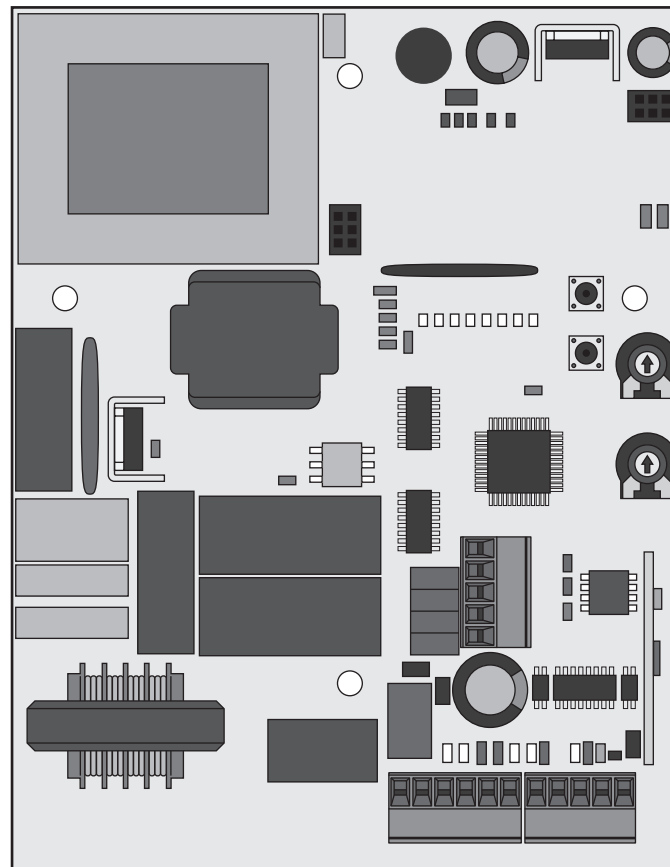




MC15PR

USER / INSTALLER MANUAL



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01. SAFETY INSTRUCTIONS

STANDARDS TO FOLLOW

ATTENTION:

- To ensure the people's safety, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product can cause physical injury and material damage.
- Keep these instructions in a safe place for future reference.
- This product was designed and produced strictly for the use indicated in this manual. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.
- The supplier is not responsible for the improper use of the product, or other use than that for which it was designed.
- The supplier is not responsible if safety standards were not taken into account when installing the equipment, or for any deformation that may occur to it.
- The supplier is not responsible for the safety and proper operation when using components not sold by them.
- Do not make any modifications to the operator components and / or their accessories.
- Before installation unplug the automatism from the source of power.
- The installer must inform the client how to handle the product in case of emergency and provide this manual to the user.
- Keep remote controls away from children, to prevent the automated system from being activated involuntarily.
- The customer shall not, under any circumstances, attempt to repair or tune the automatism. Call qualified technician only.
- Connect the automatism to a 230V plug with ground wire.
- Automatism for indoor use.

02. THE CONTROL BOARD

TECHNICAL SPECIFICATIONS

The **MC15PR** is a monophasic control board com a control system via incorporated rádio, developed for the automation of industrial doors.

It is possible to integrate on the central, a radio system which operates as a safety device composed of a "Base" **RTX 2278** receiver-transmitter module (connected on the own central) which receives a maximum of two "Sensor" **RTX 2252** receiver-transmitter, powered by batteries, for the connection of mechanical safety bands and resistive 8K2 Ohm, usually installed in the aluminum rod.

• Power supply	230V AC 50-60Hz
• Lightbulb's output	230V AC 50Hz 500W max.
• RGB Lightbulb's output	24V DC 100mA max.
• Motor's output	230V AC 50-60Hz 1000 W max.
• Auxiliary accessories output	24VAC 6 W max.
• Security and BT transmitters	24V DC
• Working temperature	-10°C a + 55°C
• Incorporated Radio Receptor	433,92 Mhz
• OP Transmitters	12-18 bits or Rolling Code
• Maximum memory capacity	120 (CODE or CODE PED)
• Control board Dimensions	108x138 mm.

