

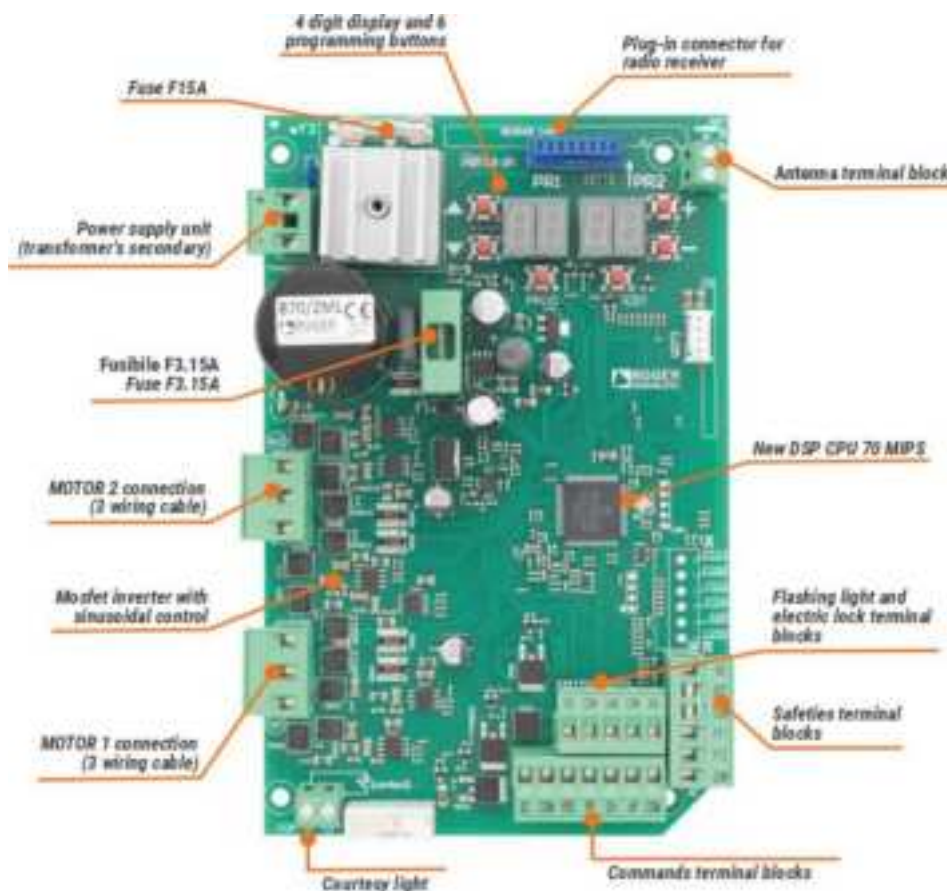


# ROGER TECHNOLOGY



## B70 2ML

Advanced 24 volts Brushless Control board



### SETUP CYCLE



Scan Me

### REMOTE PAIRING



Scan Me

### Attention Installer

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

Installation flowchart on page 3



## 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 move properly and uniformly without any irregular friction during their entire travel.
3. The gates must be in good condition with no biting, 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.

## Important Safety Information

Installer and owners should observe the following:

1. Make sure that there is sufficient space for the gate to swing open fully without interference.
2. The solar box must be installed in the area within 10 meters maximum cable distance from motor.
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 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. Automotion plus Systems, its distributors, stockist or sellers are not liable for any direct, indirect, incidental, special or consequential 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.

## Warranty Terms

### Roger Technology WARRANTY

Roger Technology Automation Systems warrants the original purchasers or the Roger technology gate(s) opening system for a period of Two Years 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, Automotion plus 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 Automotion plus 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.

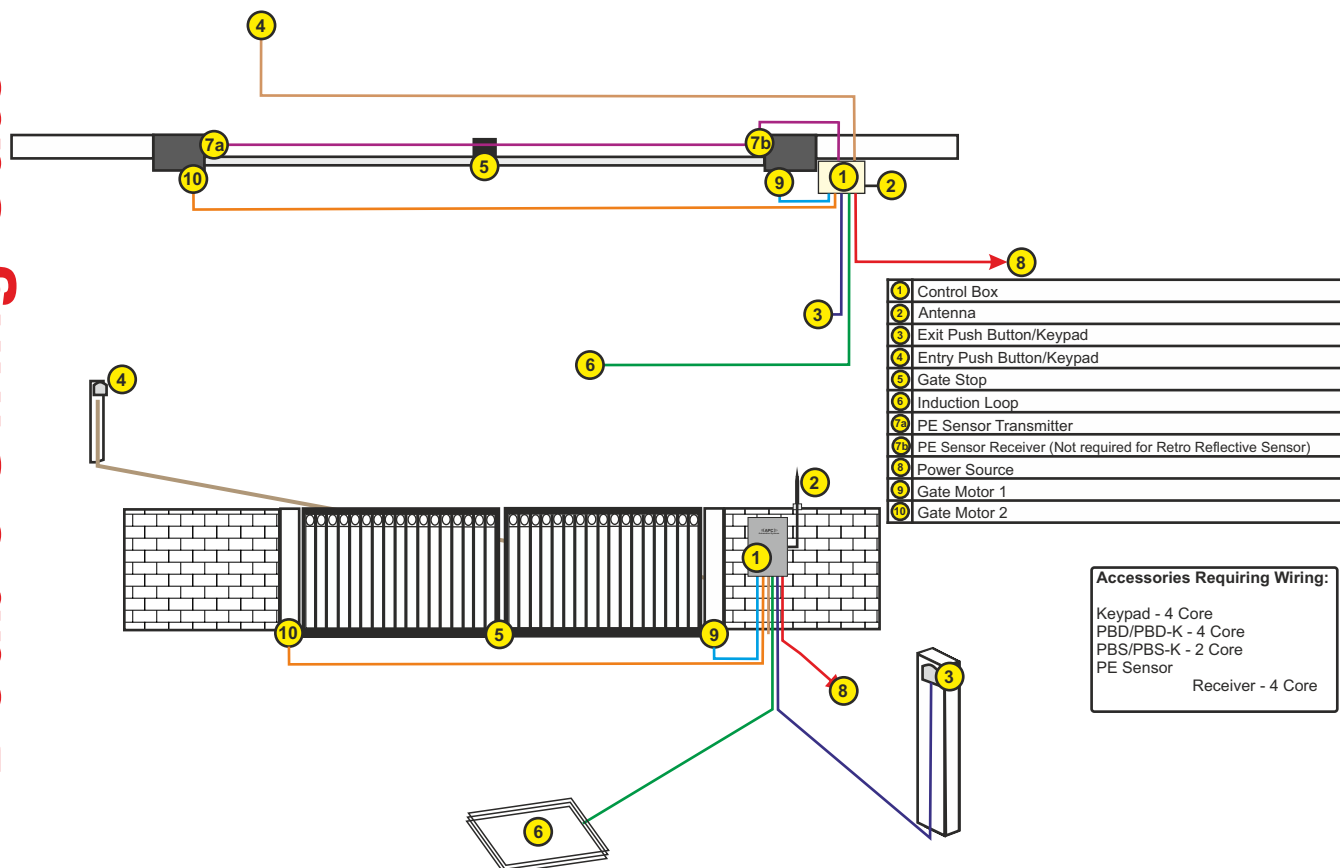
### Conditions to Void Warranty

This warranty applies only to defects in repairs and workmanship relating to normal use. It does not cover:

