

user manual

QK-CE220RL V02

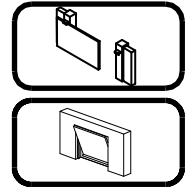
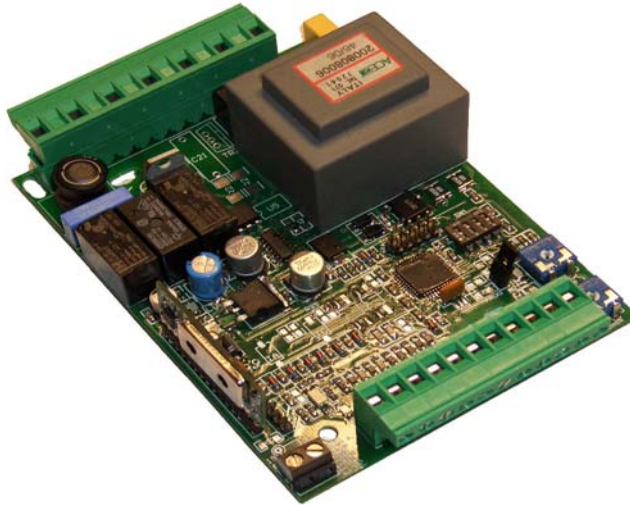
CONTROL BOARD FOR A 230V ac SINGLE-PHASE MOTOR


230V



433,92 MHz

PLUG &
PLAY



qui  **lö** [®]
opening solutions

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INTRODUCTION

This manual is enclosed with control unit QK-CE220RL and may not be used for different products. Moreover it has been especially written for use by qualified fitters.

Important note:
disconnect the panel before operating on the control unit.

QK-CE220RL control unit has been designed to control electromechanical gear motors such as slide gates. Any other use is considered improper and is consequently forbidden by current laws. The automation system you are going to install is classified as "machine construction" and is therefore included in the application of European directive 89/392 EEC (Machinery Directive).

The above mentioned directive includes following prescriptions:

- only trained and qualified personnel should install the equipment;
- the installer must first make a "risk analysis" of the machine;
- the equipment must be installed in compliance with the regulations in force;
- after installation, the machine owner must be given the "declaration of compliance".

Borinato F.lli Snc observes all security standards in any phase of the product's production process (see the attached declaration of compliance) and the installer must therefore observe the same standards when installing the system. Should he ignore such regulations, he will be fully responsible for any damage caused by the system. For this reason we suggest to read all instructions in this manual in advance.

MAIN FEATURES OF THE CONTROL BOARD

- Motor torque adjustment
- Built-in flashing light circuit with opening (fast) / closing (slow) / pause (always on) differentiated flashing
- Built-in radio receiver with 100 memories (one channel)
- Input status LEDs
- Protection fuses
- 2nd "pedestrian entry" function by key selector / wall mount switch
- Soft start/stop function
- Plug and play technology

