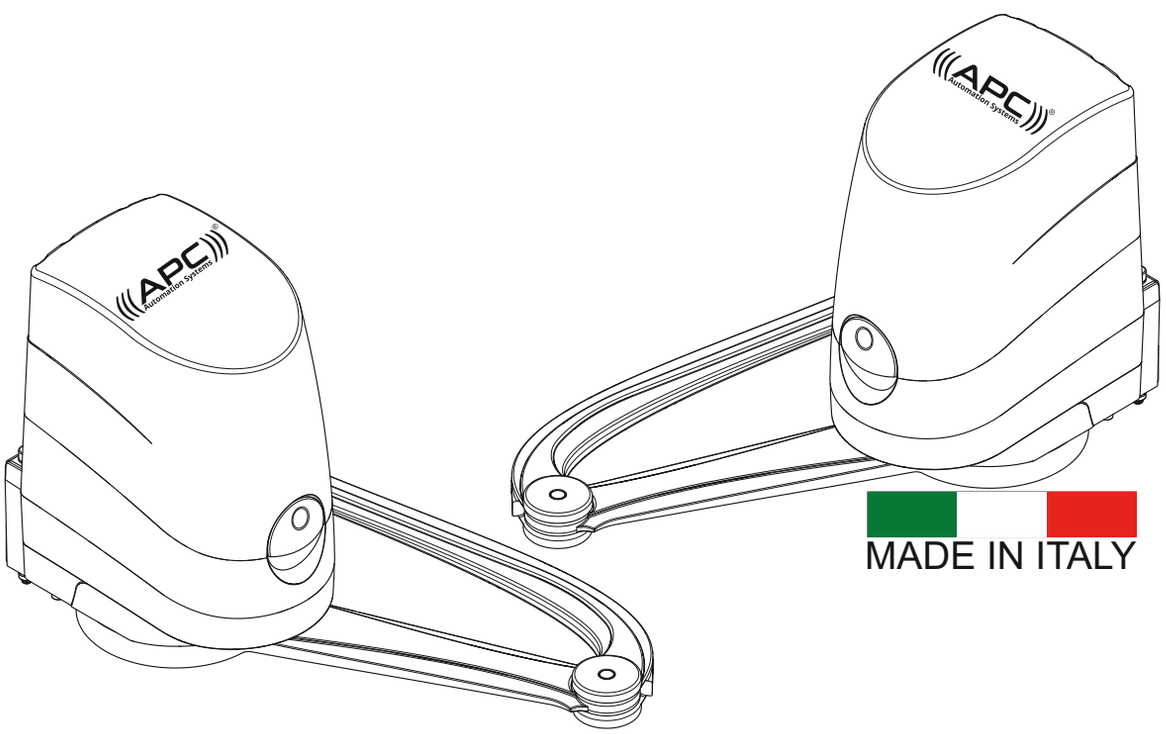
Automation Systems

Proteous Series

APC-PA-4200 & PA-8400

Heavy Duty 24V Articulated Arm System Installation Manual



Attention Installer

The manual should be read cover to cover at least once prior to beginning installation

Installation

Page 3
Preliminary Checks
Important Safety Information
System Specifications
Page 4
Installation Layout and Cable Structuring
Page 5
systems Dimensions and clutch override
Page 6
Post installation methods
Page 7-10
Motor Installation
Page 10
Connection of Slave motor
Page 11
Control Board overview
Page 12
LCD Interface
Successful Installation Flowchart
Page 13
Internal and External Transformer
Low Voltage Cable Extension
Page 14
Battery Backup For Powered Systems
Enabling Max. Power on Battery Backup
Page 15
Solar System Installation
Installing the Solar Panel
Page 16
Mounting the APC UNO Solar Box
Wiring the Solar System to the APC Solar Power
Page 17-18
Initialising the control unit.
Page 19
Energy Saving Mode for Solar Systems
Motor 1/Motor 2 Delay Times
Page 20
Enabling the Electric Lock and Setting the Unlocking Time
Page 21
Automatic Learning Cycle of Gate(s)
Page 22
Using your Remote's
External Antenna Connection
Page 23
Wireless Equipment Pairing & Deleting
Page 24
Wireless Button Configuration
Wireless Keypad Configuration
Page 25
Wired Button Connection
Page 26
Wired Keypad Connection and Configuration
Page 27
GSM Receiver Connection
Wi-Fi Switch Connection
Intercom Connection
Page 28
Photocell and Retro Reflective Sensor Connection
Page 29
Configuring the Photocell Logic Check Before Motion
Page 30
Automatic Close Settings
Page 31
Safety Lamp and Configuration
Page 32
Driveway Light Connection and Configuration
Page 33
Electric Lock and Magnetic Lock Connection

ADVANCED Adjustments

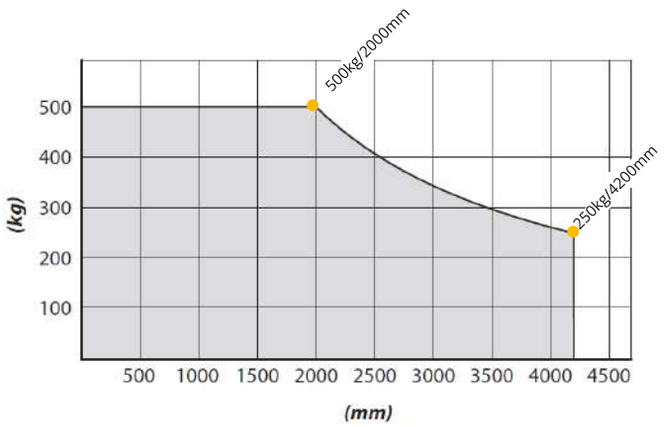
Page 34
Adjustment of Pedestrian Opening Time
Page 35
Adjustment of Pedestrian Closing Time
Electric Lock Unlock time BEFORE Movement
Silent Electric Lock Setting
Page 36
Gate PUSH to Unlock
Gate FORCE to Lock
Page 37
Start and Stop Input Configuration
Page 38
Safety Lamp Pre-Flashing Times
Configuration of System START inputs (Loops & Timers)
Page 39
Loop Detector Connection
Sensitivity and Power Settings
Page 40
Motor Power and Over Current Sensing
Page 41
Enable/Disable Ramp Up
Safety Edge Logic Check Before Motion

Other

Page 42
Pause Gate When Vehicle Passes
Triggering Pedestrian Operation [DURING Pedestrian Opening Cycle]
Reset to Factory Default
Page 43
System and Service Counter
Page 44
Troubleshooting
Page 45
Compatible Accessories
Warranty Terms

Specifications

	APC-PA-4200	APC-PA-8400 (2x APC-PA-4200)
Max gate length	4.2m	8.4m Total (2x4.2m)
Max gate weight	500kg	1000kg Total (500kg x2)
Motor Power Supply	24V DC	24V DC
Peak Thrust	760N	760N x2
Duty Cycle	80%	80%
Protection grade (IP)/ Protection class	IP 44	IP 44
Working temperature/ Operating temperature	-20~+50	-20~+50
Absorbed current (A)	7.2A	7.2A x2
Absorbed power (W)	175W	175W x2
Manual release	Allen Key	Allen Key



The above specifications are based on perfect free flowing installations on non-cladded or covered gate using ball bearing hinges.
*Larger sized gates may require an electric lock

Preliminary Checks

To ensure safety and an efficient automation make sure the following requirements are met:
1. The gate structure must be suitable for automation.
2. Make sure that the gate leafs move properly and uniformly without any irregular friction during their entire travel.
3. The gates hinges must be in good condition with no bitting, no rust and must be well greased.
4. The gates should be able to be freely opened and closed before installing the gates automation system.
5. It is strongly suggested to have a gate stop installed for the closed position.

Important Safety Information

Installer and owners should observe the following:
1. Make sure that there is sufficient space for the gate(s) to swing open fully to the desired opening angle.
2. The control Panel Box must be installed in the area within 9 meters maximum cable distance from motor and cannot be damaged.
3. Do not change with parts or components not supplied by the manufacturer, this includes sensors, buttons, solar panels, transformers and any component not listed in the compatibility list.
4. Make sure all wiring works are correct and in good condition before connecting the battery, solar panel or transformer to the control panel.
5. Turn off the power and disconnect the battery when doing any maintenance.
6. Ensure the control panel box is free from water leakage to avoid short circuiting of the control panel.
7. Do not supply mains power directly to the motor, control box or any accessories.
8. Do not install the operating system if in doubt. Contact the manufacturer.
9. Do not cross the gate while it is operating, Safety sensors are only to prevent accidents or injuries.
10. Keep the remote controls in safe place and away from children.

Before beginning installation the manual should be read thoroughly concerning all aspects of the installation including all precautions and safety information.

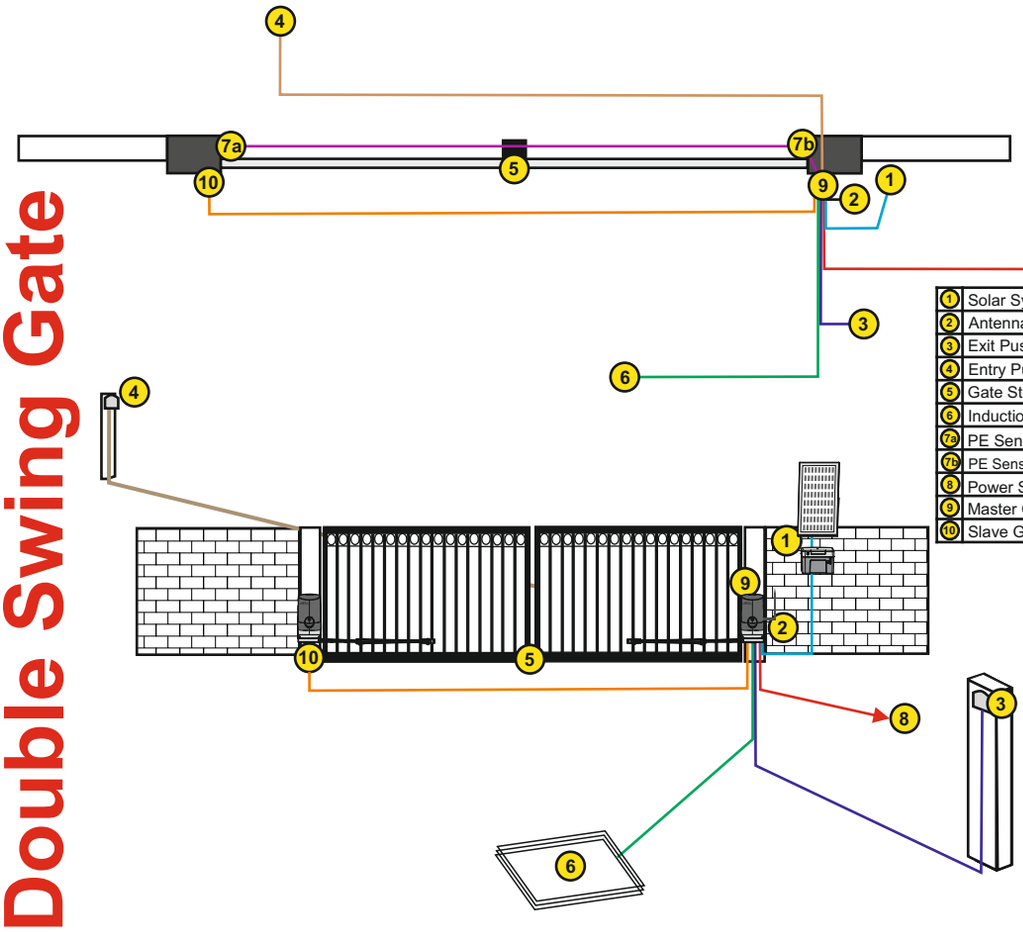
Proper steps should be taken to ensure efficient and safe installation for vehicles, property and persons within the operators working radius.

The system is fitted with an over current sensing feature to assist in preventing damages, injuries and death. All precautions must be taken by the installer that adjustments are set correct based on the gates weight, height and length. The system sensitivity should be set to allow consistent operation of the gates under normal operating conditions. This does not include operating against wind. The system may not detect (Over current sense) against light loads such as small object, young children and animals. It is the operators duty to ensure that the area is clear prior to operation. Photo sensors or Reflective sensors should always be installed to assist in accident or death prevention. Rubber edging should be installed onto the gates to assist in dampening any accidents or damages.

You agree to install this product following any and all safety requirements listed in this manual or required under local, state or national regulations. APC Australia, its distributors, stockist or sellers are not liable for any direct, indirect, incidental, special or consequentional damages or loss of profit wether based in contract or any other legal theory during the course of warranty or afterwards. If you do not feel capable of properly installing the operator based on the above information or otherwise do not proceed.

Installation Layout

Double Swing Gate

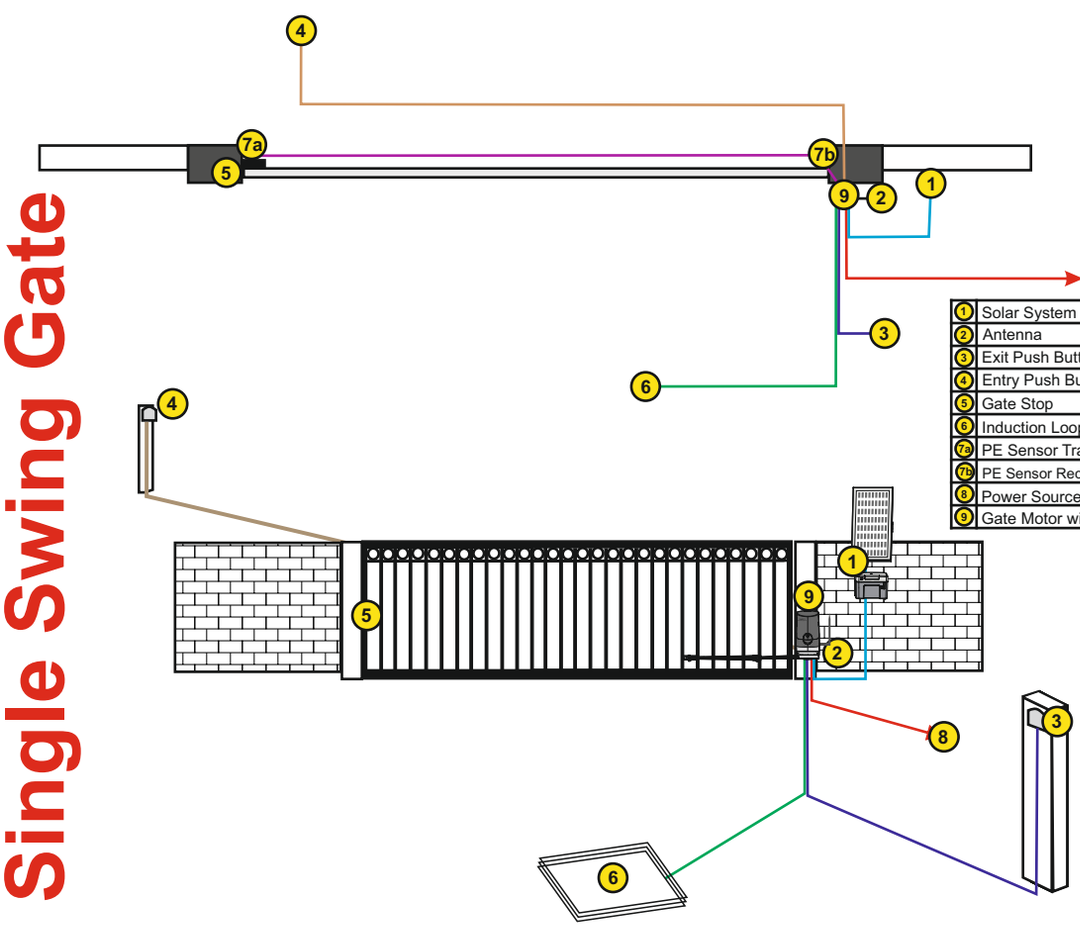


1	Solar System
2	Antenna
3	Exit Push Button/Keypad
4	Entry Push Button/Keypad
5	Gate Stop
6	Induction Loop
7a	PE Sensor Transmitter
7b	PE Sensor Receiver (Not required for Retro Reflective Sensor)
8	Power Source
9	Master Gate Motor with Control Board
10	Slave Gate Motor

Accessories Requiring Wiring:

Keypad - 4 Core
PBD/PBD-K - 4 Core
PBS/PBS-K - 2 Core
PE Sensor
Receiver - 4 Core
Transmitter - 2 Core

Single Swing Gate

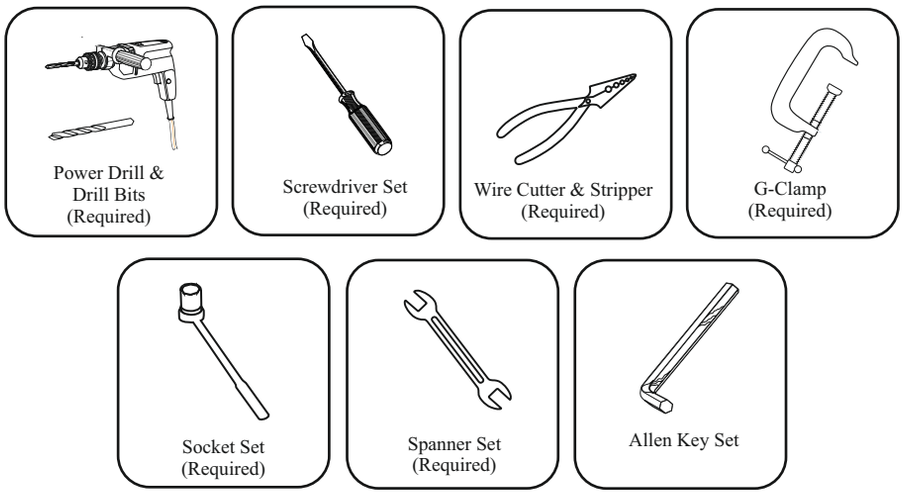


1	Solar System
2	Antenna
3	Exit Push Button/Keypad
4	Entry Push Button/Keypad
5	Gate Stop
6	Induction Loop
7a	PE Sensor Transmitter
7b	PE Sensor Receiver (Not required for Retro Reflective Sensor)
8	Power Source
9	Gate Motor with Control Board

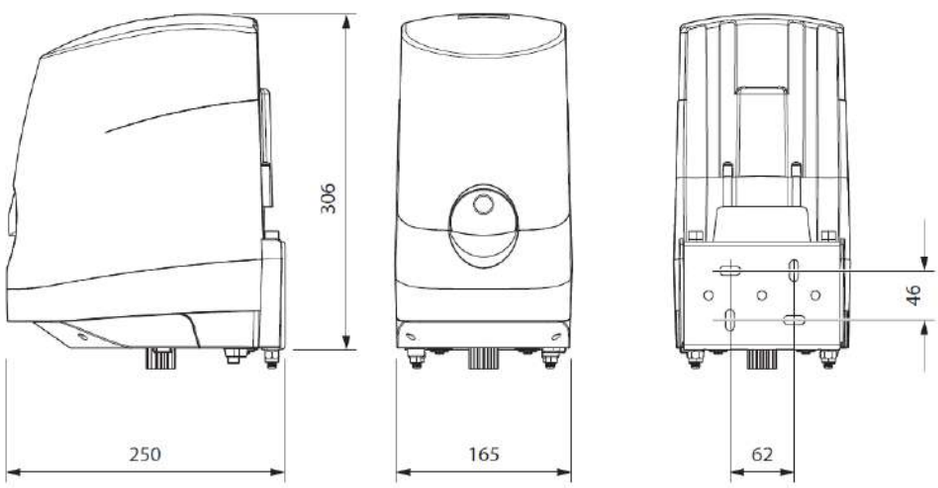
Accessories Requiring Wiring:

Keypad - 4 Core
PBD/PBD-K - 4 Core
PBS/PBS-K - 2 Core
PE Sensor
Receiver - 4 Core
Transmitter - 2 Core

Tools Required



System Dimensions



Clutch Override

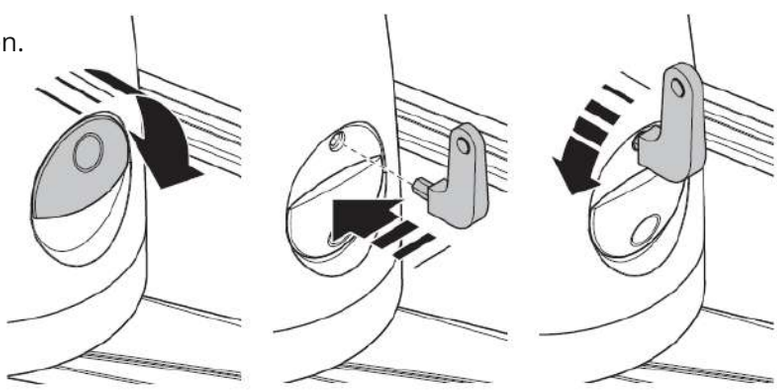
In case of an emergency or requirements during installation the gate can be moved open and close by hand operation if the clutch is disengaged. To disengage the clutch follow the procedure below.

To Disengage

1. Turn the dust cover to uncover the override allen.
2. Insert the allen key and turn by 90° counter clockwise.

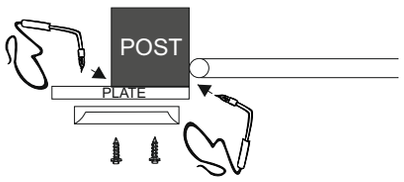
To Engage

1. Insert the allen key and turn by 90° clockwise.
2. Close the dust cover.

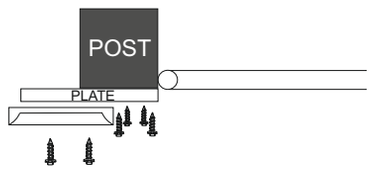


Post installation methods

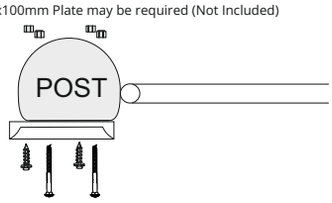
Small Square Post
Welding equipment accessible
Tek Screw Fixing (Not Included)
Using 200x100mm Plate (Not Included)



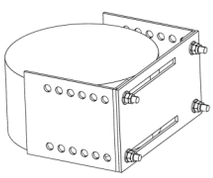
Small Square Post
Welding equipment not accessible
Tek Screw Fixing (Not Included)
Using 200x100mm Plate (Not Included)



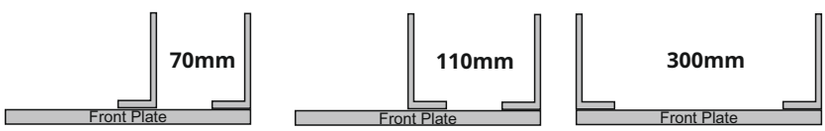
Round Post
Cut to allow square fixing
Coach Bolt Fixing (Not Included)
200x100mm Plate may be required (Not Included)



Optional APC-FGB2532 Farm Gate Bracket System



Post Adapter Bracket
Suits Round & Square Posts from 70mm and up to 300mm



Optional Gate Stop Installation

Before beginning the installation of the gate motors a physical gate stop can be installed at the closed position, this is to be used instead of the motors internal stop.

For Single gate systems the gate stop can be installed in two different methods.
1. On the driveway itself at the furthest point from the hinge as illustrated in the diagram below (Fig 1).
2. On the post that the gate will close too (Fig 2).

For Double gate systems the gate stop must be installed in the center of the driveway stopping both gates (Fig 3).

When installing on the driveway itself it is recommended to use a rubber floor stop to prevent damage to vehicle entering and exiting.
When installing on the post for single gate installations a 90° angle can be used with a rubber padding to dampen or soften the close and prevent damage to the gate.

