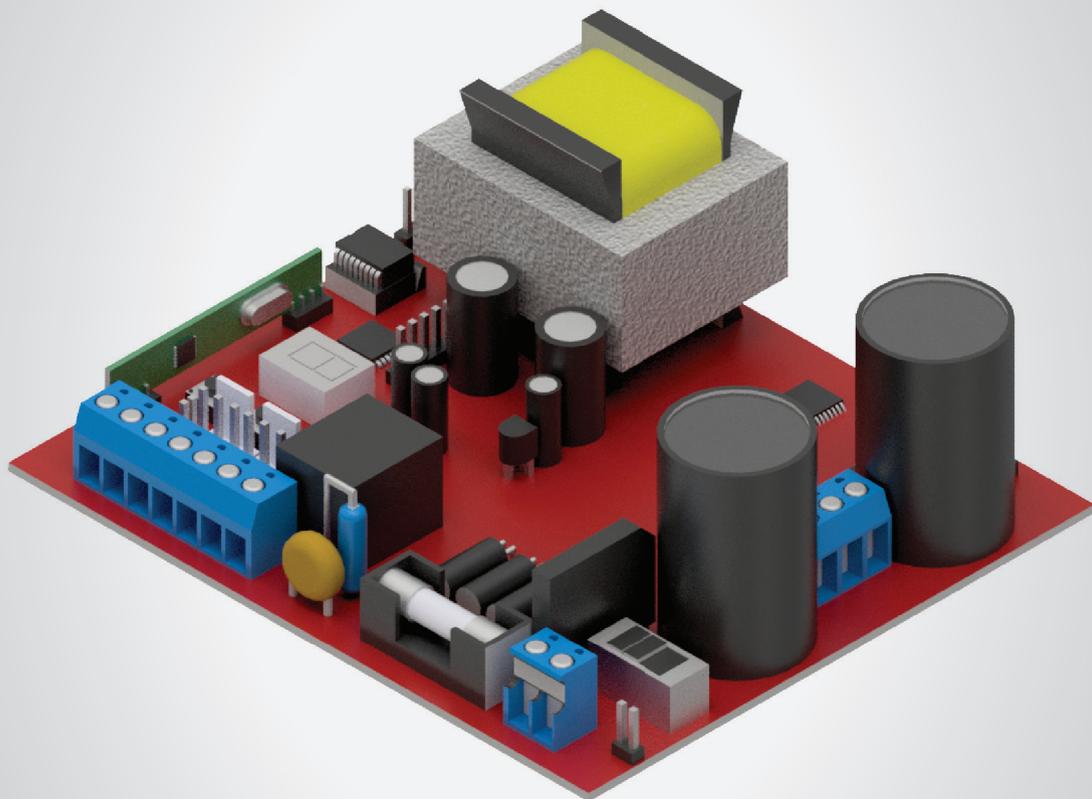
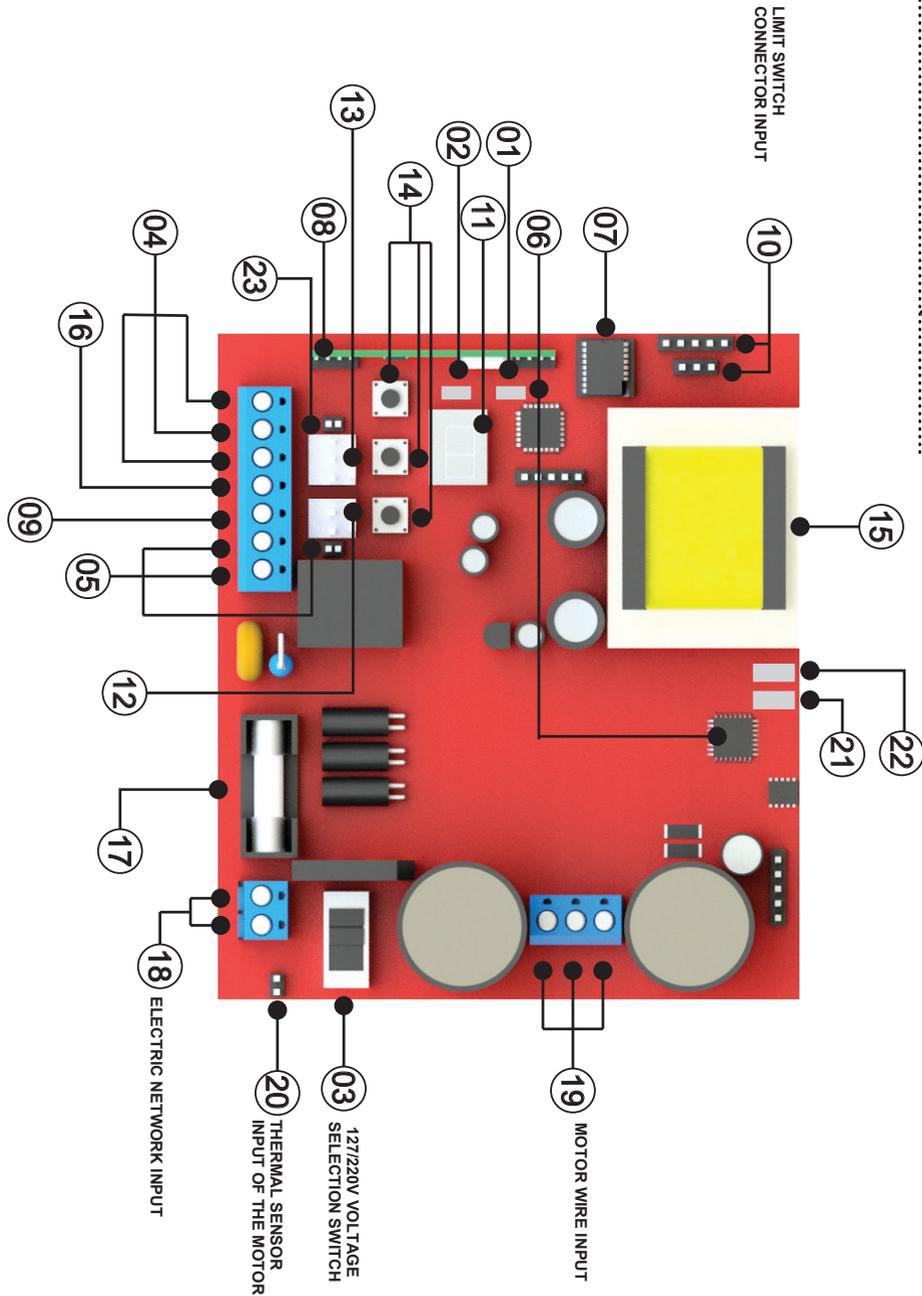


