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IL n. 346-1
EDIZ. 20/04/2012

GOLD400D - GOLD800D
GOLD1200D

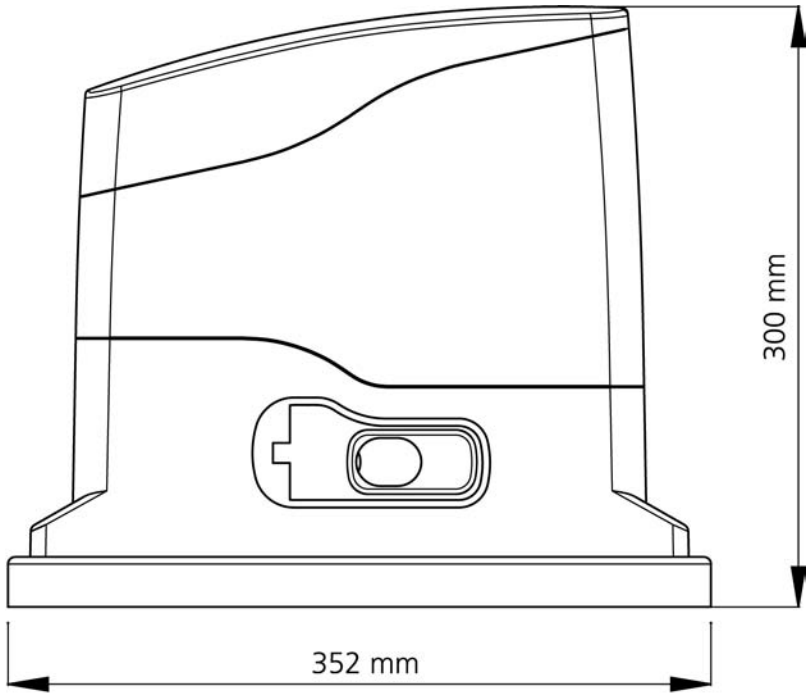
I **ATTUATORE ELETTROMECCANICO 230V / 120V IRREVERSIBILE A CREMAGLIERA PER CANCELLI SCORREVOLI FINO A 400/800/1200 KG. CENTRALE DI COMANDO DIGITALE INCORPORATA**

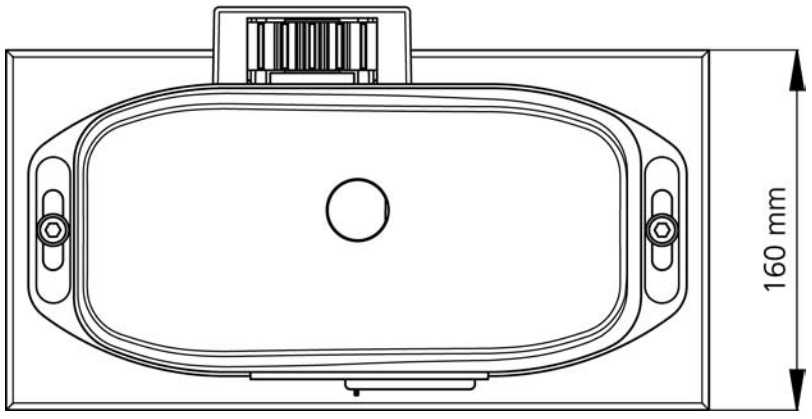
GB **230V / 120V ELECTRO-MECHANICAL IRREVERSIBLE RACK ACTUATOR FOR SLIDING GATES UP TO 400/800/1200 KG. BUILT-IN DIGITAL CONTROL UNIT**

F **OPERATEUR ELECTROMECANIQUE 230V / 120V IRREVERSIBLE A CREMAILLERE POUR PORTAILS COULISSANTS JUSQU'A 400/800/1200 KG DE POIDS. ARMOIRE DE COMMANDE NUMÉRIQUE INCORPORÉE**

E **MOTORREDUCTOR ELECTROMECÁNICO 230V / 120V IRREVERSIBLE A CREMALLERA PARA PUERTAS CORREDERAS HASTA 400/800/1200 KG DE PESO. CUADRO DE MANIOBRAS DIGITAL INCORPORADO**

P **ACTUADOR ELECTROMECÂNICO 230V / 120V IRREVERSÍVEL PARA ACCIONAR PORTÕES DE CORRER ATÉ 400/800/1200 KG DE PESO. QUADRO ELÉCTRICO DIGITAL INTEGRADO**


300 mm
352 mm


160 mm

IMPORTANT REMARKS

For any installation problems please contact
V2 S.p.A. TEL. (+39) 01 72 81 24 11

V2 S.p.A. 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 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).

- 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 (Machine Directive 2006/42/CEE, Annex IIA).

- The automated vehicular gates shall comply with the following rules: EN 13241-1, EN 12453, EN 12445 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 gate may be immediately stopped in case of danger.

- The appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

- Children being supervised do not play with the appliance.

- For correct installation of the system, we recommend following the instructions issued by UNAC very carefully, which can be consulted at the following web site: www.v2home.com

EC DECLARATION OF INCORPORATION FOR PARTLY COMPLETED MACHINERY

(Directive 2006/42/EC, Annex II-B)

The manufacturer V2 S.p.A., headquarters in
Corso Principi di Piemonte 65, 12035, Racconigi (CN), Italia

Under its sole responsibility hereby declares that:
the partly completed machinery model(s):
GOLD400D, GOLD800D, GOLD1200D

Identification number and year of manufacturing:
typed on nameplate
Description: electromechanical actuator for gates

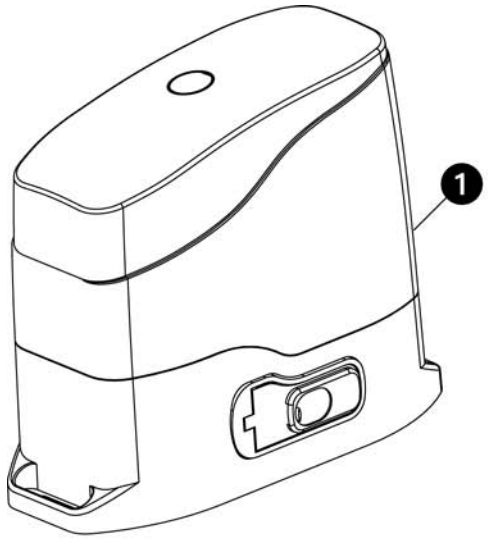
- is intended to be installed on gates, to create a machine according to the provisions of the Directive 2006/42/EC. The machinery must not be put into service until the final machinery into which it has to be incorporated has been declared in conformity with the provisions of the Directive 2006/42/EC (annex II-A).

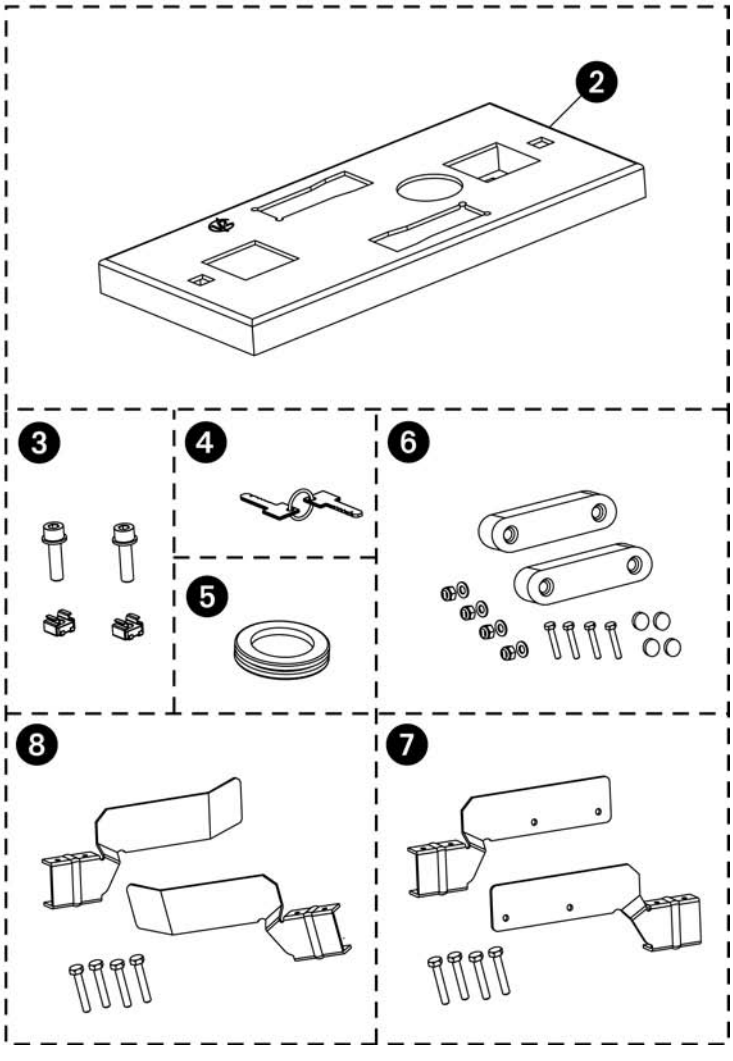
- is compliant with the applicable essential safety requirements of the following Directives:
  Machinery Directive 2006/42/EC (annex I, chapter 1)
  Low Voltage Directive 2006/95/EC
  Electromagnetic Compatibility Directive 2004/108/EC
  Radio Directive 99/05/EC

The relevant technical documentation is available at the national authorities' request after justifiable request to:
V2 S.p.A., Corso Principi di Piemonte 65
12035, Racconigi (CN), Italy

The person empowered to draw up the declaration and to provide the technical documentation:
Cosimo De Falco
Legal representative of V2 S.p.A.
Racconigi, 11th January 2010

TECHNICAL SPECIFICATIONS	GOLD400D (230V)	GOLD800D (230V)	GOLD1200D (230V)	GOLD400D (120V)	GOLD800D (120V)	GOLD1200D (120V)
Gate maximum weight	400 Kg	800 Kg	1200 Kg	400 Kg	800 Kg	1200 Kg
Power supply	230V / 50Hz	230V / 50Hz	230V / 50Hz	120V / 60Hz	120V / 60Hz	120V / 60Hz
Maximum power	300 W	350 W	500 W	400 W	500 W	550 W
Idling current	1,5 A	1,6 A	2,0 A	2,6 A	3,2 A	3,6 A
Full load current	1,7 A	2 A	2,6 A	3,5 A	4 A	4,5 A
Capacitor	12 µF	14 µF	20 µF	35 µF	40 µF	40 µF
Gate maximum speed	0,16 m/s	0,16 m/s	0,16 m/s	0.16 m/s	0.16 m/s	0.16 m/s
Maximum thrust	380 N	700 N	920 N	380 N	650 N	900 N
Duty cicle	30%	40%	30%	30%	30%	30%
Pinion	M4 - Z18	M4 - Z18	M4 - Z18	M4 - Z18	M4 - Z18	M4 - Z18
Operation temperature	-20 ÷ +60°C	-20 ÷ +60°C	-20 ÷ +60°C	-20 ÷ +60°C	-20 ÷ +60°C	-20 ÷ +60°C
Weight	10 Kg	10 Kg	10,5 Kg	10 Kg	10 Kg	10 Kg
Protection	IP44	IP44	IP44	IP44	IP44	IP44
Maximum load on 24 VAC attachments	3W	3W	3W	3 W	3W	3W
Protection fuses	F1 = 5 A	F1 = 5 A	F1 = 5 A	F1 = 8 A	F1 = 8A	F1 = 8A





Ref	Description	Q.ty
1	• Electro-mechanical actuator	1
	• Capacitor	1
	• Control unit	1
2	Metal fastening plate	1
3	Cage nuts + Bolts M8 X 30 + Washers	2
4	Motor overriding key	2
5	Wire lead gasket	2
6	Magnetic limit switch *(only for the model with magnetic limit switch)*	2
7	Magnet holder *(only for the model with magnetic limit switch)*	1
8	Mechanical limit switch *(only for the model with mechanical limit switch)*	2

PREPARATORY STEPS

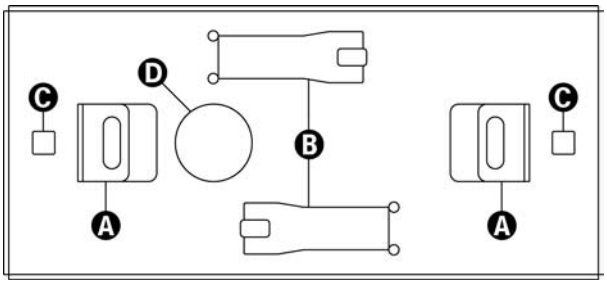
CAREFULLY OBSERVE EUROPEAN REGULATIONS EN12445 AND EN12453 (WHICH REPLACE UNI 8612).