• CONNECTOR'S DESCRIPTION

CN1	01 • Grounding 02 • Grounding
CN2	01 • 230V line input (Phase) 02 • 230V line input (Neutral) 03 • Electric Brake output 230V AC (Neutral) 04 • Electric Brake output 230V AC (Phase) 05 • 230V Motor's Output – Opening 06 • 230V Motor's Output – Common 07 • 230V Motor's Output - Closing
CN3	01 • Photocells power supply output (24V AC 6W) 02 • Photocells power supply output (GND) 03 • Step-by-Step transmitter button or opening button input (NO)

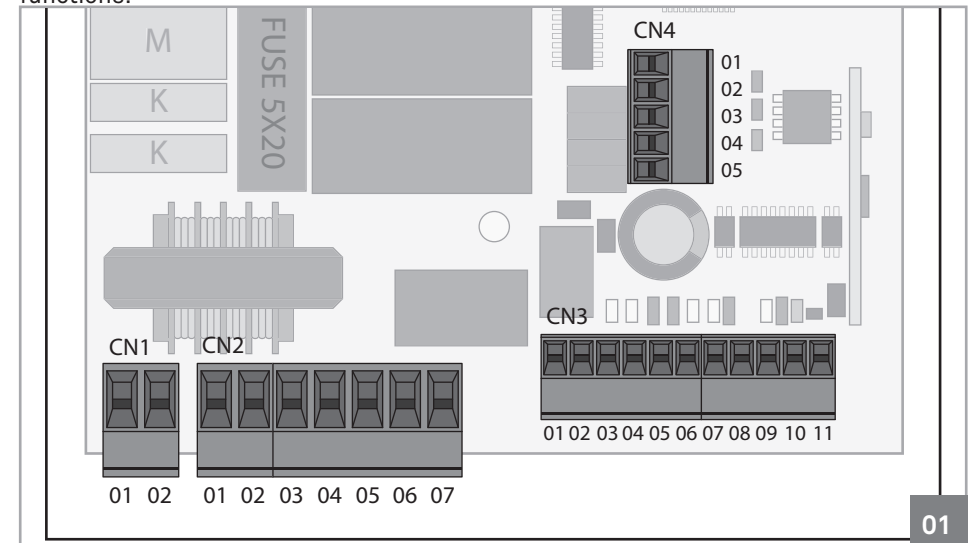
02. THE CONTROL BOARD

TECHNICAL SPECIFICATIONS

CN3	04 • Locking device (NC) Closing push-button input (NO) 05 • Common GND output 06 • Safety device input (NC) 07 • Motor's opening limit-switch input (NC) 08 • Common GND output 09 • Motor's closing limit-switch input (NC) 10 • Antenna's common input 11 • Antenna's hot pole input
CN4	01 • Auxiliar Power Supply +24V DC for lightbulb or RGB LED 02 • Output n°4 activated during (opening) 100mA maximum capacity 03 • Output n°3 activated during (closing) 100mA maximum capacity 04 • Output n°2 activated during (Pause time) 100mA maximum capacity 05 • Output n°1 activated during (closing barrier) 100mA maximum capacity

PROGRAMMING PRE-RECOMENDATIONS

Before proceeding to the control board configuration, pay special attention to the following parameters in the table below in order to better understand the control board functions:



02. THE CONTROL BOARD

PROGRAMMING PRE-RECOMENDATIONS

CN2	<p>Electric Brake: 03 and 04 • This output allows a electric brake connection . (see page 4B)</p> <p>Capacitator: 05 and 07 • Connect the capacitor on the 05 and 07 outputs.</p>
CN3	<p>Step-by-step power button: 03 • This input allows you to change the operation according to the orders sent, using transmitters or buttons on low voltage. When sending a first order, the barrier's opening is triggered until the motor's time ends or the opening limit-switch is detected. A second order triggers the barrier's closure. If you send an order during the opening or closing of the barrier, the movement stops and it is only restored (in the opposite direction to what it was before the stoping order) after sending a new order.</p> <p>Locking device (STOP button): 04 • This input allows connection of a lock button (NC). An order sent (switch to NO) during any barrier's movement causes an immediate stop and it remains stopped until it returns to it's normal state (switch to NC). After returning to NC mode, the first maneuver will always open with 5 seconds of delay (after sending a transmitter order or from a push-button). If do not use the 04 and 05 inputs, do a bridge (shunt) between them.</p> <p>Operating with TIMER: 03 and 05 • The control board allows to connect a TIMER. With this function, it is possible to program an exact time for the barrier to perform the opening /closing in automatic mode.</p> <p>Safety circuits: 06 • This circuit allows the connection of all kinds of safety devices such as photocells, safety bands, etc. This device intervenes only in the barrier's closure and, when it's triggered, the operator reverses the travelling direction.</p>