Manual

CENTRAL TSi^{Light}

C01450





FEATURES

- 1 - Programming Led;
- 2 - Programming Led;
- 3 - Selector Key 127/220V ;
- 4 - Independent opening and closing door buttons (CM: Common (GND) + BTF = Closing Door Button / Common (GND) + BTA = Opening Door Button) ;
- 5 - Tamper Sensor;
- 6 - ARM® micro controller: state-of-the-art 32-bit micro controller with 48Mhz processing;
- 7 - External Memory: Makes it easy to replace the electronic central without having to reprogram all the controls and allows up to 511 buttons / controls programmed in the 24(L) C16 memory;
- 8 -Heterodyne receiver: Does not lose frequency calibration;
- 9 -12 VDC auxiliary output max 60mA ;
- 10 - 2 (two) Limit Switch Connectors: 5 and 3 pin input;
- 11 - Easy programming of the electronic central through the 7-segment display ;
- 12 - Encoder: better motor positioning and precision during ramps and stops ;
- 13 - Communication with Optional 8F board: that aggregates the functions of garage light, lock, signal and alarm;
- 14 - Programming buttons: (UP, DOWN, ENTER);
- 15 - Transformer;
- 16 - S (Photocell signal);
- 17 - Fuse
- 18 - Electrical power input; 19 - Motor connection (U,V,W); 20 - Thermal relay input;
- 21 - Motor Led: On = motor on; Off = motor off;
- 22 - Led TX/RX Blinking: Software communicating OK;
- 23 - Double command.

Complementary Features

- Arrival ramp adjustment: Electronic deceleration;
- Start ramp adjustment: Acceleration rate;
- Independent speed adjustment for opening and closing;
- Independent ramp adjustment for opening and closing;
- IGBT module with built-in thermal protection (Protects components and engine burning).

