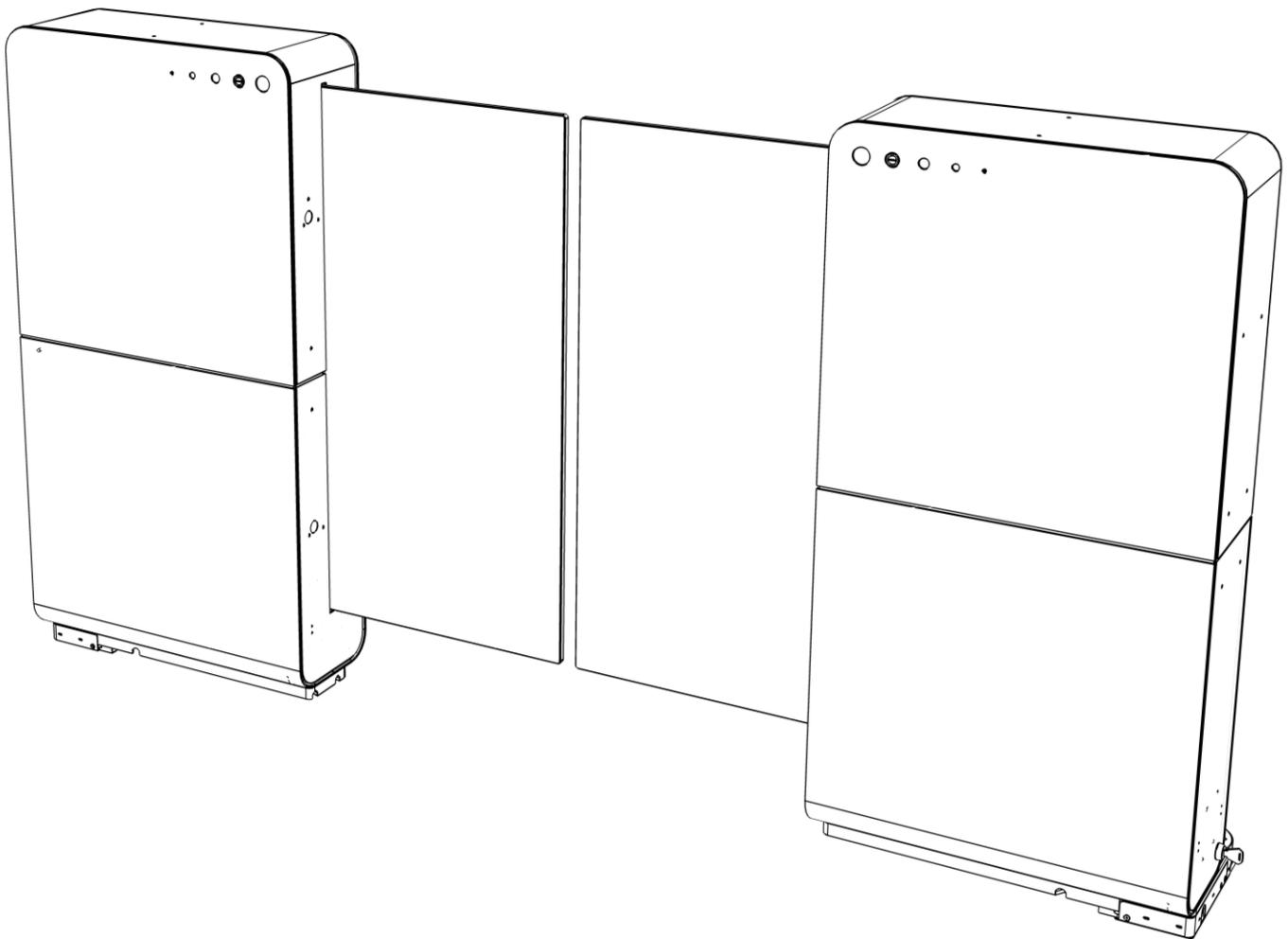


# SigmaGate

OPERATOR AND TECHNICAL MANUAL

AU



## **Compilation and Publication Notice**

Under the supervision of ITAB Shop Products AB, this manual has been compiled and published, covering the latest product descriptions and specifications.

The contents of this manual and the specifications of this product are subject to change without notice.

ITAB reserves the right to make changes without notice in the specifications and materials contained herein and shall not be responsible for any damages (including consequential) caused by reliance on the materials presented, including but not limited to typographical and other errors relating to the publication.

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# 1 This manual

## 1.1 Scope

This manual describes the SigmaGate manufactured by ITAB Shop Products AB. It provides basic knowledge to ensure correct, safe and ergonomic operation of the SigmaGate. It also specifies instructions for operation, safety, maintenance and technical information. It is important for the safety of persons to follow these instructions. Save these instructions.

## 1.2 Target Group

This manual is intended to be used by maintenance technicians. Maintenance technicians must read this manual. It is of great importance that the reader understands the safety instructions, refer to section 2 *Safety and Legal* page 6, and additional safety instructions in other sections.

## 1.3 Validity

This manual is valid for:

Model
SIGMAGATE STD
SIGMAGATE STD MPB
SIGMAGATE STD/SCO
SIGMAGATE STD/SCO MPB
SIGMAGATE SCANMASTER
SIGMAGATE SCANMASTER/SCO
SIGMAGATE GATEMASTER/SCO
SIGMAGATE SCANMASTER/SCO MPB
SIGMAGATE GATEMASTER/SCO MPB
SIGMAGATE RADAR
SIGMAGATE RADAR MPB
SIGMAGATE RADAR BOTH DIRECTIONS
SIGMAGATE RADAR BOTH DIRECTIONS MPB
SIGMAGATE TWINRADAR
SIGMAGATE TWINRADAR MPB
SIGMAGATE SECURE FUNCTION
SIGMAGATE SECURE FUNCTION MPB

## 1.4 Installation guide

SigmaGate is delivered with an installation guide intended to be a guide for installation, trouble shooting and maintenance. The installation guide shall be kept close to the SigmaGate after the installation, preferable in the checkout or similar place.

## 1.5 Storage of the manual

Keep this manual in close vicinity of the SigmaGate.  
For digital version of this manual please contact your local ITAB office.

## 1.6 Contact Information

Postal address:

ITAB Shop Products AB

Box 9054

(Visiting address: Instrumentvägen 2)

SE-550 09 Jönköping, Sweden

Phone: +46 (0)36 299 46 00

Web address: [www.itab.com](http://www.itab.com)

Shipment address:

Instrumentvägen 2

SE-553 02 Jönköping, Sweden

Local office:

For information about Your local ITAB office visit [www.itab.com](http://www.itab.com)

## 1.7 Copyright

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All rights are extended to the given parties, registration of trademarks and technical modifications without prior notice.

## 2 Safety and legal

### 2.1 Safety

This chapter contains information about safety, both warnings and cautions, and safety symbols on the machine. The gate shall be disconnected from its power source during cleaning, maintenance and when replacing parts.

#### 2.1.1 Important - Read the manual

Read this manual thoroughly before using the SigmaGate. Improper operation of the SigmaGate may lead to personal injury or damage to product or property.

Ask your management if there is anything in this manual that you do not understand or if you lack any information regarding any aspect of the product.st

#### 2.1.2 Considerations explained

Throughout this manual several considerations are stated. The considerations may be either Warnings, Cautions or Notes.

To see all considerations stated in this manual, refer to 2.1.4 *Considerations* page 8.

The Warnings and Cautions inform about potential hazards, which, if they are not observed, can lead to personal injury or product damage.

Examples of Warning and Caution:

**⚠ WARNING**

**Situation that can lead to personal injury or severe personal injury, if the instruction is not observed.**

**⚠ CAUTION**

**Situation that can lead to product damage, if the instruction is not observed.**

Notes emphasize important information and can contain any type of information important to the reader, with the exception of safety information. Failure to read a note will not result in personal injury or product damage.

Example of a Note:

**Note**

*This information highlights something of special interest or importance to the reader.*

### 2.1.3 Intended Use

- The SigmaGate is designed to require minimum ergonomic effort for store personnel, customers and technicians. If you feel pain or are having problems operating the SigmaGate, please stop and consult your physician.
- This product is intended for installation by ITAB-authorized personnel only. Installation carried out by parties other than ITAB-authorized personnel could result in a non-conforming product and hazardous situations.
- The SigmaGate is CE compliant, which means that it complies with the applicable “Essential Standards of Health and Safety”, at point of delivery.
- The company owning this machine is responsible for ensuring that the SigmaGate is used in the way this manual specifies.
- The SigmaGate complies with the following directives:
  - 2014/30/EU
  - 2006/42/EC
- The SigmaGate is intended to be used in temperatures between +5°C and +35°C, in a relative humidity of between 30% and 80% (non-condensing).
- The SigmaGate must **not** be modified or re-built without the consent from ITAB.
- Pedestrian doors.
- Indoor use only.

**▲ CAUTION**

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

**2.1.4 Considerations****▲ WARNING**

Always make sure there is no power supply to the SigmaGate during maintenance or service.

Installation of hardware or other work with the cabling by turning off the main switch.

**Danger to life!**

External power supply is always connected. Make the SigmaGate powerless by disconnecting all main distribution blocks.

**▲ WARNING**

Follow all instructions since incorrect installation can lead to severe injury.

**▲ WARNING**

The main power terminal is dangerous when the gate is powered up. Always disconnect the power to the mains terminal before conducting any work to the gate. Disconnect the supply when cleaning or maintenance is being carried out.

**Danger to life!**

**▲ WARNING**

---

All external 220-240V electrical cables should be installed to the ground point. If the cables are not installed to the ground point, it can lead to an electric shock.

**Danger to life!**

**⚠ WARNING**

The Sigmagate are heavy. Be careful and don't lift it higher than necessary for removing it from the pallet.

**⚠ WARNING**

Do not open casings covering electrical components, giving access to power supply.

**Risk of electric shock. Danger to life!**

**⚠ WARNING**

During operation, this product must not be exposed to water or damp and must be used indoor only.

**Risk of fire or electric shock. Danger to life!**

**⚠ WARNING**

National protection regulations concerning work, health and environment must be observed as a complement to this manual.

**⚠ WARNING**

Service hatches are heavy. Be careful when mounting them to avoid drop them on the feet.

**⚠ WARNING**

For safety reasons please keep children away from climbing or playing on or around the gate.

— **⚠ CAUTION** —

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

— **⚠ CAUTION** —

The installer needs to make sure that the temperature range is suitable for the location.

· **⚠ CAUTION** —

The SigmaGate must be secured with appropriate fasteners to ensure that it is held to the floor. Type of fastener depends on floor type and quality. Please make sure to use a fastener appropriate for the floor where the gate is to be fastened.

If not, there is risk of product damage.

· **⚠ CAUTION** —

Do not use if repair or adjustment is necessary.

· **⚠ CAUTION** —

Perform maintenance and service regularly.

---

**—▲ CAUTION —**

**Make sure not to pinch the cables when installing the SigmaGate. If the supply cord is damaged, it must be replaced by manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.**

**Can lead to product damage.**

**Note**

*Store personnel must be in the vicinity of the SigmaGate to help customers in case of an emergency.*

**Note**

*Cables in mechanical panic breakout (MPB) need to be inspected once a year.*

**Note**

*To achieving Cleaning mode a switch is required.*

**Note**

*Secure sensors will be ignored by the software when cleaning mode is activated.*

**Note**

*The GateCOM is a data bus and the use of a multimeter will not result in any interpretable information. The signal from a data bus cannot be measured.*

**Note**

*In order for the Master and Slave function to be operational the gate family (gate configuration) must be connected with GateCOM (Saloon).*

**Note**

*The power feed to the system must have a max. 10A fuse. Maximum cable area for incoming mains terminal = 2.5 mm<sup>2</sup>.*

**Note**

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

**Note**

*If 220-240V cable is routed to the gates through feeding tubes and uprights, a flex hose or similar should be used to for electrical safety reasons.*

**Note**

*SigmaGate should not be fastened to other foundation than concrete floor or similar.*

**Note**

*To prevent that the Sigmagate can move and not be fixed enough, the two larger holes (see no. 3. above) in the MPB can be filled with chemical anchoring to lock the position after making sure the gates are in line with each other. Type of fastener depends on floor type and quality. Please make sure to use a fastener appropriate for the floor where the gate is to be fastened.*

**Note**

*When power is connected to the SigmaGate, the LED strip on the scanner unit will start flashing, indicating that configuration is loading. The scanner system will thereafter restart, the scanner will make a "blip sound" and lighten up with white light.*

**Note**

*Single isolated cables (power cables, 220-240V) must be separated from low voltage cables.*

**Note**

*When using SigmaGate with MPB all connections need to be done in the connection box.*

**Note**

*Cables in mechanical panic breakout (MPB) need to be inspected once a year.*

**Note**

*Additional equipment shall not be fitted in such a way as to impair ergonomics and safety. To verify this, contact ITAB, refer to section 1.6 Contact Information.*

**Note**

*The gap between the glass doors must not be less than 200 mm.*

**Note**

*After adjustment, make sure to tighten the M6 nuts.*

**Note**

*The yellow LED must show a steady light, flickering light is not optimal.*

**Note**

*Be sure to follow national regulation regarding emergency evacuation routes.*

**Note**

*After setting up the radar the open time must be reset to the desired time. The radar needs to be angled a bit down (see picture) to detect properly.*

**Note**

*It is also possible to make settings via DIP switches see chapter 5.10.*

**Note**

*It is important that these folders are located as above (directly at the micro SD card) to be correctly loaded to the SigmaGate!*

**Note**

*Do not forget to attach the plastic bushing and the rubber damper on each bolt before mounting the glass door.*

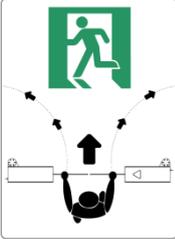
**Note**

*Service shall only be performed by authorized ITAB personnel.*

## 2.2 Symbols on machine

The following symbols are used on the machine:

---

Symbol	Explanation
	Read the operator's manual before using the product.
	WARNING! The product can be dangerous if it is used incorrectly and may lead to fatal injury for operator and others.
	Environmental marking. The symbol indicates that the product must not be treated as domestic waste.
	WARNING! Situation can lead to personal injury or severe personal injury, if the instruction is not observed.
	WARNING! Sections within the SigmaGate contains high power. Only authorized personnel should operate within sections marked with this symbol.
	The SigmaGate with Mechanical Panic Breakout function contains a symbol describing how to operate the mechanism in case of panic evacuation.

## 2.3 Legal

This chapter contains guidelines describing the ITAB SigmaGate warranty coverage.

### 2.3.1 Policy

All warranty claims shall be inspected by your local ITAB dealer before shipping the equipment to its designated facility. Always contact your local ITAB dealer before sending your product to ITAB. Please find contact information in chapter 1.6.

### 2.3.2 Warranty

Products manufactured by ITAB Shop Products AB are guaranteed for one (1) year for manufacturing defects from the date of purchase by the original consumer purchaser.

The warranty does not include products that are damaged through misuse or faulty repairs performed by parties' others than ITAB Shop Products AB approved service organizations. The warranty is also void if any of the product's components or functionality are altered in any way from their intended use.

The warranty is void if the product is installed by a non-authorized installer.

### 2.3.3 Disclaimer List

Warranty void if:

- the ITAB SigmaGate is not installed by ITAB-authorized personnel.
- the product is not installed in accordance with local electrical codes.
- the product is installed where there may be a risk of flooding.
- there is erroneous or insufficient cleaning or maintenance of the SigmaGate.
- tampering with the SigmaGate, resulting in damage.
- the product is used in an outdoor environment. (The product is for indoor use only).
- the electrical architecture is tampered with or modified.
- the product label is removed or not readable.

### 3 Definitions

This chapter explains the terms and definitions used in this manual.

Definition/Symbols	Explanation
PEC	PhotoElectric Cell
SCO	(Self Check-Out) The customer performs a self check-out by scanning the articles and paying.
POS	(Point of Sale) The product database and interface.
SCO area	(Self Check-Out area) The area in the store where the customer performs a self check-out.
GM/GateMaster 2.0	Computer (pcb) inside the SigmaGate
MPB	(Mechanical Panic Breakout) An option used in evacuation routes.
MMI	Man Machine Interface
STD	Standard

## 4 Functional Description

### 4.1 SigmaGate overview of use

The SigmaGate can be used as both entrance and exit system using combinations of radars, scanner, sensors and other triggers to require functions for each application.

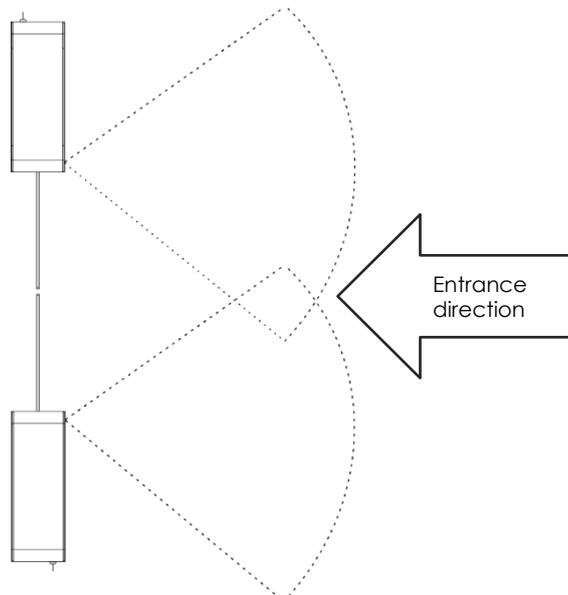
If the SigmaGate is installed in an emergency evacuation route the option Mechanical Panic Breakout (MPB) can be used.

### 4.2 Triggering of gate

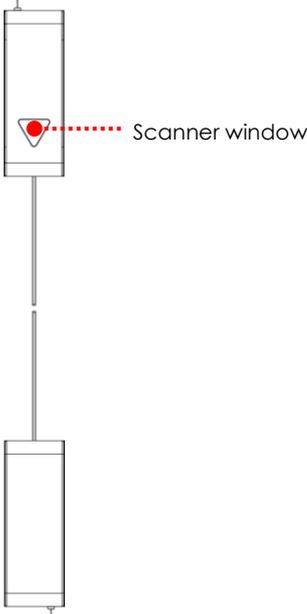
The SigmaGate can be operated by a variety of different triggers. The most common triggers are scanner and radar.

- RADAR
- SCANNER

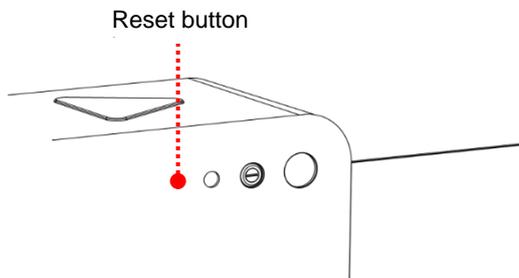
#### Overview of radar



**Overview of scanner**



## 4.3 SigmaGate with ScanMaster



When using a scanner system to trigger the gate, the gate opens when a valid receipt's barcode is registered by the scanner and closes automatically after the set open time.

The system can be installed in two ways, as Standalone system or POS integrated system.

The scanner is connected to the GateMaster 2.0 and if applicable, a POS system.

The SigmaGate ScanMaster is equipped with a reset button if there is a need of restarting the scanner system.

### 4.3.1 ScanMaster – Standalone system

In a Standalone system the SigmaGate does not need to be connected to the store POS system. Instead Barcode validation is used for validation of the receipts. The parameters for the barcode are set in the GateMaster 2.0 using the GateMaster service tool. The level of security is to be decided by the customer. The customer parameters from the order are set in the factory but can easily be changed after installation using the SD memory card, placed in the GateMaster 2.0, and a computer. For information on how to change parameters on the SD card (IP address, barcode validation etc.), refer to chapter 5.8.

If the receipt is valid during scanning at the SigmaGate the gate will open. If the receipt is invalid the SigmaGate will alarm and the gate will not open.

If a standalone system is in cluster with other standalone systems an Ethernet cable (Cat5e or better) is necessary.

### 4.3.2 ScanMaster – POS integrated system

If a POS system is connected, the receipt is validated against the receipt in the POS system.

The exit gates are opened when a valid receipt's barcode is scanned by the customer at the SigmaGate. The barcode is generated by the POS system at the time of the transaction.

The barcode on the receipt is checked against the shop's transaction register (POS) for verification before the gates are opened. If the receipt is invalid the SigmaGate will alarm and the gate will not open. In a POS integrated system an Ethernet cable (Cat5e or better) is needed.

## 4.4 SigmaGate with Mechanical Panic Breakout

If required for emergency evacuation reasons, the gates can be pushed open to create a clear path using the SigmaGate Mechanical Panic Breakout option. Cables in mechanical panic breakout (MPB) need to be inspected once a year.

The Mechanical Panic Breakout is activated by pushing the gates in the direction of evacuating. The gates can be turned 180° and allow a clear opening of approximately 180 cm.

The default panic break-out force is set to 90N measured 100 cm from above the floor level on the edge of the glass arms.

When pushing the gates from its zero position the glass doors will be automatically drawn into the gates.

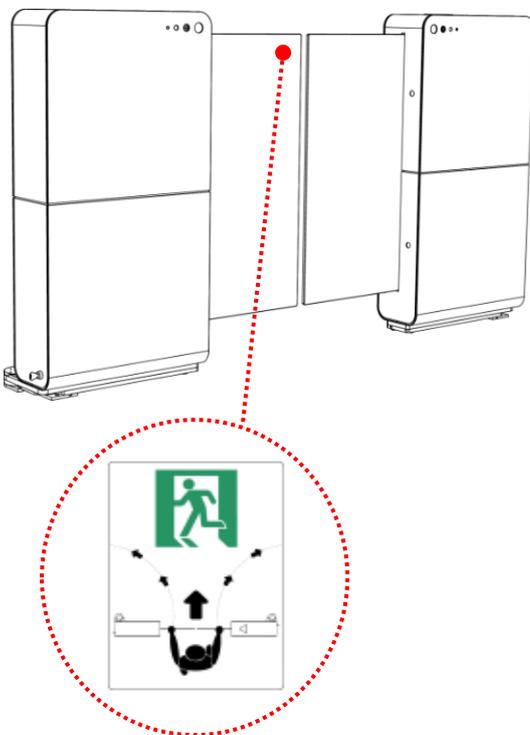
The gates are manually returned to its zero position and will then automatically be in operating mode.