Always check the following:

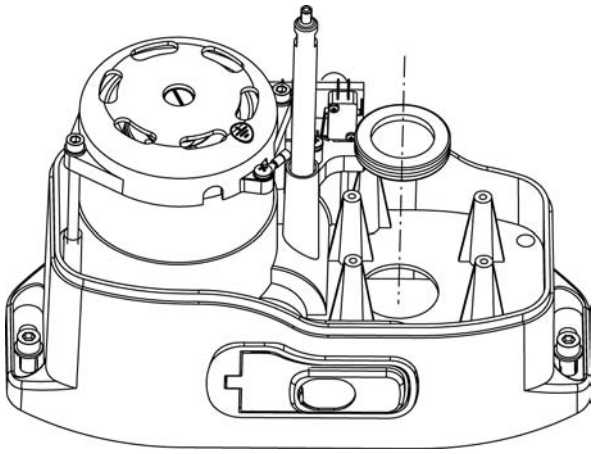
- Your gate should have a strong and suitable build; no wickets should be present on the sliding gate.
- The sliding gate should not tilt excessively during its entire run.
- The gate should be able to slide freely on its guiding surface without an excessive friction.
- Install both closing and opening limit switches, in order to prevent the gate going off the guiding surface.
- Remove any manual locks.
- Bring power cable ducts near the bottom of the gate (diameter 20 / 30 mm) and of the external devices (photocells, flasher, key selector).

INSTALLATION

- Prepare a cement base raised 40 - 50 mm from the ground on which the metal plate will be fixed.
- Provide a channel for two hoses that will house the cables in the main hole (D) on the counter-plate. Such counter-plate shall be fixed to the ground by means of two anchors next to the already-made holes (A), or sinking the special fins in the cement (B).
- Fix the motor on the counter-plate by means of the cage nuts fitted in the holes (C).

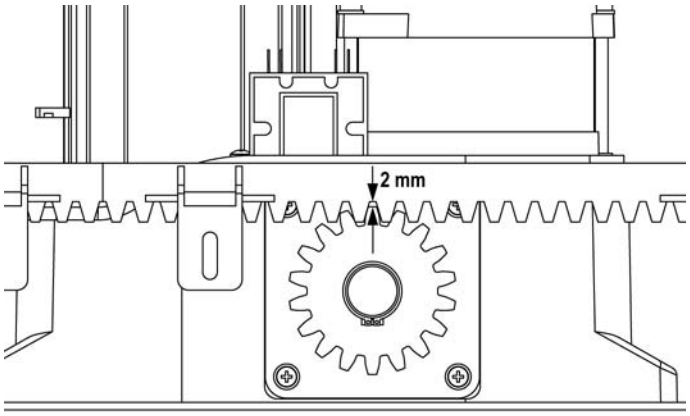


⚠ **WARNING: insert the gasket in the hole through which the cables pass, as shown in the picture. Pierce the gasket in order to let pass the cables to be connected to the central unit, being careful of narrowing them in order to avoid the entrance of bugs and small animals.**



MOUNTING THE RACK

Release the motor and turn the gate completely open.
Fix all the rack elements to the gate, making sure that they stand at the same height than the motor pinion.
It is important that the rack be positioned 1 or 2 mm above the motor pinion, in order to prevent that the motor be damaged under the weight of the gate.

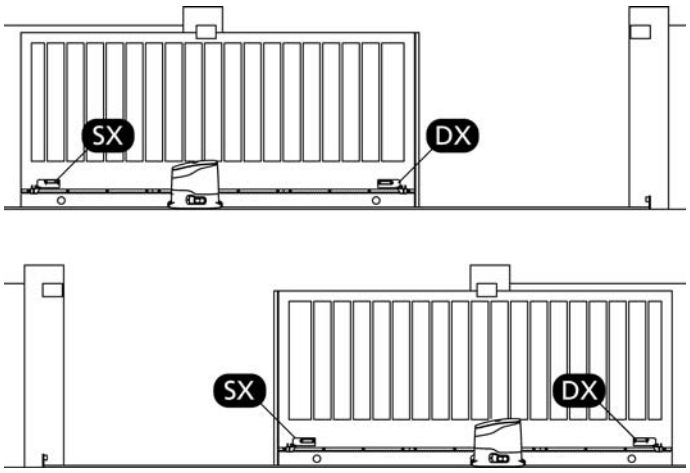


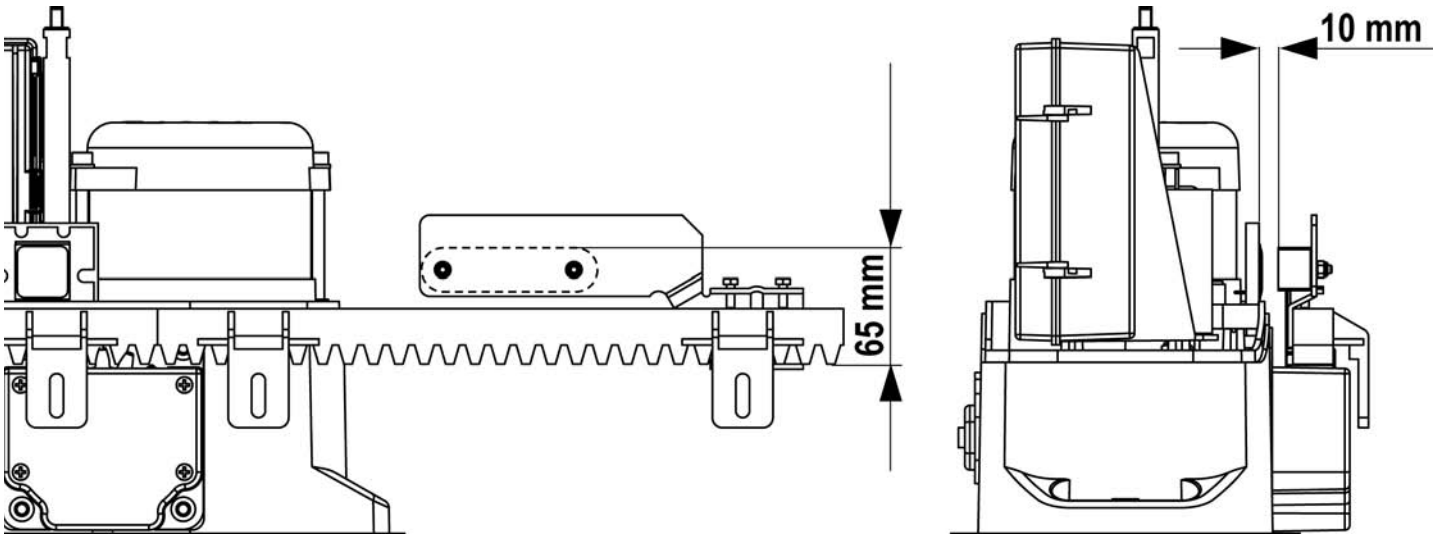
INSTALLING THE MAGNETIC LIMIT SWITCHES

Install the supplied magnet holder on the rack in a way that, in the opening and closing limit positions, the magnet be positioned next to the magnetic sensor behind the hood (as near as possible to the hood).
The supplied magnets have been colored differently in order to be distinguished from each other:

BLUE MAGNET = RIGHT LIMIT SWITCH (DX)
RED MAGNET = LEFT LIMIT SWITCH (SX)

The type of limit switch (RIGHT/LEFT) depends on the position of the limit switch towards the motor, independently from the opening sense.

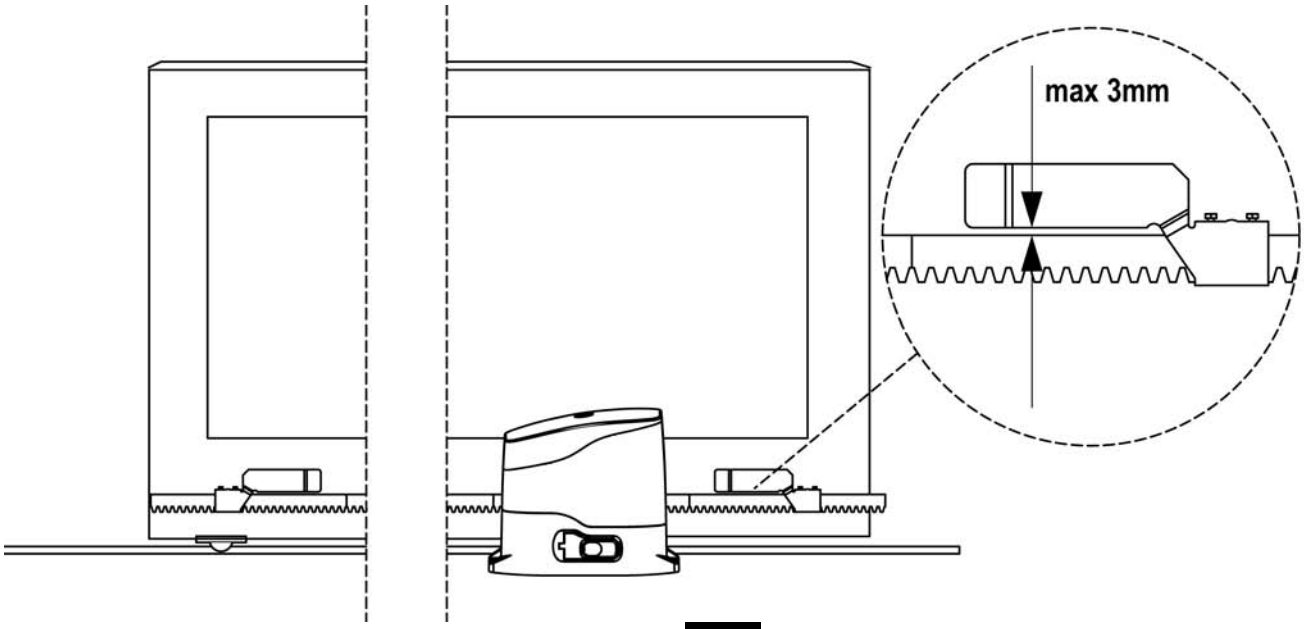




INSTALLING THE MECHANICAL LIMIT SWITCHES

Install limit switches on the rack and fix them using the screws provided in the tool kit.