TABLE OF ALERTS

DISPLAY	ERROR
a	ENCODER ERROR
b	TAMPER SENSOR
c	THERMAL RELAY
d	TEMPERATURE SENSOR

NOTE :

The programming buttons are locked, while some alert is shown.

DOUBLE COMMAND (CM.DOUBLE) (7)

When closing the jumper, the opening button and closing button controls are unified and the electronic central starts to operate with a BTA or BTF command for both opening and closing. The condominium function (F.Condo) must be off (0).

PHOTOCELL (10)

If the photocell is interrupted while the gate is open, it will prevent any closing command and it will remain open until the photocell detects no obstacle. During closure, the obstacle detection via the photocell will stop the motor and reverse the direction to open automatically, regardless of the reverse function status.

HOW TO NAVIGATE IN THE SETUP MENUS (6)

UP = Increase (+) / **DOWN** = Decrease (-)

"ENTER" Button: Select function. If the **"ENTER"** button is pressed for 2 seconds, its operation will be from ESC, i.e. exit / cancel selection / return to the initial screen.

To navigate between the options use the **"UP"** or **"DOWN"** keys and to select an option press **"ENTER."**

Once inside the settings screens, if no button is pressed within 13 seconds, the electronic central returns to standby mode.

CONFIGURING THE ELECTRONIC CENTRAL

The electronic central has 4 "MENU" states.

Example: MAIN MENU →

→ MENU 2

→ MENU 3

→ MENU 4.

On the right side of the buttons, it has a 7-segment display, where it will signal through numbers and letters what state the menu is in.

STANDBY (AT REST)

Symbolizes open limit switch



Symbolizes closed limit switch



No limit switch triggered



PROGRAMMING

The function options are selected in the MAIN MENU, where it goes from 0 to 9.

MAIN MENU	FUNCTION	MENU 2	FUNCTION	MENU 3	FUNCTION	MENU 4	FUNCTION
--	STANDBY						
1	TX	C	REGISTER	C	CONFIRM		
		A	DELETE	0-A	DELETE		
2	STROKE	C	PROG. STROKE	1-C	START STROKE		
		A	ADJUST	A	OPENING	C	CONTINUE
				F	CLOSING		
3	SPEED	A	OPENING	0-9	45 Hz ~180 Hz (15Hz)		
		F	CLOSURE	0-9	45 Hz ~180 Hz (15Hz)		
4	FINAL SPEED	0-9	15 Hz ~ 60Hz (5Hz)				
5	RAMP	A	OPENING	0-9	15% ~60% (5%)		
		F	CLOSURE	0-9	15% ~60% (5%)		
6	PAUSE	0-9	OFF ~ 90SEC (10 SEC)				
7	FUNCTIONS	0-1	REVERSAL	0-1	CONDOMINIUM F.	0-1	DIRECTION
8	RATE	A	ACCELERATION	0-9	30 Hz ~120Hz (10Hz/S)		
		d	DECELERATION	0-9	30 Hz ~120Hz (10Hz/S)		
9	STARTING TIME	0-9	OFF ~900Ms (100Ms)				
0	RESET	1-F	FACTORY RESET				

MAIN MENU

To navigate through the options you must enter the main menu. When the display is in standby press the **"ENTER"** button once to enter the menu. Use the **"UP"** and **"DOWN"** buttons to choose functions from 0 to 9.

The led (LD_2) will light up symbolizing that it is inside the menu.

(1) (TX) Press the **"ENTER"** button to access the **"TX"** function.

Within the **"TX"** option you have two more options : Register and Delete

Using the **"UP"** or **"DOWN"** buttons, choose **"C"** to register or **"A"** to delete.

1.1 (C) REGISTER: After choosing the letter **"C"**, click on the **"ENTER"** button to enter the function **" REGISTER"**.

1.1.1. Already in the function, the display will clear. Press the button of the control you want to register, the letter **"C"** will appear, signaling that you have identified a control, press and release the **"ENTER"** button, then the letter **"P"** will appear confirming the recording. The electronic central will wait for new buttons to be registered, or to exit, press

"ENTER" once or wait 10 seconds

1.2(A) DELETE: After choosing the letter **" A "**, click the **"ENTER"** button to enter the function **" DELETE"**.