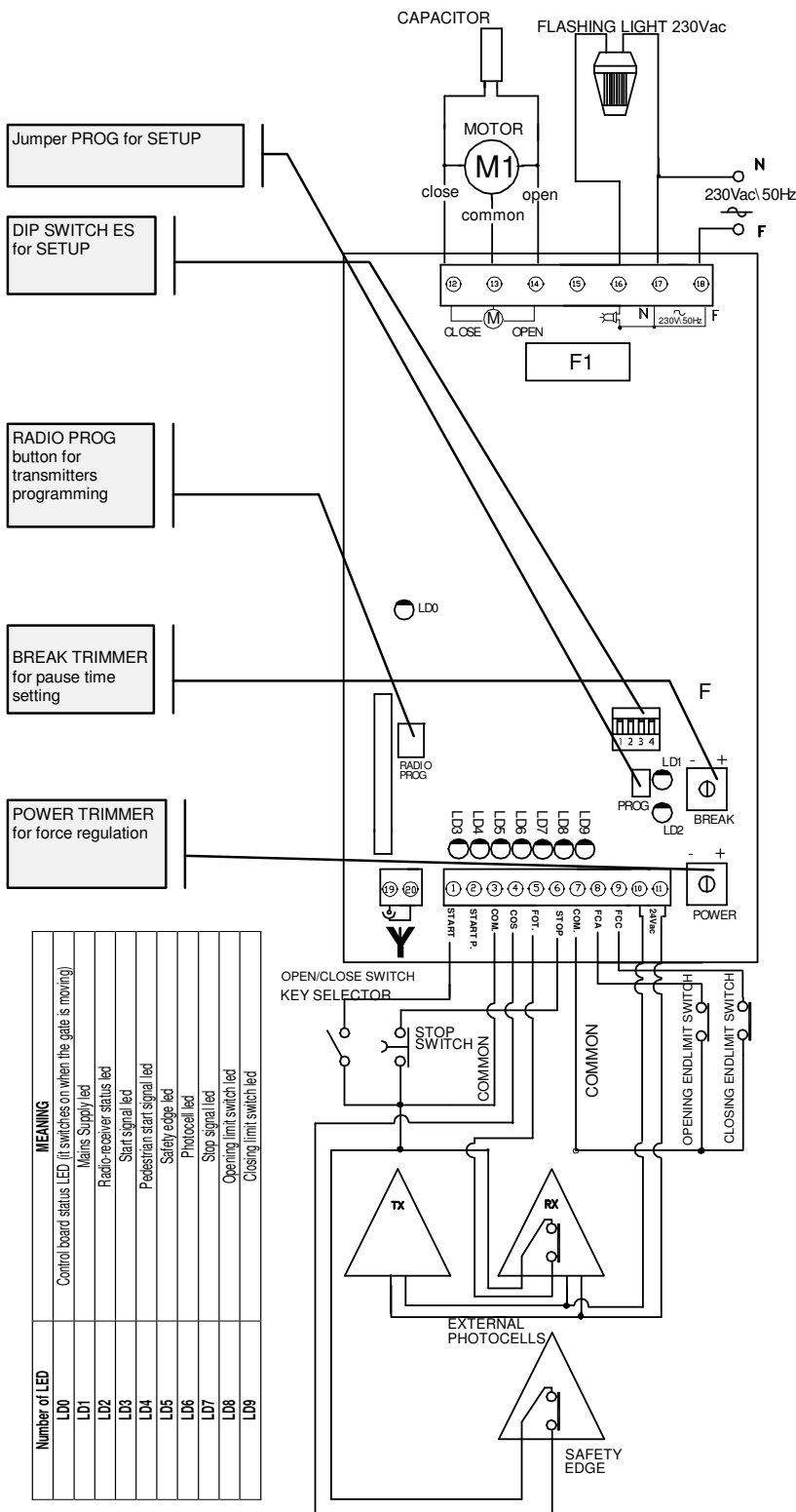
TECHNICAL FEATURES

Power	230V ac 50/60 Hz
Maximum power	About 1KW
Line fuse	F1 3.15A DELAYED
Motor output	230V ac
Accessories output	24Vac 500mA
Logic circuit input	5Vdc
Operating temperature	-20°C / +70°C
IP protection rate of the enclosure	IP 55

INSTALLATION

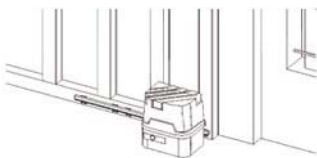
- Position the control board as near as possible the gear motor, in order to avoid over long connection cables;
- Use power cables (power input, motors, earth and flashing light) of at least 1.5 mm² conductor, taking into consideration the amperage, voltage drop and length. This requirement doesn't apply to the connection cables of the auxiliary control devices such as key switch and photocell, whose cross-section can reduced to 0,5 mm²;
- Ensure connections to the terminal board are made not to alter the level of protection offered by the housing, which must be installed in a dry and suitable place according to the IP rating;
- PLEASE REMEMBER TO PROPERLY EARTH THIS PRODUCT AND TO OBSERVE THE SAFETY REGULATIONS IN FORCE IN THE COUNTRY OF INSTALLATION.

