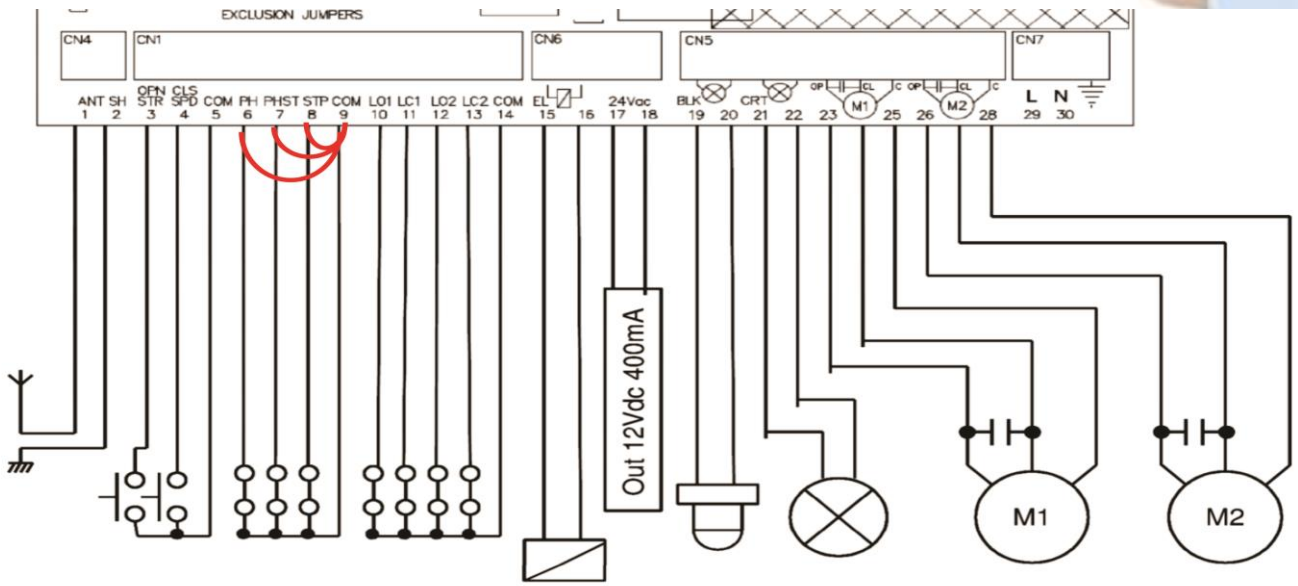
TIPS & TRICKS

LOGICCA310



- **TIP** – You must have good physical stops in both opening and closing. The CA310 uses these stops during programming and operation.
- **TIP** – You need to fit three small loops of wire to your safety inputs to make anything work. These can to be removed later if you install safety devices to these input terminals. But for now take three pieces of light gauge wire (speaker or telephone wire is good) about 50mm long and strip both ends 7mm and insert them as above from 6,7,8 to 9.
- **TIP** – Always concentrate on connecting your motor/s and programming these first before adding any accessories. Accessories like keypads and photocells should be added one at a time after you have your gates setup and operating correctly.
- **TIP** – During programming if either or both gates do not operate in the correct direction simply stop the programming and at the control board reverse the motor wires of the motor/s going the wrong way. Invert the motor connections on the terminal block (terminals 23 and 24 for motor 1; terminals 26 and 27 for motor 2). Then power back up and restart programming.

CONNECTING THE MOTORS TO THE LOGIC CONTROLLER Each motor comes with a flexible electrical lead attached with four cores, earth (green / yellow), neutral (pale blue or grey), open active and close active (brown and black). This lead needs to be connected to motor 2 output (M2), and in the case of dual gates also motor 1 output (M1) in the control board. NB: Motor 2 is used for single gate installations and in the case of double gates is the gate you may wish to attach an electric lock to as it opens first and closes last. If the control board is positioned close enough it may be possible to connect one motor directly to the control board without joining and/or extending the cable using a suitable cable gland to enter the control board enclosure. In most cases it will be necessary to install electrical conduits and junction boxes to join and extend your motor cables using suitable two core cable. Your Automatic Solutions store can provide the cable or large electrical stores should be able to help. The cable is generally referred to as 4 core flex. Ensure all joins are protected from the weather using suitable junction boxes, conduits are adequately clamped and cables are tied to avoid dragging or catching

AUTOMATIC SOLUTIONS

CA310 logic controller for one or two 240 volt swing gate motors.

Important: Read this manual before the installation. This manual is integral part of your product, keep it for reference.

