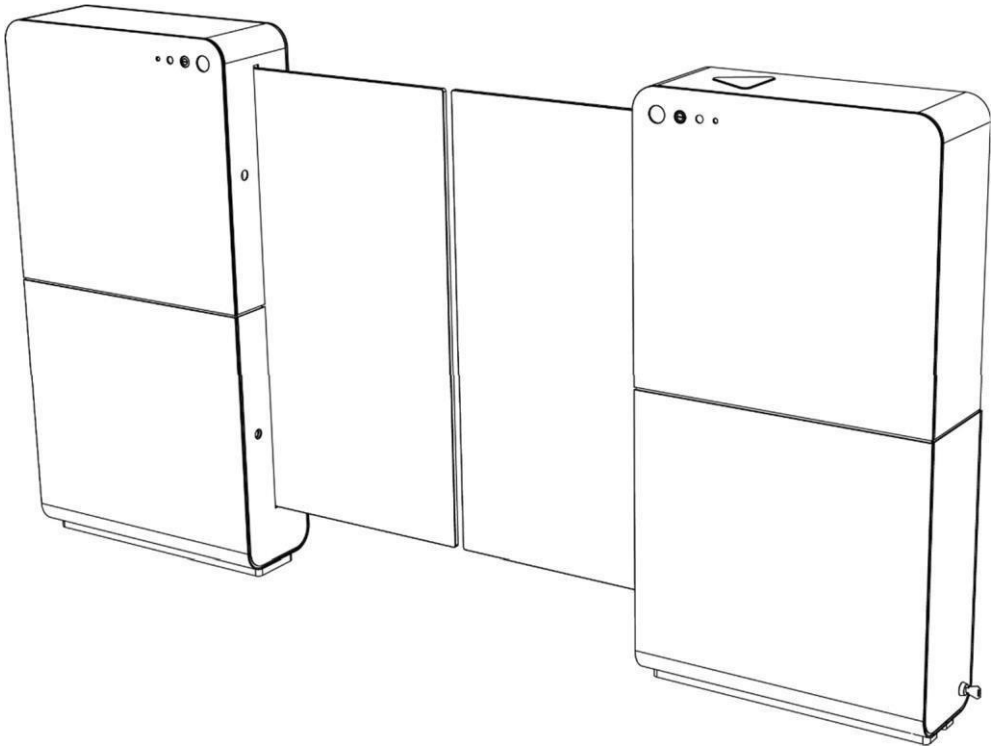
SigmaGate

Coles Sesame Sigma Installation Manual



Radford.

Manual No. v7.2

Sesame/SigmaGate system introduction.

The Itab Sesame/Sigma system is a unique system fully developed by Itab Ab Sweden that incorporates patented software.

Sesame is designed to identify the customer who has fully completed a payment for the purchase of goods at the checkout POS terminal.

This payment confirmation achieved via a series of overhead camera sensors (loaded with Itab IP software) profiling the people standing next to the payment terminal at the same moment their payment has been validated through the same checkout payment terminal.

Upon validation by the store POS payment terminal a signal is instantaneously sent to a device (usually installed at the back end of the store) known as a storetracker (also loaded with Itab IP software) and validates a customer using the overhead mounted camera sensors.

At the physically controlled exit point, a set of SigmaGates are installed to create a physical barrier to non-paid customers and only opening for the paid and validated customer as they approach a pre-set distance to the SigmaGate.

After the paid customer passes through the gates, they return to their normally closed position thereafter awaiting the next paid customer to approach.

Table of contents

Contact Information

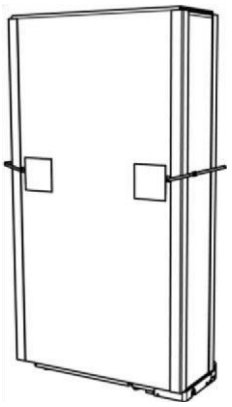
Shipping address: Unit 6/ 5-7 Malta St Fairfield East
Aron Casey --0452 293 607 ac@radfordretail.com
Ray Casey – 0403 304 600 rc@radfordretail.com
Dominic Casey – 0411 881 904 dc@radfordretail.com

To install the SigmaGate/Sesame system into the front end self-scan area (or conventional checkout area) please follow the following steps

Shipment content with MPB

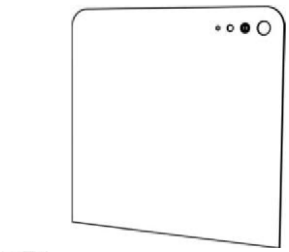
NOTE

Make sure that following content is delivered before starting installation. Below content is based on a saloon installation of SigmaGates.



Name:……..

Date:……..



Please sign to confirm all items have arrived and in good working condition.

2X SigmaGate with MPB (Breakout brackets

2X Left service hatch 2X Right service hatch

2X Key set

Base Plate Lifter

Remotes

Install Installing drop down poles

Install drop down poles and mount camera sensors, precisely as located from store drawing – store drawing to be provided by the builder.

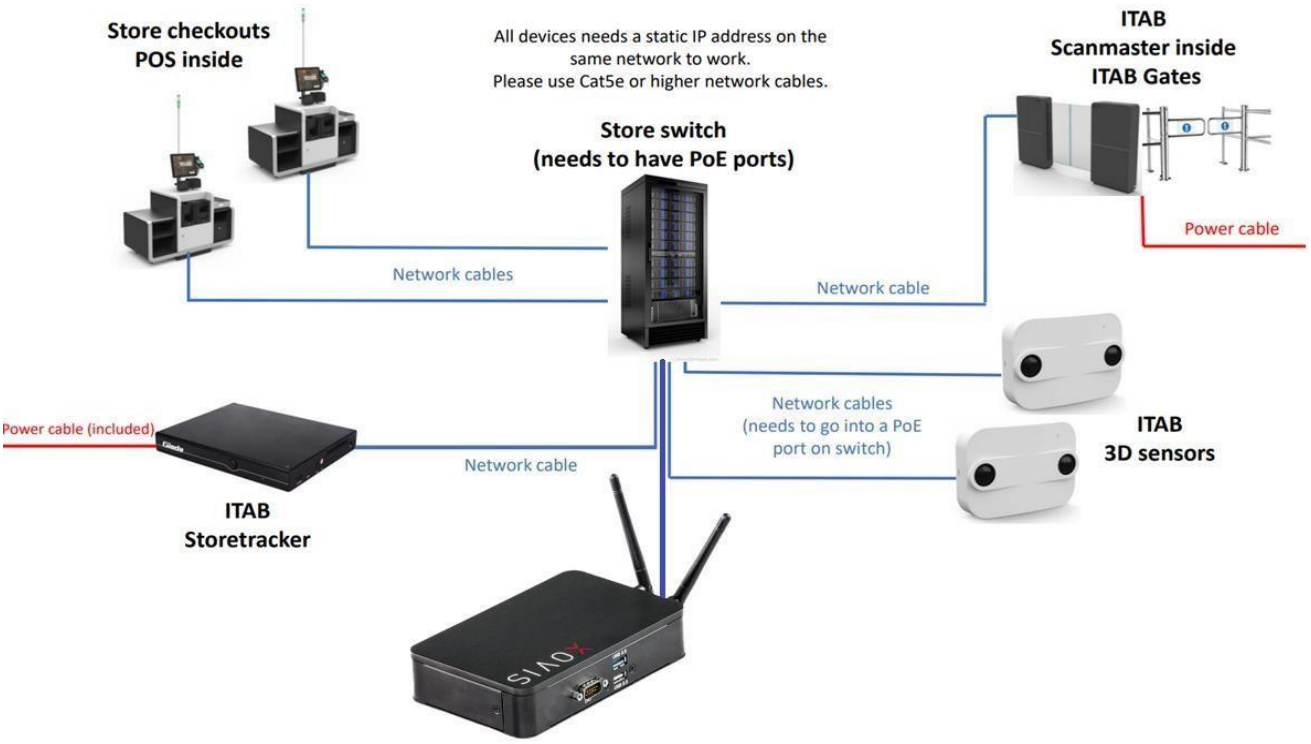
Important notes on installing Xovis sensors onto the drop-down poles:

a) Must be installed as per matching ID as each sensors will have its own IP address and location above the floor – check with to ensure the correct Xovis sensor match the overhead floor location.
b) Must be installed at a specific height.
c) Must be Installed Level.
d) Must be installed rigidly to prevent movement.
e) Must be installed as per individual store drawing – check with builder as dimensions (floor location & height from floor) are critical and will vary from site to site.
f) Must be kept free from dust and grease.

Install data cables to Xovis sensors

Install data cables as plug & play cables to each Xovis and store tracker to Coles network (Xovis sensors front-end coms cabinet and store tracker and spider (if included) the Coles network via the backend coms cabinet.

Note: If more than nine Xovis sensors are used and additional devise (spider) will also be attached to the store tracker. See drawing below showing a typical schematic of the sesame hardware.