⚠ **ATTENTION: check that the limit switch bracket will work effectively on the limit switch spring of the motor. If necessary add thickness between the lower part of the rack and the limit switch bracket in order to keep to the measurement as stated in the figure.**

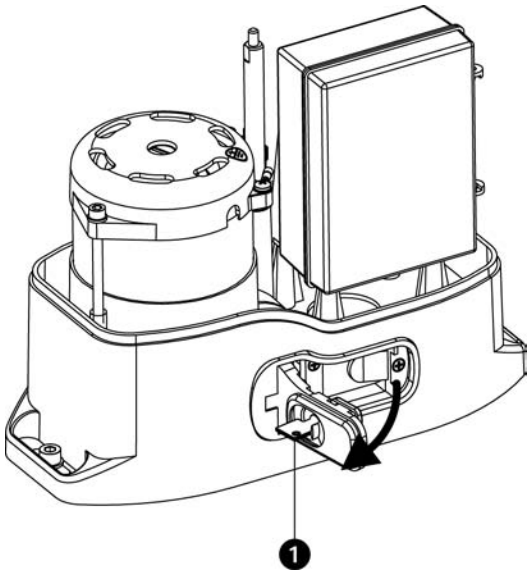


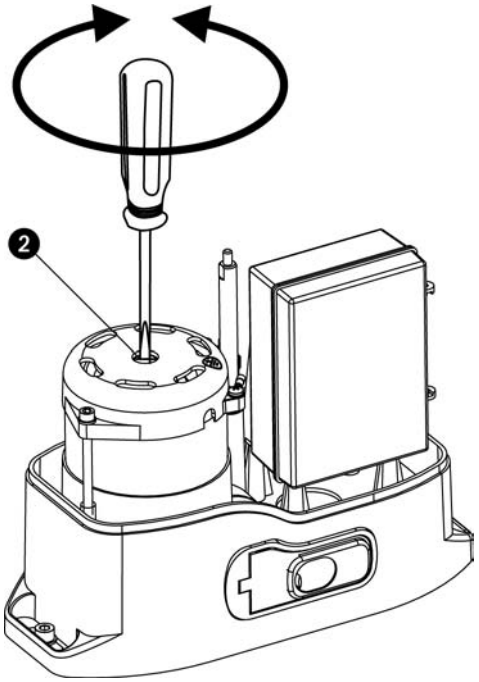
MOTOR OVERRIDING SYSTEM

In case of a blackout, the gate can be operated directly from the motor. Insert the key supplied in the lock 1 on the front side of the motor, perform 1/4 of a turn and open the plastic door completely.

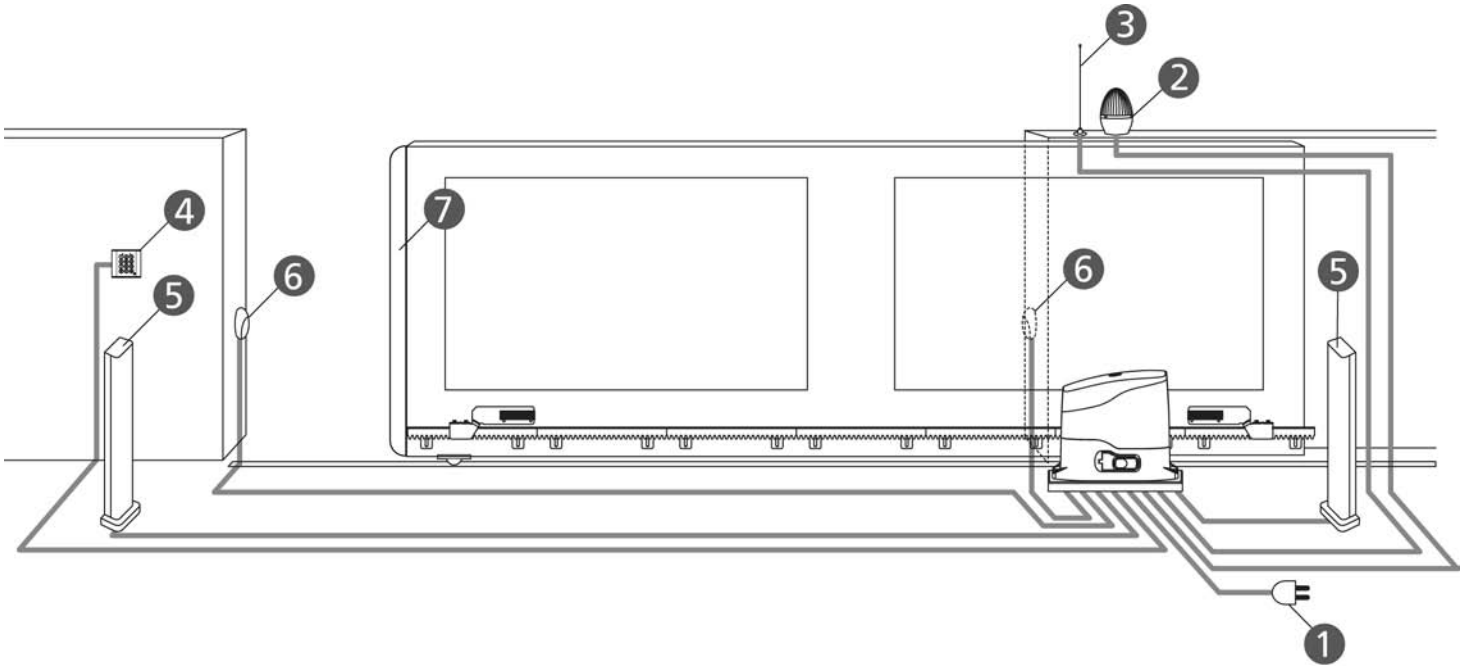
To restore the automation, simply close the door, rotate the key in closed position and slide the specially provided plastic cover onto the lock.

⚠ WARNING: In case the leaf overruns its final position and impacts against the safety stroke end (i.e. wrong regulation of the limit switches),and a manual unclamp would be necessary, before using the above procedure, you have to replace the leaf setting away from the safety stroke end using the flat screw on the main motor shaft 2 with a screwdriver.





INSTALLATION LAYOUT



❶ Power supply	cable 3 x 1,5 mm² **(T100°C)**
❷ Blinker	cable 2 x 1,5 mm²
❸ External Aerial	cable RG-58
❹ Digital or key selector	cable 2 x 1 mm²

❺ Internal Photocellules	cable 4 x 0,5 mm² (RX) cable 2 x 0,5 mm² (TX)
❻ External Photocellules	
❼ Safety edge (EN 12978)	-

DESCRIPTION OF THE CONTROL UNIT

The digital control unit **Pd8** is an innovative V2 S.p.A. product that guarantees a safe and reliable automation of sliding gates. The **Pd8** 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.

Pd8 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.

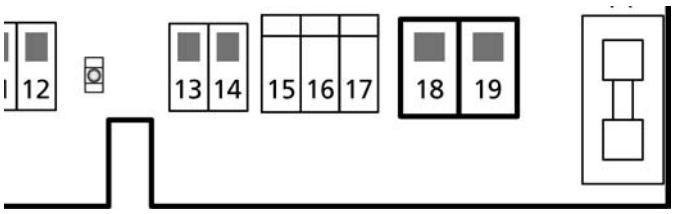
Other characteristics:
- Automatic control for the null current relay switch.
- Power adjustment with wave shutting.
- Obstacle detection by means of monitoring start condenser voltage.
- Automatic learning of the operation time.
- Tests for safety devices (photocells and triacs) before each opening.
- 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.

INSTALLATION

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

POWER SUPPLY

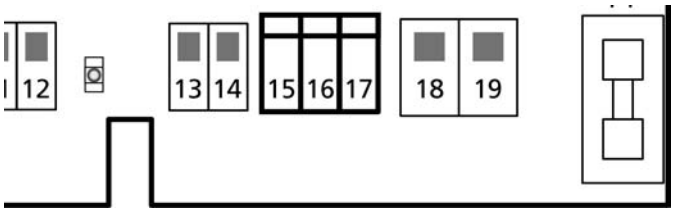
The control unit must be fed by a 230V - 50Hz (120V - 50/60Hz for the model **Pd8-120V**) electric line, protected by a differential magnetothermal switch complying with the law provisions in force. Connect power supply cables to terminals **18** and **19** of **Pd8** control unit.



MOTOR

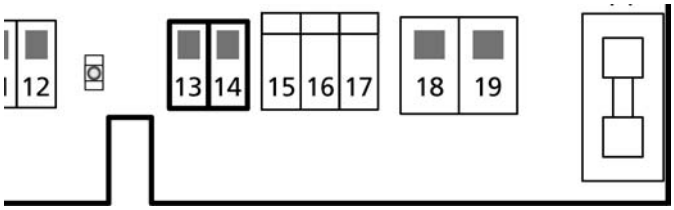
Pd8 control unit drives an asynchronous alternate current motor. Max. available power is 700W.
The motor comes connected already to terminals **15**, **16** and **17** by means of a polarized connector.

⚠ **CAUTION: Never reverse the connector.**



BLINKER

Pd8 control unit provides for a 230V 40W (120V - 40W for model **Pd8-120V**) blinker equipped with intermittence inside. Connect blinker cables to terminals **13** and **14** of the control unit.



PHOTOCELLS

The control unit considers two kinds of photocells, depending on the terminal to which they are connected:

- **Photocell 1:** that is to say, photocells installed on the gate inner side, which are active both during the opening and the closing phase. When photocells 1 operate, the control unit stops the gate; as soon as the photocell beam is free, the control unit will open the gate completely.

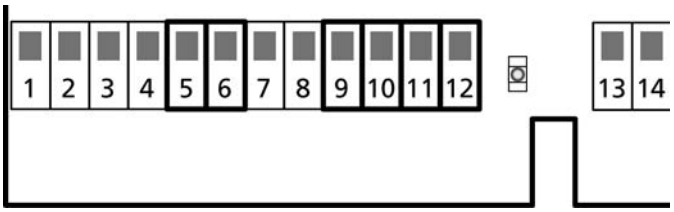
⚠ **WARNING: Type 1 photocells must be installed so that they completely cover the opening area of the gate.**

- **Photocell 2:** that is to say, photocells installed on the external gate side and which are active during the closing phase only. When photocells 2 operate, the control unit opens the gate immediately, without waiting for release.

Pd8 control unit supplies a 24VAC power supply to photocells and it can perform a photocell operation test before starting the gate opening phase. Photocell power terminals are protected by an electronic fuse that stops current in case of overload.

- Connect power supply cables of photocells transmitter between terminals **11** and **12** of the control unit.
- Connect power supply cables of photocells receiver between terminals **10** and **11** of the control unit.
- Connect receiver output of photocells 1 between terminals **5** and **9** of the control unit and receiver output of photocells 2 between terminals **6** and **9** of the control unit.
  Use outputs having normally closed contact.