Warnings:

- First of all verify that this product is suitable for the installation.
- Read carefully technical characteristic before the installation.
- Installation of this control unit must be properly done by qualified installers, following rules and regulations of installation country.
- It is mandatory do periodic maintenance.
- Maintenance or repairing must be done by qualified technicians.
- Turn power off before maintenance or repairing.
- This device is intended for gate automation, any other applications is not advised.
- Don't leave this control unit unattended or where children can reach.

Preliminary checking: Before installation of this control unit:

- Verify that all the connected devices respect the technical characteristics mentioned in the table which follows.
- Verify that a working and suitable RCD switch is installed up line the installation.
- Verify that cables composing the installation, are suitable for it.

The manufacturer:

Declares:

The control unit J300 is compliant to following

directives:

- 2006/95/CE Low voltage directive.
- 2004/108/CE Electromagnetic compatibility**.**

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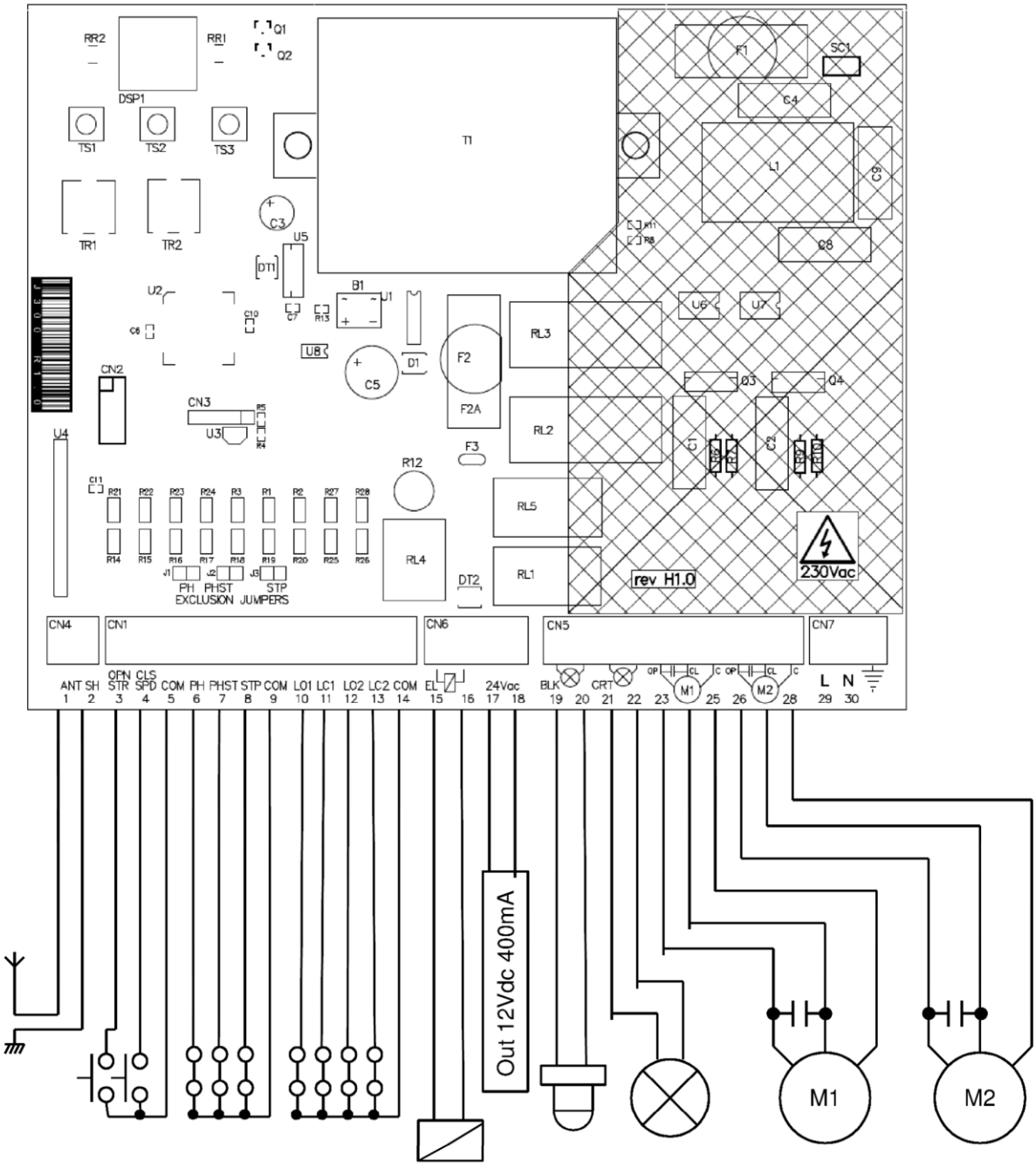
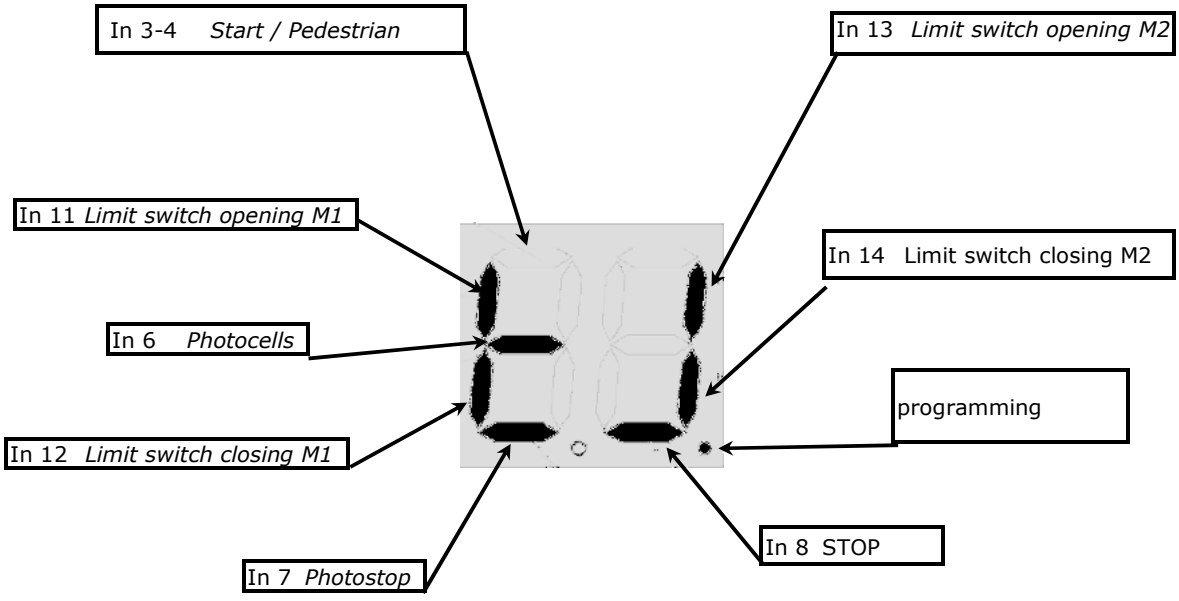
Technical characteristics	
Power Supply	230Vac +/- 10%
Power consumption	800mW (stand-by)
Auxiliary supply out	24Vac, 400mA
Electric-Lock output	12Vac, 1A
Motors outputs	230Vac, 750W
Flashing light output	230Vac, 100W
Courtesy light output	230Vac, 100W
Operating temperature range	-5 +60°C



