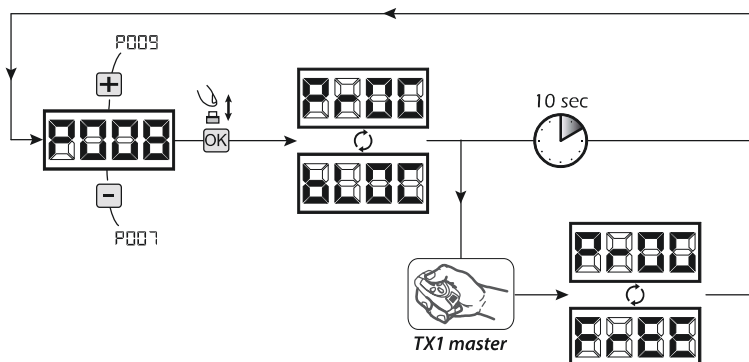
3.1 Locking access to programming

1. Scroll through the parameters with the buttons **+** and **-** until the display shows P008;
2. Access the parameter by pressing the button **OK**;
3. The display shows alternately the writing P-00 / F-EE to indicate that the control board is waiting for the transmission of the block code;
4. Within 10 seconds press CH1 on the "TX Master", the display shows P-00 / bL 00 before returning to the list of parameters;
5. Access to programming is locked.



3.2 Unlocking access to programming

1. Scroll through the parameters with the buttons \oplus and \ominus until the display shows P008;
2. Access the parameter by pressing the button OK ;
3. The display shows alternately the writing $\text{P-00} / \text{bL-00}$ to indicate that the control board is waiting for the transmission of the unlocking code;
4. Within 10 sec. press the CH1 of the "TX Master", the display shows $\text{P-00} / \text{F-EE}$ before returning to the list of parameters;
5. Access to programming is unlocked.



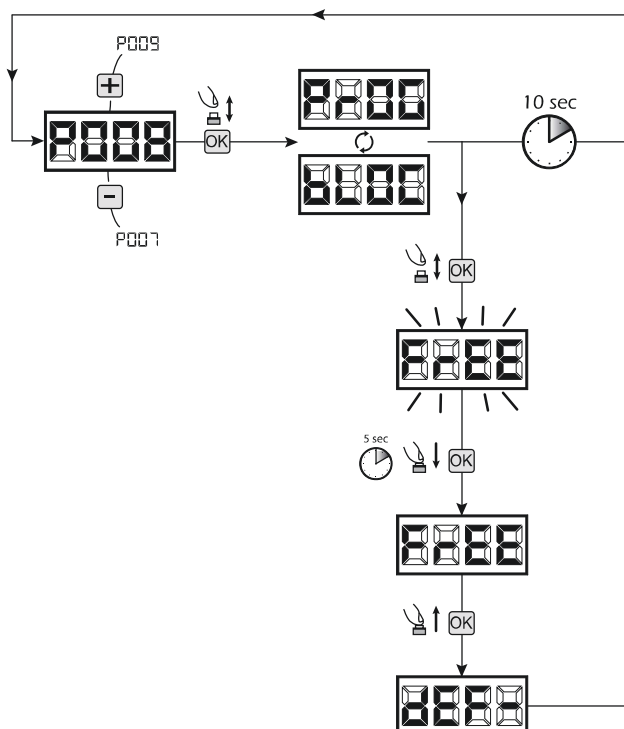
3.3 Unlocking access to programming and global reset

WARNING! This procedure involves the loss of all stored settings.

The procedure allows the unlocking of the control panel without having to know its unlocking code.

Following this release, you must program the control panel again and adjust all operating parameters, in particular, remember to properly set the configuration of parameters (P028 - P029 - P030 - operator configuration). You will also need to repeat the measurement of impact forces to ensure the installation compliance to standards.

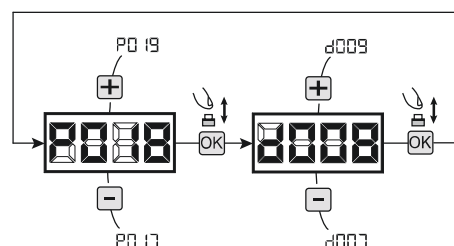
1. Scroll through the parameters with the buttons \oplus and \ominus until the display shows P008;
2. Access the parameter by pressing the button OK ;
3. The display shows alternately the writing $\text{P-00} / \text{bL-00}$;
4. Press the button OK , the display shows the flashing writing F-EE ;
5. Press the button again and hold for 5 seconds (releasing it before, the procedure is terminated): The display shows the fixed writing F-EE followed by $\Delta\text{EF-}$, before returning to the list of parameters;
6. Access to programming is unlocked.