⚠ **WARNING:**
- if several couples of same kind photocells are mounted, their outputs must be connected in series.
- In case of reflection photocells, power supply must be connected to terminals **11** and **12** of the control unit to carry out the operation test.

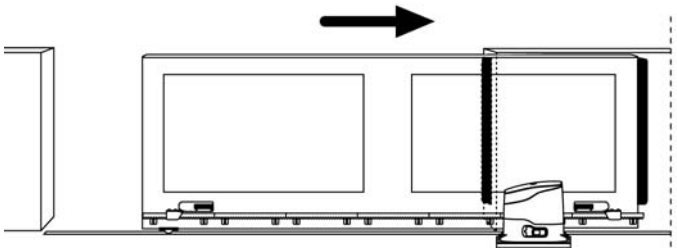


SAFETY RIBBONS

The control unit makes it possible to use standard edges with normally closed contacts or wireless edges (see the instructions provided with the device).

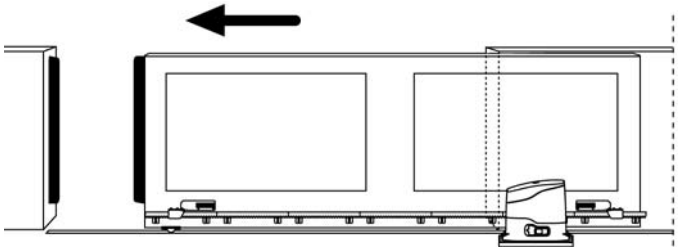
The control unit considers two kinds of safety ribbons, depending on the terminal to which they are connected:

- **Type 1 safety ribbons:** they are installed in the locations that become dangerous during the opening phase.
  When type 1 safety ribbons operate during the gate opening phase, the control unit will close the gate for 3 seconds, then it stands still; when type 1 safety ribbons operate during the gate closing phase, the control unit will stand still immediately. Next Start or Pedestrian Start command will restore the gate motion towards the same interrupted direction.

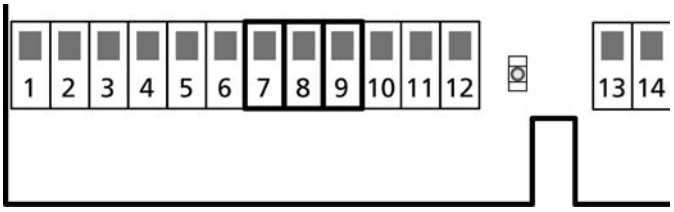


- **Type 2 safety ribbons:** they are installed in the locations that become dangerous during the closing phase.
  When type 2 safety ribbons operate during the gate closing, the control unit will open the gate for 3 seconds, then it will stand still; when type 2 safety ribbons operate during the gate opening phase, the control unit will stand still immediately.
  Next Start or Pedestrian Start command will restore the gate motion towards the same interrupted direction.

⚠ PLEASE NOTE: WIRELESS edges (type 2) are inactive during opening



Connect type 1 safety ribbons cables between terminals **7** and **9** of the control unit.
Connect type 2 safety ribbons cables between terminals **8** and **9** of the control unit.

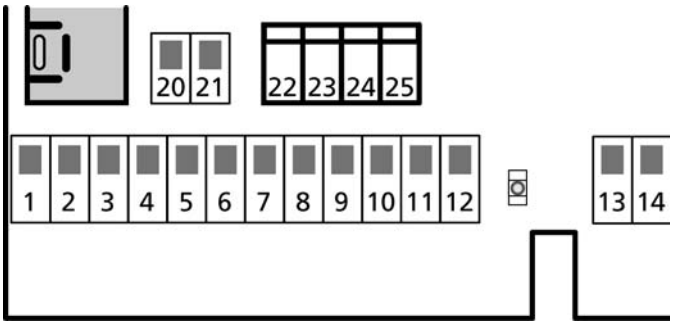


⚠ WARNING: Make use of safety ribbons having outputs with normally close contact. Outputs of same kind safety ribbons must be connected in series.

END OF STROKE

Limit sensors come connected already to terminals **22**, **23**, **24** and **25** by means of a polarized connector.

⚠ CAUTION: Never reverse the connector.

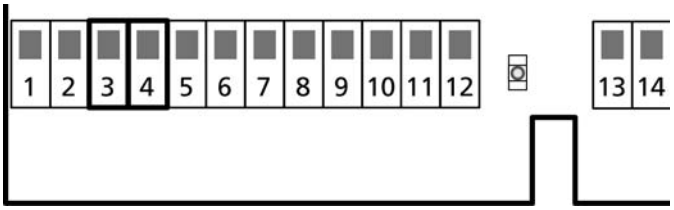


STOP

For a better safety, you can fit a stop switch that will cause the immediate gate 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 gate is open, the automatic closing function will always be disabled. To close the gate again, you will need a start command (if the start function in pause is disabled, it will be temporarily enabled to allow the gate release).

Connect the stop switch cables between terminal **3** and **4** 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 INPUTS

Pd8 control unit is equipped with two activation inputs, whose operation depends on the programmed operation modes (see **Strt** item of programming menu):

- **Standard mode:** a command being on the first input will cause the complete opening of the gate (start); a command being on the second input will cause the partial opening of the gate (pedestrian start).

- **Open/Close command and manned operation:**
  a command on the first input always controls the gate opening, while a command on the second input always controls the gate closing.
  In Open/Close mode, there is an impulse command, that is to say that an impulse will cause the complete gate opening or closing.
  In manned operation, there is a monostable command, that is to say, the gate will be opened or closed as long as the contact is closed and it will immediately stop as the contact is open.

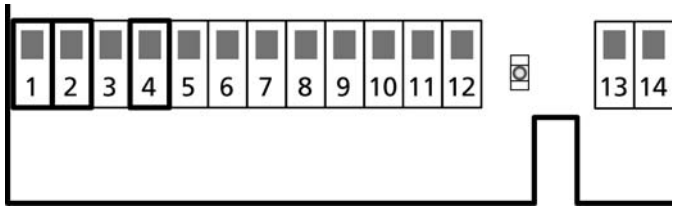
- **Timer mode:** it is similar to the standard mode but the gate stays open (completely or partially) while the contact is closed on input; as soon as the contact is open the pause time count down will start, after which the gate will be closed again. This function allows programming the gate opening time during the day, by making use of an external timer. Automatic closing must be enabled.

In all modes, inputs must be connected to devices having normally open contacts.

Connect cables of device controlling the first input between terminals **1** and **4** of the control unit.
Connect cables of device controlling the second input between terminals **2** and **4** of the control unit.

The first input function can also be activated by pressing UP key outside the programming menu or by means of a remote control stored on channel 1 (see relevant instructions of MR1 receiver).

The second input function can also be activated by pressing DOWN key outside the programming menu or by means of a remote control stored on channel 2.



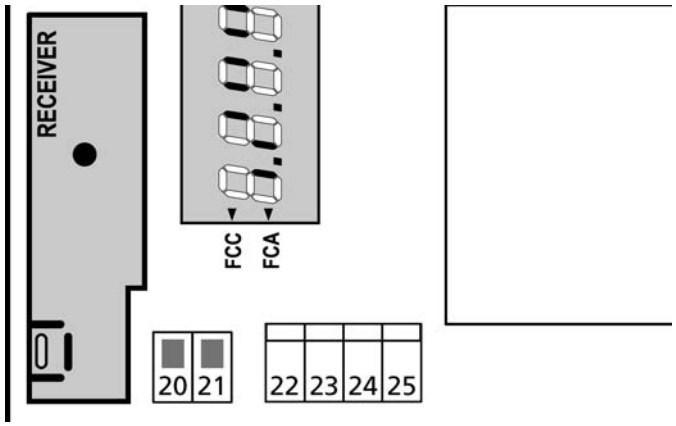
PLUG IN RECEIVER

Pd8 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.**

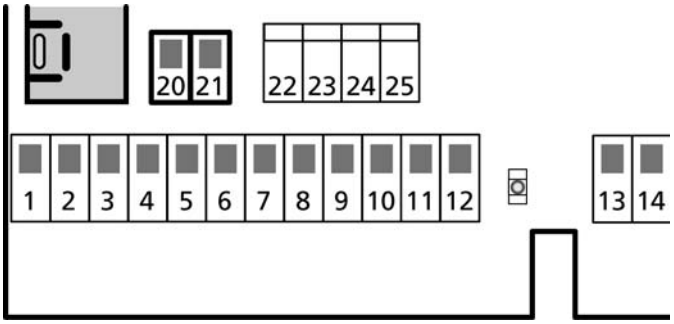
MR1 module receiver is provided with 4 channels and each of them is suitable for a command of **Pd8** control unit:
CHANNEL 1 ➡ START
CHANNEL 2 ➡ PEDESTRIAN START
CHANNEL 3 ➡ STOP
CHANNEL 4 ➡ FOR FUTURE USES

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



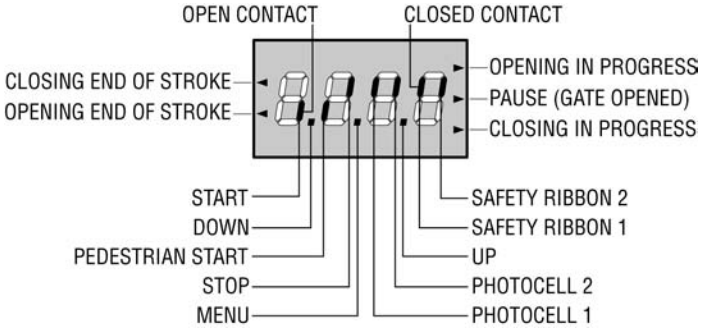
EXTERNAL AERIAL

We suggest to use the external aerial (model: ANSGP433) in order to guarantee the maximal range.
Connect the antenna hot pole to terminal **20** of the control unit and the braiding to terminal **21**.



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 I.9***, 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 above picture shows an instance where the inputs START, START P, FOTO 1, FOTO 2,COSTA 1, COSTA 2 and STOP have all been correctly connected).

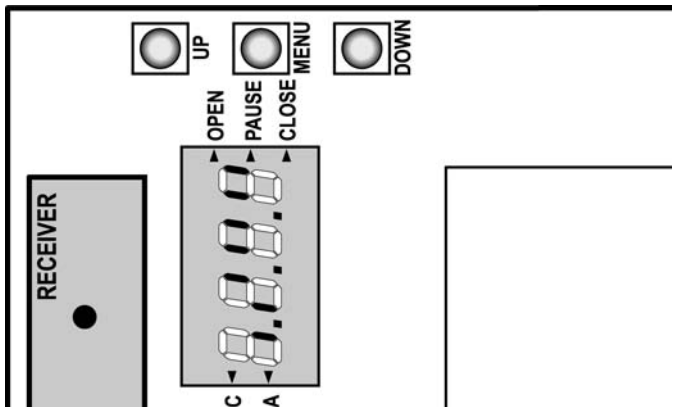
Points being among display digits show the status of programming push-buttons: as soon as a push-button is pressed, its relevant point turns on.

The arrows on the display left side show the status of the ends of stroke. The arrows go on when the related limit sensor indicates that the gate is completely closed or open.