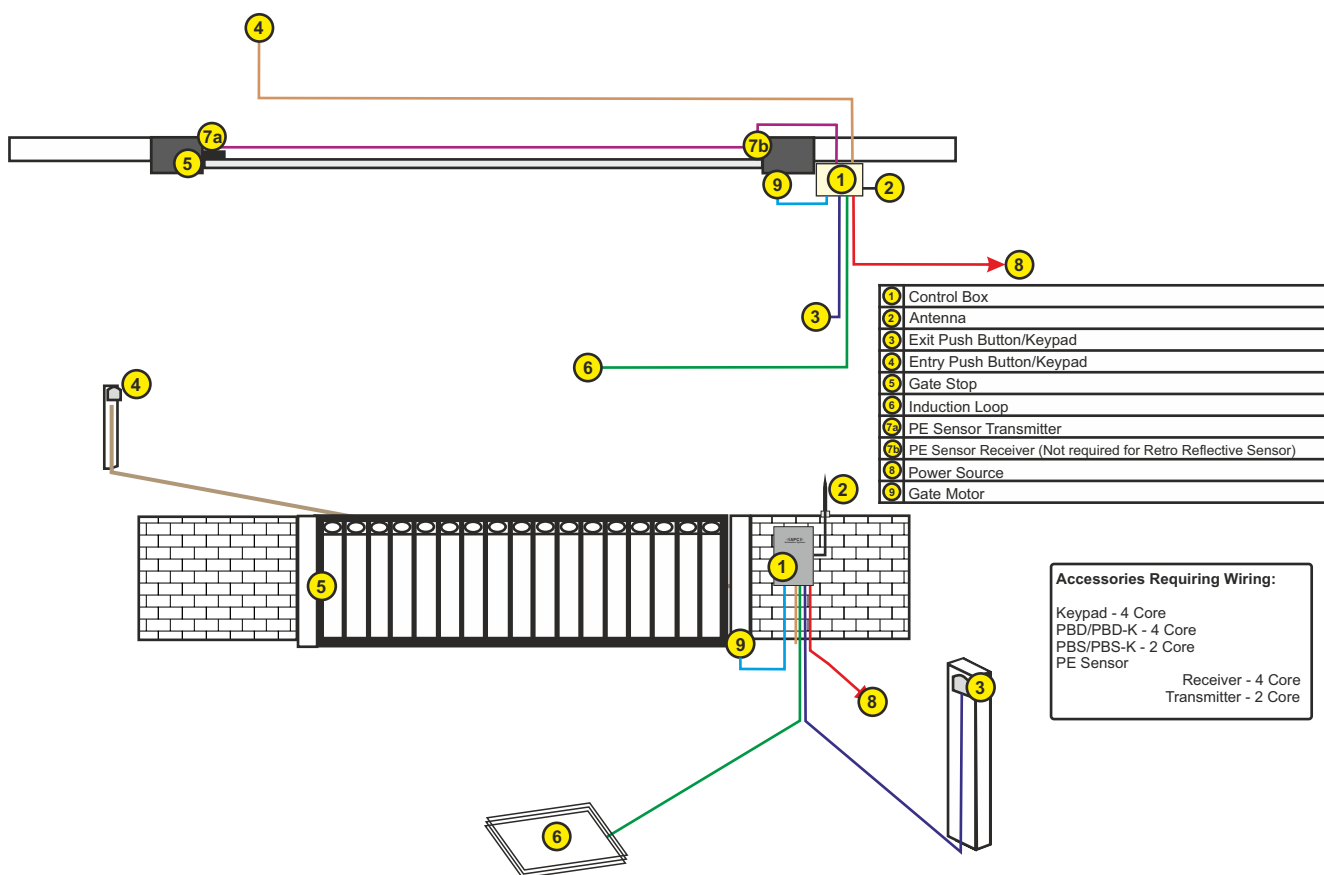
- Damage incurred in shipping or handling
- Damage caused by disaster such as fire, flood, wind, earthquake or lightning
- Damage due to causes beyond the control of Roger Technology such as excessive voltage, mechanical shock or water damage
- Damage caused by unauthorized attachment, alterations, modifications, or foreign objects.
- Damage caused by peripherals (unless such peripherals were supplied by Roger Technology)
- 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 Automotion plus 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.