Single Gate Installation

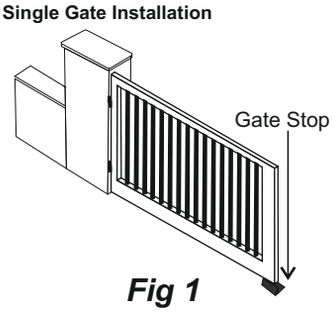


Fig 1

Single Gate Installation

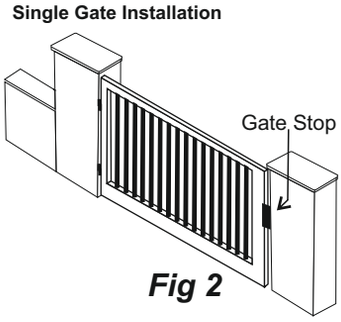


Fig 2

Double Gate Installation

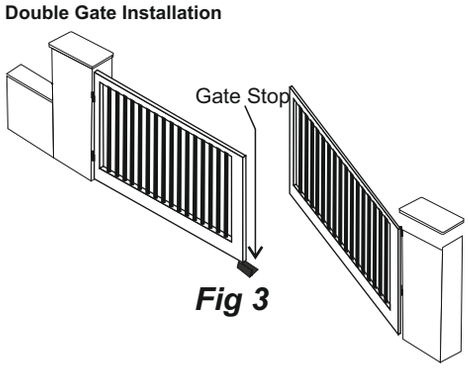
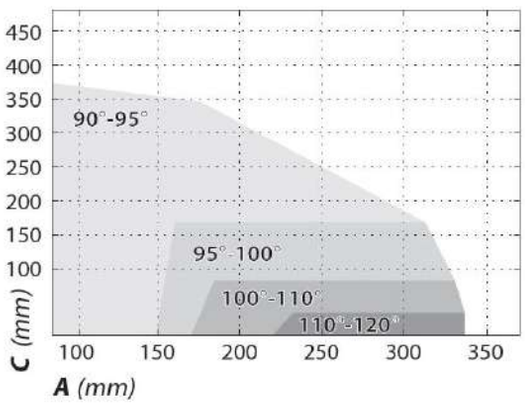


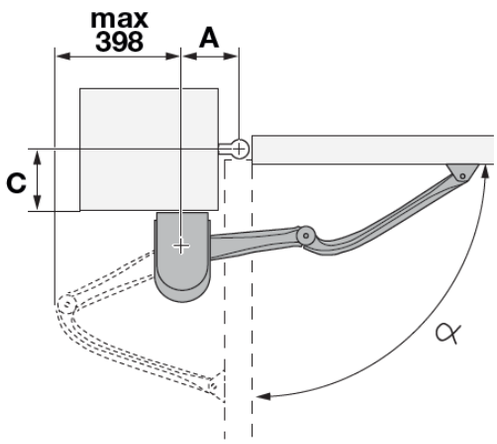
Fig 3

Installation

1. Using the measurement chart below to determine the motor bracket placement from the centre of the hinge to the centre of the bracket.

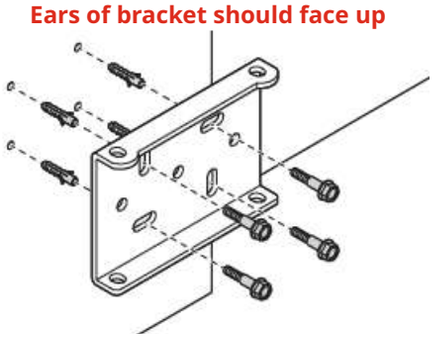


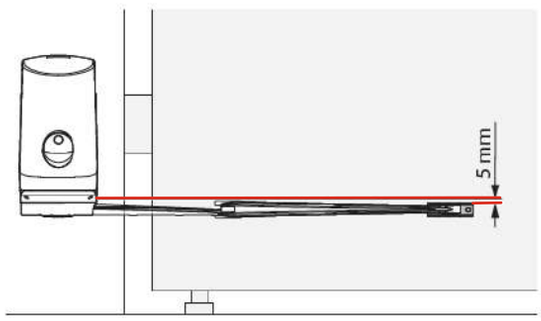
A	C	α
140	30	90
250	30	110
140	80	90
185	80	100
140	130	90
170	130	95
140	160	90
160	160	95
140	200	90
150	200	90
140	240	90
150	240	90
140	280	90
170	280	90
140	320	90
170	320	90



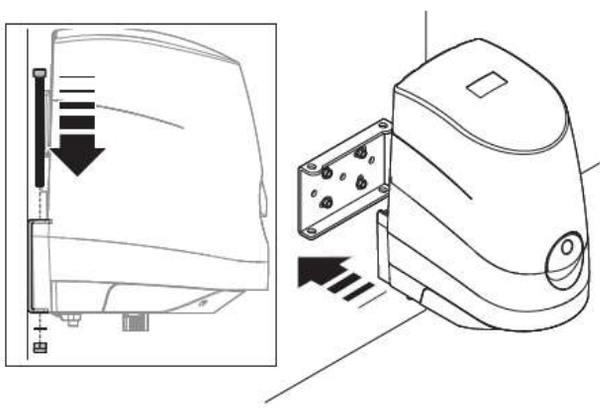
2. Install the post bracket noting that the bottom of the bracket should be 5mm higher than the gate rail in which the arm will be installed to.

Ears of bracket should face up

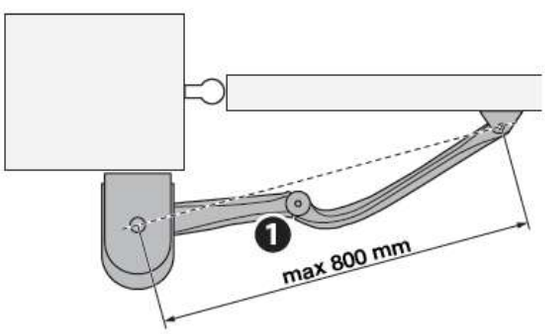


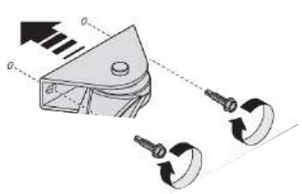


3. Install the motor on to the post bracket and secure using the supplied allen bolts and nuts. If unable to easily push through the fasteners most likely the bracket has been installed upside down, see previous step to correct.

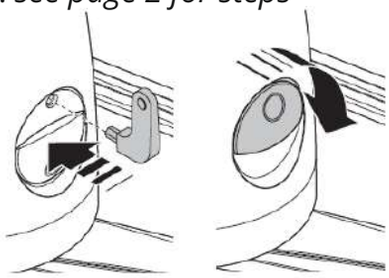


4. Measure 800mm diagonally from the motor drive shaft to the gate. This will be the mounting position of the gate bracket. Install the bracket to the gate rail noting that the TOP of this bracket will be 5mm lower than the BOTTOM of the post bracket.



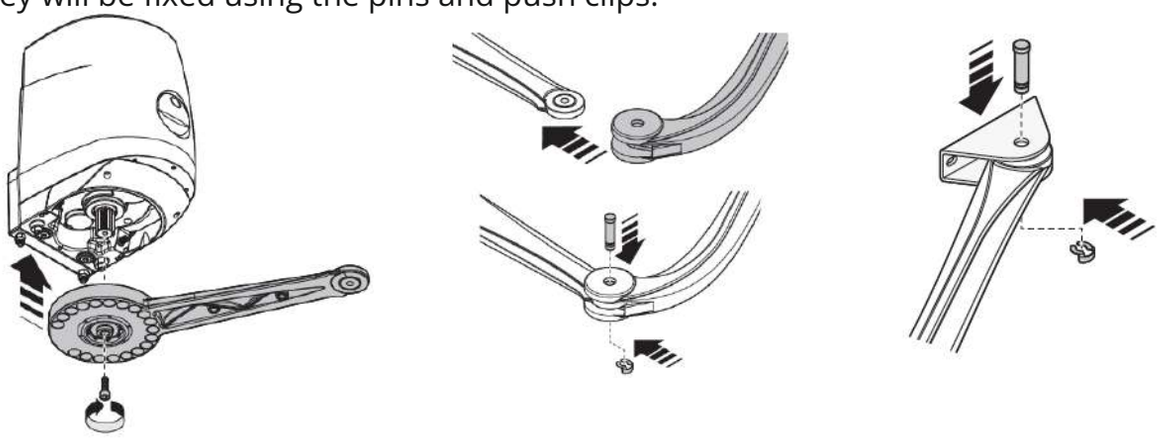


5. Disengage the gate motor. *see page 2 for steps*

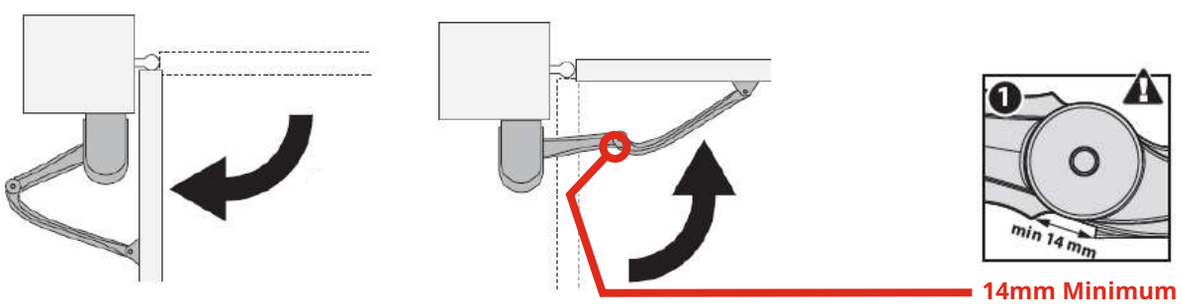


6. Assemble the main arm to the operator followed by the secondary arm and finally the gate bracket.

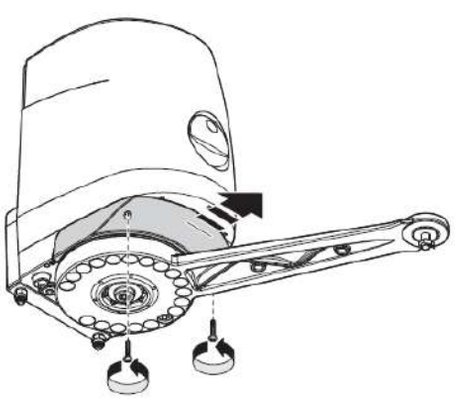
The arm to the operator will be secured to the drive using the supplied allen screw, for the arm joints they will be fixed using the pins and push clips.



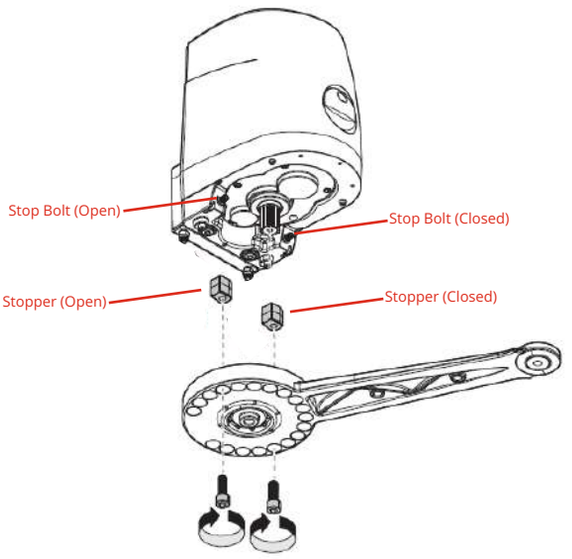
7. Gently push the gate open and closed by hand, it should have no problem reaching either position. Confirm that the arm joint has the correct clearance, if not revert back to the positioning of the post bracket and gate bracket measurements.



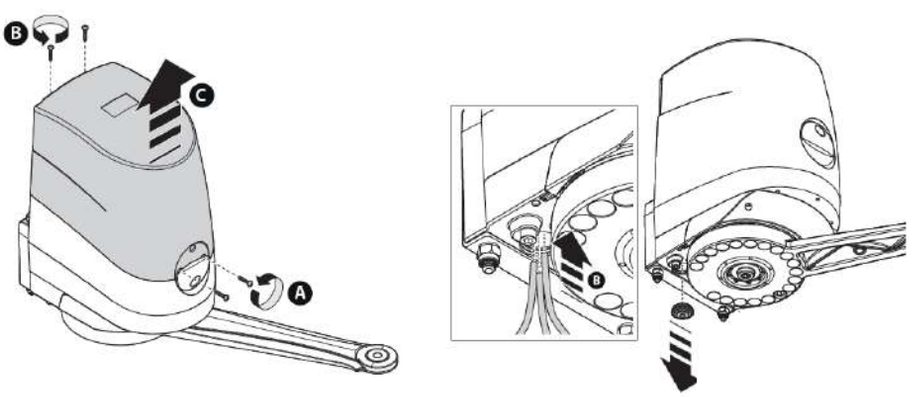
8. Remove the bottom cover to expose the internal stops.



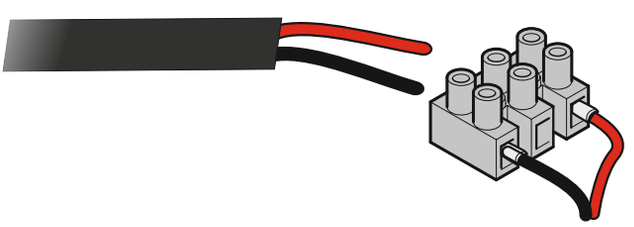
9. Install the open and closed position stops so that when the gate arrives at each position the gate motors arm physically cannot travel further as the stoppers have contacted the stop bolt inside. Note that the stop bolt is adjustable in/out for the FINAL fine tuning of positions.



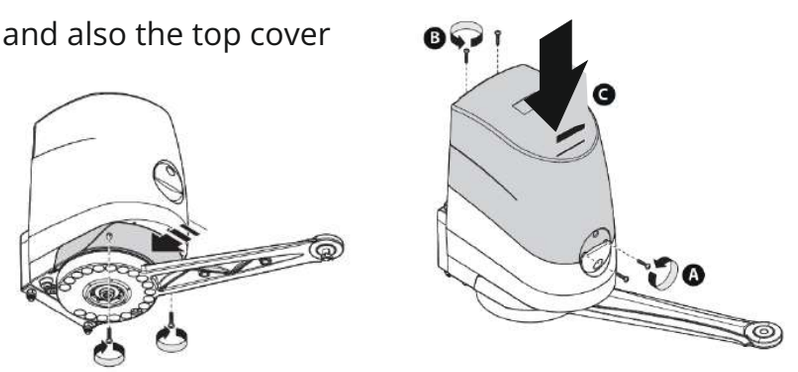
10. Remove top cover
11. Remove cable cover from bottom
12. Pass cable through into the housing



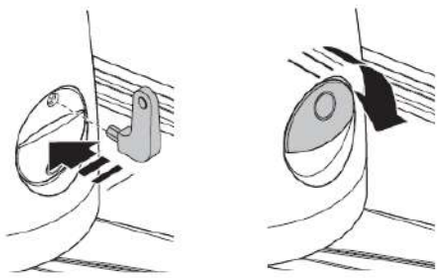
13. Connect Red wire to Red and Black wire to Black on the terminal connection.



14. Reinstall the bottom cover and also the top cover



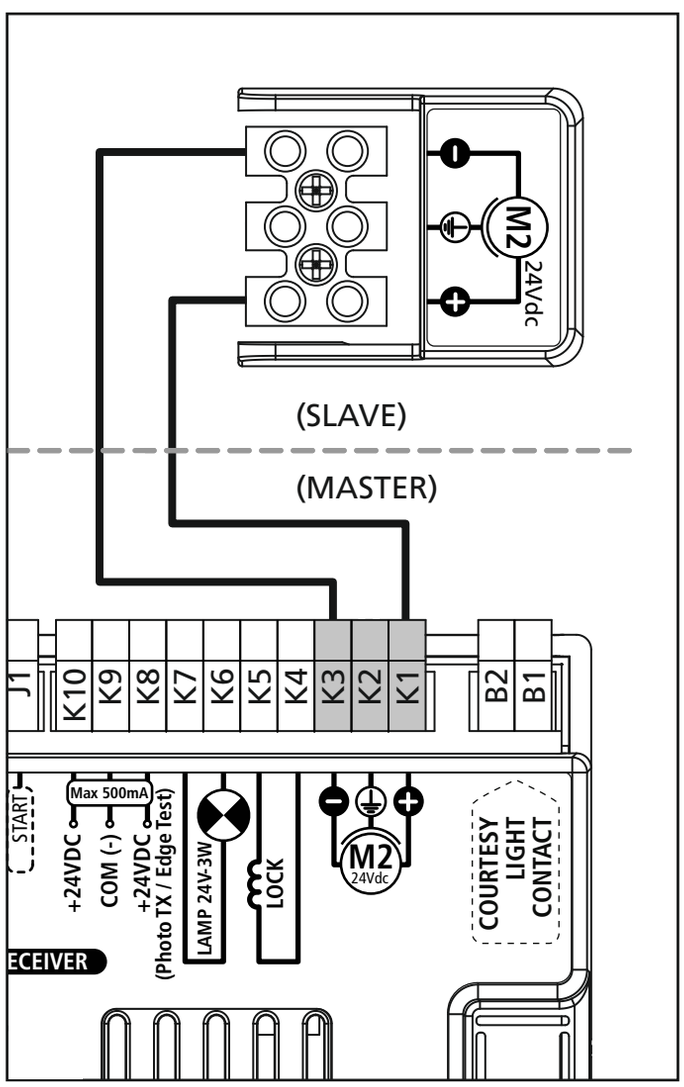
15. Re-engage the gate motor. *see page 2 for steps*

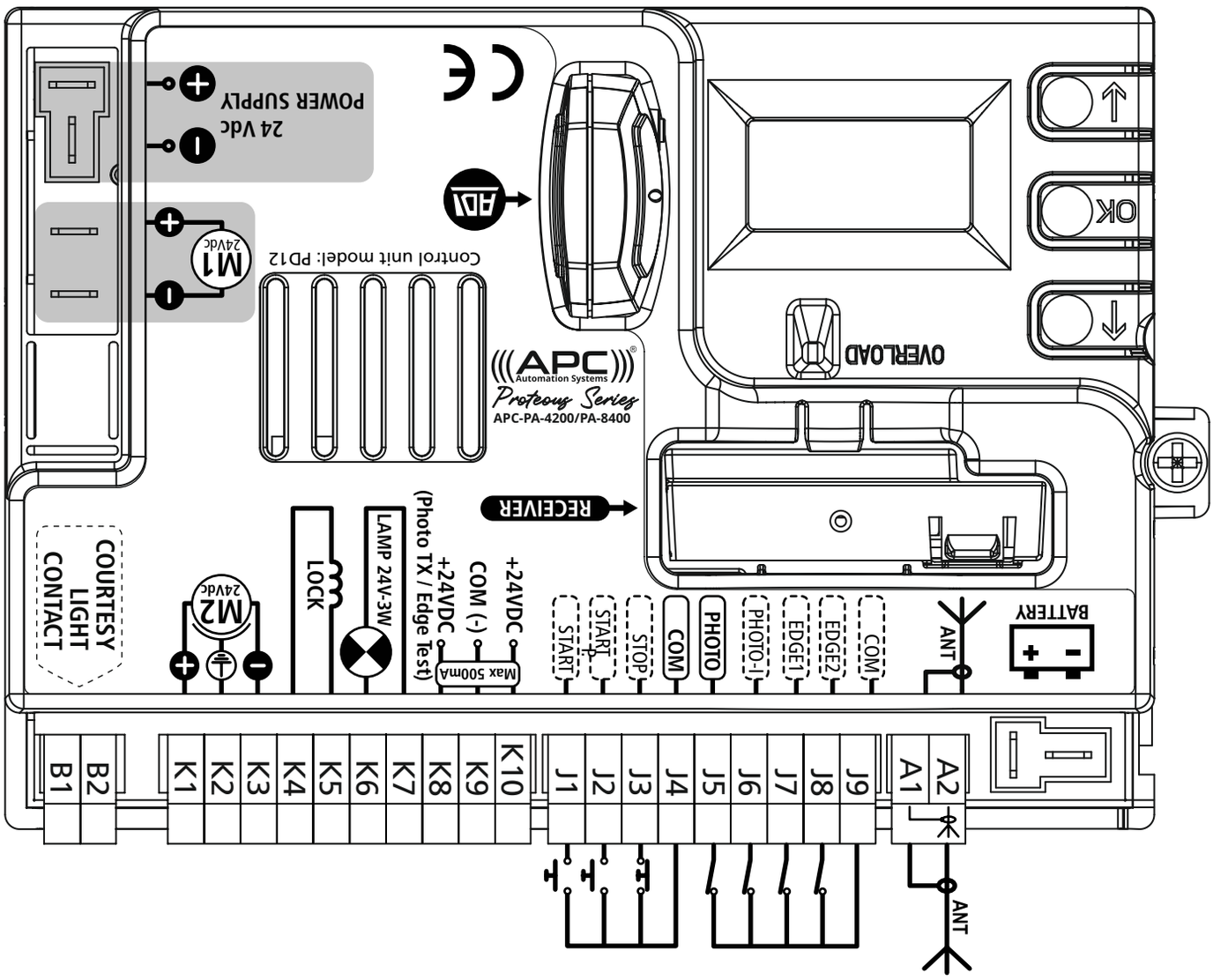


Repeat the above steps for the second gate motor if applicable

CONNECTION OF THE MOTOR

The control unit is supplied already connected to the MASTER motor. The SLAVE motor (if used) should be connected to terminals **K1 and K3,** following the polarity indicated on the labels attached to the control unit and the Slave motor itself.





Operational Inputs
J1. Start (Full Operation) Command (N/O)
J2. Start P. (Pedestrian Operation) Command (N/O)
J3. Stop Command (N/C)
J4. Common Ground

Safety Inputs
J5. Photocell Input 1 ((N/C)
J6. Photocell Input 2 (N/C)
J7. Safety Edge Input 1 (N/C)
J8. Safety Edge Input 2 (N/C)
J9. Common Ground

Accessories Power
K8. +V DC Output Only when in an operating cycle
K9. Common
K10. Constant +V DC Output

Lamp Output 24V
K6. Lamp Output + (24V DC Max 3W)
K7. Lamp Output - (24V DC Max 3W)

Antenna
A1. Antenna Shield (applicable with external antenna)
A2. Antenna Core

Light Output
B1. Pole 1
B2. Pole 2

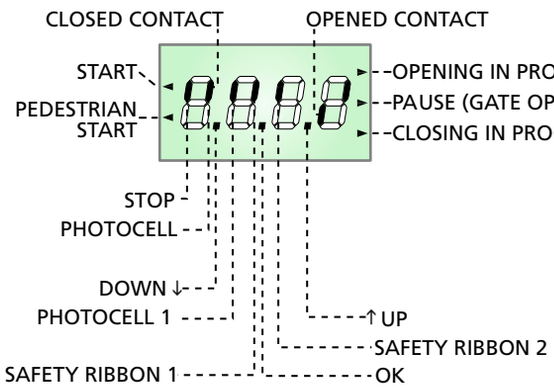
Voltage Supply
4. DC Power Input jack (Solar Input)
5. **Backup Battery Charger Port**
(powered systems only)

Remote Cartridge Receiver
6. Remote Pairing Button
7. Remote Cartridge LED indicator

Overload
8. Overload LED indicator

Menu
9. Menu Down / Operate Pedestrian
10. OK
11. Menu Up / Operate Full Gate

LCD Interface



Successful Installation flowchart

The below should be followed after the installation of the motor(s).

Phase 1

Ensure all power connections are completed correctly

Page 13,14,15and16

Wire in motor(s) according to there wiring diagram

Motor Manual

Power on the system/Plug in Solar

Start Initialising the Control Unit

Page 17

Manually adjust gate(s) to half way position

Run the automatic learning, the gates final position after this cycle must be CLOSED

Page 21

PROBLEM

Wrong Operating Direction, Reverse motor polarity

Return Gate to Closed position using Manual override of the Gate Motor

Immediately adjust Sens1 and Sens2 (if applicable) by an increase of 0.20A

Page 21

OK

Proceed to testing gate using Button "1" on Remote

OK

Opens and closes successfully.

Phase 2

De-power the system

Connect the photocell/reflective sensor into the Photo1/Photo2 depending on requirment

Page 28

Power on the system /Plug in Solar

Enable the **USED** input Photo1 OR Photo2

Page 29

Test the operation of the system without an obstacle in sensor path

PROBLEM

Check Alignment, wiring and CORRECT input enabled

Page 29

OK GATE CLOSED

Re-test with an obstacle in sensor path

PROBLEM

OK GATE DID NOT CLOSE

Remove obstacle and allow the gate to close

Enable the Ramp Up Feature

Phase 3 (SOLAR ONLY)

Set the system into EnSa Energy Saving Mode

Page 19

Turn on the Photocell Check Before Motion Feature

Page 29

Test the operation of the system without an obstacle in

OK GATE CLOSED

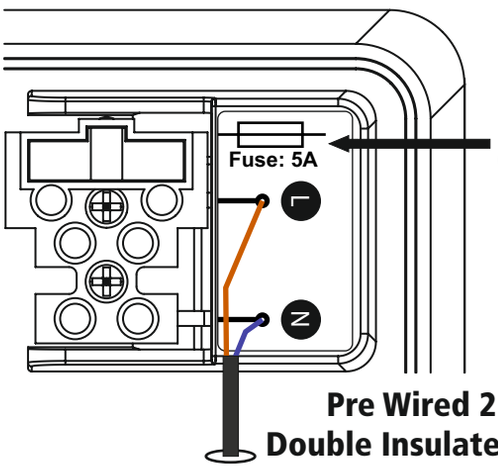
PROBLEM

Photocell check before motion must be set to ON

Page 29

Internal Transformer, wiring and Fuse

HIGH VOLTAGE



ANY High Voltage Connections MUST be carried out by a QUALIFIED Electrician

POWER SUPPLY

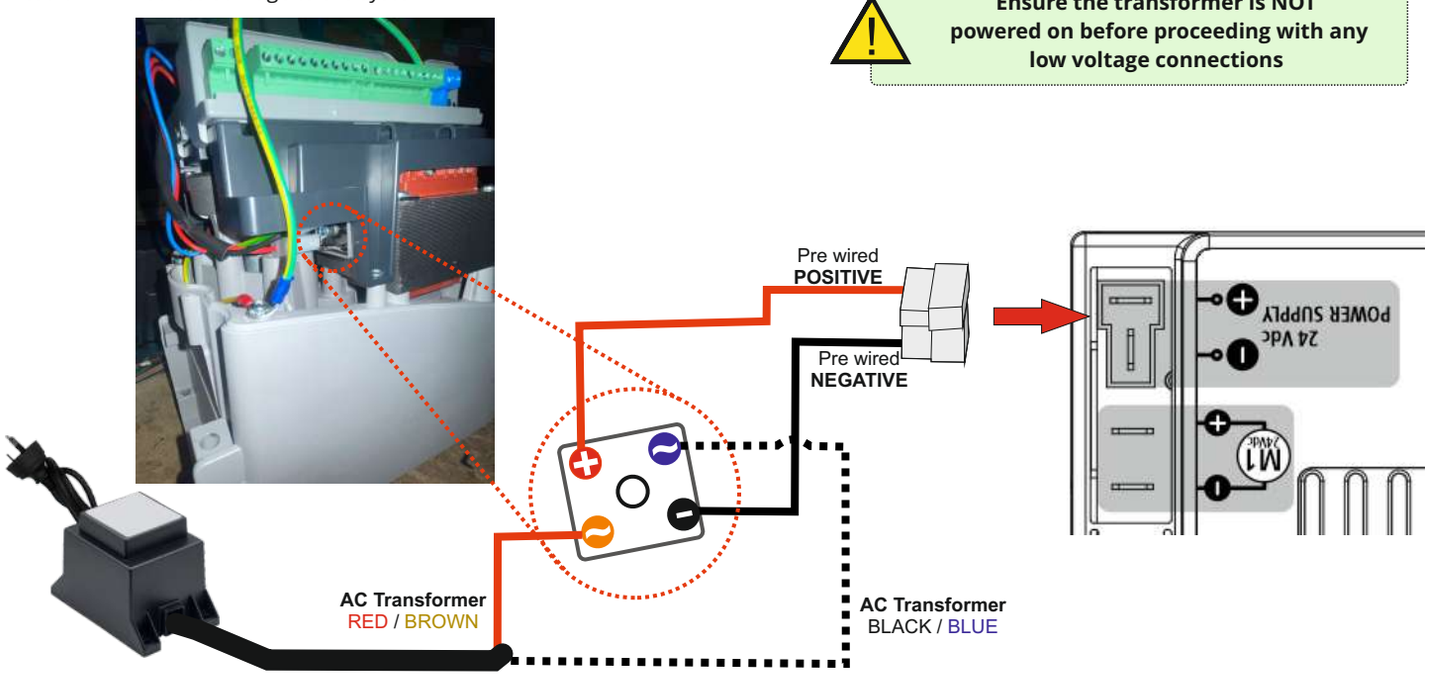
The control unit must be fed by a 230V 50Hz electric line, protected by a differential magnetothermal switch complying with the law provisions in force.

Connect the power supply wires to terminals L and N on the board located next to the transformer.

APC External AC Transformer (Low Voltage Systems)

The diagram below will illustrate the low voltage transformer connection to the bridge rectifier located BELOW the control board. The transformer should never be connected directly to the control board and must always be wired to the bridge, any other method of connection will result in immediate damage to the system.

Ensure the transformer is NOT powered on before proceeding with any low voltage connections

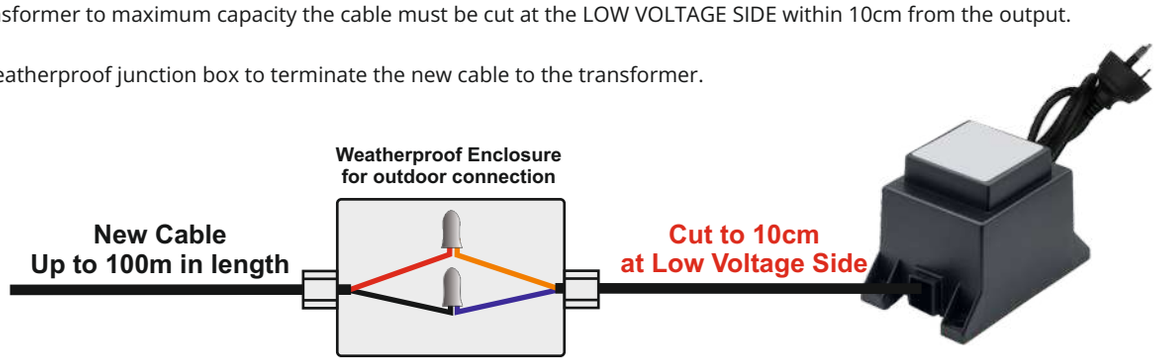


Extending the APC External AC Transformer (low Voltage)

Ensure the transformer is NOT powered on before proceeding with any low voltage connections

Maximum cable distance: The low voltage transformer can be run up to 100m in cable distance when using a 2mm pair conductor or greater. To run the transformer to maximum capacity the cable must be cut at the LOW VOLTAGE SIDE within 10cm from the output.

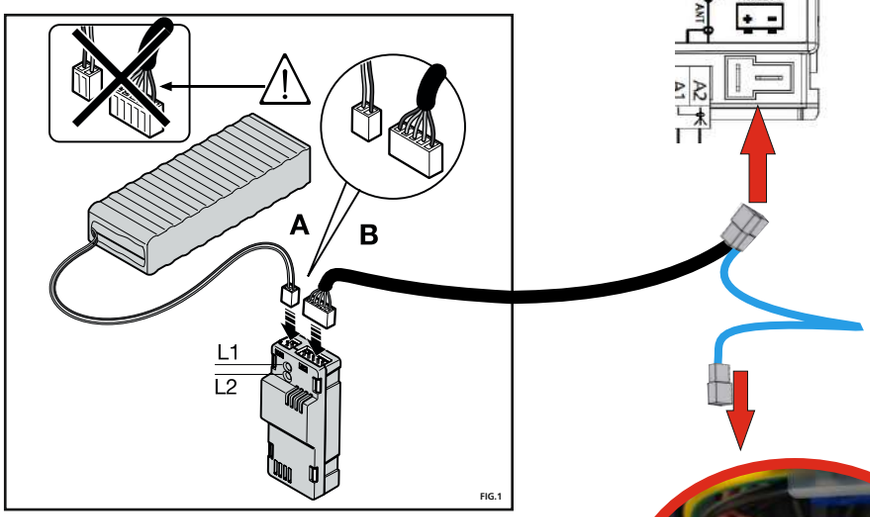
Note: Use a weatherproof junction box to terminate the new cable to the transformer.



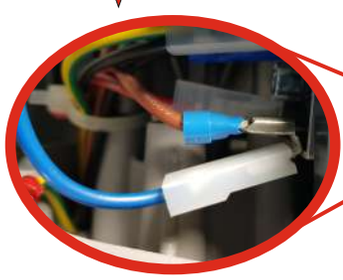
APC Battery Backup (APC-PA-4200-BATT)

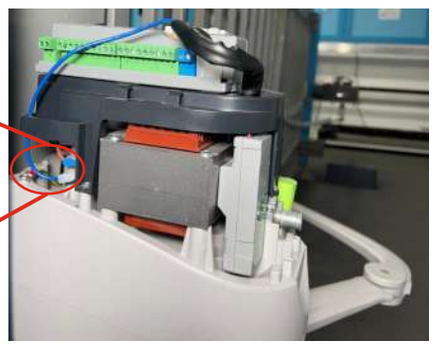
Ensure the transformer is NOT powered on before proceeding with any low voltage connections

The diagram below will illustrate the battery connection input with the battery charger module. Ensure that the system is de-powered before beginning the wiring connection. Note: This system is only









TESTING AND COMMISSIONING

The following tests should be run immediately after connecting the battery to the control unit.

• Make sure that led “L2” (fig. 1) is on to indicate that the battery is supplying power to the system.

• Make sure that the different LEDs on the control unit confirm that it is operating properly.

Note: If these conditions are not satisfied, it probably means that the battery is completely drained; in this case proceed to the next step and wait a few hours with the automation system powered by the mains before testing the operation of the battery again.

• Connect the automation system to the mains supply and check that the led “L1” (fig. 1) turns on to confirm that the battery is recharging properly.

• Run at least one open/close cycle to check that the system operates properly when powered off the mains.

• Disconnect the automation system from the mains, and check that led “L2” (fig. 1) is on; run at least one open/close cycle to check that everything is working as it should even with battery power.

• At the end of the tests, reconnect the automation to the mains.

Max. Power on Battery Backup

Default is no

When the system is functioning on battery backup (no mains power) the gates may function poorly due to the power difference, if this is the case it is recommended to enable this feature to give the gate motors maximum power through there battery backup cycles.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

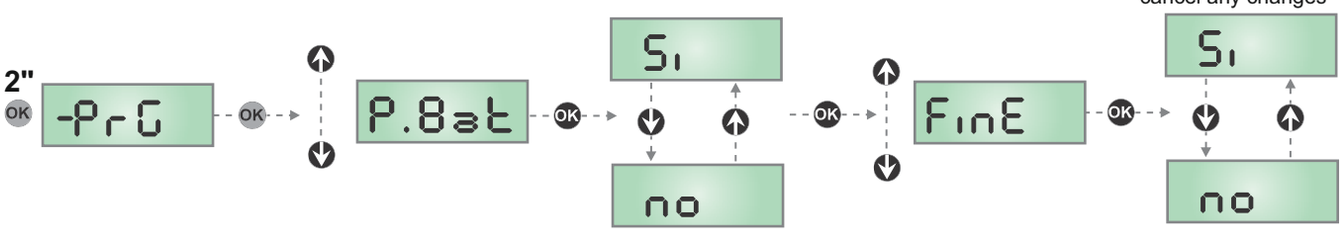
Use the UP/Down keys to cycle to P.Bat then press **OK**

Use the ▲▼ keys to cycle to the required logic based on the above options..

Now press **OK**

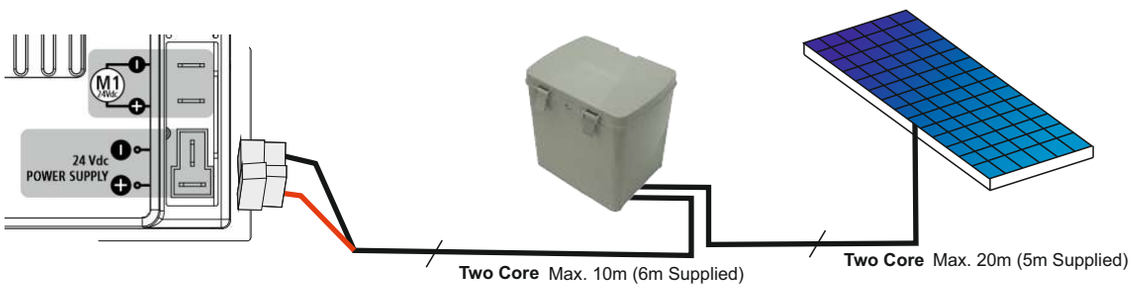
Use the ▲▼ keys to cycle to FINE then press **OK**

Cycle to SI then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Solar System Installation

Taking into account that the solar panels maximum cable distance is 20 metres and the maximum distance between the solar box and the gate controller is 10 metres find a suitable location for the mounting of the box accordingly. Both the solar box and the solar panel are completely weatherproof and can be mounted in complete exposure to the elements.



Step 1: Installing the Solar Panel

LOOSLEY assemble the two clamps to the base plate.



Insert the post into the clamps and tighten. USE the rubber cutouts around the post for best grip



Assemble the base plate to the solar panel using the supplied bolts

1.The solar panel should be installed at 45º facing mid-day to afternoon sun.

2. Assemble and install the solar panel in a place that is exposed to the sun most of the day and as far as possible from any walls or trees.

3. Make sure that the two wires of the solar panel do not touch each other at any time during installation.

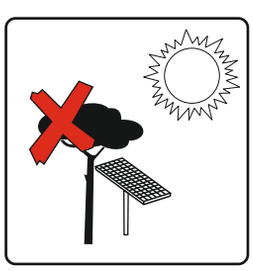
4. Install the solar panel at least 2m above the ground to protect it from dust and small stones.

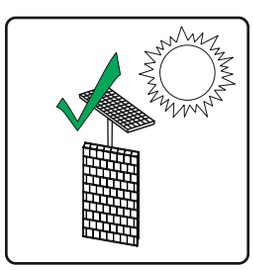
Solar Panel Placement

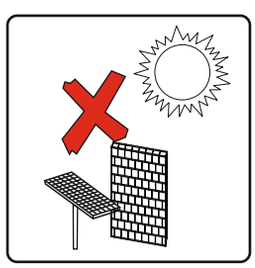
1. A solar panel CANNOT be installed under a tree, it requires sun to charge and maintain the batteries.

2. A solar system is often maintenance free BUT the batteries may require an occasional external charge in the winter months due to lack of sun.

3. Constantly powered accessories such as wired keypads will increase the standby current draw, solar panel or battery upgrades may be required if insufficient sun collection is not achieved.

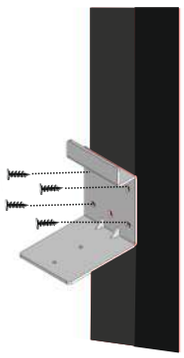




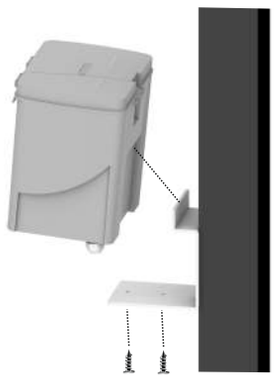


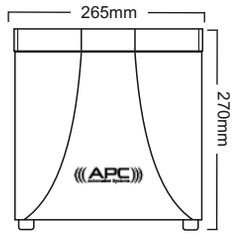
Step 2: Mounting the APC UNO Solar Box

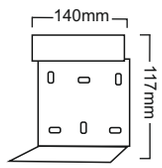
1. Install the bracket to the wall or post using the appropriate fixings whilst adhering to the maximum cable distance of 10m (note that the system is supplied with 6m).



2. Position the solar box onto the installed bracket and secure in place using the two 4mm allen screws at the bottom.







3. Wiring the System to the APC Sun Power

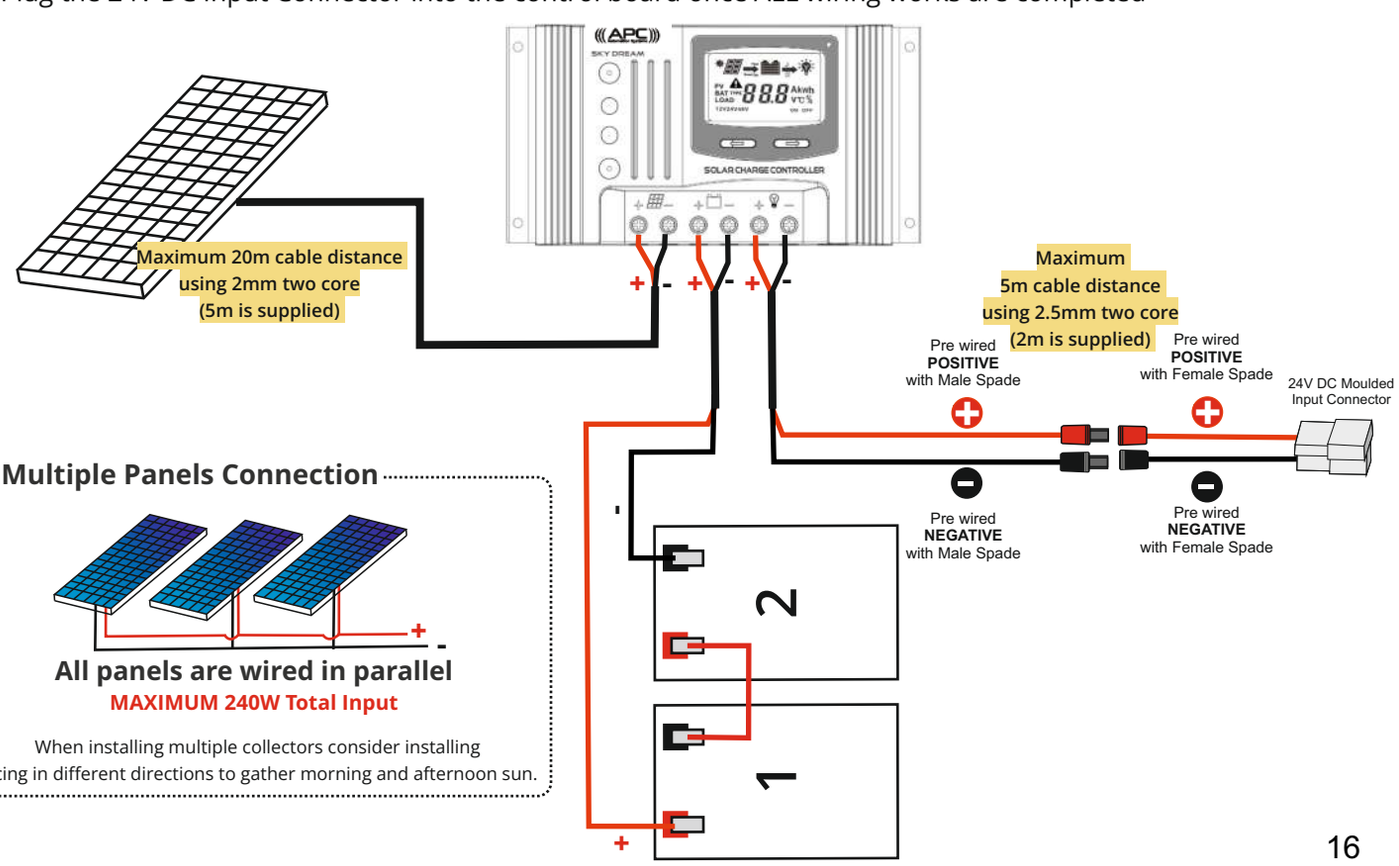
Taking into account that the solar panels maximum cable distance is 20 metres and the maximum distance between the solar box and the gate controller is 10 metres find a suitable location for the mounting of the box accordingly. Both the solar box and the solar panel are completely weatherproof and can be mounted in complete exposure to the elements.

1. Wire the positive and negative of the solar panel to there corresponding terminals.

2. Wire the batteries in series to create a 24V arrangement into the system and wire into the corresponding terminals. Regulator positive direct to battery 1,Regulator negative direct to battery 2,link the remaining terminal of each battery together

3. Wire the regulators load outputs to the control boards green to the 24V DC INPUT moulded connector

4. Plug the 24V DC Input Connector into the control board once ALL wiring works are completed



Multiple Panels Connection

All panels are wired in parallel

MAXIMUM 240W Total Input

When installing multiple collectors consider installing facing in different directions to gather morning and afternoon sun.

USE OF THE KEYS FOR PROGRAMMING

The control unit functions and times are programmed by means of a special configuration menu, which can be accessed and explored by using the 3 keys, ↑, ↓ and OK, located on the side of the control unit display.

PLEASE NOTE: Outside the configuration menu, pressing the ↑ key activates the START command, pressing the ↓ key activates the PEDESTRIAN START command.

In the manual, the control unit programming procedure is represented by block diagrams, consisting of the various display views.

The various blocks include symbols showing the user the keys to be pressed to navigate around the menu.
When a time is written to the side of the symbol, this means the key should be pressed and held for the length of time indicated.

The following table describes the functions of the push-buttons:

OK	Press and release the push-button OK
OK 2"	Keep pressed the push-button OK for 2 seconds
OK	Release the push-button OK
↑	Press and release the push-button ↑
↓	Press and release the push-button ↓

INITIALISING THE CONTROL UNIT

This operation is necessary when the control unit is installed for the first time, and is used to define the gate leaf starting order and the direction of rotation of the two motors.
Until initialisation is performed, it is not possible to operate the gate or program the control unit.

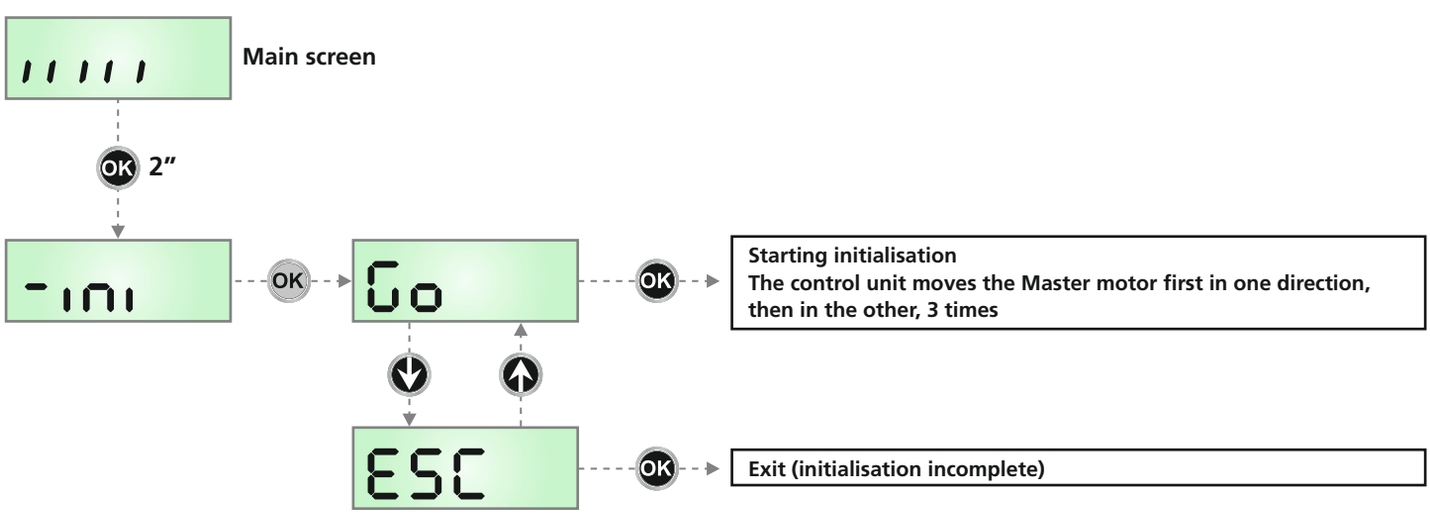
The initialisation procedure steps are as follows:

1. Starting initialisation
2. Selecting the superior and inferior gate leaves
3. Selecting the opening direction
4. Verifying Slave motor connection
5. Self-training the working times

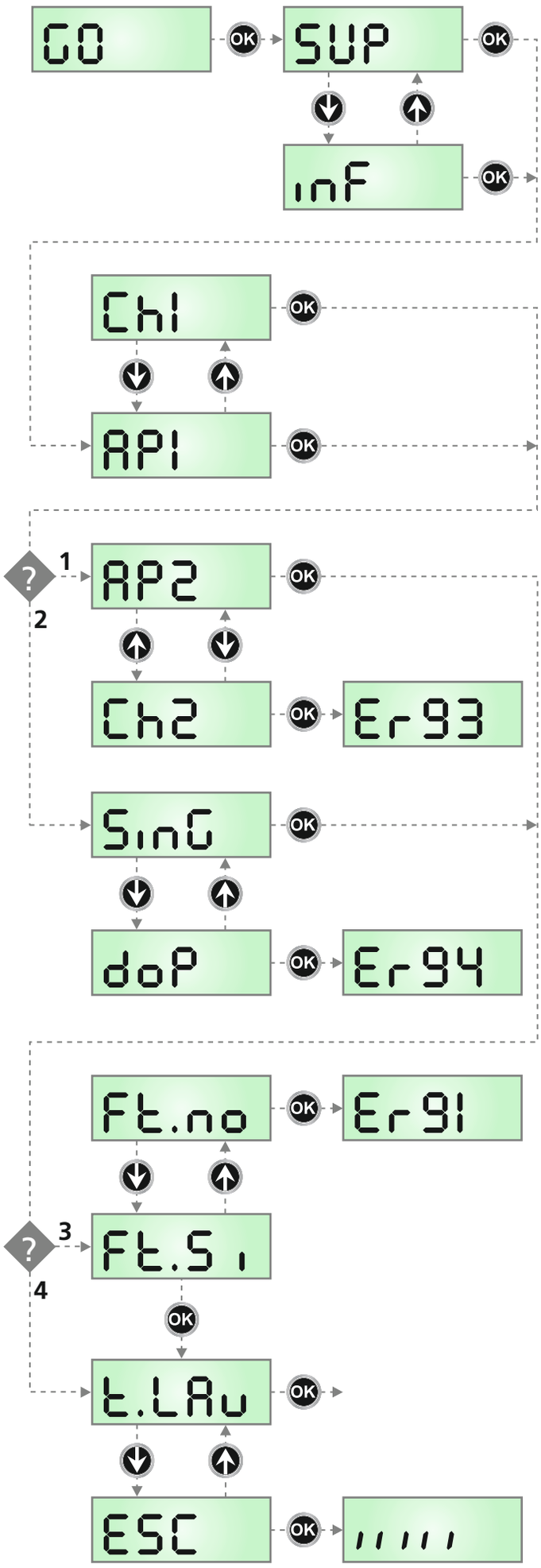
WARNING:

- Ensure that the motors and accessories are connected correctly prior to performing initialisation
- Position the gate leaves roughly at the half way points (unblock the motors, operate the gate leaves, re-block the motors)
- Firstly, the procedure will involve short movements of the gate leaves. In the final phase, the gate is moved through its entire path. The operator should be positioned so as not to interfere with the movement of the gate leaves and so as not to trip any photocells
- Installation is automatically interrupted if no operations are performed for one minute
- The initialisation procedure involves the loading of default values for all programming menu parameters

Start



Press and hold OK for approx. 2 seconds, until the message "-ini" appears. On release of the key, the message GO appears. Pressing OK starts the procedure. The arrow keys can be used to select "ESC", thus exiting without starting the procedure.



Select this parameter depending on the position (superior or inferior) of the gate leaf in motion
SUP the gate leaf in motion is the leaf that should open first
inF the gate leaf in motion is the leaf that should open second

PLEASE NOTE: if installation envisages one motor only, select SUP

Select this parameter depending on the direction of opening of gate leaf 1
API the gate leaf is opening
ChI the gate leaf is closing

Having selected this parameter, the control unit moves the SLAVE motor

1 If the control unit detects the SLAVE motor, the display shows Ap2

Select this parameter depending on the direction of opening of gate leaf 2
AP2 the gate leaf is opening
Ch2 the gate leaf is closing

Having selected the parameter, press **OK** to move to the next phase.

If the display shows Er93, this means the SLAVE motor is connected incorrectly.
Check the SLAVE motor connection and repeat the initialisation procedure

2 If the control unit does NOT detect the SLAVE motor, the display shows SinG

If the installation envisages only one motor, press **OK** to move to the next phase.

If the installation envisages two motors, select the doP menu option and press **OK**.
The display will show Er94 to indicate that the SLAVE motor is not connected, or is connected incorrectly.
Check the SLAVE motor connection and repeat the initialisation procedure

3 If the control unit does not detect a photocell on the PHOTO input, the display shows Ft.no

If the installation does not envisage the use of a photocell, select Ft.no and press **OK** to move to the next phase.
The photocell will be automatically disabled.

If installation envisages the use of a photocell, select Ft.Si and press **OK**. The display will show Er91 to indicate that the photocell is not connected, or is connected incorrectly.
Check the photocell connection and repeat the procedure.

4 If the control unit detects a photocell connected correctly to the PHOTO input, it automatically switches to the working time self-training phase.

Press **OK** to start the self-training phase.
Select ESC and press **OK** to exit the menu without performing the time self-training phase.

Please note: in the case of exiting without self-training, it will not be possible to operate the gate.
In any case, it will be possible to perform self-training in a separate phase and program the remainder of the control unit functions, using the specific menu

Step 4: Configuring the system for Energy Saving Mode

Used to reduce the current consumption of the system down to just 5mA whilst in standby enabling this feature will turn off the display of the system 30 seconds after any operating cycle or 30 seconds of being in a standby state.

Note: Energy saving mode also disables the accessories power output, this will affect induction loops, GSM systems, WiFi controllers etc. In such situations the battery system of should be selected carefully as the standby current is 30mA.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to EnSA then press **OK**

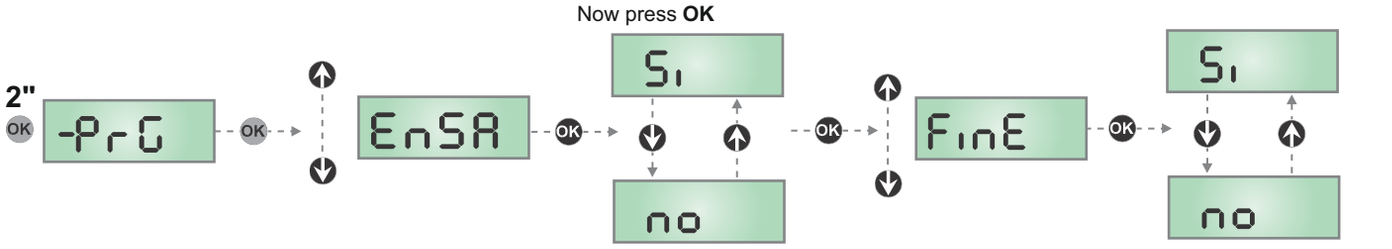
Use the ▲▼ keys to cycle to

EnSA To enable power saving mode
or
no To disable power saving mode

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



M2 Gate Delay in Opening

Default is 1 Second

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to r.AP then press **OK**

Use the ▲▼ keys to cycle to the required time

0.01" is 1 seconds.

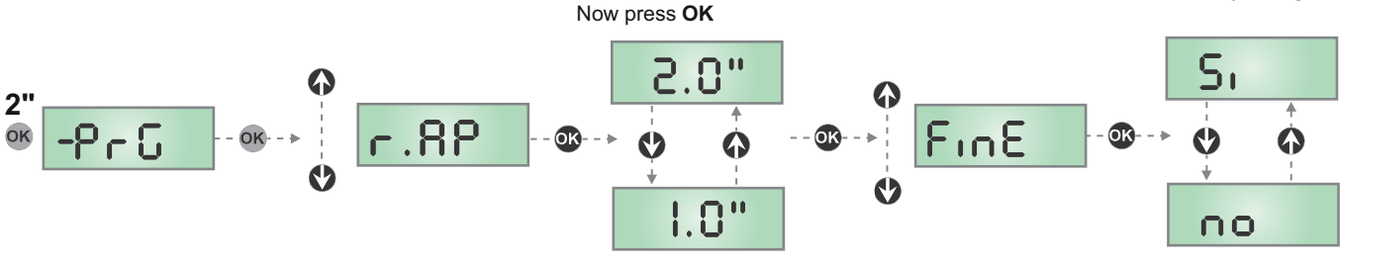
1'0 is 1 minute.

Min. is OFF (NO) **Max.** is 1 minute.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



M1 Gate Delay in Closing

Default is 3 Second

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to r.Ch then press **OK**

Use the ▲▼ keys to cycle to the required time

3.0" is 3 seconds.

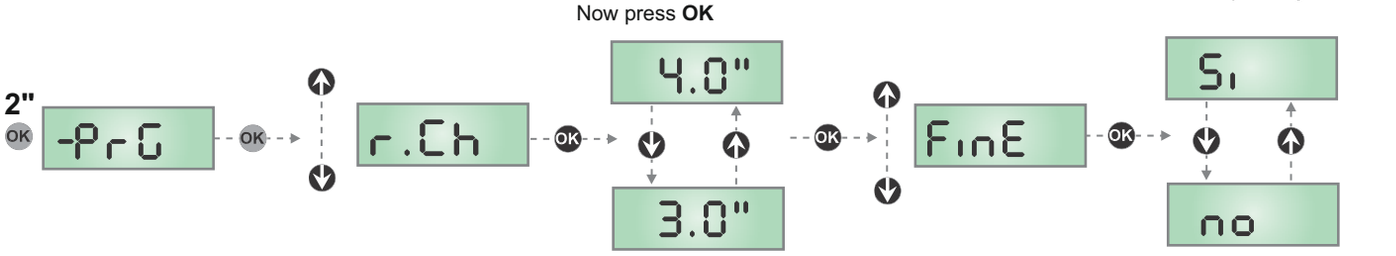
1'0 is 1 minute.

Min. is OFF (NO) **Max.** is 1 minute.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Enabling the Electric Lock and Setting the Unlocking Time

Default is 2 Second

The Electric Lock can be enabled by setting a time or disabled by setting to “no”.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to t.SEr then press **OK**

Use the ▲▼ keys to cycle to the required time

2.0" is 2 seconds.

1'0 is 1 minute.

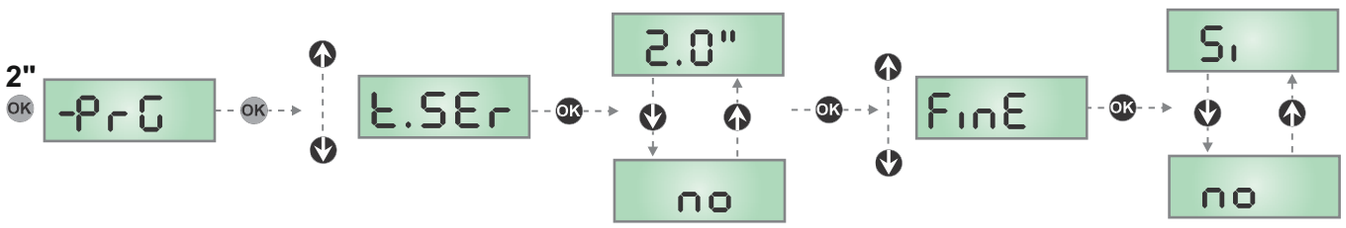
no is OFF

Min. is 0.5 seconds **Max.** is 1 minute.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to SI then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes

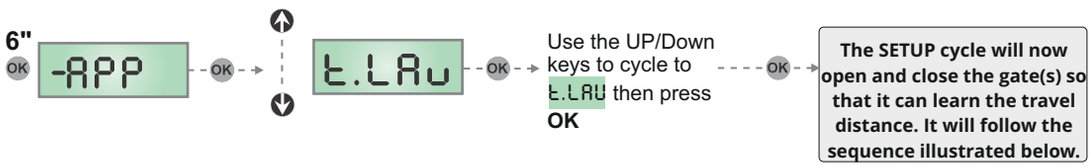


Gate System SETUP Cycle

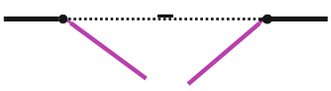
1. Set the Gate(s) Midway By Manual Override Before beginning
2. Adjust the M2 Opening and M1 Closing Delay If Double Gates and a Delay is required
3. Adjust Electric Lock Time if Required

1 The purpose of the SETUP cycle is so that the gate control panel can learn its opening and closing limits and learn its slowdown. If the control panel is not setup it may run inconsistently and/or may not reach its stopping points and/or slowdown incorrectly.

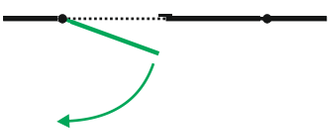
Press and hold the **OK** button for about six seconds til the screen displays -APP then immediately release



2 Double Gate Procedure



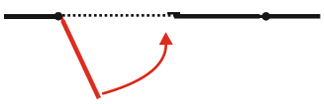
Both gates are set by clutch override to mid way then locked in place.



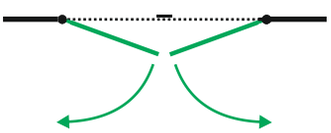
M1
Partially/Completly Opens



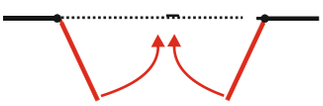
M2
Partially/Completly Closes



M1
Partially/Completly Closes



M1 & M2 Open
Completely Open
(With M2 Open Delay time if set)

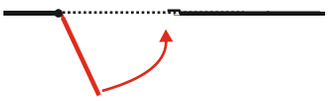


M1 & M2 Open
Completely Close
(With M2 Open Delay time if set)

2 Single Gate Procedure



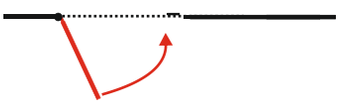
Gates is set by clutch override to mid way then locked in place.



M1
Partially/Completly Closes



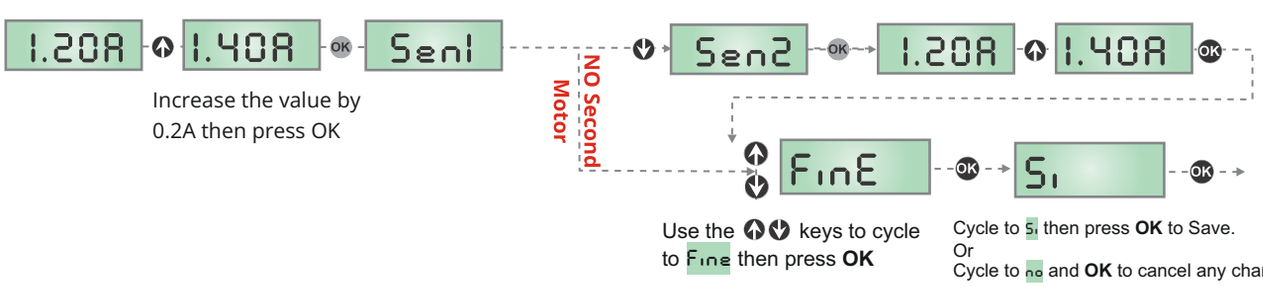
M1
Partially/Completly Opens



M1
Completly Closes

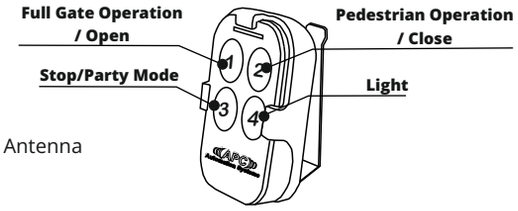
3 Final Settings and Saving

At the end of the procedure it will immediately display current value for M1 Sen1

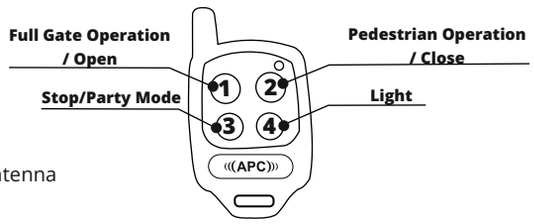


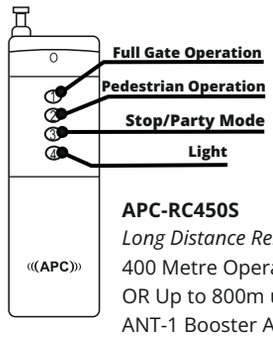
APC Remotes

APC-RC4-SV
Sun Visor Remote
30 Metre Operational Range as is
OR Up to 100m using an ANT-1 Booster Antenna



APC-RC4S
Keyring Remote
20 Metre Operational Range as is
OR Up to 80m using an ANT-1 Booster Antenna



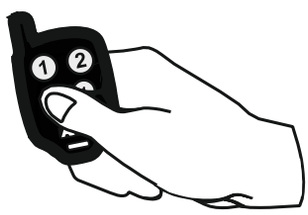


APC-RC450S
Long Distance Remote
400 Metre Operational Range as is
OR Up to 800m using an
ANT-1 Booster Antenna

Party Mode

Party mode enables the user to keep the gate open by remote if there is an automatic close timer enabled. To keep the gate open press the STOP button on the remote (button 3) whilst the gate is counting down and it will remain open until the command to operate is given.

Press and **HOLD** "**3**" on the remote control for one second then release WHILST the gate is OPEN.

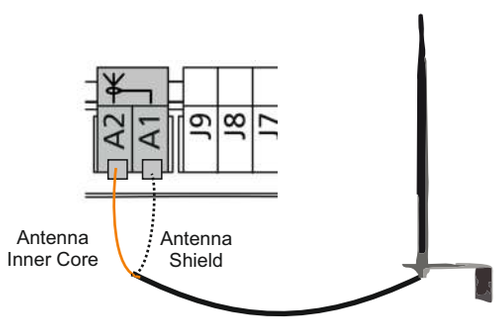


Connecting an APC-ANT1 External Antenna

The ANT-1 external antenna can boost the remote range drastically in most installations.
- APC-RC450S remote can be boosted UP TO 800m distance
- APC-RC4-SV remote can be boosted UP TO 100m distance
- APC-RC4-S remote can be boosted UP TO 80m distance

Inner core of the antenna cable to ANT (A2) on the control board.

Outer core/shield of the antenna to ANT Shield (A1) on the control board.

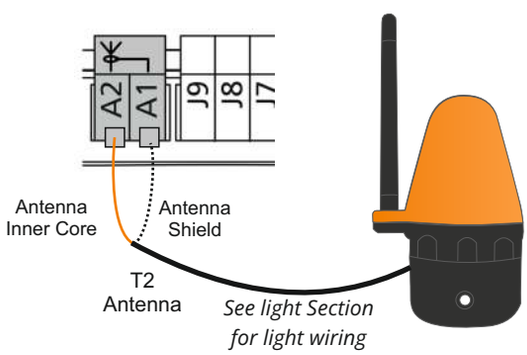


Connecting an APC-ULA Light with External Antenna

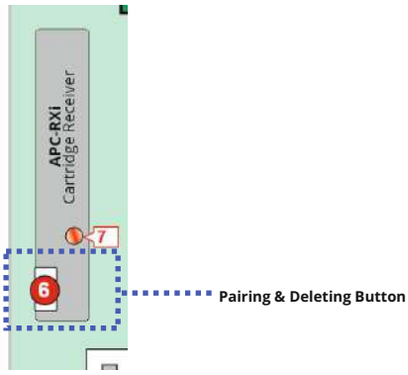
The APC-ULA external antenna can boost the remote range substantially with the added feature of a safety light.
- APC-RC450S remote can be boosted UP TO 600m distance
- APC-RC4-SV remote can be boosted UP TO 80m distance
- APC-RC4-S remote can be boosted UP TO 60m distance

Inner core of the antenna cable to ANT (A2) on the control board.

Outer core/shield of the antenna to ANT Shield (A1) on the control board.



Pairing & Deleting Wireless Items



Pairing Wireless Equipment

1. Push the button on the receiver for one second.

2. A five second window is open to press any button on the remote/wireless push button you wish to pair or type the correct code into the wireless keypad.

• Each time an item is paired it restarts the five second window for additional individual items to be paired
• After five seconds of no activity the receiver will return to standby.

Clearing ALL wireless equipment

1. Turn OFF system power/disconnect 24V DC Power Input

2. Push and HOLD the button on the receiver and continue to hold, power on the system and continue to keep the button pressed. The led on receiver will illuminate for one second, then will blink four times, then will remain illuminated.

3. Release the button. The led will turn off, now the memory of the receiver is cleared.

Clearing an INDIVIDUAL wireless item

1. Turn OFF system power/disconnect 24V DC Power Input

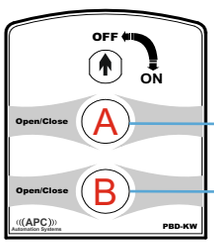
2. Push and HOLD the button on the receiver and continue to hold, power on the system and continue to keep the button pressed. The led on receiver will illuminate for one second, then will blink four times, before the fourth press release the button.

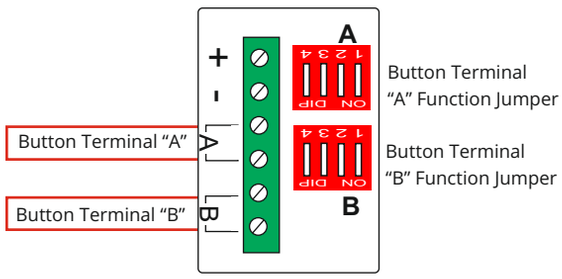
3.A five second window is open to press any button on the remote/wireless push button you wish to delete or type the correct code into the wireless keypad.

• Each time an item is deleted it restarts the five second window for additional individual items to be deleted.
• After five seconds of no activity the receiver will return to standby.

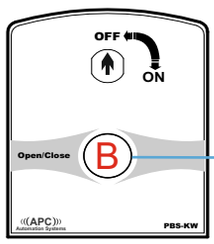
APC Smart Wireless Button Configuration

PBD-KW
(Double Push Button Switch)





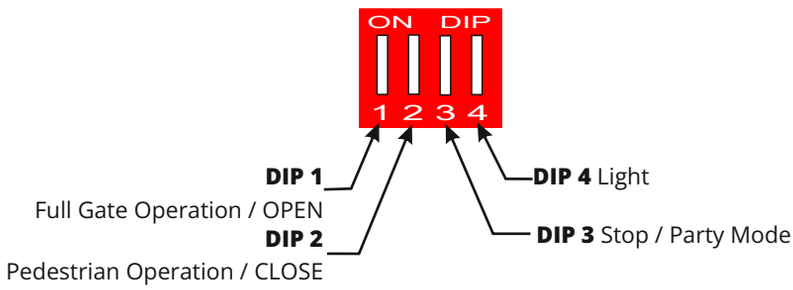
PBS-KW
(Single Push Button Switch)



Max. 20 Metre Operational Range*

Setting

Using the DIP switch associated with the button in use (see linked diagrams on the left). You can adjust your DIP switch to enable it to toggle a specific feature. Simply turn the respective DIP switch to the ON position.



APC-KP2W Pin number programming (4 Digit)

The APC-KP2W has TWO channels, each channel can control a different function on the system. To continue adding pin numbers after adding the first repeat the steps below.

Note: When you add your first pin number to each channel the default pin code will automatically be erased.



Type in the 4 digit pin code then press #

Default:
1111# For Full Gate Opening / OPEN
2222# For Pedestrian Opening / CLOSE

Max. 20 Metre Operational Range*

Quick Programming Pin Code

Channel 1
Full Operation / OPEN
(Supports 8 Pin Codes)

Master Code *
0 1 #
Pin Code #

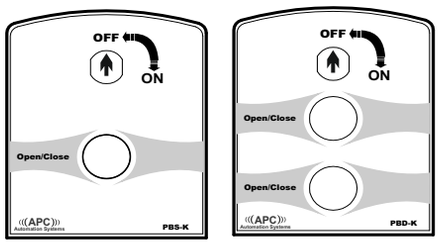
Channel 2
Pedestrian Operation / CLOSE
(Supports 3 Pin Codes)

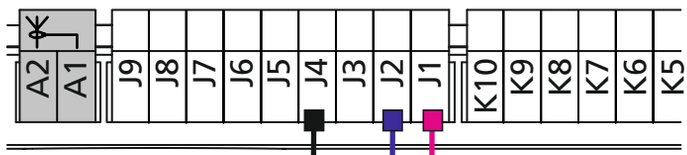
Master Code *
0 2 #
Pin Code #

APC Wired Push Button Connection

Push buttons are used for opening and closing the gates without using a remote.

Push buttons can be used for a vast amount of purposes ranging from basic access control for visitors, workers or taking out the bins.



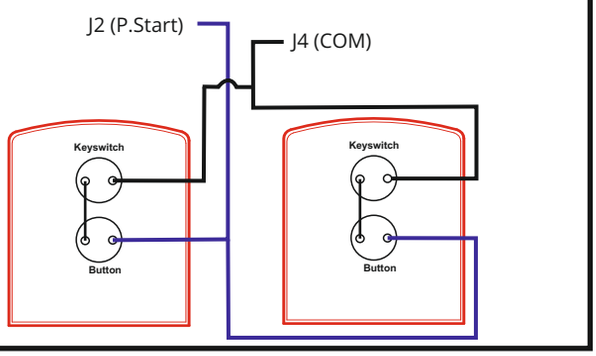


Common for both connections **J4 COM**

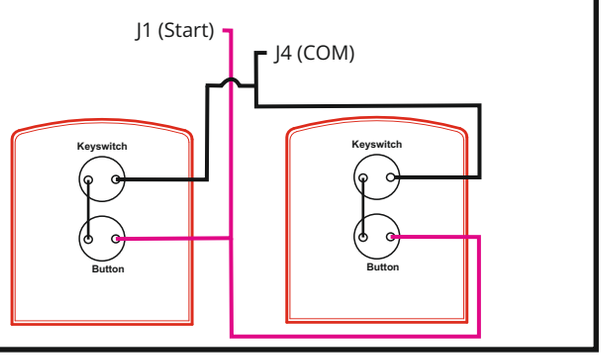
Pedestrian Gate opening connection **J2 P.Start**

Full Gate opening connection **J1 Start**

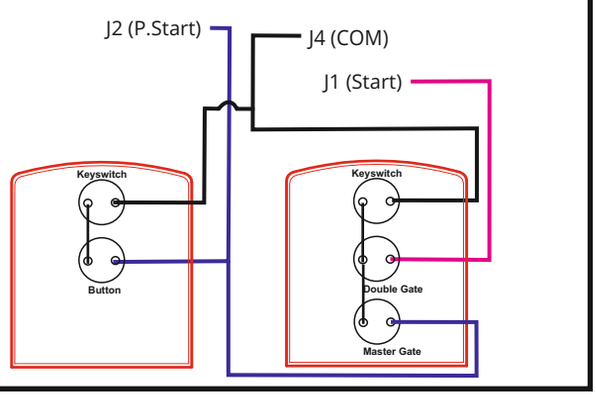
Two PBS-K to operate Pedestrian Opening



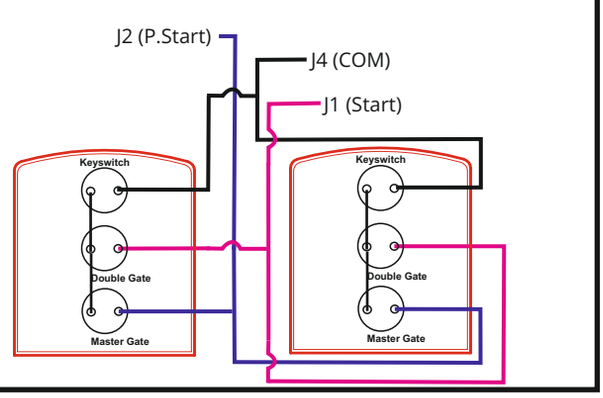
Two PBS-K to operate Full Opening



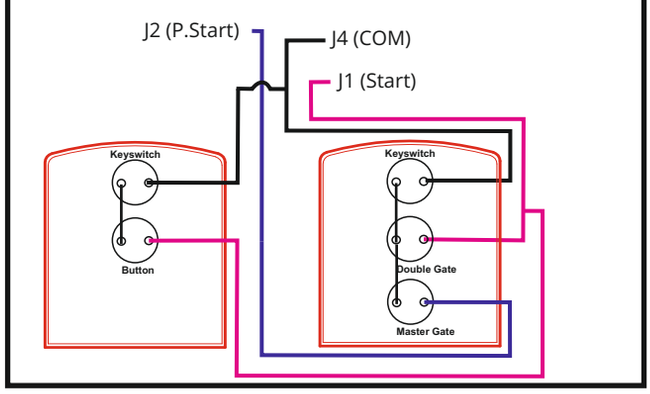
One PBS-K to operate Pedestrian Opening
One PBD-K to operate Pedestrian and also Full Opening



Two PBD-K to operate Pedestrian and also Full Opening



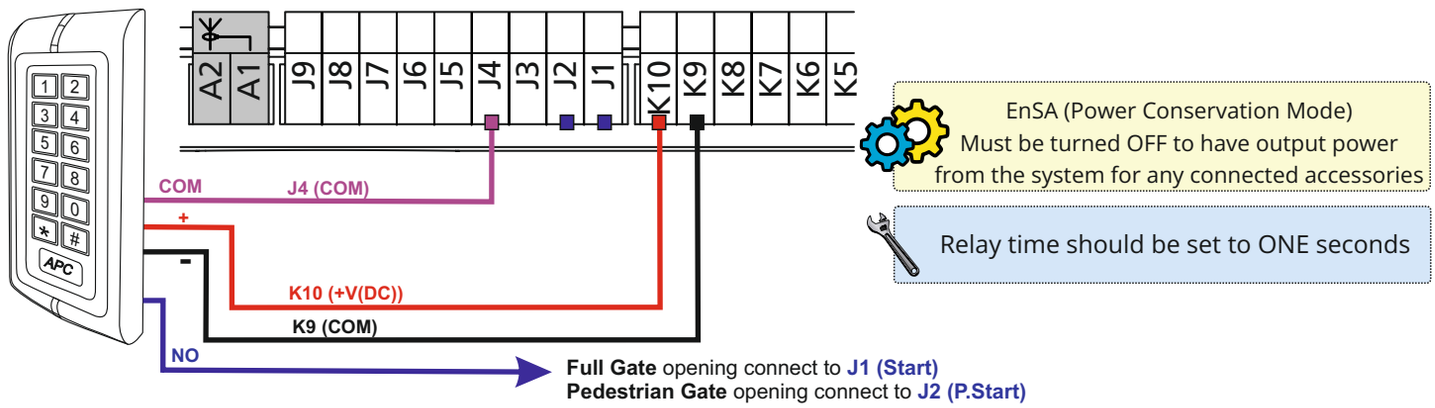
One PBS-K to operate Full Opening
One PBD-K to operate Pedestrian and also Full Opening



Connecting an APC Keypad (APC-KP1-C)

Unlike a push button entry switch using a keypad can provide a much higher security for access control for guests, workers, tenants etc.

Using a keypad will allow you to manage the users by adding and deleting as required. Its backlit illumination also allows for ease of use at night.



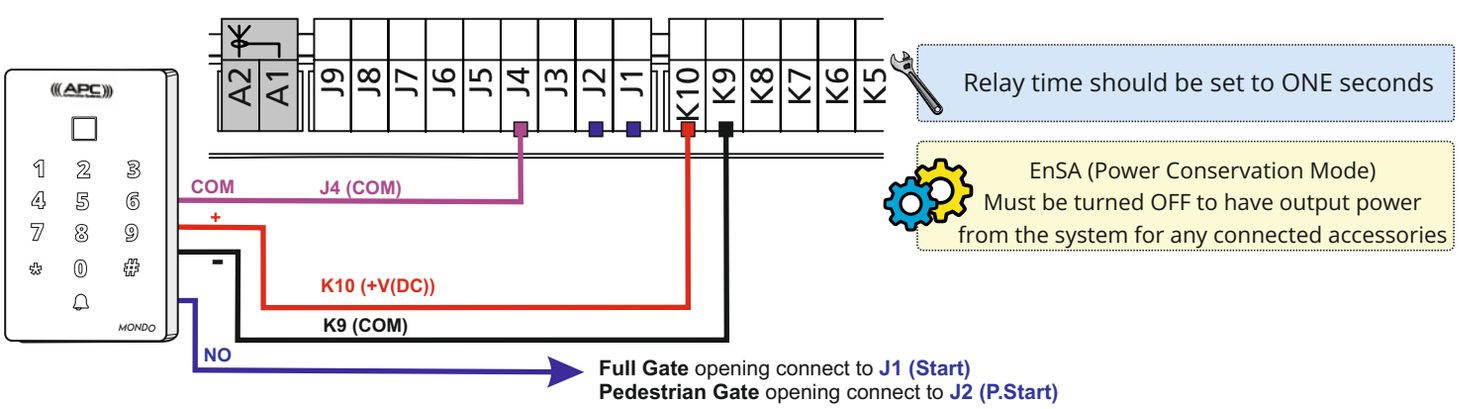
Quick Programming Pin Code / Swipe Tag

* 8 8 8 8 8 8 #	Master Code used to enter programming only
1	To enter Pin Code/Swipe Card Programming
User ID #	Any number between 1-999, this number is unique to each pin code/swipe tag and cannot be used twice
PIN/SWIPE #	The Pin code you would like to use to open the gate (4-6 Digits) OR Swipe the tag past the black window
*	To Exit programming and return to standby state
*	

Connecting an APC Mondo Wi-Fi Keypad (APC-WF-KP)

Unlike a push button entry switch using a keypad can provide a much higher security for access control for guests, workers, tenants etc.

Using a keypad will allow you to manage the users by adding and deleting as required. Its backlit illumination also allows for ease of use at night.



Quick Programming Pin Code / Swipe Tag

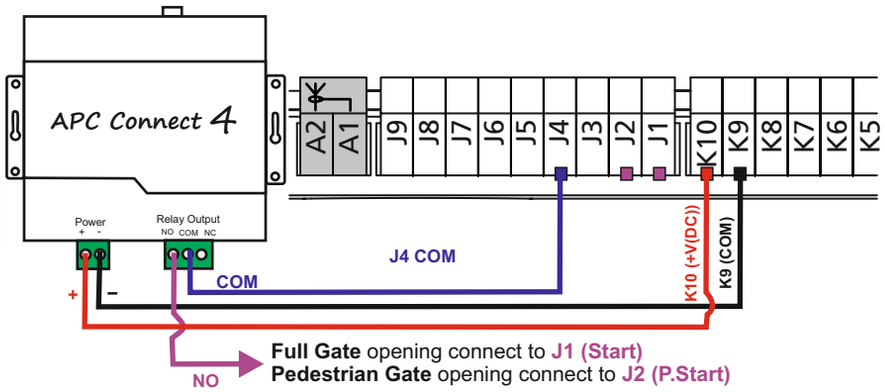
* 9 9 9 9 9 9 #	Master Code used to enter programming only
1	To enter Pin Code/Swipe Card Programming
User ID #	Any number between 1-999, this number is unique to each pin code/swipe tag and cannot be used twice
PIN/SWIPE #	The Pin code you would like to use to open the gate (4 Digits) OR Swipe the tag past the red square
*	To Exit programming and return to standby state
*	

APC Connect4 GSM Reciever

A GSM Receiver is the absolute most flexible form of access control. Providing there is good mobile reception at the gate the GSM switch can operate the gate from anywhere in the world. When receiving a call it will automatically reject the call and open or close the gate.
SIM CARD IS NOT SUPPLIED.

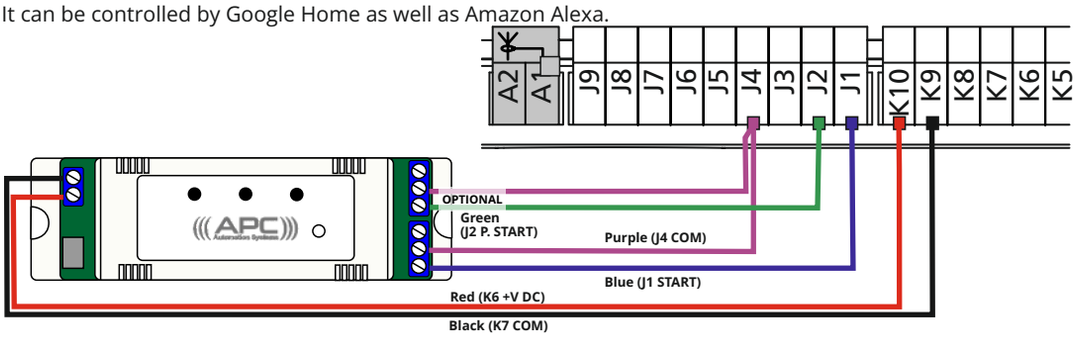
EnSA (Power Conservation Mode)
Must be turned OFF to have output power from the system for any connected accessories

Relay time should be set to ONE seconds



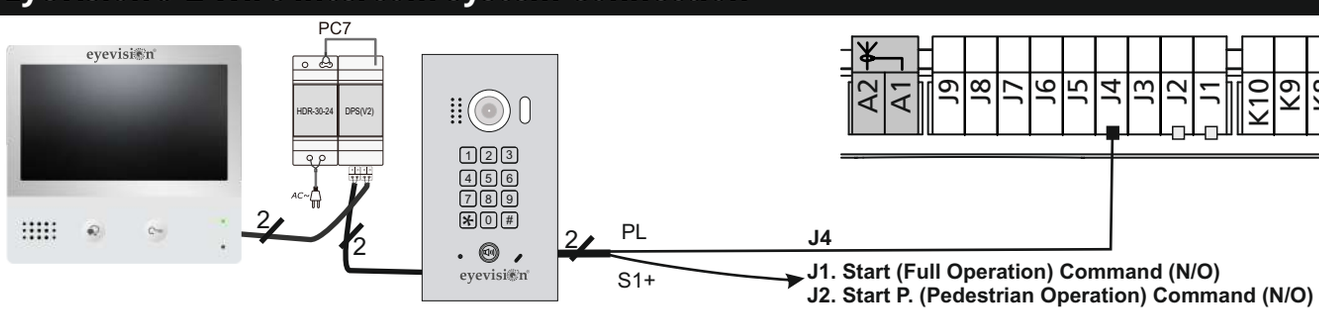
APC Link2 Wi-Fi Switch

The Wi-Fi switch allows use of the gate system from anywhere in the world by APP, it can also hold schedules for automatic operation of the gate. It can be controlled by Google Home as well as Amazon Alexa.



* Optional connection determines the ability to toggle pedestrian function from the Wi-Fi Switch

Eyevision® 2 Wire Intercom System Connection

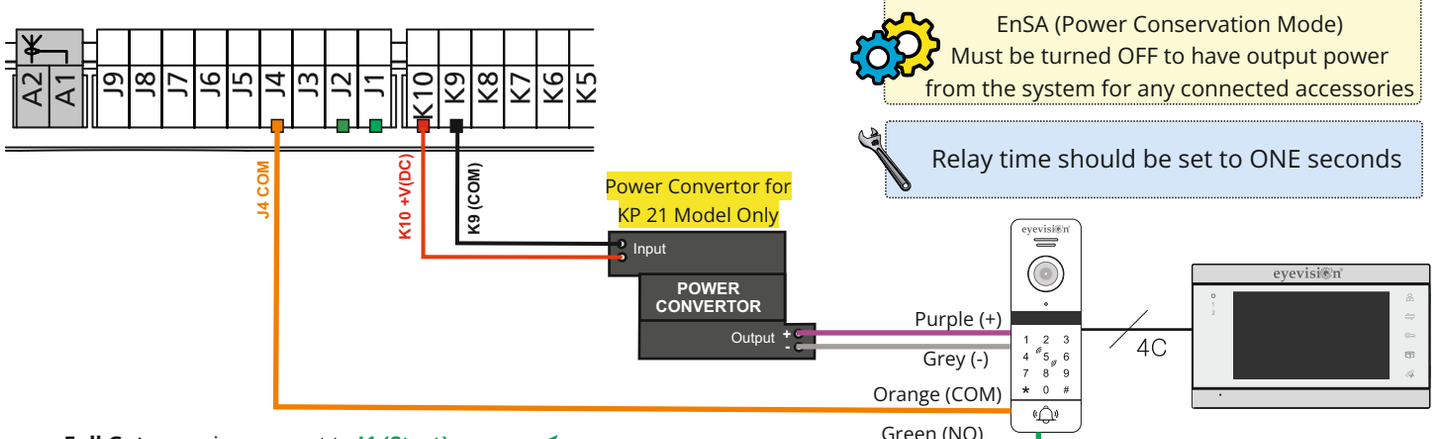


Eyevision® Intelli Series Intercom

The intelli intercom range will allow you to see your visitors when they ring the doorbell wether on screen or by the APP and also control the operation of the gate.

EnSA (Power Conservation Mode)
Must be turned OFF to have output power from the system for any connected accessories

Relay time should be set to ONE seconds



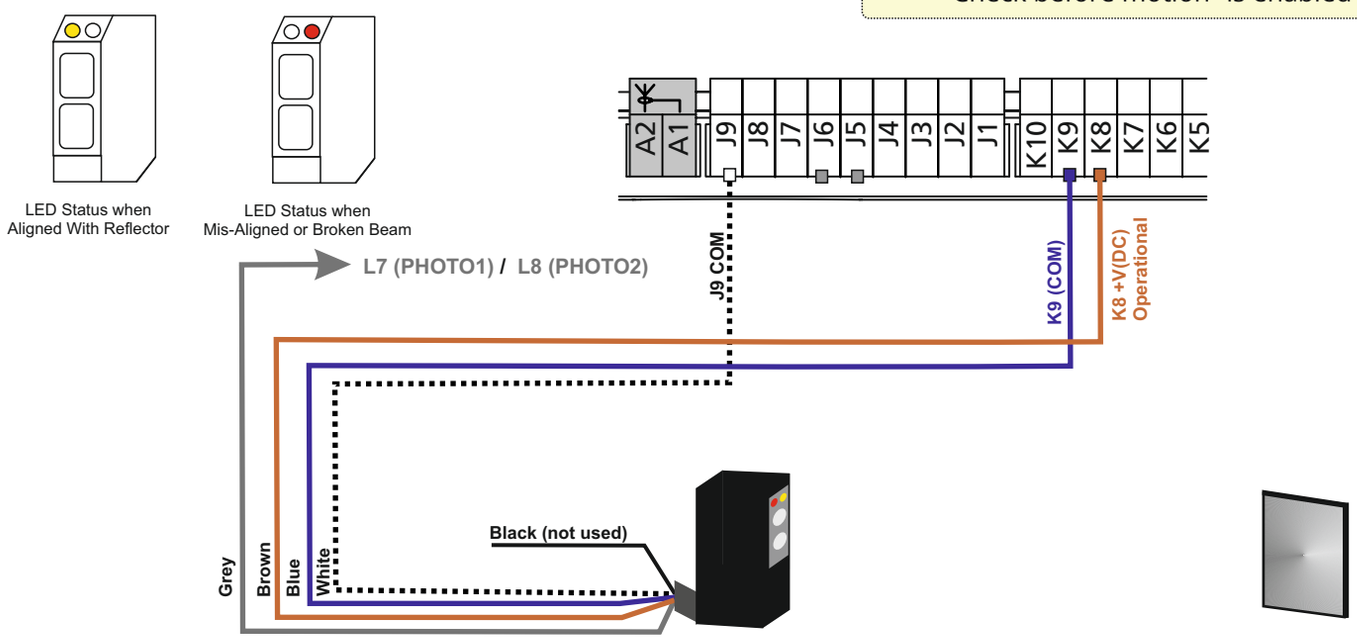
Full Gate opening connect to **J1 (Start)**
Pedestrian Gate opening connect to **J2 (P.Start)**

Connecting a Retro Reflective Sensor (APC-RR-11)

APC-RR-11 Reflective sensor (Transmitter only) **must be connected back to the control board** *(see wiring diagram)*.
Install the RR-11 Reflective sensor on the first entry point of the driveway from post to post at approx. 500mm above ground level.

The Transmitter and the Reflector must be inline with each other
(The yellow inline LED will be ON when Aligned with the transmitter).

If Using EnSA energy saving mode
Ensure the Photocell
"Check before motion" is enabled

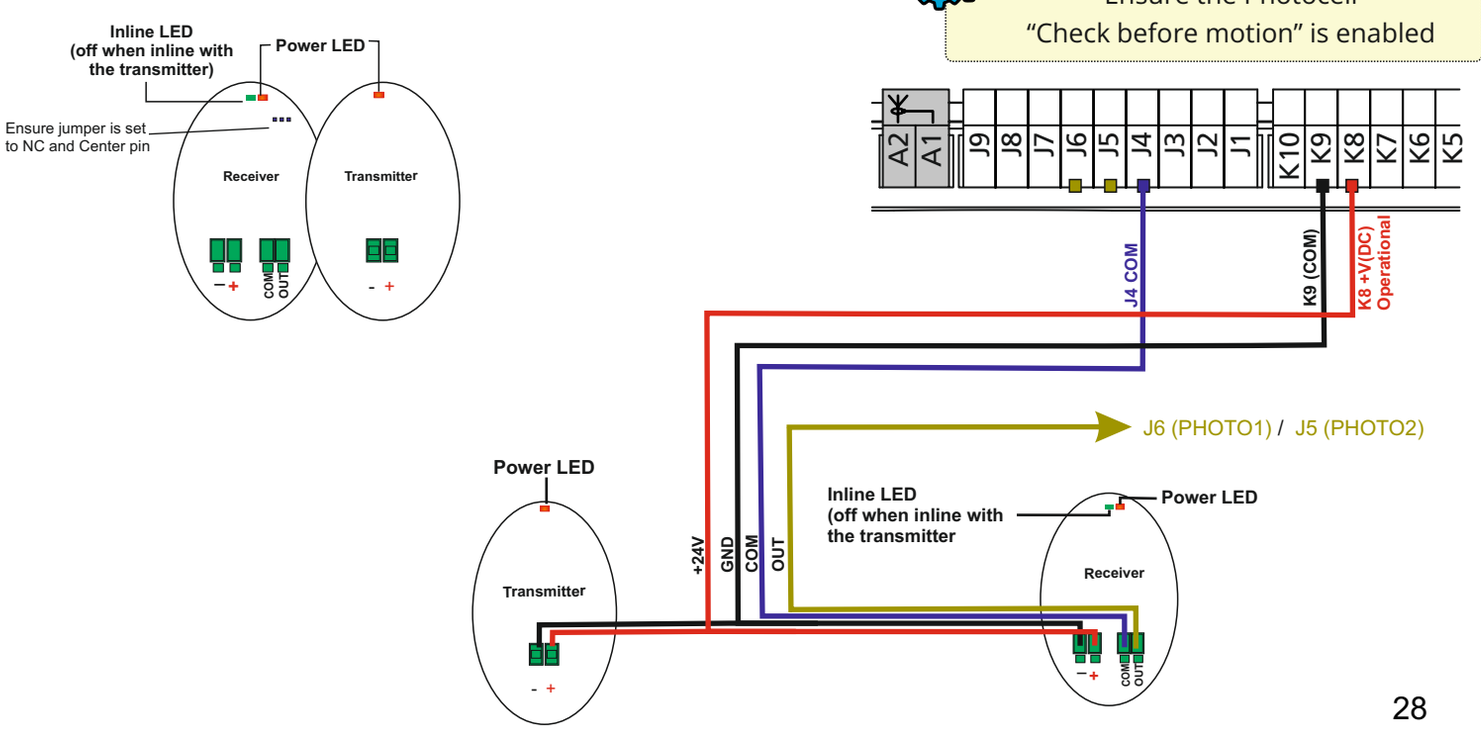


Connecting a PE Sensor (APC-PE2000)

APC-PE2000 PE sensor (Transmitter & Receiver) must be connected back to the control panel.
Install the PE2000 Photoelectric sensor on the first entry point of the driveway from post to post at approx. 500mm above ground level.