1.2.1 Already in the function, press and release the **"UP"** button until the display shows the letter **" A "**. Press the button

"ENTER" to confirm.

The led(LD_2) will flash until the electronic central has finished erasing the memory.

After finishing, the panel will return to the main menu.

(2) STROKE = (First activation of the motor)

It's necessary to program the stroke before any activation to avoid damage to the electronic central and gate.

Press the **"ENTER"** button to access the **"STROKE"** function.

Within the **"STROKE"** you have two more options: Program Stroke and Adjust

Using the **"UP"** or **"DOWN"** buttons to navigate until the letters **"C"** for Program Stroke or **"A"** for Adjustment appear on the display.

2.1(C) PROGRAM STROKE: After choosing the letter **" C "**, click the **"ENTER"** button to enter the function

"PROGRAM STROKE".

2.1.1. Already in the function, press the **"UP"** or **"DOWN"** button until the letter **"C"** appears in the display. Press the button

"ENTER" for the engine to start moving and look for the limit switch.

NOTE: First operation must be the closure, otherwise the wires must be reversed

of the **"U"** motor through **"W"** and also the limit switch. Then remove and replace the jumper of the **"TAMPER"**.

When the limit switch is found, the letter **"c"** will appear on the display, which means to continue, press and release the **"ENTER"** again for the engine to run to the other limit switch, then the letter **"P"** will appear on the display meaning that the stroke has been programmed correctly.

2.2 (A) ADJUST: It serves to fix the ends of the opening and closing limit switches. After choosing the letter **"a"**, click the **"ENTER"** button to enter the **"ADJUSTMENT"** function.

2.2.1. Already in the function with the **"UP"** button pressed, the automator moves in the opening direction, and the **"DOWN"** button in the closing direction.

(3) (SPEED)

Maximum speed achieved during opening or closing. Press the **"ENTER"** button to access the **"SPEED"** function.

Using the **"UP"** or **"DOWN"** buttons, choose **" A "** for Opening or **" F "** for Closing.

3.1(A) OPENING: After choosing the letter **" A "**, click the **"ENTER"** button to enter the **"OPEN"** function.

Already in the function, press the **"UP"** or **"DOWN"** button to increase or decrease the motor speed from 45Hz to 180Hz, "0" = 45Hz, "9" = 180Hz (Increase and decrease of 15Hz).

3.2 (F) CLOSURE: After choosing the letter **"F"**, click the **"ENTER"** button to enter the **"CLOSE"** function.

Already in the function, press the **"UP"** or **"DOWN"** button to increase or decrease the motor speed from 45Hz to 180Hz, "0" = 45Hz, "9" = 180Hz (Increase and decrease of 15Hz).

(4) (FINAL SPEED)

Motor speed in hertz (Hz) during the course learning and after the deceleration of the arrival near the end of stroke.

Press the **"ENTER"** button to access the **"FINAL SPEED"** function.

Within the **"FINAL SPEED"** option you have 10 adjustment levels. Press the **"UP"** or **"DOWN"** key to increase or decrease the final speed, which goes from 15Hz to 60Hz, "0" = 15Hz, "9" = 60Hz (Increase and decrease of 5Hz).

(5) (RAMP)

Distance from the stop where the motor will slow down. The values refer to the percentage of the course learned.

Press the **"ENTER"** button to access the **" RAMP"** function.

Using the **"UP"** or **"DOWN"** buttons, choose **" A "** for Opening or **" F "** for Closing.

5.1(A) OPENING: After choosing the letter **"A"**, click the **"ENTER"** button to enter the function **"OPENING"**.

Already in function, press the **"UP"** or **"DOWN"** button to increase or decrease the size of the ramp that the motor will run, from 15% to 60%, "0" = 15%, "9" = 60% (Increase and decrease of 5Hz).

5.2 (F) CLOSURE: After choosing the letter **"F"**, click the **"ENTER"** button to enter the in the **"CLOSURE"** function.

Already in the function, press the "UP" or "DOWN" key to increase or decrease the ramp size that the motor will execute, from 15% to 60%, "0" = 15%, "9" = 60% (Increase and decrease of 5Hz).

(6) (PAUSE)

Time that the gate will stay open before closing automatically. If the pause time is over and the photocell or loop is active, the electronic central will not perform the closing, it will wait to release the photocell or loop, wait 1 second and only then will execute the closure.