# Double Swing Gate

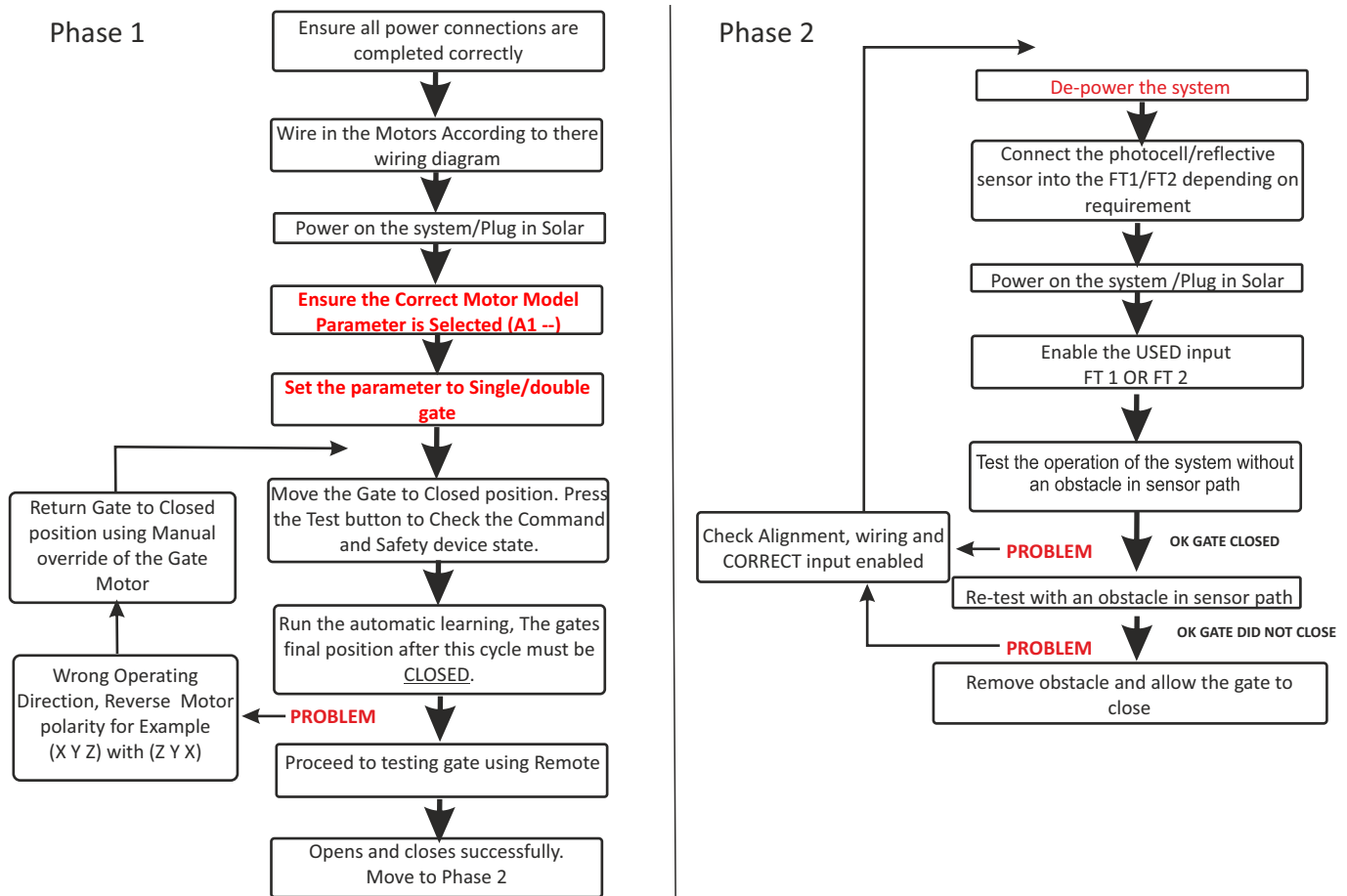


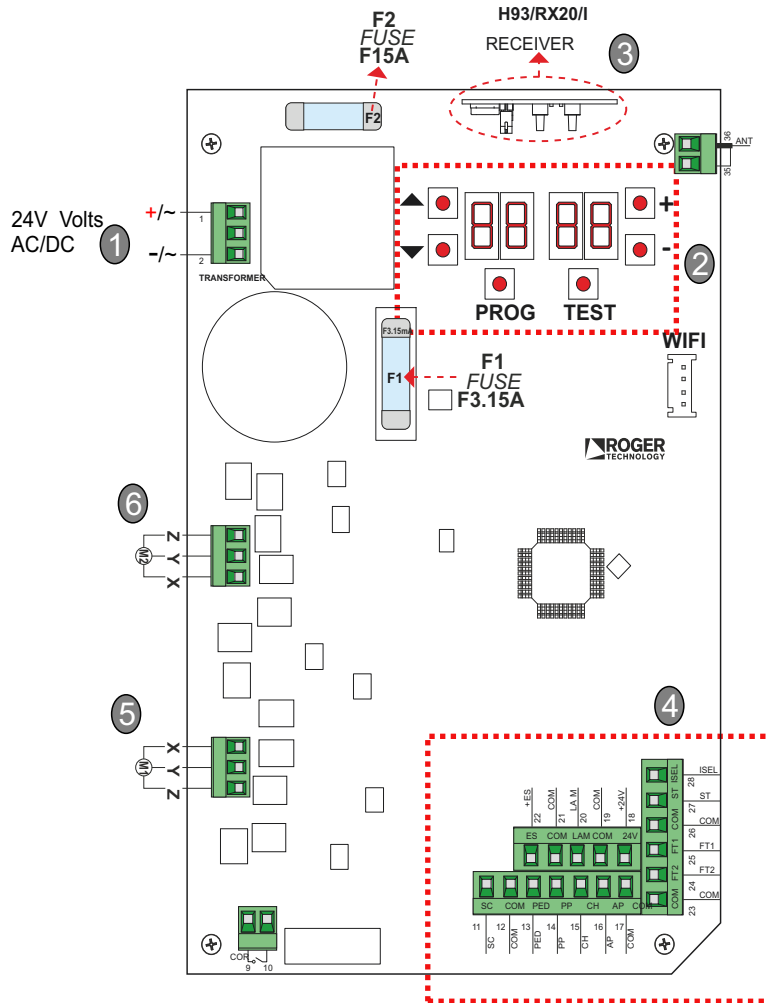
# Single Swing Gate



## Successful Installation flowchart

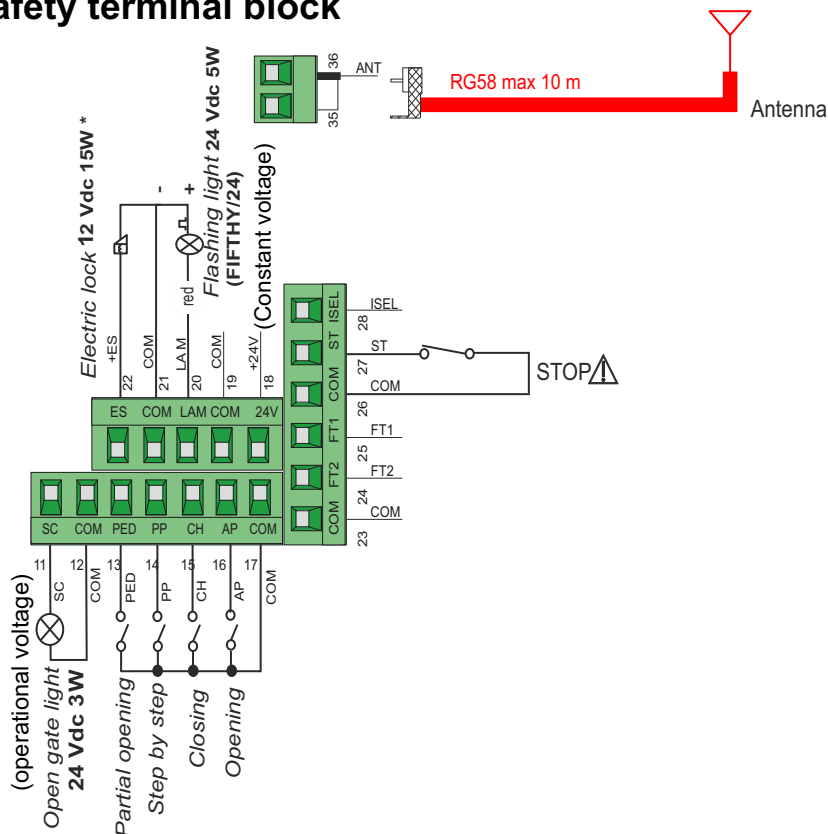
The below should be followed after the physical installation of the motor as per the Motor installation.

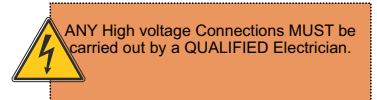
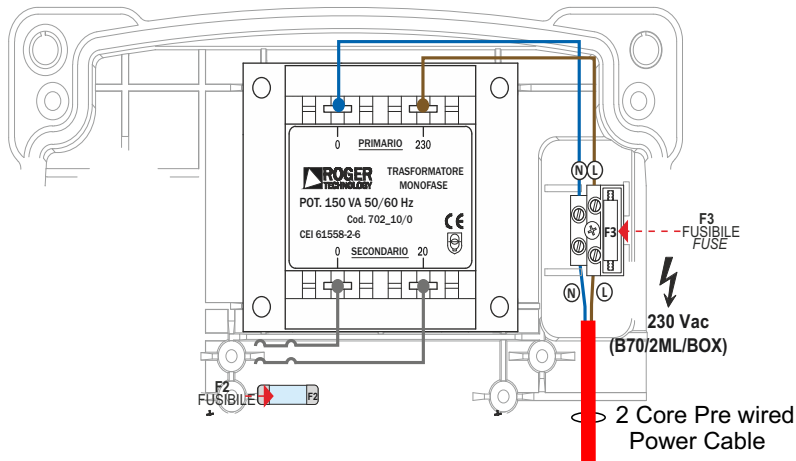




1. Power Input (24V AC/DC)
2. Parameter display mode
3. Receiver Chip
4. Command and safety terminal block
5. Motor 1
6. Motor 2

## Command and safety terminal block

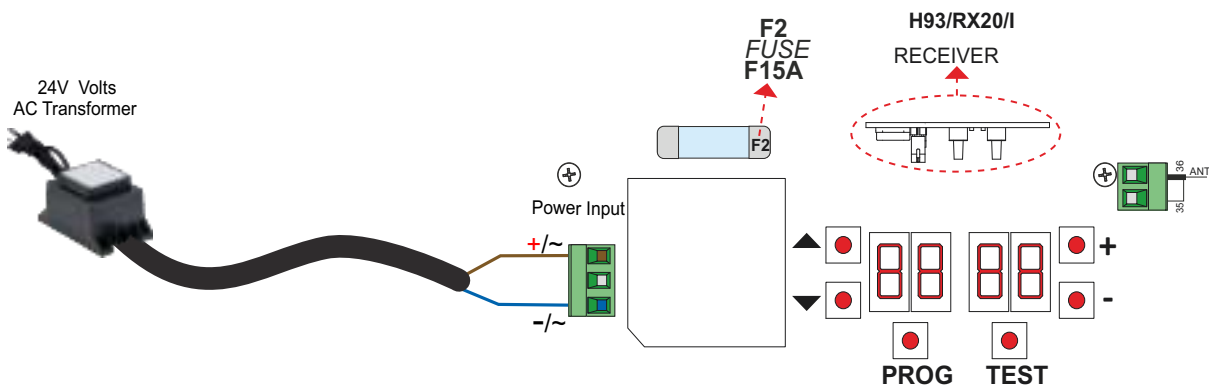




### APC External 24 Volts AC Transformer (Low Voltage Systems)

The diagram below will illustrate the low voltage transformer connection to the control board. The Low Voltage transformer should be connected to the power input as shown in the picture below.

The Ac transformer wires **Red/Brown** should go to the + Ve and **Black/Blue** to -Ve on the power supply input on the control board.



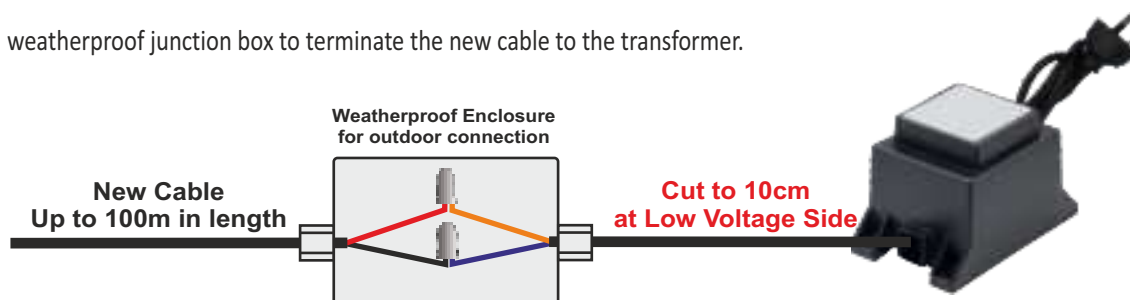
### Extending the APC External AC Transformer (low Voltage)



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.

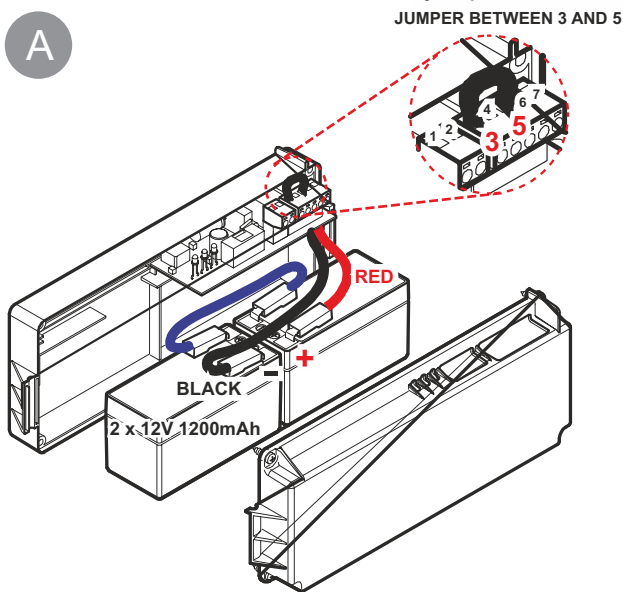
**Note:** Use a weatherproof junction box to terminate the new cable to the transformer.



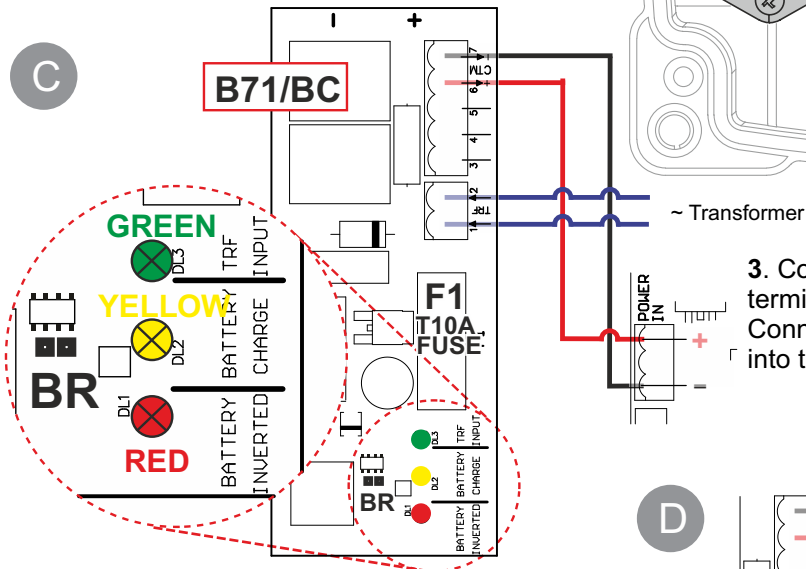
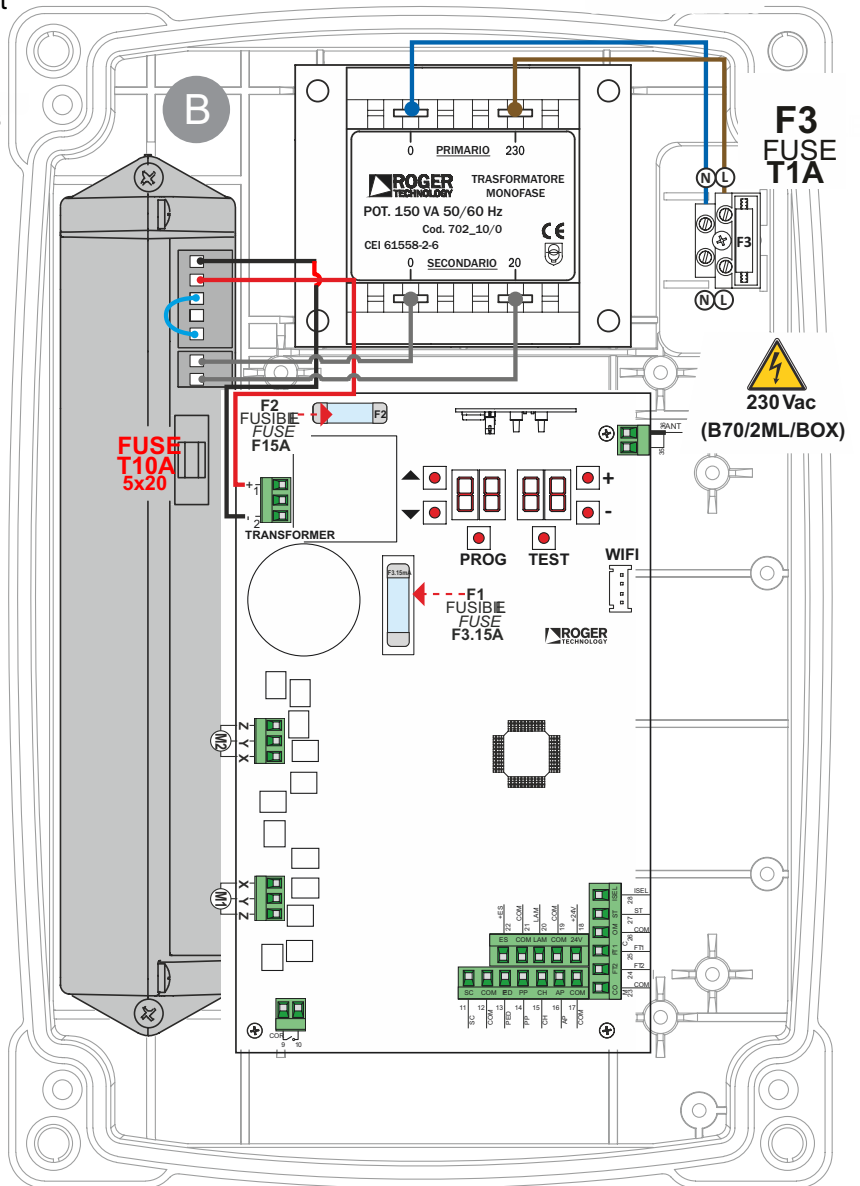
## Battery Backup ( B71/DC/INT)

The Diagram below will illustrate the battery backup connection (B71/DC/INT) module. Ensure the system is de-powered before beginning the wiring.

1. Connect the 12v 1200mAh in series, then connect the battery chargers Red and Black cables to the batteries as shown in the figure **A**. Ensure the terminal 3 and 5 is connected with jumper wire.

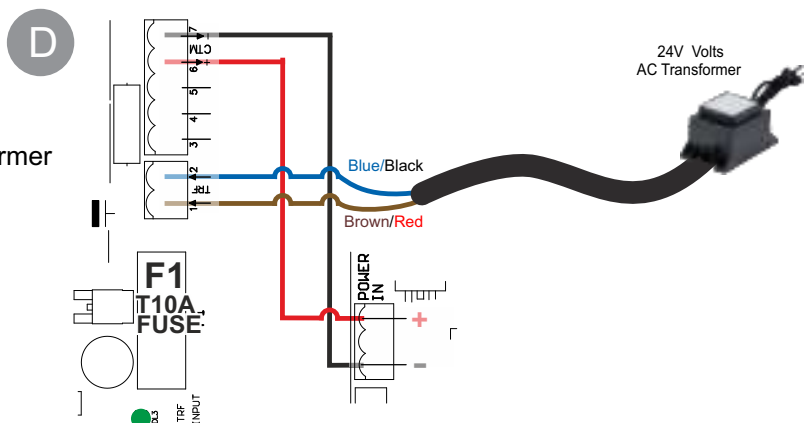


2. Mount the Battery box as shown in the Figure **B**.



3. Connect 24 volts AC output of Transformer into 1 and 2 terminal (No Polarity) as shown in the Figure **C**. After that Connect the output of battery charger (Terminals 6 & 7) into the power input of control board.

4. In Case of APC External Low Voltage AC transformer Follow the wiring as show in Figure **D**.





## 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

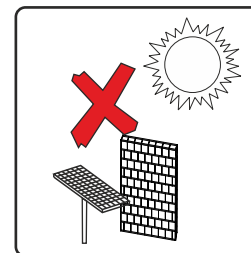
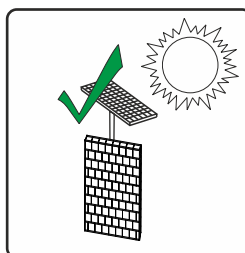
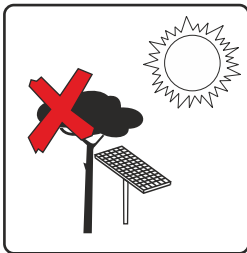


Assemble the base plate to the solar panel using the supplied bolts

1. The solar panel should be installed at 45° 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.

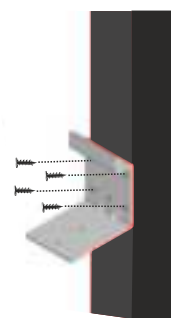
### Solar Panel Placement

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.

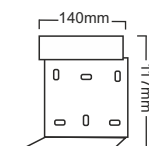
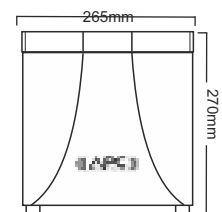
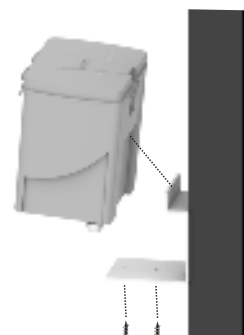


### Step 2: Mounting the APC UNO Solar Box

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.

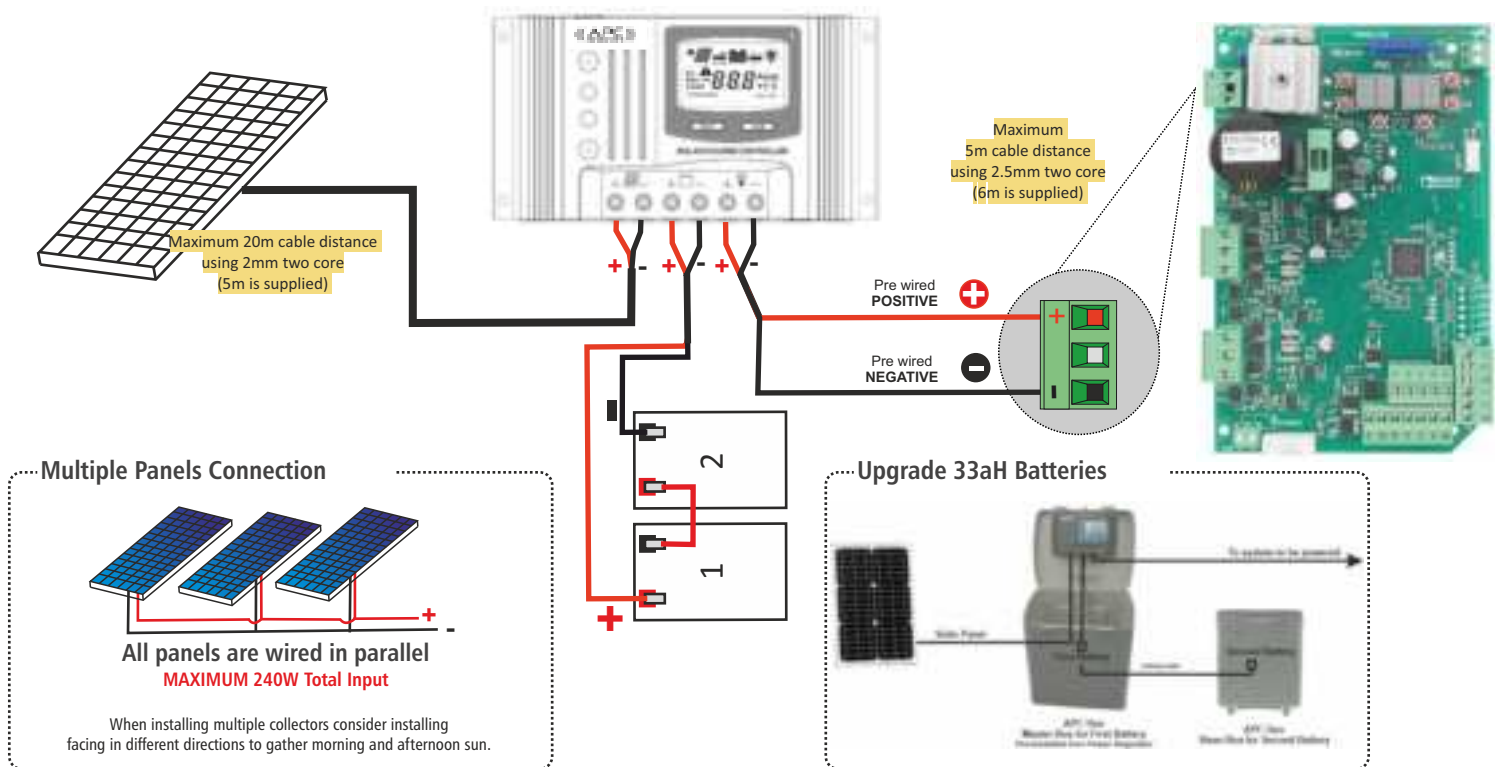




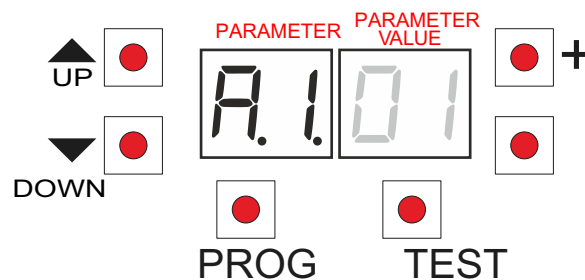
### 3. Wiring the System to the APC Sun Power

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

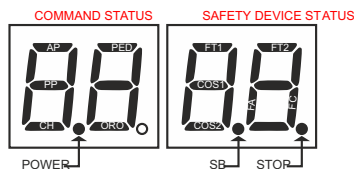


### Parameter Display Mode



- Press the UP or Down buttons to view the Parameter you intend to modify.
  - Use the + and - buttons to modify the values of the Parameter. The value starts to Flash.
  - To save the new value, wait for few seconds or move onto the another parameter using UP or Down button. the display flashes rapidly to indicate the new value has been saved.
- (Press and hold the UP or DOWN button to scroll quickly through the parameter and same + OR - to scroll through the values more Quicker)

## Parameter Display Mode

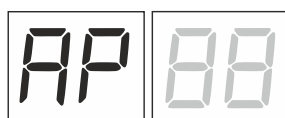


Command status: AP - Open, PP - Step Mode ,CH - Close, PED - Partial opening, ORO - Clock are normally OFF. They will illuminate when command is received.

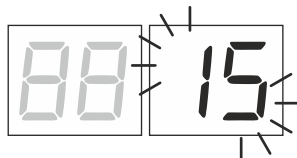
Safety Device Status:FT1 and FT2 - Photocell, COS1 and COS2- sensing edge, FA- gate open limit, FC-gate closing limit and SB- release handle open are normally ON. if the indicator is off, the relative device is in alarm state or it is not connected.

## Test Mode

Test mode is used to test activation of commands and safety devices with Visual confirmation. To activate the mode, press the test button with automatic door system at rest. if the gate is moving, pressing test button stops the gate. Pressing the button again enables Test mode.



Command signal Status is shown on the left hand side of the display for 5 sec, Only with respective command signal is activated(AP,CH,PP,PED,ORO) For example if the open command is activated, the letter AP on the display.



Status of the safety devices/inputs is shown on the right hand side of the display.

|    |                                                                |
|----|----------------------------------------------------------------|
| 00 | No safety device in alarm state, and no limit switch activated |
| 27 | STOP.                                                          |
| 28 | Sensing edge COS (if enabled with par.60 set to 0 I).          |
| 25 | Photocell FT1.                                                 |
| 24 | Photocell FT2.                                                 |

NOTE: If one or more contacts are open, the gate will not Open or close.

If more than one safety Device is in alarm state, once the problem related to the first device is solved, then the next alarm is displayed. Any further alarm state is displayed with same logic. Press the Test button again to Exist the Test mode.

## Gate System Setup Cycle

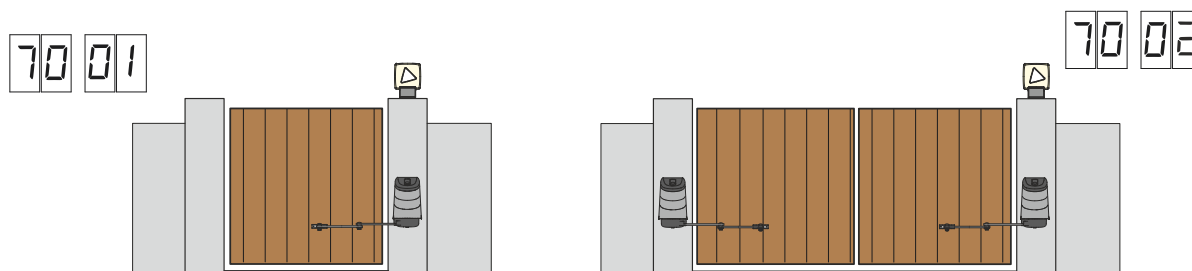
### Step 1: Selecting the Motor type

KEY:  HIGH SPEED Motors

| SELECTION | MODEL        |                                                                                     | MOTOR TYPE                                                                          | CONFIGURATIONS                    |
|-----------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| A1 01     | AYRON SERIES |  |  | NOTE: for gate leaves up to 2.5 m |
| A1 02     | BE20/200     |  | -                                                                                   | NOTE: for gate leaves up to 3 m   |
|           | MONOS4       |  | -                                                                                   | NOTE: for gate leaves up to 4 m   |

## Step 2: Selecting the System to Single Gate/Double Gate.

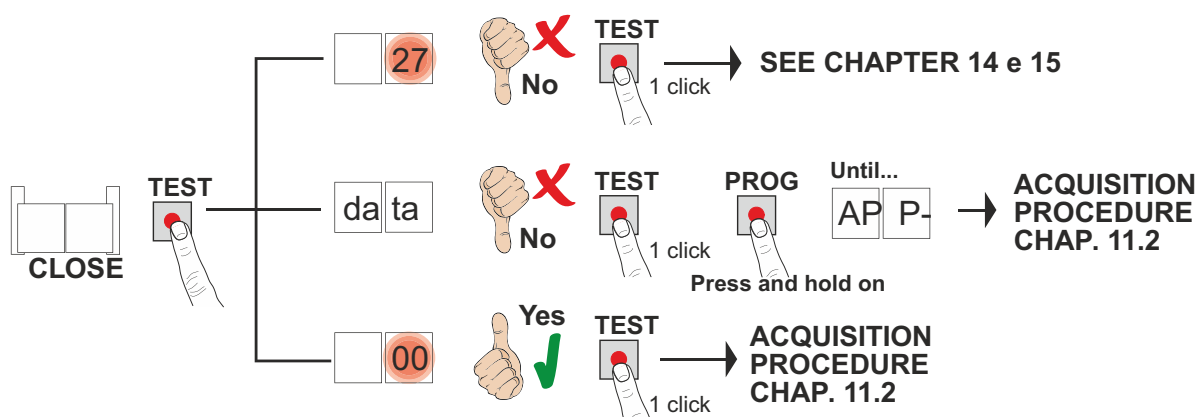
Select the number of motor installed with parameter 70. Single gate is 70 01 and for Double gate is 70 02.



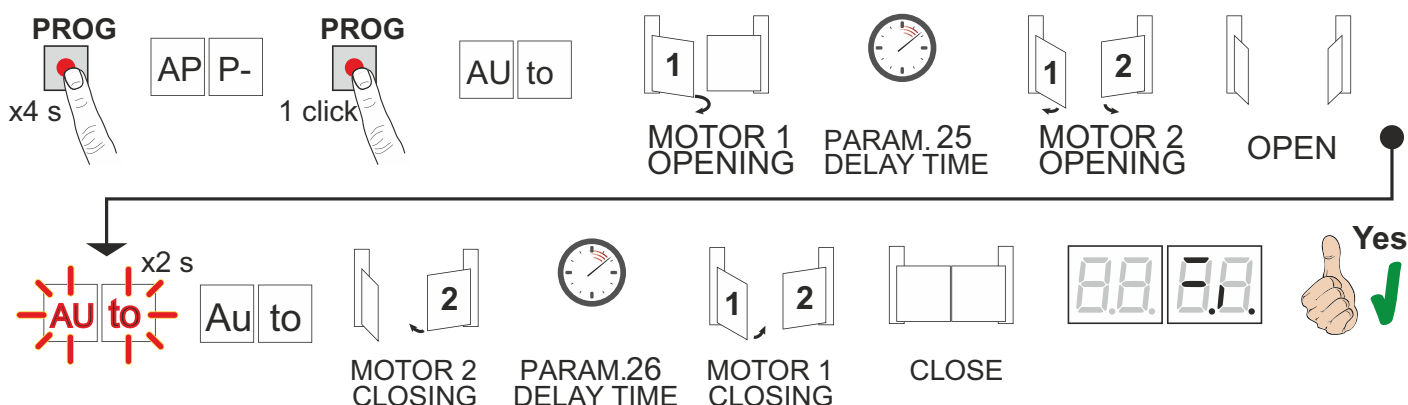
Step 3 : Install the Mechanical stops in both the Open and Closed positions.

Step 4 : Move the Gate into closed position. The gate leaves must be against the mechanical stop.

Step 5 : Press the TEST button and Check the command signal and safety device states.