LAYOUT AND CONNECTIONS FOR SLIDING GATES



Number of LED	MEANING
LD0	Control board status LED (it switches on when the gate is moving)
LD1	Mains Supply led
LD2	Radio receiver status led
LD3	Start signal led
LD4	Pedestrian start signal led
LD5	Safety edge led
LD6	Photocell led
LD7	Stop signal led
LD8	Opening limit switch led
LD9	Closing limit switch led

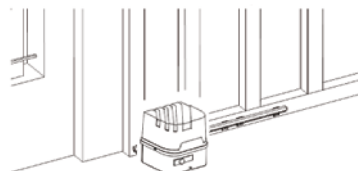
Connections to the control board are made (default) to suit an installation as per the image below (gate opens sliding right)



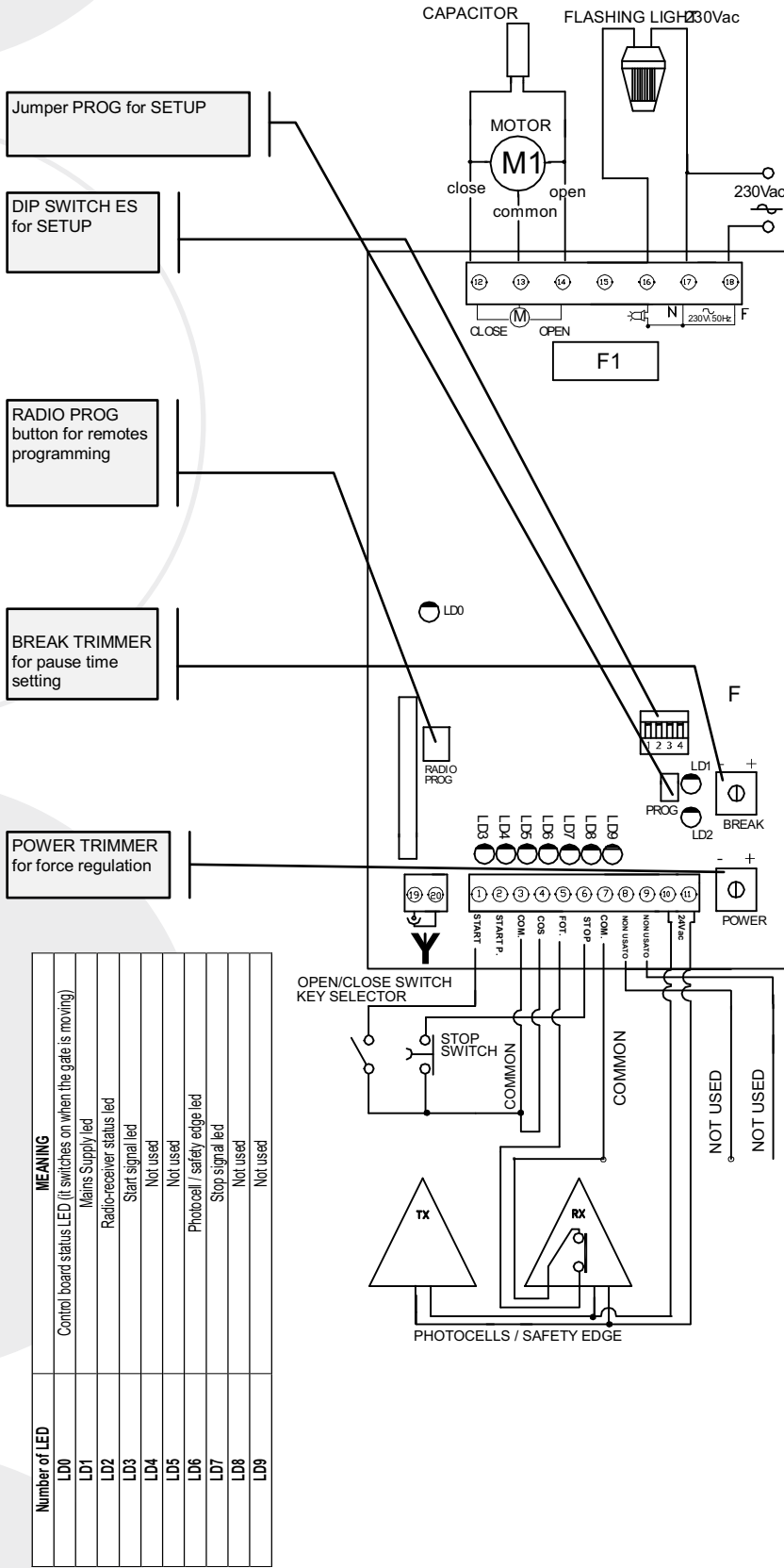
Connector N°	Description	Type	Bypass if not used?
1-3	Open/close switch and key switch	N.C.	NO
2-3	Pedestrian open/close switch	N.C.	NO
4-3	Safety edge. If excited this contact causes: DURING OPENING --> immediate stop of the gate, closing for almost 10cm to release the obstacle and resume opening upon obstacle release. DURING CLOSING --> immediate stop of the gate and resume opening. DURING PAUSE --> Refuse of start signals and recharge of pause time	N.C.	YES
5-3	Photocells. If excited this contact causes: DURING OPENING --> No effects. DURING CLOSING --> immediate stop of the gate and resume opening. DURING PAUSE --> recharge of pause time	N.C.	YES
6-3	Stop switch	N.C.	YES
8-7	Opening limit switch	AUTO	NO
9-7	Closing limit switch	AUTO	NO
10-11	Photocells and accessories output 24Vac 500mA		
12-13-14	Motor output 230Vac single phase, connector 13 = common, connectors 12-14 motor feeding and capacitor		
16-17	Flashing lamp output 230Vac		
17-18	Control board power supply 230Vac +/-10% 50/60Hz		
19-20	Antenna (19 signal, 20 screen)		