02. THE CONTROL BOARD

PROGRAMMING PRE-RECOMENDATIONS

CN3	<p>Limit-swiches: 07 and 09 • The control board allows the connection of opening and closing limit-switches (both in NC). The triggering of any limit-switches causes the movement to stop immediately. The triggering the limit-switches will be signaled by the FCH and FAP LEDs. When a limit switch is activated, its LED indicator turns off. The FAP identifies the opening limit-switch and the FCH LED the closing limit. If it is not using limit switches, connect the circuits 7and 9 with the 8 (CN3) with a shunt.</p>
CN4	<p>01 • Lightbulb or 24V DC LED auxiliar input.</p> <p>Open collector for the management of auxiliary functions: 02 • The output Out 4 is activated on intermittenly mode, only in the opening phase. 03 • The output Out 3 is activated on intermittenly mode, only in the closing phase. 04 • The output Out 2 is activated on fixed mode, only in the pause time. 05 • The output Out 1 is activated on fixed mode, only with the door closed.</p>

• SETTING THE CONTROL BOARD - SEL / SET BUTTON

SEL button: Does the selection of the function to change. The selection is identified by the blinking LED corresponding to the selected function at that time. Pressing the SEL key repeatedly will scroll through the various programming functions. The selection will remain active for 10 seconds, and after that time the control unit returns to its original state (no active selection).

SET button: Makes the programming of the selected function by the SEL button.



SET



SEL



The SET button can be replaced by a transmitter since the latter is programmed.

• MOTORS STRENGTH AND SPEED

The control board has a VR1 trimmer for regulating the motors force and speed, controlled by the microprocessor.
The regulation can be made between 50% and 100% strength. In each movement startup, the central applies full power for 2 seconds, even when it is made the force regulation for a value than the maximum.



FORZA



Whenever the VR1 trimmer is adjusted, the control board has to redo the learning process, because the maneuver and deceleration times may vary.

03. CONFIGURATION

MAIN MENU

MAIN MENU		
LED	LED OFF	LED ON
• CODE	No code	Inserted code
• CODE PED.	Not used	
• IN.CMD.AP	Disabled	Enabled
• INTER./CORT.	Not used	
• PGM. AUT.	Automatic PGM=OFF	Automatic PGM=ON
• T. MOT.	Not used	
• T. MOT. PED	Not used	
• T. PAUSA	Without automatic closure	With automatic closure

• CODE | PROGRAMMING TRANSMITTERS

The control board only accepts Dip-Switch transmitters or Rolling Code transmitters, and it has a maximum capacity of 120 transmitters. When trying to program the 121° transmitter, all the programming LEDs will flash simultaneously (memory is full).

To program new transmitters:

01. Press **SEL** button once, the **CODE LED** will begin to flash.
02. Press once the transmitter button you want to program, during 1sec.
03. The **LED CODE** remains lit permanently, indicating the programming success.

To delete all configured transmitters:

01. Press **SEL** button once, the **CODE LED** will begin to flash.
02. Press the **SET** button once! The **CODE LED** will turn off and all controls will be deleted.

• INB. CMD. AP | TRANSMITTER INHIBITION DURING THE OPENING AND PAUSE TIME

With the function activated, the control board rejects all the transmitter signals during the opening maneuvers and automatic pause time. Its important that this function is activated during a magnetic coil installation, because the control board will ignore the crossings performed during the opening course and the pause time. The control board is supplied by the manufacturer with this function active.

03. CONFIGURATION

MAIN MENU

Activate (LED ON) / deactivate (LED OFF) function:

01. Press **SEL** button once, the **CODE LED** will begin to flash. Press the **SEL** button the times necessary until the **INB CMD AP LED** starts to flash.
02. Press **SET** button once to enable / disable the function. The **INB CMD AP LED ON** indicates that the function is active and the **LED OFF** indicates that the function is deactivated.

• PGM. AUT. | AUTOMATIC COURSE SCHEDULE

With the limit-switches already set, the control board allows a automatic programming of the working course (recommended).

01. Unlock the barrier, put the rod halfway, and lock the barrier.
02. Press **SEL** button once, the **CODE LED** will begin to flash. Press the **SEL** button the times necessary until the **LED PGM AUT** starts to flash.
03. Press the **SET** button and hold and the rod have to start closing!



If the door begins to open, release the **SET** button, swap the 5 and 7 connection cables of CN2 and 7 and 9 of the CN3, and start this programming from the beginning.

04. Let the rod close, open and re-close without releasing the **SET** button!
05. By closing the second time, the **LED AUTO PGM** will remain lit and the **T. PAUSE LED** will begin to flash. Release the **SET** button and wait 10 seconds until the **T. PAUSE LED** stops flashing.

The control board automatically sets a deceleration time during the opening and the closure equal to 15% of the full course.

• T. PAUSA | PAUSE TIME PROGRAMMING FOR AUTOMATIC CLOSURE (4MIN MAX)

The control board is supplied by the manufacturer with automatic closure active after 10sec.

Disable the automatic closure:

01. Press **SEL** button once, the **CODE LED** will begin to flash. Press the **SEL** button the times necessary until the **LED T. PAUSA** starts to flash.
02. Press the **SET** button twice in 2sec! The **T.PAUSA LED** turns off and the function is disabled.

Activate or change the pause time for automatic closure:

01. Press **SEL** button once, the **CODE LED** will begin to flash. Press the **SEL** button the times necessary until the **LED T. PAUSA** starts to flash.
02. Press once the **SET** button, wait the desired time for the pause time and press again the **SET** button (the expected time is defined as the pause time). The **T.PAUSA LED** remains lit and the pause time is active.

03. CONFIGURATION

EXTENDED MENU 1

• ACCESS TO EXTENDED MENU 1

To access the Extended Menu 1 options follow these instructions:

01. Press and hold the **SET** button for 5 seconds, the **LEDs T.MOT.PED** and **T.PAUSA** will flash alternately.

02. The control board provides 30 seconds to select functions from the extended menu 1 (using the **SEL** and **SET** buttons), and after this time it returns to the main menu.

EXTENDED MENU 1		
LED	LED OFF	LED ON
• CODE	Not used	
• CODE PED.	Not used	
• IN.CMD.AP	Not used	
• INTER./CORT.	Not used	
• LAMP/CORT	Not used	
• PGM. AUT.	Follow Me = OFF	Follow Me = ON
• T. MOT.	Not used	
• T. MOT. PED	Switched Flashing Light ON/OFF	
• T. PAUSA	Switched Flashing Light ON/OFF	

• PGM. AUT. | FOLLOW ME

With the pause time programmed, it is possible to trigger the “Follow Me” option. With this option enabled, whenever the photocells detect a some user/object passing between them, the control board triggers the closing maneuver 5 seconds after the detection.

Activate (LED ON) / deactivate (LED OFF) function:

01. Activate the extended menu 1 (see ACCESSING EXTENDED MENU 1 on page 5B).
02. Press **SEL** button once, the **CODE LED** will begin to flash. Press the **SEL** button the times necessary until the **PGM AUT PED** starts to flash.
03. Press **SET** button once to enable / disable the function.

The **PGM AUTO** LED ON indicates that the function is active and the LED OFF indicates that the function is deactivated.

03. CONFIGURATION

EXTENDED MENU 2

• ACCESS TO EXTENDED MENU 2

To access the options from Extended Menu 2, read the following instructions:

01. Activate the extended menu 1 (see ACCESSING EXTENDED MENU 1 on page 5B).

02. While **T.MOT.PED** and **T.PAUSA** LEDs blink alternately, return to continuously press the **SET** button for 5 seconds until they blink simultaneously.

03. The control board provides 30 seconds to select functions from the extended menu 2 (using the **SEL** and **SET** buttons), and after this time it returns to the main menu.

EXTENDED MENU 2		
LED	LED OFF	LED ON
• CODE	Not used	
• CODE PED.	Not used	
• IN.CMD.AP	Not used	
• LAMP/CORT	Not used	
• PGM. AUT.	Not used	
• T. MOT.	PUL=Open / Close BL = STOP	PUL=Open BL = Close
• T. MOT. PED	Flashing simultaneously ON/OFF	
• T. PAUSA	Flashing simultaneously ON/OFF	

• T. MOT. | PUL = OPEN | BL = CLOSE FUNCTION

Change the operating mode of the PUL and BL inputs:

01. Activate the extended menu 2 (see ACCESSING EXTENDED MENU 2 on page 6B).

02. Press **SEL** button and the **T. MOT LED** will begin to flash.

03. Press the **SET** button and the **T. MOT LED** will light up permanently, indicating the programming's success.

Repeat the operation to restore the previous configuration.

Therefore, the PUL (CN3 → 3) input allows the connection of a push button (NO) to control only the opening and the BL (CN3 → 4) input allows the connection of a push button (NO) to control only the closure.



RESET: If you need to restore the control board to the factory settings, press the **SEL** and **SET** keys simultaneously. At this time, all LEDs will light up simultaneously and then will turn off, indicating the reset's success.

04. COMPONENTS TEST

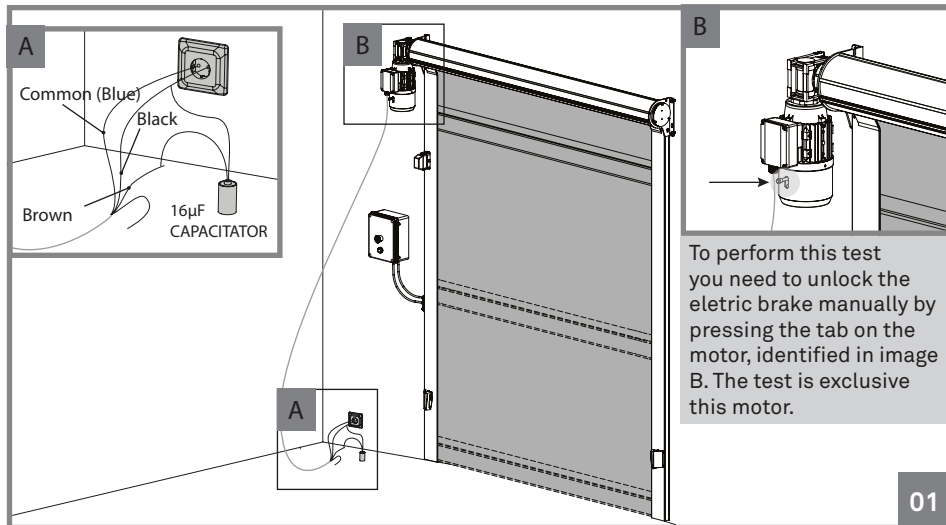
SCHEME FOR CAPACITATOR

To detect which components have problems in an electromechanical barrier installation, sometimes is necessary to conduct tests with a direct connection to a 230V power supply. For it is necessary to connect a 10 μ F capacitor between the automation and the power supply in order to test.

In the scheme below it is shown how this connection should be done and how the different component wires should be connected.

NOTES:

- To perform the test it is not needed to remove the automatism from the installation, because in this way it's easier to understand if the automatism connected directly to the power supply can function correctly;
- The linking order between the capacitor and the automatism wires is not important, as long as it is connected, one with the brown wire and the other with the black wire;
- The common wire must always be connected to the power supply.
- To reverse the automatism operating direction just swap the automatism black wire with brown wire in the power supply direct's connection.



04. COMPONENTS TEST

PHOTOCELLS TEST AND TRANSMITTERS

• PHOTOCELLS TEST

The control board is prepared to a safety device connection in accordance with the section 5.1.1.6 of standard EN 12453.

In every maneuver is performed a test for the Security Device and the Lock.

In case of a function/connection failure the motor doesn't start and every LED's remain in a intermittent mode, indicating the error. When the photocells operation is corrected, the control board returns to its normal functioning. This action by the control board allows to recognize failures in accordance with is mentioned in category 2 of EN 954-1.

• TRANSMITTER TEST

In the position corresponding to each transmitter input in low voltage, the control board has a LED to identify the condition of it. The LED on indicates that the input is closed, while the LED off indicates that the input is open.

05. TROUBLESHOOTING

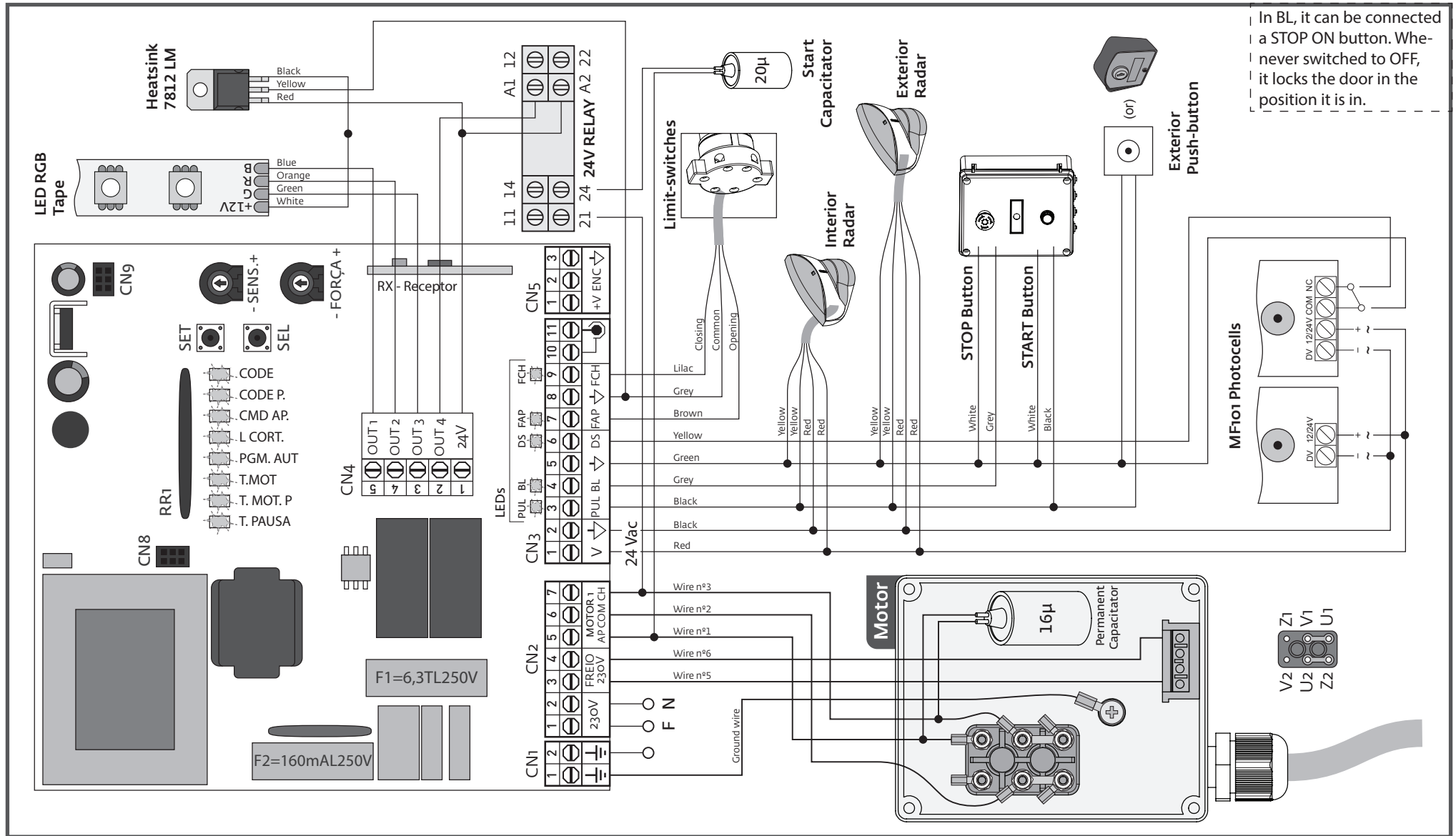
FINAL CONSUMERS INSTRUCTIONS

SPECIALIZED TECHNICIANS INSTRUCTIONS

Problem	Procedure	Behavior	Procedure II	Discovering the origin of the problem		
• Door doesn't work.	• Make sure you have 230V power supply connected to operator and if it is working properly.	• Still not working	• Consult a qualified MOTORLINE technician.	1 • Open control box and check if it has 230V power supply; 2 • Check input fuses;	3 • Disconnect door from control board and test them by connecting directly to power supply in order to find out if they have problems (see page 11.A).	4 • If the door works, the problem is on the control board. Pull it out and send it to our MOTORLINE technical services for diagnosis; 5 • If the door doesn't work, remove them from installation site and send to our MOTORLINE technical services for diagnosis.
• Door doesn't move but makes noise.	• Unlock door and move the tarpaulin by hand to check for mechanical problems on the movement.	• Encountered problems?	• Consult a qualified MOTORLINE technician.	1 • Check all motion axis and associated motion systems related with the door to find out what is the problem.		
		• The tarpaulin moves easily?	• Consult a qualified MOTORLINE technician.	1 • Check capacitors, testing operator with new capacitor; 2 • If capacitors are not the problem, disconnect motor from	control board and it them by connecting directly to power supply in order to find out if it has problems (see page 11.A).	3 • If the motor works, the problem is from control board. Pull it out and send it to our MOTORLINE technical services for diagnosis; 4 • If the motor doesn't work, remove them from installation site and send to our MOTORLINE technical services for diagnosis.
• Door opens but doesn't close.	• Unlock motor and move tarpaulin by hand to closed position. Lock motor again and turn off power supply for 5 seconds. Reconnect it and send order to open door using transmitter.	• Door opened but didn't close again	1 • Check if there is any obstacle in front of the photocells; 2 • Check if any of the control devices (key selector, push button, video intercom, etc.) of the door are jammed and sending permanent signal to control unit; 3 • Consult a qualified MOTORLINE technician.	