The arrows on the display right side show the gate status:
- The highest arrow turns on when the gate 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 gate 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 gate 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 on the right of the display.



Hold down the MENU key until **t.AP** 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 menu item (**FinE**) allows storing the carried out changes and going back to the control unit normal operation. You must exit from programming mode through this menu item if you do not want to lose your configuration.

⚠ **WARNING: in case no operation is carried out for more than one minute, the control unit exits from the programming mode without saving any of your setups and changes, which will get 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 **t.AP** 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 the default configuration: see paragraph "LOADING OF DEFAULT PARAMETERS"

2. Set items **StoP**, **Fot1**, **Fot2**, **CoS1**, **CoS2** e **FC.En** according to the safety devices installed on the gate.

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 gate 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 gate is completely closed when the procedure is started up.
- The gate 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 gate reaches its max. opening position.
- The gate 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 gate reaches its fully closed position.

CONTROL UNIT CONFIGURATION

In the following page there is the step-by-step procedure to set all operation parameters of **Pd8** 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.

Pd8 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.

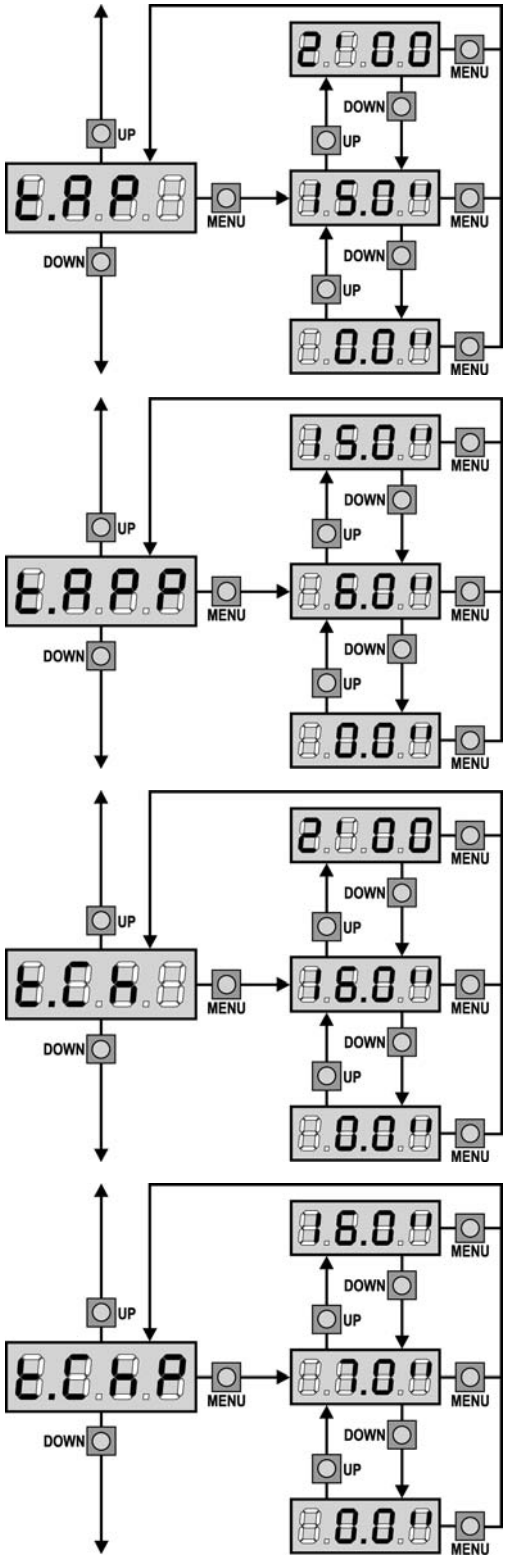
LOADING OF DEFAULT PARAMETERS

If necessary, it is possible to restore all the parameters to their standard or default value (see table at the end)

⚠ **WARNING: This procedure causes the loss of all the customized parameters, therefore it has been put outside the configuration menu, to reduce the possibility of executing it by mistake.**

1. Disconnect the control unit.
2. Supply power; the display shows the menu of the test of segments, followed by the revision of the firmware (e.g. **Pr I.9**).
3. While displayed the revision of the firmware, press the key UP: the control unit displays a countdown (from **dE.-9** to **dE-1**).
4. Before the end of the countdown, press the key MENU: all the parameters are rescribed with their default value and the configuration menu is started, in order to make the necessary modifications.

If the procedure of loading of the default parameters has been started by mistake, it is enough to wait for the countdown is up. The control unit will start work normally, without changing the parameters set.



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.

Partial opening time (pedestrian access)

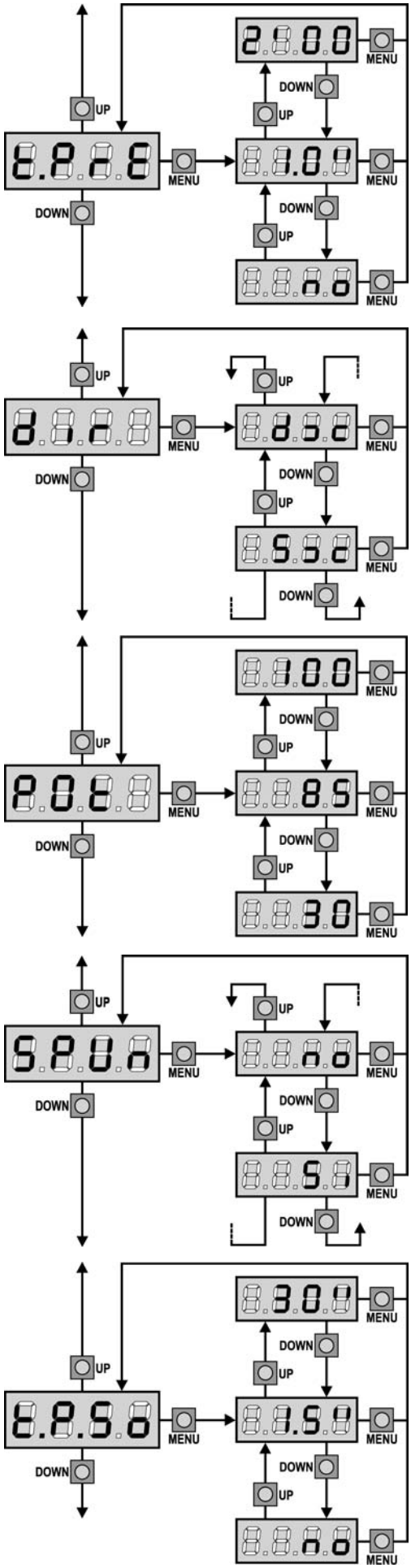
When the control unit receives a Start Pedestrian command, it will open the gate only, for a shorter time. Max allowed time to be setup is **t.AP**.

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 gate does not close completely, we recommend to setup a longer time than **t.AP** opening time.

Partial closing time (pedestrian access)

When the control unit receives a Start Pedestrian command, it will use this time to close the gate. Max allowed time to be setup is **t.CH1**. To avoid that the door does not close completely, we recommend to setup a longer time than **t.APP** opening time.



Pre-blinking time

Before any gate movement, blinker will be activated for **t.PrE** time, to warn about the incoming motion.

Gate Direction

This menu allows to invert the opening direction of the gate without swapping motor wires and limit switch ones.

dx the gate opens rightwards
Sx the gate opens leftwards

⚠ **WARNING: "opening direction of gate" means the direction you see from the inside.**

Motor power

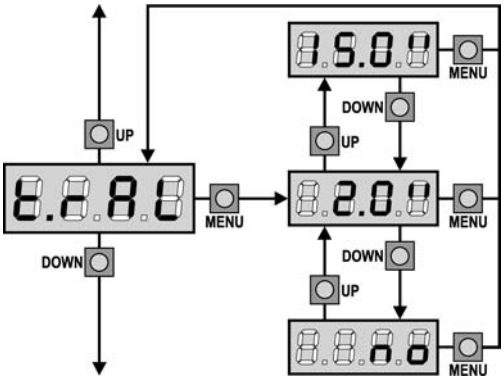
This menu allows adjusting the motor power.
The displayed value is the percentage of max. motor power.

Start off

When the gate is standstill and it begins moving, the initial inertia must be faced, therefore, if your gate 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 gate inertia.

Soft start (slowed down)

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

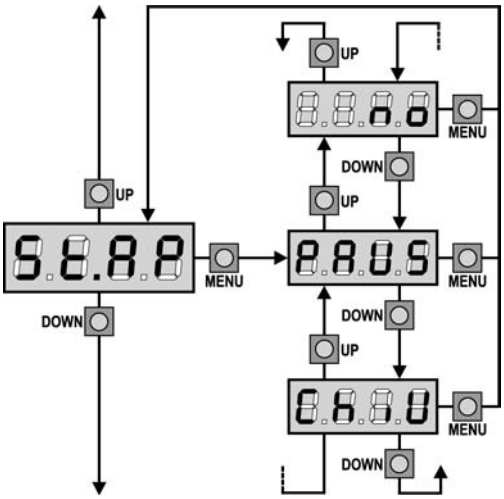


Slowing down time

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.
- If partial opening time t.APP is shorter than t.AP, there will be no slowing down during the pedestrian cycle opening.

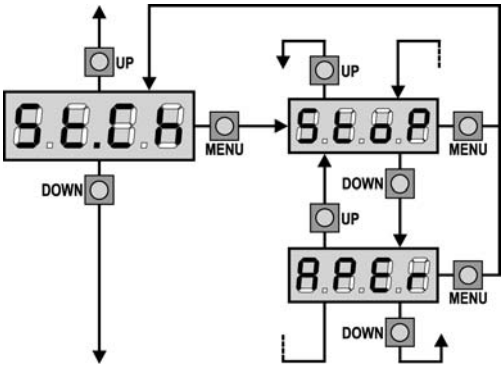


Start command during the opening phase

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

PAUS The gate stops and goes to pause
ChiU The gate immediately starts closing
no The gate 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.

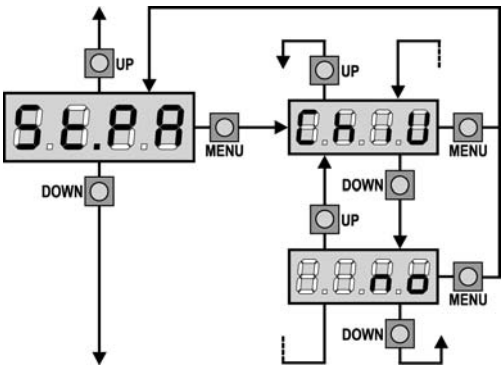


Start command during the closing phase

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

StoP The gate stops and its cycle is considered as finished
APEr The gate 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.

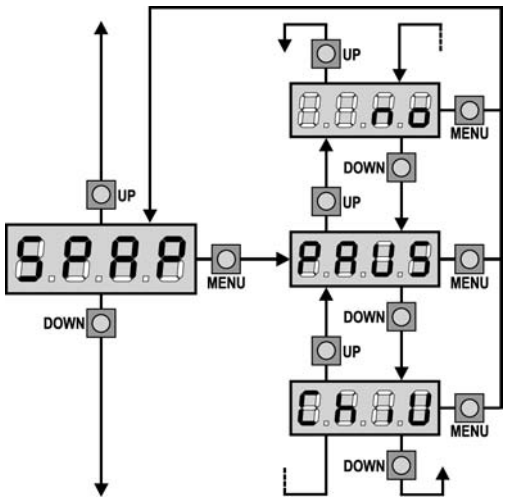


Start command during the pause

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

ChiU the gate 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 gate close if it has been stopped by a stop command or if the automatic closing was not enabled.

