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CUSTOM

EURUS

Technician's Manual

Gate operator with micro-processed digital control for gates up to 300 Kg

COMFORT whit SECURITY

Manufactured, packed, and commercialized following the Quality Management System certified according to the NBR ISO 9001:2000

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Installation Manual
EURUS CUSTOM

Contents

INSTALLATION PROCEDURE

Introduction: The perfect operation of this equipment and warranty depend on the instructions included in this manual.

Here are some of the necessary tools for the assembly and installation of the equipment:

TOOLS:

Cannon handle socket wrench

Hack saw arc

Pliers

Screwdriver

Double open ended spanners

Sander

Setsquare

Pencil

Drill

Level

Drill

Welder

Tape measure

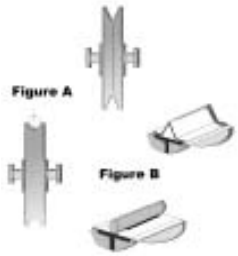
PREPARATION OF THE GATE BEFORE AUTOMATION

Before installation of the machine, check rolling, following the instructions below:

1º Step: Move gate leaf manually and see the required effort. Gate should move with ease.
2º Step: Move leaf back manually and check whether the effort required was the same as the previous operation.

Gate should have a strong structure and as much as possible straight.

Pulleys should be of a diameter according to gate dimensions. They also should be in rolling perfect conditions and assembled in a way that the gate leaf has stability during its trajectory. We recommend pulleys have at least 120mm of diameter.



Figures beside represent two types of tracks and pulleys used. The system that uses straight section (**figure A** – angle iron) shows more resistance, therefore, more wear. On the other hand, the system that uses round section (**figure B**) allows a better gate movement and less resistance to the gate operator.
3º Step: Check if gate leaf does not stop during opening and closing trajectory.

Gate rolling track should be perfectly straight and occasionally cleaned from any element or dirt that complicates pulleys sliding, as it is showed on picture beside:

Observation: The information above is very important because it can be prejudicial for gate operator performance.

TECHNICAL CHARACTERISTICS

Equipment Dimensions

*Metric System

Source: 110/220V
Frequency: 50/60Hz
Rotation: ..... 1450(50Hz)/ 1750(60Hz)
Reduction: 30:1
Protection: ..... IP 44
Capacitor: ..... 8uFx400V/ 20uF x 250V
Isolation: ..... F
Packing dimensions: ..... 260 x 240 x 317 mm
Gate operator weight: 9Kg
Max. gate weight : 300Kg

INSTALLING THE RACK

1º Step: Set the machine on manual mode (see page 6), open gate completely, and place rack on gear in a way that it has 2mm between teeth. Make the fixation on leaf every 30 or 40 cm using a welder or screw in the entire extension of the gate leaf.

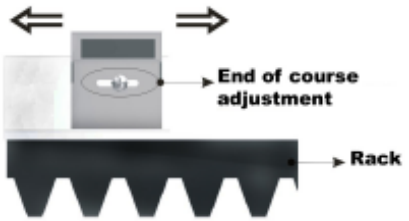
Observation:
In case the gate leaf is crooked, provide shimes to assure rack alignment. In certain cases, the rack will exceed the leaf length. If that is the case, provide an L-bracket so it does not jump the track during the machine start.

2º Step: Feed control unit with 220v, according to equipment voltage, to record remote controls as it is explained in this manual.

-With the gate on manual mode, place leaf in the middle of course and switch equipment to automatic mode.

-Turn power off temporarily and turn it on again; activate remote control and check if gate opens obeying the command. If gate opens, it will show that rotation direction is correct. In case situation described previously is not occurring, switch motor's Red and Black wire.

3º Step: Magnets Installation – with the gate closed, place magnet support facing the REED, open gate completely and place the other magnet facing the REED. Turn motor on and do the final test, observing if REEDs are turning off correctly. If it is necessary switch plate connector.



After installing magnets support, do fine adjustments and if necessary use the opening situated on magnet support to move the magnet position, according to illustration beside.

RELEASING SYSTEM

In the event of electrical power outage, equipment has a releasing system that permits gate to be operated manually. To do this, follow the steps below:

Step 1: Remove releasing system cover;

Step 2: Insert releasing system key in the Allen screw key hole and turn it clockwise to release reducer.

Step 3: After that, machine will be released for opening and closing manual mode operation.