All MOTORLINE control boards have LEDs that easily allow to conclude which devices are with anomalies. All safety devices LEDs (DS) in normal situations remain On. All "START" circuits LEDs in normal situations remain Off. If LEDs devices are not all On, there is some security systems malfunction (photocells, safety edges), etc. If "START" circuits LEDs are turn On, there is a control device sending permanent signal.	A) SECURITY SYSTEMS: 1 • Close with a shunt all safety systems on the control board (check manual of the control board in question). If the automated system starts working normally check for the problematic device. 2 • Remove one shunt at a time until you find the malfunction device. 3 • Replace it for a functional device and check if the motor works correctly with all the other devices. If you find another one	defective, follow the same steps until you find all the problems. B) START SYSTEMS: 1 • Disconnect all wires from START terminal input (terminal 3 of CN3 connector). 2 • If the LED turned Off, try reconnecting one device at a time until you find the defective device.
• Door doesn't make complete route.	• Unlock door and move boom by hand to check for mechanical problems on the door.	• Encountered problems?	• Consult a qualified MOTORLINE technician.	1 • Check all motion axis and associated motion systems related with the door to find out what is the problem.		
		• Fabric moves easily?	• Consult a qualified MOTORLINE technician.	1 • Check capacitors, testing with new capacitors; 2 • If capacitors are not the problem, disconnect motor from control board and test it by connecting directly to power supply in order to find out if it is broken; 3 • If the motor doesn't work, remove it from installation site	and send to our MOTORLINE technical services for diagnosis. 4 • If motor work well and move door at full force during the entire course, the problem is from controller. Set force using trimmer on the board. Make a new working time programming, giving sufficient time for opening and closing with appropriate force (page 08.B).	5 • If this doesn't work, remove control unit and send it to MOTORLINE technical services. NOTE: Setting force of the controller should be sufficient to make the door open and close without stopping, but should stop and invert with a little effort from a person. In case of safety systems failure, the door shall never cause physical damaged to obstacles (vehicles, people, etc.).

06. CONNECTION SCHEME

COMPONENT CONNECTION TO THE CONTROL BOARD



In BL, it can be connected a STOP ON button. Whenever switched to OFF, it locks the door in the position it is in.