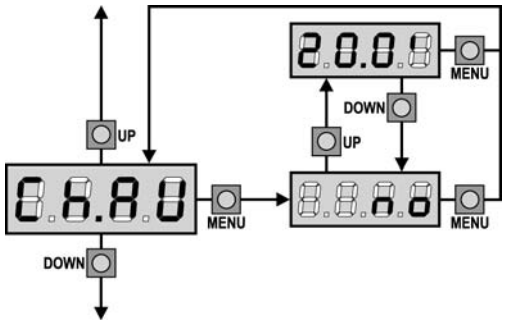


Pedestrian Start during the partial opening phase

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

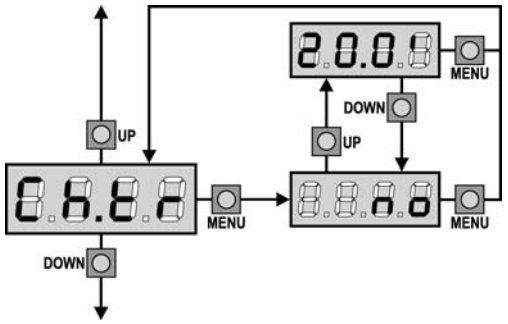
PAUS The gate stops and goes to pause
ChiU the gate immediately starts closing
no the gate goes on with the opening phase (command is ignored)

⚠ **WARNING: a Start command in any phase of partial opening will cause the total opening; the Start Pedestrian command is always ignored during a total opening.**



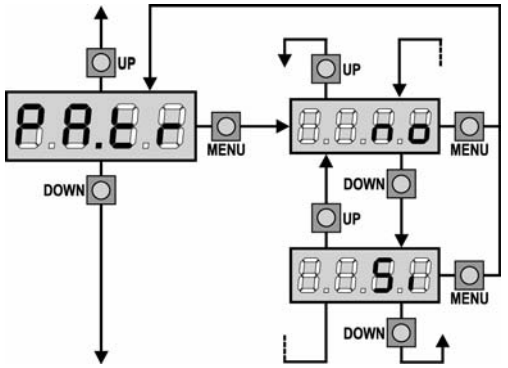
Automatic closing

During the automatic operation, the control unit will automatically close the gate when a set-up time expires.
The Start command, if enabled by **St.PA** menu, allows closing the gate 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 gate 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 gate is in pause, it will automatically pass to the semi-automatic operation.



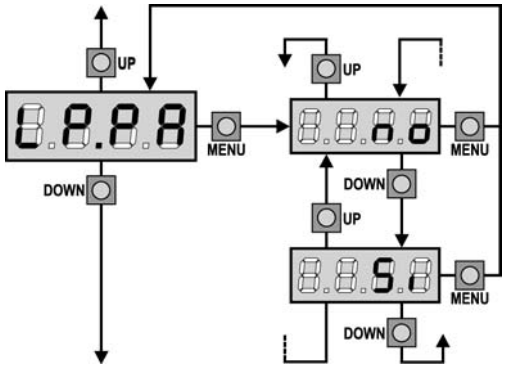
Closing after transit

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 gate 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.



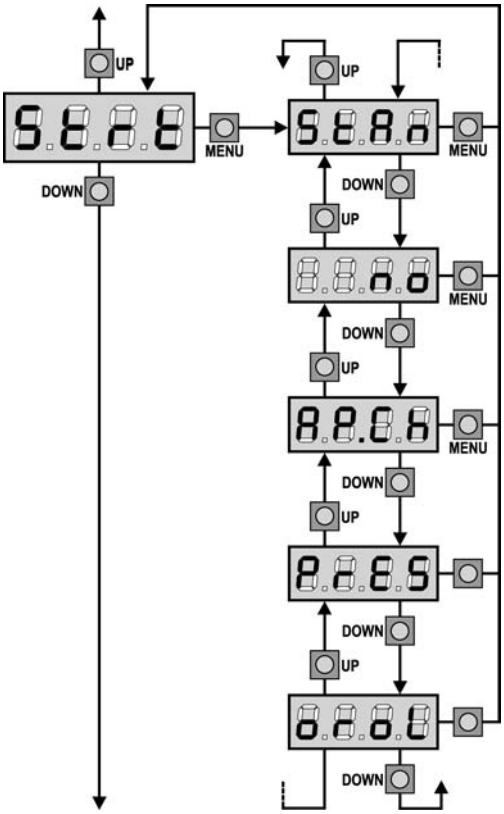
Pause after transit

In order to let the gate open for the shortest possible time, it is possible to stop the gate once the passage before the photocells is detected. If the automatic working is enabled, the time of the pause is **Ch.tr**.
If the photocells are **type 1** and **type 2**, the gate enters the phase of pause only after the detections before both the photocells.



Blinker during pause time

Blinker usually operates during the gate motion only; however, if this function is enabled, blinker will be on during the pause time too.



Start input function

This menu allows selecting input operation modes (see paragraph "Activation inputs"):

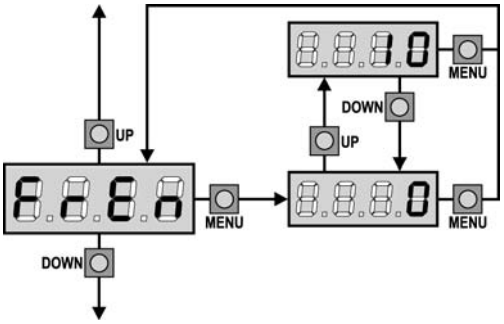
StAn Start and Pedestrian Start input standard operation, according to menu setups.

no Start inputs from terminal board are disabled. Radio inputs operate in **StAn** mode.

AP.CH Start impulse always controls the opening phase, Pedestrian Start always controls the closing phase.

PrES Manned operation; the gate will open as long as the Start input stays closed and it will close as long as Pedestrian Start stays closed.

oroL Timer-operation; the gate stays open while the Start input or Pedestrian Start input is closed; as soon as the contact opens, the pause count down will start.



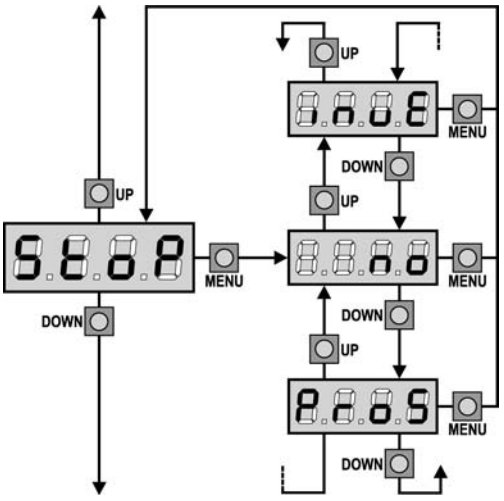
Brake Function

This menu allows to activate the brake function, so that your gate stops immediately because of command or safety intervention avoiding a further movement. This inconvenience happens when a sliding motor provided with single-plate clutch is installed on a very heavy gate: owing to inertia, the gate does not stop immediately and it can move about ten centimetres, reducing safety.

0 the brake function is never active
1÷10 the brake function is active. Le brake power is proportional to the set value

Following to an intervention of the safety edge or of the obstacle sensor or of a STOP control, the braking has always the maximum power, regardless of the set value (provided that higher than 0) to guarantee a rapid reversion.

⚠ **WARNING: each braking entails a mechanical stress to the components of the motor. We suggest to set the minimum value with which there is a satisfactory stop distance.**

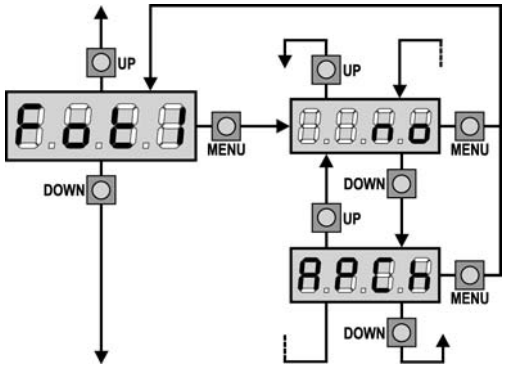


Stop Input

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 gate: pressing the command START the gate continues the motion
invE the command STOP stops the gate: at the next START the gate starts moving in the opposite direction.

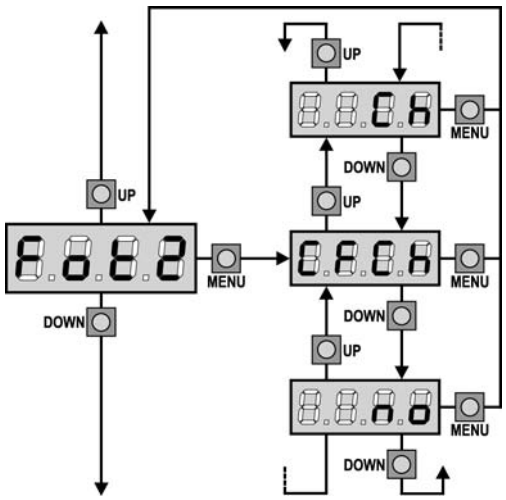
NOTE: during the pause, the STOP command will stop the pause time count, the next START command will always close the gate.



Photocell 1 input

This menu allows enabling the input for type 1 photocells, that is to say, photocells active both during the opening and closing phase (see paragraph "Installation").

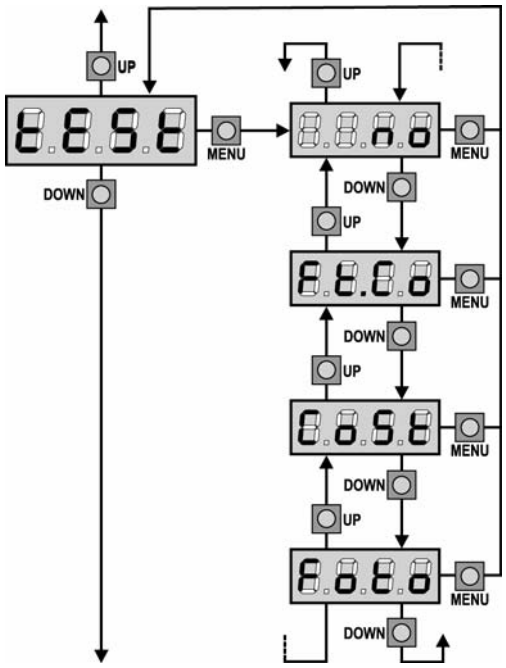
no input disabled (ignored by the control unit).
No jumper with the common is required.
AP.CH input enabled.



Photocell 2 input

This menu allows enabling the input for type 2 photocells, that is to say, photocells non active during the opening phase (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 gate 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.