For an opposite type installation as per the image below (gate opens sliding left) reverse (on the control board):

- motor cables of connectors 12 and 14
- end limit switches cables of connectors 8 and 9

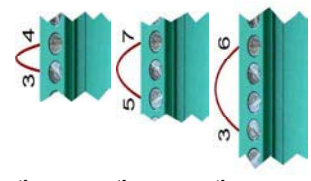
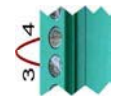


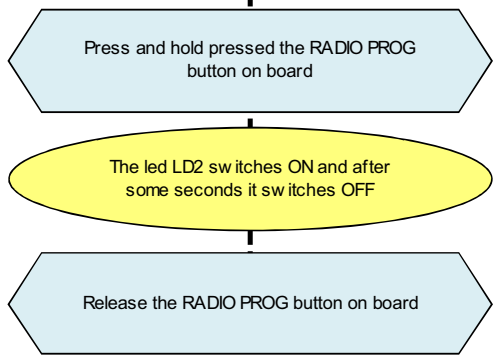
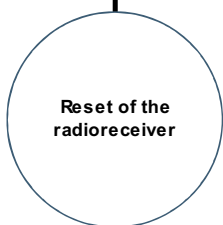
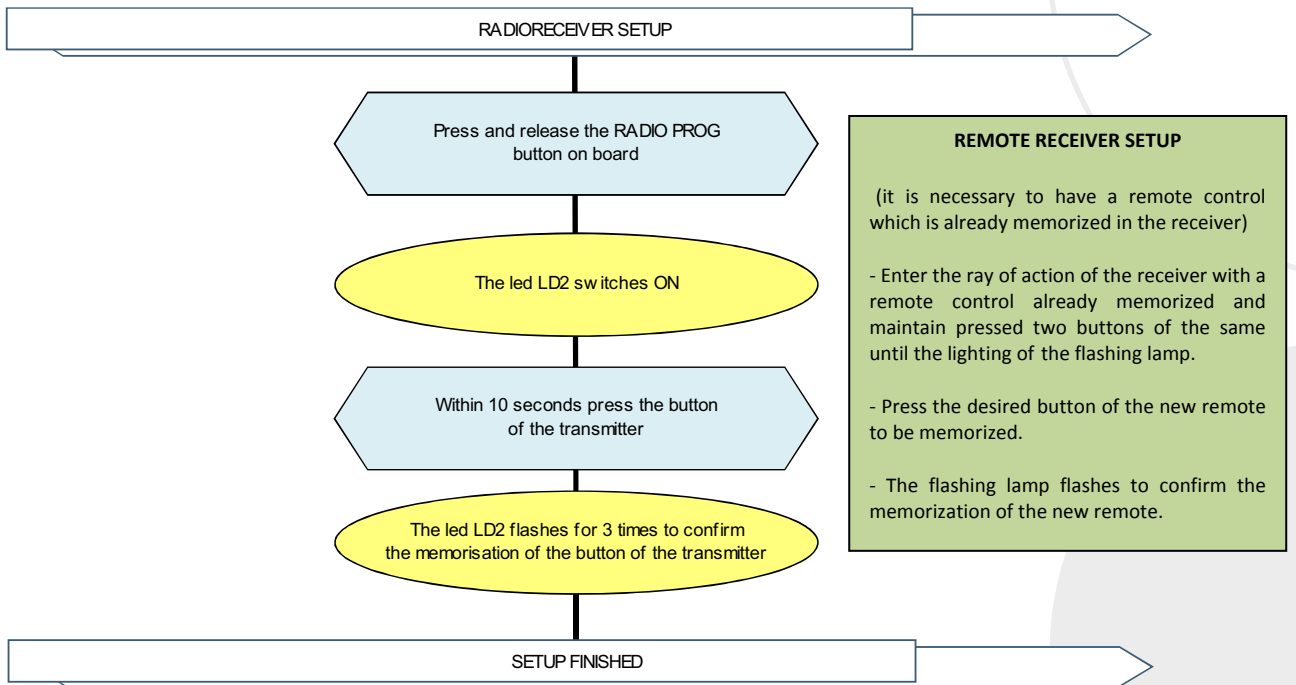
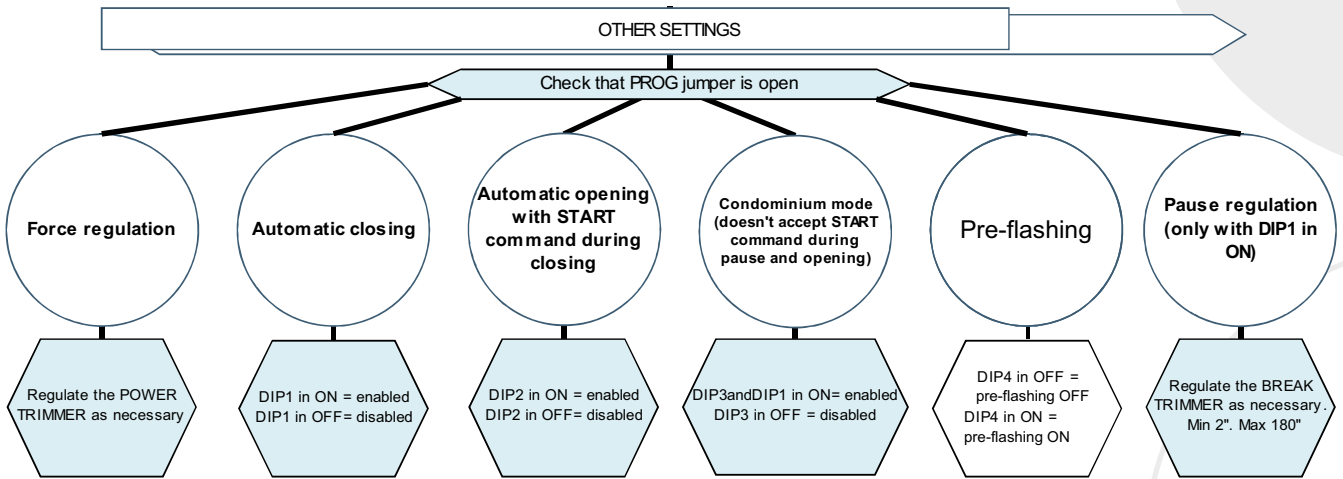
LAYOUT AND CONNECTIONS FOR GARAGE DOORS