MAIN CHARACTERISTICS

The micro-processed digital control unit controls single-phase induction motors 127Vca/220Vca – 50Hz/60Hz for PPA gate operators.

Characteristics included in the micro-processed digital control unit:

*High-Performance Microcontroller
*Receptor Module RF 433,92MHz included in central unit
*Memorizes 63 different transmitters buttons or 31 transmitters
*Memorizes 04 transmitters for electronic lock
*Memorizes trimpots adjustments
*Fuse (Virtual)
*Electronic clutch (Trimpot Force)
*Time Pause (Trimpot Pause)
*Anti-crushing safety system (Trimpot Sensor)
*Slow down mechanism (Trimpot Brake)
*Time O/C of 1 minute (permanent)
*Auto light timer
*Smooth start
*Automatic restart

LOGICAL FUNCTION OF CONTROL UNIT

1. When the gate is closed, giving a command, it will open stopping only when it meets the end of track or at the end of O/C time (set for 1 minute).
2. When the gate is opening and it meets an obstacle, it will stop and wait for a new command.
3. When the gate is opening, giving a command, it will stop and wait for a new command.
4. When the gate is open, giving a command, it will close until it meets the end of track or at the end of O/C time.
5. When the gate is closing and it meets an obstacle:
- Control unit with present course - the gate stops and opens totally.
- Control unit without present course - the gate stops and waits for a new command.

6. When the gate is closing, giving a command, it will stop and open again until it meets the end of opening course or at the end of O/C time.
7. Automatic Mode: When the control unit is in automatic mode, gate will open until it finds the end of opening course or at the end of O/C time. Next, it will run pause time and it will close automatically.
In case control unit is on semi-automatic mode, gate will close when it receives a command.
8. In case situations described previously are not occurring, switch motor's red and black wires.

MEMORIZING ACCESS BUTTONS

A maximum of 63 different buttons or 31 different transmitters are permited to be memorized. Steps for memorizing buttons:

Step 1: Keep the jumper HRF closed (jumpers position is shown on Electrical Connections Squeme, see page 17). Bring transmitter close to receptor, press and keep pressing button (left or right).
Step 2: Press "Aprender" button (meaning "learn" button) and keep it pressed. The Led (SN) will start blinking every second (clock mode), signaling that it received transmitter code.

Step 3: Release transmitter button.

Step 4: Release "Aprender" button before 5 seconds.
Control unit will signal through the led (SN), as described below, if the button was accepted or not:
* 1 blink, only once (it memorized button).
* 2 blinks, only once (button is already recorded).
* 3 blinks, only once (63 buttons are recorded).

To continue memorizing remaining buttons, repeat the procedure.

IMPORTANT:
The Control unit will only permit button memorization if motor and electronic lock are turned off.

RECORDING ELECTRONIC LOCK TRANSMITTER

It locks and unlocks all access buttons memorized in control unit and external command. Only the last 4 electronic lock transmitters will be memorized.

Steps to memorize the transmitters:

Step 1: Keep jumper HRF and jumper HC closed. Bring transmitter close to receptor, press and keep one button pressed (left or right).

Step 2: Press “Aprender” button and keep it pressed. The Led (SN) will start blinking every second (clock mode), signaling that it received the transmitter code.

Step 3: Release transmitter button.

Step 4: Release “Aprender” button, after 6 to 10 seconds. The Control unit will signal through the led (SN) with one (01) blink that it memorized electronic lock transmitter.
To continue memorizing remaining buttons, repeat the procedure.

Step 5: Jumper HC open.

TURNING ON ELECTRONIC LOCK

Step 1: Keep jumper HRF closed.

Step 2: With gate closed, press and release the right button of the electronic lock. The control unit will signal through the led (SN), with 01 blink that it recognized electronic lock button. Next, the led (SN) will start blinking once every 2 seconds in the reverse mode (i.e., led stays on and turns off rapidly).

Step 3: From this moment, all access buttons and external command will be unlocked.

IMPORTANT:
Even when turning control unit on and off through electric source, it will go back to the stage of lock on.
In case of electronic lock transmitter is lost and the control unit has lock on, it will be necessary to call an Authorized Technical. Service.

TURNING OFF ELECTRONIC LOCK

Step 1: Keep jumper HRF closed.

Step 2: Press and release the left button of the electronic lock. The control unit will signal through the led (SN) with one blink that it recognized the electronic lock button. Next, the led (SN) will start blinking once every 2 seconds in normal mode (i.e., led stays off and turns on rapidly).