Within the "PAUSE" option there are ten parameters. Each display number adds 10 seconds. "0" = OFF, "9" = 90 seconds.

(7)(FUNCTIONS)

Press the "ENTER" button to access "REVERSE FUNCTION"

If pressed again "CONDOMINIUM FUNCTION"

If pressed again "DIRECTION FUNCTION"

Each function when enabled or disabled causes the electronic central to exit from programming mode, returning to standby mode.

Using the "UP" or "DOWN" buttons, choose "0" or "1", "1" being enabled and "0" disabled

7.1 REVERSION:

With the reversing function enabled "1", the electronic central ignores commands during opening and closing and only needs one command to stop and reverse the motor to the opening direction again.

7.2 (F) CONDOMINIUM FUNCTION

With the condominium function enabled "1", the electronic central works as follows:

The "DOUBLE CM" jumper must be open. In the loop function the plate needs a button command between CM and BTA to start the full opening of the gate and a command between CM and BTF to execute the closing. The command between CM and BTF must proceed as follows:

-Loop state 1: Close CM with BTF = keep the gate open and ignore remote control and automatic closing commands (pause).

-Loop state 2: Open CM with BTF = it will wait 1 second and start closing.

-Loop state 3: If during the closing movement the CM is closed with BTF = it will revert the motor to the opening direction. Once opened if the CM with BTF remains closed the operating logic returns to loop state 1.

If during opening and within loop state 3 and the CM and BTF command is released, the electronic central will finish the opening and change to loop state 2.

7.3 DIRECTION:

The electronic central leaves the factory with the limit switch and motor connected to act in the same direction of operation. To reverse the operating direction, simply enable the "1" direction function, thus not having to disconnect the motor wires and the limit switch.

(8) (RATE)

Press the "ENTER" button to access the "RATE" function.

Using the "UP" or "DOWN" buttons, choose "A" for Acceleration or "D" for Deceleration.

8.1 (A) ACCELERATION: After choosing the letter "a", click the "ENTER" button to enter the "ACCELERATION" function.

Already in the function, press the "UP" or "DOWN" key to increase or decrease the acceleration that the motor will execute, which goes from 30Hz/s to 120Hz/s "0" = 30Hz/s, "9" = 120Hz/s (10 Hz increase and decrease).

8.1 (d) DECELERATION: After choosing the letter "d", click the "ENTER" button to enter the "DECELERATION" function.

In the function, press the "UP" or "DOWN" key to increase or decrease the deceleration that the engine will execute, which goes from 60Hz/s to 150Hz/s "0" = 60Hz/s, "9" = 150Hz/s (increase and decrease of 10 Hz).

(9) (STARTING TIME)

This function assists in the starting of the gate (opening and closing) so that the machine starts in slow mode, the values can be adjusted from 0 to 9 where each increment is equivalent to 100 milliseconds. This function is very useful for heavy gates as it allows the weight of the inertia to be removed in a slow manner, avoiding bumps and even initial screwing, after the gate is already working, the center assumes the adjusted speed and ramp values.

Press the "ENTER" button to access the "STARTING TIME" function. Within the "STARTING TIME" option there are 10 levels of adjustments.

Already in the function, press the "UP" or "DOWN" button to increase or decrease the starting time the motor will run. Each display number adds 100ms. "0" = OFF, "9" = 900ms

(0) (RESET)

Press the "ENTER" button to access the "RESET" function.

Use the "UP" or "DOWN" buttons to navigate until the letter " F " appears in the display. Press the "ENTER" button

After pressing, the center will start the "RESET" process, returning to the original factory settings. The letter "P" will appear in the display, symbolizing "FACTORY STANDARD", then the center exits the programming mode.

When doing a full reset on the board only the settings such as speeds and ramps will be lost. The stroke and the registered controls will not be changed.

 The maximum consumption of equipment connected to the center should not exceed 60mA. * with risk of damaging the

 Do not connect to motor wires, accessories such as lock, signalling, garage light or photocell, this type of connection causes the product to burn. For these cases it is necessary to use the optional module 8F *not included in the kit*.

 It is mandatory to use limit switches (magnets), without the same risk of burning and malfunctioning of the product.

 Use of safety photocell *not included in kit* is mandatory

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