1	Antenna
2	Antenna's shield
3	Start input (NO) It completely opens the gate
4	Pedestrian start in. (NO) It opens just motor 2
5	Common
6	Photocell input (NC) During pause: Reloads pause During closing: Reverses motors direction
7	Photostop input (NC) During pause During closing: Reverses motors direction During opening: stops the motors and waits till contact returns close.
8	Stop input (NC) It always stops motors and blocks control unit activity.
9	Common
10-11	Motor 1 limit switches (NC) Letting both inputs not connected, it disables limit switches for this channel
12-13	Motor 2 limit switches (NC) Letting both inputs not connected, it disables limit switches for this channel
14	Common
15-16	Electric lock output 12Vac 1A
17-18	Auxiliary supply output 24Vac 400mA
19-20	Flashing light output 230Vac 100W
21-22	Courtesy light output 230Vac 100W
23-25	Output motor 1, 240Vac 750W
26-28	Output motor 2, 240Vac 750W
29-30	Power supply input 230V
J1	Photocell exclusion jumper
J2	Photostop exclusion jumper
J3	Stop exclusion jumper
TR1	Slowing down speed trimmer
TR2	Motors torque trimmer
TS1-TS3	Buttons up/down
TS2	Enter button
DSP	Display
CN7	Power supply input 230Vac
F1	230Vac outputs fuse, 5A Fast
F2	Electric-lock/logic fuse, 2A Fast

INPUT STATUS

When the control unit is waiting for an opening or closing cycle, or when it's in pause, status of inputs is displayed as following diagram.



TRIMMER REGULATIONS

TR1 The slow down speed trimmer regulates the slow down speed.

TR2 The motor torque trimmer tunes the power on the motor. Attention: during the first 2 seconds after start, each motor pushes at 100% of is power (Boost power).