The Transmitter and the Receiver must be inline with each other
(The inline LED will be off when aligned with the transmitter).

If Using EnSA energy saving mode
Ensure the Photocell
"Check before motion" is enabled



Enabling the photocell and setting the logic

"Check before motion" for Photocell

Default is OFF

Prior to enabling the photocell, you will first need to choose the logic system in which it will operate.

FotI Logic will function during both the opening and closing cycles (check can be enabled prior to beginning either cycle).

Fot Can be set to function in closing or in closing along with a check prior to beginning the closing cycle.

FOT Logic (PHOTO Input)

Press and hold the **OK** button for about two seconds til the screen displays PrG then immediately release

Use the UP/Down keys to cycle to Fot then press **OK**

Use the ▲▼ keys to cycle to the required logic based on the above options.

CFCh **Closing direction + check before motion of starting the close cycle**

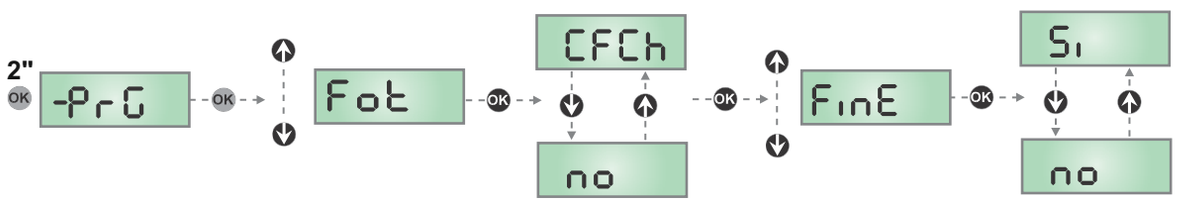
Ch Closing direction only

no Disabled

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to Si then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



FOT1 Logic (PHOTO 1 Input)

Press and hold the **OK** button for about two seconds til the screen displays PrG then immediately release

Use the UP/Down keys to cycle to FotI then press **OK**

Use the ▲▼ keys to cycle to the required logic based on the above options.

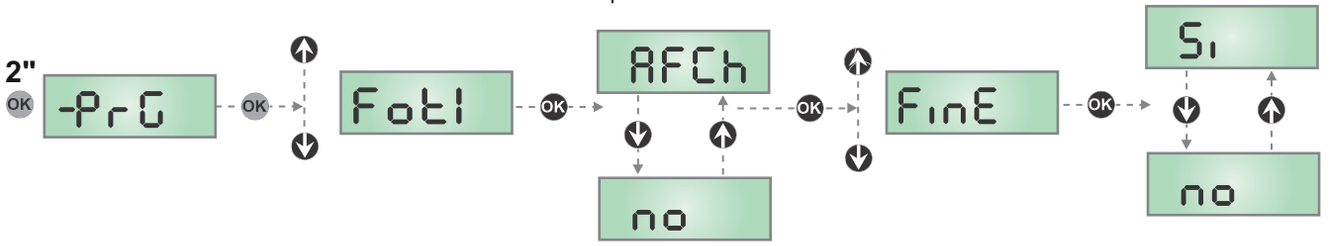
AFCh Enabled

no Disabled

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to Si then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Photocell Test *manual setting of check before motion*

Default is Off

Prior to gate movment a photocell test can be performed. This cycle takes place one second prior to movment of the gates.

Press and hold the **OK** button for about two seconds til the screen displays PrG then immediately release

Use the UP/Down keys to cycle to Ft.tE then press **OK**

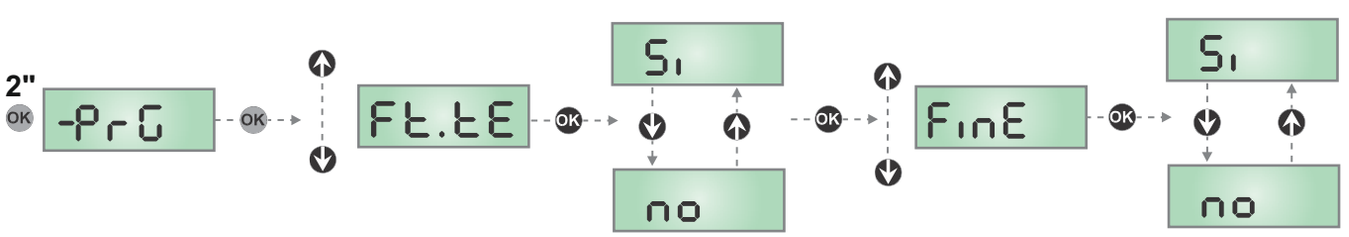
Use the ▲▼ keys to cycle to

Si for to enable the test
or
no to disable the test.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to Si then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Automatic Closing for Full Gate Operation

Default is Off

The full gate operation automatic close timer can be configured for anywhere from 5 second up to 20 minutes in 5 second increments. Note the symbol for seconds is " and for minutes is '.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to Ch.AU then press **OK**

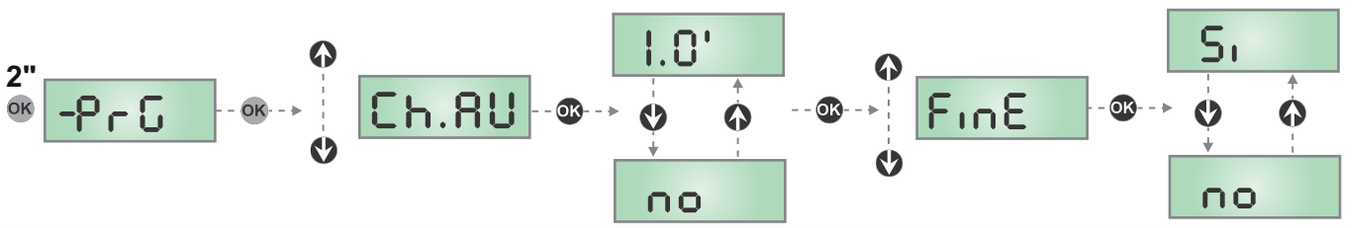
Use the ▲▼ keys to cycle to

no for no automatic close
or
xx.xx based on your desired auto close time.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to Si then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Automatic Closing for Pedestrian Function

Default is Off

The pedestrian gate operation automatic close timer can be configured for anywhere from 5 second up to 20 minutes in 5 second increments. Note the symbol for seconds is " and for minutes is '.

The pedestrian gate automatic close timer begins from the last movement through the photocells and restarts each time accordingly every time there is a moment through the photocells.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to Ch.tr then press **OK**

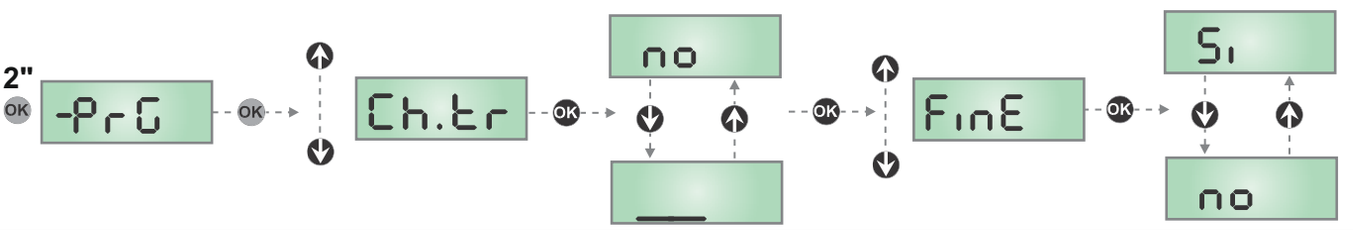
Use the ▲▼ keys to cycle to

no for no automatic close
or
xx based on your desired auto close time.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to Si then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Automatic Closing after stopping the full gate operation

Default is Off

In the case where a user has stopped the gate part way though a full gate operation cycle the system can still be set to auto close from this position by enabling the feature using the command below. Once enabled it will use the same time that has been set for pedestrian gate auto close time.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to PA.tr then press **OK**

Use the ▲▼ keys to cycle to

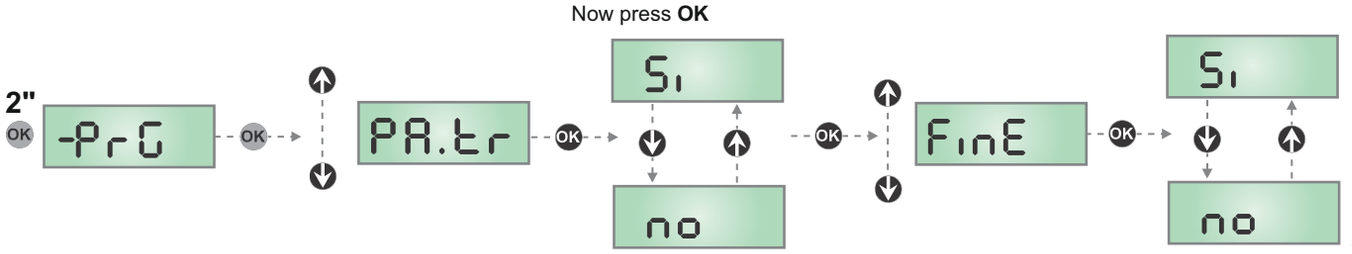
no Requires the user to close the gate the normal by remote or access control

or
Si Will Automatically close based on pedestrian auto close time

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to Si then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



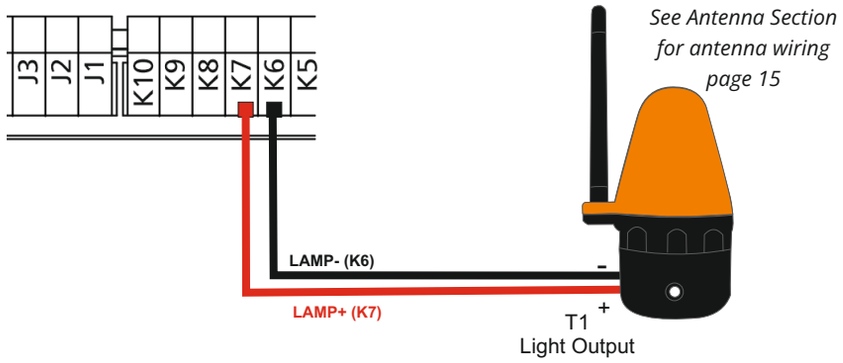
Connecting an APC-ULA Safety Lamp

Warning lights are used to alert pedestrians to be cautious as there may be vehicles entering and exiting.
Note: Ensure that the light is set to constant illumination mode (not flashing) as this can be set from the logic parameters below.

THIS OUTPUT IS NOT FOR DRIVEWAY LIGHTS
see driveway light section page 29

This internal relay will support an output of 24V 3W Maximum

EnSA (Power Conservation Mode) Must be turned OFF to have output power from the system for any connected accessories



See Antenna Section for antenna wiring page 15

Setting the Lamp Output

Default is Flashing

The lamp output can be set to OFF, Flashing at one rate (Slow 20HZ) or Conditional flashing based on the current status.
Conditional Flashing status:
Gate stopped (Lamp OFF)
Gate in auto close count down (the lamp is Continuously on)
Gate Opening (Slow 2HZ blinking)
Gate Closing (Fast 4HZ Blinking)

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to SPIR then press **OK**

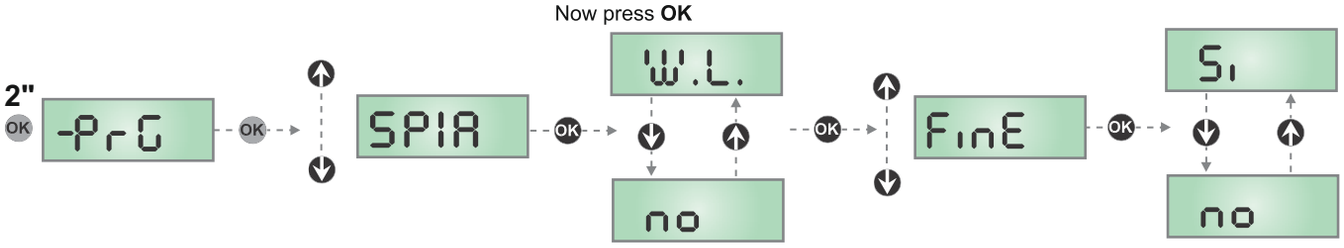
Use the ▲▼ keys to cycle to

no for OFF
FLSh for fixed frequency flashing
W.L for conditional flashing

Now press **OK**

Use the ▲▼ keys to cycle to Fine then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Enable Blinking During Auto Close Countdown

Default is OFF

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to LP.PR then press **OK**

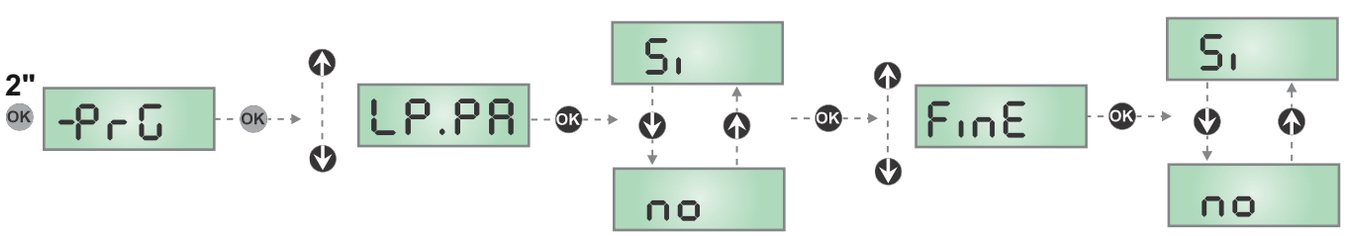
Use the ▲▼ keys to cycle to

no for OFF
S1 for ON

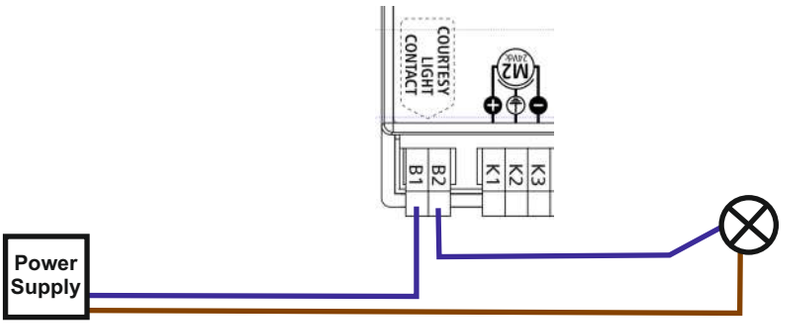
Now press **OK**

Use the ▲▼ keys to cycle to Fine then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



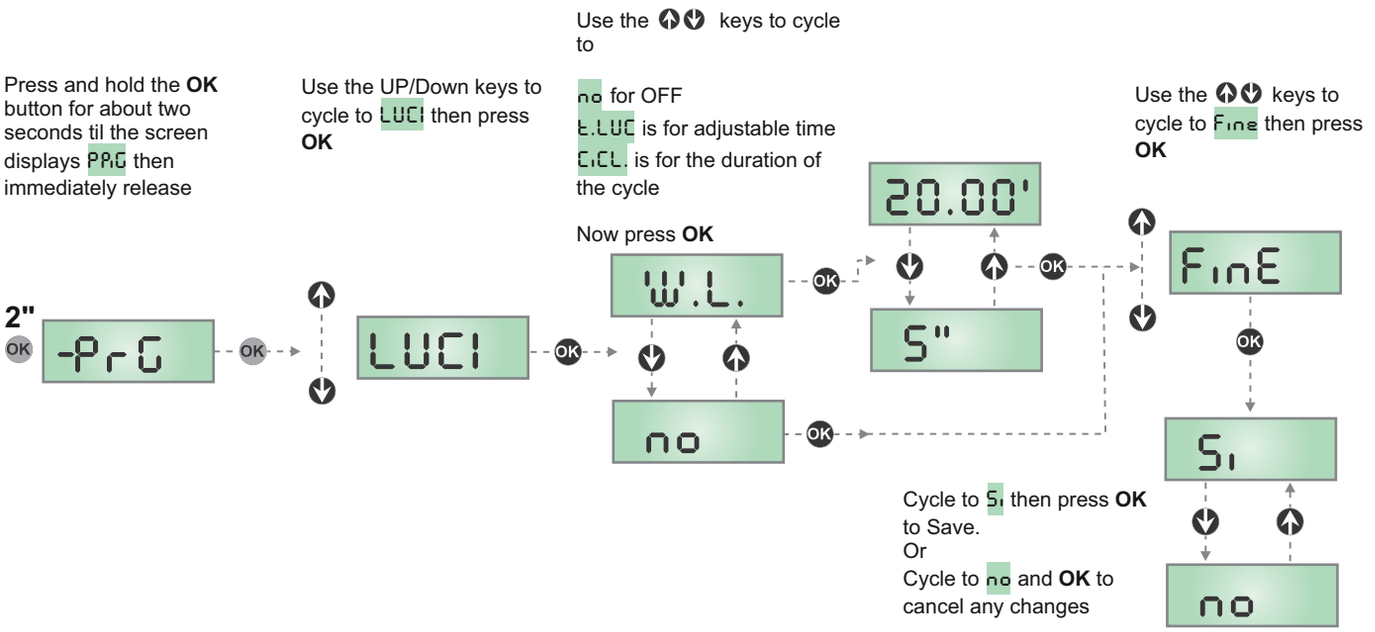
Connecting Driveway or Garden Lights



The internal relay will support up to a maximum of 230V AC (5A)

Setting the Light output

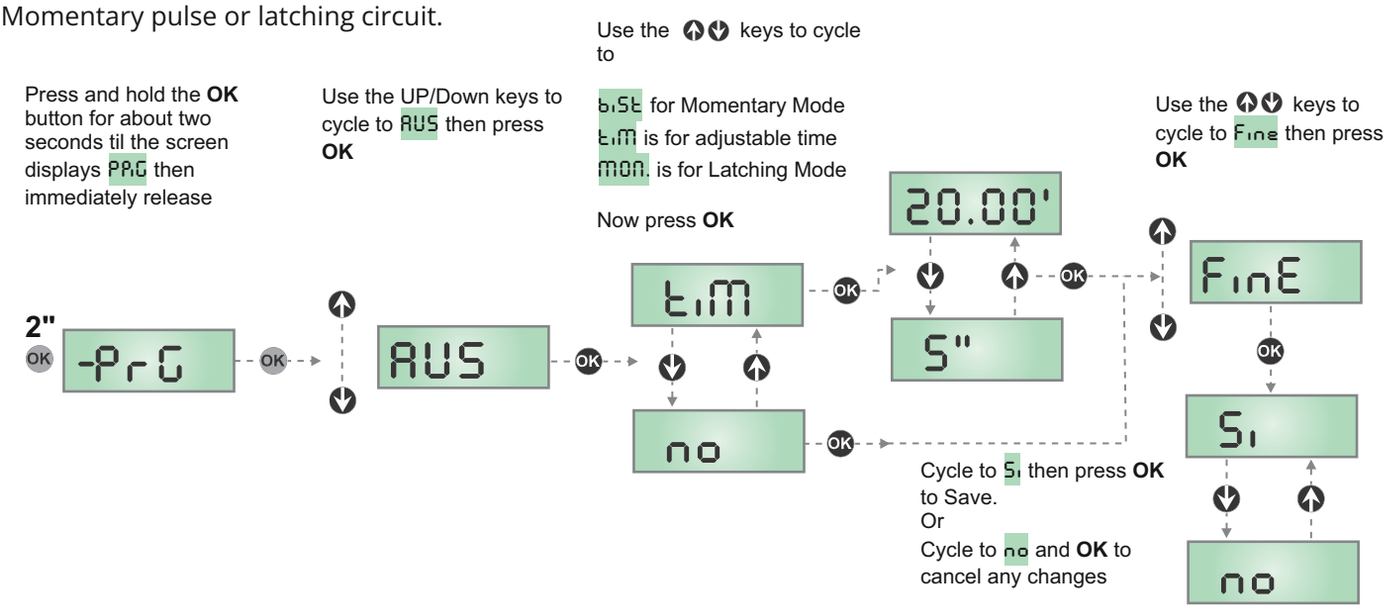
The light output can be set to OFF, On for the cycle duration or set to be on from 5 seconds to 20 minutes.



Setting the Light output

Default is Momentary

The light output can be set to be toggled by button 4 on the remote in a timed state (5 second to 20 minutes), Momentary pulse or latching circuit.



Enabling the Electric Lock and Setting the Unlocking Time

Default is 2 Second

The Electric Lock can be enabled by setting a time or disabled by setting to “no”.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to t.SEr then press **OK**

Use the ▲▼ keys to cycle to the required time

2.0" is 2 seconds.

1'0 is 1 minute.

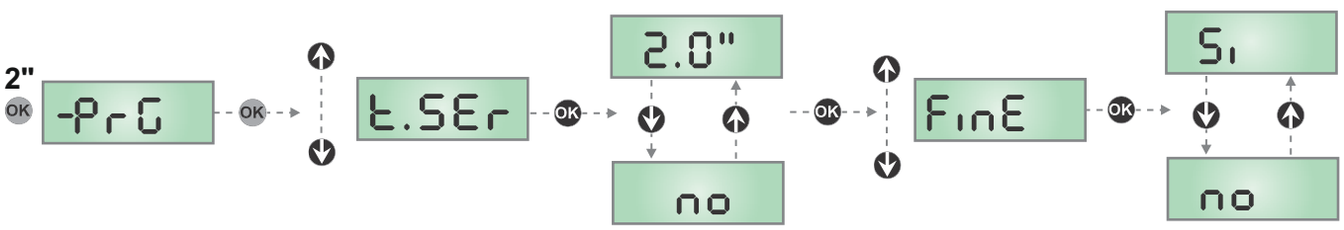
no is OFF

Min. is 0.5 seconds **Max.** is 1 minute.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

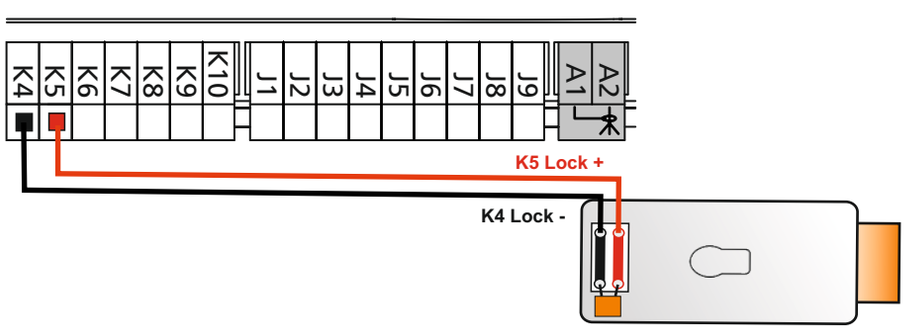
Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Connecting an 12 Volts Electric Lock

Ensure the transformer is NOT powered on before proceeding with any low voltage connections

You can wire to either side of the coil as shown in the illustrations above.
When installing you must install both wires Side-By-Side.
The pre-installed capacitor must remain installed



Connecting an Magnetic Lock

NOT SUITABLE FOR SOLAR

12 Volts Relay is used for connecting a Magnetic Lock . Magnetic Lock is not recommended for Solar System.

When Magnetic Lock is Connected, Electric lock settings t.SEr need to be activated on Control Board.

Steps in Connecting a Magnetic Lock.

1. Convert the Magnetic lock to 24 volts Lock by joining Orange and Blue wires.

2 12 Volts relay is used to connect the magnetic lock to the control board.

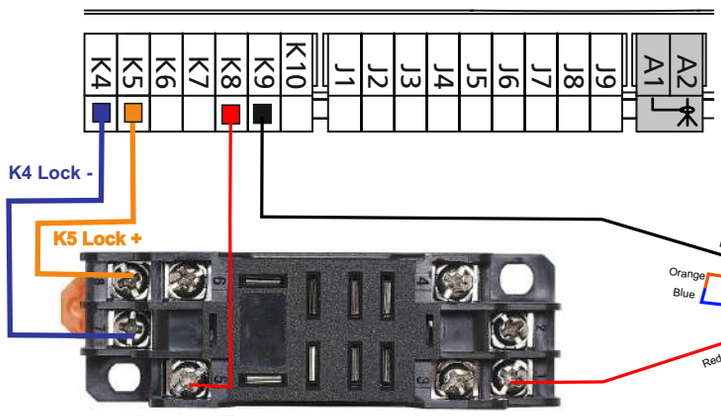
3 check the wiring connections given below.

Ensure the transformer is NOT powered on before proceeding with any low voltage connections



12 Volts Relay

The magnetic locks are polarity sensitive and must be connected correctly to avoid failure/damage.



12 Volts Relay Socket Base

280 Kg 24Volts Magnetic Lock wiring connection

ADVANCED CONFIGURATIONS

Adjusting the Pedestrian opening distance

Default is 6 second

The pedestrian gate operation can be adjusted to suit the installation requirements based on an adjustable time setting.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to t.APP then press **OK**

Use the ▲▼ keys to cycle to the required time

7.0" is 6 seconds.

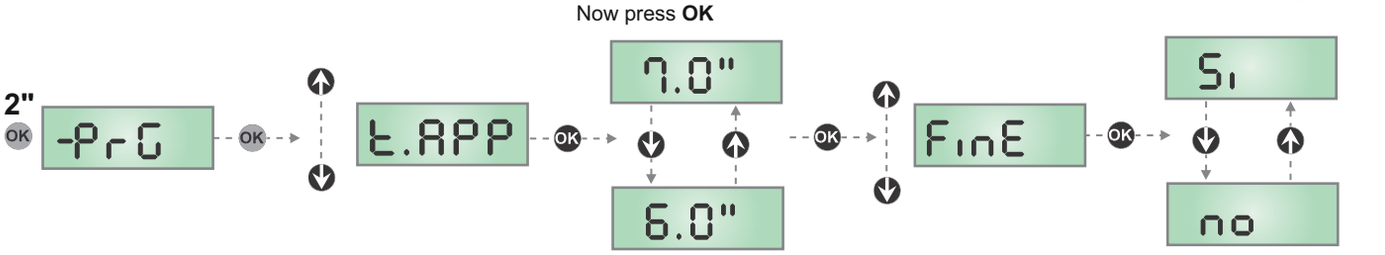
10 is 1 minute.

Min. is 0 seconds **Max.** is 1 minute.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to SI then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Adjusting the Pedestrian closing distance

Default is 7 second

The pedestrian gate operation can be adjusted to suit the installation requirements based on an adjustable time setting. Note that the closing time should always be set slightly higher than the opening time.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to t.ChP then press **OK**

Use the ▲▼ keys to cycle to the required time

7.0" is 7 seconds.

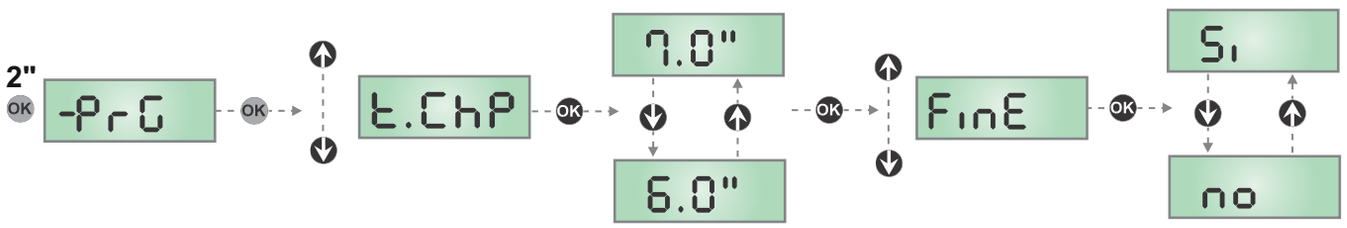
1'0 is 1 minute.

Min. is 0.5 seconds **Max.** is 2 minute.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Unlocking Pre-Motion Time

Default is 1 Second

The release time of the lock begins prior to the gate movement based on the PRE-MOTION time.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to t.ASE then press **OK**

Use the ▲▼ keys to cycle to the required time

0.0" is OFF.

2.0" is 2 seconds.

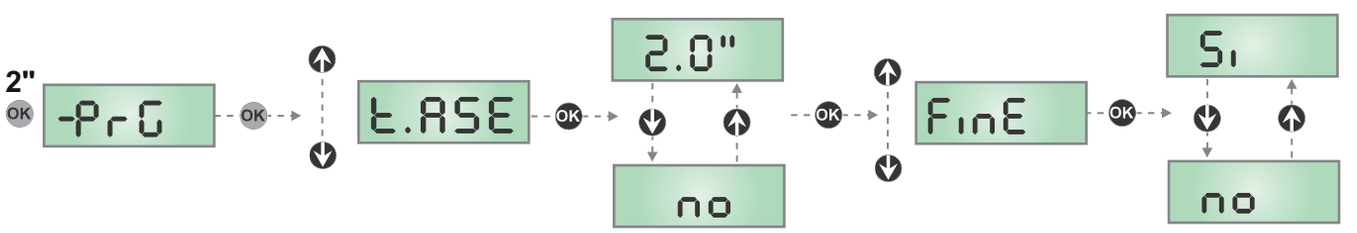
1'0 is 1 minute.

Min. is 0 seconds (OFF)
Max. is 1 minute.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Silent Locking

Default is ON

Reduces the current to the electric lock to reduce the noise of the solenoid whilst operating.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to SEr.S then press **OK**

Use the ▲▼ keys to cycle to the required time

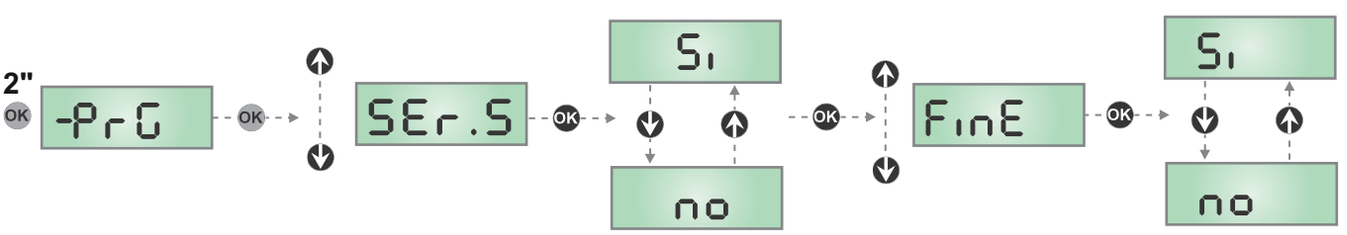
no is OFF.

S1 is ON

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Gate Push for Unlocking

Default is no

In cases where the gate is being pushed towards open the electric lock may fail to release. It would be suggested to add in a PUSH time to help resolve the issue.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to t.inu then press **OK**

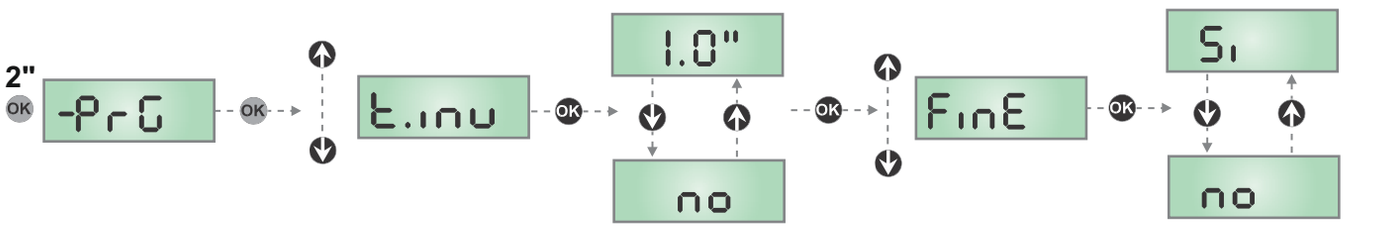
Use the ▲▼ keys to cycle to the required time
1.0" is 1 second.
2.0" is 2 seconds.
1'0 is 1 minute.

Min. is OFF (no)
Max. is 1 minute.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to Si then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Gate FORCE to Lock (Slow Method)

Default is no

In cases where the gate is being pushed towards open (as its closing) the electric lock may fail to latch in place. It would be suggested to add in a FORCE time to help resolve the issue. This time will add in additional slow speed movement time after slowdown to FORCE the latching.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to t.inu then press **OK**

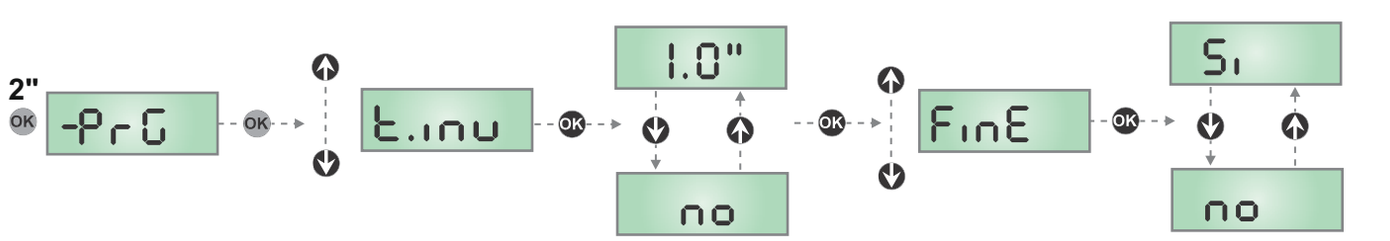
Use the ▲▼ keys to cycle to the required time
0.5" is half a second.
2.0" is 2 seconds.
1'0 is 1 minute.

Min. is OFF seconds (no)
Max. is 1 minute.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to Si then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Gate FORCE to Lock (Fast Method)

Default is 0 seconds

In cases where the gate is being pushed towards open (as its closing) the electric lock may fail to latch in place. It would be suggested to add in a FORCE time to help resolve the issue. This time will add in additional fast speed movement time after slowdown to FORCE the latching.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to t.cue then press **OK**

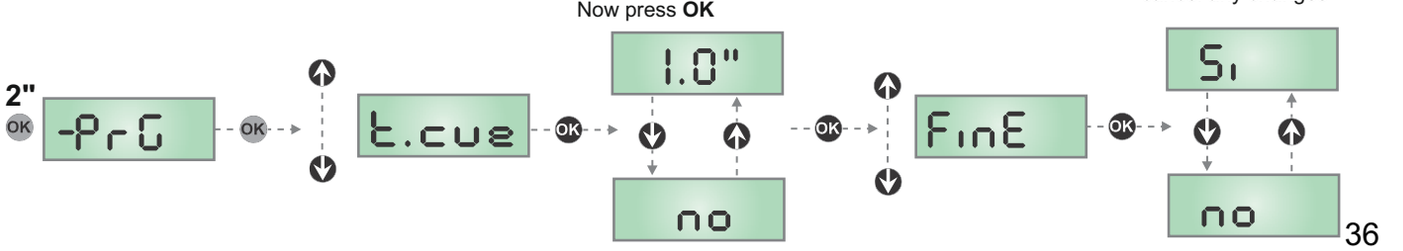
Use the ▲▼ keys to cycle to the required time
0.5" is half a second.
2.0" is 2 seconds.

Min. is 0 seconds.
Max. is 3 seconds.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to Si then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Full Gate Operation Trigger during Closing

Default is Stop

Adjust the response of the system when full gate operation command is triggered whilst closing

1. Stop When the command is triggered the gate will stop
2. APEr When the command is triggered the gate will stop and revert back to the close.

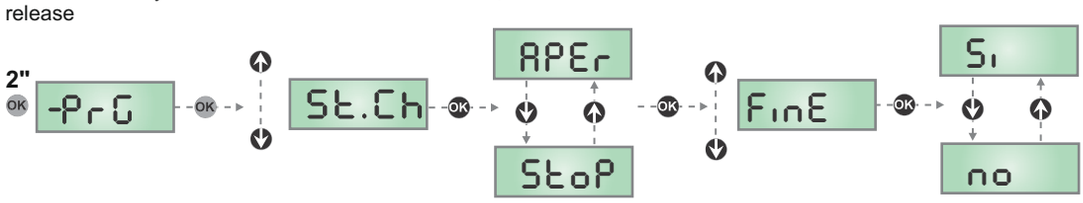
Press and hold the **OK** button for about two seconds til the screen displays PrG then immediately release

Use the UP/Down keys to cycle to St.Ch then press **OK**

Use the ▲▼ keys to cycle to Select the logic based on the above. Now press **OK**

Use the ▲▼ keys to cycle to Fine then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Full Gate Operation Trigger during Opening

Default is Pause

Adjust the response of the system when full gate operation command is triggered whilst opening

1. PAUS When the command is triggered the gate will pause.
2. ChiU When the command is triggered the gate will stop and revert back to the close.
3. no When the command is triggered the gate will continue and ignore the command.

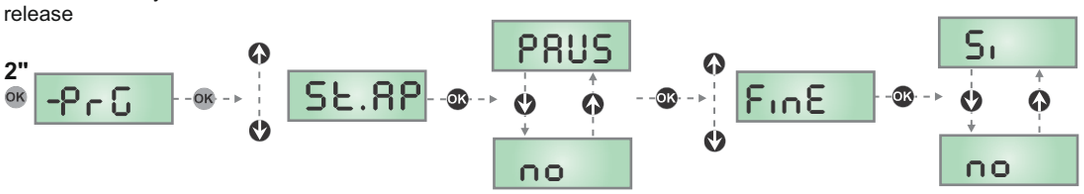
Press and hold the **OK** button for about two seconds til the screen displays PrG then immediately release

Use the UP/Down keys to cycle to St.AP then press **OK**

Use the ▲▼ keys to cycle to Select the logic based on the above. Now press **OK**

Use the ▲▼ keys to cycle to Fine then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Full Gate Operation Trigger during Pause

Default is Closing

Adjust the response of the system when full gate operation command is triggered whilst opening

1. PAUS When the command is triggered the automatic close timer will restart.
2. ChiU When the command is triggered the gate will close.
3. no When the command is triggered the system will ignore.

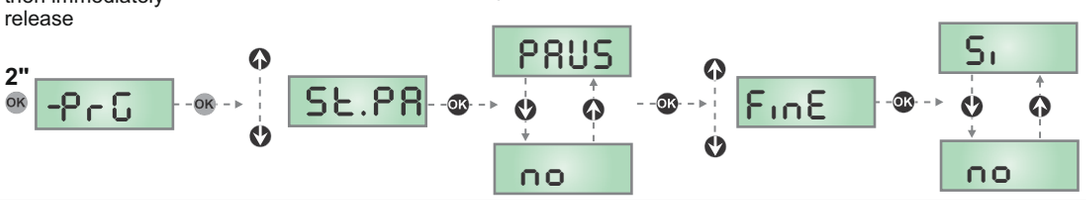
Press and hold the **OK** button for about two seconds til the screen displays PrG then immediately release

Use the UP/Down keys to cycle to St.PA then press **OK**

Use the ▲▼ keys to cycle to Select the logic based on the above. Now press **OK**

Use the ▲▼ keys to cycle to Fine then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Adjusting the STOP input (J3)

Default is Off

By default the stop input is ignored (no), if the stop input is activated it can be set frot wo diffrent logics.

1. ProS When the input it triggered the gate will stop, when triggering start the gate will continue operating in the SAME direction
2. inuE When the input it triggered the gate will stop, when triggering start the gate will continue operating in the OPPOSITE direction

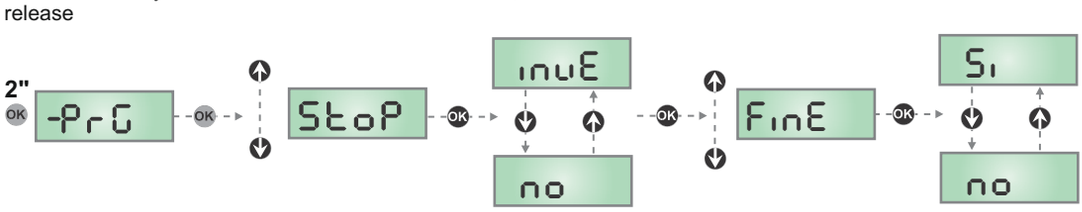
Press and hold the **OK** button for about two seconds til the screen displays PrG then immediately release

Use the UP/Down keys to cycle to StoP then press **OK**

Use the ▲▼ keys to cycle to Select the logic based on the above. Now press **OK**

Use the ▲▼ keys to cycle to Fine then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Pre Flashing Time (Open and Close)

Default is 1 second

Pre flashing time allows for the connected lamp to begin flashing PRIOR to the operating cycle based on the time you set. The minimum time is 0.5 seconds and maximum is 1 minute.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to t.PrE then press **OK**

Use the ▲▼ keys to cycle to

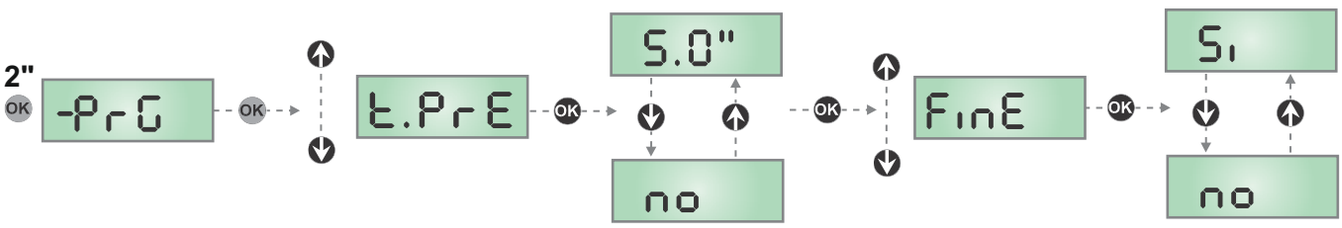
no for no pre flashing

xx based on your desired pre flashing time

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Note 1: Times set for pre-flashing will delay the gate from beginning its opening operation by the set value

Note 2: Times set for pre-flashing will delay the gate from beginning its closing operation by the set value after the Auto close time has elapsed, it can be adjusted to be OFF or increased in the closing pre-flash time setting.

Logical settings of the system inputs

Default is Stop

Standard mode Stan
START = START (a command will cause the complete opening of the gate)
START P. = PEDESTRIAN START (a command will cause the partial opening of the gate)

Open/Close command AP.Ch
START = OPENING (always controls the gate opening)
START P. = CLOSING (always controls the gate closing) This is an impulse command, that is to say that an impulse will cause the complete gate opening or closing.
(Button 1 on remote/Start is open, button 2 on remote/Start.P is closing)

Manned operation PrES
START = OPENING (always controls the gate opening)
START P. = CLOSING (always controls the gate closing) This 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

Full Timer mode orol **Using an external timer to open gate, timers latched circuit inhibits the gates closure**
ATTENTION: Automatic closing must be enabled
This feature allows you to program time slots during the day for the gate to be open by using an external timer or other maintained command devices (e.g. magnetic loop detectors or presence detectors).

START = START (a command will cause the complete opening of the gate)
START P. = PEDESTRIAN START (a command will cause the partial opening of the gate)

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.

NOTE: If the parameter of partial operation/pedestrian function P.APP **is set to 0%** = The timer connected to START P. does not cause the opening, but can inhibit the automatic closing at preset times.
In all modes, inputs must be connected to devices having normally open contacts.
Connect cables of device controlling the START input between terminals **L3 (START)** and **L6 (COM)** of the control unit. Connect cables of device controlling the START P. input between terminals **L4 (START P.)** and **L6 (COM)** of the control unit.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to Strt then press **OK**

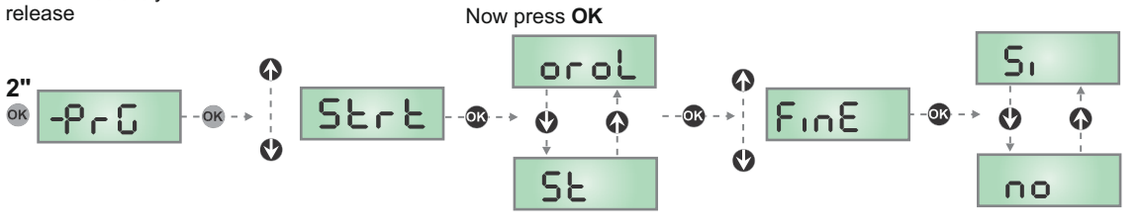
Use the ▲▼ keys to cycle to

Select the logic based on the above.

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Induction Loops

Before connecting it is important to note that the system must be set to function for induction loops on a logic level, see below the recommended list of parameters.

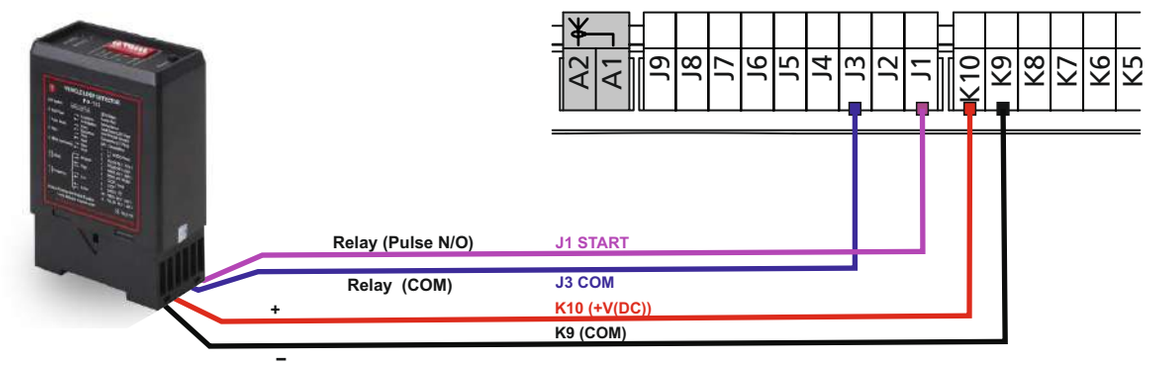
Furthermore at minimum a photocell must be installed and the automatic close timer must be enabled.

APC Loop Detector For Auto Gate Opening

The APC Loop Detector will detect vehicles over the induction loop and automatically operate the gates to open.