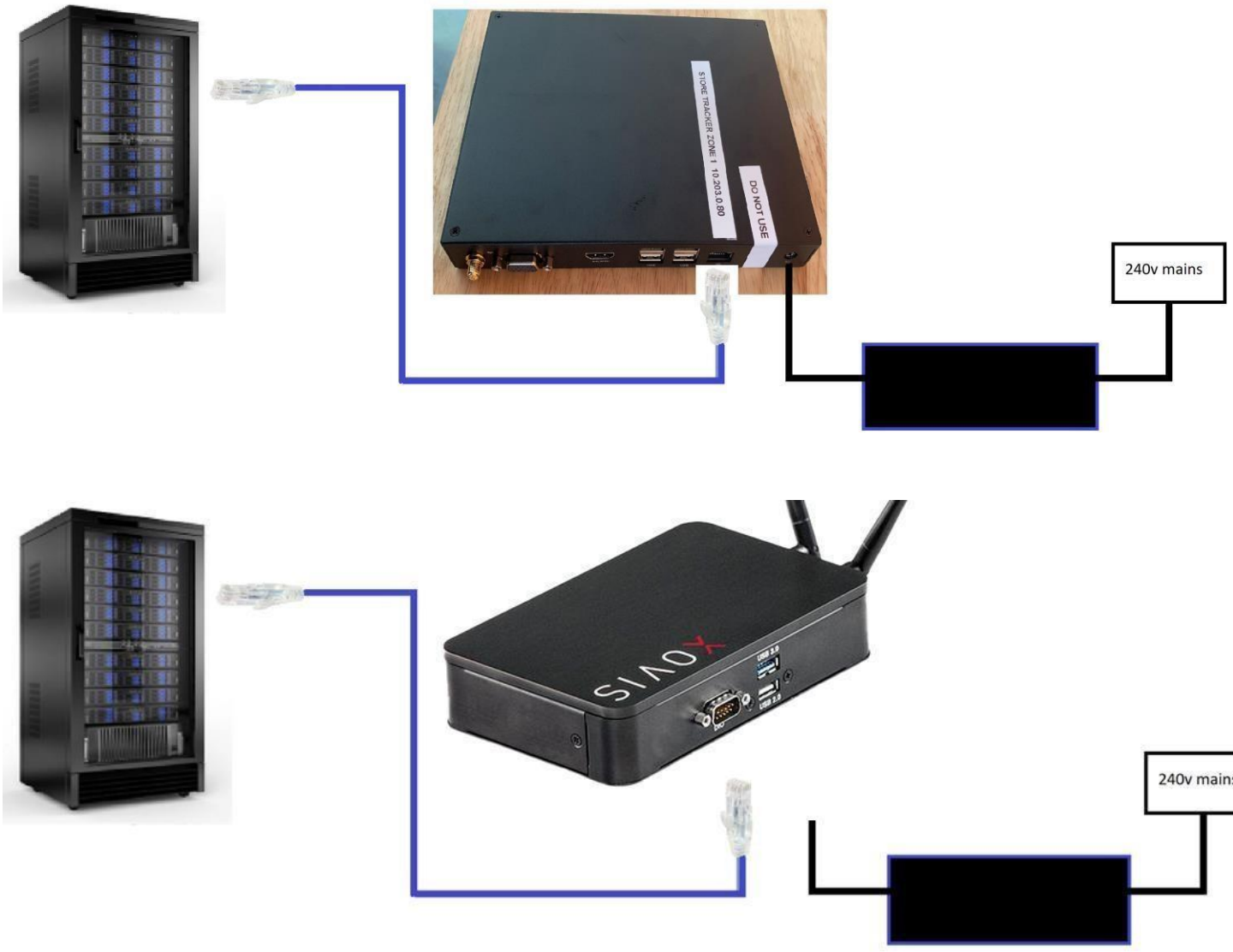


Note: Store checkouts and POS systems are already connected to the store switch and it is not necessary/required to to run additional patch leads to the checkouts.

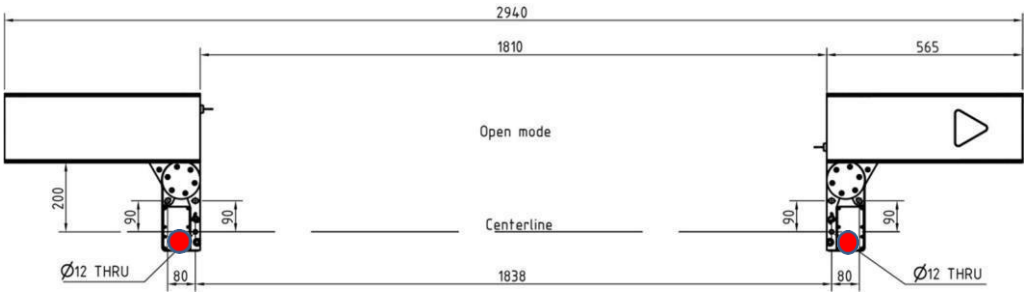
Installing the Store Tracker & Spider Device

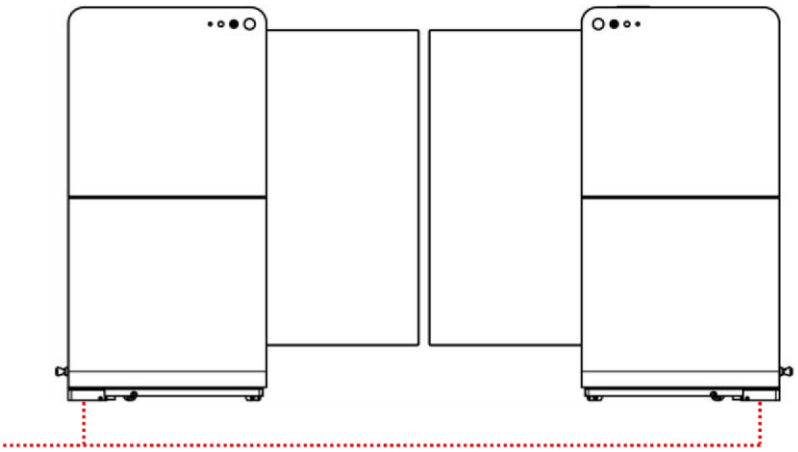
Store trackers and Spider devices are to be placed in the comms cabinet (see site manager for cabinet number) and be plugged into a 240 power outlet using the power cables provided.

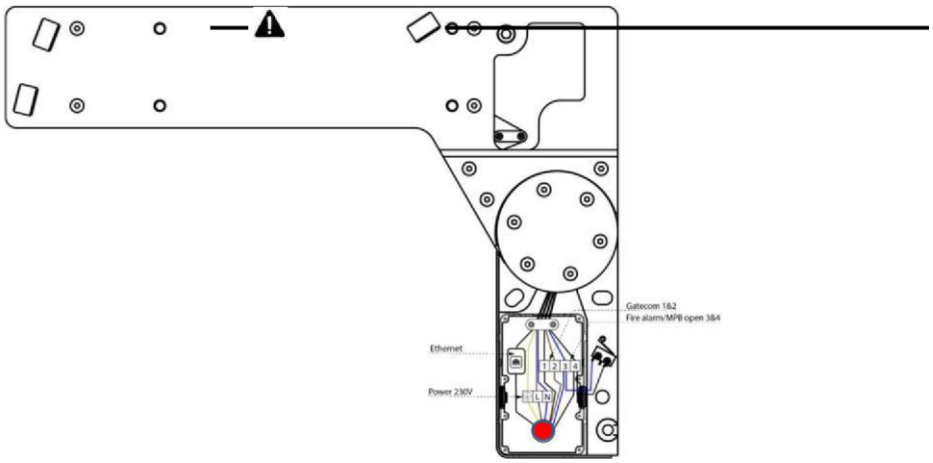
Connect store tracker and Spider to the switch using a cat5e or higher network cable. Plug one end of network cable into the programmed port (the one with the IP address next to it) and the other end of the network cable into the designated port in the comms cabinet. See IP tracker for port number



Routing of cables through the floor.







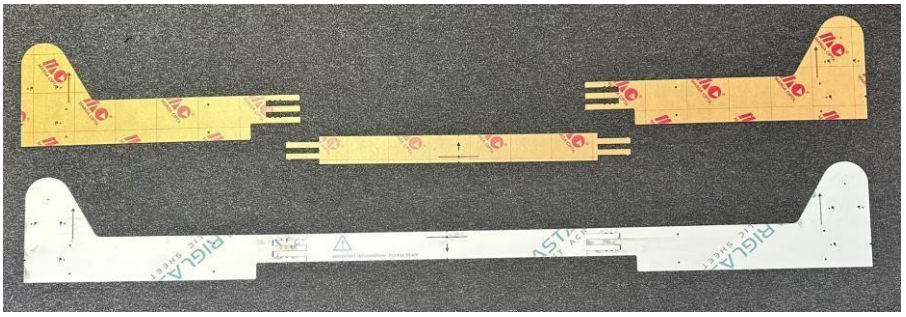
The data cable is to be routed directly from the store switch/coms cabinet to the ScanMaster board directly with no breaks in the cable.

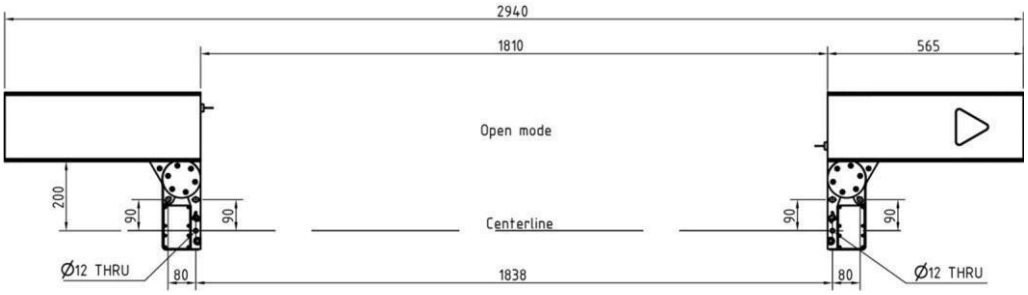
Open circular plate and run data cable through the MPB bracket, ensuring that the data cable is looped around the metal cable protector then pluged directly to the ScanMaster board.

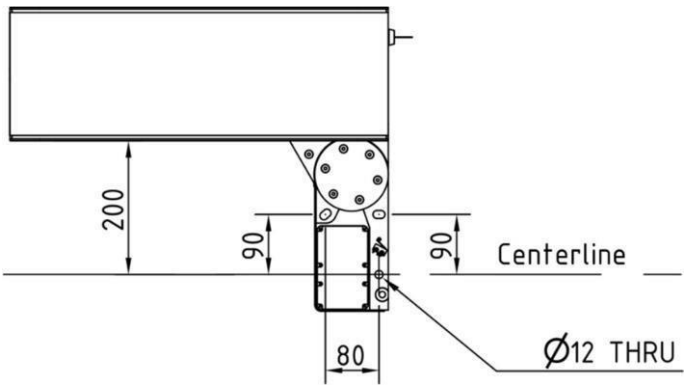
Note: the Ethernet port in the breakout bracket is now redundant and must not be used.

Mounting of gates (MPB)

1. Lay our SigmaGate using floor drilling-template provided: Mark the floor for the three main ground fixings, then mark power and data aperture for floor chasing (including the data cross-over cables) before drilling the three main fixing holes – note both SigmaGate individual units require a 240V power supply chase to them – see below drawing.
2. Mark out the centerline of where the gates will be installed.
3. Mark out two lines perpendicular to the centerline, c/c 1838 mm. Make sure the lines are placed in the center of the entrance or exit.
4. Use the drilling templates to mark out the six drilling holes.
5. Holes must not be bigger than Ø10.
6. Make sure the floor is flat. If it is not, use shims to make it flat.
7. Fix bracket to the floor using appropriate fasteners. The manufacturer recommends fastening the mounting plates to the ground with chemical fixings. Please note that the final responsibility lies with the builder/architect.







Important notes on floor assessment for SigmaGates:

a. Before any fixings holes are drilled, it's very important to establish if the ground is level (max floor bowing of 10mm can be accommodated) by installing the base-plate-lifter (BPL) provided with the kit.

b. For the sake of clarity: its important to note if a Base Plate Lifter is required it will be most likely required on both gate boxes, otherwise the height of the gate arms may not align.

c. mark out the total arc of the gate of approx. 1000mm to a 90 degree position from centre of MPB bracket to establish **break out area** of the individual gate box and check the floor is flat and level. Fit the baseplate lifters as required.

d. The fourth (smaller and precise fixing hole) front-mounted fixing hole needs to be precisely drilled (drill bit to penetrate Manual Pushout Bracket hole during the drilling process) and only installed **AFTER** all three main fixings have been fully installed into the ground with the SigmaGates **fully aligned and locked** into the ground with Chemset – this provides the best chance of alignment retention thereafter.
(*Tip: drill with a slightly smaller drill bit to begin with and then drill with the precise size drill bit*)

The Baseplate Lifter Kit.

Contents

2x 10mm base plate lifter plates(solid)
2x sets of 2.4mm retrofit base plates
2x sets of 4mm retrofit base plates
2x sets of circular shims for bracket
2x locator screws
1x left MPB "L" corner bracket
1x right MPB "L" corner bracket

Notes:

1) It is extremely important to note that if you have assessed that a lifting bracket may be required, that there has been sufficient allowance of thread left for the gates to be bolted onto.
2) If this kit is being used in a return visit to site for any reason, it will need to be assessed if the use of this kit will result in gate relocation due to the lack of thread left on the floor fixings. (As noted above)
3) It is also very important that the floor is tiled underneath the gates and that the floor is of sound structural integrity 4) When using the lifter plates start with the smallest thickness first and reassess if a thicker plate is required.

The aim is to lift the gate up enough to avoid the fowling of the gates on the ground with as few lifter plates as possible.

1) First step is to make sure the gate is fully in the breakout position. (See image below).
2) Remove the locator bolt from the bracket and back off any nuts to allow the baseplate room to lift.(see image below)

Tilt the gate to one direction and slide one half of the bracket underneath. Then tilt the gate the other direction and slide in the other half of the bracket underneath the gate. (See image below)


Check for floor clearance now that the gate has been lifted and assess if a larger plates are required.

Check for clearance across the baseplate “L” brackets and swap out for the angled L brackets provided if necessary.

Changing the L brackets

Remove the 3 x 2.5mm Allen screws as per image below and remove the “L” bracket.


Place the new bracket up against the baseplate making sure that the grooves of the junction box are lined up with the new bracket (see image below) and make sure the screws are all in place before fully tightening down to prevent any uneven aligning issues.

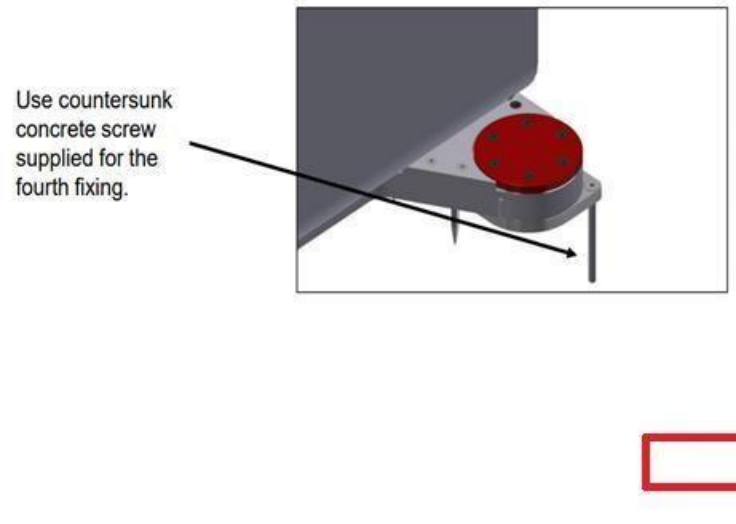
Securing MPB bracket into position

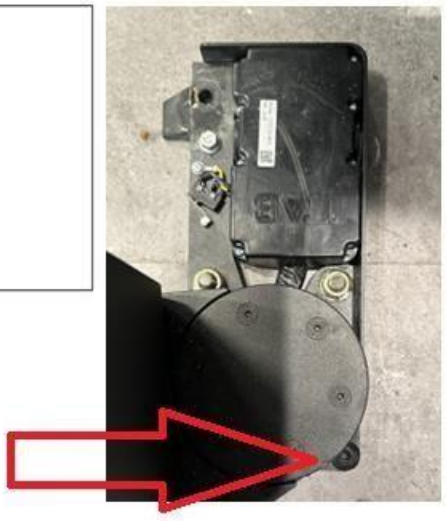
Two of the four holes for fastening the MPB block to the floor are made larger to allow adjustment when installing the gates. If the fasteners are not holding the MPB block strong enough to the floor, the gate position can be incorrect leading to interrupted photocell signals and faulty behaviour of the gates. To prevent this, the two larger holes can be filled with chemical anchoring to lock the position after making sure the gates are in line with each other.

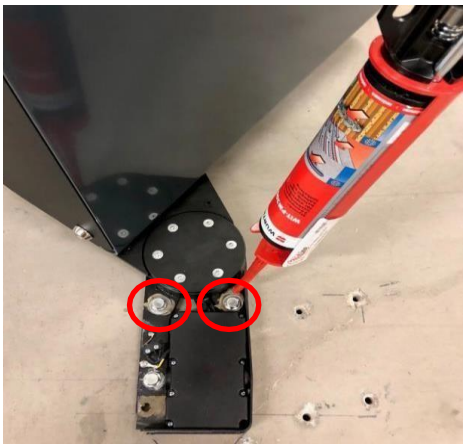
Routing of Power and Data cables through MPB

There are two ways of routing Power and Data cables into SigmaGate MPB.

the floor and cables can be routed through the MPB base plates.



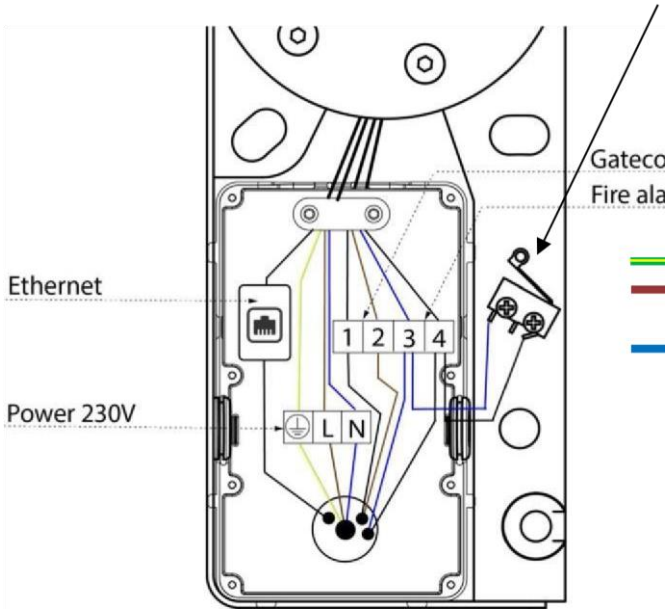




1. Through the floor. Holes for the cables need to be drilled in

2. Through uprights and ceiling feeding tubes. Cables are then routed via a short chase along the floor and then through the MPB base plates.

Connection of Power (MPB from floor)



• Connect earth, live/phase and neutral cables to the connection terminal according to the markings on the terminal.

• Do not remove gate stop from bracket or th is microswitch may become damaged.

Gatecom 1&2

Fire alarm/MPB open 3&4

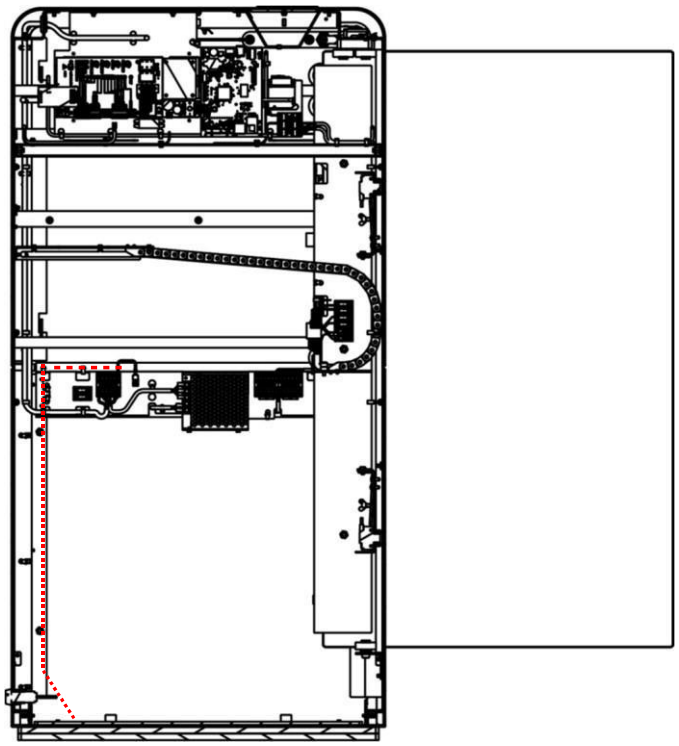
Connect green/yellow cable (Earth) to socket.