Less speed		*More speed*
TR1 *Slow down speed*		

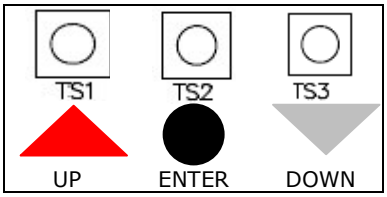
Less pushing		*More pushing*
TR2 *Motors power*		

QUICK INSTALLATION

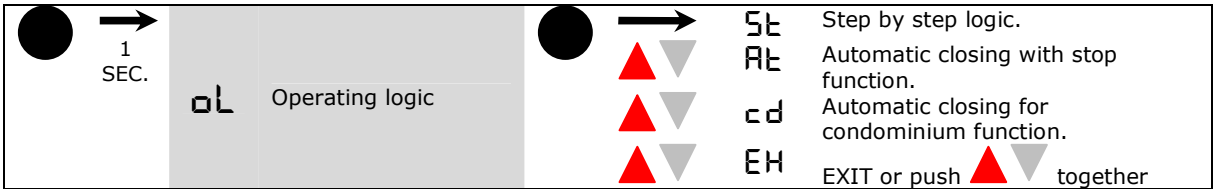
To program simply the working times, open both wings using the manual opening procedure, then keep pushed **UP** till you read Au on the display. Both wings start closing.
If limit switches are installed, wait until motors are fully closed, otherwise Push **ENTER** when the first wing is fully closed, push **ENTER** once when second wing is fully closed also.

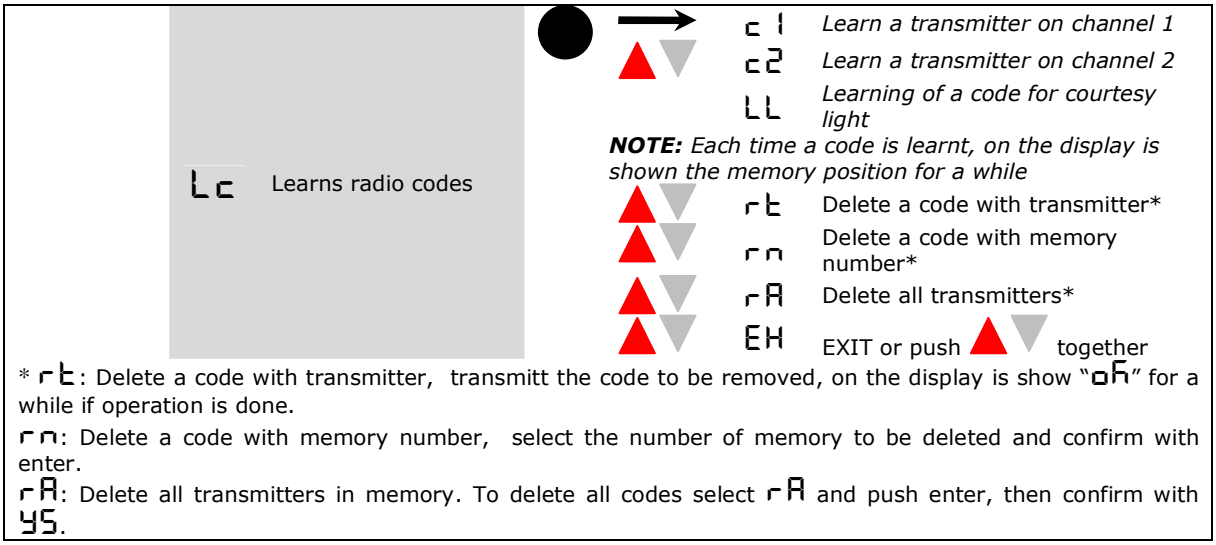
BOARD PROGRAMMING
BASE MENU

Push **ENTER** for at least 1 sec. to enter base menu.
oL is on the display, with **UP** and **DOWN** it is possible to select other functions of this menu.
To exit this menu select exit (EH) or push **UP** and **DOWN** together.
After 2 minutes without actions, the control unit exits itself from this menu.



BASE MENU MAP

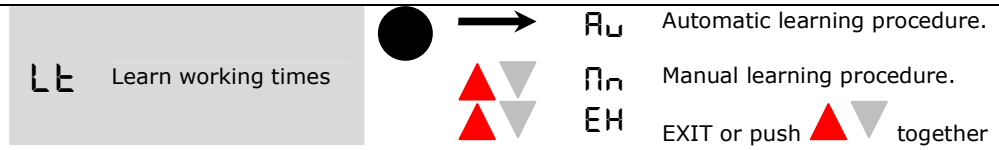




* rt: Delete a code with transmitter, transmitt the code to be removed, on the display is show "oK" for a while if operation is done.

rn: Delete a code with memory number, select the number of memory to be deleted and confirm with enter.

rA: Delete all transmitters in memory. To delete all codes select rA and push enter, then confirm with YS.