#### Note

*Store personnel must be in the vicinity of the SigmaGate to help customers in case of an emergency.*

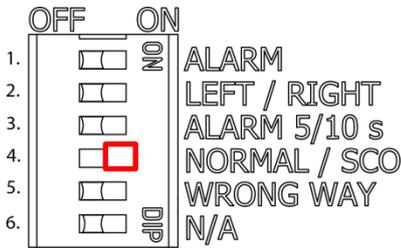
#### Note

*Cables in mechanical panic breakout (MPB) need to be inspected once a year.*



## 4.5 SCO Exit gates

Follow the general installation instructions as described in chapter 5.

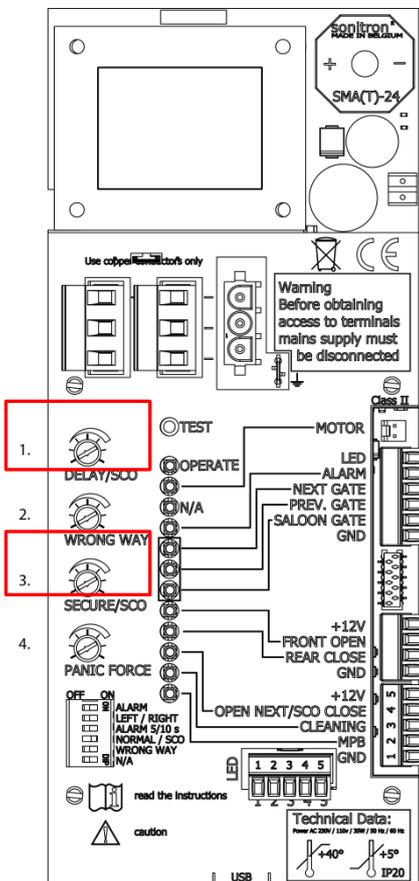


All SigmaGates has the SCO mode/Exit mode. Just move dip switch #4 at the main board to ON to set the gate in SCO mode.

The function of the PEC in the gate when it is in SCO mode is to start the approach delay timer. This is to close the gate after a person has exited through the gate(s). (Approach delay is set by the first potentiometer from the top). If a second person exit during closing, the gate arm will open and alarm to prevent anyone from being hit by the gate door. This is the gate behavior until no one exit during closing, then the gates close to its 0-position and a new trigger is needed to open the gate again.

### Function description:

1. The receipt is scanned, and the system sends an opening signal to the gate to open.
2. When a person exits and breaks the beam of light of the PEC, the approach delay timer will start to count down in order to close the gates (adjustable between 0 and 8 seconds).
3. If the gate has started to close, a new trigger signal is needed to open the gate.
4. If a person exits when the gate has started to close, the gate will open again and alarm. This is to prevent anyone to be hit by the gate arms.
5. The gate has an “ultimate time-out” to prevent the gate to remain open if no one exits through the gates. (Adjustable between 0-32 seconds on potentiometer #3).



## 4.6 Secure Function and Cleaning mode

The SigmaGate can be accessorized to achieve more functions than just a normal entrance or exit gate.

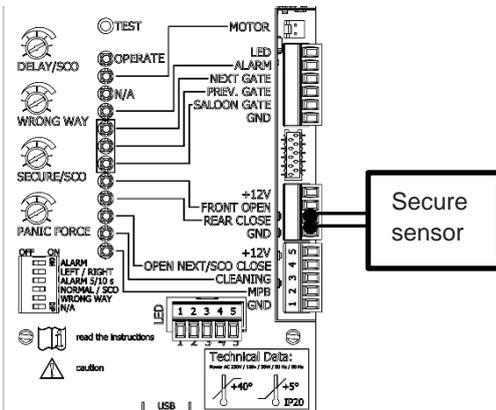
### 4.6.1 Secure Function

The Secure Function is designed to close the gates and alarm when someone tries to exit the wrong way. Achieving the Secure Function requires extra radar sensors.

The Secure Function overrides signals from gate triggers connected to FRONT OPEN.

Secure Function activated = always ON (when installed)

To get Secure Function connect the secure sensor to REAR CLOSE.



### 4.6.2 Cleaning mode

**Note**

To achieving Cleaning mode a switch is required.

When Cleaning mode is activated, the software is designed to keep the gates open in order to facilitate cleaning procedure of the surrounding area. Achieving the Cleaning mode requires a switch.

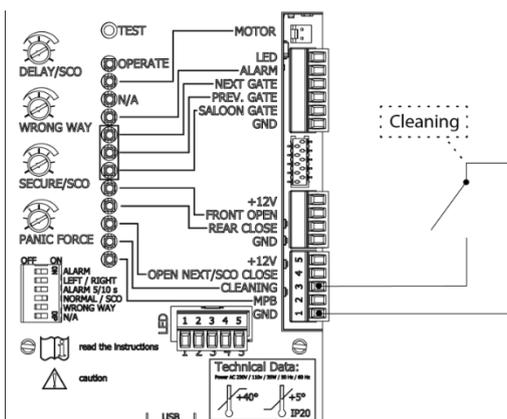
The Cleaning mode overrides all other signals.

**Note**

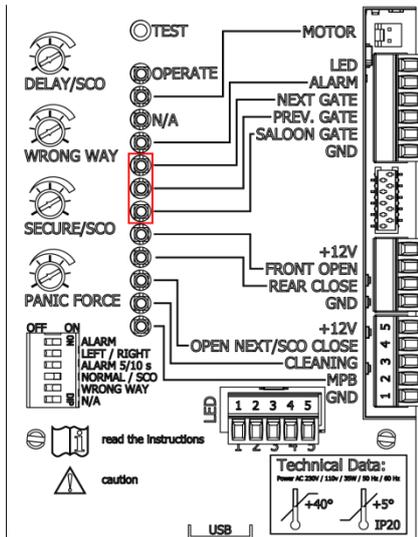
Secure sensors will be ignored by the software when cleaning mode is activated.

Cleaning mode activated = switch ON

To use Cleaning mode connect to CLEANING and GND at the main board.



## 4.7 GateCOM



GateCOM is a serial data bus where communication is sent between (from different in & outgoing connectors) gates in a gate family. Some “messages” are sent to a specific gate (Previous Gate, Saloon Gate or Next Gate) and some “messages” are broadcasted to all members of the gate family.

**Note**

The GateCOM is a data bus and the use of a multimeter will not result in any interpretable information. The signal from a data bus cannot be measured.

GateCOM status is checked by controlling the LED light designated for each function:

- If both LED lights have a steady light = GateCOM OK.
- If any of the LED lights are flashing = GateCOM failure or wrong connection.

### 4.7.1 GateCOM Master and Slave function

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 is ALWAYS the Master.

Instructions:

1. Set potentiometer number 1 and 3 on the left-hand gate to maximum.
2. Set the required time on the right-hand gate and the left-hand gate will follow the right-hand gate.

**Note**

In order for the Master and Slave function to be operational the gate family (gate configuration) must be connected with GateCOM (Saloon).

1. 
2. 
3. 
4. 

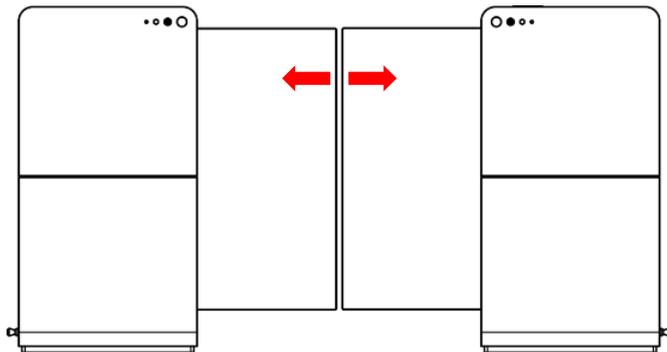
## 4.8 Protection against clamping

The SigmaGate is equipped with built in photoelectric cells. If the gates are open the photoelectric cells will prevent the gates from closing if someone passes through the gates. If the photoelectric cells do not register an obstacle, the glass doors will not apply more force than 67N to the obstacle.

## 4.9 Forced opening

If the gate arms are forced open by hand an alarm will sound and the gate arms will activate a counter force for a few seconds and then move the gate arms into the gates (open position).

The gate arms will automatically be in operating mode again after a few seconds if the photoelectric cells do not register an obstacle.

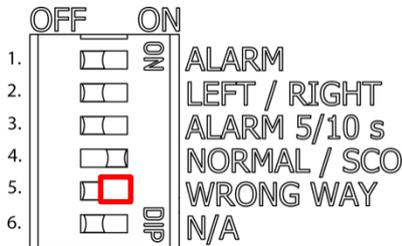


## 4.10 Key switch function

In off position the motor is disconnected. Use the keys attached behind the service hatch.



### 4.11 Wrong way function

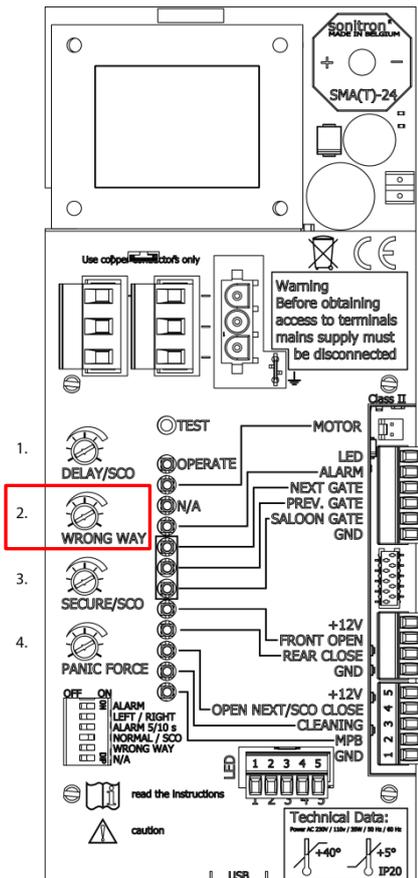


Wrong way function is designed to activate the gate alarm when someone exiting the wrong way. This function does not need secure sensors and the gates will only alarm and not close when someone exiting the wrong way. When using secure sensors, the gates will alarm and close (see Secure function, section 4.6.1). Wrong way function is aimed for entrances and will not work for gates in SCO mode.

To activate Wrong way function dip switch #5 on left handed gate needs to be set to ON. The right-handed gate will follow the left-handed gate and Wrong way function is not needed to be set to ON at the right-handed gate.

**Potentiometer #2** adjusts the blind time the photoelectric cells will be inactivated. This is to configure the photoelectric cells for the store trolleys. Only left-handed gate needs to be adjusted. Right-handed gate will follow the left-handed gate.

The time can be adjusted between 70ms and 2 s.



## 5 Installation and settings

### 5.1 General information

— **▲ CAUTION** —————

The installer needs to make sure that the temperature range is suitable for the location.

— **▲ WARNING** —————

Follow all instructions since incorrect installation can lead to severe injury.

### 5.1.1 High current voltage!

**⚠ WARNING**

The main power terminal is dangerous when the gate is powered up. Always disconnect the power to the mains terminal before conducting any work to the gate. Disconnect the supply when cleaning or maintenance is being carried out.

**Danger to life!**

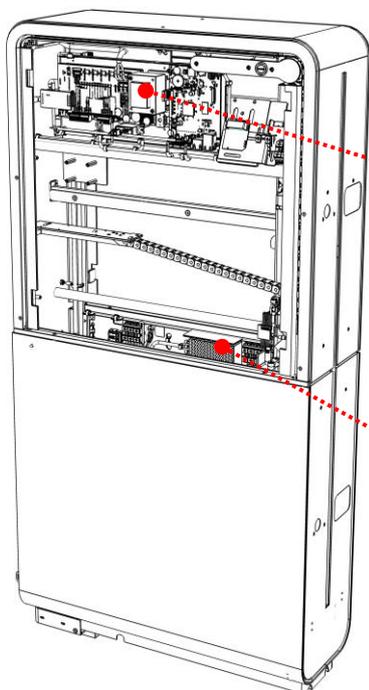
**⚠ WARNING**

All external 220-240V electrical cables should be installed to the ground point. If the cables are not installed to the ground point, it can lead to an electric shock.

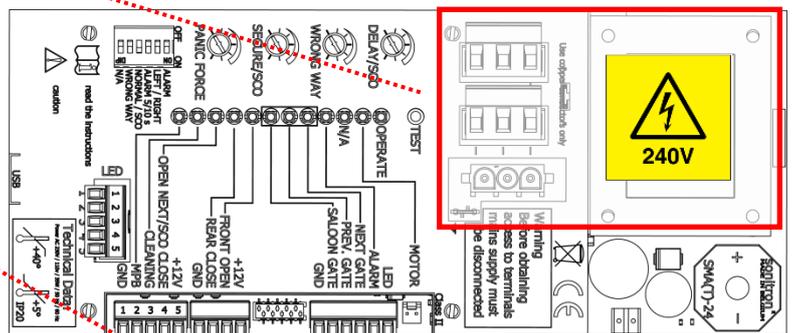
**Danger to life!**

**Note**

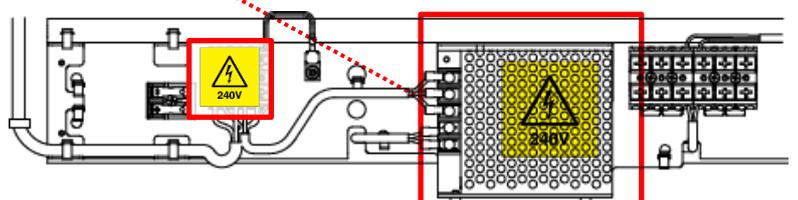
The power feed to the system must have a max. 10A fuse. Maximum cable area for incoming mains terminal = 2.5 mm<sup>2</sup>.



Area of live power feed – Main board



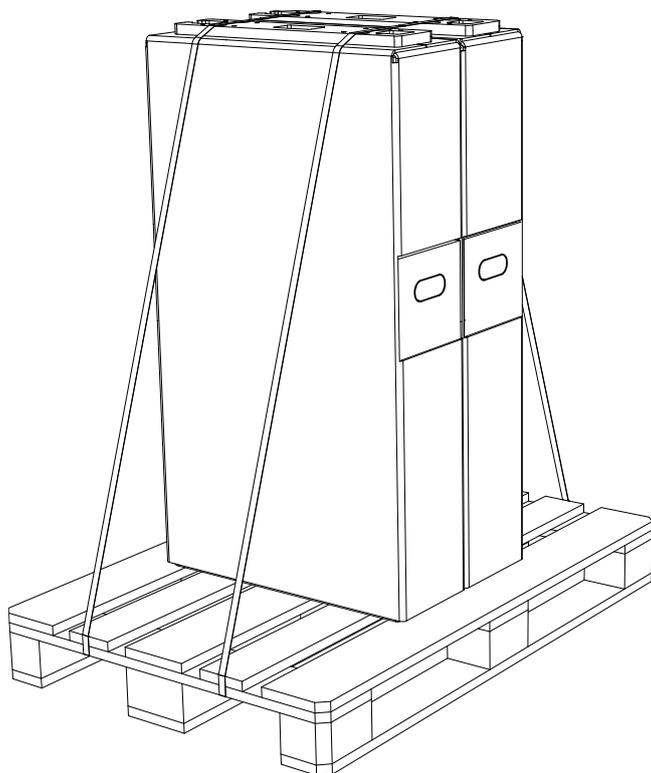
Area of live power feed – Installation panel



## 5.1.2 Shipment content

### Note

Make sure that following content is delivered before starting installation. Below content is based on a saloon installation of SigmaGates. Keys are attached with cables ties behind the service hatch.



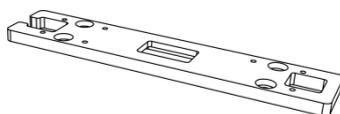
2X SigmaGate



8X M10x25 Bolt  
(in plastic bag)



8X Washer  
(in plastic bag)

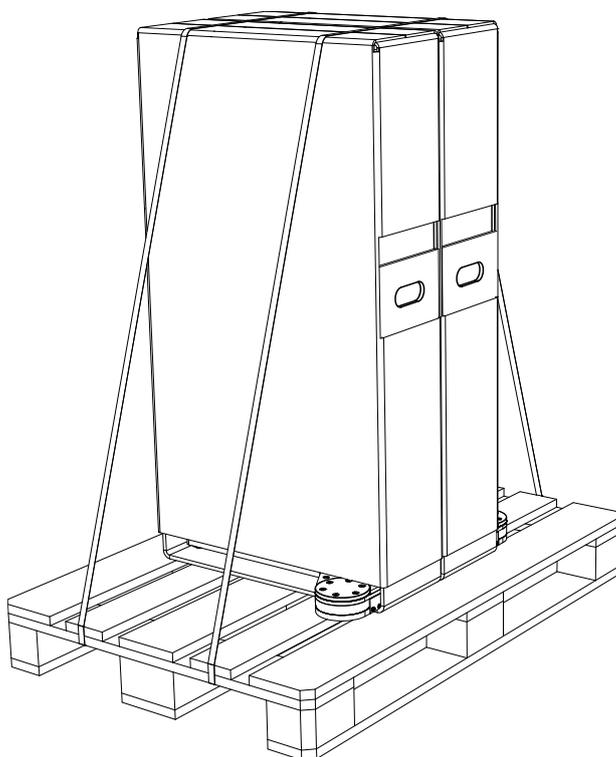


2X Base plate

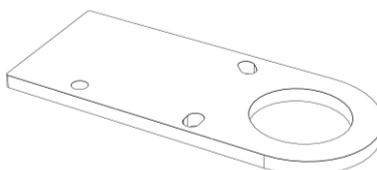
### 5.1.3 Shipment content with MPB

**Note**

*Make sure that following content is delivered before starting installation. Below content is based on a saloon installation of SigmaGates. Keys are attached with cables ties behind the service hatch.*



2X SigmaGate MPB



2X 10mm floor shims

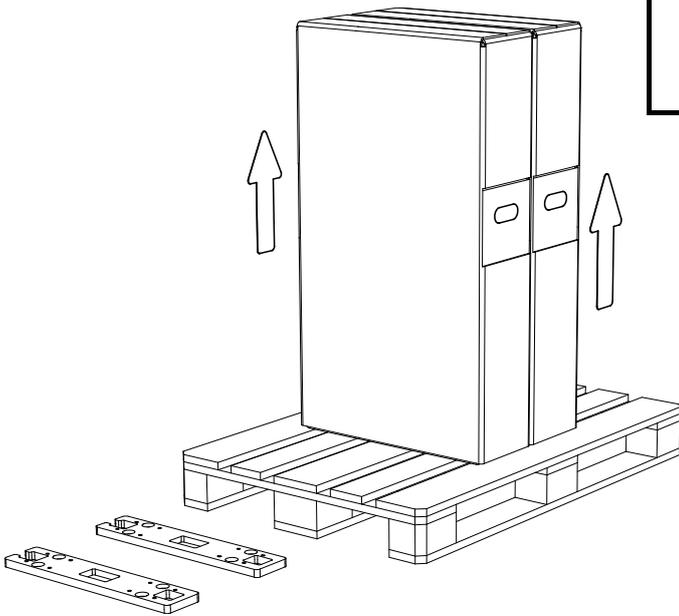


2X forth fixing

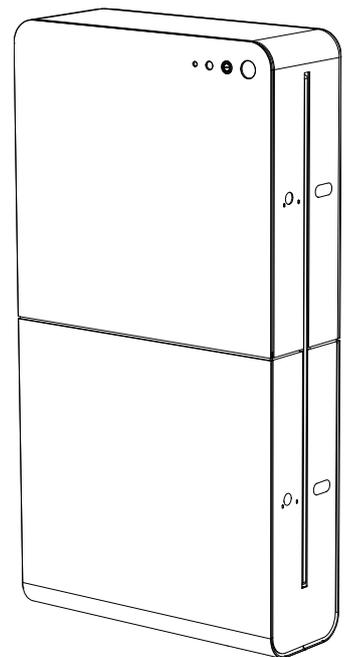
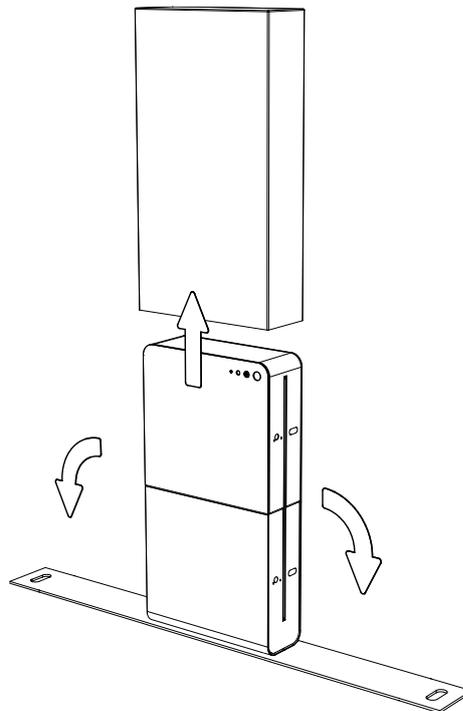
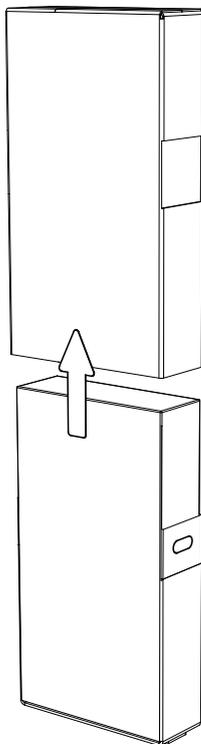
### 5.1.4 Unpacking

**⚠ WARNING**

The Sigmagate are heavy. Be careful and don't lift it higher than necessary for removing it from the pallet.