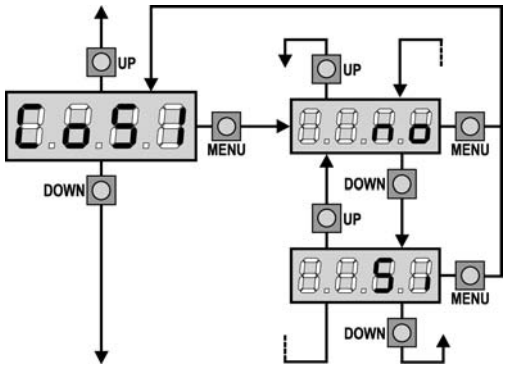
Test of safety devices

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 gate 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 Test of safety devices should be working in order to grant more safety during installation and programming.**

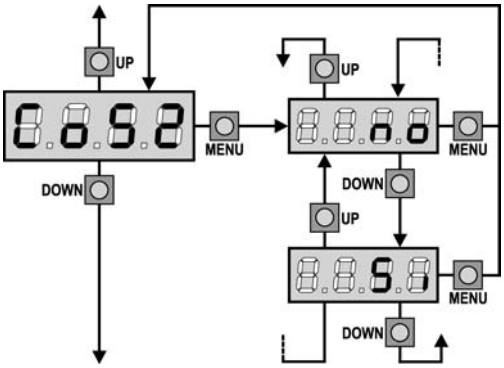
⚠ **WARNING: it is possible to test safety edges only if a control unit specially provided for this function has been installed.**



Safety ribbon 1 input

This menu allows enabling the input for type 1 safety ribbon, that is to say, fixed ribbons (see paragraph "Installation").

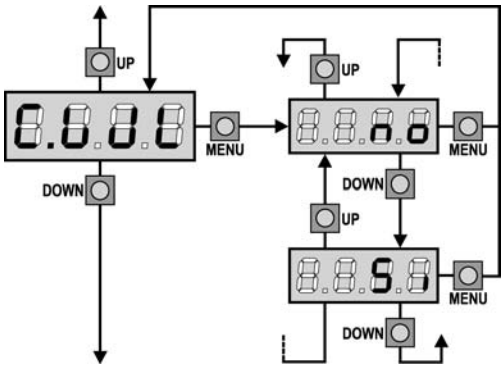
no input disabled (ignored by the control unit).
No jumper with the common is required.
Si input enabled.



Safety ribbon 2 input

This menu allows enabling the input for type 2 safety ribbon, that is to say mobile ribbons (see paragraph "Installation").

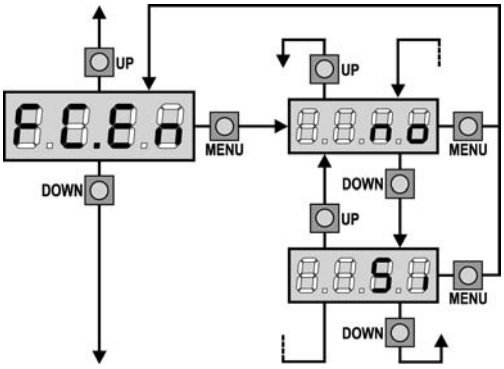
no input disabled (ignored by the control unit). No jumper with the common is required.
Si input enabled.



Enabling WIRELESS edges

This menu makes it possible to enable the edge input to operate with V2 WIRELESS edges

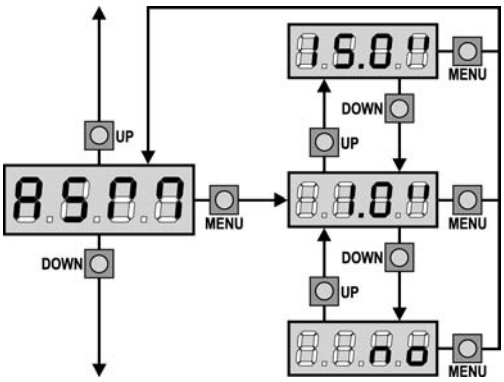
no Input disabled
Si Input enabled



End of Stroke Inputs

Pd8 control unit allows connecting magnetic limit switch which are activated by the door motion and showing to the control unit that each door reached its position of complete opening or closing.

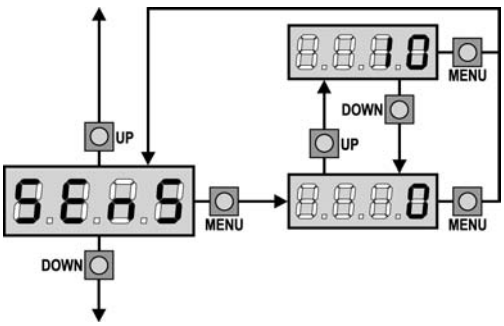
no end of stroke inputs are disabled
Si end of stroke inputs are enabled



Anti-skid

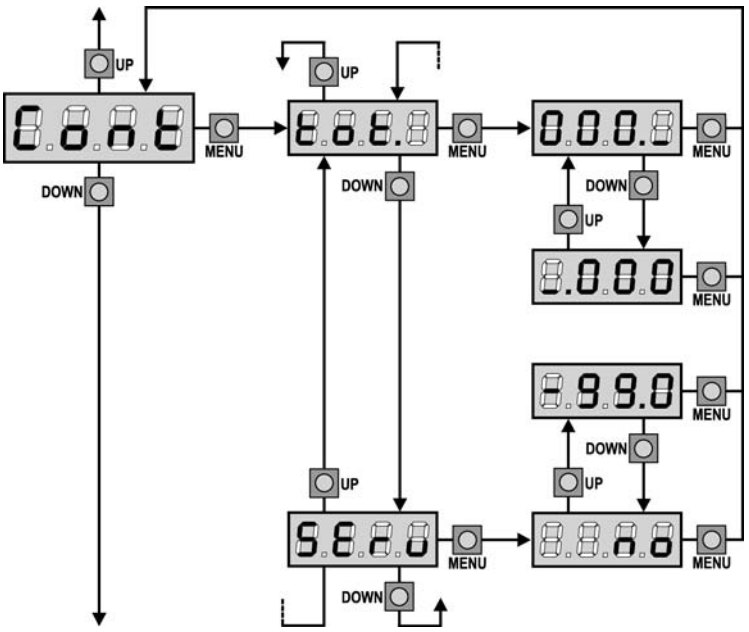
When an opening or closing operation is interrupted by a command or for the intervention of the photocell, the set-up time for the opposite movement would be excessive, so the control unit operates the motors only for the time necessary to recover the actually covered journey.
This could be not sufficient,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



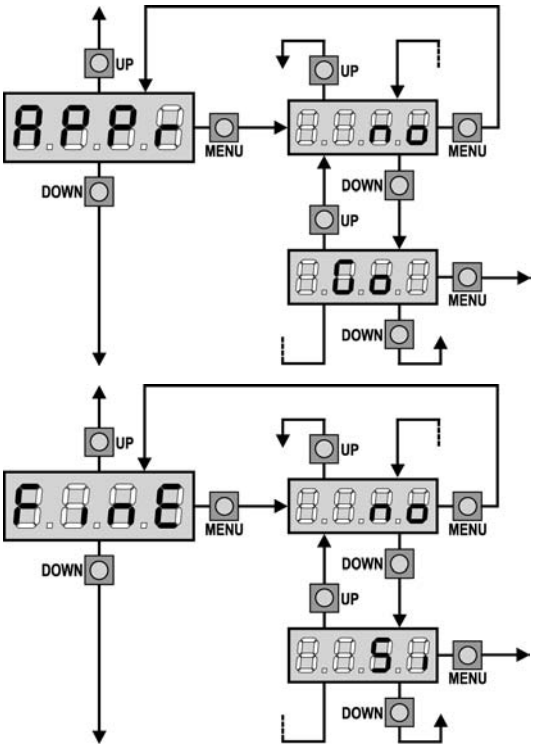
Obstacle Sensor Enabling

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 gate 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.

⚠ **WARNING: The procedure of the operation time automatic learning can be starter only if the control unit is set up on the STANDARD mode.**

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

Pd8 control unit counts the completed opening cycles of the gate and, if requested, it shows that service is required after a fixed number of cycles.

There are two counters available:

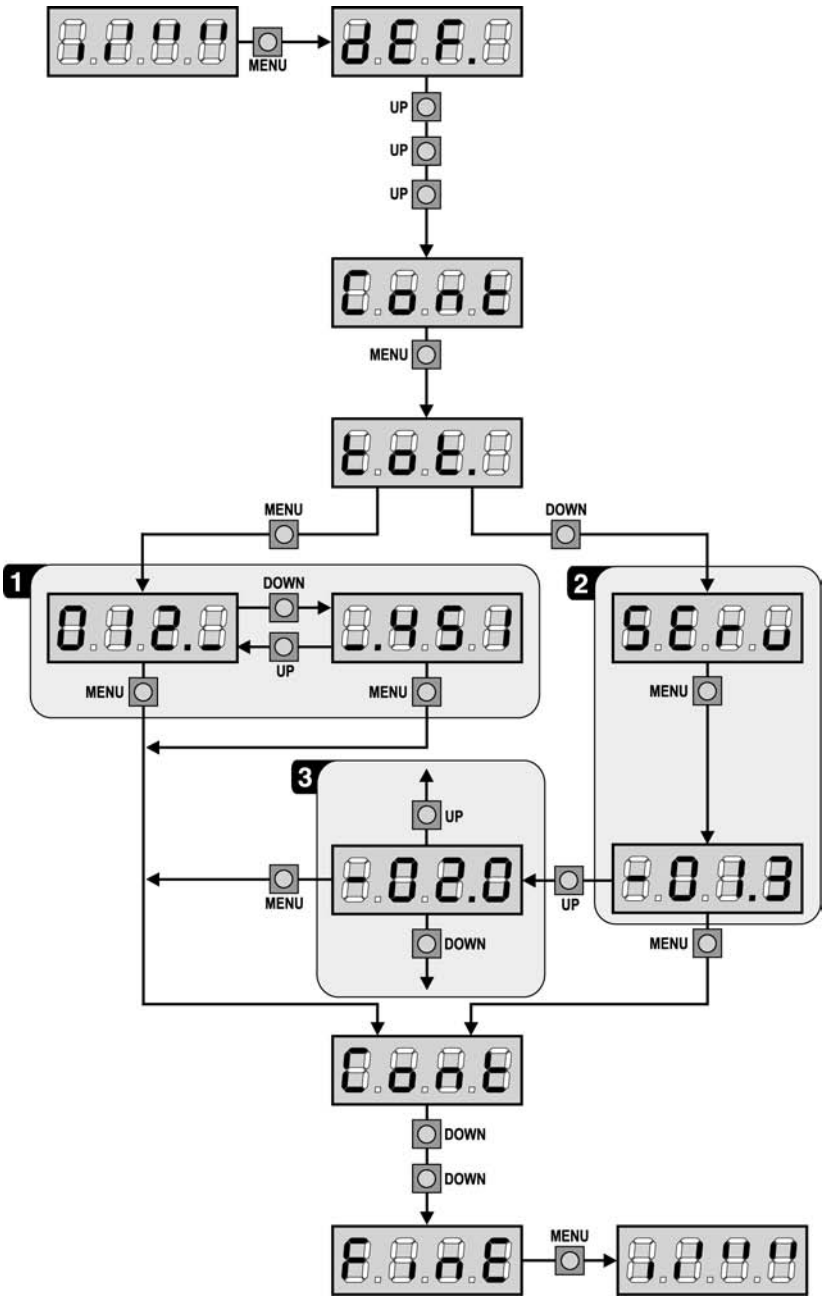
- A totalizing counter for completed opening cycles that cannot be zeroed (option "**tot**" of item "**Cont**")
- A downward counter for the number of cycles before the next request for service (option "**SErv**" of item "**Cont**"). This counter can be programmed according to the desired value.