LE learn working time:

Attention: before to start leaning procedure, the gate must be open to do automatic procedure, otherwise must be closed to do the manual procedure. Use manual mode to put the gate in the right position.
Is it possible to program working time automatically, please refer to "*Quick installation*".
Select LE in the base menu and push enter, after select the learning mode with up/down.

Au: Automatic learning procedure.
Mn: Manual learning procedure.
To exit this menu select EH or push up/down together.

Au ***Automatic procedure for working time learning:***

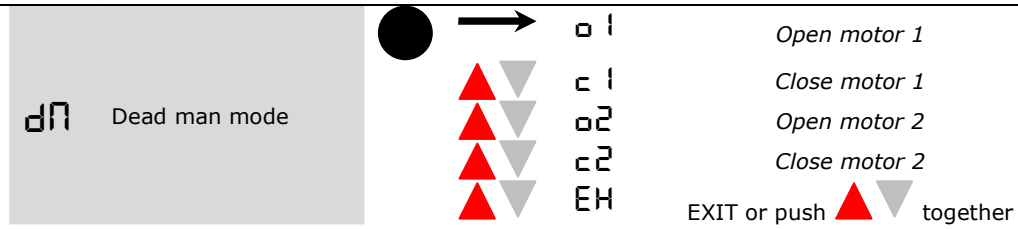
to do this procedure prepare at least a transmitter into memory. In this procedure all safety inputs are disabled.
The wings close themselves, in the meanwhile all the working times are learned. If the installation is single wing connect just motor 2 and enable this function in advanced menu.
If digital limit switches are installed (LO1,2 – LC1, 2) the control unit learns automatically working times.
If limit switches aren't installed, user need to push enter or give a start command (by radio too) once first motor (M1) reach end when second motor reach end.

Mn ***Manual procedure for working time learning:***

Attention: to do this procedure prepare at least a transmitter into memory. In this procedure all safety inputs are disabled.
Both wings start opening, in this phase it's possible to set the slowing down speed with the trimmer 1. Once both wings are open, push enter or transmit with remote shortly.
M 1 is written on the display.
In the phase which follows, enter button or a memorized code control following sequence: start motor 1, start motor 2, slow down motor 1, slow down motor 2, stop motor 1, stop motor 2.
If just motor 2 is connected (single wing mode), program times just for this motor.
If digital limit switch are installed motors stop automatically at the end of travel.

SP Set pause time:

Use up/down to set the pause time between 0 and 99 seconds. Push enter to confirm. To exit without modifications push together up and down.
Attention, setting a pause time doesn't enables automatic closing, please refer to chapter "oL operating logic" to enable this function.



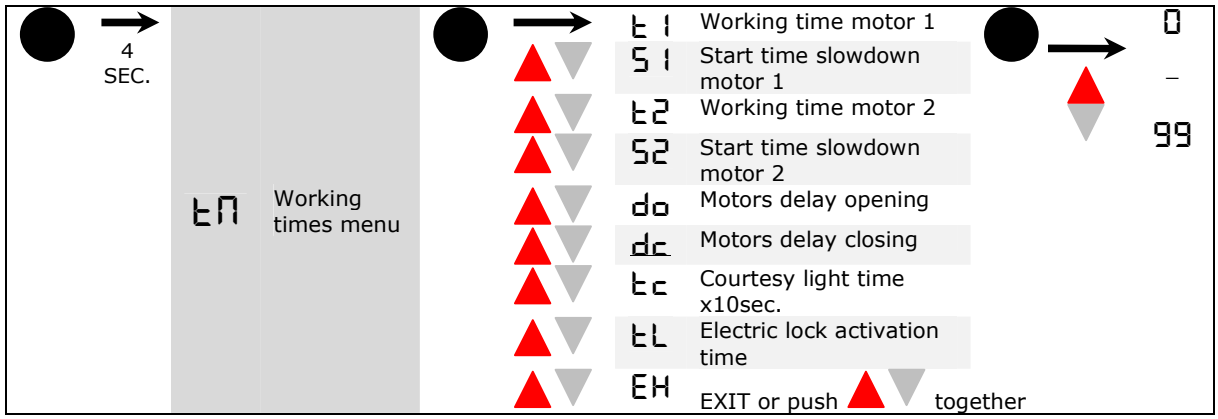
dM Dead man mode:
Selecting this menu it's possible to control each motor in dead man mode. Push up and down to select one of following item:
o 1 Open motor 1
c 1 Close motor 1
o2 Open motor 2
c2 Close motor 2
EH Exit
Keep pushed enter to start the selected motor in dead man mode.