Connect brown cable (Live) to L socket

Connect blue cable (Neutral) to N socket

Connection of Power to SigmaGate

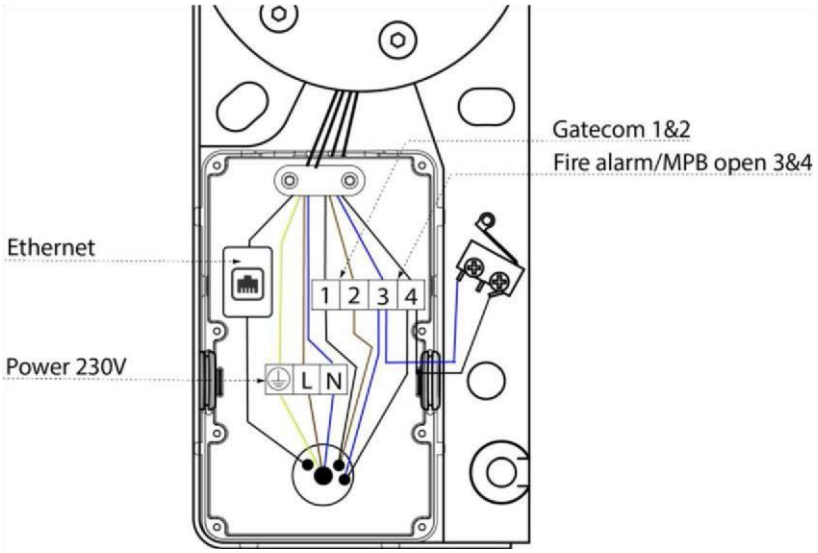
1. Pull the 230V cable through the cable ties in the lower corner section of the gate. Tighten the cable ties.
2. Do not store any excess cables or ties inside the gate.
3. Adjust the cable length.
4. Connect earth, phase and neutral cables to the connection terminal according to the markings on the terminal.
5. Fasten the cable to the strain relief.



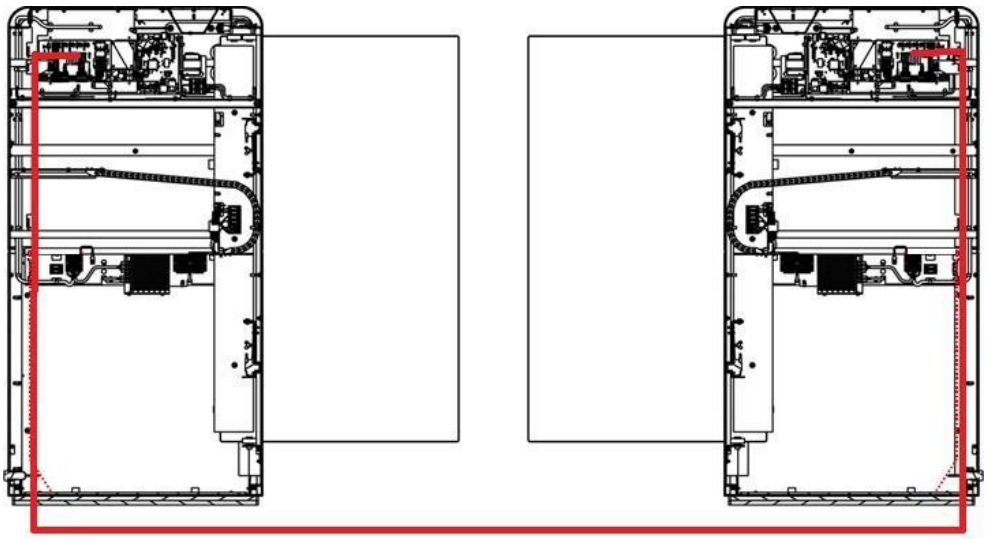
Connect brown cable (Live) to L1 socket
Connect blue cable (Neutral) to N socket Connect green/yellow cable (Earth) to socket.

Connection of GateCom/Crossover cable/Saloon Cable through MPB junction box

- Connect ground to socket marked 1.
- Connect signal to socket marked 2.
- Route the cable to the other gate via the floor chase and terminate at the opposing gates junction box using the same method
- This completes the loop between the main PCB boards and can now be tested using the test button on the main PCB board
- Check operation of GateCom before connecting data cables using test switch on the SigmaGate main PCB



Example of the full connection that the above process creates.

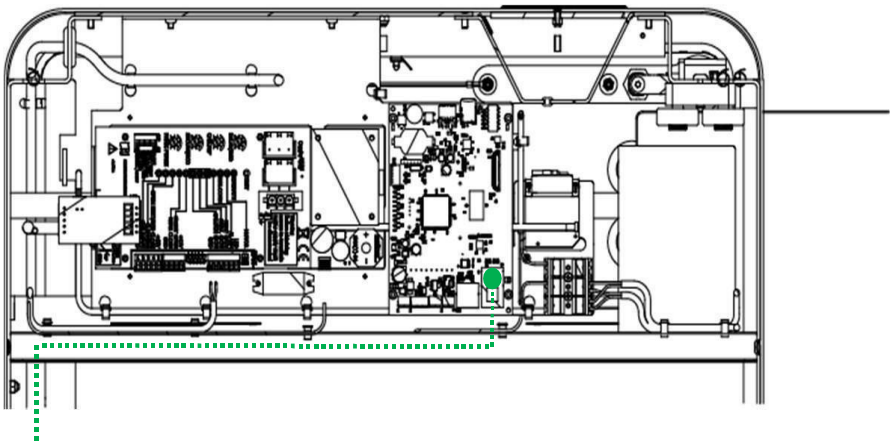


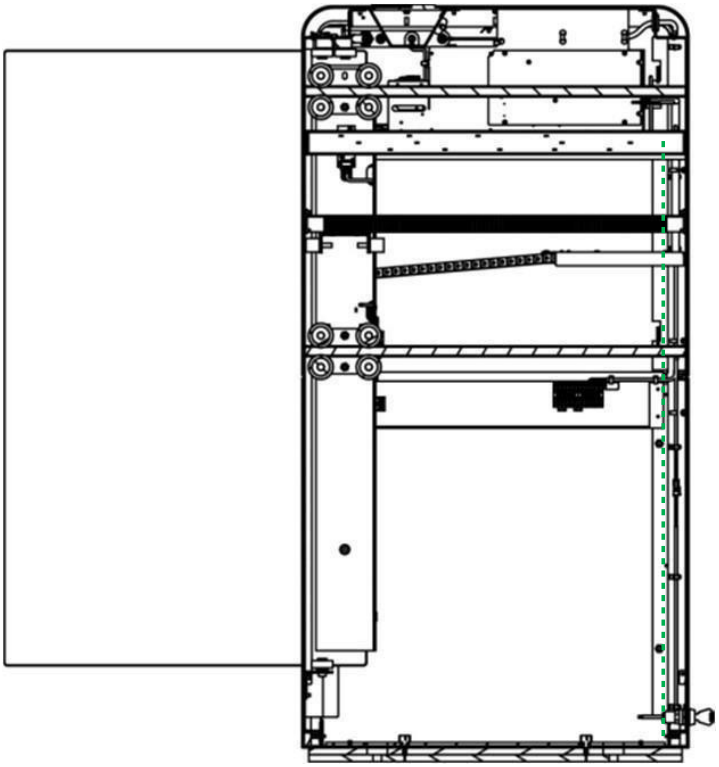
Connection of Ethernet

If the SigmaGate is equipped with ScanMaster and is intended to be connected to the store POS system an Ethernet cable (CAT5e or better) need to be connected to the GateMaster 2.0.

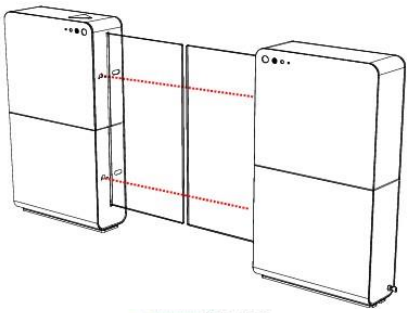
(See picture below).

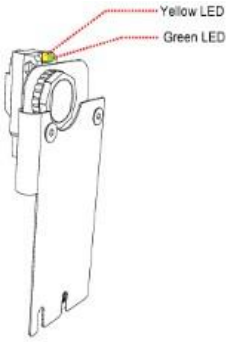
Data cable is to be run from comms cabinet directly to the ScanMaster board with no breaks in the cable. Tech must bypass the data cable in the MPB bracket at the base of the gate (see green dotted line below)





Adjustment of Gate PEC





Make sure the two photoelectric cells (PEC) are pointing at the reflectors on the other gate.

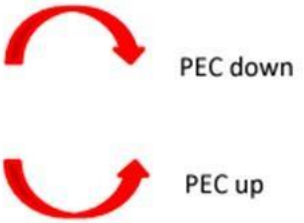
Adjust by using 2mm Allen keys through holes next to PEC sensor on outside of gate.