Step 3: From this moment, all access buttons and external command will be unlocked.

IMPORTANT:
The control unit will only allow the memorization of one electronic lock transmitter if motor and lock function are turned off.
Only 4 transmitters will be memorized. Consequently, the most recent lock transmitter memorization will cancel the first.
With the electronic lock turned on, the control unit will cancel all attempts of trimpots memorization.

TURNING OFF ALL BUTTONS

Steps to turn off all buttons:

Step 1: Keep jumper HRF closed. Press “Aprender” button and keep it pressed.

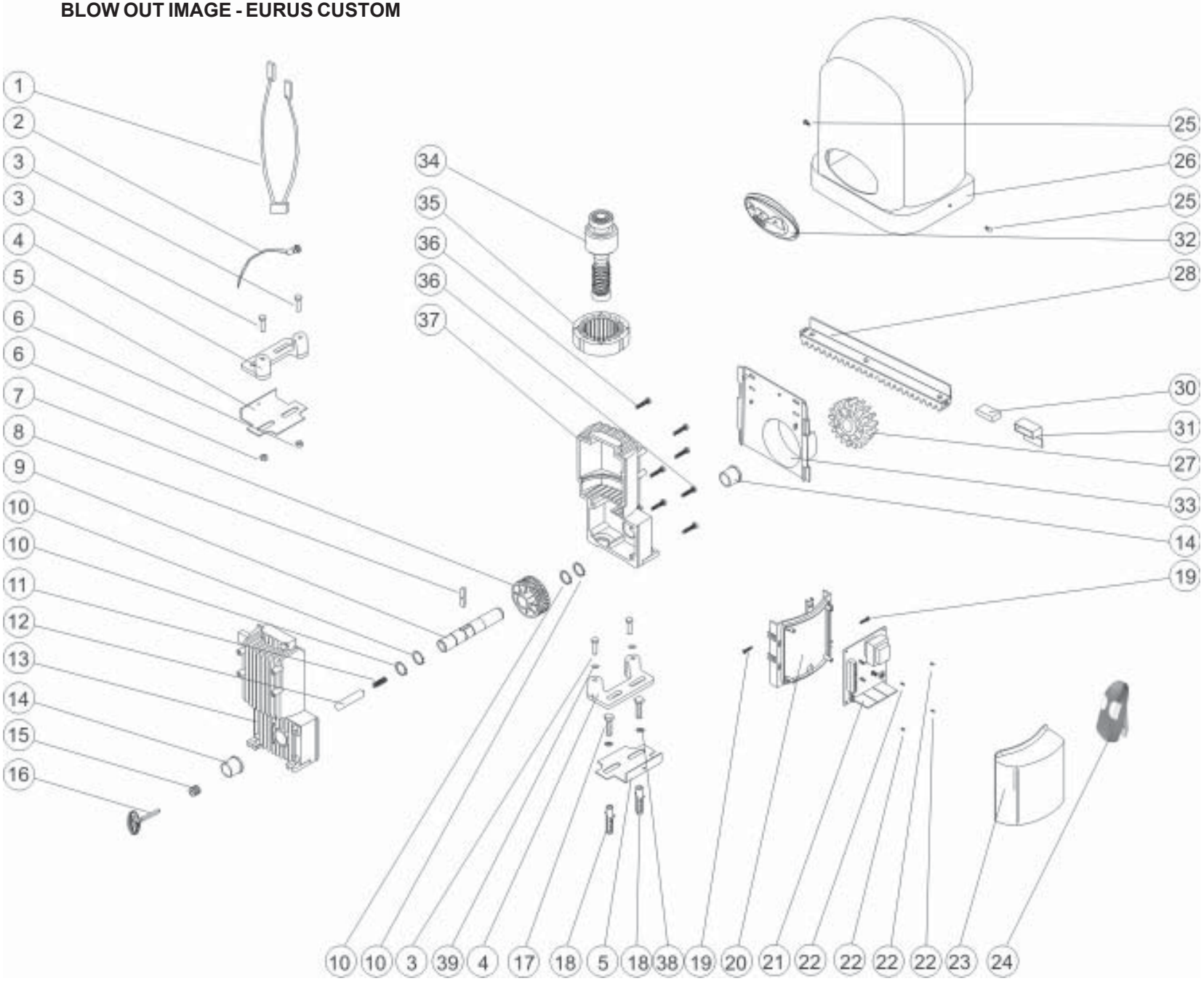
Step 2: Bring one of the recorded transmitters to the receptor, press and release button (left or right). The led (SN) will start blinking every second (clock mode), signaling that it received the transmitter code.