Step 6 : Now start the gate Setup cycle (Note: **Gate must be closed before starting the setup cycle** )



- Press and hold the **PROG** button for 4 sec until the AP P- is shown on the display.
- Press **PROG** button again. AUTO comes on the display.
- Motor 1 starts opening at low speed.
- After the delay time set with parameter 25 (Default 3 s) Motor 2 starts opening.
- Once the gates opens against the mechanical stop, the gate stops briefly and AUTO flashes on the display for 2sec.
- AUTO stops flashing and Motor 2 start closing first, after the delay time set with Parameter 25(Def 5 s) Motor 1 starts closing until gates reaches the Closing Mechanical stop.
- Now the Gate learning cycle is completed and display enters in to command and safety device state.

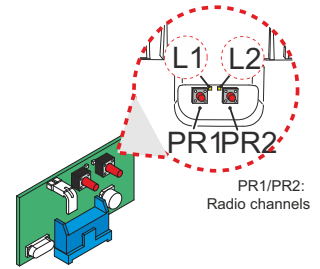
If any error messages are shown on the display, Repeat the Gate setup cycle procedure.

-AP PL : travel length error. Press TEST button and check the both gate are fully closed before setup cycle.  
For all the other errors information ,Please see Chapter 15 “Alarm and faults”.

## Pairing & Deleting Wireless equipment(Remotes and keypads)

### Pairing wireless Equipment

- Press the P1 or P2 once (Depending on the function to be enabled) on the receiver.
- The LED on the receiver flashes slowly, Now press the desired button on the Remote.
- Then LED remains ON for a 1 Second and the remote is stored.
- Now LED Flashes slowly again, another remote can be stored during this time.
- LED turns off automatically after 10 sec.
- If no activity the receiver will return to standby.



### Clearing an individual Wireless item

- Press and Hold P1 or P2 button on the receiver you wish to delete for 4 Seconds, Now the LED L1 or L2 turns ON and then flashes rapidly.
- Release the button, LED flashes rapidly for 4 s.
- Press the button on the remote you wish to delete.
- The LED lights turns ON for 1 s and then remote is deleted from the receiver.
- To cancel another remote, repeat the above procedure.

### Clearing ALL Wireless equipment

- Press and Hold P1 and P2 Simultaneously for 4 Seconds on the receiver.
- LED L1 and L2 flash Simultaneously (5 flashes).
- Now the memory is erased.

## Connecting a Photocells (G90-F4ES)

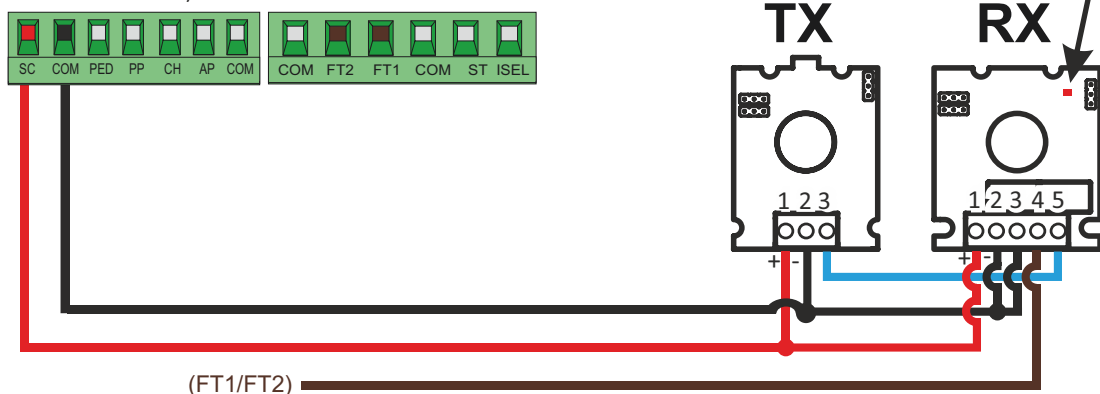
G90-F4ES infrared sensor (Transmitter & Receiver) must be connected back to the control panel.(See wiring diagram).

Install the G90-F4ES 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 not aligned with the transmitter, LED Flashes when aligned with each other ).

LED indicates the intensity of the received signal by varying the **Frequency of Flashing** when aligned with Transmitter. LED OFF when not aligned with each other.



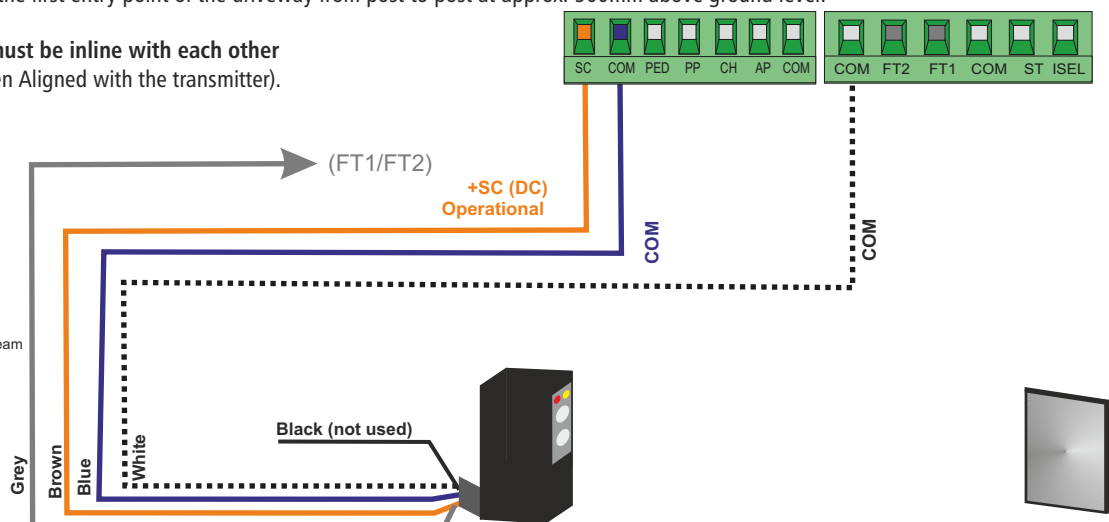
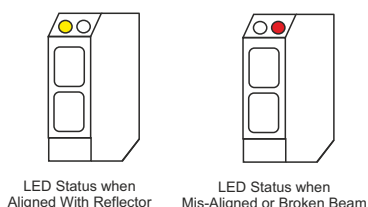
## Connecting a Retro Reflective Sensor (APC-RR-11)

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).



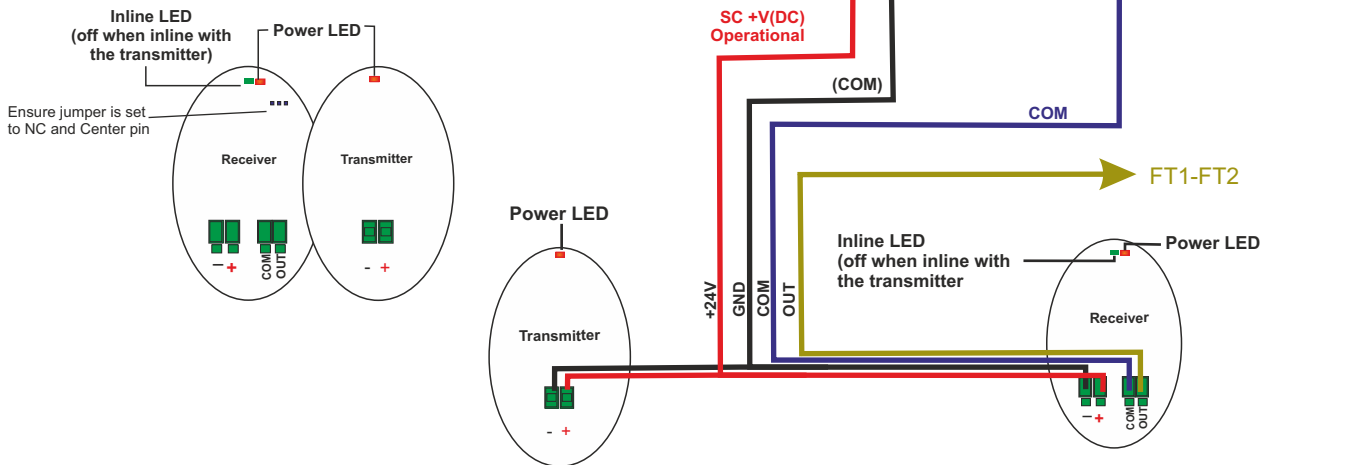
## Connecting a PE Sensor (APC-PE2000)

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).



## Enabling the photocell and setting the parameters

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

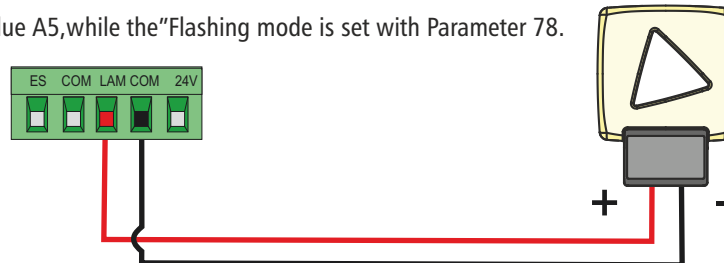
FT1 and FT2 can be programmed to specific use as per the required logic by changing the values of 50,51,52,53,54,55,56,57,58 and 59. Default to usage

**FT1** can be set to function the photocell in Closing (51 02). but this point can be programmed to other functions as well.

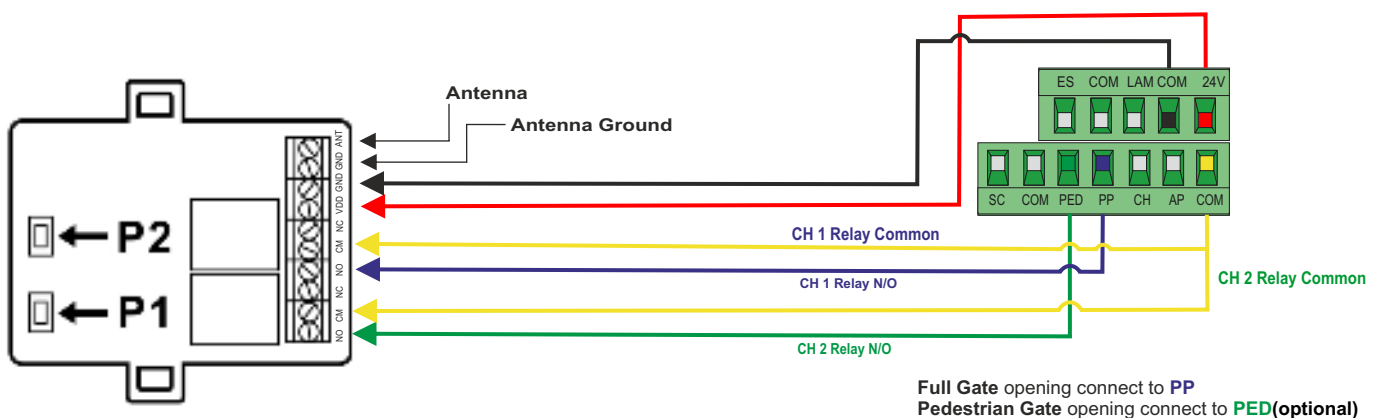
**FT2** can be set to function opening and closing as well as per the change in the setting.

## Connecting FIFTHY / 24

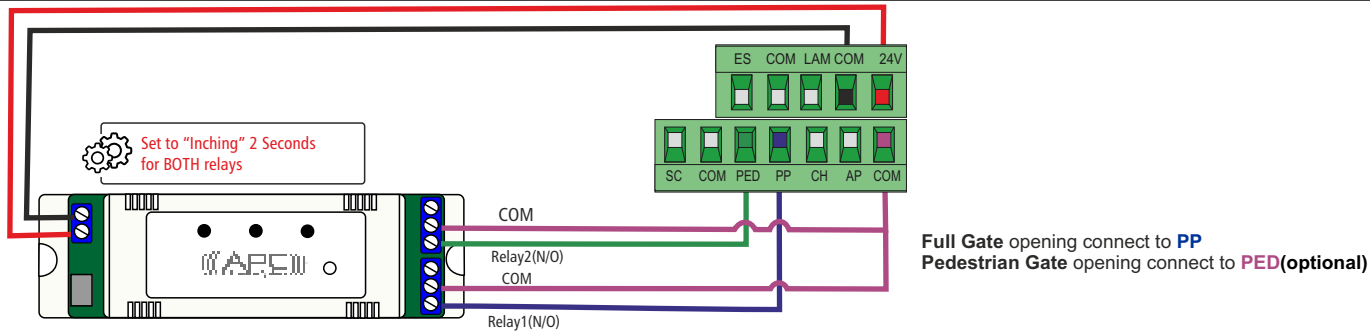
Fifty /24 parameter can be set by value A5,while the"Flashing mode is set with Parameter 78.



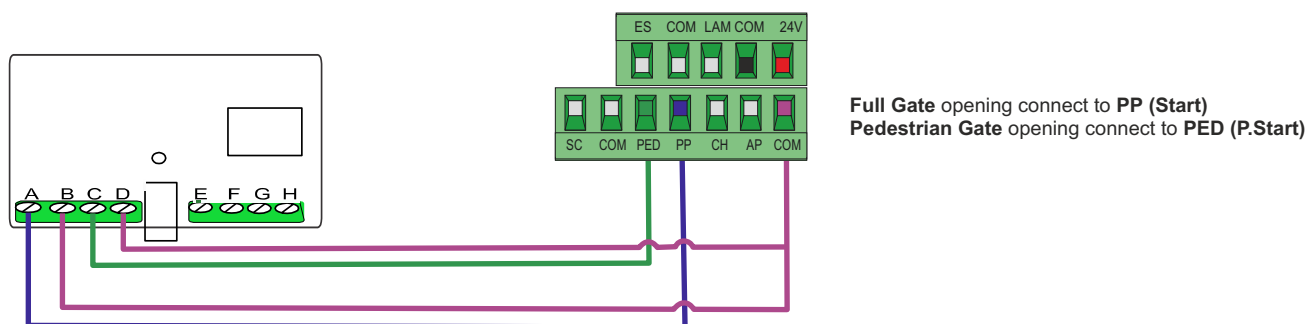
## RX-2 Connections



## • LINK 2 wiring connections



## Remootio3 Connection



## Connecting an APC-ANT1 External Antenna

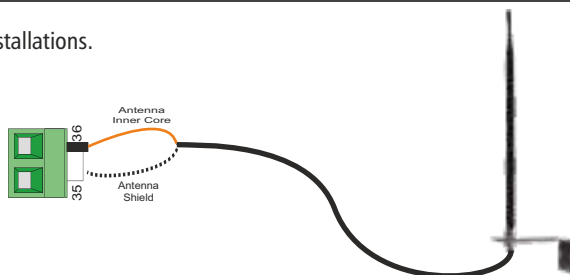
The ANT-1 external antenna can boost the remote range drastically in most installations.

- 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 (36) on the control board.

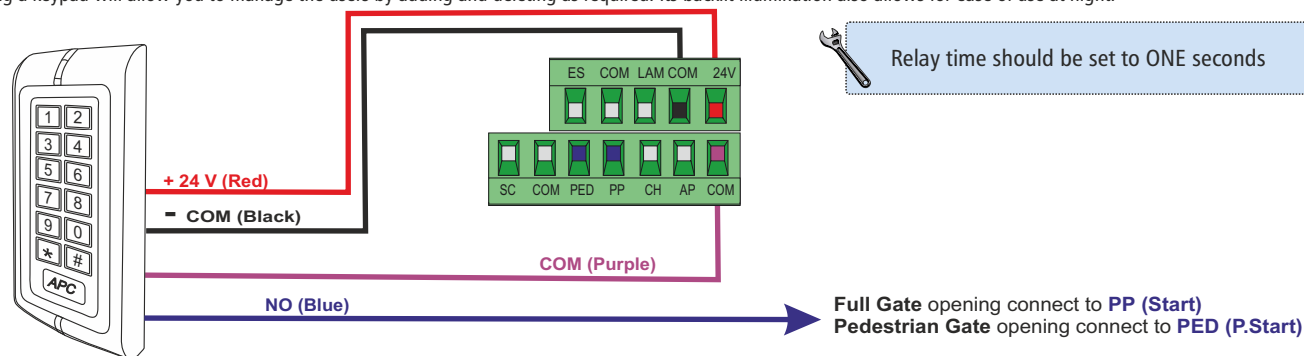
Outer core/shield of the antenna to ANT Shield (35) on the control board.



## 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 | # |
| 1         |   |   |   |   |   |   |   |
| User ID   | # |   |   |   |   |   |   |
| PIN/SWIPE | # |   |   |   |   |   |   |
| *         |   |   |   |   |   |   |   |
| *         |   |   |   |   |   |   |   |

Master Code used to enter programming only

To enter Pin Code/Swipe Card Programming

Any number between 1-999, this number is unique to each pin code/swipe tag and cannot be used twice

The Pin code you would like to use to open the gate (4-6 Digits) OR Swipe the tag past the black window

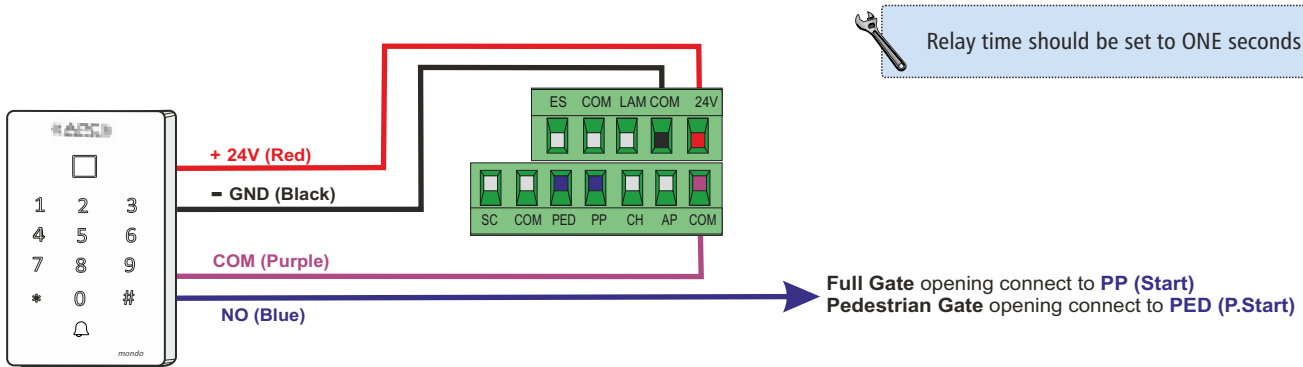
To Exit programming and return to standby state

## 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.

Furthermore the keypad can be connected to your Wi-Fi network and can be controlled anywhere in the world through the APP.



### Quick Programming Pin Code / Swipe Tag

\*999999#  
1  
User ID #  
PIN/SWIPE #  
\*  
\*

Master Code used to enter programming only

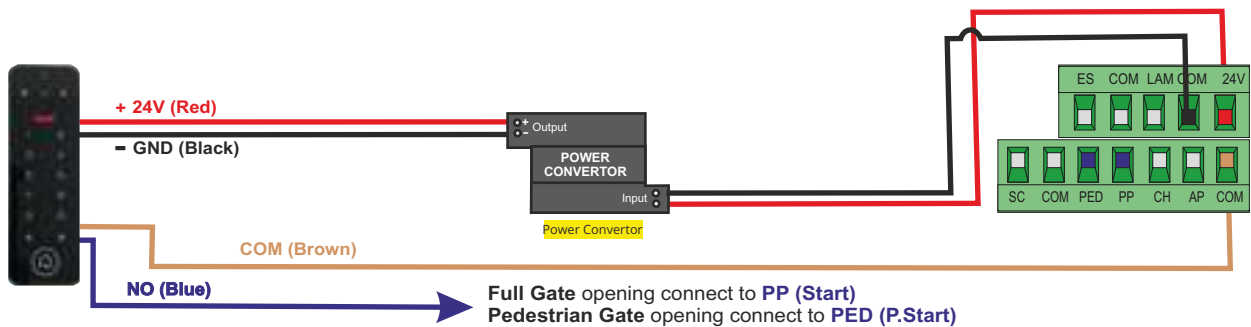
To enter Pin Code/Swipe Card Programming

Any number between 1-999, this number is unique to each pin code/swipe tag and cannot be used twice

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

## Connecting an APC Mondo Smart Wi-Fi Keypad



### Quick Programming Pin Code / Swipe Tag

\*123456#  
1  
User ID #  
PIN/SWIPE #  
\*  
\*

Master Code used to enter programming only

To enter Pin Code/Swipe Card Programming

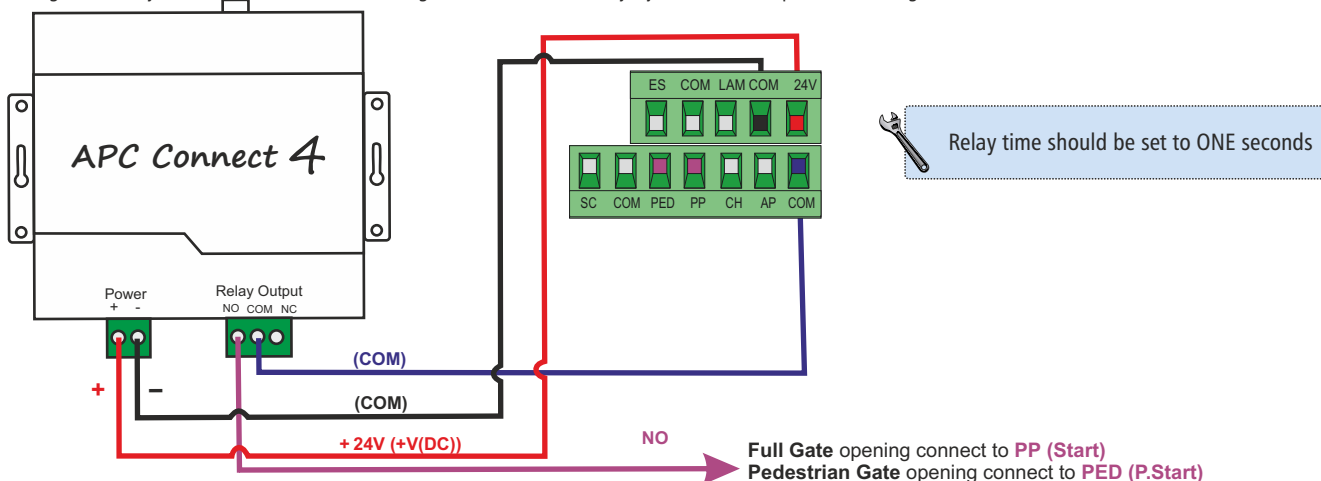
Any number between 1-999, this number is unique to each pin code/swipe tag and cannot be used twice

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

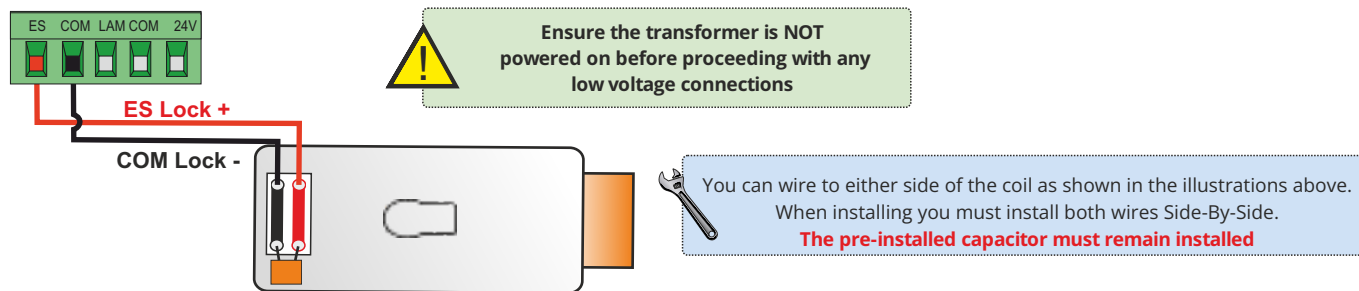
## Connecting APC Connect4 GSM Receiver

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.





## Connecting an Electric Lock



Electric lock setting can be Enabled by parameter 28 and 29. Electric lock input can be 12 Vdc Max. 15 W. 29 01 will Enable the E-lock, 28 can change the unlocking lock time.

## 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, Lock Parameter need to be Enabled on the Control Board with parameter 28 to 00 and 29 to 01 .

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.

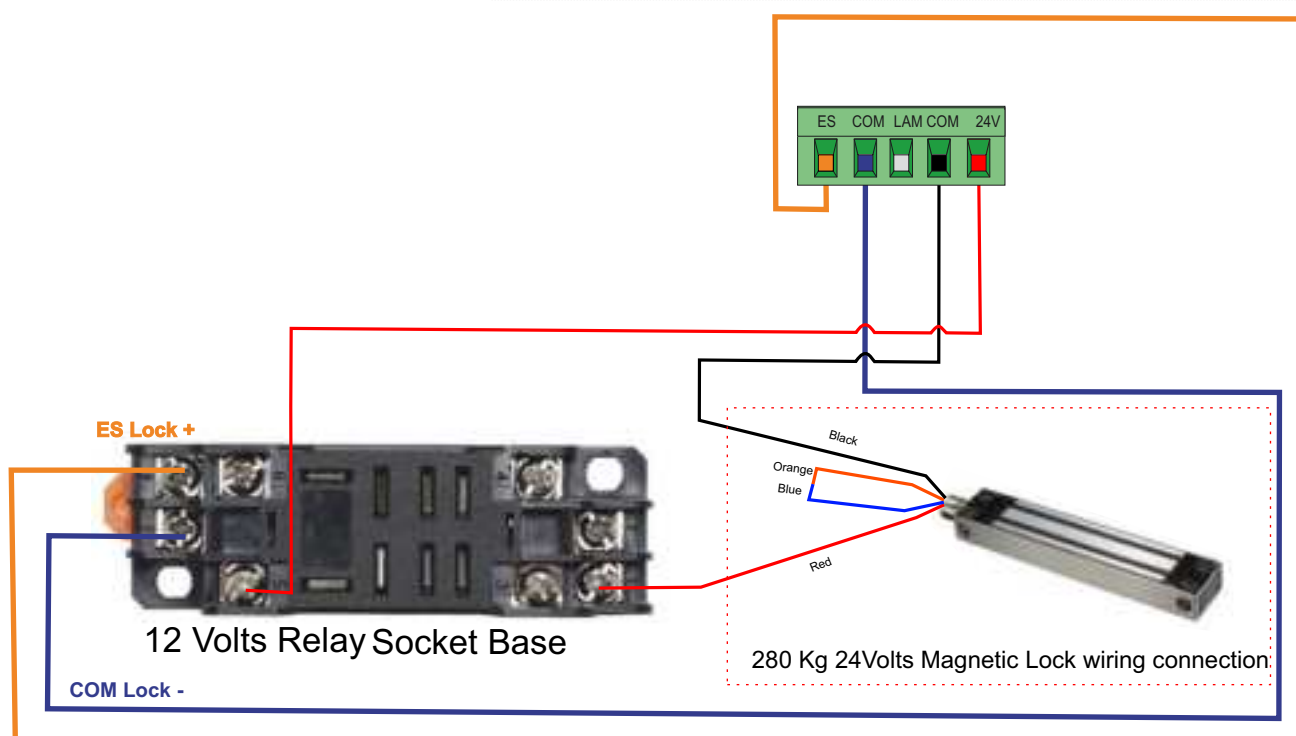
3. check the wiring connections given below.

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.



## Advance change in the settings

For changing the Parameters value please refer to the Parameter index and check the relative page to do the advance settings

Chapter 12 Page number 55 on the manual For Index of parameter.

Chapter 13 Page number 57 on the manual For Parameter Menu.

Chapter 16 Page number 66 on the manual For Safety input and command status.

Chapter 17 Page number 67 On the manual For Alarms and faults.

Please refer this pages for advance setting and fault findings.