4 Inputs configuration

Where the installation requires different commands and / or additional to the standard ones described by plan, you can configure each input for the operation desired (eg START, PHOTOS, STOP, etc ...).

1. Scroll down the parameters with the \oplus and \ominus to see that corresponding to the desired one:
 - P017=for INPUT 1;
 - P018=for INPUT 2;
 - P019=for INPUT 3;
 - P020=for INPUT 4;
 - P021=for INPUT 5;
 - P022=for INPUT 6;
2. Confirm by pressing on the OK key to get access to the parameter (eg. P018);
3. Scroll down with the \oplus and \ominus , keys to set the value corresponding to the desired operation (refer to table "Input Configuration parameters" on page 36);
4. Confirm by pressing on the OK key (display shows again P018).
5. Execute the new connection to the input just reconfigured.



5 Programming complete

WARNING At the end of the programming procedure, use the buttons \oplus and \ominus until the appearance of the symbol "----", the operator is now ready again for new manoeuvres.

PAR.	PROCEDURE	SETTABLE VALUES
PC01	Positioning of operator 1	
PC02	Positioning of operator 2	
PC03	Memorization of the motors' stroke	
PC04	Deletion of transmitters	
PC05	Transmitters memorizing	
PC06	Search and deletion of a transmitter	
PC07	Restoring the operating parameters	
PC08	Lock access to programming	
PC09	How to learn connected DE@NET devices (unused at the moment)	
PC10	Unused parameter	
PC11	Unused parameter	
PC12	Unused parameter	
PC13	Unused parameter	
PC14	Unused parameter	
PC15	Unused parameter	

PROGRAMMING PROCEDURES

PAR.	PARAMETER DESCRIPTION	SETTABLE VALUES	DEFAULT VALUES (for different standards of installation)					
			TYPE 00	TYPE 01	TYPE 02	TYPE 03	TYPE 04	
PC16	INPUT_3 selectioning input type	<ul style="list-style-type: none"> • 000: IN3 type=free contact • 001: IN3 type=constant resistance 8K2 	000	000	000	000	000	
PC17	INPUT_1 operating selection	<ul style="list-style-type: none"> • 000: NONE (unused parameter) • 001: START (start) • 002: PED. (pedestrian) • 003: OPEN (separated open) • 004: CLOSE (separated close) • 005: OPEN_PM (man present open) • 006: CLOSE_PM (man present close) • 007: ELOCK-IN (electric-lock activation... See P062) • 008: PHOTO 1 (photoceil 1) • 009: PHOTO 2 (photoceil 2) • 010: SAFETY 1 (safety rib 1) • 011: STOP (lock) • 012: FCA1 (opening limit switches Mot1) • 013: FCA2 (opening limit switches Mot2) • 014: FCC1 (closing limit switches Mot1) • 015: FCC2 (closing limit switches Mot2) • 016: SAFETY 2 (safety rib 2) 	001	001	001	001	001	
PC18	INPUT_2 operating selection		IN2	002	008	008	008	008
PC19	INPUT_3 operating selection		IN3	010	010	010	000	000
PC20	INPUT_4 operating selection		IN4	008	008	011	000	011
PC21	INPUT_5 operating selection		IN5	012	009	000	000	012
PC22	INPUT_6 operating selection		IN6	014	011	000	000	014