Step 3: After 25 seconds, with the “Aprender” button pressed, the led (SN) will turn off and it will signal as described below:
* 4 blinks, only once (buttons are off)
* 5 blinks, only once (button used for “turn off” function is invalid. Therefore, function is canceled).

IMPORTANT:
The central unit will only permit to clear the buttons in its memory if motor and lock function are turned off.

BLOW OUT IMAGE - EURUS CUSTOM

COMFORT whit SECURITY



LISTA DE COMPONENTES EURUS CUSTOM

ITEM	QT.	DESCRIPTION	CODE
1	1	END OF COURSE SET EURUS 20	P10526
2	1	GROUNDING CABLE 0,50 MM2	P20631
3	4	SCREW SS M ¼"X 1"	C10176
4	2	FOOT OF THE SLIDING MACHINE	P10672
5	2	BODY FRAME FIXATION PLATE	P10529
6	4	HEXAGON NUT ¼"	C10175
7	1	SPROCKET Z30	P10509
8	1	RACK KEY 6X6X50MM R0	C10185
9	1	MAIN AXLE EURUS CUSTOM	P14467
10	4	RING ELASTIC E22	C10187
11	1	RELEASING SPRING. SWING ALUMINIUM AS END OF COURSE	P10987
12	1	RELEASING PIN EURUS CUSTOM	P14472
13	1	LEFT BODY FRAME EURUS CUSTOM	P14474
14	2	BODY FRAME BUSHING	P11523
15	1	SCREW BB A M ½"X 3/8"	C10265
16	1	RELEASING KEY OF TORSION MACHINE	P11535
17	4	SCREW SS S 5/16"X 3"	C10179
18	4	BUSHING S12	C10182
19	2	SCREW PP P L M5 X 16MM	C10178
20	1	CENTRAL OF COMMAND BASE EURUS 20	P20501
21	1	RADIO FREQUENCY CENTRAL. INCORP.110V CAP 20UF	A20796
21	1	ELECTRONIC CLUTCH RADIO FREQUENCY MOTOR. INCORP.60HZ 220V CAP 8UF	A20687
22	4	SCREW PP M A 3.0 x 6,5mm	C20204
23	1	COMMAND CENTRAL COVER	P20502
24	2	MINI TRANSMITTER 433,92MHZ CODE LEARNING	A20602
25	4	SCREW PP M S 3,9 X 9,5MM	C10254
26	1	RIGHT BODY FRAME EURUS CUSTOM	P14473
27	1	PLASTIC GEAR Z18	P14468
28	2	RACK BARS 1,5MT LIGHT LINE	P11329
29	2	MAGNET 10X20X39	C10083
30	2	END OF COURSE MAGNET SUPPORT	P10518
31	1	RELEASING COVER EURUS 20	P10517
32	1	GEAR PROTECTOR	P10516
33	1	ROTOR EURUS	P14462
34	1	STATOR 30MM SLIDING 110V	A11677
35	1	STATOR 30MM SLIDING 220V	A11676
36	6	SCREW PP PL M5 X 25MM	C10190
37	1	EURUS CUSTOM BODY FRAME WITH LABEL	A11679
38	4	SMOOTH WASHER 3/8"	C10180
39	4	PRESSURE WASHER M8	C10043

KIT - Sliding Electronic Custom Incorp. Radio Frequency 110vcap 20uf.
KIT - Sliding Electronic Custom incorp. Radio Frequency 220v cap 8uf.

MEMORIZING TRIMPOTS AND VIRTUAL FUSE ADJUSTMENTS

The control unit adjustments trimpots are:

*Force
*Pause (not memorized by micro-controller)
*Sensor
*Brake

Steps to memorize the trimpots adjustments:

Step 1: Open jumper HRF.

Step 2: Make adjustments in trimpots.

Step 3: Press and release "Aprender "button. The led (SN) will blink rapidly for 1 second, meaning that it registered trimpots adjustments.

Step 4: Close jumper HRF.

Step 5: Turn motor on through transmitter button already memorized or command.

Step 6: The control unit will turn motor on (opening or closing), to read the electrical current and after 3 seconds it will be turned off.