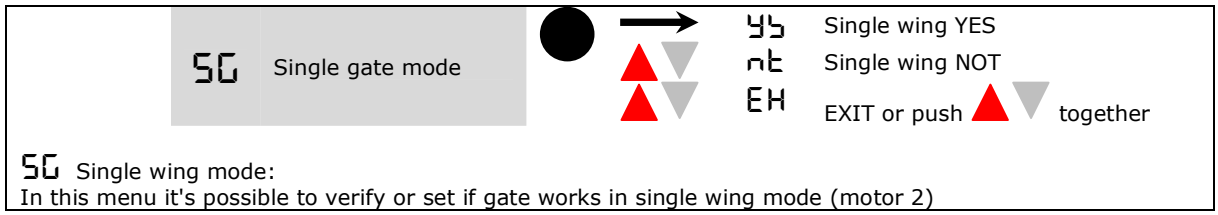
EH	*Exit*

BOARD PROGRAMMING ADVANCED MENU

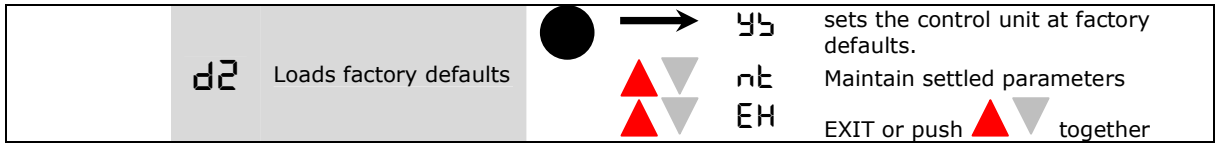
Push enter button till on the display is shown tM. With up/down it's possible to select all items in this menu. To exit this menu select EH or push up/down together. After 2 minutes without actions, control unit exits itself from this menu.

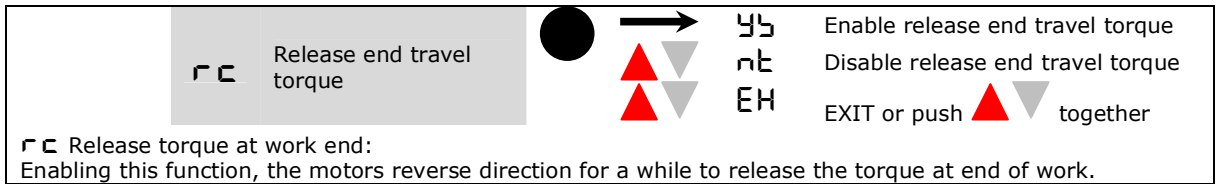
ADVANCED MENU MAP



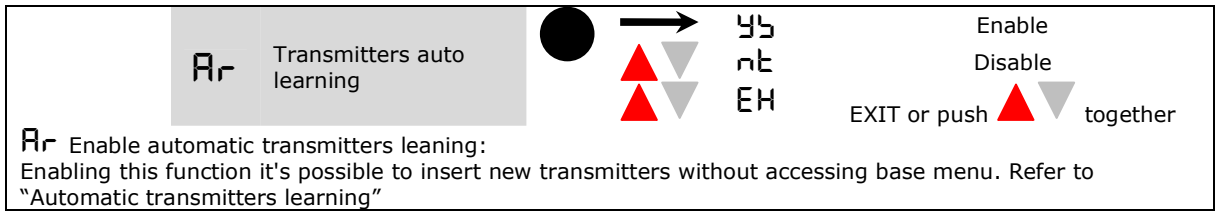


SG Single wing mode:
In this menu it's possible to verify or set if gate works in single wing mode (motor 2)

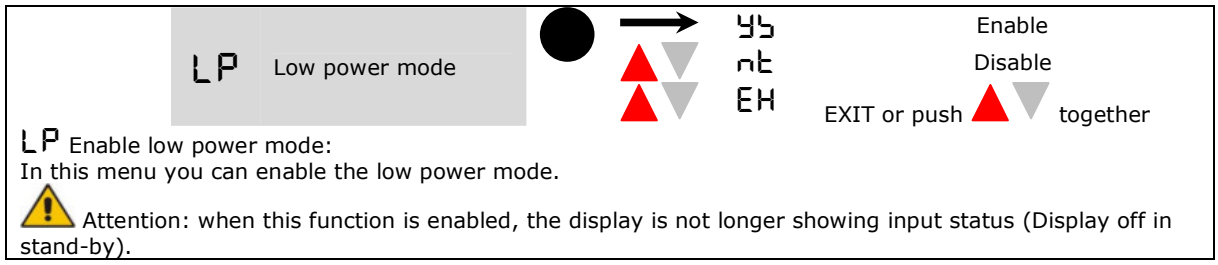




rc Release torque at work end:
Enabling this function, the motors reverse direction for a while to release the torque at end of work.

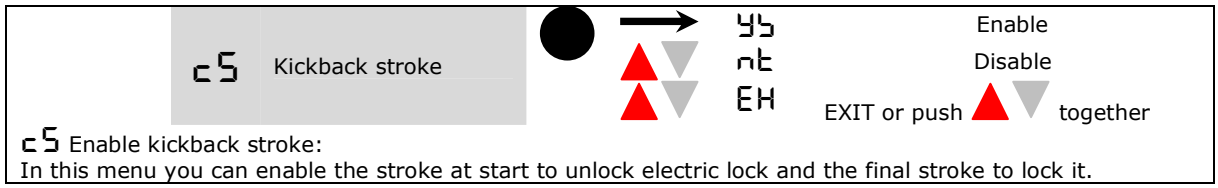


Ar Enable automatic transmitters leaning:
Enabling this function it's possible to insert new transmitters without accessing base menu. Refer to "Automatic transmitters learning"

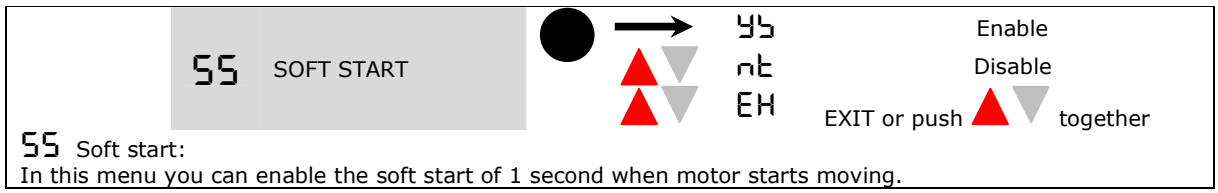


LP Enable low power mode:
In this menu you can enable the low power mode.

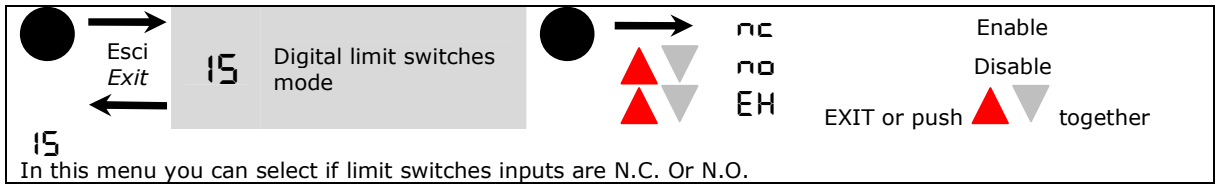
Attention: when this function is enabled, the display is not longer showing input status (Display off in stand-by).



cS Enable kickback stroke:
In this menu you can enable the stroke at start to unlock electric lock and the final stroke to lock it.



SS Soft start:
In this menu you can enable the soft start of 1 second when motor starts moving.



IS
In this menu you can select if limit switches inputs are N.C. Or N.O.

QUICK TABLE BASE MENU

DISPLAY	DESCRIPTION	DATA	DESCRIPTION	DATA	Descr
oL	*Operating logic*	StEP	*Step by step*		
		AtO	*Automatic closing with stop funcion.*		
		cd	Automatic *closing uninterruptible CONDOMINIUM*		
		EnD	*EXIT*		
Lc	*Learning / removing transmitters code*	c1	*Learn a transmitter on channel 1*		
		c2	*Learn a transmitter on channel 2*		
		rtE	*Erase codes*	YES	*Erase all codes*
		EnD	Uscita		
LT	*Learn working time*	Au	*Automatic learning procedure*		
		Mn	*Mutomatic learning procedure*		
		EnD	*EXIT*		
SP	*Set pause time*	0-99			
dM	*Dead man mode*	o1	*Open motor 1*		
		c1	*Close motor 1*		
		o2	*Open motor 2*		
		c2	*Close motor 2*		
		EnD	*EXIT*		
EnD	*EXIT*				

QUICK TABLE ADVANCED MENU

DISPLAY	DESCRIPTION	DATA	DESCRIPTION	
tN	Working times menu	t1	Working time motor1	0-99
		S1	Start time slowdown motor1	
		t2	Working time motor2	
		S2	Start time slowdown motor2	
		do	Motors delay opening	
		dc	Motors delay closing	
		tc	Courtesy light time x 10sec.	
		tL	Electric lock activation time	
		Eh	EXIT	
SG	Single wing mode	YS	Yes	
		nt	No	
		Eh	Exit	
d2	Default settings	YS	Yes	
		nt	No	
		Eh	EXIT	
rc	Release torque at work end	YS	Yes	
		nt	No	
		Eh	EXIT	
Ar	Enable automatic transmitters leaning	YS	Yes	
		nt	No	
		Eh	EXIT	
LP	Enable low power mode	YS	Yes	
		nt	No	
		Eh	EXIT	
cS	Enable kickback stroke	YS	Yes	
		nt	No	
		Eh	EXIT	
SS	Soft start	YS	Yes	
		nt	No	
		Eh	EXIT	
IS	Digital limit switches	nc	N.C	
		no	N.O	
		Eh	EXIT	
Eh	*EXIT*			

OPERATING LOGIC TABLES					
St *step by step*					
PHASE	***COMMAND***				
	Start	*Pedestrian*	*Photocell*	Photostop	Stop
CLOSED	*Opens*	*Opens*	*Ignored*	*Stops*	Stop
OPENING	*Stops*	*Stops*	*Ignored*	*Stops and waits release*	
OPEN	*Closes*	*Closes*	*Ignored*	*Stops*	
CLOSING	*Stops*	*Stops*	*Reverses*	*Stops, wait release, reverses*	
STOP	*Ignored*	*Ignored*	*Ignored*	*Ignored*	-

At *Automatic closing*					
PHASE	***COMMAND***				
	Start	*Pedestrian*	*Photocell*	Photostop	Stop
CLOSED	*Opens*	*Opens*	*Ignored*	*Stops*	Stop
OPENING	*Stops*	*Stops*	*Ignored*	*Stops and waits release*	
OPEN	*Closes*	*Closes*	*Ignored*	*Stops*	
DURING PAUSE	*Exits pause*	*Exits pause*	*Reloads time*	*Reloads time*	
CLOSING	*Stops*	*Stops*	*Reverses*	*Stops, wait release, reverses*	
STOP	*Ignored*	*Ignored*	*Ignored*	*Ignored*	-

cd *condominium mode*					
PHASE	***COMMAND***				
	Start	*Pedestrian*	*Photocell*	Photostop	Stop
CLOSED	*Opens*	*Opens*	*Ignored*	*Stops*	Stop
OPENING	*Ignored*	*Ignored*	*Ignored*	*Stops and waits release*	
OPEN	*Ignored*	*Ignored*	*Ignored*	*Stops*	
DURING PAUSE	*Reloads time*	*Reloads time*	*Reloads time*	*Reloads time*	
CLOSING	*Ignored*	*Ignored*	*Reverses*	*Stops, wait release, reverses*	
STOP	*Ignored*	*Ignored*	*Ignored*	*Ignored*	-

Default settings

Here it follows list of default settings, the same set after a d2 command of advanced menu

Item		Default	
oL	Operating logic	St	Step by step
SP	Pause time	10	10 seconds
t1-t2	Working time motor 1 and 2	30	30 seconds
S1-S2	Slowing down time motor 1	20	20 seconds
do	Wings delay opening	02	2 seconds
dc	Wings delay closing	05	5 seconds
tc	Courtesy light time	12	120 seconds
tL	Electric-lock time	02	2 seconds
SG	Single gate mode	nt	Not
rc	Release end travel torque	nt	Not
Ar	Auto learning transmitters	YS	Yes
LP	Low power mode	nt	Not
cS	Kickback stroke	nt	Not
SS	Soft-start	nt	Not
IS	Digital limit switches mode	nc	Normal Close

Diagnostic and troubleshooting

The control unit has a self diagnostic software able to find problems. Once a problem occurs, a code is shown on the display in alternance with command status.
Here it follows a troubleshooting table.

Error code	***Problem and eventual solution***
E1	*Power control system failure.* *Send board in assistance.*
E2	*Obstacle detected in the previous cycle (by analog edges).* *Verify that gate is free and there's no obstacles in the range.*
E3	*Photocells or photostop obstructed for longer than 2 minutes.* *Verify that photocells and photostop aren't obstructed, and if there's no bugs inside them.* *Verify wiring to this devices.*
E4	*Stop is engaged for longer than 2 minutes.* *Verify wiring to emergency device. If there isn't an emergency device installed, shunt this input with the common.*