INPUTS CONFIGURATION PARAMETERS

			TYPE 00	TYPE 01	TYPE 02	TYPE 03	TYPE 04		
INPUTS CONFIGURATION PARAMETERS	P023	Allocation of CHANNEL 1 of remotes	<ul style="list-style-type: none"> • 000: NONE (unused parameter) • 001: START (start) 					000	000
	P024	Allocation of CHANNEL 2 of remotes	<ul style="list-style-type: none"> • 002: PEDESTRIAN (pedestrian) • 003: OPEN (separated open) 					000	000
	P025	Allocation of CHANNEL 3 of remotes	<ul style="list-style-type: none"> • 004: CLOSED (separated close) • 005: OPEN_PM (man present open) 					000	000
	P026	Allocation of CHANNEL 4 of remotes	<ul style="list-style-type: none"> • 006: CLOSED_PM (man present close) • 007: ELOCK-IN (electric-lock activation. See P062) 					000	000
OPERATORS CONFIGURATION PARAMETERS	P027	Selection of type of remotes	<ul style="list-style-type: none"> • 000: HCS fix-code • 001: HCS rolling-code • 002: Dip-switch 					000	000
	P028	Selection type of operators Warning: Selecting the OLI operators, all indicated values related to the operator force (P037 - P038 - P039 - P040), are automatically set to 100% without any possibility of change. For this type of operator, the obstacle detection is not active and the adjustment of the thrust force can be executed acting on the operator valves only.	<ul style="list-style-type: none"> • 000: LATO • 001: LOOK - MAC • 002: GH0ST.100/200 • 003: 500 - 500MT - 502 - 502EN - 902EN - PASS - 550PL • 004: STOP - 500P - 500MT/RF - 502R - 502R/EN - 502L - 902R - 902R/EN/F 					005	003
	P029	Selected work with or without encoders. WARNING: P029 must be set correctly before performing the procedure for programming.	<ul style="list-style-type: none"> • 000: motors with encoder • 001: engines without encoder. Slow down is activated • 002: engines without encoder. Slow down not activated 					000	000
	P030	Selectioning operators number	<ul style="list-style-type: none"> • 001: one operator • 002: two operators 					001	002
	P031	Operators speed adjustment during slow-down while opening	15%/tot.....100%/tot					040	050
	P032	Operators speed adjustment during the stroke while opening	15%/tot.....100%/tot					100	100
	P033	Operators speed adjustment during the stroke while closing	15%/tot.....100%/tot					100	100
	P034	Operators speed adjustment during slow-down while closing	15%/tot.....100%/tot					040	050
	P035	Slow down duration adjustment while opening	0%/tot.....80%/tot					025	020
	P036	Slow down duration adjustment while closing	0%/tot.....80%/tot					025	020
	P037	Operator 1 force adjustment while opening (if = 100% obstacle detection deactivated)	15%/tot.....100%/tot					050	050
	OPERATING PARAMETERS	P038	Operator n.1 force adjustment while closing (if = 100% obstacle detection deactivated)	15%/tot.....100%/tot					050
P039		Operator n.2 force adjustment while opening (if = 100% obstacle detection deactivated)	15%/tot.....100%/tot					050	050
P040		Operator n.2 force adjustment while closing (if = 100% obstacle detection deactivated)	15%/tot.....100%/tot					050	050
P041		Automatic closing times adjustment (if = 0 automatic closing deactivated)	0sec.....255sec					000	000
P042		Pedestrian automatic closing time adjustment (se = 0 pedestrian automatic closing deactivated)	0sec.....255sec					000	000
P043		Pedestrian stroke duration adjustment	5%/tot.....100%/tot					030	100
P044		Operator n.1 force adjustment while opening (if = 100% obstacle detection deactivated)	15%/tot.....100%/tot					050	050

		TYPE 00	TYPE 01	TYPE 02	TYPE 03	TYPE 04
P044	Pre-flashing time adjustment	000	000	000	000	000
P045	Adjustment of phase displacement time while opening	/	001	/	/	/
P046	Adjustment of phase displacement time while closing	/	003	/	/	/
P047	Collectivity function: if it is activated it deactivates both opening and closing inputs for the whole duration of automatic opening and closing	000	000	000	000	000
P048	Ram blow function: it pushes the motors closed for one second before each opening movement, so as to ease the electric-lock release	000	000	000	000	000
P049	"Reversal" mode selection (during the manoeuvre a command impulse reverse the movement) or "step by step" (during the manoeuvre a command impulse stops the movement). A next impulse restart the operator to the opposite direction.	001	000	000	000	000
P050	PHOTO 1 PHOTO input functioning: If=0: photocell enabled while closing and starting when the gate is stopped; if=1 photocells are always enabled; if=2 photocells are enabled while closing only. When enabled, its activation provokes: the inversion (while closing), the stop (while opening) and prevent the starting (when gate is closed).	002	002	002	002	002
P051	PHOTO 2 If=3-4-5, the operation is the same as the values 0-1-2 but with "close immediately" enabled: in any case, during the opening and/or the pause time, removal of a possible obstacle causes the gate automatically closes after a fixed delay of 5 sec.	000	001	002	002	002
P052	Operation mode selection of the warning light output: If = 0 "fix warning light" (output always ON when the gate is open, OFF after a closing operation). If = 1 "courtesy light" (output ON during each movement, OFF when the motor stops, after the setting delay).	000	000	050	000	000
P053	Searches for end of stroke while opening too: when activated, operators stop only at their arrival at the end of stroke, also while opening. Warning: During the emergency operation (rESP), the motor executes the first maneuver while opening. In addition, if any limit switches, the parameter is forced to 1.	/	000	000	001	000
P054	"soft start" function: motors accelerate gradually until they reach the set speed, avoiding sudden departures. Warning: For operators without encoder, the parameter will be ignored.	001	001	001	001	001
P055	Adjust the inversion on obstacle period (detected by internal anti-crushing sensor or by the safety input when activated): If = 0 it makes a complete inversion, if > 0 indicates the duration (in seconds) of the run, after inversion resulting from detection of an obstacle during the opening.	000	000	000	000	001
P056	Adjust the inversion on obstacle period (detected by internal anti-crushing sensor or by the safety input when activated): If = 0 it makes a complete inversion, if > 0 indicates the duration (in seconds) of the run, after inversion resulting from detection of an obstacle during the closing.	000	000	000	000	000
P057	Facilitation manual release: If ≠ 0, after detecting the locking stop, the engine reverses for a brief time to release the pressure on it, and thus facilitate the manual release. The set value shows the length of the inversion. If = 0 function disabled	000	001	003	002	000
P058	Adjustment of the opening stroke margin: it adjusts the duration of the last part of the stroke during which an obstacle is interpreted as a stroke, blocking the motor without performing the inversion. For motors with encoders, the set value indicates the number of revolutions of the rotor; while for motors without encoder, the value is expressed in % of the maximum stroke. Warning: for motors without encoder, if P035 (duration slow-down while opening) is > 10%, it forces the stroke detection margin so that it's the same than the slow-down.	/	025	025	020	025
P059	Adjustment of the closing stroke margin: it adjusts the duration of the last part of the stroke during which an obstacle is interpreted as a stroke, blocking the motor without performing the inversion. For motors with encoders, the set value indicates the number of revolutions of the rotor; while for motors without encoder, the value is expressed in % of the maximum stroke. Warning: for motors without encoder, if P036 (duration slow-down while closing) is > 10%, it forces the stroke detection margin so that it's the same than the slow-down.	/	025	025	020	025

OPERATING PARAMETERS

		TYPE 00	TYPE 01	TYPE 02	TYPE 03	TYPE 04
P060	Operators force adjustment at stroke arrival - If=0, setting off (the force value on the stroke is calculated automatically) - If≠0 (operators with encoder) it indicates the force value (expressed in% of the max value) set in the last length - If≠0 (operators without encoder), max speed is activated during last length.	/	000	000	000	000
P061	Unused parameter	/	/	/	/	/
P062	Electric-lock output operating: If=0 "boost" output for electric-lock art.110 power supply, If=1 24V output controlled by the ELOCK_IN input as pulsed mode, If=2 24V output controlled by the ELOCK_IN input as step-by-step mode, If=3 electro-brake output for not self-locking operators, If=4 24V output for electric-lock power supply via an external relay, If=5 24V output for electro-magnets power supply for barriers. If>5 24V output controlled by the ELOCK_IN input as temporized mode (the set value indicates the switch-off delay) in seconds).	000	000	000	005	000
P063	Run direction inversion: If=1 automatically reverses the outputs open/close of the operators and any opening/closing limit switches inputs, avoiding having to manually change the wiring when installing the operator in an inverted position.	000	000	000	000	000
P064	Multiplier operations-counter: Multiply the number of operations after which the total operations-counter will be updated. To view the values, refer to the section "Visualisation of inputs and operations-counter status".	001	001	001	001	001
P065	Maintenance Operations-counter: If=0 reset the counter and disables the intervention request, if>0 indicates the number of operations (x 500) to be made before the control panel executes a 4 second additional pre-flash to indicate the need of maintenance. i.g.: If P065 = 050, operations number = 50x500 = 25000 operations Warning: Before you set a new value of the counter-manoeuvres maintenance, the same must be reset by setting P065= 0 and only later P065 = "new value".	000	000	000	000	000
P066	Selection of operating flashing light output: If=0 intermittent flashing light output; If=1 Fixed flashing light output (for flashing lights with intermittent interior circuits).	001	001	001	001	001
P067	Operation of the SFT input: if = 0 safety edge always enabled, if = 1 safety edge enabled only while closing, if = 2 safety edge enabled only while closing and before any movement, if = 3 safety edge enabled only when opening, if = 4 safety edge enabled only while opening and before any movement; as for the obstacle detection with internal anti-crushing sensor, also the activation of the inputs SFT1 and SFT2 causes the complete or partial reversal as set by P055 (duration of inversion on obstacles while opening, and P056 (duration of reversal on obstacle while closing)	000	000	000	000	001
P068	SAFETY 2	000	000	000	000	001
P069	Delay on limit switch detection: the operation is stopped after 1.5 sec from limit switch detection. When during this delay a stop is detected, the operator is suddenly stopped	000	000	000	000	001
P070	Adjustment of acceleration durability Warning: if soft start is activated, the acceleration is deactivated independently from P070 value.	008	008	008	008	008
P071	Unused parameter	/	/	/	/	/
P072	Unused parameter	/	/	/	/	/
P073	Unused parameter	/	/	/	/	/
P074	Unused parameter	/	/	/	/	/
P075	Unused parameter	/	/	/	/	/