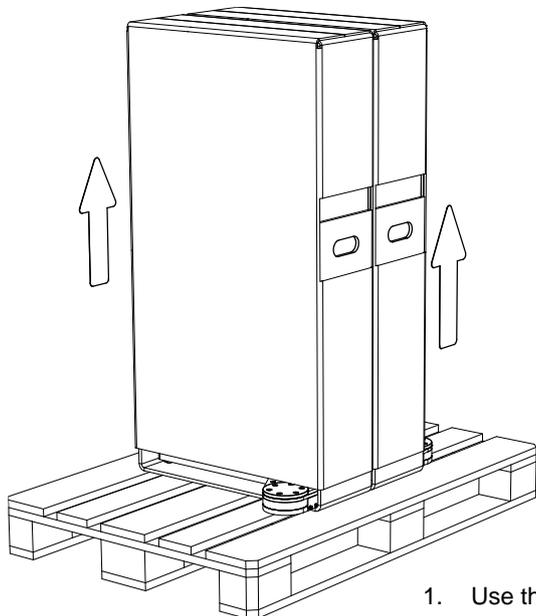


1. Remove base plates. Use the handles to remove the Sigmagates from the pallet.



2. Lift the packaging and remove the Sigmagate.

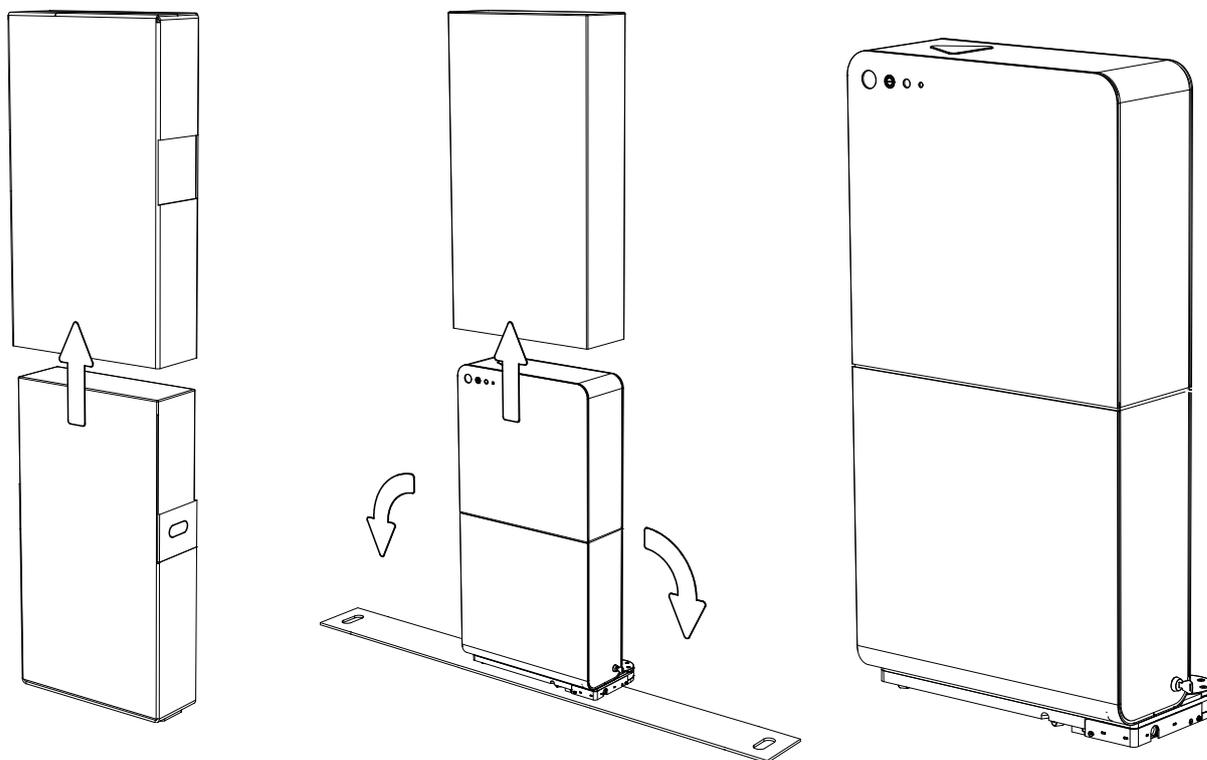
### 5.1.5 Unpacking - MPB



**⚠ WARNING**

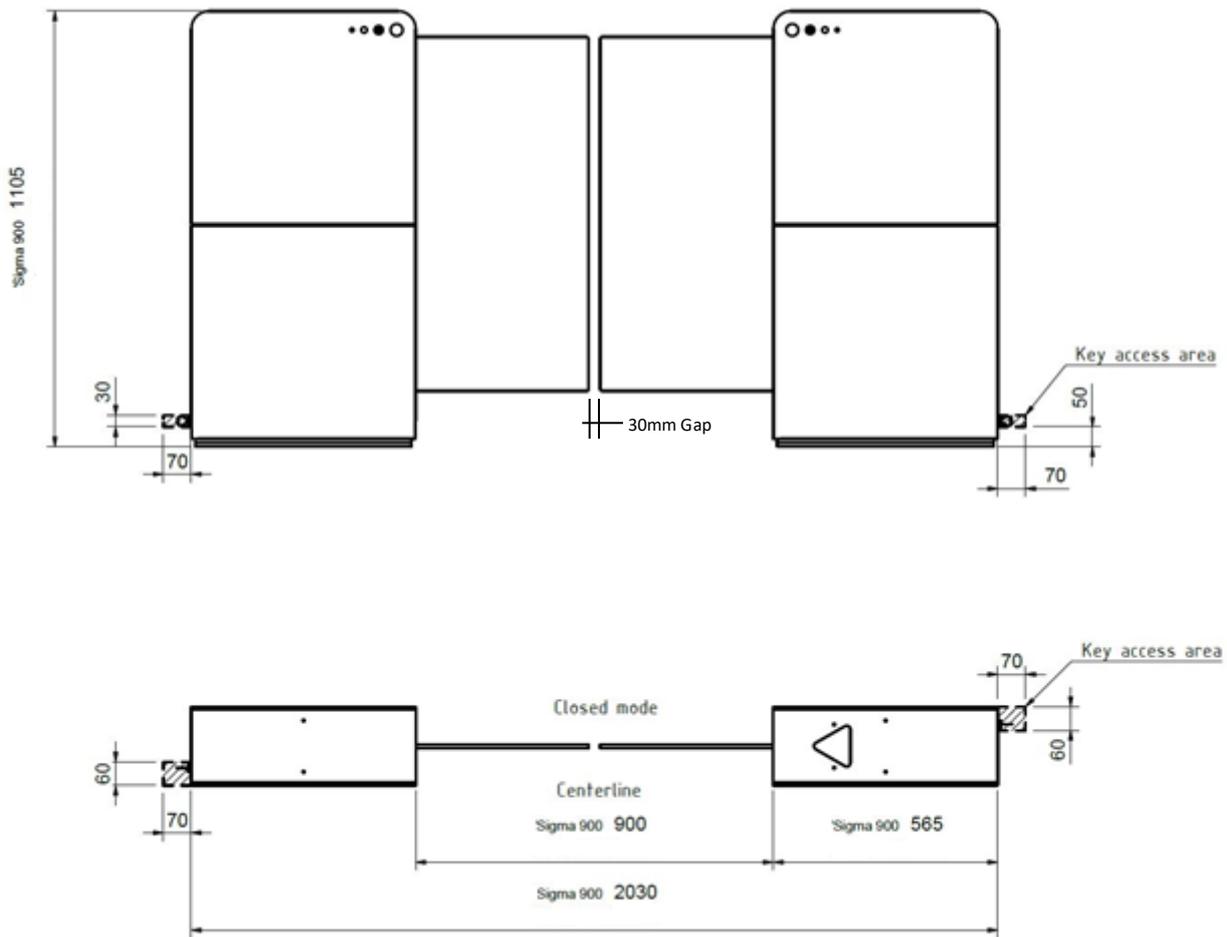
The Sigmagate are heavy. Be careful and don't lift it higher than necessary for removing it from the pallet.

1. Use the handles to remove the Sigmagates from the pallet.



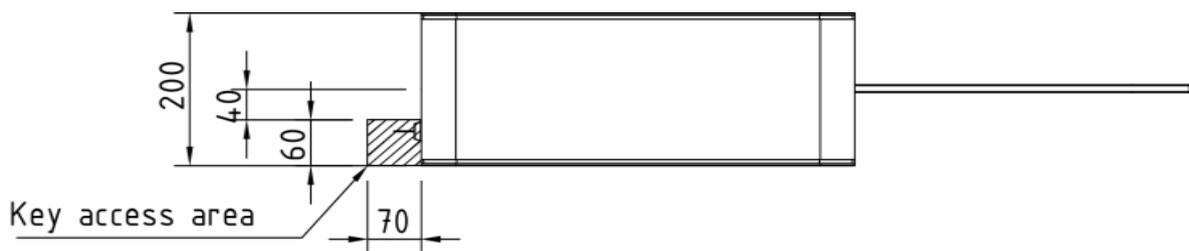
2. Lift the packaging and remove the Sigmagate.

### 5.1.6 Dimensions

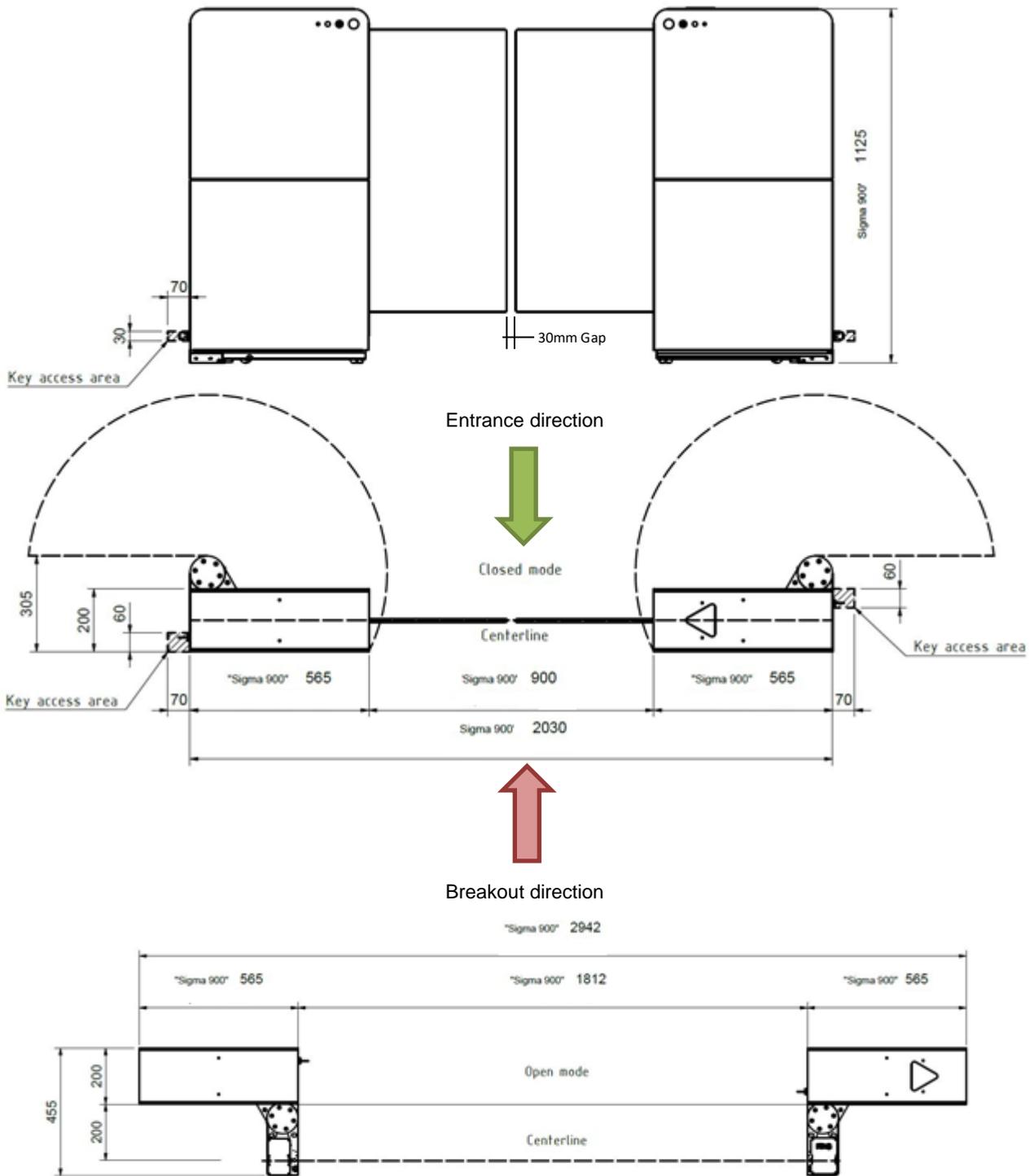


Do not place the gates closer than 70 mm to nearest object to be able to access the key.

(Standard ITAB uprights can be placed as close as the foot cover allows as long as the key switch is not blocked)

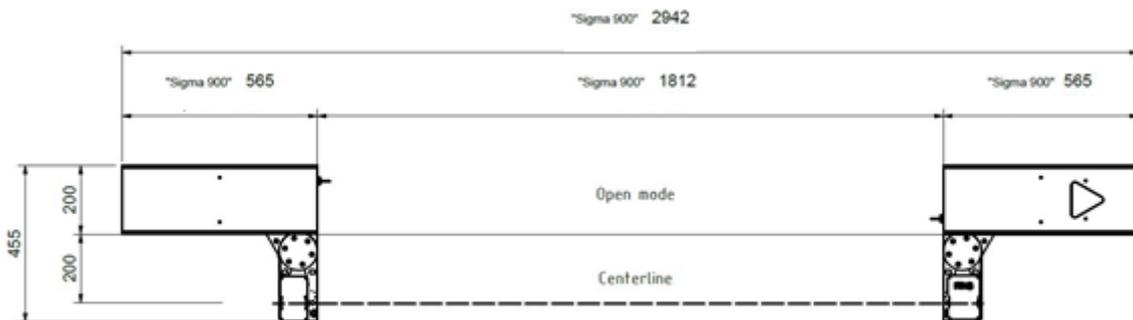
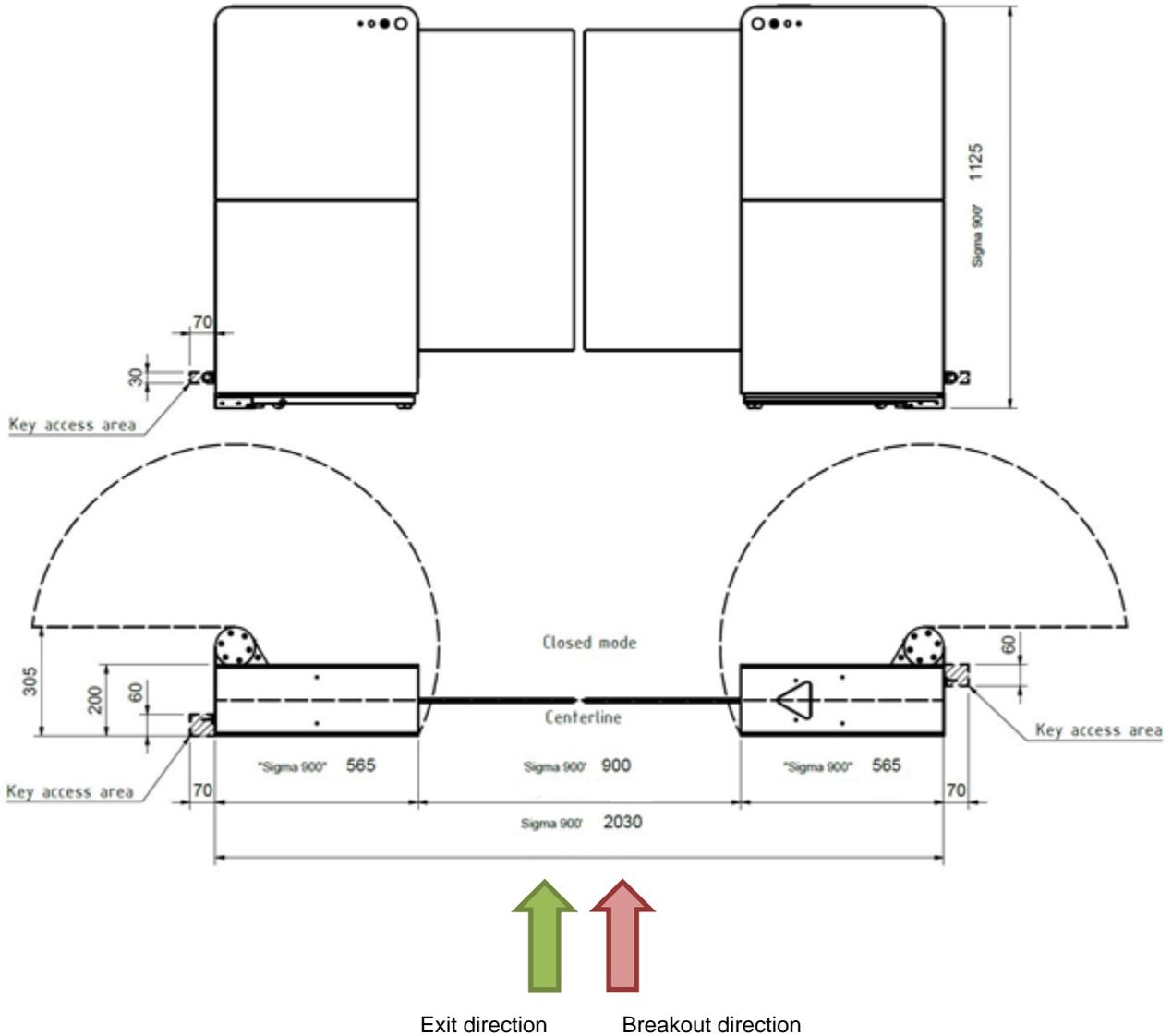


### 5.1.7 Dimensions with MPB (Entrance)



Do not place the gates closer than 70 mm to nearest object.  
 (Standard ITAB uprights can be placed as close as the foot cover allows as long as the key switch is not blocked)

### 5.1.8 Dimensions with MPB (Exit)



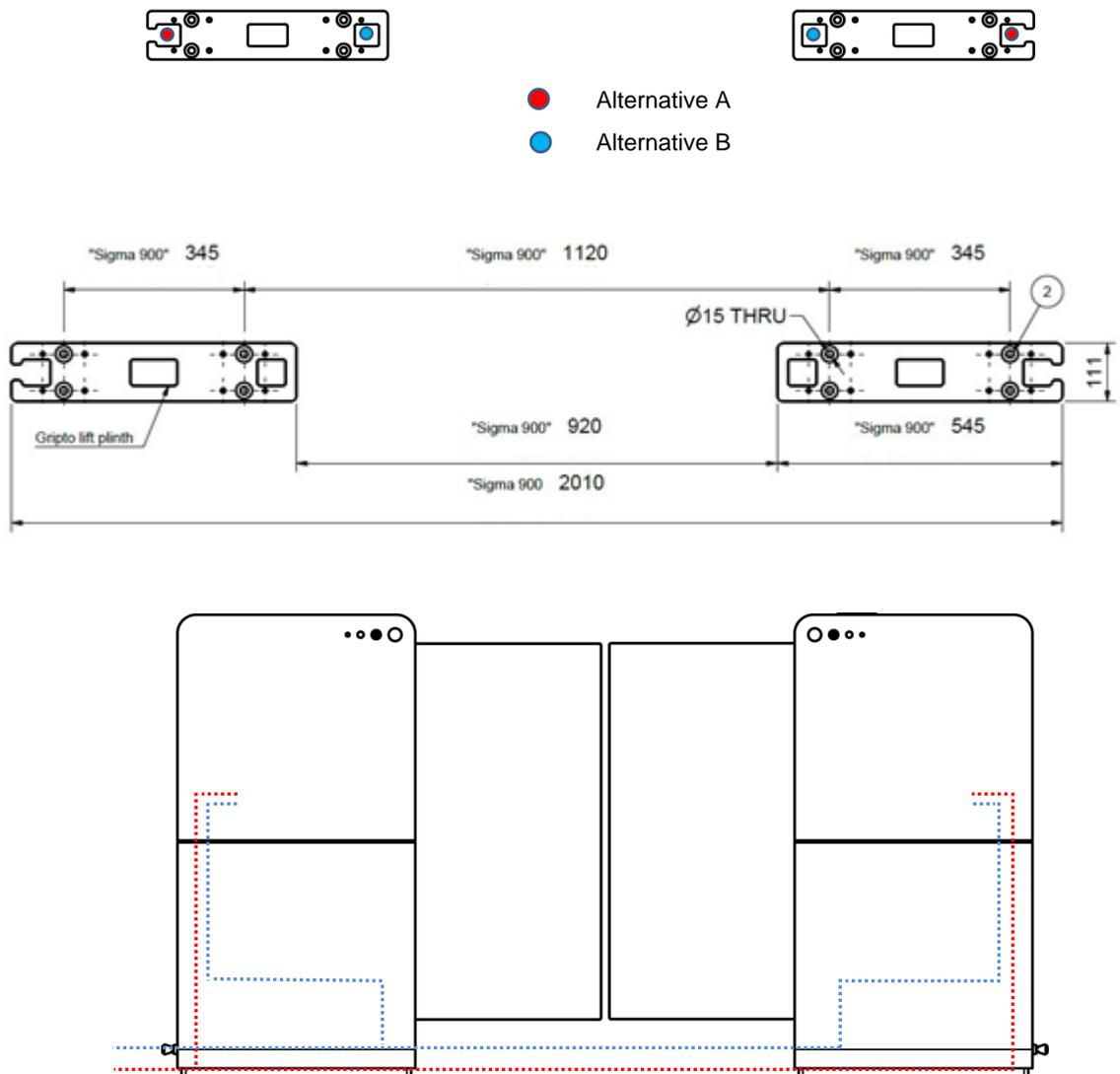
Do not place the gates closer than 70 mm to nearest object.  
 (Standard ITAB uprights can be placed as close as the foot cover  
 allows as long as the key switch is not blocked)