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.



Signal of service required

As soon as the counter of cycles before the next request for service is zero, the control unit shows the request for service through an additional 5-second pre-blinking.

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.

⚠ **WARNING: service operations shall be carried out by qualified staff only.**

OBSTACLE SENSOR OPERATION

Pd8 control unit is equipped with a sophisticated system that allows detecting if there is any obstacle stopping the gate 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 gate is stopped; therefore, no obstacle braking the gate without stopping it will be detected. In addition, this system does not work when the gate 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 gate move at a normal speed. The gate 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 gate 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.

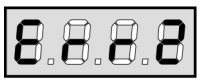
MAINS led does not switch on
It means that there is no voltage on **Pd8** control unit card.
1. Before acting on the control unit, disconnect through the disconnecting switch on the power line and remove the power supply terminal.
2. Be sure that there is no voltage break upstream the control unit.
3. 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 1 to 12. 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:

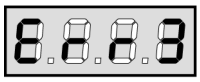
It means that changed data could not be stored.
This kind of defect has no remedy and the control unit must be sent to V2 S.p.A. for repair.

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



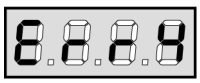
It means that triac test failed.
Before sending the control unit to V2 S.p.A. for repair, be sure that motors have been properly connected.

Error 3
When a Start command is given and the gate 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. If you have photocells 2, be sure that **Fot2** menu item is on **CF.CH**.
4. 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 gate does not open (or does a partial opening) and the following writing appears on display:



This means there is a problem with the limit switch.
Check the direction of the magnets, if they are backwards, they should be removed and inverted.
If the magnets are installed correctly, it means that the limit switch sensor is damaged or the cabling connecting the sensor to the central control unit is broken/damaged.
Change the end of stroke sensor or the broken wiring.
If the error persists send the control unit to V2 S.p.A. for repair.

Error 5
Once given a start control, the gate does not open and the display shows:

It means that the test of the safety edges failed. Make sure that the control unit driving the safety edges is correctly connected and properly working. Make sure that the safety edges enabled by menu are actually installed.

Too long pre-blinking
When a Start command is given and the blinker switches on immediately but the gate is late in opening, it means that the setup cycle count down expired and the control unit shows that service is required.

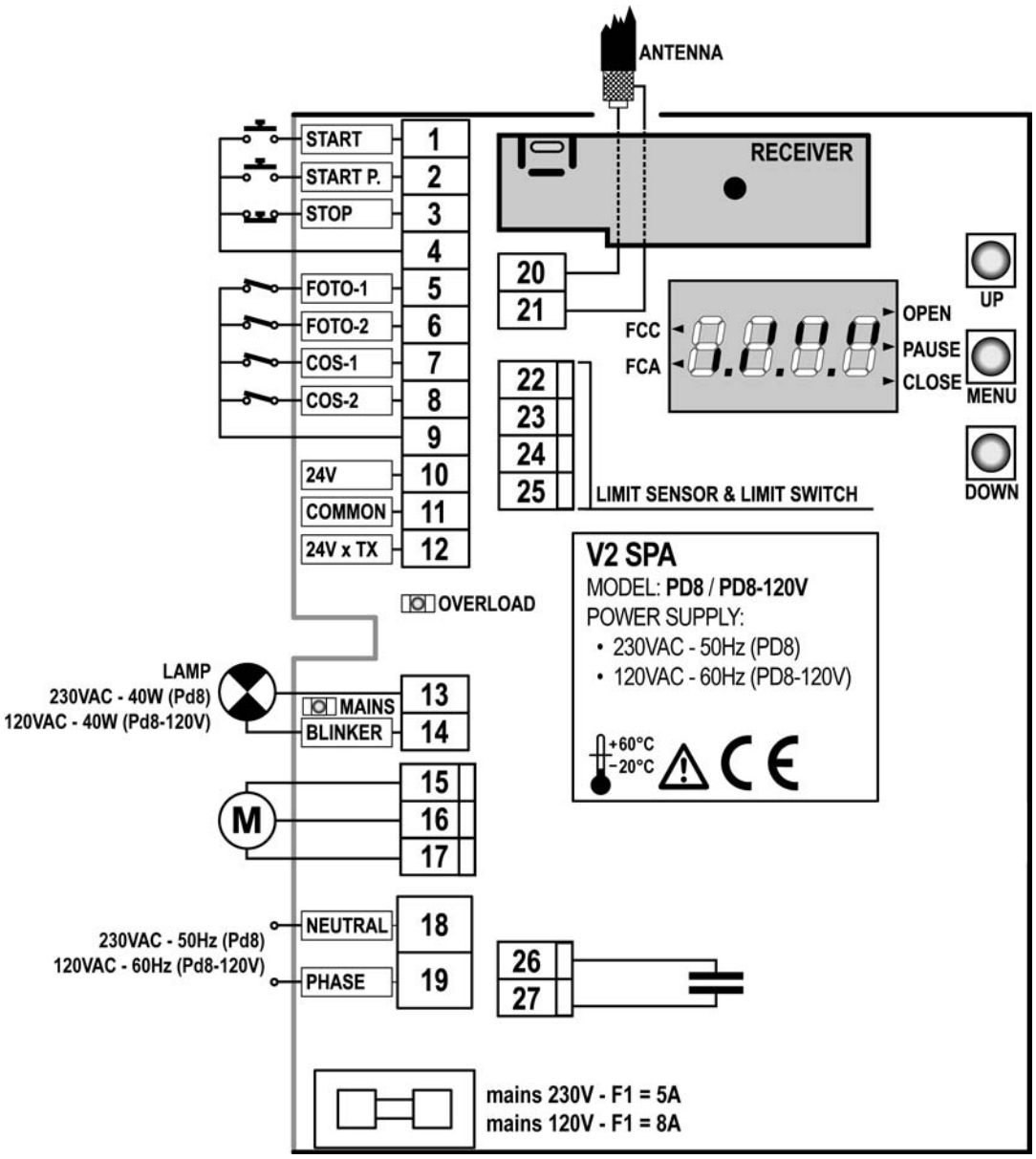
Pd8 FUNCTION TABLE

DISPLAY	DATA	DESCRIPTION	DEFAULT	MEMO DATA
t.AP	**0.0" ÷ 2.0'**	Gate opening time	**15.0"**	
t.APP	**0.0" ÷ t.AP1**	Opening time of pedestrian gate	**6.0"**	
t.Ch	**0.0" ÷ 2.0'**	Gate closing time	**16.0"**	
t.ChP	**0.0" ÷ t.Ch**	Closing time of pedestrian gate	**7.0"**	
t.PrE	**0.5" ÷ 2.0'**	Pre-flashing time	**1.0"**	
	no	- Pre-flashing disabled (it corresponds to 0)		
dir		Gate direction (the direction you see from the inside)	**dx**	
	dx	- The gate opens rightwards		
	Sx	- The gate opens leftwards		
Pot	**30 ÷ 100%**	Motor power	**85**	
SPUn	**no/Si**	Start off	**no**	
t.P.So	**0.5" ÷ 3.0"**	Slowed down starting time	**1.5"**	
	no	- Slowed down starting disabled		
t.raL	**0.5" ÷ t.AP**	Slow down time	**2.0"**	
	no	- Slow down disabled		
St.AP		Start in opening	**PAUS**	
	no	- Start command is not available		
	ChiU	- Command close gate		
	PAUS	- Stop the gate and goes in pause		
St.Ch		Start in closing	**StoP**	
	Stop	- Start command stop the gate		
	APEr	- Start command open the gate		
St.PA		Start in pause	**ChiU**	
	no	- Start command is not available		
	ChiU	- Start command closes the gate		
SPAP		Pedestrian in opening	**PAUS**	
	no	- Pedestrian start command is not available		
	ChiU	- Pedestrian start command closes the gate		
	PAUS	- Gate goes in pause		
Ch.AU		Automatic closing	**no**	
	no	- The gate 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**	
	no	- Closing after passage disabled		
	0.5"÷ 20.0'	- Gate stop for a time to be set between 0.5" to 20'		
LP.PA	**no/Si**	Flashlight in pause	**no**	
PA.tr	**no/Si**	Pause after transit	**no**	

Pd8 FUNCTION TABLE

DISPLAY	DATA	DESCRIPTION	DEFAULT	MEMO DATA
St.rt		Operation modes	**StAn**	
	StAn	- Start inputs from terminal board are disabled		
	no	- Standard operation		
	AP.CH	- Separated opening and closing commands		
	PrES	- Manned operation		
	oroL	- Timer operation		
FrEn	**0 ÷ 10**	Brake function	**0**	
StoP		STOP input	**no**	
	no	- STOP input not available		
	invE	- STOP command stops the gate: START command starts moving in the opposite direction		
	ProS	- STOP command stops the gate: pressing the START command gate continues the motion		
Fot 1		PHOTO 1 input	**no**	
	APCh	- Input is available for the connection of the photocell		
	no	- Not available		
Fot 2		PHOTO 2 input	**CFCh**	
	CFCh	- Photocell is active in closing and also when the gate is still		
	no	- Not available		
	Ch	- Photocell is active during the closing		
tESt		Test of safety devices	**no**	
	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		
CoS1	**no/Si**	Border 1 input (fixed border)	**no**	
CoS2	**no/Si**	Border 2 input (mobile border)	**no**	
C.WE	**no/Si**	Enabling WIRELESS edges	**no**	
FC.En	**no/Si**	End of stroke inputs	**Si**	
ASM	**0.5" ÷ t.AP**	Anti-skid function	**1.0"**	
	no	- Function disabled		
SEnS	**0 ÷ 10**	Obstacle sensor level	**0**	
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



1	Opening control for the connection of control devices with N.O. contact
2	Opening controls for pedestrian access for the connection of control devices with N.O. contact
3	Stop command. N.C. contact
4	Common (-)
5	Photocells type 1. N.C. contact
6	Photocells type 2. N.C. contact
7	Safety ribbons type 1 (fixed). N.C. contact
8	Safety ribbons type 2 (mobile). N.C. contact
9	Common (-)
10 - 11	Power output 24 VAC for photocells and other accessories
11 - 12	Photocell TX power supply for functional test
13 - 14	Flashing light 230VAC 40W (**Pd8**) / 120VAC 40W (**Pd8-120V**)
15 - 16 - 17	Motor

18	Neutral 230 VAC / 120VAC
19	Power phase 230 VAC / 120VAC
20	Antenna
21	Antenna shield
22 - 23 - 24 - 25	Limit sensor
26 - 27	Capacitor
F1	5A (**Pd8**) / 8A (**Pd8-120V**)
MAINS	It shows that the control unit is power supplied
OVERLOAD	It shows that there is an overload on accessories power supply
FCC	It shows the opening end of stroke activation
FCA	It shows the closing end of stroke activation
OPEN	Opening in progress
PAUSE	Pause (gate opened)
CLOSE	Closing in progress

V2 S.P.A.

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