OPERATING PARAMETERS

8 MESSAGES SHOWN ON THE DISPLAY

WORKING STATUS MESSAGES		
Mess.	Description	
----	Gate is closed	
⌋	Gate is opened	
OPEN	Opening under way	
CLOS	Closing under way	
STEP	While in step-by-step mode, the control board awaits further instructions after a start command	
STOP	Stop command received	
RESP	Reset current position: The control unit has just been turned on after a power failure, or the gate has exceeded the maximum number (80) of inversions allowed without ever getting to the closing stroke, or the maximum number (3) of consecutive operations allowed of the anti-crushing device. Once the control unit has been reset and open command given the gate will start moving at slow speed, until it reaches end of travel.	
ERROR MESSAGES		
Mess.	Description	Possible solutions
ErrP	Error position: The reset position procedure is not successful. The control panel is awaiting commands.	- Make sure there are no specific frictions and / or obstacles during the run; - Give a start pulse to initiate a position reset procedure; - Verify that the operation is completed successfully, manually helping the run, if necessary; - Adjust power and speed settings if necessary.
Err3	External photocells and/or safety devices are activated or out of order.	- Make sure that all safety devices and/or photocells installed are working properly.
Err4	Possible failure to the control board power circuit.	- Disconnect and connect power supply. Give a start impulse, if this error appears again, replace the control board.
Err5	Time-out operators run: The engine/s exceeded the maximum operating time (4min) without ever stopping.	- Give a start pulse to start the position reset procedure; - Ensure that this operation is successful.
Err6	Time-out obstacle detection: With anti-crushing sensor disabled, was still detected the presence of an obstacle that prevents movement of the leaf for a period of 10 seconds more.	- Make sure there are no specific frictions and / or obstacles during the run; - Give a start pulse to initiate a position reset procedure; - Verify that the operation is completed successfully.
Err7	Operators movement not detected.	- Make sure that operators and encoders connections are well done. - Check the setting of parameter P029 (Motor selection with or without encoder) and make sure it is correct. - If this error appears again, replace the control panel.

9 INSTALLATION TEST

The testing operation is essential in order to verify the correct installation of the system. **DEA** System wants to summarize the proper testing of all the automation in 4 easy steps:

- Make sure that you comply strictly as described in paragraph 2 “WARNINGS SUMMARY”;
- Test the opening and closing making sure that the movement of the leaf match as expected. We suggest in this regard to perform various tests to assess the smoothness of the gate and defects in assembly or adjustment;
- Ensure that all safety devices connected work properly;
- Perform the measurement of impact forces in accordance with the standard 12445 to find the setting that ensures compliance with the limits set by the standard EN12453.

10 PRODUCT DISPOSAL



WARNING In compliance with EU Directive 2002/96/EC on waste electrical and electronic equipment (WEEE), this electrical product should not be treated as municipal mixed waste. Please dispose of the product and bring it to the collection for an appropriate local municipal recycling.



Downee

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