Step 7: The control unit wil memorize trimpots adjustments, the virtual fuse amps and the electrical current preferable for anti-crushing safety system (opening or closing).

Step 8: After memorization, the motor will be turned on by the control unit, until opening or closing operation is done. Repeat the procedure beginning with step 1 to the reverse direction of the gate.

IMPORTANT:

The control unit will only execute trimpots memorization if motor and lock function are turned off. Only the pause trimpot is not memorized by micro-controller.

TYPES OF VIRTUAL FUSE PROTECTION

-From the start:

When the motor starts, if the virtual fuse is activated, the control unit will immediately turn motor off and then it will keep waiting for a new command.

-During Opening/Closing:

During opening/closing gate operation, if there is power surge, the control unit will immediately turn motor off and next, the led (SN) will start blinking rapidly, signaling power surge alarm. After 10 seconds, the motor will be turned on again, continuing the previous trajectory.

IMPORTANT:

The automatic restart occurs 3 consecutive times max.

ADJUSTING THE TRIMPOTS

TRIMPOT FORCE

Function: To adjust motor power applied on gate (Electronic clutch).

Opening and Closing: Same adjustment.

' + ' position: More power
' - ' position: Less power

Steps for motor power adjustments:

1. With motor turned off, adjust the Trimpot Force to position **'-'** and the trimpot Sensor in the position **'+'** ;
2. Memorize trimpots (see page 17);
3. Activate motor;
4. Check if gate opens and closes completely. If not, adjust trimpot force again, turning to **'+'** side. Repeat steps 2, 3, and 4.

TRIMPOT SENSOR

Function: To adjust the anti-crushing security system sensibility.

Opening and Closing: one adjustment for opening and one for closing.

' + ' position = more sensitive
' – ' position = less sensitive

Steps for adjustments of motor sensor:

1. With motor turned off, adjust the Trimpot Sensor to position **' + '** ;
2. Memorize trimpots;
3. Activate motor;
4. Check if gate opens and closes completely. If not, adjust the trimpot Sensor again, turning to **' - '** side. Repeat steps 2, 3, and 4.
5. With the gate in motion, try to stop it and check if the degree of sensitivity is the desired one. In case of being too sensitive, adjust the trimpot Sensor again, turning to **' – '** side and repeat this step.

IMPORTANT:

- Control unit with end of course: anti-crushing security system with auto reverse sensitivity.
- Control unit without end of course: anti-crushing security system with immediate shut off system.

TRIMPOT BRAKE

Function: To stop the gate at the moment it reaches the reeds working as a gate inercia eliminator.

Opening and Closing: same adjustment.

DC Brake: Smoth Instant Brake
TPO Brake: Soft timed Brake
Position ' + ' = Longer Braking time (TPO)
Position ' – ' = Lesser Braking time (TPO)

TRIMPOT PAUSE

Function: To adjust control unit pause timing when it is in automatic mode.

Position **' + '** = Maximum time of 1 minute
Position **' – '** = Minimum time of 1 second

CONFIGURING JUMPERS

EXTERNAL RECEPTOR

Function: Hook up for external RF receptor.

1 - 22VCA
2 - 22VCA
3 - GND
4 – CMD

JUMPER A/S

Function: To select control unit mode of working operation: automatic mode or semi-automatic mode.

Jumper A/S Closed: Semi-automatic mode.

Jumper A/S Open: Automatic mode

JUMPER HC

Function: It allows the recording of the electronic lock transmitter.

Jumper HC Closed: Yes

Jumper HC Open: No

AUTO LIGHT TIMER (LG)

Garage light module. Light is turned on every time gate is in motion. Every time motor is turned off, the garage light is timed for 2 minutes.

SIGNALING LED FUNCTIONS (SN)

It has the purpose of signaling varied operations, functioning orientations, and control unit protection.

Control unit waiting for a command or opening/closing trajectory:

LED	CONDITION
1 fast blink every 2 seconds 2 fast blinks evry 2 seconds	60Hz frequency 50 Hz frequency
Fast blinks	Motor surge protection activated or automatic restart mode.
1 fast flash every 2 seconds	Electronic lock turned on.
2 fast flashes every 2 seconds	Anti-crushing security system detected

During transmitter memorization or trimpots memorization:

LED	CONDITION
Blinks every 1 second (clock mode)	it captured transmitter for memorization.
1 blink, only once	Valid transmitter button code.
2 blinks, only once	Transmitter button already recorded within memory.
3 blinks, only once	Button memory registry full.
4 blinks, only once	Buttons memory registry turned off.
5 quick blinks for 1 second	Turn off memory of transmitters function ignored.
Fast blinks for 1 second	It memorized trimpots adjustments.