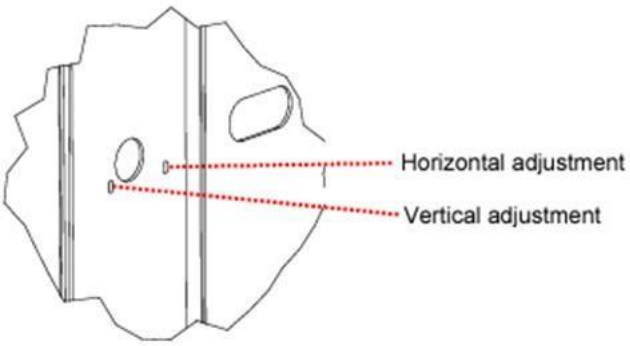
Step 1.
Turn Allen key all the way LEFT until yellow connection light turns off.

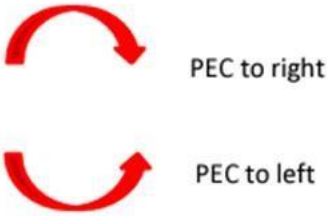
Step2.
Turn Allen key all the way RIGHT until yellow connection light turns off, counting the amount of turns inbetween

Step3.
Wind Allen key back to mid position.
EG. If it takes 6 full turns from left position to right position, then turn back 3 full turns.

IMPORTANT NOTE:
This must be done to both vertical and horizontal directions.



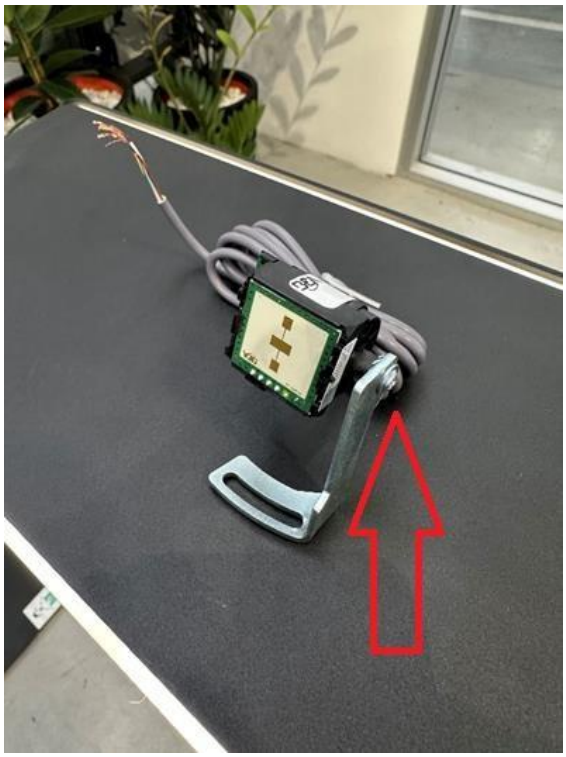




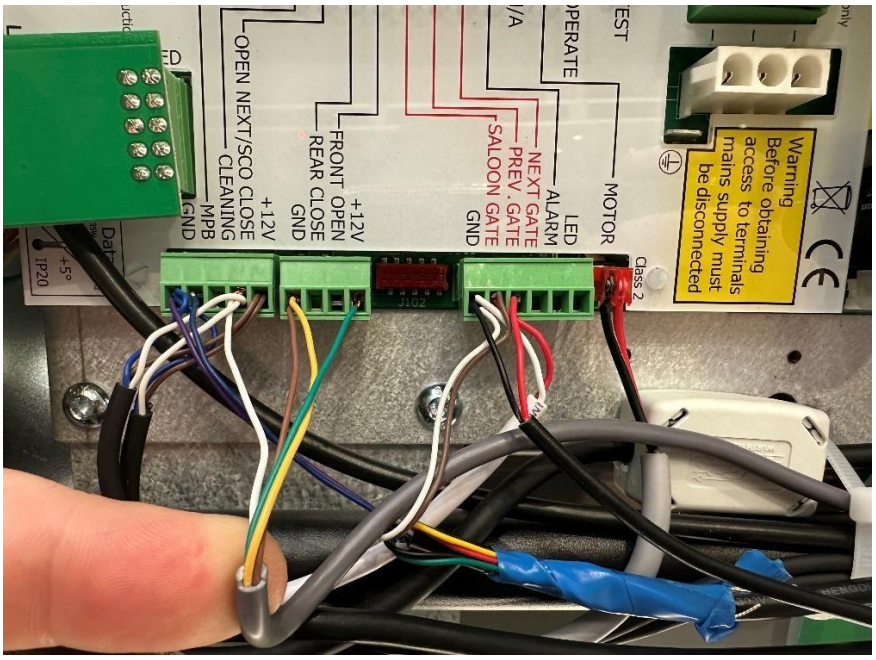
To adjust the PEC, use Allen key 2.5 mm.

Customer Facing Safety Radar installation

The customer facing safety radar is used to extend the area covered by the PEC sensors between the gates.
This radar is will keep the gates from closing when the customer is within a few steps of the gate.
Please note that the radar WILL NOT open the gates once the gate has been closed. The opening of the gates remains the responsibility of the Sesame Sigma system



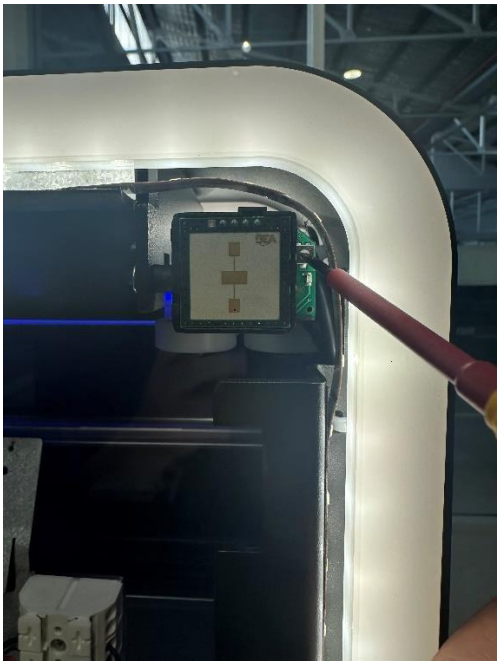
Remove the screw and washer from the bracket and discard the bracket supplied. Use the bracket screw to mount the customer facing radar to the bracket in the corner of the SigmaGate

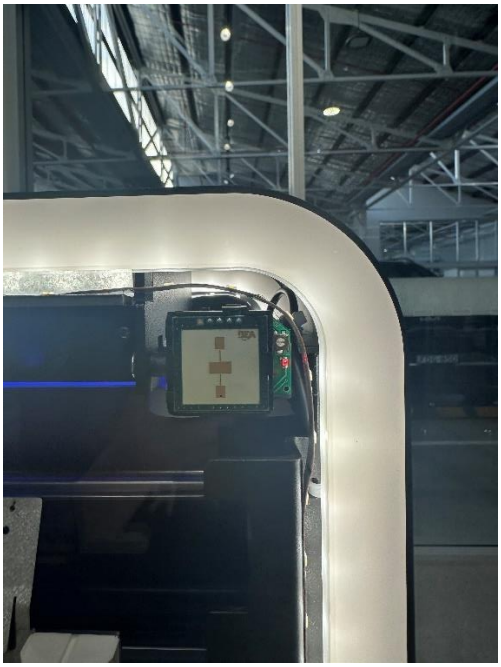


+12v

= Green wire
GND = Brown and Yellow wires
OPEN NEXT/ SCO CLOSE = White wire

Adjust the potentiometer on the side of the radar as shown in the image below left to set the detection range. The radars red LED will illuminate when a customer is detected as shown in the image below right.



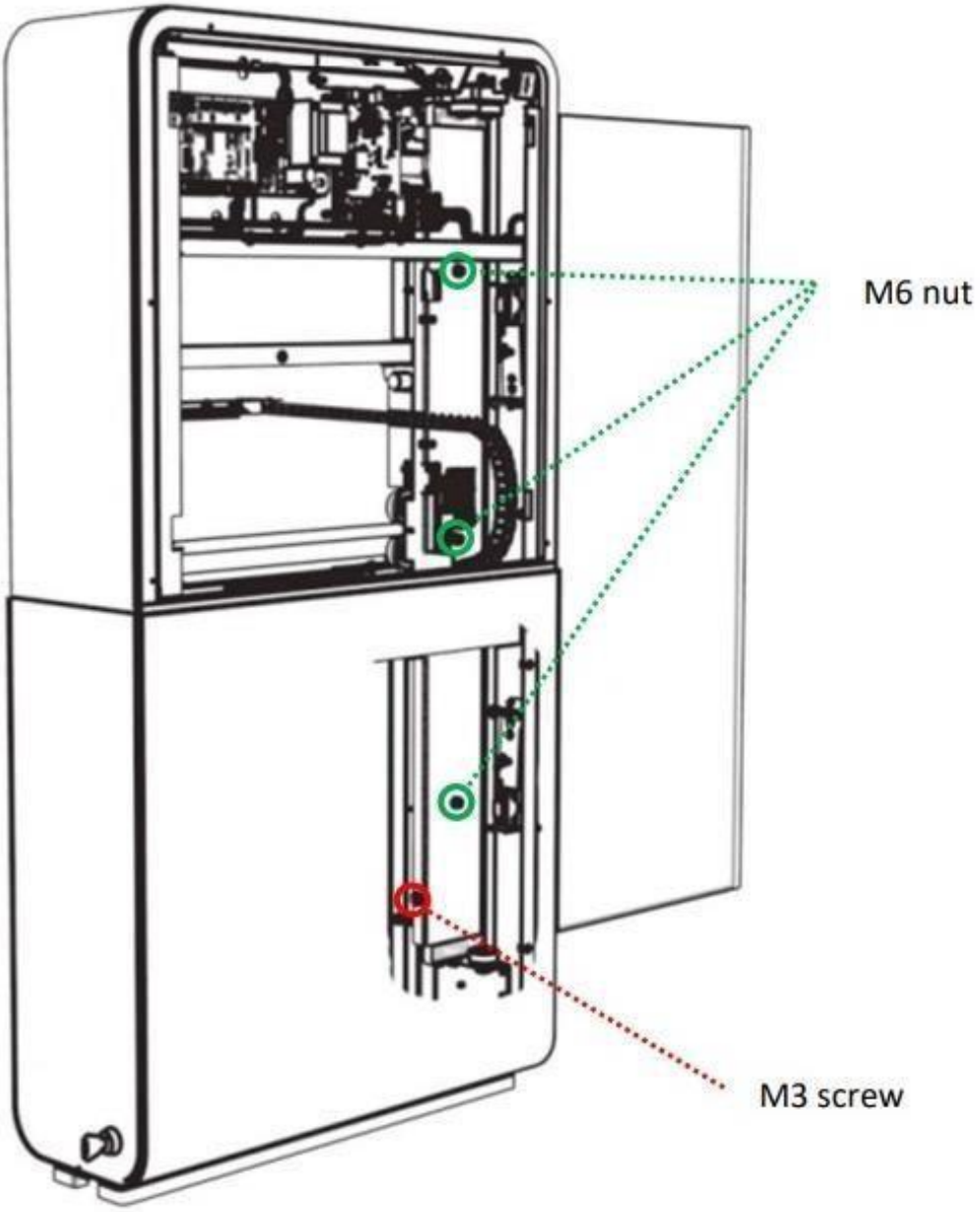


Adjustment of Glass Door

If the glass doors need to be adjusted an adjustment screw (Allen screw M3) located on the lower section of the glass door can be adjusted (marked in red).

Before adjustment, three M6 nuts need to be loosened (marked in green).

Note



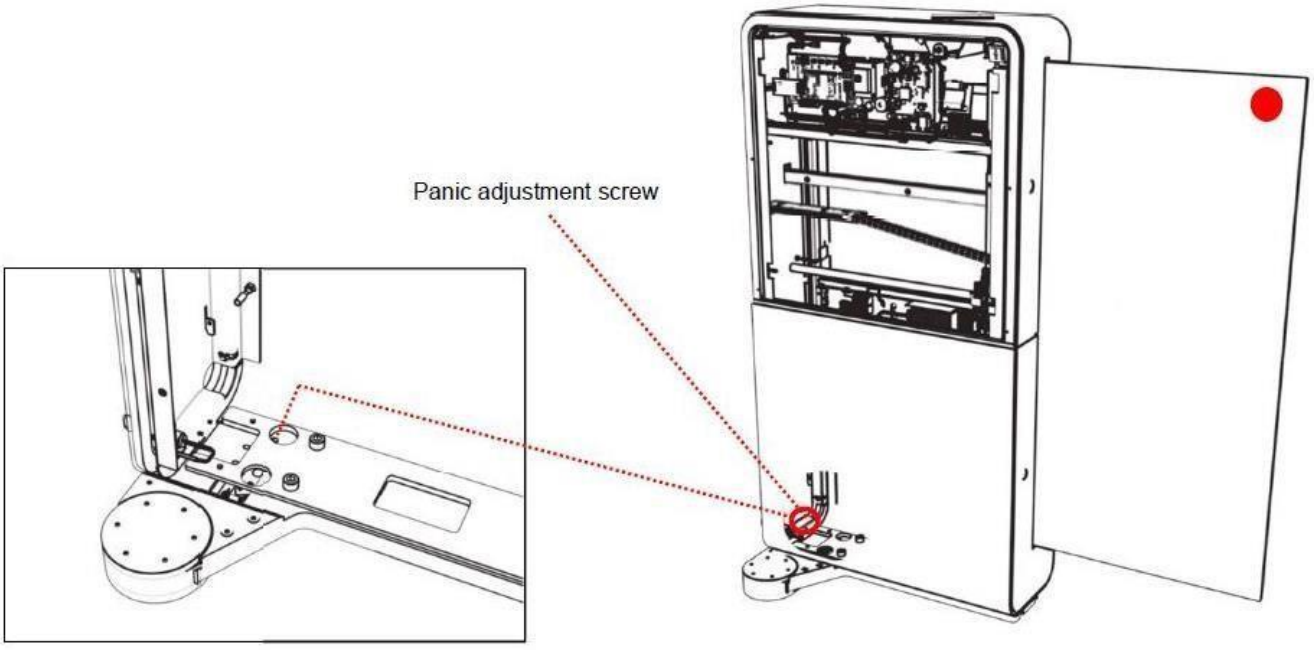
After adjustment, make sure to tighten the M6 nuts.

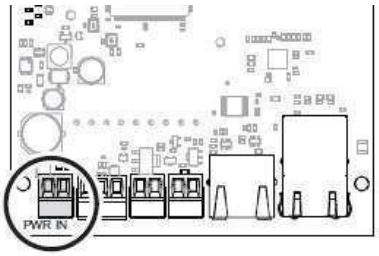
Newton Meter Setting and Testing of the Panic Break-out Force

To test the force required to break the gate free from the bracket you will need to use a force gauge. The panic break-out force needs to be set to not exceed 90NM.

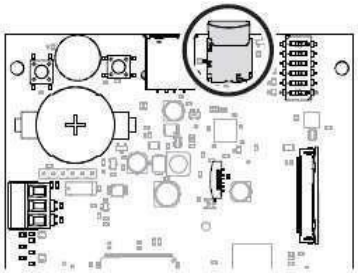
This is measured at 0.95m across from the rotation point of the bracket and 1.0m up from the levelled floor (see red mark on image below)

To calibrate, you will need an 8mm hex key to adjust the tension of the Panic adjustment Screw. Clockwise to increase force and anticlockwise to decrease the force.

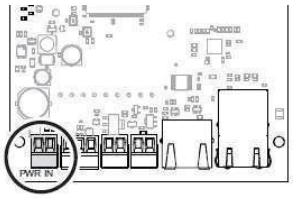




1 Disconnect the 12V power supply cable to cut the power.



2 Put the Micro SD card for specific gate to the GateMaster board. *PLEASE CHECK THAT THE SD CARD IS THE CORRECT CARD FOR THE CORRECT GATE. Check against floor plan and IT Tracker*



3 Connect the 12V power supply cable.

4 The ScanMaster board will now go through an initialising process (allow 90 seconds). Once initialising is complete the LEDs will blink green on LED number 1 and be solid red on LED number 10. LED number 5 will blink orange once when the gate receives a message from POS.

Master & Slave Dip Switch Settings

The purpose of the Master and Slave function is to make it easier to set the timer functions on the main board.
In a saloon configuration the right hand gate (in direction of the customers travel) is ALWAYS the Master.

LEFT GATE

LEFT GATE

1. ALARM = Right
2. LEFT/RIGHT = Left
3. ALARM 5/10s = Left
4. NORMAL/SCO = Right
5. WRONG WAY = Left
6. N/A = Left

RIGHT GATE

RIGHT GATE

1. ALARM = Right
2. LEFT/RIGHT = Right
3. ALARM 5/10s = Left
4. NORMAL/SCO = Right
5. WRONG WAY = Left
6. N/A = Left

Master & Slave Potentiometer settings

DELAY: This sets the amount of time the gates will stay open after a customer has left through the gates and broke the PEC sensor beam. Range 0-8 seconds. Note: This timer will over ride the secure timer.

WRONG WAY: This timer is used to detect movement through the gates in the wrong direction. Please set to full right to avoid picking up a customers swinging arm. Range 0.1-2 seconds

SECURE: This timer will keep the gates open until the customer has passed through in the gates. Once the customers pass through the gates this timer is gets override by the DELAY timer. Range 0-30 seconds

PANIC FORCE: This dial sets the force required to slide the glass arm back into the body of the SigmaGate