EnSA (Power Conservation Mode)
Must be turned OFF to have output power from the system for any connected accessories

Ensure the Photocell and Safety Edge "Check before motion" is enabled



The below are the recommended setting when using an induction loop or a timer, these commands will change the logic of the **START J1** Input as follows:

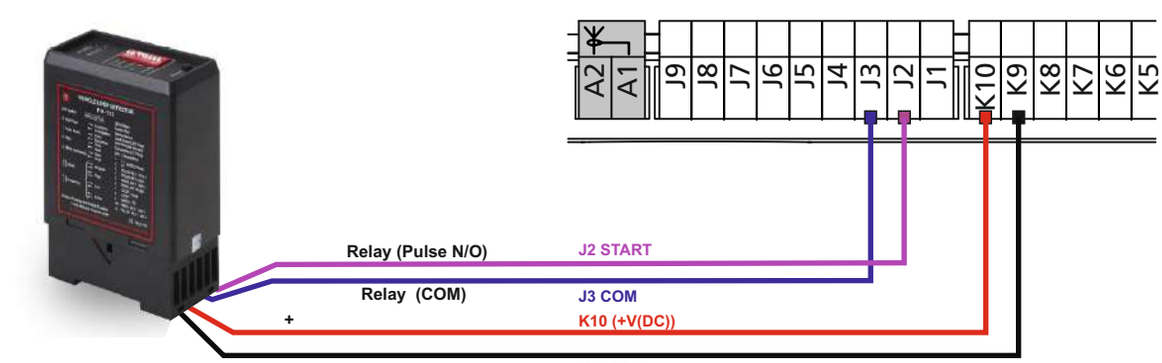
`Strt` should be set to `oroL` to enable the function of full timer mode
`StoP` should be set to `no`, Stop input will be ignored
`St.AP` should be set to `no`, this will ignore commands whilst opening
`St.CH` should be set to `APEr`, this will revert the gate to open if a command is given during closure
`St.PA` should be set to `PAUS` to reset the automatic closing time when a command is given

APC Loop Detector For Inhibition

The APC Loop Detector will detect vehicles over the induction loop and stop the gate.

EnSA (Power Conservation Mode)
Must be turned OFF to have output power from the system for any connected accessories

Ensure the Photocell and Safety Edge "Check before motion" is enabled



The below are the recommended setting when using an induction loop or a timer, these commands will change the logic of the **START.P J2** Input as follows:

`Strt` should be set to `oroL` to enable the function of full timer mode
`P.APP` should be set to `0`, this will hold the gate open and prevent automatic closure during circuits present times.

Manually adjusting the over current sensing

Default is 0

The system will automatically obstacle sense based on the configured settings however if a manual adjustment is required the system can manually be configured for an adjustment from 1.0A up to 14.0A for each gate motor

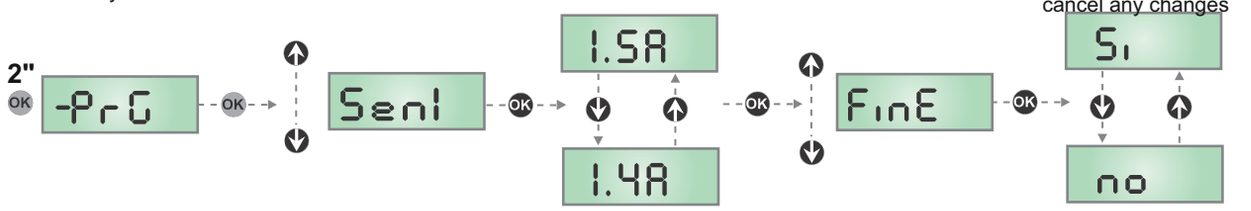
Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to SEn1 for motor 1 or SEn2 for motor 1 then press **OK**

Use the ▲▼ keys to cycle and adjust over current amps

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Adjusting the motor power for fast operating speed

Default is 80

The displayed value is the current power setting for each individual motor, they are adjustable from 30(%) to 100(%).

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to Pot1 for motor 1 or Pot2 for motor 2 then press **OK**

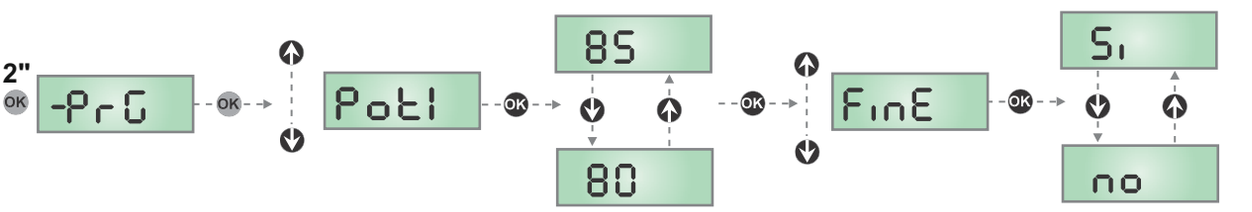
Use the ▲▼ keys to cycle to

Select the power %

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Adjusting the motor power for slow operating speed

Default is 50

The displayed value is the current power setting for each individual motor, they are adjustable from 0(%) to 70(%).

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to P.or1 for motor 1 or P.or2 for motor 2 then press **OK**

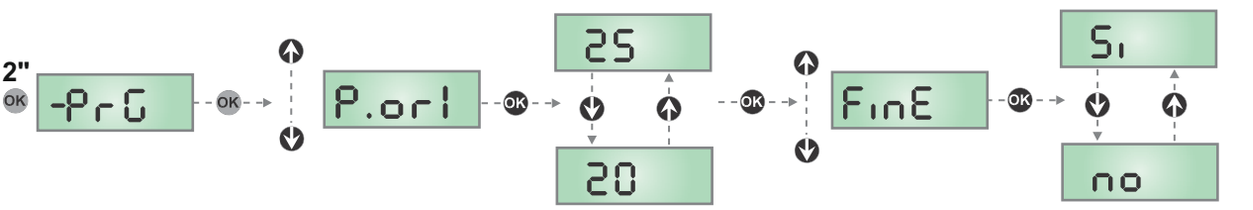
Use the ▲▼ keys to cycle to

Select the power %

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Duration of the Ramp Up feature

Default is 4

If ramp up is enabled the duration can be adjusted to reach the full nominated power. This will help in reducing the sudden speed up of the gate if set to a higher power setting as it can be increased gradually over a longer duration. The maximum time is 6 seconds.

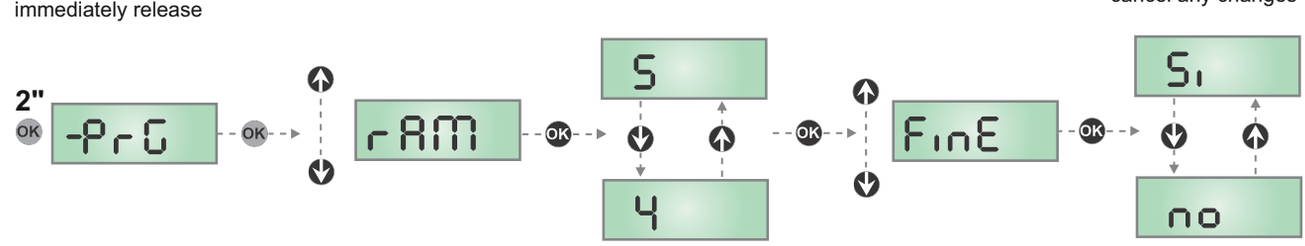
Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to rAM then press **OK**

Use the ▲▼ keys to cycle and adjust the duration

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Enable/Disable Safety Edge 1

Default is OFF

The EDGE 1 input is used for fixed safety edges. By default it is set to no which is OFF. It has two options for Logic:

1. APCh Sets the edge to be active in OPENING and CLOSING cycles
2. AP sets the input to be active in the OPENING cycle only.

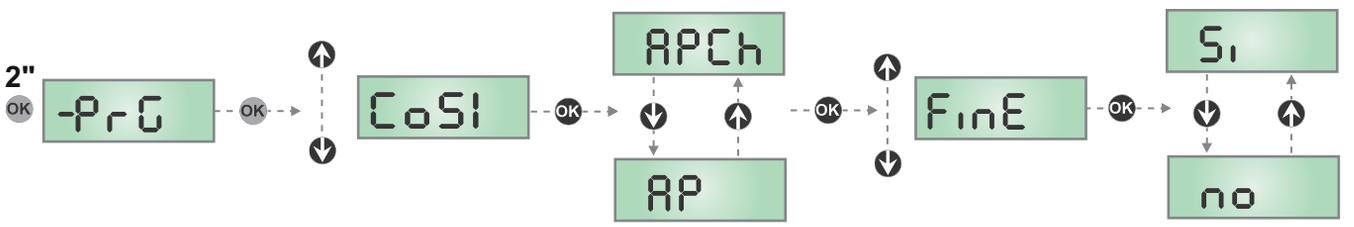
Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to CoS1 then press **OK**

Use the ▲▼ keys to adjust the logic then press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Enable/Disable Safety Edge 2

Default is OFF

The EDGE 2 input is used for optical safety edges. By default it is set to no which is OFF. It has two options for Logic:

1. APCh Sets the edge to be active in OPENING and CLOSING cycles
2. Ch sets the input to be active in the CLOSING cycle only.

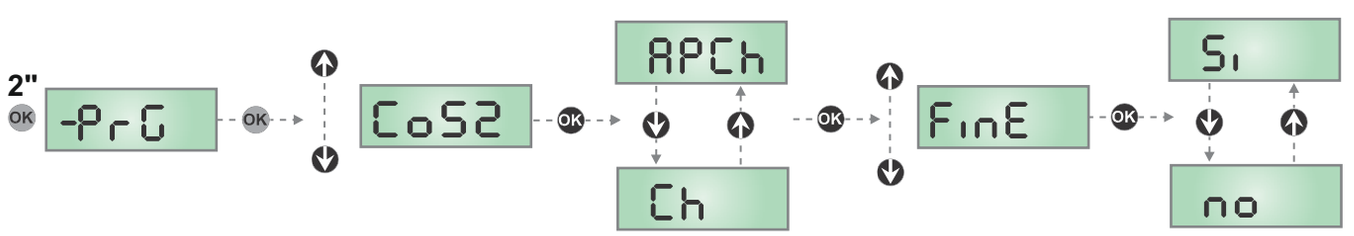
Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

Use the UP/Down keys to cycle to CoS2 then press **OK**

Use the ▲▼ keys to adjust the logic then press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Safety Edge Check Before Motion

"Check before motion" for Safety Edge

Default is OFF

Use the ▲▼ keys to adjust the logic then press **OK**

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

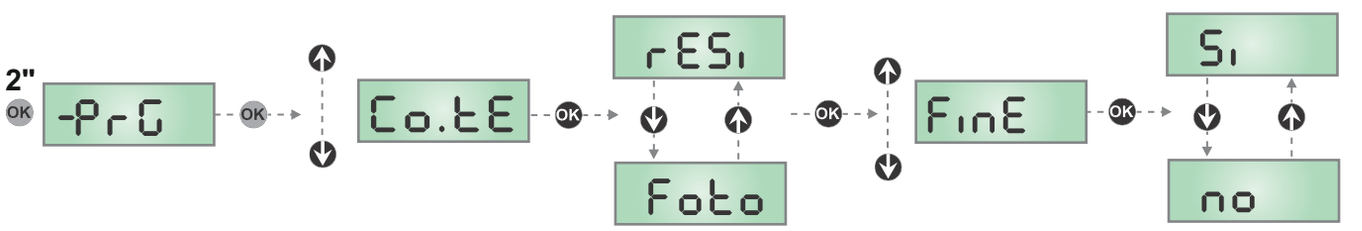
Use the UP/Down keys to cycle to Co.tE then press **OK**

rESi is for standard edge sensors
Foto is for optical type edge sensors

No is to disable testing prior to movment

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Note: Enabling the test mode prior to operation is a necessity if the system is set to power conservation mode EnSA

Pause Gate When Vehicle Passes

Default is no

It is possible to set the gate to immediately stop and start counting down the auto close timer once a vehicle has passed through the photocells.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

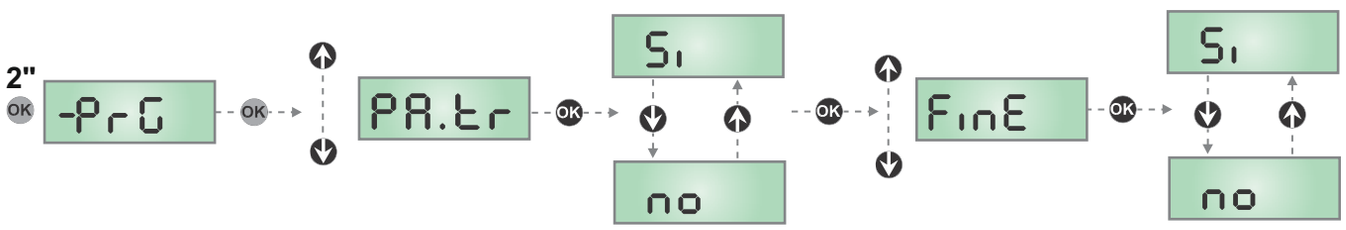
Use the UP/Down keys to cycle to PA.tr then press **OK**

Use the ▲▼ keys to cycle to the required logic based on the above options..

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Triggering Pedestrian Operation DURING Pedestrian Opening Cycle

Default is Pause

This logic setting is if the pedestrian function was triggered whilst already moving in a pedestrian operation.
PAUS is the default and will simply stop the gate, it will stay in this position until the user triggers the operation again.
CHIU the gate will immediately start to close.
no setting will ignore the command.

Press and hold the **OK** button for about two seconds til the screen displays PRG then immediately release

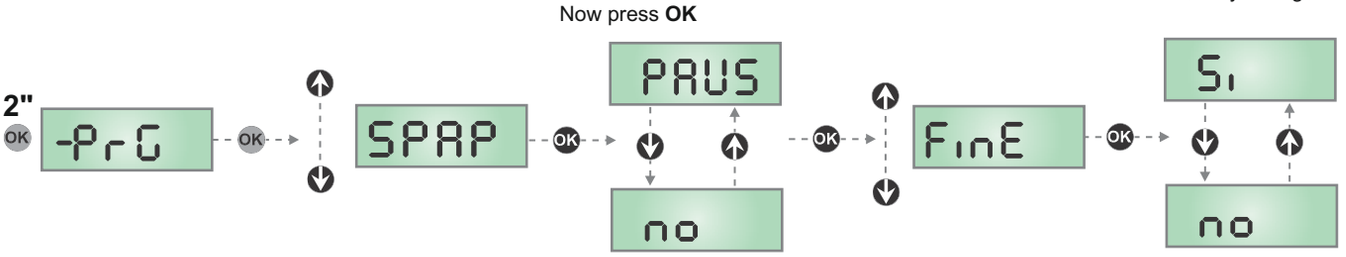
Use the UP/Down keys to cycle to SPAP then press **OK**

Use the ▲▼ keys to cycle to the required logic based on the above options..

Now press **OK**

Use the ▲▼ keys to cycle to FinE then press **OK**

Cycle to S1 then press **OK** to Save.
Or
Cycle to no and **OK** to cancel any changes



Note: A full gate operation command will always take priority and cause the gate to complete a full gate operation regardless of the above setting. A pedestrian gate operation command however will not take priority over a full gate operation command and will be ignored.

Reset to Factory Default

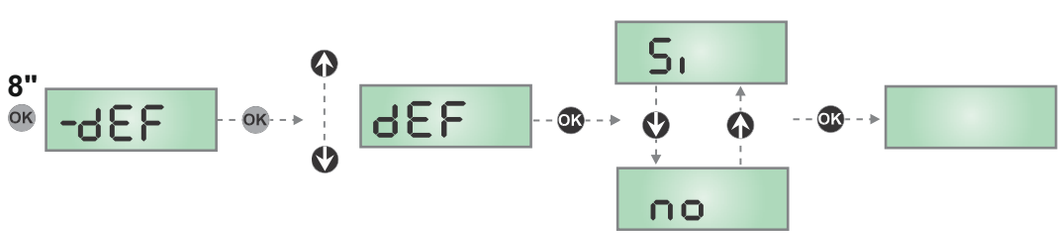
This will set all parameters to default, any changes made to the settings will be lost however remote's and other wireless equipment will remian.

Press and hold the **OK** button for about two seconds til the screen displays dEF then immediately release

Use the UP/Down keys to cycle to dEF then press **OK**

Use the ▲▼ keys to adjust the logic then press **OK**

System will return to standby



Setting The Service Interval Counter

A Counter can be set to indicate when a service is required, the service requirement will be indicated by an additional five seconds of pre-blinking time of the connected lamp prior to the opening cycle.

The counter will be reset once the cycle counter is reset to the required quantity of cycles, if the counter is set to zero then the counter will be disabled. Each open and close is considered ONE cycle.

Press and hold the **OK** button for about four seconds til the screen displays CnE then immediately release

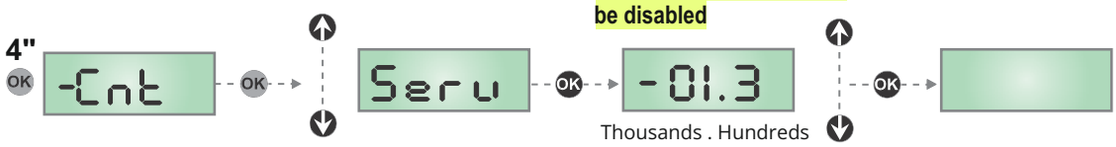
Use the UP/Down keys to cycle to MAN then press **OK**

Pressing ▲ will go up in thousands

Pressing ▼ will go down in hundreds

if set to 0 the counter will be disabled

Pressing OK returns to standby.



Thousands . Hundreds
ex. 01.3 = 1,300 Cycles

Viewing The Total Cycle Count

The total cycle count cannot be reset, this is reading the total open and closes and considering them together as one cycle.

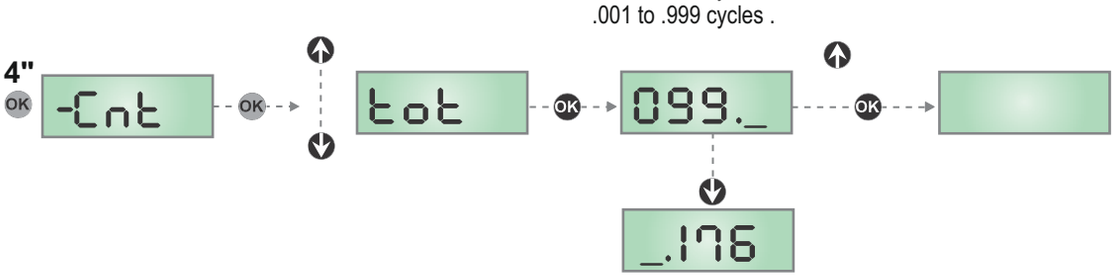
Press and hold the **OK** button for about four seconds til the screen displays CnE then immediately release

Use the UP/Down keys to cycle to toE then press **OK**

First screen will show from 001. thousand up to 999. thousand.

Pressing ▼ will show the hundreds of cycles from .001 to .999 cycles .

Pressing OK returns to standby.



This counter example reads
99,176 TOTAL cycles

Troubleshooting

Overload LED On	Unplug the accessories power connector K6-K8 and disconnect all accessories. Fault find the faulty accessory power
Pre-Blinking longer than originally set	Indicates that the set cycle counter has lapsed and motor requires a service by the installer.
Slow movement of gate whilst closing then returns to normal	Motor encoder is out of alignment, power failure could occur whilst the gate was open.

Err1
Data could not be stored error. Fault with control board.

Err2
Motor not connected or motor driver issue on control board.

Err3
- Obstacle in sensor path
- No sensor connected but sensor logic is enabled

Err5
Safety Edge test configured incorrectly
- Limit reader problem

Err8
A setting of Logic is not compatible with another logic parameter ex. ADI is enabled but not interface module connected
- If the error occurs during the self learning the Strt parameter must be set to Stan and Adi to no

Err9
Settings have been locked out by programmer module

Err10
Error 10 indicates Interface module is not connected correctly or is not connecting to the controller

Error 90
When there is an attempt to start an operational cycle without having yet performed the initialisation procedure, the message Er90 appears.

Perform the initialisation procedure.

Error 91
If, during the initialisation procedure, the control unit fails the exterior photocell test, the display shows the message Er91

Check the photocell connected to the PHOTO input is working.
PLEASE NOTE: This abnormality does not delete data acquired using the initialisation procedure

Error 92
If, during the initialisation procedure, the control unit detects an obstacle during movement of the gates, the display shows the massage Er92

Ensure there are no obstacles within the gate movement area and repeat the initialisation procedure.

Error 93
If, during the initialisation procedure, the display shows the massage Er93, this means the SLAVE motor is connected with incorrect polarity.

Check the SLAVE motor connection and repeat the initialisation procedure.

Error 94
If, during the initialisation procedure, the control unit fails to detect the presence of the SLAVE motor, but the operator has indicated this to be present, the display shows the message Er94

Check the SLAVE motor connection and repeat the initialisation procedure.

Compatible Equipment

The equipment listed below does not affect the warranty of the control panel and have been tested and approved for use.Limited warranty is applied to the control panel when used with third party equipment.

Sensors
- APC-PE2000
- APC-RR-11
- APC-LD1-24V

Receivers
- APC-Connect 4
- APC-RX4
- APC-WF-CH1

Remotes
- APC-RC4S
- APC-RC4SV
- APC-RC450S

Keypads
- APC-KP1-C
- APC-KP2W
- APC-WF-KP

Solar Equipment
- APC Sun Power
- APC-SP24-20W
- APC-SP24-40W
- APC-SP24-60W

Courtesy Light
- APC-ULA

Push Buttons
- APC-PBS (K/KW)
- APC-PBD (K/KW)

Electric Locks
- EL-12V

External Transformers
- PS-24-10

Warranty Terms

APC WARRANTY

APC Automation Systems warrants the original purchasers or the APC gate(s) opening system for a period of twelve months from the date of purchase (not installation), the product shall be free of defects in materials and workmanship under normal use.
During the warranty period, APC shall, as its option, repair or replace any defective product upon return of the product to its factory, at no charge for labour and materials.
Any replacement and/or repaired parts are warranted for the remainder of the original warranty, The original owner must promptly notify APC in writing that there is defect in material or workmanship, such written notice must be received in all events prior to expiration of the warranty.

International Warranty

APC shall not be responsible for any freight fees, taxes or customs fees.

Warranty Procedure

To obtain service under this warranty, AND AFTER CONTACTING APC, please return the item(s) in question to the point of purchase.
All authorized distributors and dealers have a warranty program, anyone returning goods to APC must first obtain an authorization number.
APC will not accept any shipment for which prior authorization has not been used.

Conditions to Void Warranty

This warranty applies only to defects in repairs and workmanship relating to normal use. It does not cover:
- Damage incurred in shipping or handling
- Damage caused by disaster such as fire, flood, wind, earthquake or lightning
- Damage due to causes beyond the control of APC such as excessive voltage, mechanical shock or water damage
- Damage caused by unauthorized attachment, alterations, modifications, or foreign objects.
- Damage caused by peripherals (unless such peripherals were supplied by APC)
- Defects caused by failure to provide a suitable installation environment for the products
- Damage caused by usage of the products for purpose other than those for which it was designed.
- Damage from improper maintenance
- Damage arising out of any other abuse, mishandling, and improper application of the products.

Under no circumstances shall APC be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property.

Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose). And of all other obligations or purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other
warranty or liability concerning this product.

Out of Warranty Repairs

APC will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions.
Anyone returning goods to APC must first obtain an authorization number.
APC will not accept any shipment whatsoever for which prior authorization has not been obtained.
Products which APC determines to be repairable will be repaired and returned. A set fee which APC has been predetermined and which may be revised from time to time will be charged for each unit repaired. Products which APC determines not repairable will be replaced by the nearest equivalent product available at that time. The current market price for the replacement product will be charged for each replacement unit.