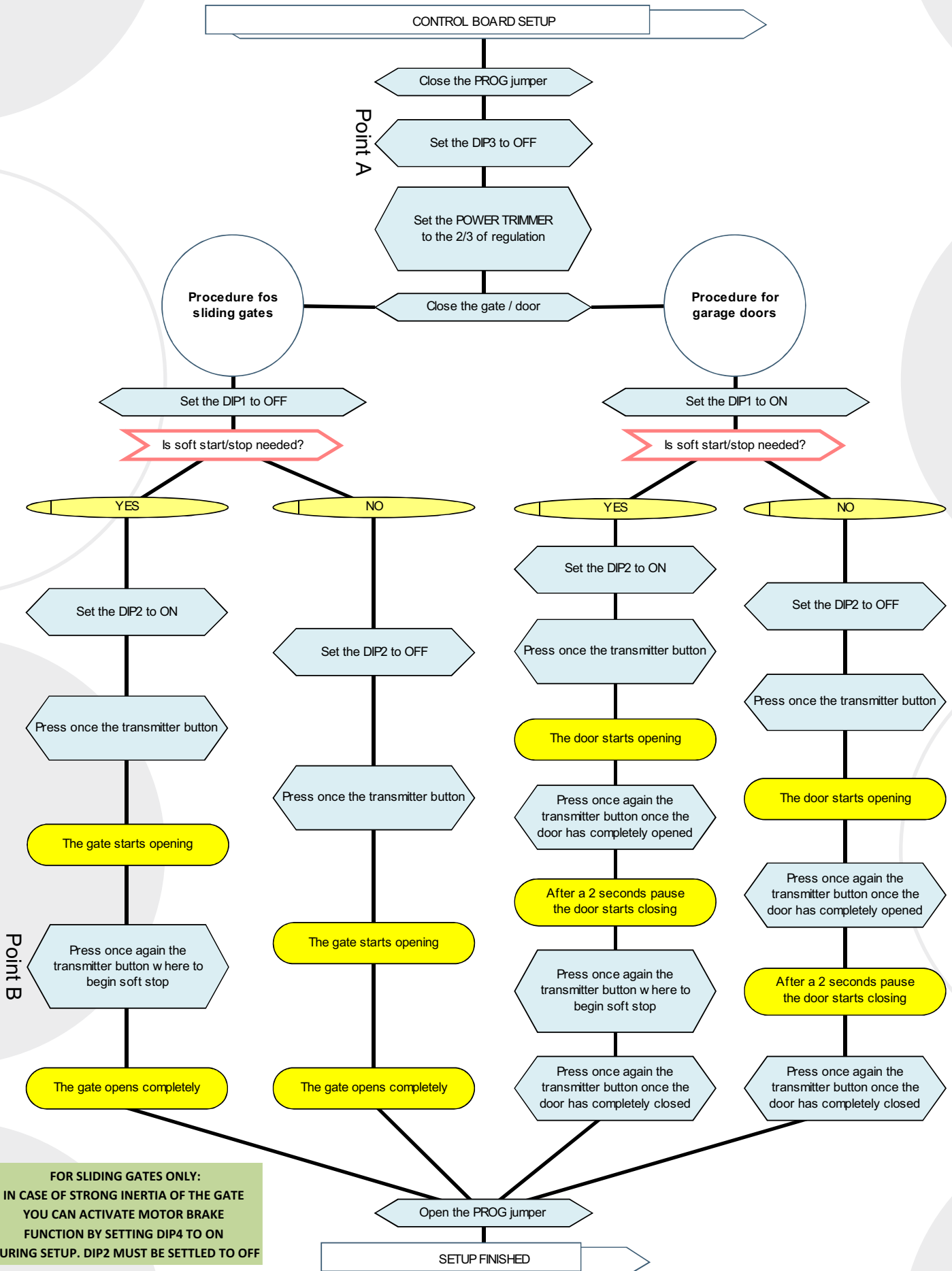


Number of LED	MEANING
LD0	Control board status LED (It switches on when the gate is moving)
LD1	Mains Supply led
LD2	Radio-receiver status led
LD3	Start signal led
LD4	Not used
LD5	Not used
LD6	Photoceils / safety edge led
LD7	Stop signal led
LD8	Not used
LD9	Not used

Connector N°	Description	Type	Bypass if not used?
1-3	Open/close switch and key switch	N.O.	NO
2-3	Not used	N.O.	NO
4-3	Not used, to be bypassed	N.C.	YES
5-7	Photoceils / safety edge. If excited this contact causes: DURING OPENING --> No effects. DURING CLOSING --> immediate stop of the gate and resume opening. DURING PAUSE --> recharge of pause time	N.C.	YES
6-3	Stop switch	N.C.	YES
10-11	Photoceils and accessories output 24Vac 500mA	-	-
12-13-14	Motor output 230Vac single phase, connector 13 = common, connectors 12-14 motor feeding and capacitor	-	-
16-17	Flashing lamp output 230V/ac	-	-
17-18	Control board power supply 230Vac +/-10% 50/60Hz	-	-
19-20	Antenna (19 signal, 20 screen)	-	-