### 5.1.9 Routing of cables

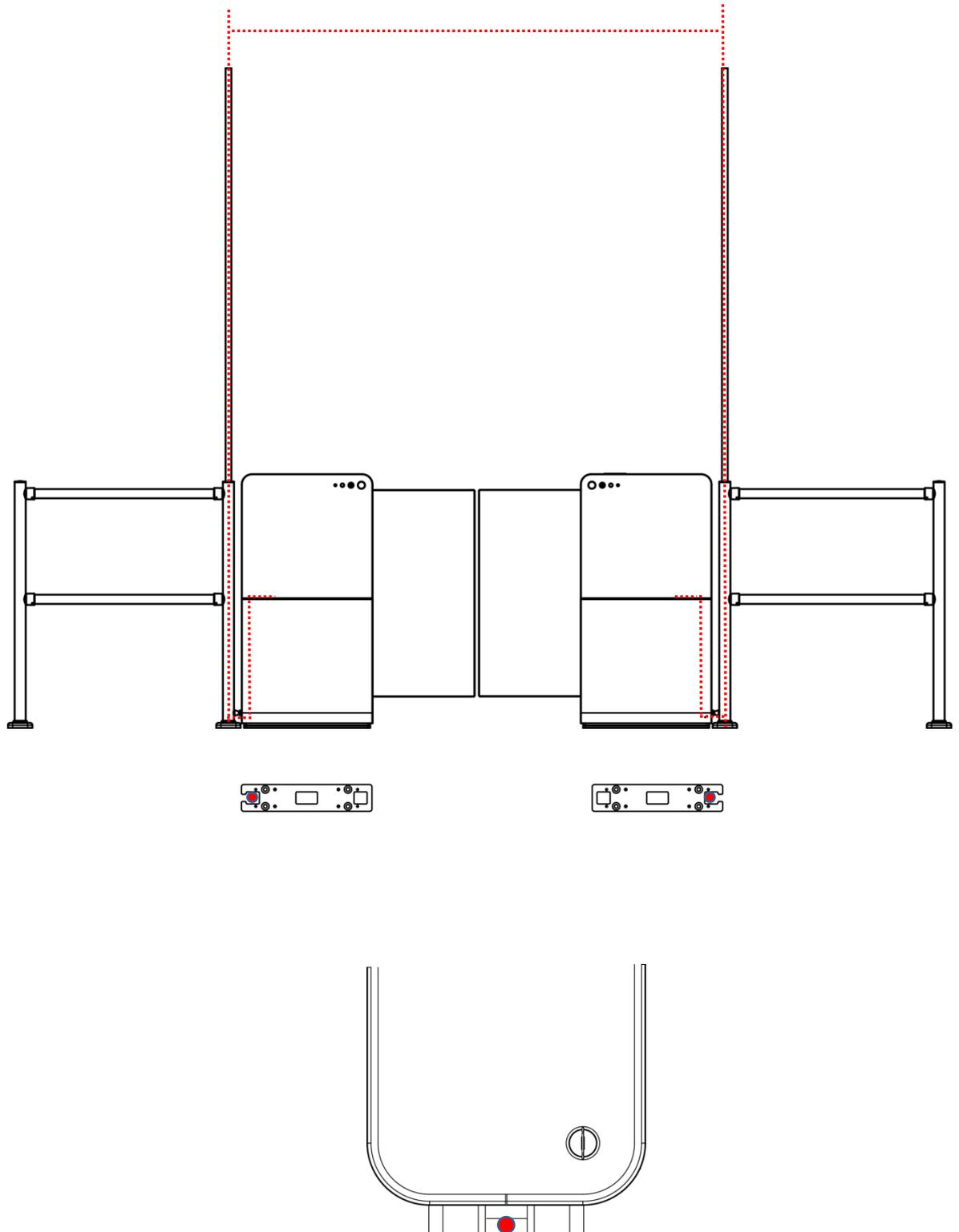
There are two ways of routing cables into SigmaGate.

1. Through the floor. Holes for the cables need to be drilled in the floor and cables can be routed through the mounting plates.
2. Through uprights and ceiling feeding tubes. Cables are then always routed along the floor through the mounting plates.

#### Routing of cables through the floor.



#### Routing of cables through uprights and ceiling feeding tubes.

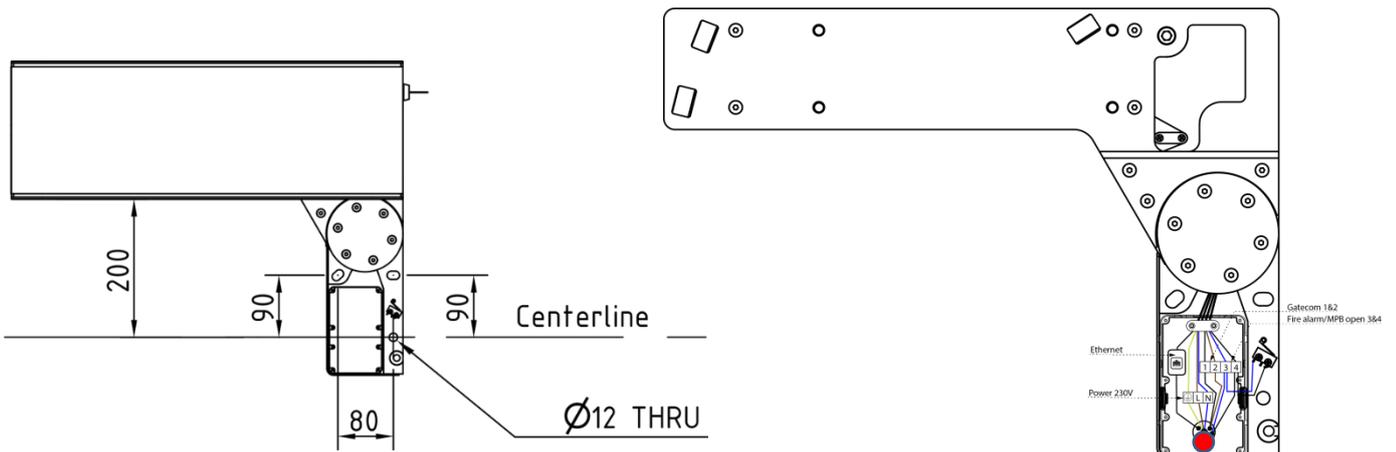
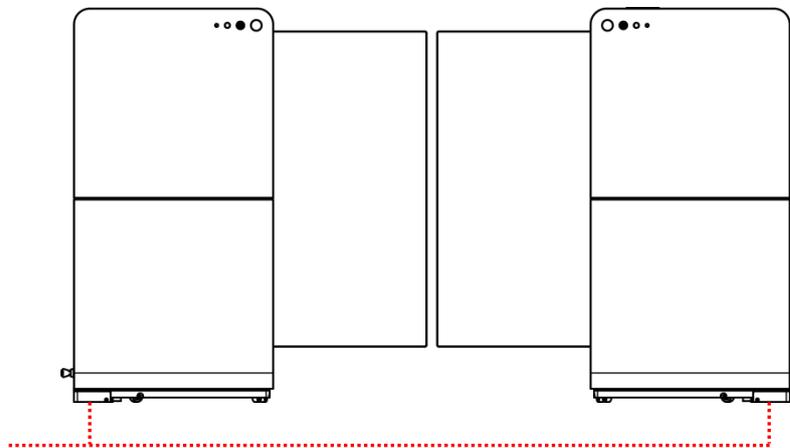
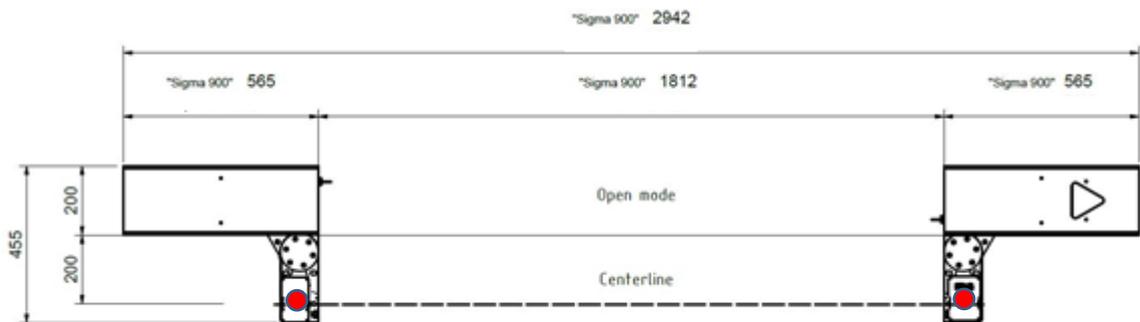


### 5.1.10 Routing of cables MPB

There are two ways of routing cables into SigmaGate MPB.

1. Through the floor. Holes for the cables need to be drilled in the floor and cables can be routed through the MPB base plates.
2. Through uprights and ceiling feeding tubes. Cables are then always routed along the floor through the MPB base plates.

#### Routing of cables through the floor.

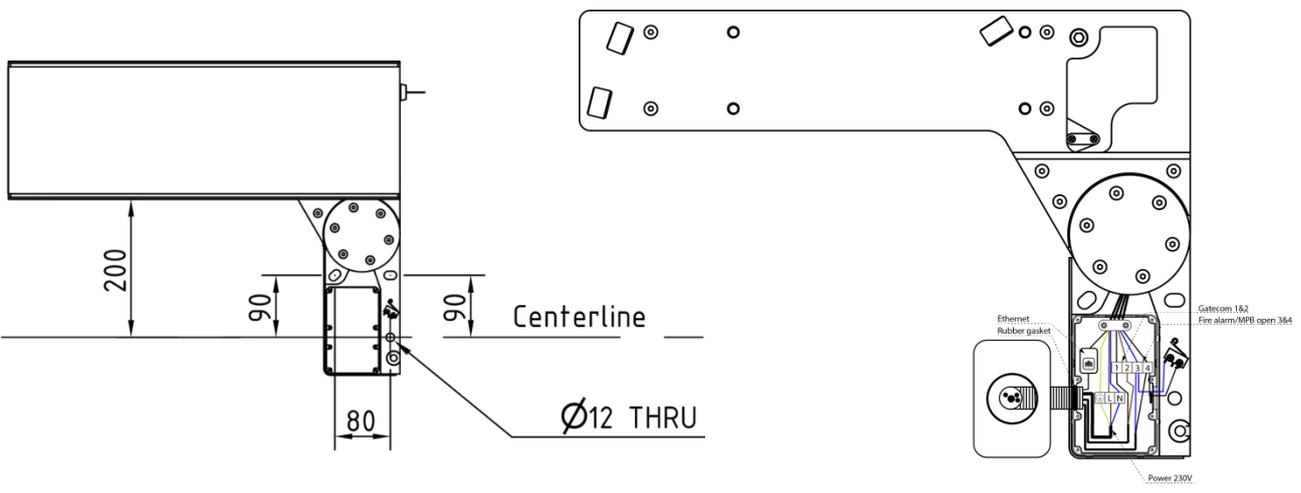
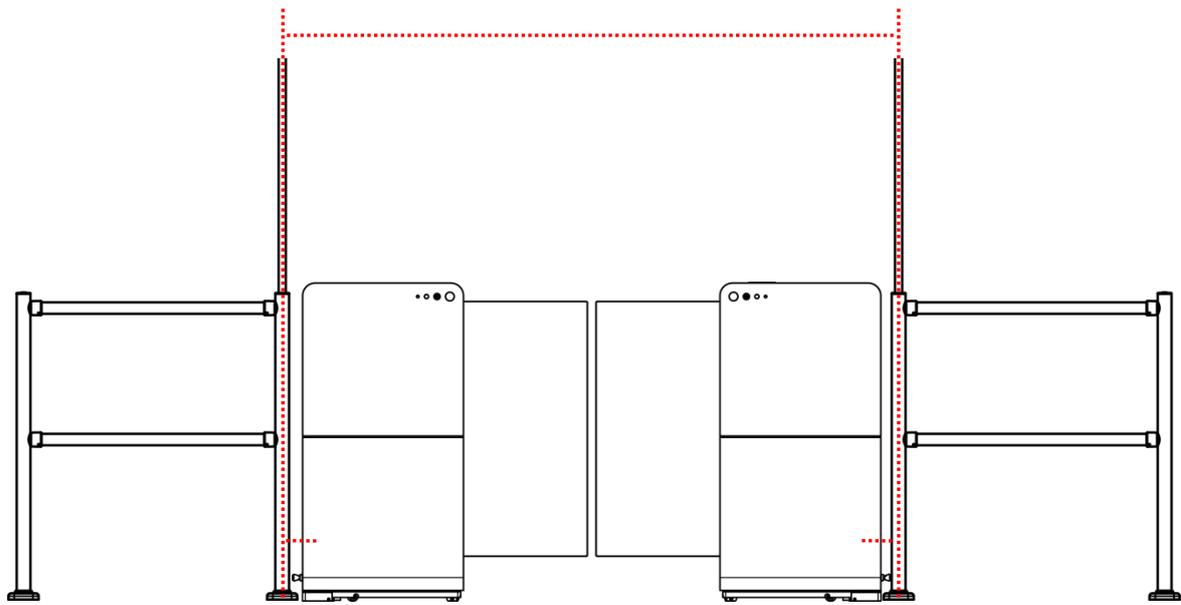
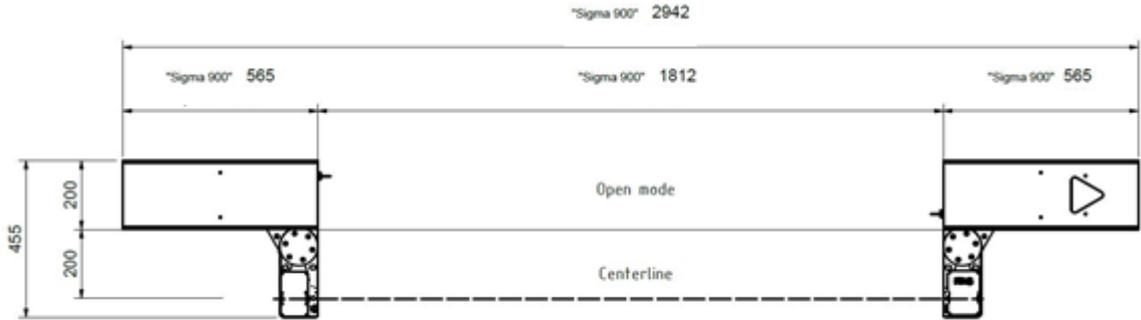


**Routing of cables through uprights and ceiling feeding tubes.**

Power, GateCOM, fire alarm and Ethernet cables can be routed from above floor to the connection box located in the MPB base plates.

**Note**

*If 220-240V cable is routed to the gates through feeding tubes and uprights, a flex hose or similar should be used for electrical safety reasons.*



## 5.2 Installation

### 5.2.1 Preparation for installation

Make sure all parts are delivered in good condition.

Required equipment and tools:

- standard tools (screwdrivers, Allen keys, power tools, etc.).
- admin access to the POS (if POS integrated) for testing.
- floor plan of the area.

### 5.2.2 Mounting of plates

(For mounting of Sigma with MPB, see chapter 5.2.4)

1. Use the mounting plates as drilling templates. Follow the dimension instructions carefully and make sure the mounting plates are linear to each other. Use a straightedge or similar, to align the plates.
2. Mark out and drill the eight holes.
3. Make sure the floor is flat. If it is not, use shims to make it flat.
4. Fasten the mounting plates with appropriate fasteners (shielded anchor, chemical fixings etc.).



#### ⚠ CAUTION

The SigmaGate must be secured with appropriate fasteners to ensure that it is held to the floor. Type of fastener depends on floor type and quality. Please make sure to use a fastener appropriate for the floor where the gate is to be fastened.

If not, there is risk of product damage.

**Note**

*SigmaGate should not be fastened to other foundation than concrete floor or similar.*

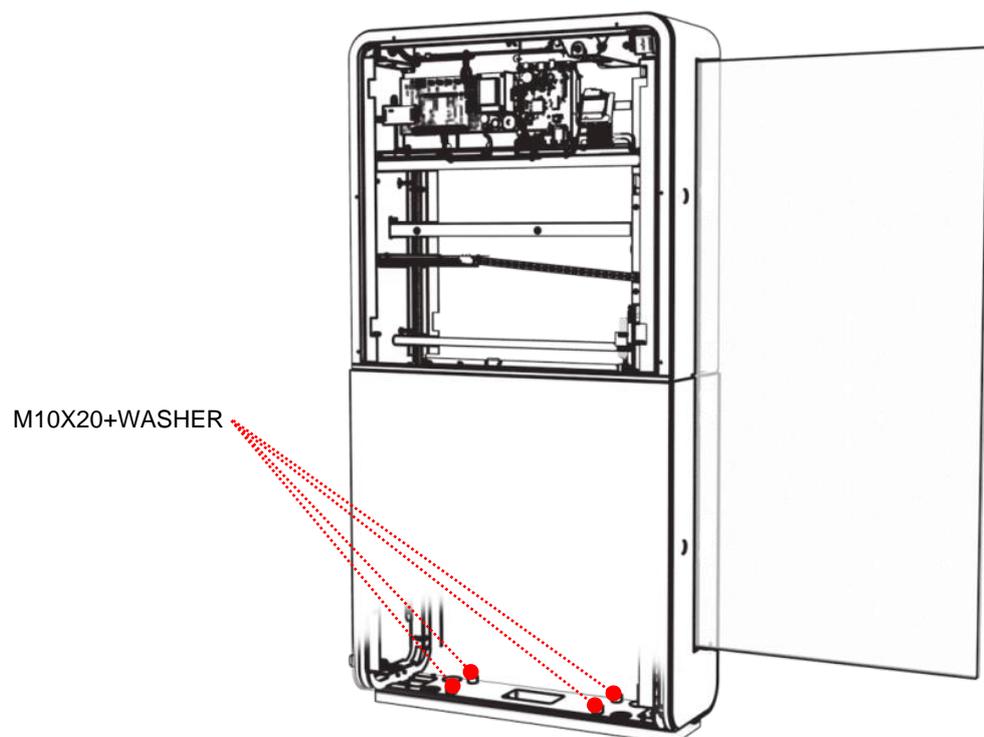
### 5.2.3 Mounting of gates

- Place the gates on the mounting plates.
- Fasten the gate with 4 Allen bolts M10x25+WASHER.
- Make sure to tighten the bolts properly.

— **⚠ CAUTION** —

**Make sure not to pinch the cables when installing the SigmaGate. If the supply cord is damaged, it must be replaced by manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.**

**Can lead to product damage.**



### 5.2.4 Preparation for Installation (MPB)

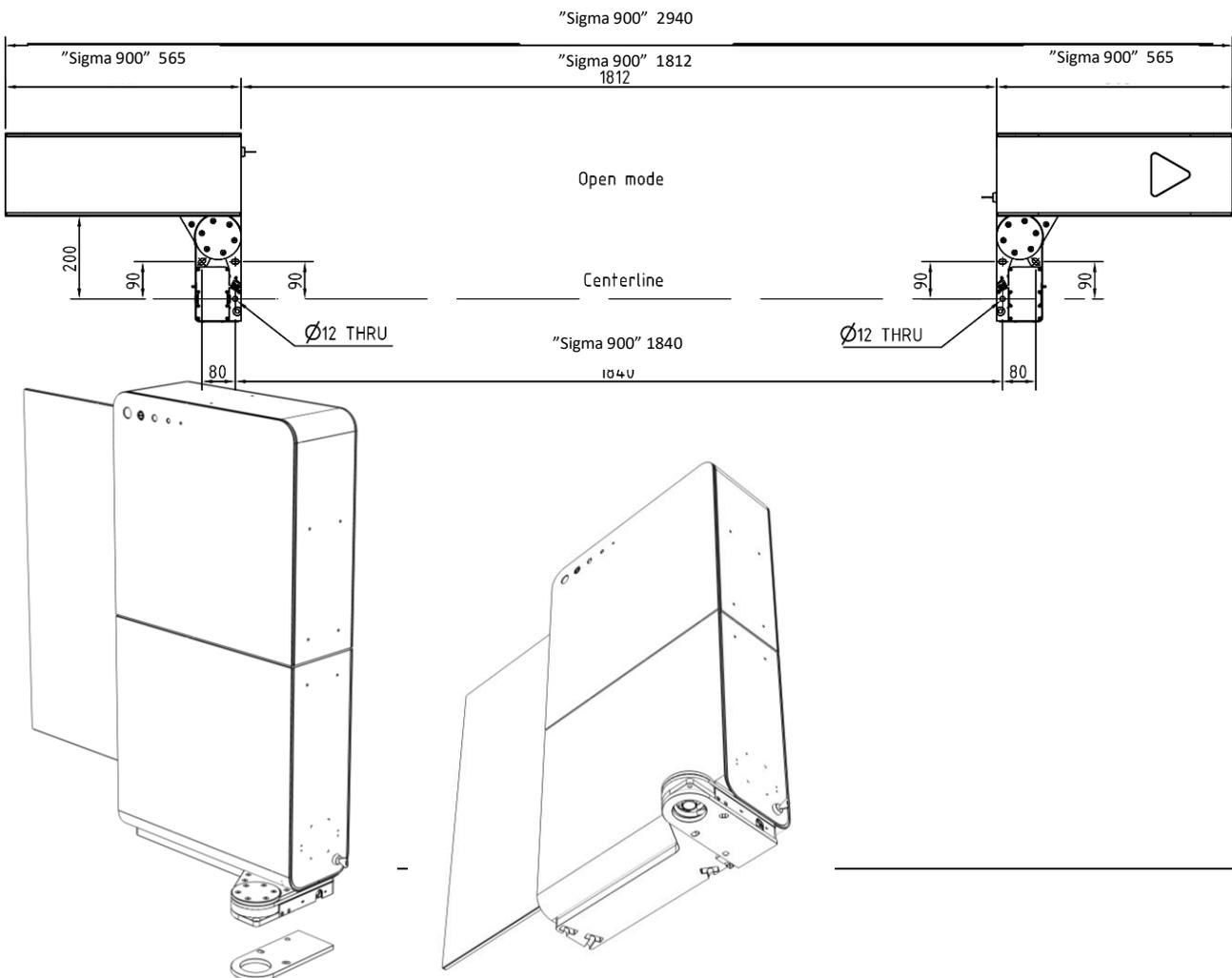
Make sure all parts are delivered in good condition.