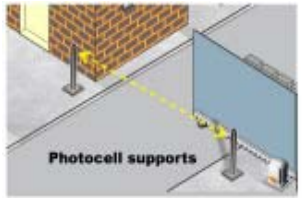
SMOOTH START

It has the purpose of eliminating mechanical jercks on the clutch, sprocket, rack bar, and on the endless axle (eixo sem fim) during the start, increasing with that, the mechanical and motor's life.

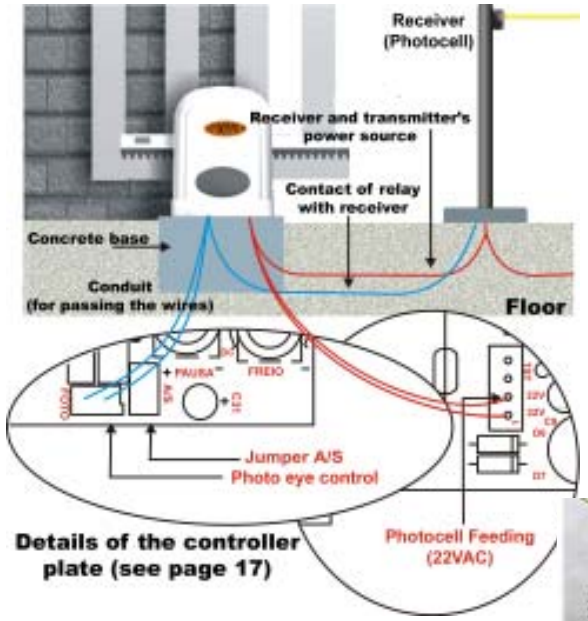
The smooth start adjustments parameters are standard inside the micro-controller.

PHOTOCELL

Photocell Installation

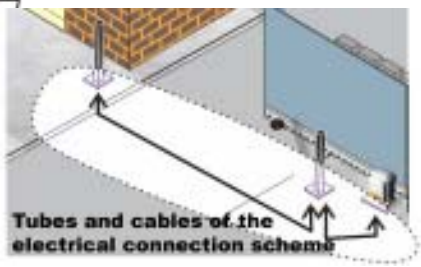


Provide conduit and types of cables (2x2, 5mm PP) for the passage of electric current and gate stop, from the Eurus Condominium base to the photocell posts (see example in figure).