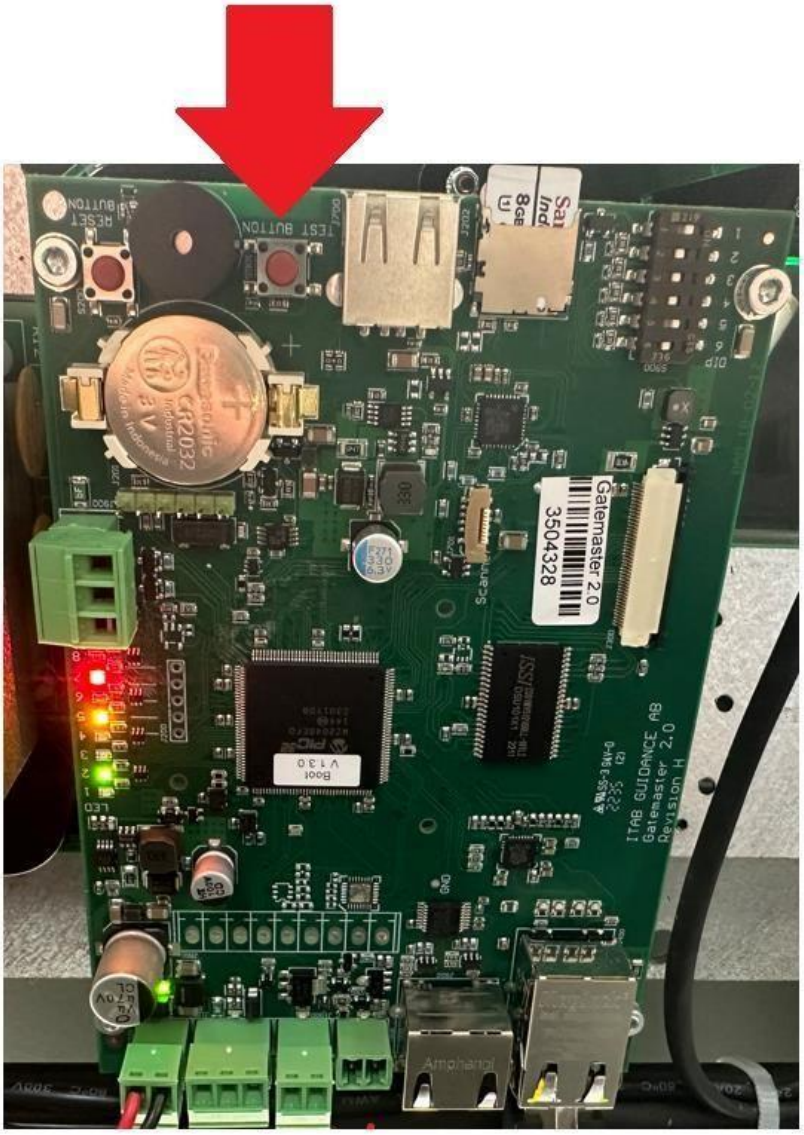
LEFT GATE

1. Set DELAY, WRONG WAY, SECURE on the left hand gate to maximum/clockwise. (100%)
2. Set PANIC FORCE to minimum/anticlockwise (0%) **RIGHT GATE**
1. Set DELAY to half way. (50%) (4 seconds)
2. Set WRONG WAY to maximum/ fully clockwise. (100%) (2 Seconds)
3. Set SECURE to maximum/ fully clockwise. (100%)(30 Seconds)
4. Set PANIC FORCE to minimum/ fully anticlockwise. (0%)

Hint = turn all the way left (0%) then all the way right (100%) to work out where 50% is.

Note: *In order for the Master and Slave function to be operational the gate configuration must be connected with GateCOM crossover cable (Saloon) to opposing gate* *See page 10.*

Check SigmaGate timing using the GateMaster board



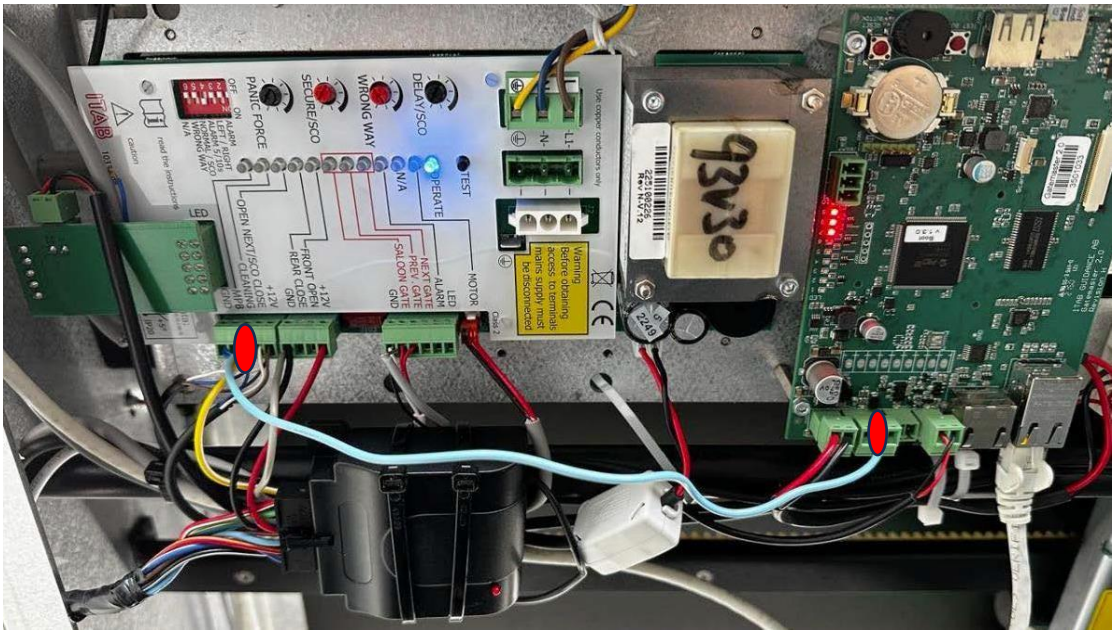
Use the test button on the ScanMaster/GateMaster to trigger the gate. This will send and open gate signal to help check the timing of the gate. Please note that this will only trigger the gate and start the Secure timer until the PEC sensor is broken.

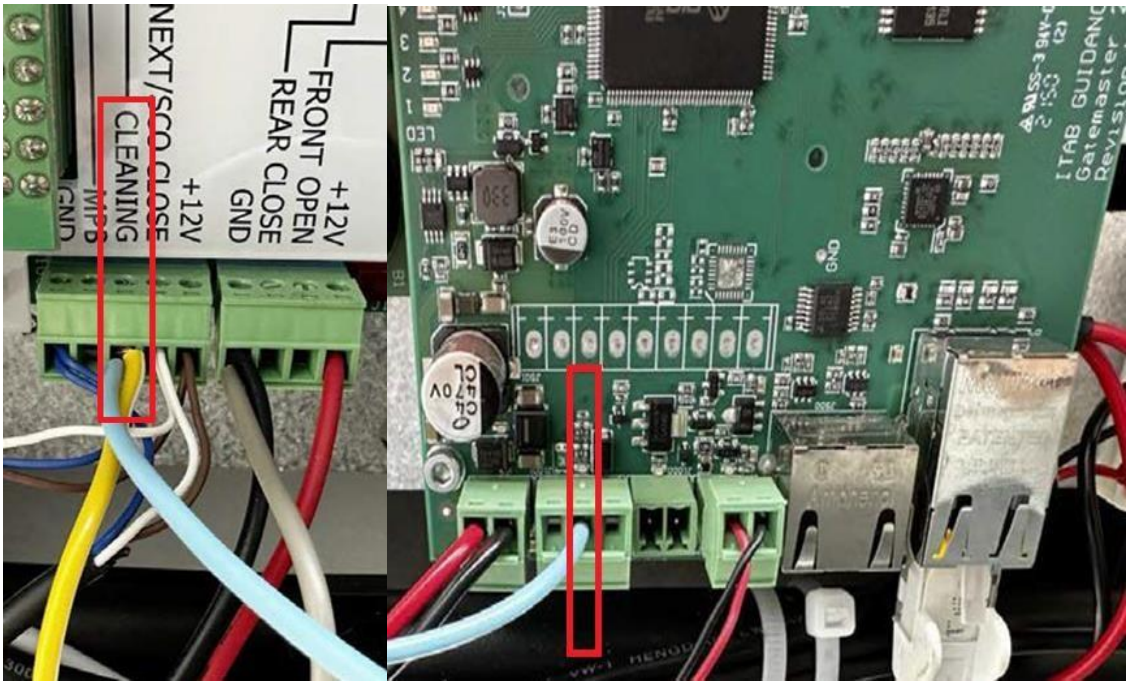
Hint: Use your hand to break the PEC beam to start the DELAY timer.

Remote monitoring cable

The purpose for the remote monitoring cable is to help the Sesame software to monitor the use of the remote control for statistical purposes.

Please link a signal cable between cleaning and the middle terminal of the 3 pin connector on the GateMaster 2.0 control board as shown below:



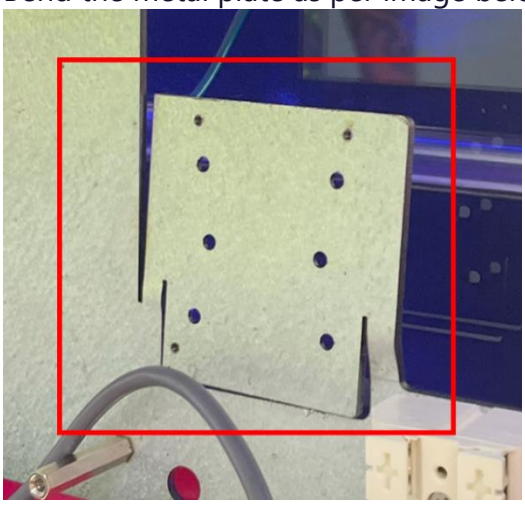


Remote Installation

Mounting Receiver on **Gate Master Side Only**

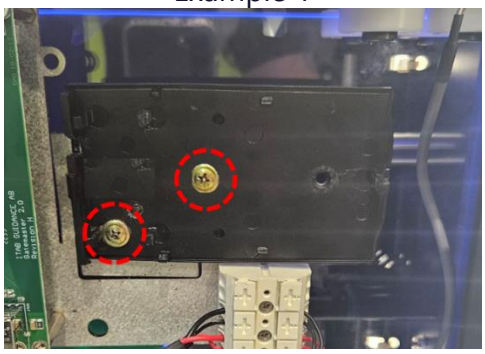
CRITICAL FOLLOW - *if metal is left bent, the glass will hit the receiver when mounted*

1. Ensure gate is closed - *no glass behind fixing point to avoid damage during mounting receiver*
2. Bend the metal plate as per image below vertically straight, image below

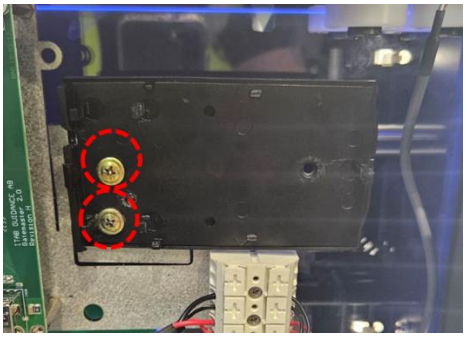


3. Take receiver apart into 3 pieces
4. Mount receiver base to straightened metal plate (*examples below*) with **small/short screw,** *to ensure not to damage glass*

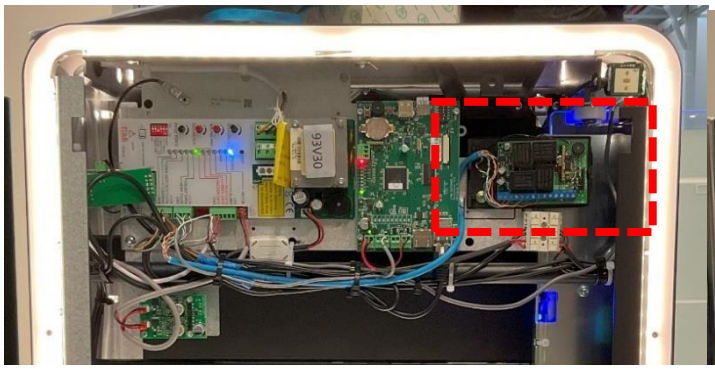
Example 1

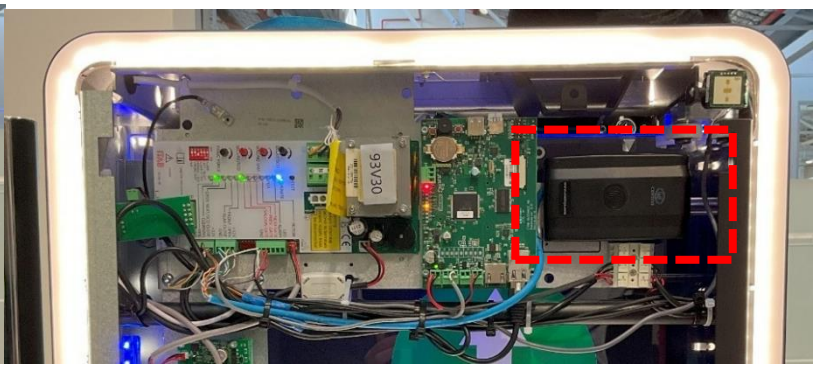


Example 2



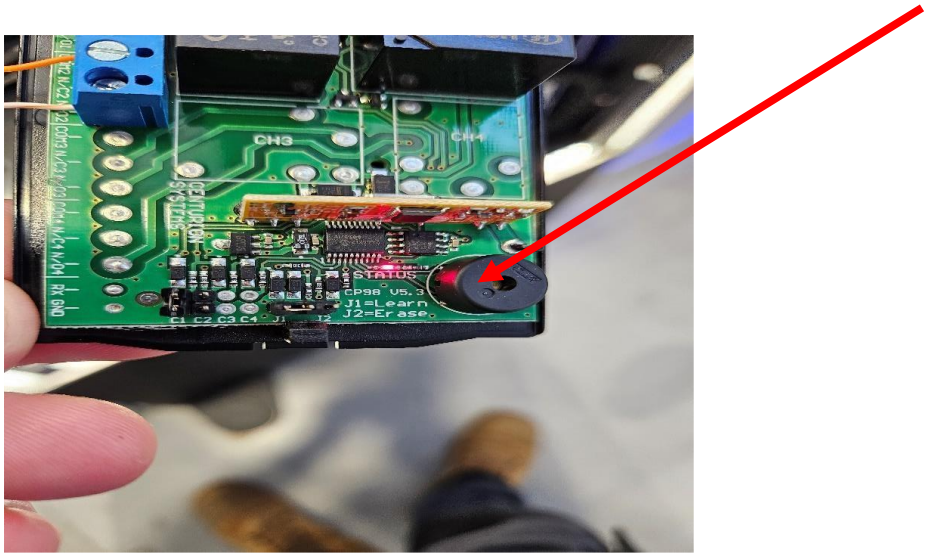
5. Continue with the remote installation steps & return to complete step 6
6. Once wired & programmed, the receiver should be mounted as per below





Remote Installation Connecting Power

1. Open the Sigma Gate panel.
2. Connect 12v on gate to "+" positive on receiver.
3. Connect Ground on the gate to "-" negative on the receiver.
4. This will power the receiver and light the Status indicator.

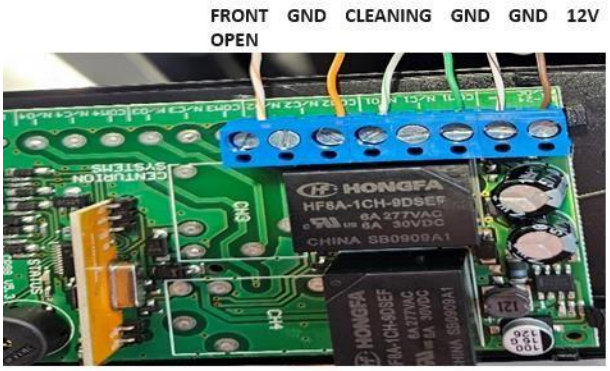


Relay 1 (Auto -Close)

1. Connect Common on receiver to Ground on gate.
2. Connect N/O on receiver to Front Open on gate.
3. This enables auto close functionality.

Relay 2 (Latched)

1. Connect Common on receiver to Ground on gate.
2. Connect N/O on receiver to Cleaning on gate.
3. This enables the gate to be locked in the open position.



Pairing Remotes

Before you start

- Each receiver will be switched by either button 1, 2 or 3.
- Button 4 can be used on a nominated gate to latch the gate in an open state.
- Each gate will have its own receiver that can only be switched by the corresponding button:
- e.g. Gate 1.1 = button 1, Gate 2.1 = button 2, Gate 2.2 = button 3
- The first remote you program becomes your Master Remote. Keep this remote separate as you will need this to programme the latch open function on button 4.

Programming Buttons 1-3

1. Have your Master remote ready to program and ensure that your receivers are connected to the gates that you're going to program.
2. Place a jumper across the pins marked CH1.
3. Place a second jumper across the pin marked J1 and the one next to it.
4. The receiver should now be in learning mode. While in learning mode, any button pressed will be programmed to that receiver.
5. Push the chosen button. The receiver will beep once when pressed and beep twice when the button is released. This indicates that the remote has be programmed to the receiver.
6. Repeat these steps for the other buttons on the remote.
7. Set the master remote aside.
8. Repeat steps for additional remotes.

Programming Button 4 (Latching Open on a Nominated Gate)

1. On your nominated gate, disconnect the power to the receiver for this gate.
2. Once the receiver is powered down, place a jumper across the CH2 pins and a jumper across J2 and the pin next to it.
3. Once the jumpers are in place, power the receiver back up and hold down button 4 on the master remote for 3 seconds.
4. This will send the receiver into “channel configuration” mode the LED will flash in 4 different sequences.
5. It will flash once then twice then three times than four times it will then continue to repeat this cycle until a jumper is removed.
6. The sequence you want is two flashes, when the LED flashes twice remove the jumper across “J2”
7. This will now allow button 4 to latch the gate open when pressed.

NOTE

In stores that only have 2 gates please pair channel 1 on the remotes to the ACO area’s gate and channel 2 to the Main Lane area’s gate.

Store manager declaration.

This

This page must be signed by store and sent to Radford Retail Solutions. Thank you.

I confirm I have received all remote controls and they are all working correctly.

NAME:

POSITION AT COLES:

SIGNATURE:

STORE STAMP:

Commissioning checklist

1. Pictures of the cables coming through the brackets measured at 1918mm. 2. Picture of 6 Chemset threaded rods (m10) through the bracket
3. Picture of Chemset filled bolt holes in gate brackets.
4. Picture of earth, power and neutral connected to terminal in middle of gate.
5. Pictures of 2core cross over cable connected to gate terminal in middle of gate and then connected to GND and saloon on gate control board with saloon LED illuminated.
6. Picture of Ethernet connection into ScanMaster on master gate (right)
7. Picture of LED strip illuminated on scanner.
8. Picture of Gate master SD card installed into gatemaster
9. Picture of dipswitch settings on gate control board
10. Picture of gate body clear of debris (no excess cables, no cable ties etc)
11. Fluke test results
12. Force gauge results.
13. Picture of Store tracker plugged in
14. Video of gates displaying Coles colour scheme. Blue Closed, Green whilst opening/closing and Red for alarming (no gate configuration changes required to gate as this is default)
15. Video of remotes programmed showing ACO gate working on channel 1 and other gates working on channel's 2 - 4
16. Picture of gate PEC sensors are aligned. picture of both lights on (4 sensors per gate set) (2.5mm Allen key) 17. Close and lock service hatch
18. Video of gates closing behind customers after 4 seconds
19. Video of gates being open when triggered for 15 seconds.
20. Gates are to be left keyed off and remotes are to be handed to store manager and declaration signed.

Radford:

21. Can log in to all sensors.
22. Screenshot of zone mapping
23. Screenshot of store tracker config file
24. Screen shot of GREP | ACC command showing transaction data for all checkouts.
25. Screenshot of success rate after the testing phase

Troubleshooting Schedule

Please perform the following steps:

Gates do not open:

- Check that there is power to the gate.
- Check the motor key switch is turned ON.
- Check if the gates are being held open on the remote controls. • Check that the data cable is plugged into the Gatemaster 2.0
- Check connections of GateCOM cross over cable.

Gates do not close:

- Check that the motor key switch is turned ON.
- Check that CLEANING MODE is not activated by checking for illuminated LED on main PCB
- Check that the photoelectric cells are pointing directly at the corresponding reflector. See page 13 for adjustment of PEC.
- If the gates are equipped with Mechanical Panic Breakout, check that the gates are in normal position.
- If the problem is still not solved, switch off the mains power to the gate and turn it back on.

The gate alarm is activated:

- Check that the motor key switch is turned ON.
- Check that the photoelectric cells are pointing directly at the corresponding reflex. See chapter 3 for adjustment of PEC.

The gates do not behave as intended:

- Check the configuration of the gates concerning MASTER & SLAVE according to chapter 3.
- Check that the photoelectric cells are pointing directly at the corresponding reflex.
- If problems continue, contact Radford Support.