FOR SLIDING GATES ONLY:
IN CASE OF STRONG INERTIA OF THE GATE
YOU CAN ACTIVATE MOTOR BRAKE
FUNCTION BY SETTING DIP4 TO ON
DURING SETUP. DIP2 MUST BE SETTLED TO OFF

Important notice about slow down function on sliding gates (to be used if slow down goes wrong at point B)

If the power of slow down is not adequate and the gate doesn't move smoothly during slow down, you may regulate the power of slow down by means of the following steps: 7
 --1) unplug the board from mains power supply and plug it again --2) close PROG jumper --3) set DIP3 to ON --4) set POWER TRIMMER to the minimum --5) close the gate manually --6) set DIP1 to OFF --7) set DIP2 to ON --8) press TX once --9) gate starts moving --10) press TX once --11) gate starts slow down --12) adjust the power of slow down by means of POWER TRIMMER until the gate reaches a smooth movement --13) press TX once to save the configuration of slow down --14) restart setup from point A

FINAL TESTING

Once all connections have been done, check that LEDs status is as follows:

LED STATUS TABLE FOR SLIDING GATES			
	When the automation is opened	When the automation is closed	When the automation is stopped on the middle of opening
LD0	OFF	OFF	OFF
LD1	ON	ON	ON
LD2	OFF	OFF	OFF
LD3	OFF	OFF	OFF
LD4	OFF	OFF	OFF
LD5	ON	ON	ON
LD6	ON	ON	ON
LD7	ON	ON	ON
LD8	OFF	ON	ON
LD9	ON	OFF	ON

LED STATUS TABLE FOR GARAGE DOORS			
	When the automation is opened	When the automation is closed	When the automation is stopped on the middle of opening
LD0	OFF	OFF	OFF
LD1	ON	ON	ON
LD2	OFF	OFF	OFF
LD3	OFF	OFF	OFF
LD4	OFF	OFF	OFF
LD5	ON	ON	ON
LD6	ON	ON	ON
LD7	ON	ON	ON
LD8	OFF	OFF	OFF
LD9	OFF	OFF	OFF

TROUBLESHOOTING

Problem	Solution
The LD1 led isn't switched ON so the control board isn't supplied with electricity	F1 fuse has blown or it has not been inserted properly. Please check 230Vac (connectors 17 and 18) aren't connected. Please check.
A START command doesn't let the automation start	Check the led status as per described within TESTING paragraph Memorise again the transmitter button on the radio receiver or check key selector connections
A START command let the flashing light start but doesn't let the automation start	Check that POWER TRIMMER is settled at least at the 2/3 of regulation Reverse M1 motor cables to reverse the sense of rotation of the motor Check M1 motor connections
The remote cannot be memorised on the receiver	Check that the 12Vdc common isn't connected with the 24Vac Take the antenna cables off and try again. Change the battery of the transmitter and try again.

QUIKO[®] GUARANTEE: GENERAL CONDITIONS

Quiko[®] products' guarantee lasts 24 months from the date of purchase of the products (as proved by the sale document, receipt or invoice, which must be attached to this guarantee).

This guarantee covers the repair with free replacement (ex-works Borinato F.lli Snc: packing and transport at the customer's expense) of parts that Borinato F.lli Snc recognises as being faulty with regard to workmanship or material.

For home-interventions, also during the guarantee period, a "call-out fee" will be charged for travelling expenses and labour costs.

The guarantee does not cover the following cases:

- if the fault was caused by an installation that was not performed according to the instructions provided by the company inside the product pack;
- if original Quiko[®] spare parts were not used to install the product;
- if the damage was caused by an Act of God, tampering, overvoltage, incorrect power supply, improper repairs, incorrect installation, or other reasons that do not depend on Quiko[®];
- if a specialised maintenance man does not carry out routine maintenance operations according to the instructions provided by the company inside the product pack.

The repair or replacement of pieces under guarantee does not extend the guarantee period.

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