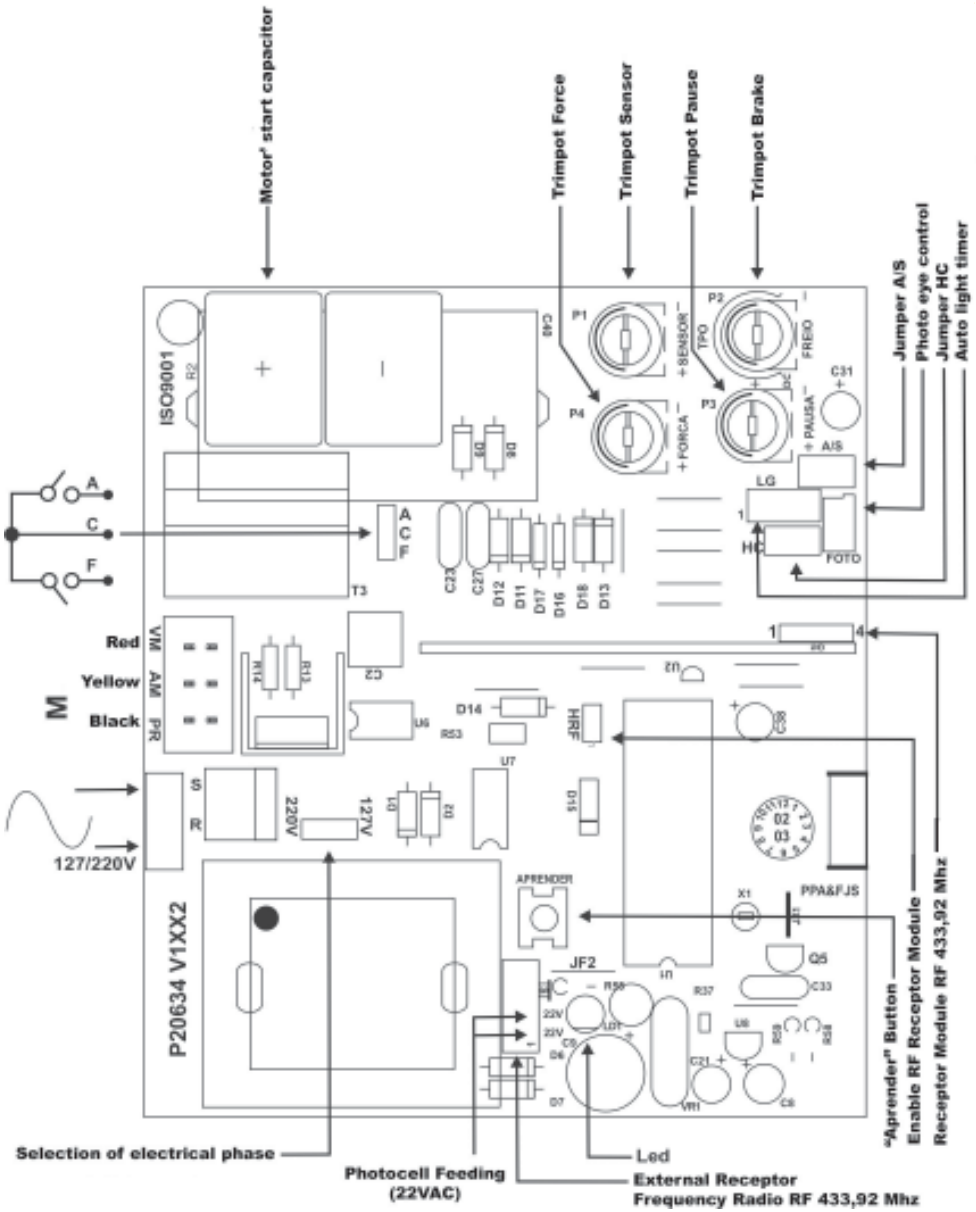


Cables should connect receptor to the transmitter. From this cable should come out one link to the plate, which will make the Electric Feeding of cables. Still from the Photocell receptor should come out another cable for connection with photo eye controll jumper (see figure beside).

Every time gate is closing and photocell is activated, gate will stop and start to open again until the end of course.



ELECTRICAL CONNECTION SCHEME



WARRANTY TERMS

PPA, Portas e Portoes Automaticos Ltda., Located at Avenida Dr. Labieno da Costa Machado ,nº 3526, Distrito Industrial, Garca/SP, CEP 17400-000, CNPJ 52,605,821/0001-55, IE 315,011,558,113 guarantees this product against design manufacturing, assembly defects and/or consequences of material quality deficiency which turn improper or inadequate to use within the legal period of 90(ninety) days from time of acquisition, as long as installation instructions are followed as described in the user's manual. In case of defect, within the warranty period, PPA's responsibilities are restricted to repair or substitute the product manufactured by PPA.

Because of the credibility and trust put on PPA products, we add to the period mentioned above more 275 days reaching, therefore, a total of 1 (one) year, also from the time of acquisition to be shown by consumer through proof of purchase.

Within the additional period of 275 days, only visits and transportation wil be charged. In places where authorized technical assistance is not available, cost of transportation of product and/or technician will be the responsibility of consumer.

The substitution or repair of equipment does not prolong the warranty.

This warranty will be terminated if:

- Product is damaged by accidents or acts of God, as lightning, floods, mudslides, etc;
-Product is installed under improper electric current or even if instructions are not followed according to manual;
- Produt is not used for purpose that is intended;
- Product is not used under normal conditions;
- Product is damaged by acessories or equipment connected to product.

Recommendation:

We recommend the installation by an authorized technical service.

Installation done by a third party will terminate warranty because of damage caused by inadequate installation. Only a PPA authorized technician is able to open, remove, and substitute parts or components, as well as repair defects covered by warranty. Therefore, if guidelines are not followed and use of non-original parts is detected, the consumer will forfeit his or her rights to this warranty. In case product shows defect seek and Authorized Technical Service.

Buyer:_____

Complete Address:_____

Distributor:_____

Phone: _____ Date of sale: _____

Product Identification:_____

Distributor Stamp: