IMPORTANT REMARKS

For any installation problem please contact our Customer Service at the number **+39-0172.812411** operating Monday to Friday from 8:30 to 12:30 and from 14:00 to 18:00.

V2 has the right to modify the product without previous notice; it also declines any responsibility to damage or injury to people or things caused by improper use or wrong installation.

⚠ **Please read this instruction manual very carefully before installing and programming your PD11 control unit.**

- This instruction manual is only for qualified technicians, who specialize in installations and automations.
- The contents of this instruction manual do not concern the end user.
- Every programming and/or every maintenance service should be done only by qualified technicians.

AUTOMATION MUST BE IMPLEMENTED IN COMPLIANCE WITH THE EUROPEAN REGULATIONS IN FORCE:

EN 60204-1 (Machinery safety. electrical equipment of machines, part 1: general rules)
EN 12445 (Safe use of automated locking devices, test methods)
EN 12453 (Safe use of automated locking devices, requirements)

- The installer must provide for a device (es. magnetotermical switch) ensuring the omnipolar sectioning of the equipment from the power supply.
  The standards require a separation of the contacts of at least 3 mm in each pole (EN 60335-1).
- After making connections on the terminal board, use one hose clamp to fix dangerous voltage wires near the terminal board and another hose clamp to fix safety low voltage wires used for accessories connection; this way, in case of accidental detachment of a conducting wire, dangerous voltage parts will not come into contact with safety low voltage ones.
- The plastic case has an IP55 insulation; to connect flexible or rigid pipes, use pipefittings having the same insulation level.
- Installation requires mechanical and electrical skills, therefore it shall be carried out by qualified personnel only, who can issue the Compliance Certificate concerning the whole installation (EEC Machine Directive 89/392, Annex IIA).
- The automated vehicular gates shall comply with the following rules: EN 12453, EN 12445, EN 12978 as well as any local rule in force.
- Also the automation upstream electric system shall comply with the laws and rules in force and be carried out workmanlike.
- The door thrust force adjustment shall be measured by means of a proper tool and adjusted according to the max. limits, which EN 12453 allows.
- We recommend to make use of an emergency button, to be installed by the automation (connected to the control unit STOP input) so that the door may be immediately stopped in case of danger.
- Always remember to connect the earth according to current standards (EN 60335-1, EN 60204-1).

DECLARATION OF CONFORMITY

V2 ELETTRONICA SPA declares that the series of VEGA-C actuators are in conformity with the provisions of the following EC directives:

73/23/EEC electrical safety
93/68/EEC electromagnetic compatibility
99/05/EEC radio directive
98/37/EEC machine directive

Note: Declares that the above mentioned devices may not be operated until the machine (automated door) is identified, CE-labeled, and declared to be compliant to the specifications of Directive 89/392/EEC and following modifications.

The person in charge for the machine start-up must provide the following records:
- Technical specification paper
- Declaration of conformity
- CE-labeling
- Testing record
- Maintenance record
- Operation manual and directions

Racconigi 18/10/2006
V2 ELETTRONICA SPA legal representative
A. Livio Costamagna

TECHNICAL SPECIFICATIONS	VEGA230V-C	VEGA120V-C
Power supply	230VAC - 50Hz	120VAC - 60Hz
Nominal power	280 W	280 W
Line absorption	2,5 A	4,5 A
Absorbed power	575 W	575 W
Full load current	2,5 A	4,5 A
Capacitor	8 µF	30 µF
Average speed	1,6 Rpm	1,9 Rpm
Working temperature	-20 ÷ +50 °C	-20 ÷ +50 °C
Protection	IP20	IP20
Working cycle	30 %	30 %
Motor weight	9 Kg	9 Kg
Max accessories load 24V	3W	3W
Protection fuse	5A	8A

PRELIMINARY OPERATIONS

Before installing VEGA-C ratiomotor, please check the following basic points:

- The door structure must be stout and appropriate
- The door must open and close easily without any friction.
- The door must be properly balanced both before and after its automation (carry out a balance weight adjustment, if necessary).

INSTALLATION

VEGA-C ratiomotor is recommended for the automation of counterweight balanced doors up to 9 m^2.

1. Identify the axis of door arm α and fix a new axis β (which will be the axis of rotation of the VEGA-C actuator torque shaft), parallel as to α and placed 100 mm down (fig. 1).

2. Place VEGA-C in the middle of the sliding door and fix the longitudinal member fastening points. Separate the ratiomotor from the longitudinal member by unscrewing the two bolts, then fasten the longitudinal member to the door and assembly the ratiomotor again.

3. Fasten the anchoring bracket of the telescopic arm (code VE13) on the door upper cross member or on the wall (fig 2).

4. Fasten the telescopic arm (code VE1) on the anchoring bracket by means of the proper pins and “seeger” (code VE13).

⚠ **WARNING:** the telescopic arm must be assembled in such a way as to pass between the door case and the door arm without any friction. In case this is not possible due to the lack of space, make use of the special curve arms (Code VE2).

5. Enter the drive tube equipped with a bush into the drive shaft and enter the bracket by means of the special plastic bushing (code VE14) into the other tube end (Fig. 3).

6. Check that the tube is perfectly horizontal and perpendicular as to the telescopic arm, then cut the part of exceeding tube (Fig. 4).

7. Drive the door to its max. opening position and cut the $\gamma 1$ upper part of the telescopic arm so that there is a $\gamma 2$ 100-mm lower part projection by the upper side (Fig. 5). Drive the door to its closing position and cut the telescopic arm lower part so that the $\gamma 3$ inner part is of 100 mm (Fig. 6).

8. By keeping the door closed, weld the tube base to the $\gamma 2$ lower part free end of the telescopic arm (Fig. 7).

9. Enter and finally fasten the telescopic arm on the anchoring bracket by fastening all pins by means of “seeger” supplied.

10. Fasten the bracket (code VE14), which has been previously entered into the tube, to the sliding door (fig. 8).

11. Repeat what described at points 3 ÷ 10 as for the other side of the door.

12. Release the ratiomotor and check that the sliding door opening and closing operations can be easily performed. Otherwise, the door must be balanced again by increasing the balance weights.

ADJUSTMENT OF THE ENDS OF STROKE

Opening end of stroke: drive the sliding door to **approx. 50 mm** from its max. opening, then adjust the left cam so that the microswitch is operated (fig. 9). Fasten the cam by screwing it.

Closing end of stroke: drive the sliding door to its max. closing position and adjust the right cam so that the microswitch is operated (Fig. 10). Fasten the cam by screwing it.

RELEASE FROM INSIDE

Turn downwards the S1 release lever in order to release the automation from inside (fig. 14). Turn the S1 lever to its original position in order to reset the automation.

RELEASE FROM OUTSIDE

The special release kit must be installed to release the automation from outside (cod. VE11). Assembly all parts as shown in figures 11, 12, 13, 14.

DESCRIPTION OF THE CONTROL UNIT

The control unit **PD11** is an innovative V2 product that guarantees a safe and reliable automation for counterweight balanced doors.
The **PD11** has been designed to realize a product that meets all kind of requirements, with a highly versatile control unit that satisfies all the necessary requirements for a functional and efficient installation.

PD11 is provided with a display that, not only makes programming simple, but also allows a continuous monitoring of the input statuses; in addition, thanks to a menu structure, the working schedule and the operation logic can be set easily.

In compliance with the European standards concerning electrical safety and electromagnetic compatibility (EN 60335-1, EN 50081-1 and EN 50082-1) it has been equipped with the low voltage circuit total electric insulation (motors included) from the network voltage.

Other characteristics:

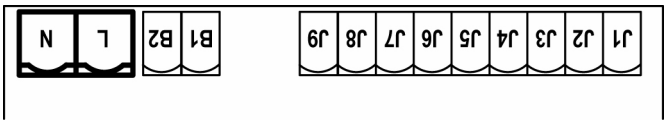
- Automatic control for the null current relay switch.
- Power adjustment with wave shutting.
- Obstacle detection by means of monitoring start condenser voltage.
- Automatic learning of the operation time.
- Specific entrances for end stops.
- Tests for safety devices (photocells, ribbons and triacs) before each opening.
- Deactivation of safety inputs through the configuration menu: no jumper is required for terminals concerning safety devices that have not been installed, yet. You will only need to disable this function from its relevant menu.
- Control unit programming can be locked through the optional **CL1** key.

INSTALLATION

Installation of control unit and safety devices must be carried out with power disconnected.

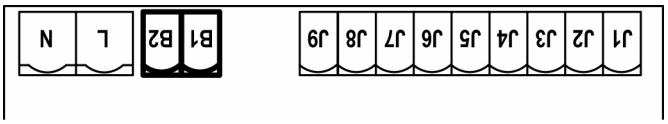
POWER SUPPLY

The control unit must be fed by a 230V 50Hz (120V - 50/60Hz for the model **PD11-120V**) electric line, protected by a differential magnetothermal switch complying with the law provisions in force.
Connect power supply cables to terminals **L** and **N** of **PD11** control unit.

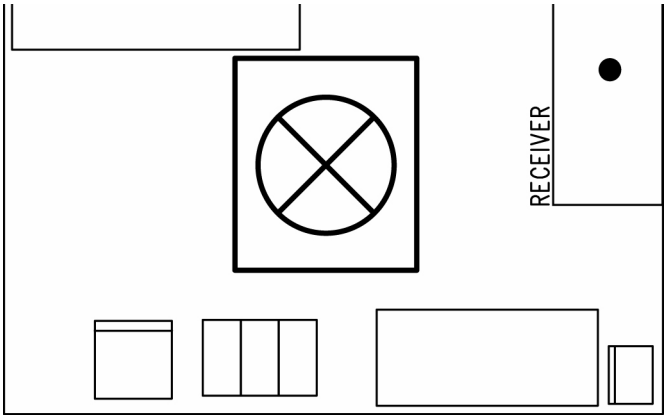


COURTESY LIGHTS

Thanks to the output COURTESY LIGHT the control unit **PD11** allows the connection of an electric appliance (e.g. courtesy light or garden lights), controlled automatically or by means of the special transmitter key.
The output COURTESY LIGHT is a simple N.O. contact with no power supply.
Connect the cables to terminals **B1** and **B2**.



The **PD11** central unit also has a light bulb included as a courtesy light (230V/120V - 40W max - E14).

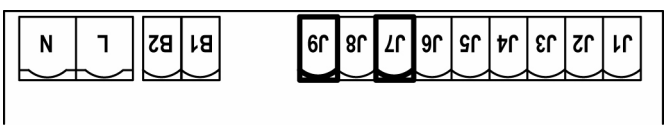


WARNING LIGHT

Thanks to the WARNING LIGHT output, the PD11 central unit allows you to monitor the state of the door in real time and the kind of flashing signal indicates the four possible conditions:

STOP light off
IN PAUSE light always on
OPENING the light flashes slowly (2 Hz)
CLOSING the light flashes rapidly (4 Hz)

The output provides the connection of a 24V bulb. The maximum charge shall be included in the 3W at the disposal for the accessories. Connect the cables to terminals **J7** and **J9**.



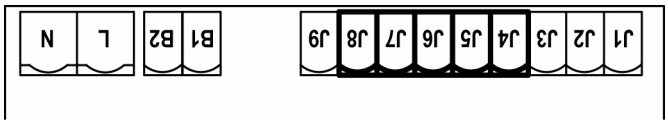
PHOTOCELL

PD11 control unit supplies a 24VAC power supply to photocells and it can perform a photocell operation test before starting the door opening phase. Photocell power terminals are protected by an electronic fuse that stops current in case of overload.

The photocells are active only during the closing phase and, if required, with standstill door. In case intervention, the control unit immediately opens the door, not waiting for the release.

- Connect power supply cables of photocells transmitter between terminals **J7** and **J8**of the control unit.
- Connect power supply cables of photocells receiver between terminals **J6** and **J7** of the control unit.
- Connect receiver output between terminals **J4** and **J5** of the control unit. Use outputs having normally closed contact.

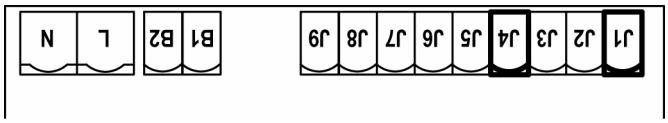
⚠ **WARNING:**
- if several couples of photocells are mounted, their outputs must be connected in series.
- In case of reflection photocells, power supply must be connected to terminals **J7** and **J8** of the control unit to carry out the operation test.



SAFETY RIBBONS

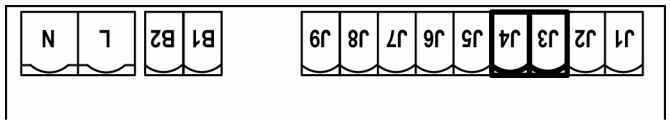
The control unit **PD11** is equipped with a specially provided input to control safety ribbons; the intervention of the edge reverses the motion for 3 seconds either during the opening and/or the closing phase. This input can control either the classic edge with N.C. contact, or the conductive rubber ones with nominal resistance 8,2 kohm.
Connect the cables of the safety ribbons between terminals **J1** and **J4** of the control unit.

⚠ **WARNING:**
- When using more ribbons with N.C. contact, the inputs have to be series connected.
- If using more conductive rubbers, the outputs have to be cascade connected and only the last one has to be terminated on the nominal resistance.



STOP

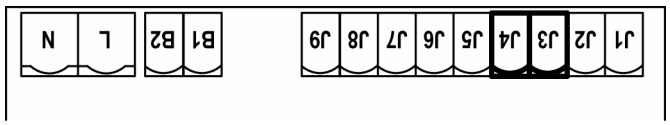
For a better safety, you can fit a stop switch that will cause the immediate door stop when activated. This switch must have a normally close contact that will get open in case of operation. In case the stop switch is operated while the door is open, the automatic closing function will always be disabled. To close the door again, you will need a start command (if the start function in pause is disabled, it will be temporarily enabled to allow the door release).
Connect the stop switch cables between terminal **J3** and **J4** of the control unit.
The stop switch function can be activated by means of a remote control stored on channel 3 (see relevant instructions of MR1 receiver).



ACTIVATION INPUT

The PD11 central unit has an activation input with N.A. contact that can be activated using the P1 pushbutton (Fig. 14) found on the motor lid or using a transmitter (the pushbutton should be tuned to channel 1 on the MR1 receiver).

Use the **J2** and **J4** clamps to connect up an external pushbutton.



PLUG IN RECEIVER

PD11 control unit is suitable for plugging in a Personal Pass MR1 receiver having a high-sensitivity super-heterodyne architecture.

⚠ **WARNING:** it is necessary to turn off the control unit power before doing the operations mentioned here below. Pay attention to the way you connect the removable modules.

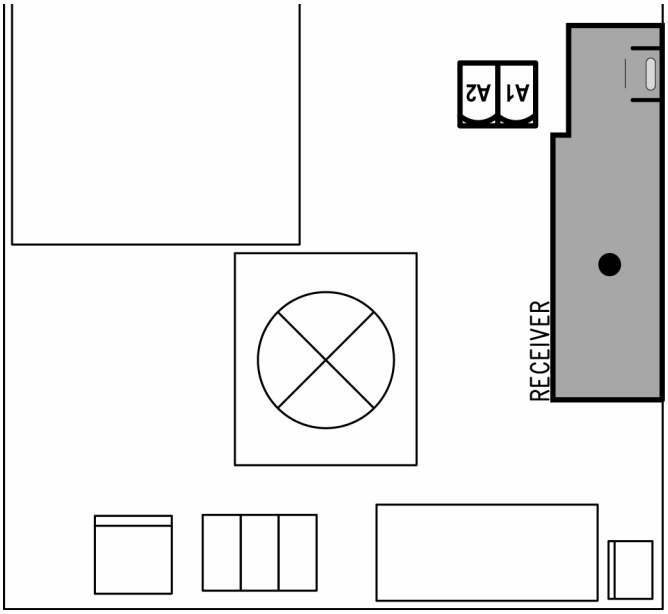
MR1 module receiver is provided with 4 channels and each of them is suitable for a command of **PD11** control unit:

CHANNEL 1 → START
CHANNEL 2 → KEPT FOR FUTURE USE
CHANNEL 3 → STOP
CHANNEL 4 → COURTESY LIGHT

⚠ **WARNING:** Before programming 4 channels and function logics read carefully the instructions of MR1.

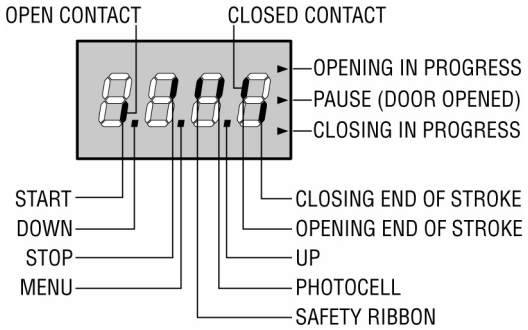
EXTERNAL AERIAL

We suggest to use the external aerial (model: ANS433 or ANSGP433) in order to guarantee the maximal range.
Connect the antenna hot pole to terminal **A2** of the control unit and the braiding to terminal **A1**.



CONTROL PANEL

When power is on, the control unit checks that display correctly operates by switching on all segments for 1.5 sec. ***8.8.8.8.*** Firmware version, e.g. ***Pr 2.0***, will be viewed in the following 1.5 sec. Panel will be viewed upon completion of this test.



The control panel represents the physical status of the terminal board contacts and of the program mode keys: if the upper vertical segment is on, the contact is closed; if the lower vertical segment is on, the contact is open (the picture above shows the case of START, STOP, FOTO, COSTA, FCA and FCC inputs correctly connected with the door closed).

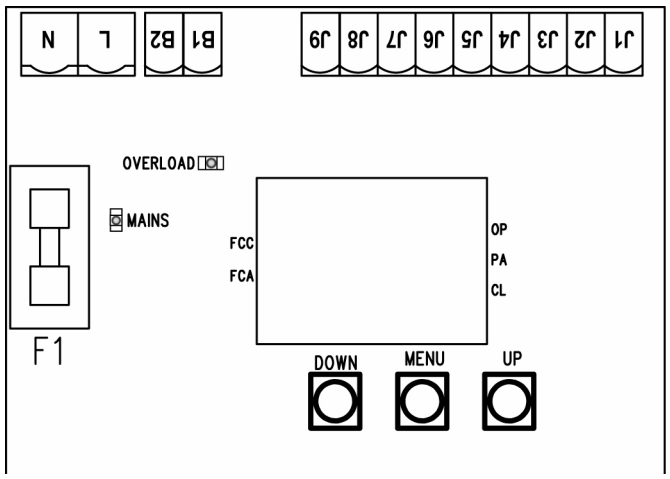
Points being among display digits show the status of programming push-buttons: as soon as a push-button is pressed, its relevant point turns on.

The arrows on the display right side show the door status:

- The highest arrow turns on when the door is into its opening phase. If it blinks, it means that the opening has been caused by a safety device (border or obstacle detector).
- The central arrow shows that the door is on pause. If it blinks, it means that the time countdown for the automatic closing has been activated.
- The lowest arrow blinks when the door is into its closing phase. If it blinks, it means that the closing has been caused by a safety device (border or obstacle detector).

USE OF DOWN MENU AND UP KEYS FOR PROGRAMMING

Control unit time and function programming is made within a special configuration menu, to which you can access and where you can shift through **DOWN, MENU** and **UP** keys placed under the display.



Hold down the MENU key until **dEF** appears on display, to activate the programming mode while display views the panel. Configuration menu consists of a list of configurable items; the wording appearing on display will show the current selected item. By pressing DOWN, you will pass to the next item; by pressing UP, you will return to the previous item.
By pressing MENU, you can view the current value of selected item and possibly change it.

The last item of the menu (**FinE**) allows to store the changes made and to revert to the normal working of the control unit. In order not to loose the own configuration it is compulsory exiting through this menu item.

⚠ **WARNING:** If no operations are required for more then a minute, the control unit exits from the programming mode without saving the given information and changes will be lost.

By holding down the DOWN key, configuration menu items will scroll fast, until item **FinE** is viewed. Viceversa, by holding down the UP key, items will scroll fast backwards until item **dEF** is viewed. In this way, you can quickly reach either the top or bottom of the list.

There are the following three kinds of menu items:
- Function menu
- Time menu
- Value menu

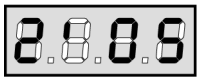
Function menu setup
Function menus allow selecting a function from among a group of available options. When you enter into a function menu, the current active option will be viewed; you can scroll all available options through DOWN and UP keys. By pressing the MENU key, you will activate the option viewed and you will return to the configuration menu.

Time menu setup
Time menus allow setting a function duration. When you enter into a time menu, the current setup value will be viewed; the display mode depends on the current value:

- Times being lower than one minute will be viewed as follows:

each time you press UP key, current time value increases of half a second; vice versa, each time you press the DOWN key, current time value decreases of half a second.

- Times between 1 and 10 minutes will be viewed as follows: each time you press UP key, current time value increases of



5 seconds; vice versa, each time you press the DOWN key, current time value decreases of 5 seconds.

- Times being more than 10 minutes will be viewed as follows: each time you press UP key, current time value increases of half a minute; vice versa, each time you press the DOWN

key, current time value decreases of half a minute.

By holding down the UP key, you can quickly increase the time value, up to reach the max. value allowed for this item. Vice versa, by holding down the DOWN key, you can quickly decrease the time value down to reach **0.0"**.
In some circumstances, setting the value to 0 means that the relevant function is disabled, in this case, '**no**' will appear instead of **0.0"**.
By pressing on MENU you will confirm the displayed value and you will return to the configuration menu.

Value menu setup
Value menus are similar to time menus; however, the setup value can be any number.
By holding down UP or DOWN keys, the value will increase or decrease slowly.

QUICK CONFIGURATION

This paragraph concerns a quick procedure to set the control unit and set it at work immediately. We recommend following these instructions, in order to check quickly the correct operation of control unit, motor and accessories, and then changing the configuration in case of any non-satisfactory parameter. Please refer to the paragraph “Control unit configuration” for the item position inside the menu, as well as for the available options for each item.

1. Call up a default configuration (item **dEF.**). Select **AntE** for a door, select **Scor** for other configurations (sliding, rolling, sectional, etc.).
2. Set items **StoP**, **Foto**, **CoSt** and **FC.En** according to the safety devices installed on the door.
3. Start the self-learning cycle (item **APPr**).

This last operation will close the configuration menu and store set up parameters.

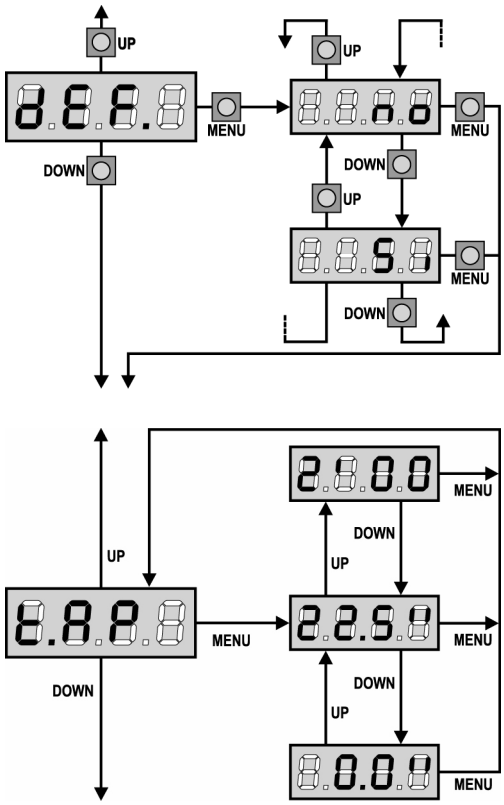
Self-learning procedure:

- In case the end of stroke or the obstacle sensor has been enabled, the door will be activated in closing direction until the stop end or the closing end of stroke is reached.
- In case NEITHER the ends of stroke OR the obstacle sensor have been enabled, be sure that the door is completely closed when the procedure is started up.
- The door will be activated in opening direction until the stop end or the opening end of stroke is reached.
- In case the sensors have not been enabled, or if you realize that they do not signal the position to the control unit, you must send a START command when the door reaches its max. opening position.
- The door will be activated in closing direction until the stop end or the closing end of stroke is reached.
- In case the sensors have not been enabled, or if you realize that they do not signal the position to the control unit, you must send a START command must be sent when the door reaches its fully closed position.

⚠ **WARNING:** if the function PHOTOCELL SHADOW ZONE is active and all the working conditions are satisfied (limit switches enabled and start function during the opening phase disabled), the intervention of the photocell during the self-learning does not open the door; the control unit automatically sets the parameters of the shadow zone in order to disable the photocell when the door passes in the position of its intervention.

CONTROL UNIT CONFIGURATION

This paragraph concerns the step-by-step procedure to set all operation parameters of **PD11** control unit. You can either follow all procedure steps and perform a complete control unit configuration or select and adjust interesting items only. As for both cases, you will have to perform the right exit procedure through item **FinE**, in order to activate your new configuration. **PD11** control unit provides for a self-learning procedure of working times; therefore, we recommend that you set up a standard configuration first (see previous paragraph), then you carry out the self-learning and finally you change any unsatisfactory items.



Default value loading

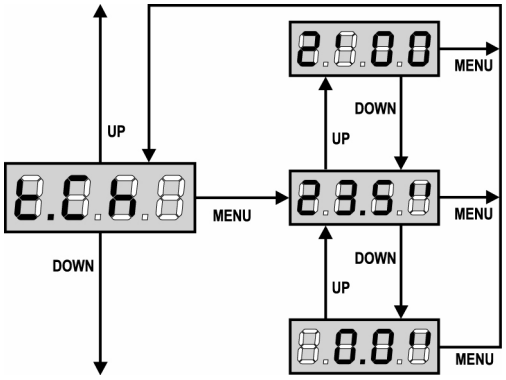
The value of all menu items can be brought to a standard value (see final recap table) by means of only one command. There are two sets of values available:

Si upload default values
no keeps the previous configuration (if the control unit is new, the data are the default ones)

After loading default values, the other menu items can be scrolled and each parameter can be changed; exit from default menu will cause the automatic selection of the next item.

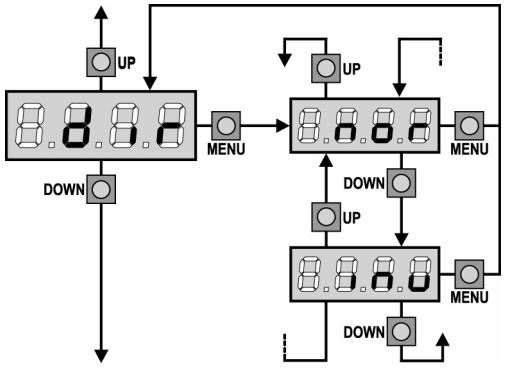
Opening time

The motor will be operated for the setup time in the opening phase; in case there is an obstacle or the end of stroke operates, the control unit can stop the opening phase before the relevant time expires.



Closing time

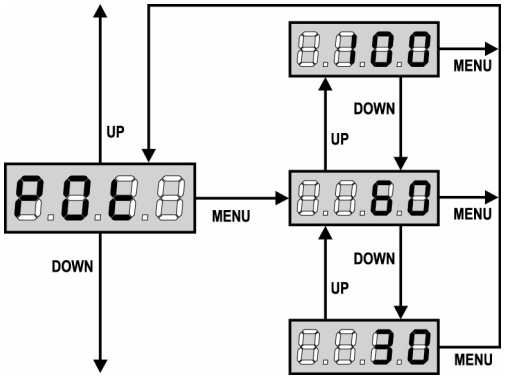
The motor will be operated for the setup time in the closing phase; In case there is an obstacle or the end of stroke operates, the control unit can stop the opening phase before the relevant time expires. To avoid that the door does not close completely, we recommend to setup a longer time than **t.AP** opening time.



Motor direction

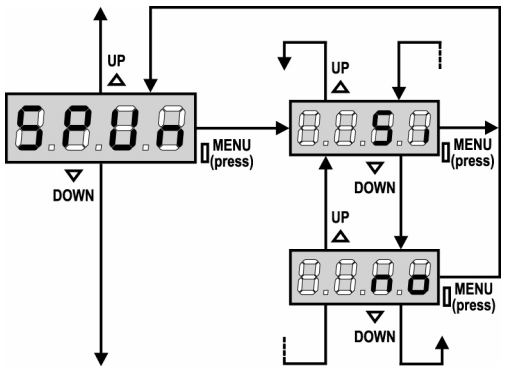
The central unit is set in such a way that the motor turns in the right direction to open and close a traditional garage door.

If the installation requires the motor's rotational direction to be inverted, select the **inv** option.



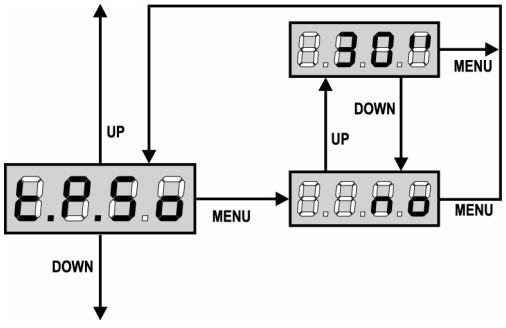
Motor power

This menu allows adjusting the motor power.
The displayed value is the percentage of max. motor power.



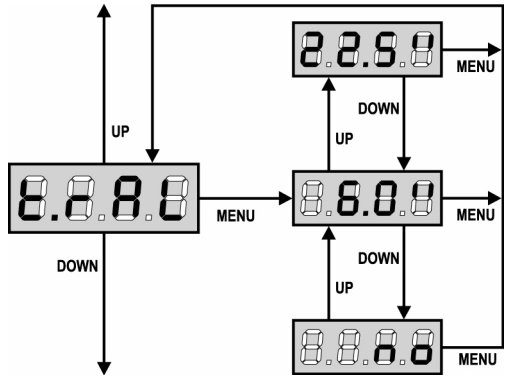
Start off

When the door is standstill and it begins moving, the initial inertia must be faced, therefore, if your door is quite heavy, it could not move. In case the SPUNTO (pickup) function is activated, for the first 2 seconds of motion of each door, the control unit will ignore **Pot** value and it will give motor the maximum power command in order to overcome the door inertia.



Soft start (slowed down)

In case this function is enabled, during the first seconds of motion of the door, the control unit will give motor a reduced power command, for a softer start.

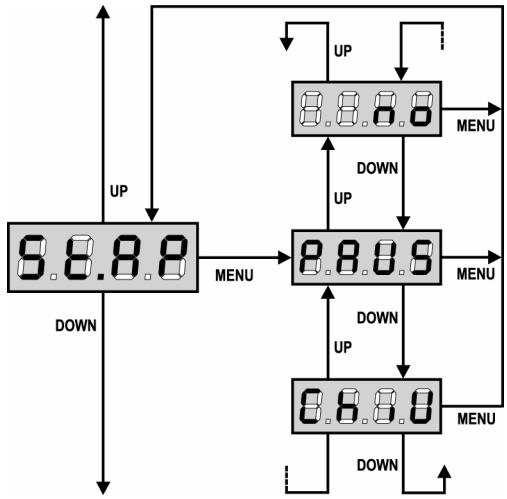


Slowing down time

In case this function is enabled, during the last seconds of motion, the control unit will give motor a reduced power command, to avoid a strong impact with the stop end. **t.AP** is the max. allowed time.

⚠ **WARNING:**

- In case the self-learning function of working times is NOT used, we recommend disabling the slowing down function in order to measure both opening and closing times, and to enable it again once the setup has been carried out. The control unit will automatically consider the working time delay caused by the slowing down.

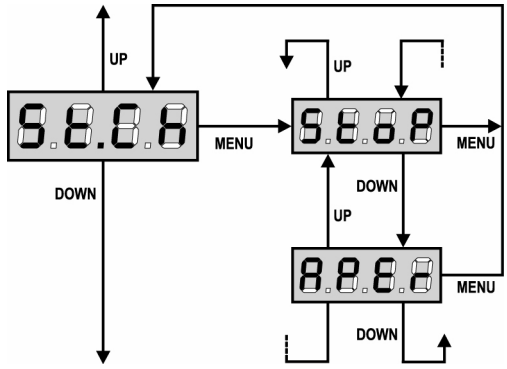


Start command during the opening phase

This menu allows fixing the control unit conduct in case it receives a Start command during the opening phase.

PAUS The door stops and goes to pause
ChiU The door immediately starts closing
no The door go on with the opening phase (command is ignored)

Select option **PAUS**, to set up the "step-by-step" operation logic.
Select option '**no**', to set up the 'always open' operation logic.

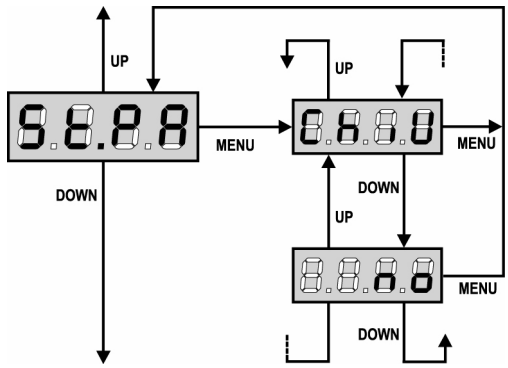


Start command during the closing phase

This menu allows fixing the control unit conduct in case it receives a Start command during the closing phase.

StoP The door stops and its cycle is considered as finished
APEr The door opens again

Select option **StoP**, to set up the "step-by-step" operation logic.
Select option **APEr**, to set up the 'always open' operation logic.

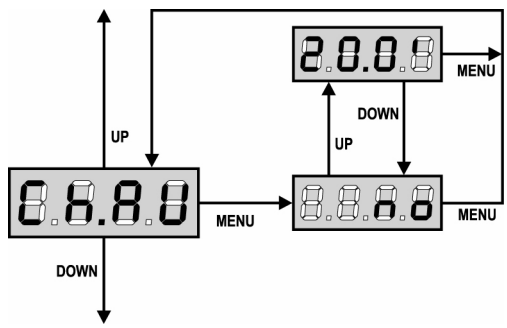


Start command during the pause

This menu allows fixing the control unit conduct in case it receives a Start command when the door is open during its pause phase.

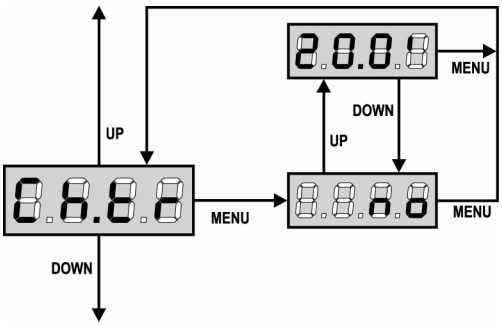
ChiU the door starts closing
no command is ignored

Select option **ChiU**, to set up the "step-by-step" operation logic.
Select option '**no**', to set up the 'always open' operation logic.
Apart from selected option, the start command lets the door close if it has been stopped by a stop command or if the automatic closing was not enabled.



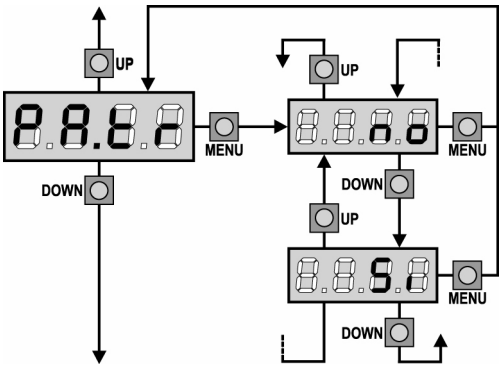
Automatic closing

During the automatic operation, the control unit will automatically close the door when a set-up time expires.
The Start command, if enabled by **St.PA** menu, allows closing the door before the set up time expires.
In semi-automatic operation, that is to say, if the automatic closing function is disabled by setting the value to zero ('**no**' will be displayed), the door can be closed through the start command only: in this case, **St.PA** menu setup will be ignored.
If the control unit receives a Stop command when the door is in pause, it will automatically pass to the semi-automatic operation.



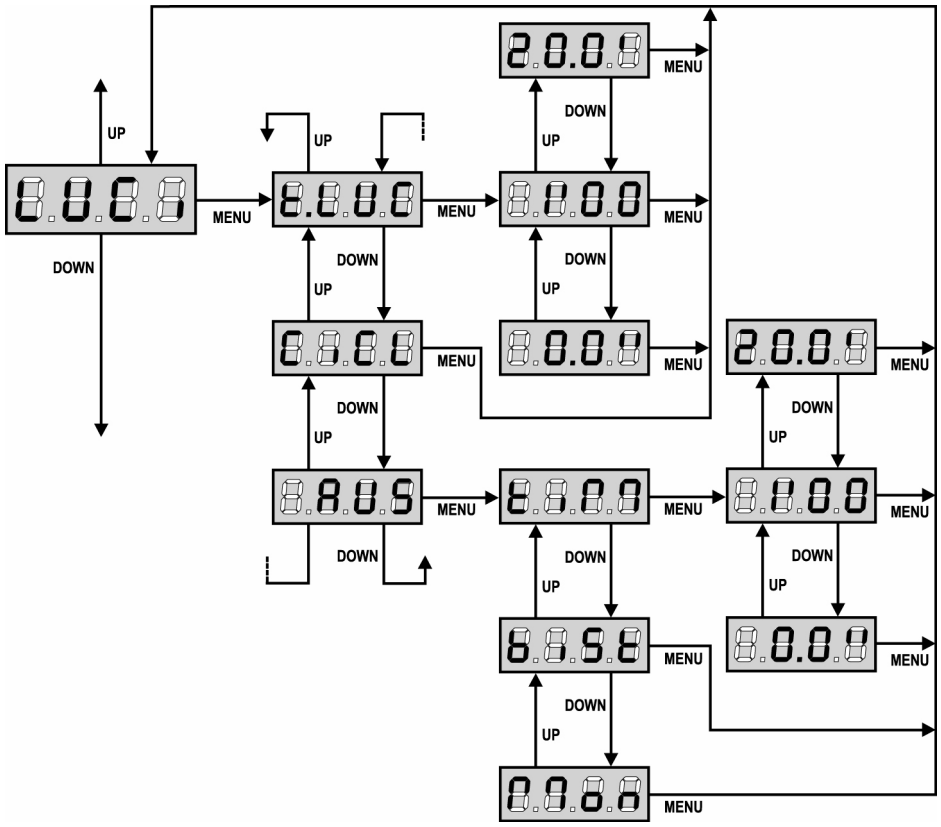
Closing after transit

During the automatic operation, the pause count down starts from the set up value each time a photocell operates during the pause.
If the photocell operates during the opening time, this time will be immediately stored as pause time.
This function allows having a fast closing as soon as transit through the door is completed, therefore, a time shorter than **CH.AU** is generally used.
Ch.AU will be used when '**no**' is set up.
As for semi-automatic operation, this function is not active.



Pause after transit

In order to let the door open for the shortest possible time, it is possible to stop the door once the passage before the photocells is detected. If the automatic working is enabled, the time of the pause is **Ch.tr**.



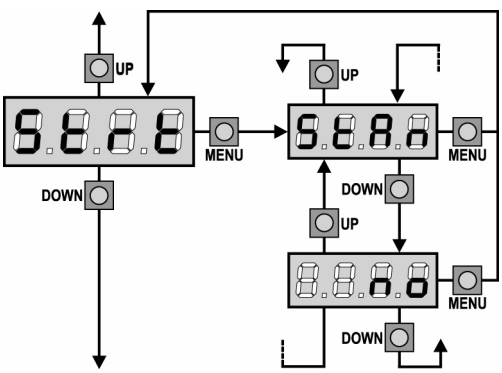
Courtesy lights

Thanks to the output COURTESY LIGHT the control unit **PD11** allows the connection of an electric appliance (e.g. courtesy light or garden lights), controlled automatically or by means of the special transmitter key.
The PD11 central unit also has a light bulb included as a courtesy light.

t.LUC the relay closes when a start or a pedestrian start control is given and opens after the set time. It works in the same way whit a remote control on channel 4.
CiCL the relay keeps closed during the whole opening/closing phase. In case of intervention of a remote control on channel 4, it keeps closed for the time set by item T.LUC
AUS auxiliary output with settable operation logic

In this last case, the COURTESY LIGHT output becomes an auxiliary output to which it is possible to link one of the following operation logics:

tiM TIMER the relay closes when a remote control arrives on channel 4 and opens after the set time
biSt BISTABLE the relay changes each time a remote control arrives on channel 4
Mon MONOSTABLE the relay keeps closed until a signal given by the remote control on channel 4 arrives.

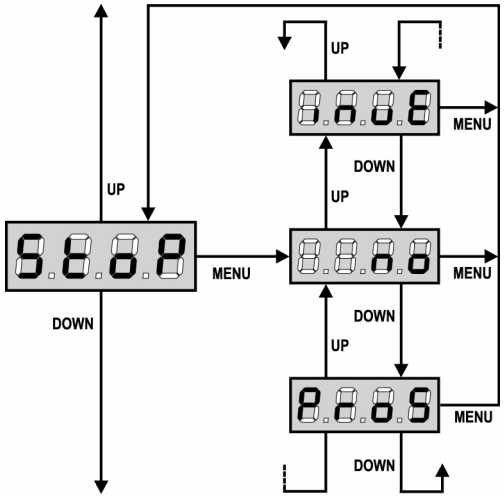


Start input function

This menu allows you to choose the functioning method of the activation input.

StAn Standard functioning of the Start input according to the menu settings.

no The Start input from a terminal board is not on. The cycle can only be activated via radio.

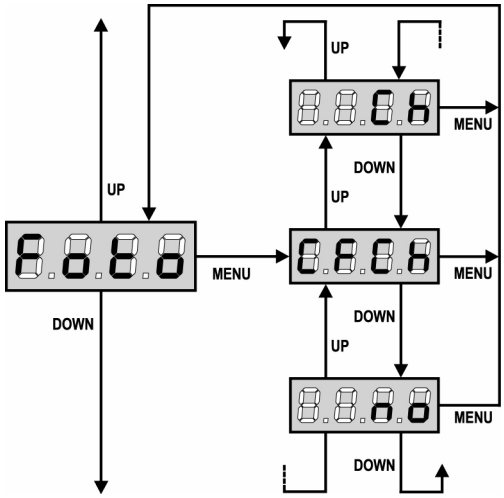


Stop Input

This menu permits to select the functions associated to the command of STOP.

no The input STOP is not available.
ProS The input STOP stops the door: pressing the command START the door continues the motion.
invE The command STOP stops the door: at the next START the door starts moving in the opposite direction.

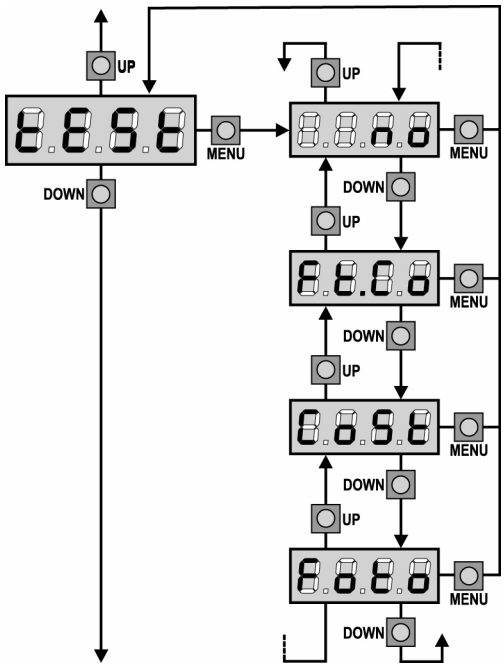
NOTE: during the pause, the STOP command will stop the pause time count, the next START command will always close the door.



Photocell input

This menu allows enabling the input for photocells (see paragraph “Installation”).

no input disabled (ignored by the control unit).
No jumper with the common is required.
CF.CH input enabled even at standstill door too: the opening movement does not start if photocell is interrupted.
CH input enabled for the closing phase only
Warning: if you select this option, you must disable photocell test.



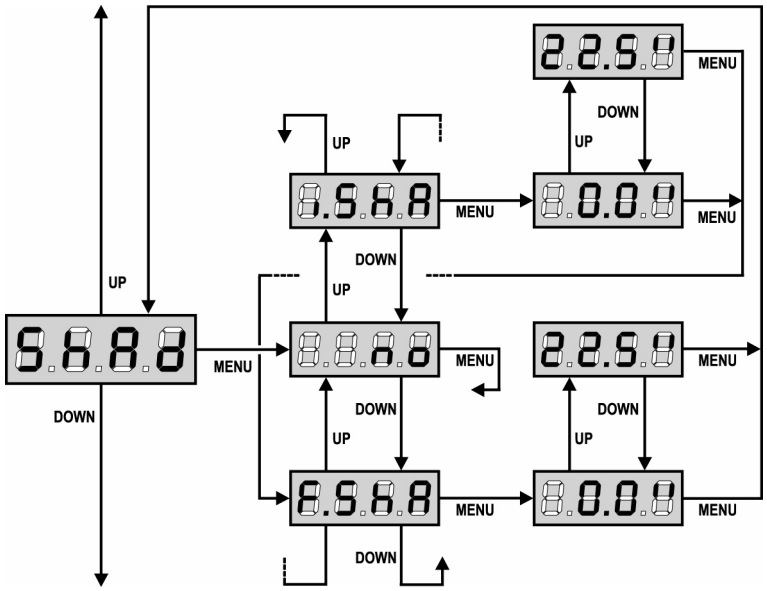
Test of safety devices

In order to achieve a safer operation for the user, the unit performs a safety devices operational test, before a normal working cycle.
If no operational faults are found, the door starts moving. Otherwise, it will stand still and the flashing light will stay onfor 5 sec. The whole test cycle lasts less than one second.

no function not active
Foto test enabled only for photocells
CoSt test enabled only for safety edges
Ft.Co test enabled either for photocells or for safety edges

⚠ **WARNING:** The PHOTOCELL OPERATIONAL TEST should be working in order to grant more safety during installation and programming.

⚠ **WARNING:** it is possible to test safety edges only if a control unit specially provided for this function has been installed.
If using conductive rubbers do not activate the test, as the control unit continuously check their functionality.



Photocell Shadow Zone

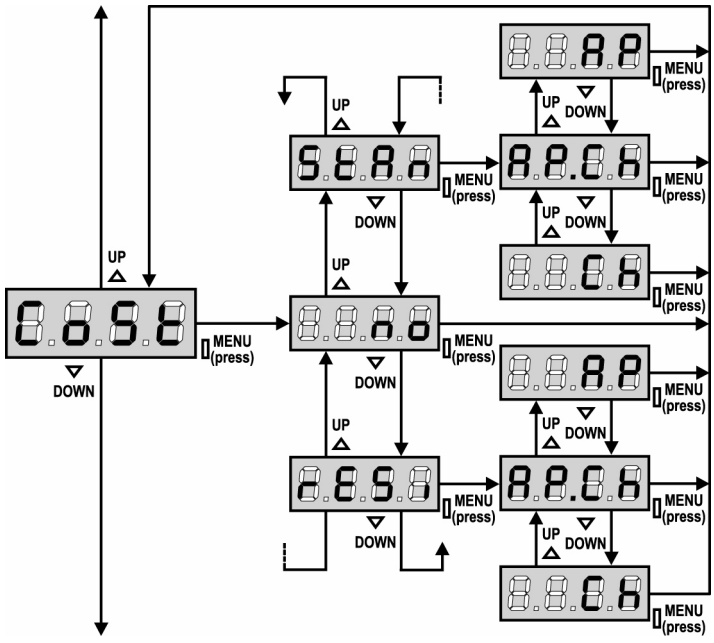
In some installations it may occur that the door passes before the photocells, so breaking their beam. In this case, the door cannot complete its closing cycle. Through this function, photocells can be temporarily disabled, so allowing the door passage.
The door travel, during which photocells are not active, is measured in seconds from the beginning of the door closing and starting from the max. opening position.

The shadow zone limits are automatically set during the self-learning phase (see paragraph page 26), provided that this function has been enabled in advance by setting any time in the menus i.ShA and F.ShA (also 0.0"). If it is necessary to set the limits manually, follow these instructions:

- Completely open the door with the disabled function, then activate its closing and see after how many seconds the photocell operates.
- Set up a slightly lower time into **i.ShA** menu and a slightly higher time into **F.ShA** menu.
- During the time between **i.ShA** and **F.ShA**, photocells will not be active during the closing phase.

⚠ **WARNING:** This function is active in case the ends of stroke have been fitted and enabled and if the START IN OPENING has been disabled.

⚠ **WARNING:** any improper use of this function may jeopardize the door safe use. V2 recommends what follows:
- Make use of this function only in case the door passage before the photocells is actually unavoidable.
- Set up the shadow zone limits as tight as possible, complying with the necessary margins to compensate any possible door speed difference.



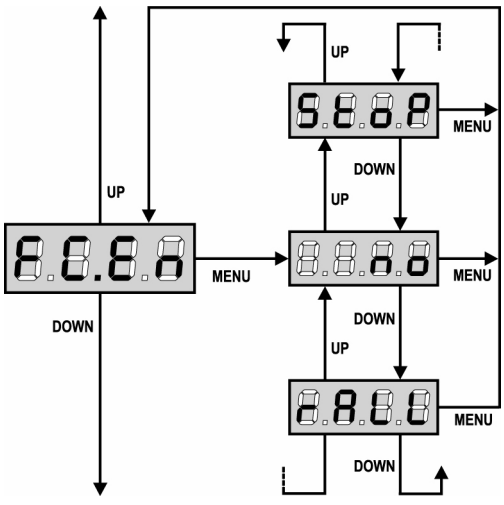
Safety ribbon input

This menu allows the enabling of the safety ribbons and the setting of their operation logic (see paragraph "Installation").

no	Input disabled (ignored by the control unit). No jumper with the common is required.
StAn	input enabled for standard safety ribbons with n.c. contact
rESi	input enabled for conductive rubber safety ribbons with nominal resistance 8,2 kohm.

After having selected the type of safety edge, it is necessary to indicate the phase of the cycle in which it must be enabled:

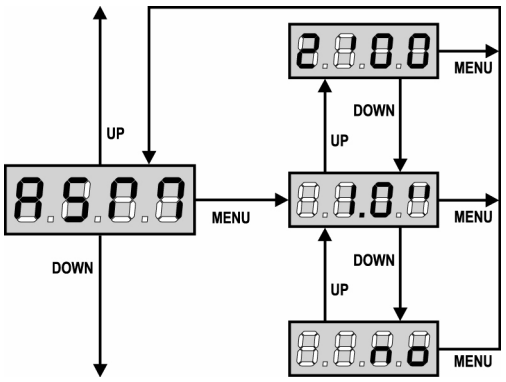
AP.Ch	Input enabled in opening and closing phase
AP	Input enabled only in opening phase
Ch	Input enabled only in closing phase



End of Stroke Inputs

PD11 control unit allows connecting 2 mechanical ends of stroke (normally closed contacts) which are activated by the door motion and showing to the control unit that each door reached its position of complete opening or closing.

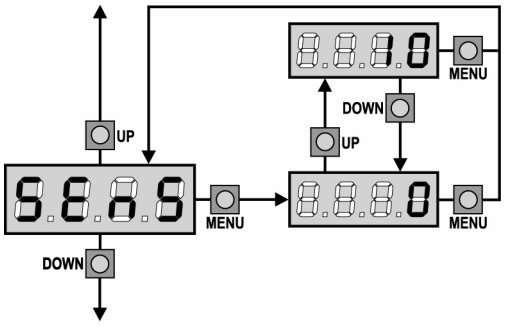
no	end of stroke inputs are disabled
StoP	inputs enabled: the door stops near the limit switches
rALL	inputs enabled: the door starts the slowdown phase (menu t.rAL) near the limit switches.



Anti-skid

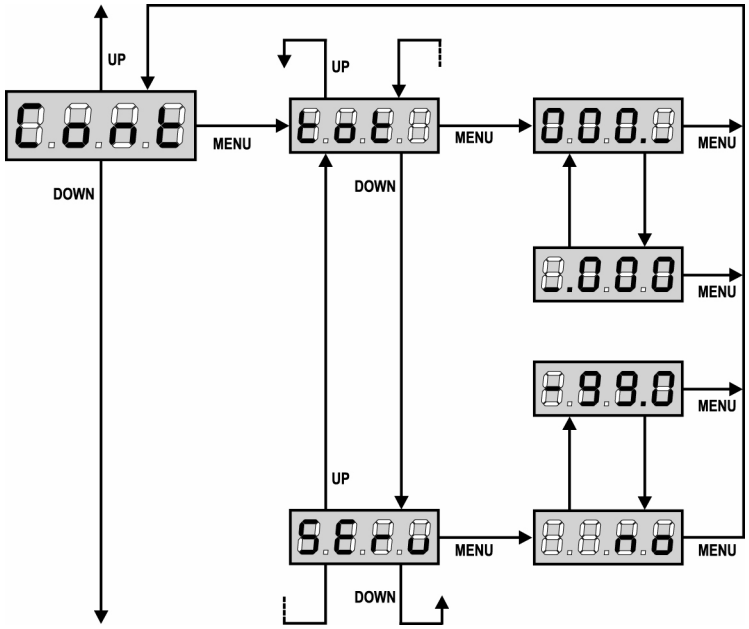
When an opening or closing operation is interrupted by a command or for the intervention of the photocell, the set-up time for the opposite movement would be excessive, so the control unit operates the motors only for the time necessary to recover the actually covered journey. This could be not sufficient, particularly in the case of very heavy gates, as because of the inertia at the inversion moment the door runs an extra space in the previous direction that the control unit is not able to take into account.
If after an inversion the door does not return exactly to the starting position, it is possible to set an anti-skid time that is added to the time calculated by the control unit in order to recover the inertia.

⚠ **WARNING:** If function ASM is disabled, the door goes backward until it comes to the end stops. In this phase the control unit does not activate the slow down function before the end stops are reached and any obstacle that comes across after the inversion is considered as an end of stroke.



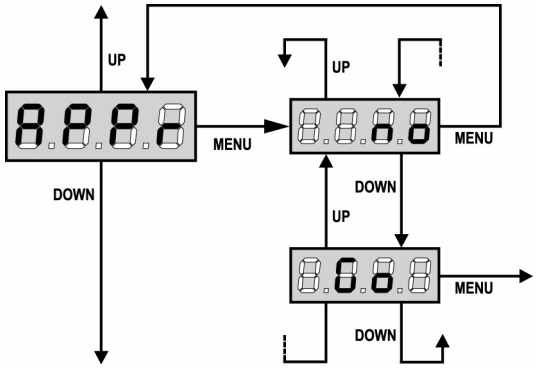
Obstacle Sensor Enabling

This menu allows the sensitivity adjustment of the obstacle sensor over 10 levels, from 1 to 10. By setting up “0”, sensors will be disabled, increasing the value the sensivity increase.
The control unit automatically adjusts the sensor on the most suitable level, according to each motor set up power.
In case the safety operation is deemed not to be fast enough, the sensitivity level can be slightly increased.
If the door stops where no obstacles are present, you should reduce the sensitivity level.
(See paragraph "Obstacle sensor operation" hereafter).



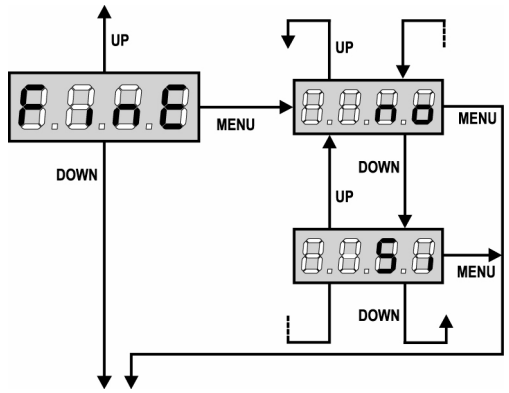
Counter viewing

This menu allows viewing the counter of completed opening cycles and it also enables the final user to set up the times of service required (see paragraph “Reading of cycle counter” below).



Automatic Learning of the Operation Time

This menu will activate a procedure enabling the control unit to automatically find the best duration of the operation time.
(See paragraph "Quick Configuration").
When you select **Go**, configuration menu closes and the learning cycle starts.



End of Programming

This menu allows to finish the programming (both default and personalized) saving the modified data into memory.

no Further corrections to carry out: do not quit the programming.
Si End of programming.

THE INSERTED DATA HAVE BEEN MEMORIZED: THE CONTROL UNIT IS READY TO BE USED.

READING OF CYCLE COUNTER

PD11 control unit counts the completed opening cycles of the door and, if requested, it shows that service is required after a fixed number of cycles.

There are two counters available:
- A totalizing counter for completed opening cycles that cannot be zeroed (option "**tot**" of item "**Cont**")
- A downward counter for the number of cycles before the next request for service (option "**SErv**" of item "**Cont**"). This counter can be programmed according to the desired value.

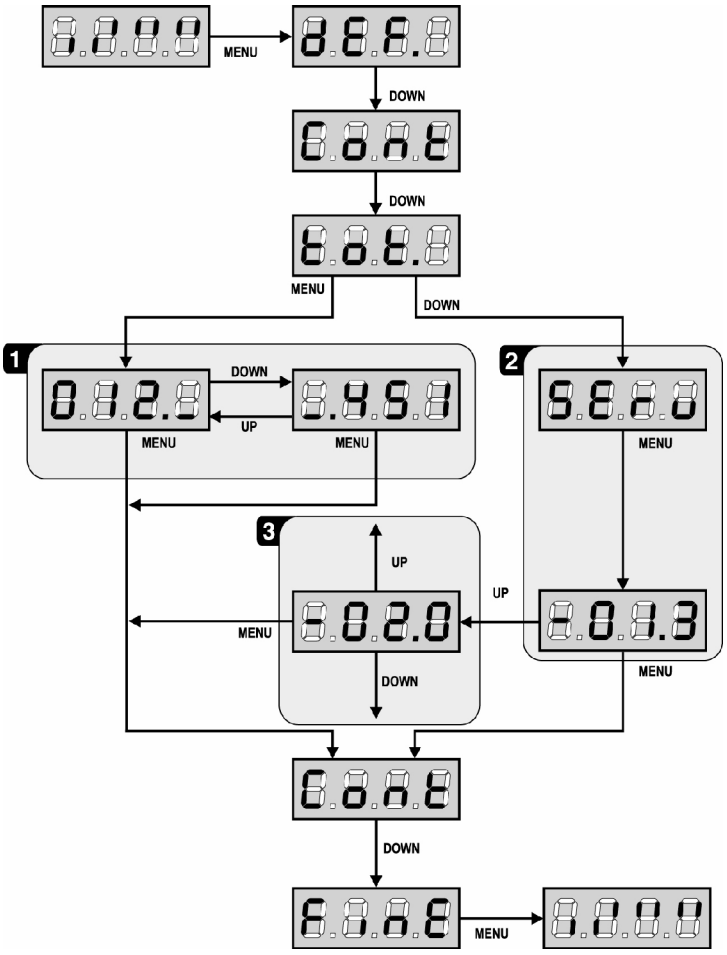
The side scheme shows how to read the totalizing counter, how to read the number of cycles before the next service is required as well as how to program the number of cycles before the next request for service (as for the example shown, the control unit completed no. 12451 cycles and there are no. 1322 cycles before the next service request.

Area 1 is the reading of the total number of completed cycles; through Up and Down keys, you can alternate the display of thousands or units.

Area 2 is the reading of the number of cycles before the next request for service: its value is rounded down to the hundreds.

Area 3 is the setup of this latter counter; if you press once UP or DOWN key, the current counter value will be rounded up or down to thousands, any following pressure will have the setup be increased or decreased of 1000 units. The previous displayed count will get lost.

WARNING: service operations shall be carried out by qualified staff only. This signal will be repeated at each opening cycle, until the installer enters into the counter reading and setup menu, and possibly programs the number of cycles after which the next service will be requested.
In case no new value is setup (that is to say that the counter value is left at zero), the signalling function for the service request will be disabled and no signal will be repeated anymore.



OBSTACLE SENSOR OPERATION

PD11 control unit is equipped with a sophisticated system that allows detecting if there is any obstacle stopping the door motion. The sensitivity of this system can be adjusted through the **Sens** menu: the higher is the setup value, the prompter will be the control unit intervention if there is any obstacle. If you set on 0, obstacle detection will be disabled.

⚠ **WARNING:** apart from any setup sensitivity value, this system will detect an obstacle only if the door is stopped; therefore, no obstacle braking the door without stopping it will be detected. In addition, this system does not work when the door move at slowed down speed.

The control unit reaction in case an obstacle is detected depends on the **t.rAL** menu setup and on the moment when such obstacle is detected.

Slowing down disabled
The door motor on which an obstacle is detected will stop pushing and, for a second fraction, it will be given the command to go backwards, so not to keep its gears under stress.

Slowing down enabled
Obstacle detection will be performed only if the door move at a normal speed. The door will stop and it will be given the command to go backwards for 3 seconds, to take out the obstacle detected. The following Start command will let the former door motion start again. In case the slowing down phase has already begun, no obstacle will be detected and this kind of situation cannot be considered as dangerous since the motor, when working according to its slowing down function, will push the obstacle with a very low pressure.

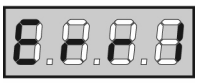
OPERATION DEFECTS

This paragraph shows some possible operation defects, along with their cause and applicable remedy.

MAINS led does not switch on
It means that there is no voltage on **PD11** control unit card.
1. Before acting on the control unit, disconnect through the disconnecting switch on the power line and remove the power supply terminal.
2. Be sure that there is no voltage break upstream the control unit.
3. Check whether the fuse is burnt-out, if so replace it with same value.

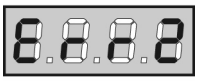
OVERLOAD led is on
It means that there is an overload on accessory power supply.
1. Remove the extractable part containing terminals **P1** to **P14**. OVERLOAD led will switch off.
2. Remove the overload cause.
3. Reinsert the terminal board extractable part and check that this led is not on again.

Error 1
The following writing appears on display when you exit from programming:



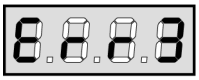
It means that changed data could not be stored.
This kind of defect has no remedy and the control unit must be sent to V2 for repair.

Error 2
When a Start command is given and the door does not open and the following writing appears on display:



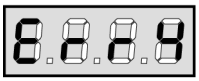
It means that triac test failed.
Before sending the control unit to V2 for repair, be sure that motors have been properly connected.

Error 3
When a Start command is given and the door does not open and the following writing appears on display:



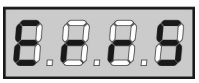
It means that the photocell test failed.
1. Be sure that no obstacle interrupted the photocell beam when the Start command was given.
2. Be sure that photocells, as enabled by their relevant menus, have been installed actually.
3. Be sure that photocells are powered and working; when you interrupt their beam, you should hear the relay tripping.

Error 4
When a Start command is given and the door does not open (or does a partial opening) and the following writing appears on display:



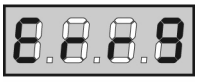
It means that the end of stroke is damaged or that the wiring that connects the sensor to the control unit is broken.
Change the end of stroke sensor or the broken wiring.
If the error persists send the control unit to V2 for repair.

Error 5
When a Start command is given the door does not open and the following writing appears on display:



It means that the safety edge test failed (if using conductive rubbers the test is carried out also if not activated by test menu). Check the connection of the safety edges.

Error 9
When you are trying to change the control unit setups and the following writing appears on display:



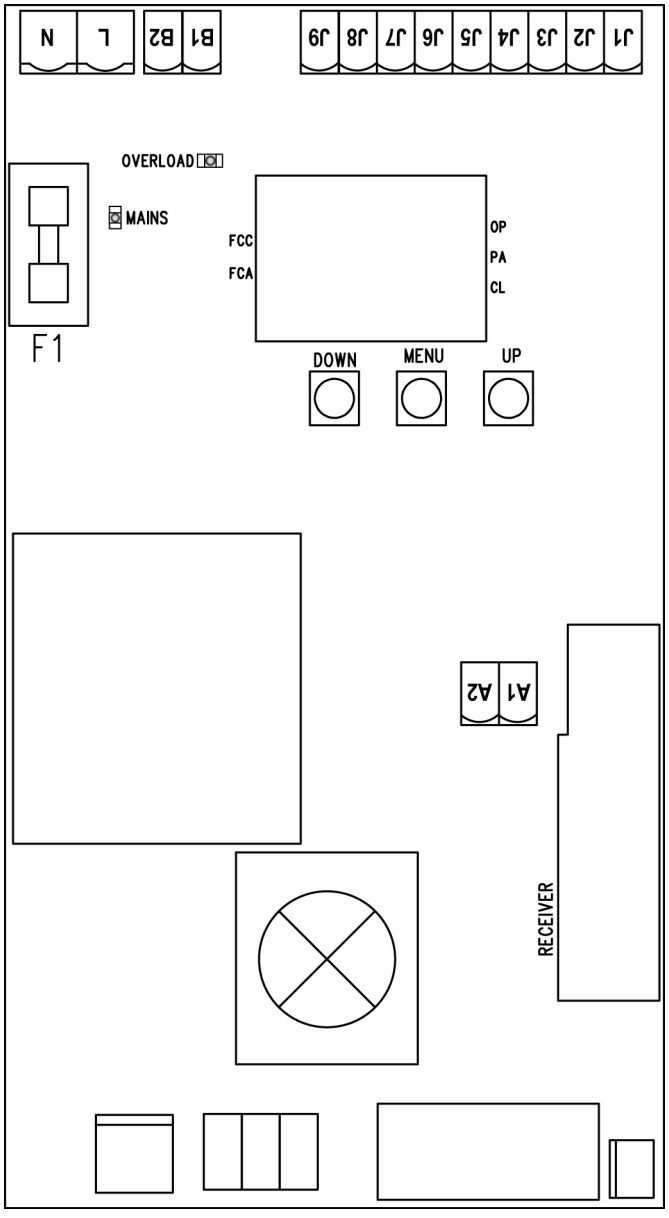
It means that programming was locked by means of the programming lock key (code **CL1**).
To change the settings it is necessary to insert in the connector of the ADI interface the same key used to activate the programming lock.

PD11 FUNCTION TABLE

DISPLAY	DATA	DESCRIPTION	DEFAULT	MEMO DATA
dEF.	**no**	Upload default values	**no**	
	Si	Keeps the previous configuration (if the control unit is new, the data are the default ones)		
t.AP	**0.0" ÷ 2.0'**	Gate opening time	**22.5"**	
t.Ch	**0.0" ÷ 2.0'**	Gate closing time	**23.5"**	
dir		Motor direction	**60**	
	nor	- Direction of the rotation of the standard motor for traditional garage doors	**no**	
	inv	- It reverses the direction of rotation of the motor	**1.5"**	
Pot	**30 ÷ 100%**	Motor power		
SPUn	**no / Si**	Start off	**6.0"**	
t.P.So	**0.5" ÷ 3.0"**	Slowed down starting time		
	no	- Slowed down starting disabled	**PAUS**	
t.raL	**0.5"÷22.5"**	Slow down time		
	no	- Slow down disabled		
St.AP		Start in opening		
	no	- Start command is not available	**StoP**	
	ChiU	- Command close door		
	PAUS	- Stop the door and goes in pause		
St.Ch		Start in closing	**ChiU**	
	Stop	- Start command stop the door		
	APEr	- Start command open the door		
St.PA		Start in pause	**no**	
	no	- Start command is not available		
	ChiU	- Start command closes the door		
Ch.AU		Automatic closing	**no**	
	no	- The door closes after the setup time)		
	0.5"÷ 20.0'	- The automatic closing is not active (it corresponds to 0)		
Ch.tr		Closing after passage		
	no	- Closing after passage disabled	**1'00**	
	0.5"÷ 20.0'	- Gate stop for a time to be set between 0.5" to 20'		
PA.tr	**no / Si**	Pause after transit		
LUCI		Courtesy Light		
	t.LUC	- Lights start time adjustable from 0 to 20'		
	CiCL	- Lights are on trough the whole cycle		
	AUS	- Auxiliary output		
	tiM	- Timed aux out (from 0 to 20')	**StAn**	
	biSt	- Aux out relay with bistable functioning		
	Mon	- Aux out relay with monostable functioning		
Strt		Operation modes	**no**	
	no	- Standard operation		
	StAn	- Start inputs from terminal board are disabled		
StoP		STOP input		
	no	- STOP input not available	**CHCh**	
	invE	- STOP command stops the door: START command starts moving in the opposite direction		
	ProS	- STOP command stops the door: pressing the START command door continues the motion		
Foto		Photocell input		
	CFCh	- Photocell is active in closing and also when the door is still	**no**	
	no	- Not available		
	Ch	- Photocell is active during the closing		
tESt		Test of safety devices		
	no	- Function not active		
	Foto	- Test enabled only for photocells	**no**	
	CoSt	- Test enabled only for safety edges		
	Ft.Co	- Test enabled either for photocells or for safety edges		
ShAd		Photocell shadow zone		
	no	- Function disabled	**no**	
	F.ShA	- Time of end disabling		
	i.ShA	- Time of beginning enabling		
CoSt		Border input		
	no	- Input disabled (the control unit ignores it)	**StoP**	
	rESi	- Input enabled for conductive rubber ribbons		
	StAn	- Input enabled for standard safety ribbons with normally closed contact		
	AP.Ch	- Input enabled in opening and closing phase		
	AP	- Input enabled only in opening phase		
	Ch	- Input enabled only in closing phase		

DISPLAY	DATA	DESCRIPTION	DEFAULT	MEMO DATA
FC.En		End of stroke inputs	**StoP**	
	no	- Input disabled (the control unit ignores it)		
	rALL	- Inputs enabled: the door starts the slowdown phase (menu t.rAL) near the limit switches		
	StoP	- Input enabled: the door stops near the limit switches		
ASM	**0.5" ÷ 2.0'**	Anti-skid	**1.0"**	
	no	- Function disabled		
SEnS	**0 ÷ 10**	Obstacle sensor level	**5**	
Cont		Counter viewing	**tot**	
	tot.	- Total number of completed cycles (views in thousands or in units)		
	Man	- Number of cycles before the next request for service (such a number has been rounded off to		
		hundreds and it can be set up on 1000-step; in case it is set up on 0, the request will be		
		disabled and **no** will be viewed)		
APPr		Automatic learning of the operation time	**no**	
	no	- Function disabled		
	Go	- Start up of the automatic learning procedure		
FinE		End of programming	**no**	
	no	- It does not exit from the program menu		
	Si	- It exits from the program menu by storing the setup parameters		

ELECTRIC CONNECTIONS TABLE



A1	Antenna shield
A2	Antenna
J1	Safety ribbons. N.C. contact or conductive rubber ribbons
J2	Opening control for the connection of control devices with N.O. contact
J3	Stop command. N.C. contact
J4	Common (-)
J5	Photocell. N.C. contact
J6 - J7	Power output 24 VAC for photocells and other accessories
J7 - J8	Photocell TX power supply for functional test
J7 - J9	Warning light
B1 - B2	Courtesy light
L	Power phase 230VAC / 120VAC
N	Neutral 230VAC / 120VAC
F1	5A (**PD11**) / 8A (**PD11-120V**)
MAINS	It shows that the control unit is power supplied
OVERLOAD	It shows that there is an overload on accessories power supply
OP	Opening in progress
PA	Pause (door opened)
CL	Closing in progress