Required equipment and tools:

- standard tools (screwdrivers, Allen keys, power tools, etc.).
- admin access to the POS (if POS integrated) for testing.
- floor plan of the area.

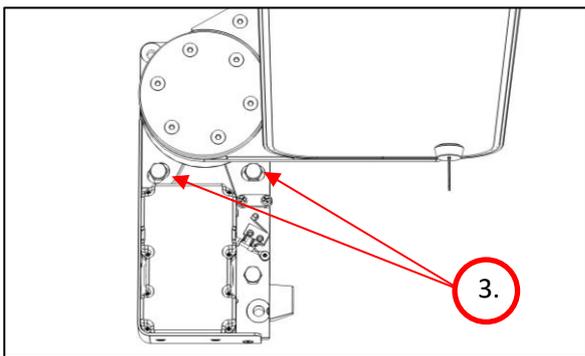
### 5.2.5 Mounting of gates (MPB)

1. Mark out the centerline of where the gates will be installed.
2. Mark out two lines perpendicular to the centerline, c/c 2010 mm. Make sure the lines are placed in the center of the entrance or exit.
3. Use the drilling templates to mark out the six drilling holes (see red arrow below).
4. Holes must not be bigger than Ø10.
5. Make sure the floor is flat. If floor is not flat this can effect MBU function and reflector alignment. See page 44 for floor shim install.
6. See page 44 for mounting plate installation details.



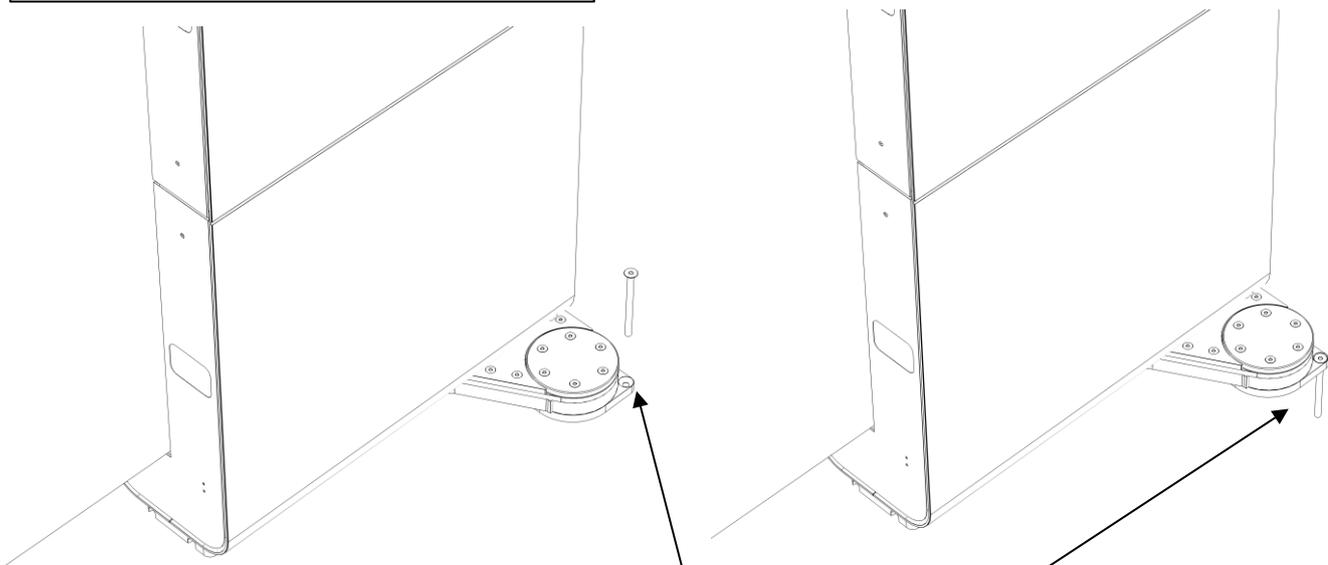
If uneven flooring prevents the gate breakout function from fully opening, 10mm spacers can be used to raise the gate assembly away from the floor.

Optional 10mm floor spacers.



**Note**

To prevent that the Sigmagate can move and not be fixed enough, the two larger holes (see no. 3.) in the MPB can be filled with chemical anchoring to lock the position after making sure the gates are in line with each other. Type of fastener depends on floor type and quality. Please make sure to use a fastener appropriate for the floor where the gate is to be fastened.

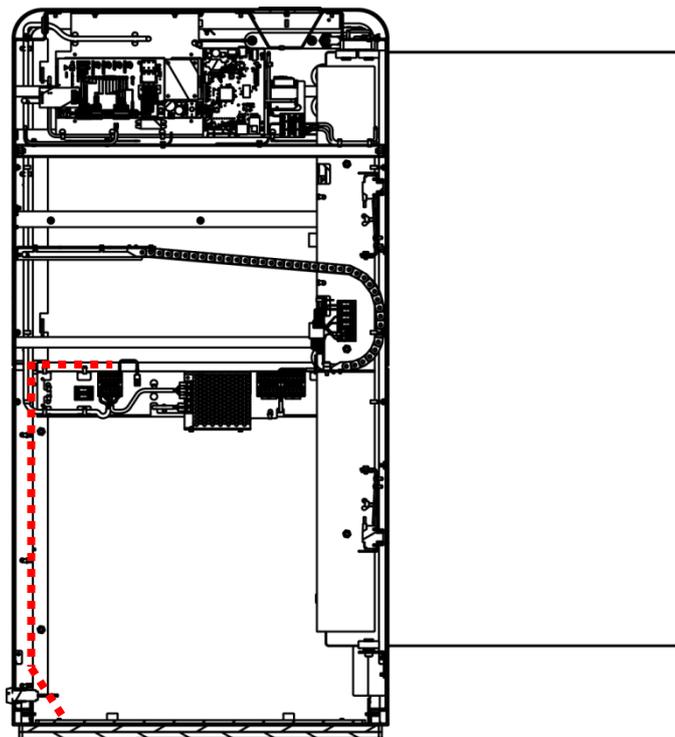


Once alignment is complete, drill and fit the fourth fixing. Use countersunk concrete screw supplied for the fourth fixing.

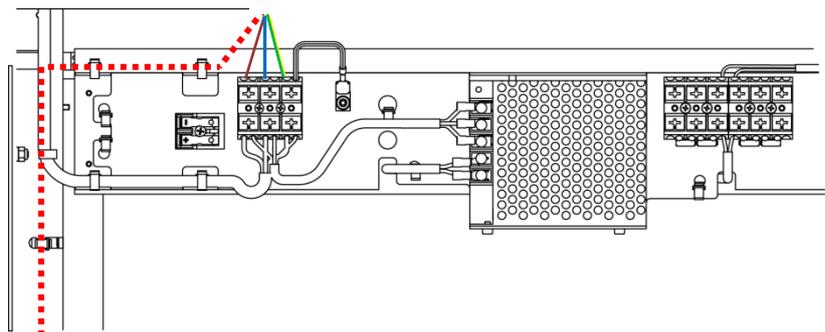
## 5.2.6 Connection of power

(For connections to SigmaGate MPB, see chapter 5.2.9)

1. Make sure there is a wall switch that can disconnect the product from supply on all poles.
2. Pull the 220-240V cable through the cable ties in the lower corner section of the gate. Tighten the cable ties.  
**Do not store any excess cables inside the gate.**
3. Nominal cross-sectional area 1,5-2,5mm<sup>2</sup>. Correct installation cable can be found here <https://www.nexans.se/en/>
4. Adjust the cable length.
5. Connect earth, phase and neutral cables to the connection terminal according to the markings on the terminal.
6. Fasten the cable to the strain relief.



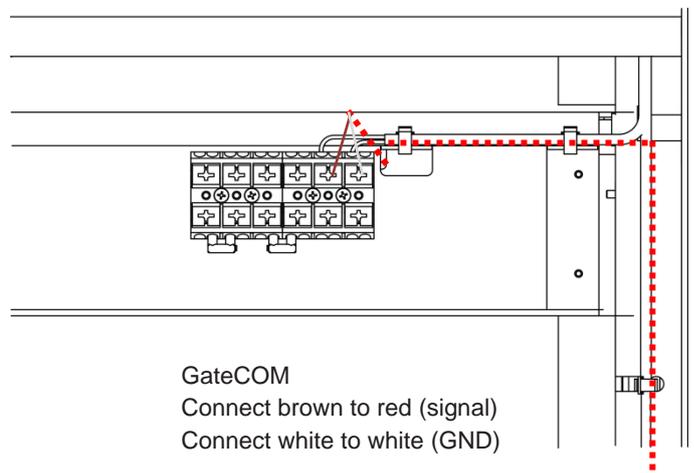
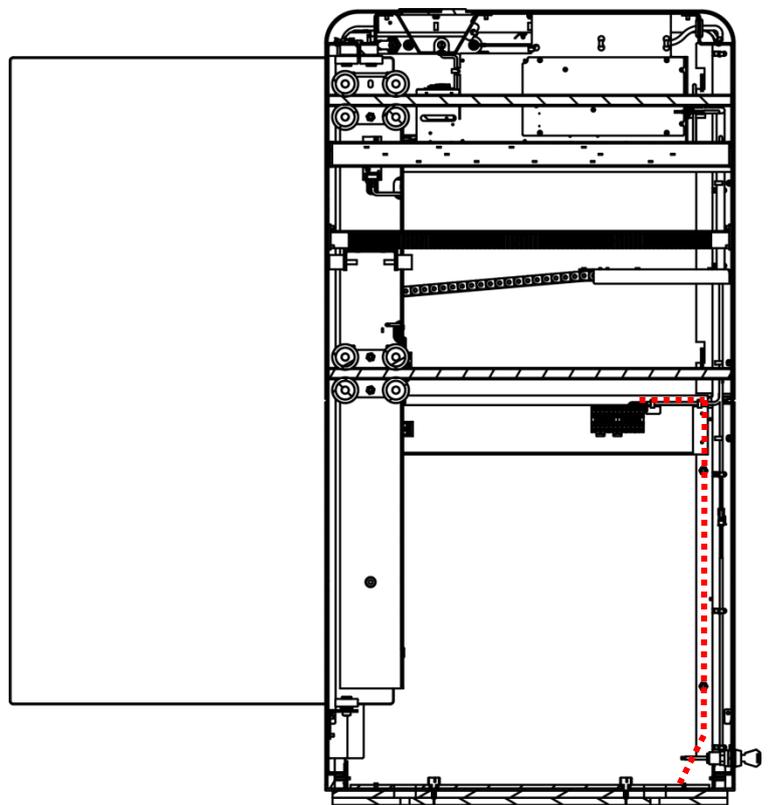
-  Connect blue cable (Neutral) to N socket
-  Connect brown cable (Live) to L1 socket
-  Connect green/yellow cable (Earth) to  socket.



## 5.2.7 Connection of GateCOM

(For connections to SigmaGate MPB, see chapter 5.2.10)

- Connect the 2 core GateCOM cable to the connection terminal on the opposite side of the 220-240V connection.
- Make sure to use cable ties to attach cables to the chassis.
- Route the GateCOM cable to the next gate and connect as described above. When correct connection the LED diode for SALOON GATE will shine green on both gates main boards.

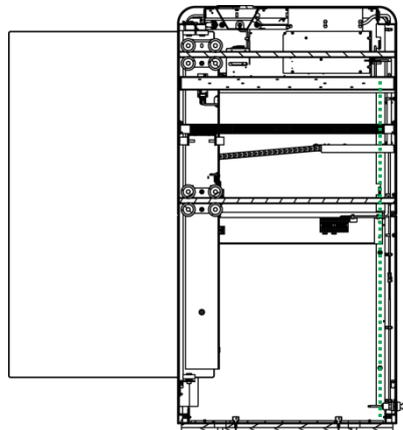
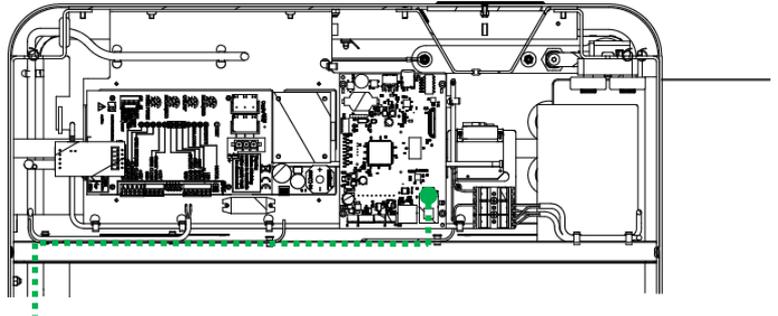


## 5.2.8 Connection of Ethernet

*(For connections to SigmaGate MPB, see chapter 5.2.12)*

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).



### Note

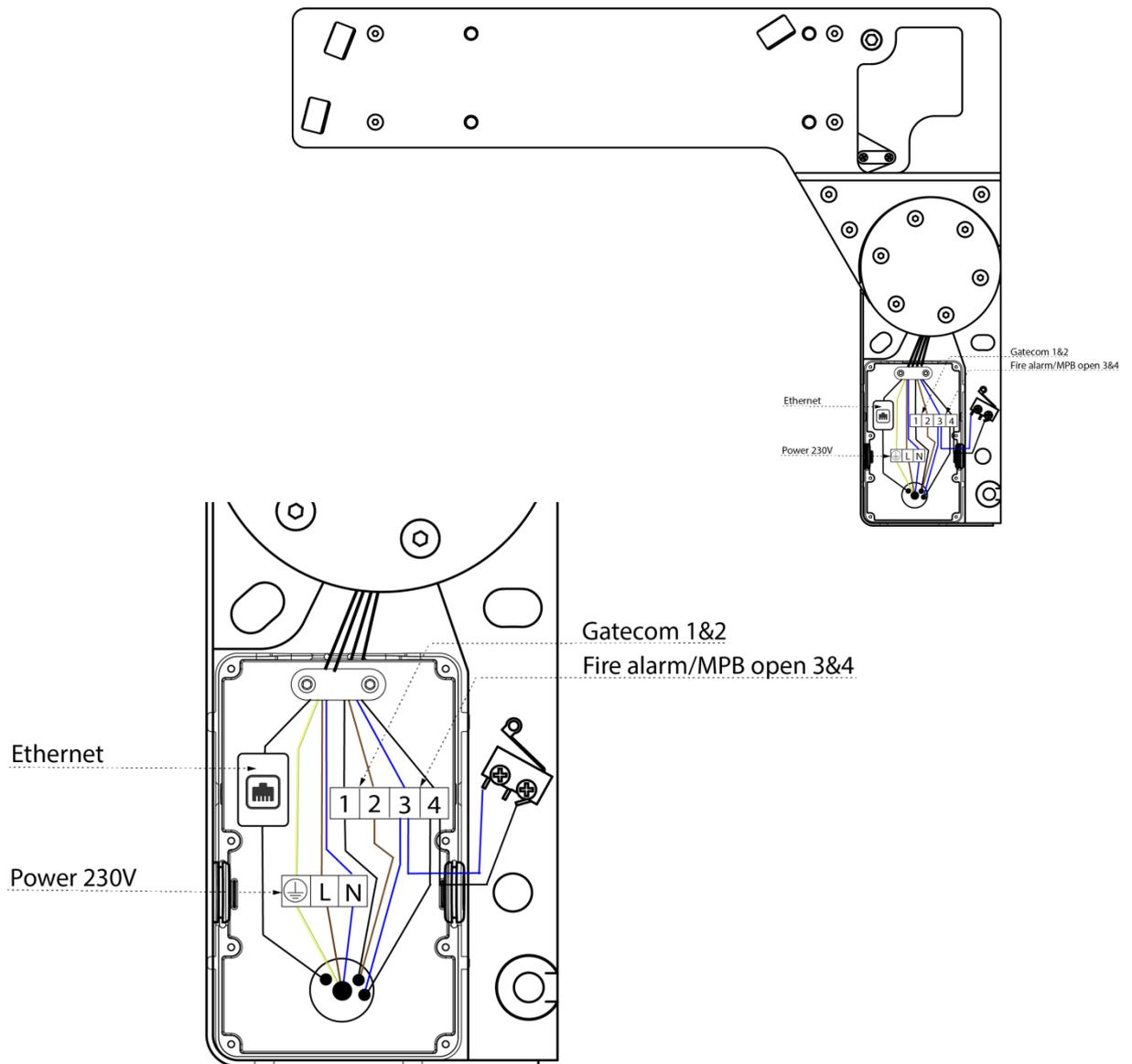
*When power is connected to the SigmaGate, the LED strip on the scanner unit will start flashing, indicating that configuration is loading. The scanner system will thereafter restart, the scanner will make a “blip sound” and lighten up with white light.*

### 5.2.9 Connection of power (MPB from floor)

- Connect earth, phase and neutral cables to the connection terminal according to the markings on the terminal.

**Note**

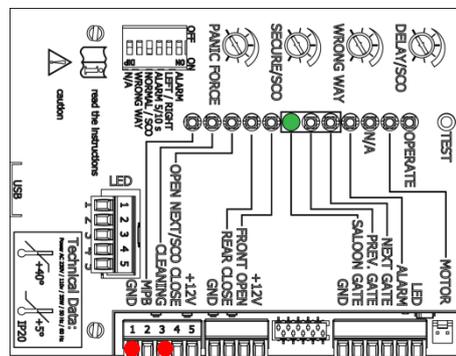
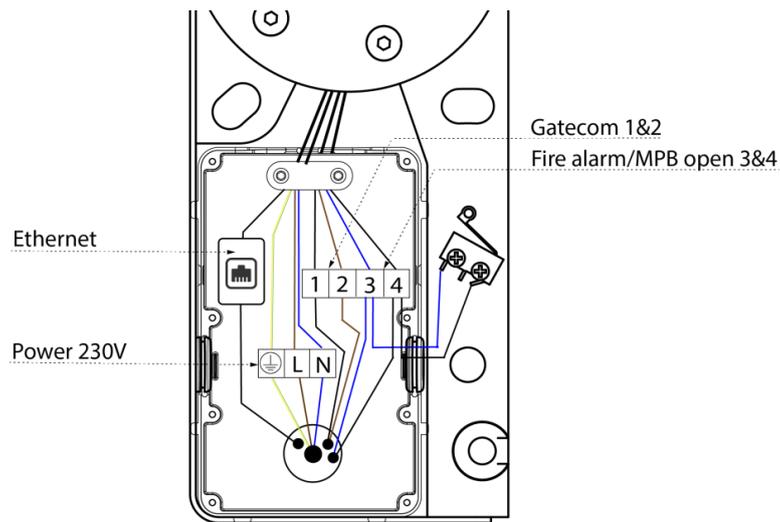
Single isolated cables (power cables, 220-240V) must be separated from low voltage cables.



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

### 5.2.10 Connection of GateCOM (MPB from floor)

- Connect ground to socket marked 1.
- Connect signal to socket marked 2.
- Route the other cable end to the other SigmaGate.
- When correct connection the led diode for SALOON GATE will shine green on both gates main boards.



### 5.2.11 Connection of fire alarm (MPB from floor)

- Connect signal to socket marked 3 (CLEANING).
- Connect ground to socket marked 1 (GND).

### 5.2.12 Connection of Ethernet (MPB from floor)

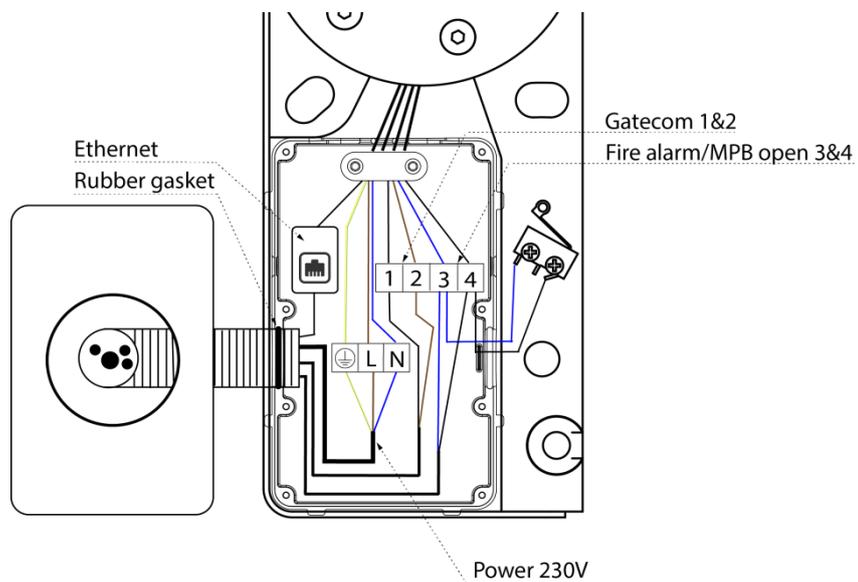
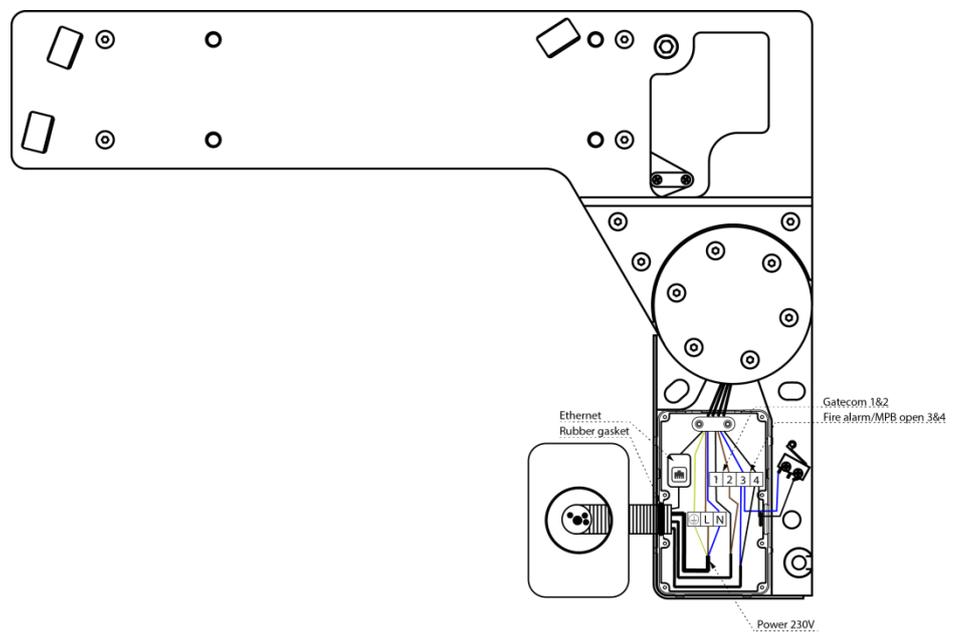
If the SigmaGate is equipped with ScanMaster and is intended to be connected to the store POS system or in cluster with other standalone ScanMaster units an Ethernet cable (CAT5e or better) need to be connected to the Ethernet adaptor. (See picture above).

### 5.2.13 Connection of power (MPB from side)

- Connect earth, phase and neutral cables to the connection terminal according to the markings on the terminal.

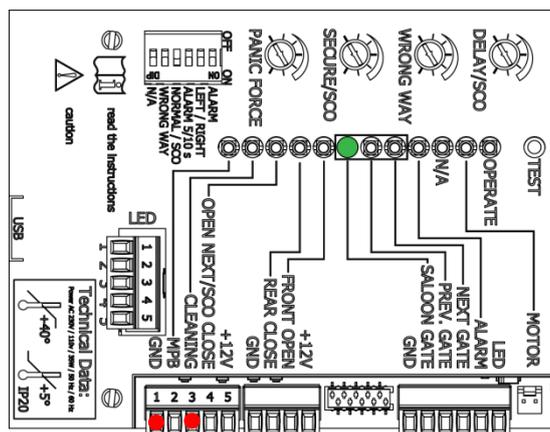
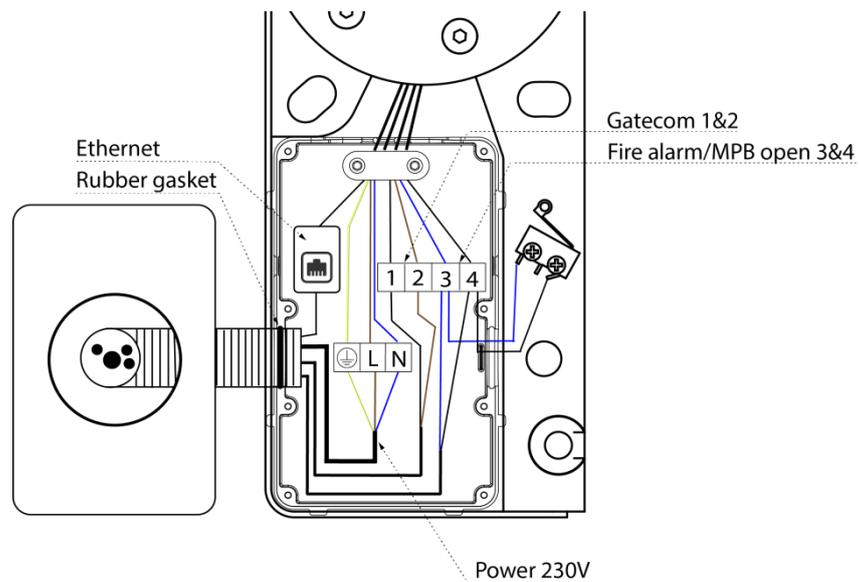
#### Note

Single isolated cables (power cables, 220-240V) must be separated from low voltage cables.



### 5.2.14 Connection of GateCOM (MPB from side)

- Connect ground to socket marked 1.
- Connect signal to socket marked 2.
- Route the other cable end to the other SigmaGate.
- When correct connection the led diode for SALOON GATE will shine green on both gates main boards.



### 5.2.15 Connection of fire alarm (MPB from side)

- Connect signal to socket marked 3 (CLEANING).
- Connect ground to socket marked 1 (GND).

### 5.2.16 Connection of Ethernet (MPB from side)

If the SigmaGate is equipped with ScanMaster and is intended to be connected to the store POS system or in cluster with other standalone ScanMaster units an Ethernet cable (CAT5e or better) need to be connected to the Ethernet adaptor.  
(See picture above).

### 5.2.17 Connection of external triggering device (access controls)

It is possible to connect external opening devices for the SigmaGate, i.e. Fire alarm, Code lock, Key lock etc.

Connection is made in "Front Open" (Front Open and GND) except for Fire alarm that is connected to "Cleaning" (Cleaning and GND).

To connect to our equipment, use a volt free normally open contact, closing on event of wanting the gate to open. Alternatively, an NPN open collector transistor output capable of switching a minimum of 50ma and with pulse width duration of minimum 100 milliseconds.

Any triggering device with a 12 volts output will trigger the gate to open.

NPN = grounding signal. Grounding the signal between "signal" (Front Open) and "GND" will open the gate and keep the gate opened as long as the circuit is closed (grounded).

#### **Note**

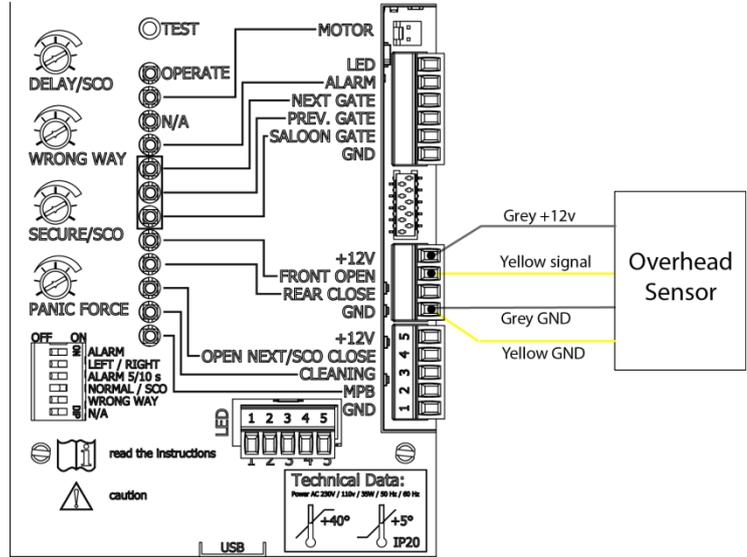
*When using SigmaGate with MPB all connections need to be done in the connection box.*

#### **Note**

*Additional equipment shall not be fitted in such a way as to impair ergonomics and safety. To verify this, contact ITAB, refer to section 1.6 Contact Information.*

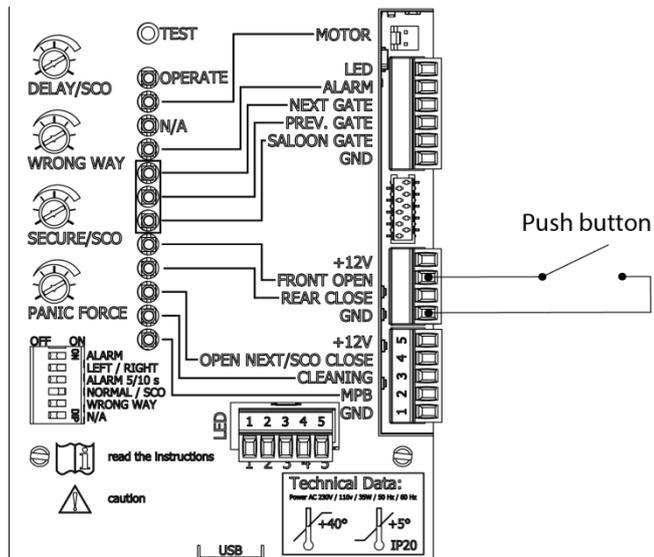
### 5.2.18 Connection of Overhead Sensor

If an external overhead sensor is installed to trigger SigmaGate the connection is done according to the picture below.

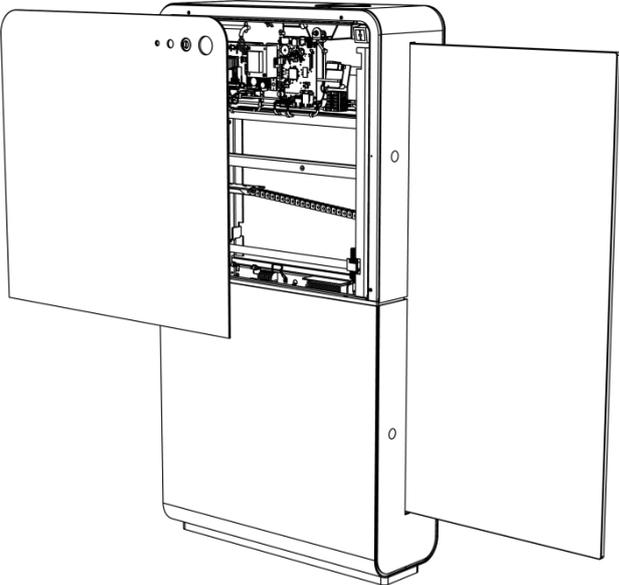
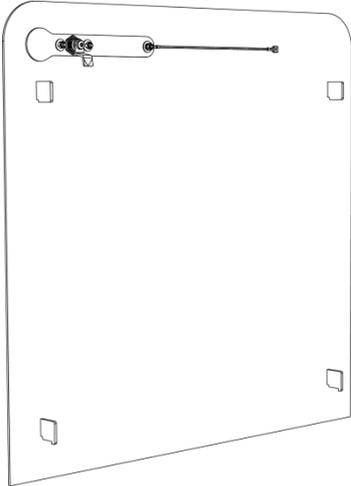


### 5.2.19 Connection of Open Push Button

If an external Open Push Button is installed to trigger SigmaGate the connection is done according to the picture below.



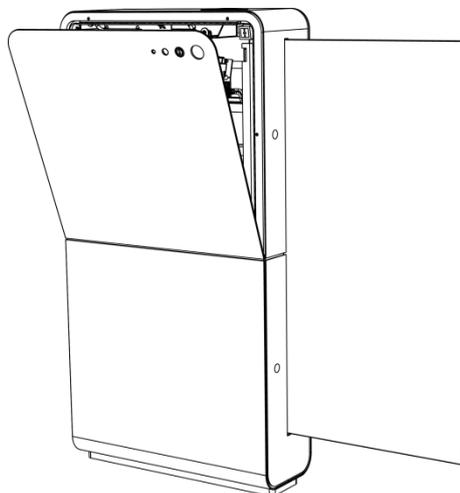
**5.2.20 Mounting of service hatch**



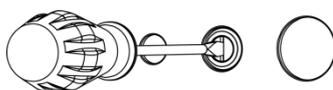
**⚠ WARNING**

**Service hatches are heavy. Be careful when mounting them to avoid drop them on the feet.**

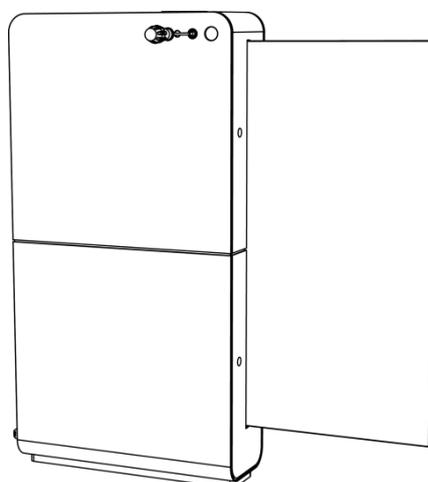
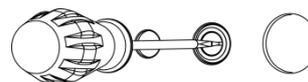
1. Place the hatch with the lower hooks resting on the lower hooks of the gate.
2. Fasten the earth cable to the flat pin on the chassis.
3. Close the hatch by tilting it to its upright position and make sure the upper hooks are secured to the gate's upper hooks.
4. Turn the lock by using a flat screwdriver.



Unlocked



Locked

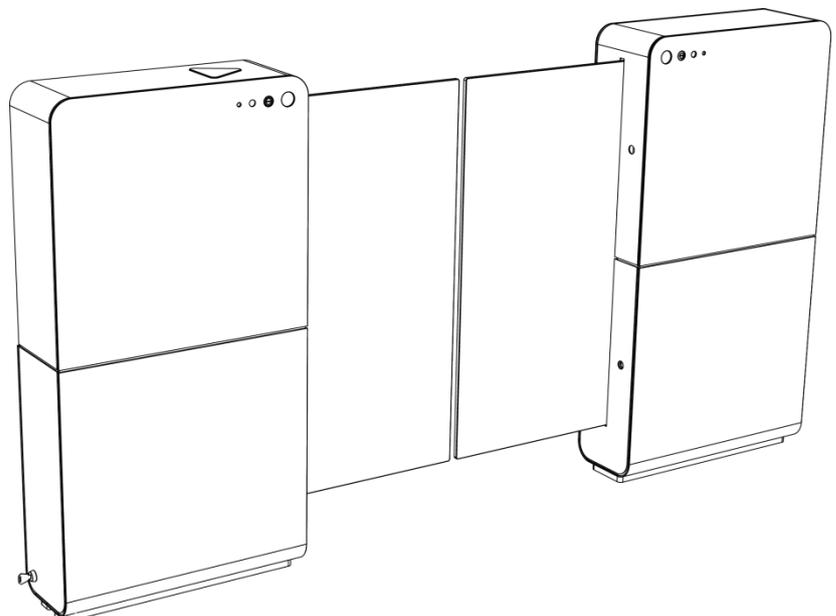
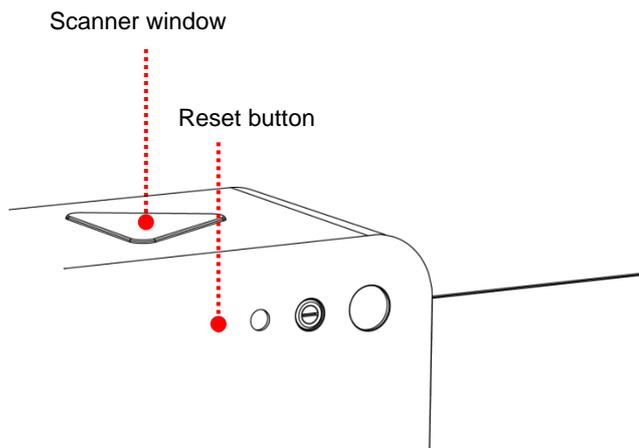


### 5.2.21 Testing of gates

As a final step in the installation of SigmaGate the power is connected to the main power central.

After installation, ensure that the mechanism is properly adjusted and that the protections system and any manual release function correctly. Checklist below:

1. Gate triggers using selected devices. If SigmaGate is equipped with ScanMaster triggering is checked by scanning a receipt from the store. If store receipt is not available, please use an ITAB service key.
2. Gate doors move smoothly and without obstacles.
3. Check that the photoelectric cells are aligned straight to the respective reflex.
4. Check the alignment of the glass doors.
5. If SigmaGate MPB is installed, check function of the Mechanical Panic Function. The gate arms should be withdrawn, and an acoustic alarm should sound when the panic function is activated. When restored to its normal position, the gates should close, and the alarm should be turned off.



### 5.3 Adjustment of glass door

If the glass doors need to be adjusted an adjustment screw (Allen screw M3) located in 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).

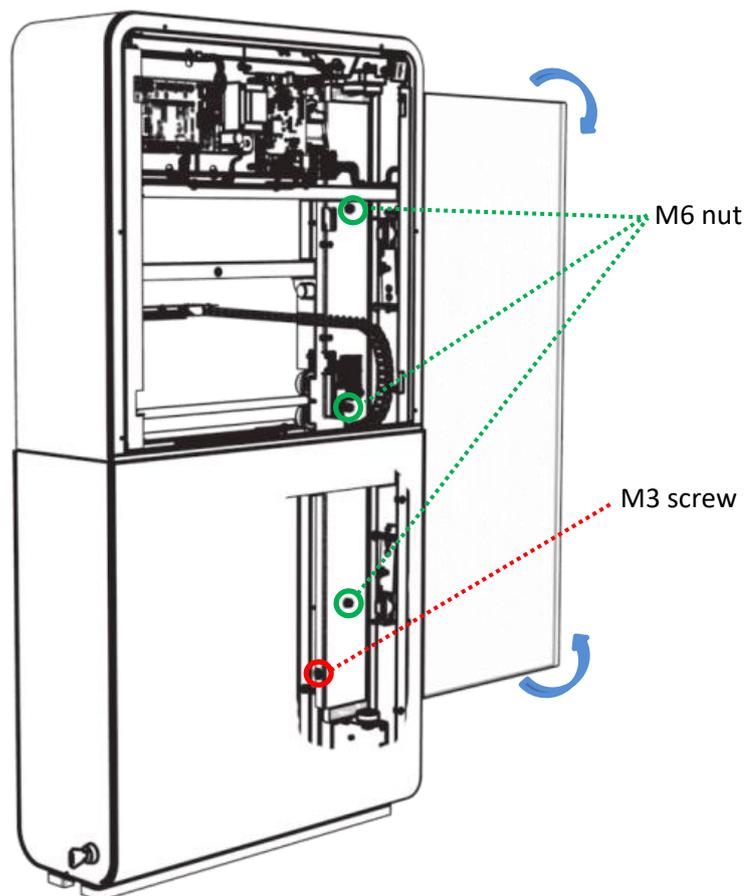
**Note**

*The gap between the glass doors must not be less than 200 mm.*

**Note**

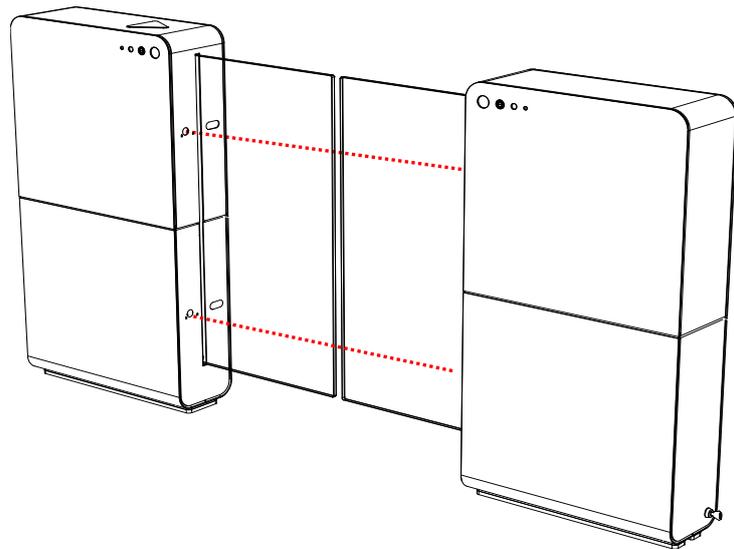
*After adjustment, make sure to tighten the M6 nuts.*

1. Loose the three M6 nuts.
2. Adjust the glass door with the M3 screw.



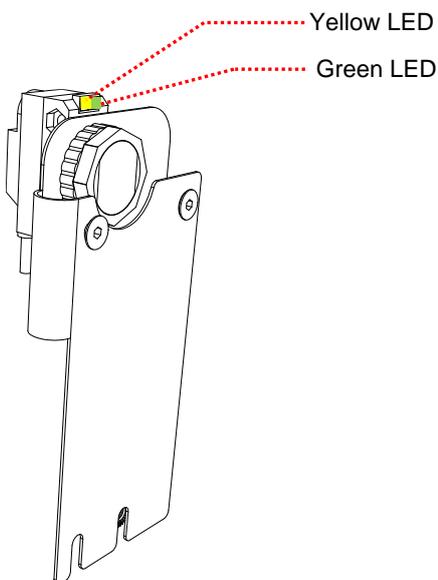
## 5.4 Adjustment of gate PEC

Make sure the two photoelectric cells (PEC) are pointing at the reflexes on the other gate. If adjustment is needed use the adjustment screws marked below. See section 5.4.1 for further information.



### 5.4.1 Adjusting the PEC

- Connect the PEC to power it up. Now the GREEN LED light should be on.
- Trim the vertical and horizontal angle of the PEC until the YELLOW LED light is on.



**Note**

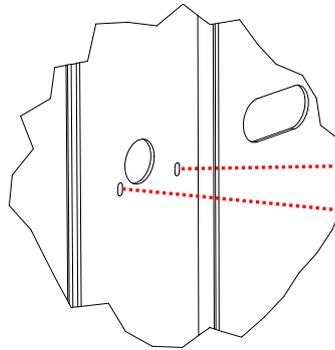
*The yellow LED must show a steady light, flickering light is not optimal.*



PEC down



PEC up



Horizontal adjustment

Vertical adjustment



PEC to right



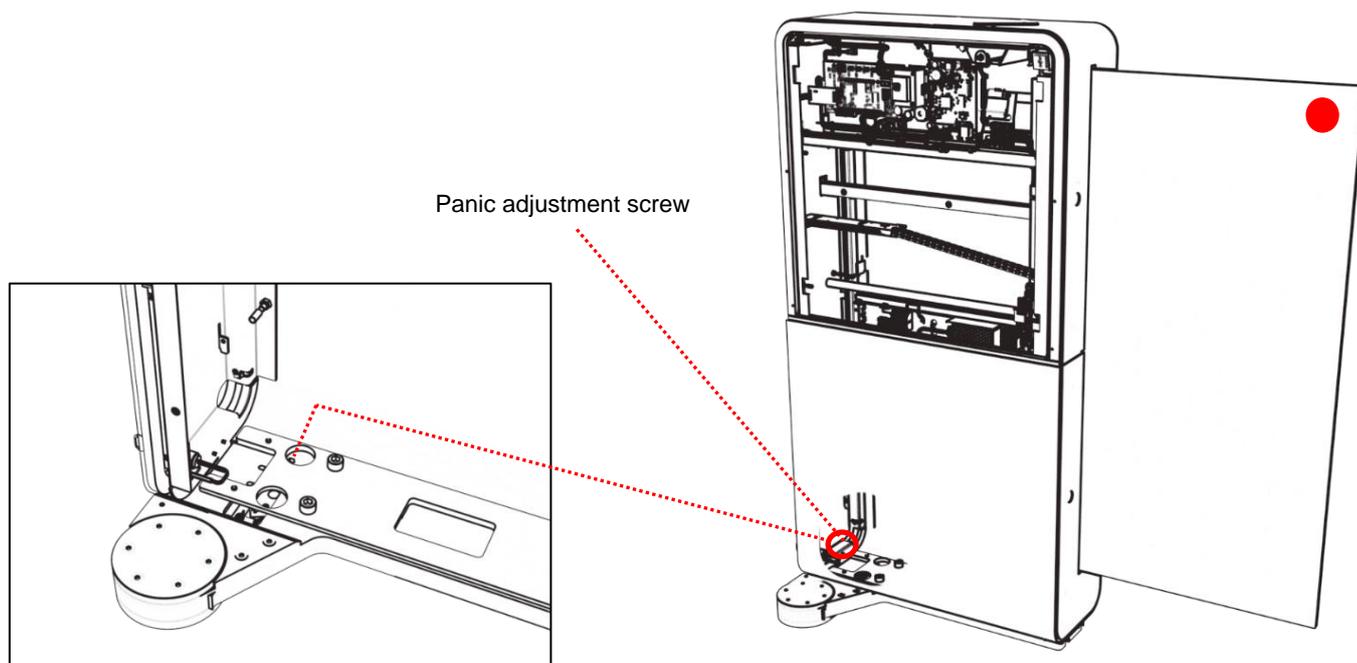
PEC to left

To adjust the PEC, use Allen key 2.5 mm.

## 5.5 MPB adjustment

Panic Break-out force is set to maximum 90N (measured 0.95m from rotation axis and 1.0m from floor).

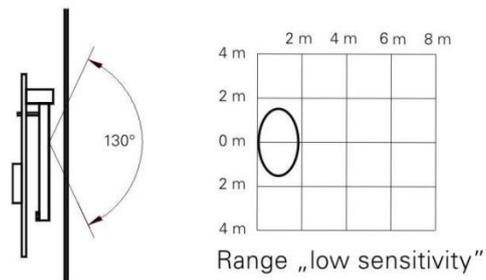
To adjust the Panic Break-out force, an 8mm hex key is required.



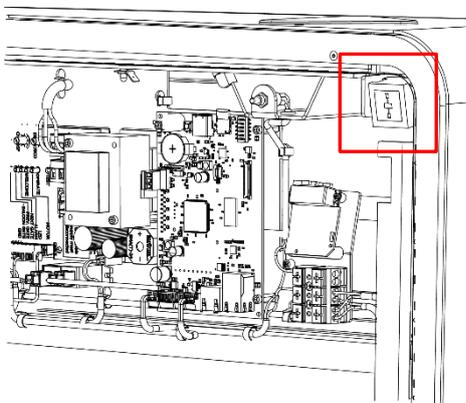
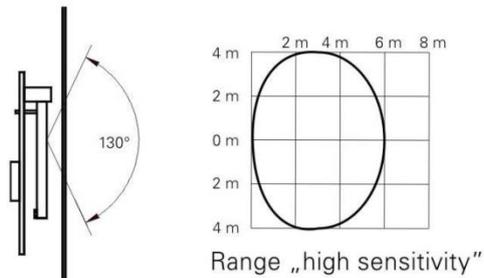
## 5.6 Setting the radar

When using a radar system to trigger the gate, the gate opens when an object reaches and approaches the area of coverage and closes automatically after the set open time.

Area coverage from above – low sensitivity



Area coverage from above – high sensitivity

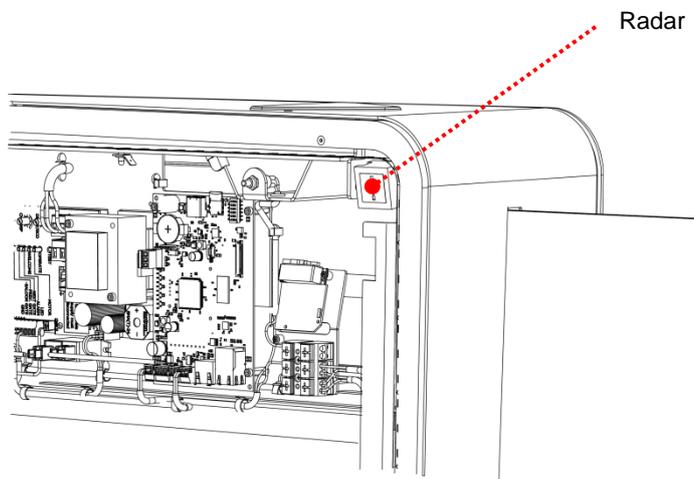
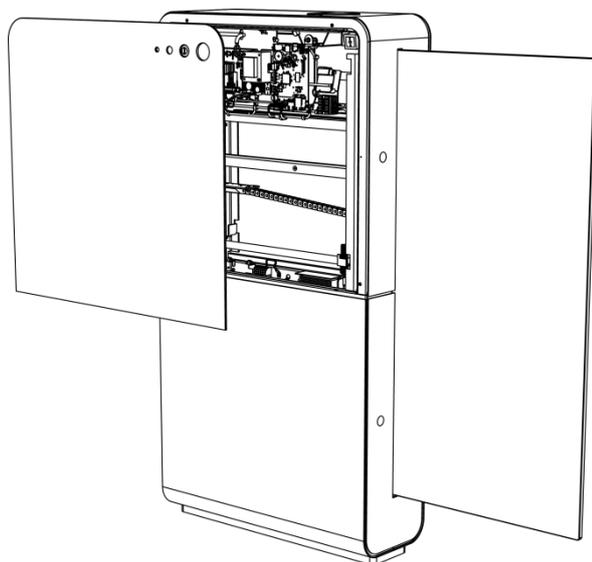
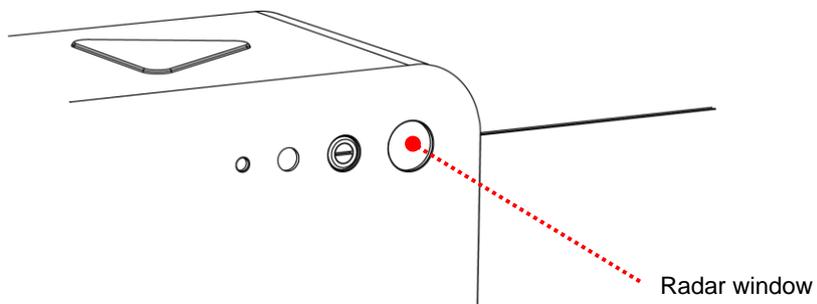


Adjust the area by turning the potentiometer on the radar front. Test the setting after the cover is installed.

**Note**

*After setting up the radar the open time must be reset to the desired time. The radar needs to be angled a bit down (see picture) to detect properly.*

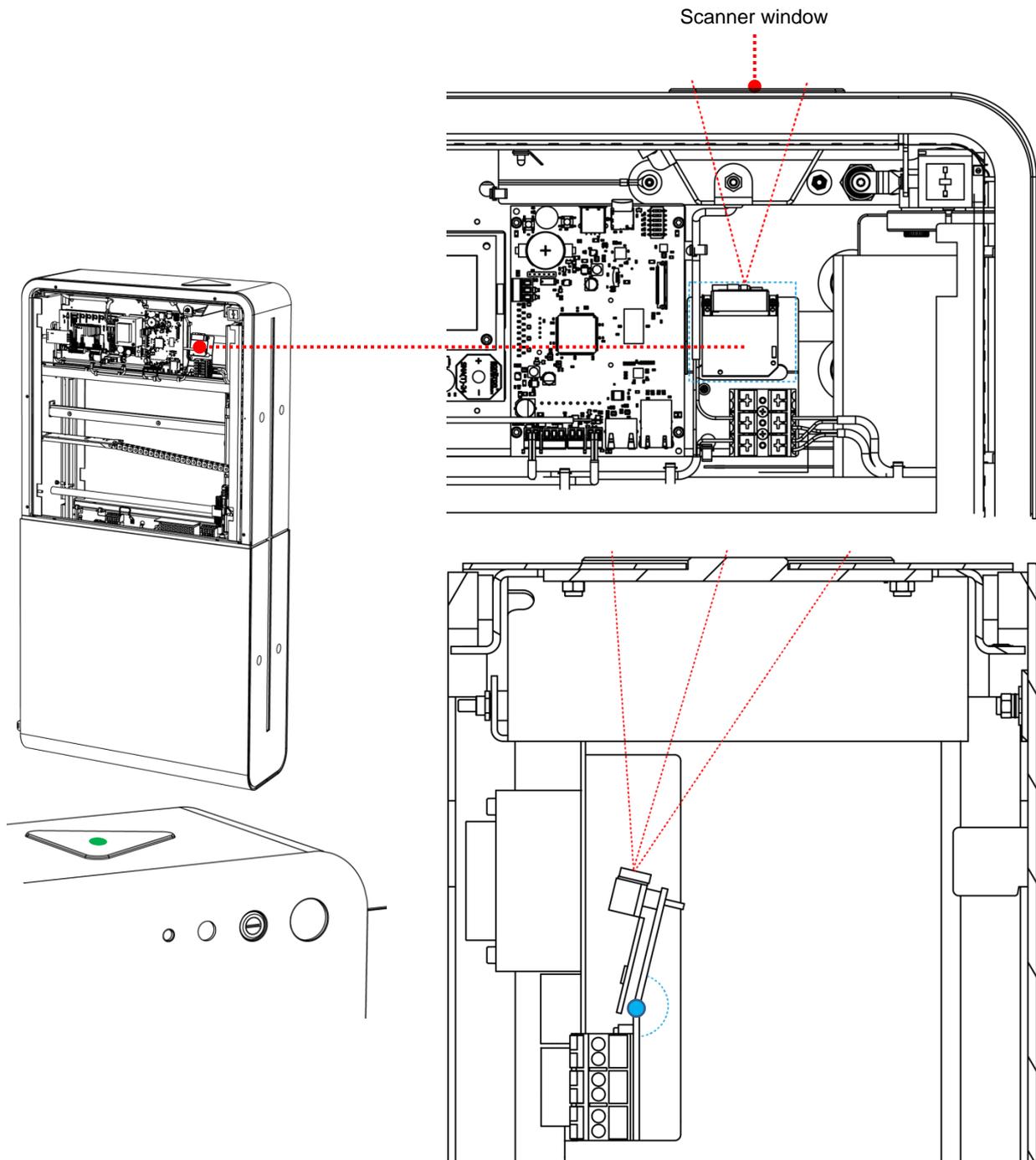
In SigmaGate the radar is located behind the service hatch. See section 5.2.19 for instructions of how to remove the hatch.



## 5.7 Adjusting scanner

When using the scanner to trigger the gate, the gate opens when a valid barcode is scanned.

Scan with a valid receipt and a green light dot will appear. This dot should be in the center of the scanner window. If the angle of scanner needs to be adjusted, bend the scanner bracket in the position marked blue.



## 5.8 Configuration of GateMaster 2.0

GateMaster 2.0 CPU is configured from the factory via the micro SD card which is placed on the GateMaster 2.0 inside of the SigmaGate, refer to chapter 5.11. Configuration is mainly on the micro SD card that is loaded at startup.

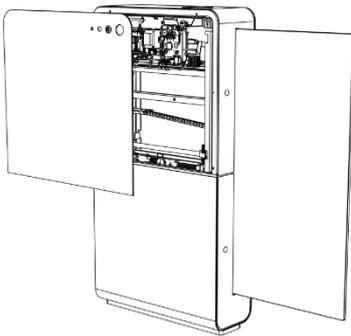
Configuration of the micro SD card is made by plugging the card to a computer.

The software is the same in all SigmaGates. It is only the configuration that may differ.

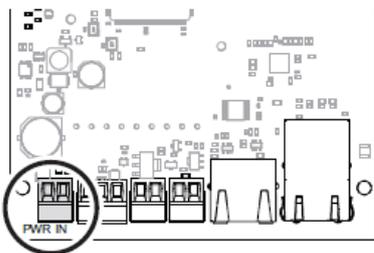
### Note

*It is also possible to make settings via DIP switches see chapter 5.10.*

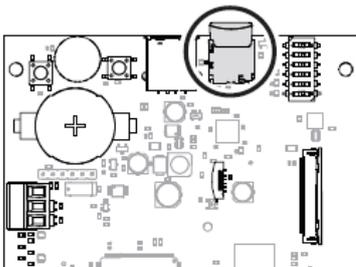
Follow these steps to configure the micro SD card on a computer.



- 1 Remove the service hatch on the SigmaGate.

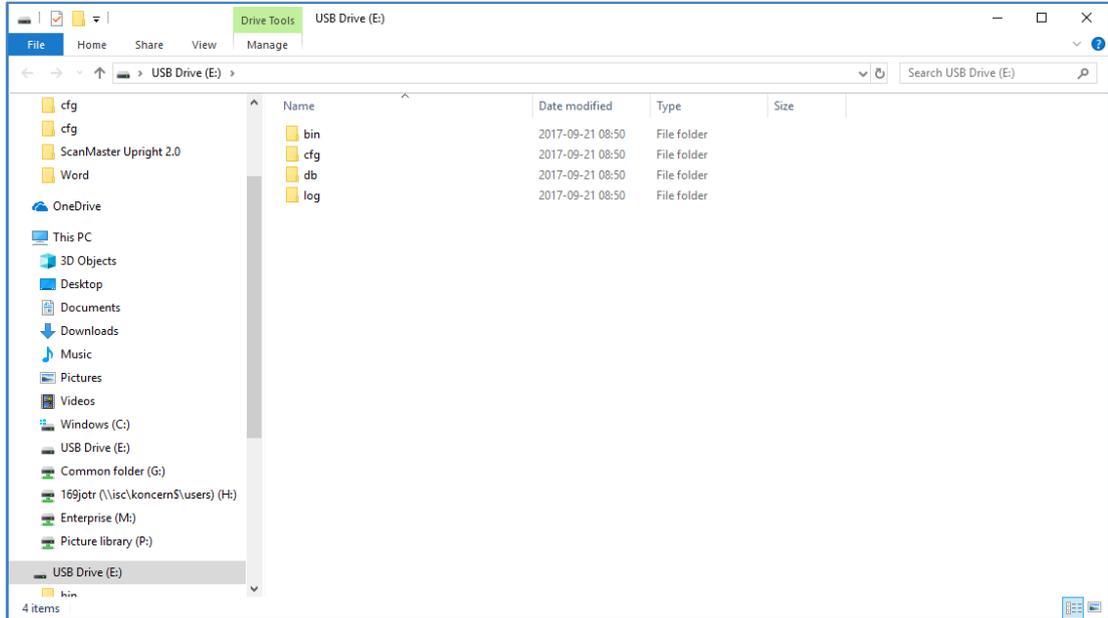


- 2 Disconnect the 12V power supply cable to cut the power.



- 3 Remove the micro SD card placed at the GateMaster and plug it into a computer.

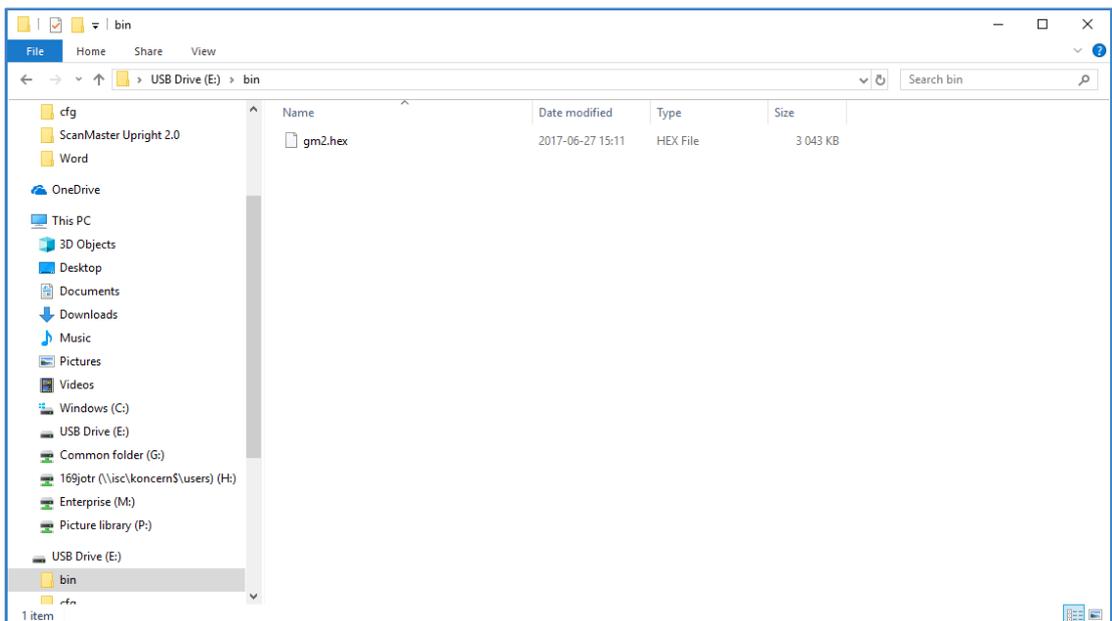
- 4 Access the folders in the micro SD card. The micro SD card has following folders:



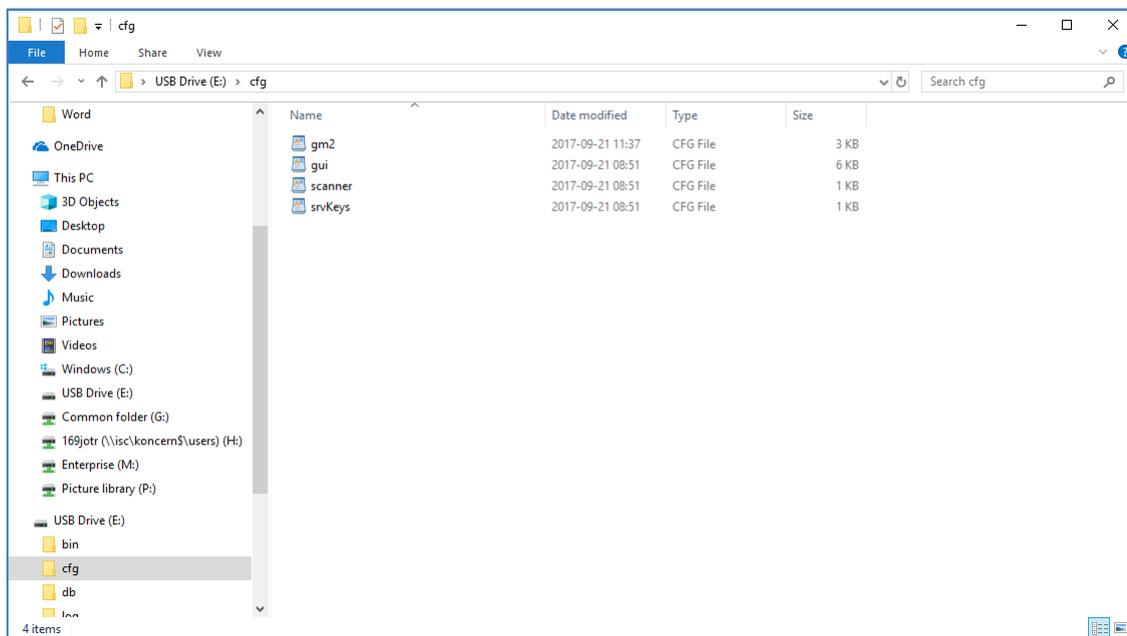
**Note**

*It is important that these folders are located as above (directly at the micro SD card) to be correctly loaded to the SigmaGate!*

- 5 To update the software version replace the gm2.hex file placed in the bin folder.

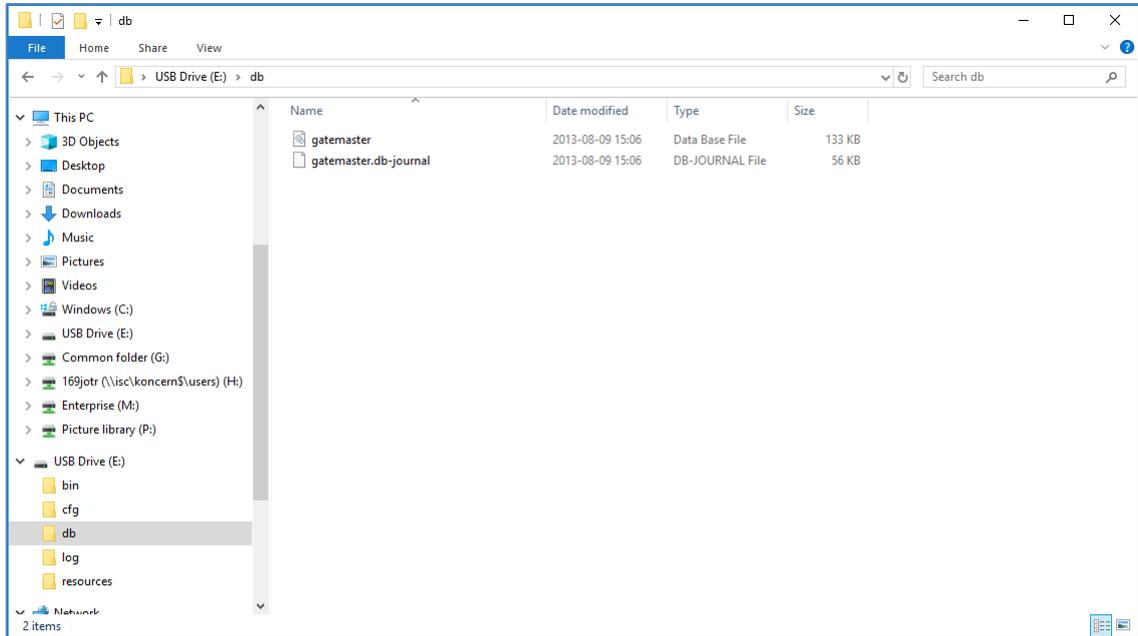


- To update the store configuration, go to cfg folder. The four following files manage the configuration:

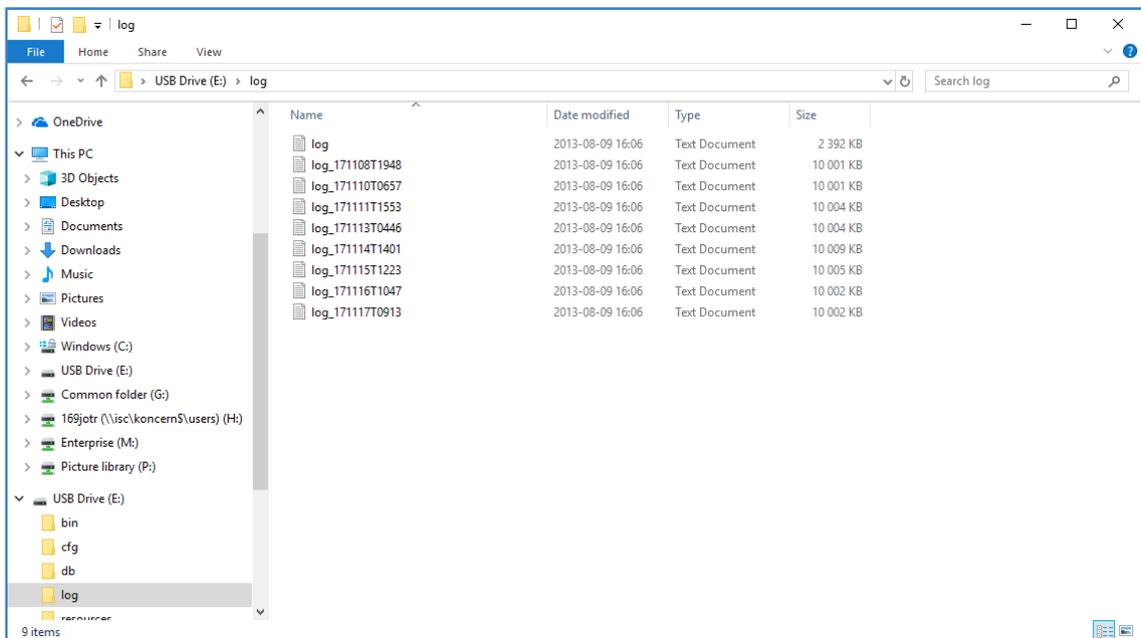


- In the gm2.cfg file the IP address, Gateway, Barcode validation settings etc. is set
- The gui.cfg file is not applicable for SigmaGate
- In the scanner.cfg file the scanner settings are made
- In the srvKeys.cfg file the service keys are added to the store

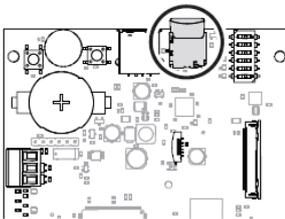
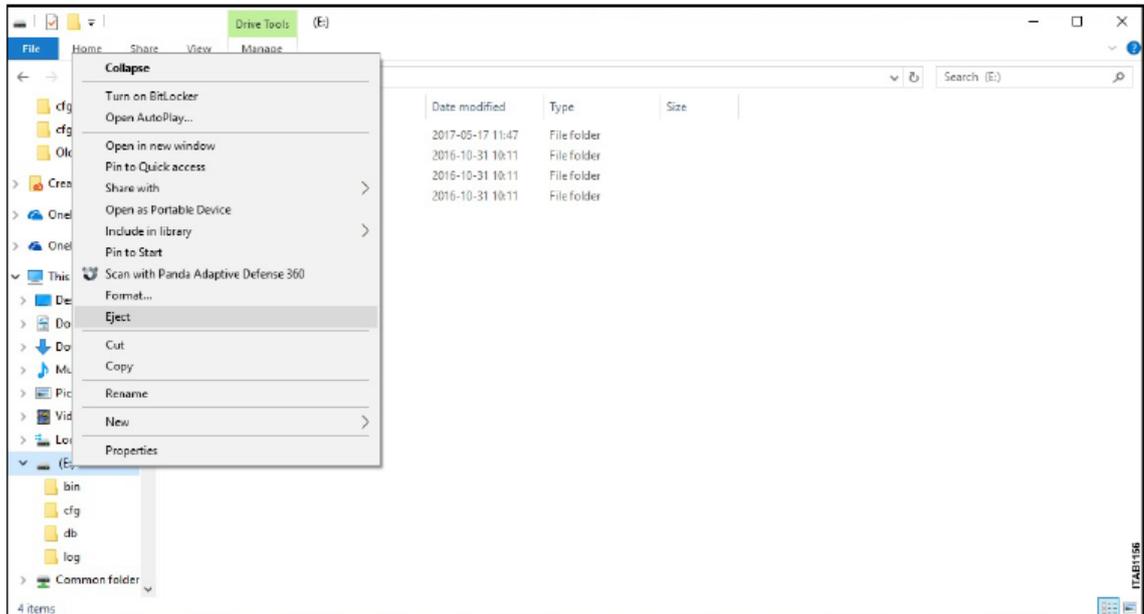
7 In the db folder the database is located.



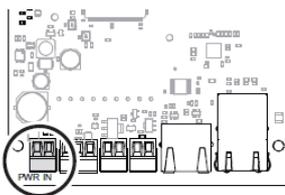
8 In the log folder the log files are located.



- 9 When all settings have been done, eject the micro SD card from the computer.

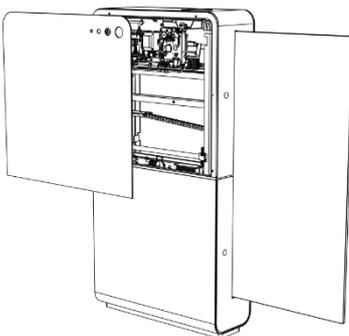


- 10 Put the Micro SD card back to the GateMaster board.



- 11 Connect the 12V power supply cable.

The scanner unit will now start up (LED strip flashes green) and load the configuration from the micro SD card. Scanner unit will then restart, and the scanner will beep and start up shining with a white light.



- 12 Fasten the service hatch.

## 5.9 LED indicators GateMaster 2.0

When power is connected to GateMaster 2.0, the LED strip on it will start flashing, indicating that configuration is loading. The scanner unit will thereafter restart, the scanner will make a “blip sound” and lighten up with white light. The scanner unit is now ready to use.

If the two LED lights in the scanner shines with a steady white light everything should work properly.

If the LED strip is flashing red, there is a malfunction, i.e. that there is a fault in the system. See how to handle red flashing LED strip, refer to chapter 9.2.

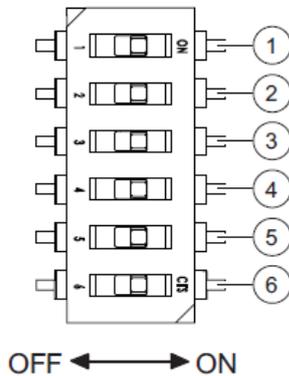
-  1
-  2
-  3
-  4
-  5
-  6
-  7
-  8
-  9
-  10

- 1. ALIVE, flashes during operation to indicate application is alive.
- 2. OPEN, activated when gate opens.
- 3. SERVICE MODE, indicates that service mode is active.
- 4. SERVICE MODE IP, indicates that service mode IP address is active.
- 5. POS SOCKET, indicates that any POS socket has a connection.
- 6. NOT USED/FREE.
- 7. GATECOM ERROR, indicates GateCom error.
- 8. ETHERNET ERROR, indicates no ethernet connection.
- 9. RTC BATTERY LOW, indicates RTC battery low level.
- 10. SCANNER ERROR, indicates that either RS232 or USB scanner is operable.



- 11. POWER SUPPLY CONNECTED, glows green when the power supply is switched on/ connected.
- 12. GATECOM CONNECTED, flashes green when GateCom is connected.

## 5.10 DIP-switches GateMaster 2.0



### 1. Buzzer on/off

Turns on/off the alarm sound

### 2. Ethernet required

If Ethernet required is set to ON an Ethernet cable needs to be connected to the GateMaster 2.0. If the switch is ON and no cable is connected or if something is defective with the cable connection the LED #8 will glow red and the led strip will flash red. If the cable is properly connected LED #8 will not glow. If the switch is set to OFF no Ethernet cable is required. The LED #8 will glow red, but the scanner will start up anyway. If Ethernet cable is connected when switch set to OFF the connection will still work and LED #8 will not glow.

### 3. Service Mode

Sets the GateMaster into Service Mode to be able to configure the GateMaster manually by using barcodes instead of using the SCO service tool. When the GateMaster is set to Service Mode the barcodes to open the gate will not work (service barcode or store receipts).

### 4. Service IP (192.168.20.200)

When Service IP is ON the GateMaster 2.0 will get the fixed IP address 192.168.20.200.

### 5. GateCOM required

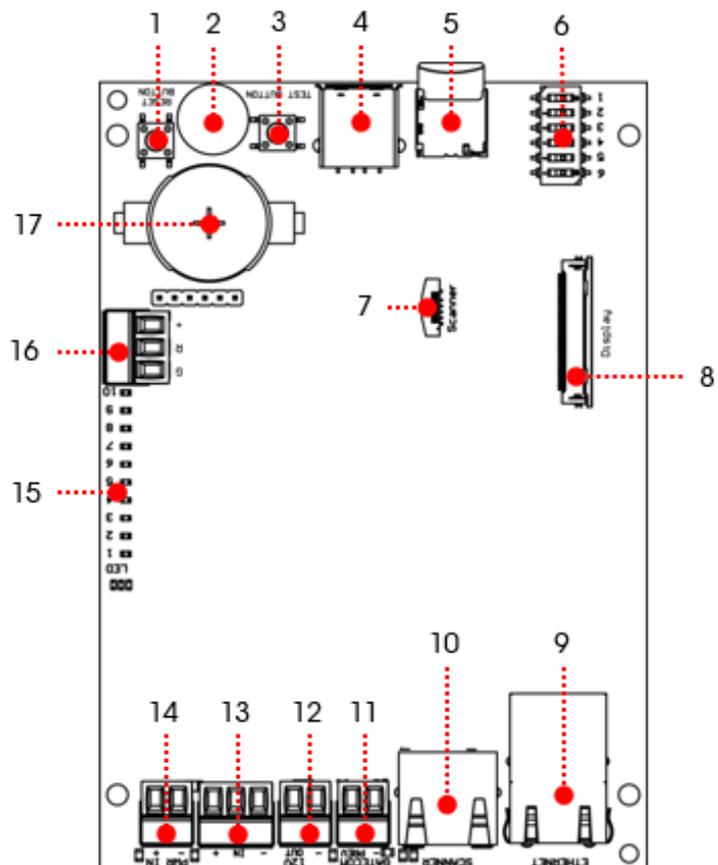
If GateCOM required is set to ON a GateCOM cable needs to be connected to the GateMaster 2.0. If the switch is ON and no cable is connected or if something is defective with the cable connection LED #7 will glow red and the LED strip will flash red. If the cable is properly connected LED #7 will not glow and the scanner will work properly. If the switch is set to OFF no GateCOM cable is required but the LED #7 will glow red. If GateCOM cable is connected when switch is set to OFF the connection will still work even if LED #7 will glow.

### 6. Display on/off

Turns ON/OFF the display. The display is not applicable for SigmaGate. The display is recommended to be set to OFF.

## 5.11 Overview GateMaster 2.0

1. **Reset button** - Press reset to reboot the GateMaster 2.0
2. **Buzzer** - Alarms when an invalid receipt is scanned, or if micro SD card is missing.
3. **Test button** - Gates open when this button is pressed.
4. **USB** - For Scanner if used.
5. **Micro SD Card** - Contains the configuration file from the factory.
6. **DIP Switches** - See chapter 5.11 *DIP-switches GateMaster 2.0*.
7. **Connection for Scanner** - With flat cable
8. **Connection for Display** - Not applicable for SigmaGate.
9. **Connection of Ethernet cable** - If POS integrated system.
10. **Rj45 connection** - Ability to connect scanner with rj45 sending rs232 protocol.
11. **Connection of GateCOM Cable** - To the gate.
12. **12V OUT** - Possibility to get 12V, max 500mA in this connection.
13. **+IN- 12V -NPN connection** - Possibility to connect a sensor.
14. **Power In** - 12V DC
15. **LEDs** - See chapter 5.10 LED indicators GateMaster 2.0.
16. **Connection of LED strip** - Flashes green (valid receipt) or red (invalid receipt) during scanning of receipt.
17. **Battery** - Ensures the memory of GateMaster 2.0's time and date is kept in case of power loss.



## 6 MMI – Man Machine Interface

### 6.1 User interface – Potentiometers

Potentiometer	Colour	Function	Time	Description
1.  DELAY/SCO	Black	<b>NORMAL OPENING</b>	0 to 10 s	DELAY: Adjusts the time opening delay when gate has been triggered to open.
		<b>SCO FUNCTION CLOSE</b>	0 to 8 s	SCO: Adjusts the time until the gate closes after receiving a closing signal from the photoelectric cells.
2.  WRONG WAY	Red	<b>WRONG WAY</b>	70ms to 2 s	Adjusts the time the photoelectric cells will be inactivated and exit the wrong way is possible.
3.  SECURE/SCO	Red	<b>NORMAL SECURE</b>	2 to 10 s	Adjusts the delay time of the gate to be operational after the secure sensor has stopped triggering.
		<b>SCO ULTIMATE TIME-OUT</b>	0 to 32 s	SCO: Adjusts the ultimate time out for the gate to close if no signal has been received from the local photoelectric cells to close.
4.  PANIC FORCE	Black	<b>PANIC FORCE</b>	40-60 N	Adjusts the force required to push the gates apart.

#### Potentiometers

If turned anti clock wise = decrease, min-value

If turned clock wise = increase, max-value

## 6.2 User interface – LED diodes

### LED diodes general:

- Steady light = Everything OK
- Blinking light = Malfunction. There is a fault in the system (it is normal for the light to blink every time the function of the light is triggered)
- No light = Function disabled

LED light and Test button	Colour	Function	Description
 TEST	Black button	<b>TEST</b>	Push the button to test the gate when powered up.
 OPERATE	Blue	<b>OPERATE</b>	Indicates power to the gate with the motor enabled. When the diode flashes the key switch is OFF or out of function.
 N/A	Green	<b>LED</b>	2s signal in SCO mode for scanner LED diode.
 N/A	Green	<b>MOTOR</b>	Indicates power to the motor to open/close.
 N/A	Green	<b>N/A</b>	Not applicable for SigmaGate.
 N/A	Red	<b>ALARM</b>	Indicates alarm.
 N/A	Green	<b>NEXT GATE</b>	Indicates communication to Next Gate in a GateCOM family.
 N/A	Green	<b>PREVIOUS GATE</b>	Indicates communication to Previous Gate in a GateCOM family.
 N/A	Green	<b>SALOON GATE</b>	Indicates communication to Saloon Gate in a GateCOM family.
 N/A	Green	<b>FRONT OPEN</b>	Indicates received opening signal.
 N/A	Green	<b>REAR CLOSE</b>	Indicates received closing signal.
 N/A	Green	<b>OPEN NEXT/SCO CLOSE</b>	Indicates received opening signal for the Next Gate or closing signal for SCO gate.
 N/A	Green	<b>CLEANING</b>	Indicates cleaning mode activated.
 N/A	Red	<b>MPB</b>	Indicates mechanical panic breakout activated.

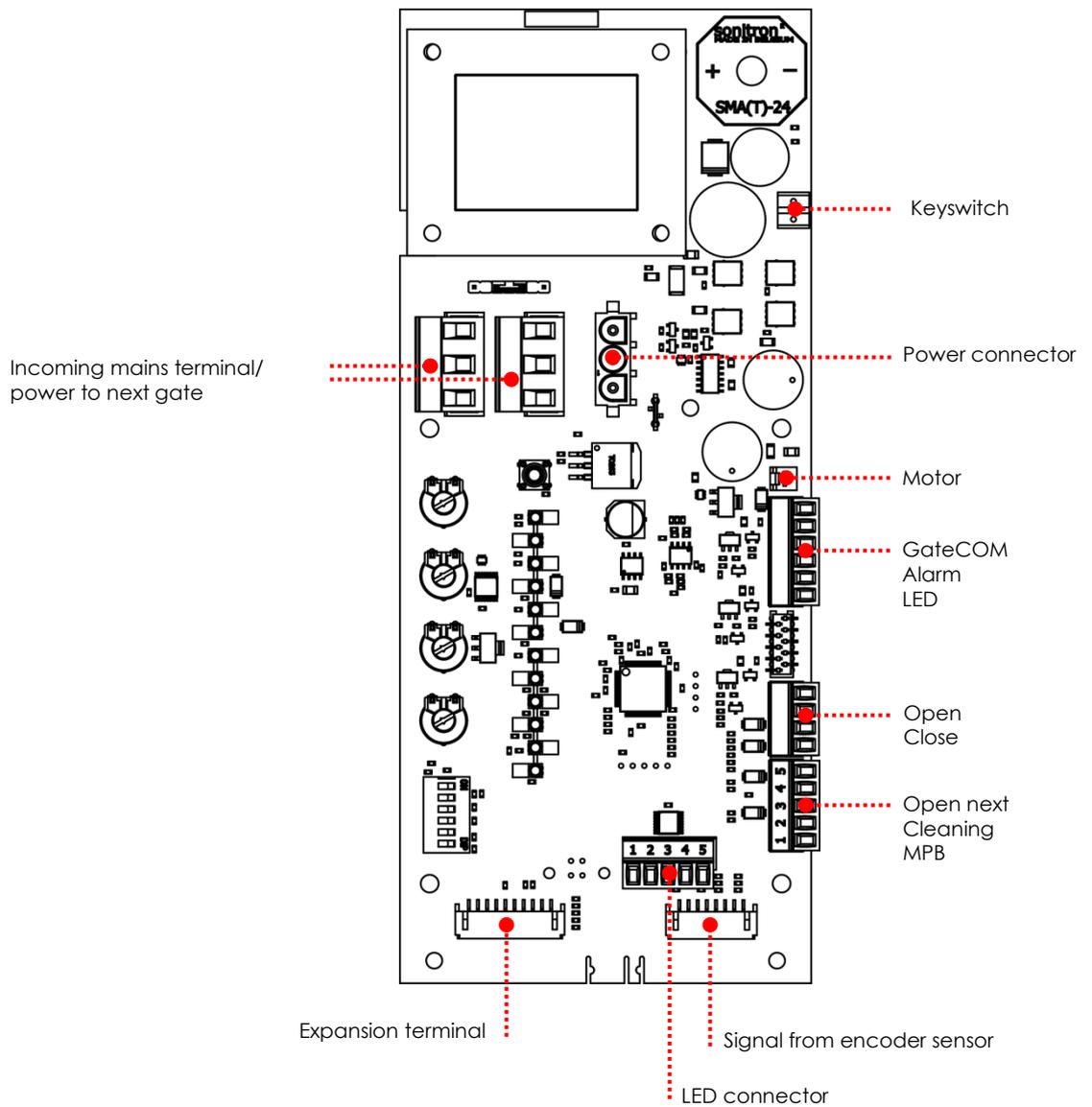
## 6.3 User interface – DIP switches

Table below shows different functions to be set by dip switches.

Table 1

DIP SWITCH		Nr	Function	Switch OFF	Switch ON
	1.	1	ALARM	OFF	ON
	2.	2	DIRECTION	LEFT	RIGHT
	3.	3	ALARM TIME (5 s/10 s)	5 sec	10 sec
	4.	4	GATE SET UP	<b>NORMAL</b>	<b>SCO</b>
	5.	5	WRONG WAY	OFF	ON
	6.	6	N/A	N/A	N/A

## 6.4 Main Board – Connectors



## 6.5 Changing glass door LED colours

The LED colours in glass doors can be set to green, red or blue.

There are different functions for the gate in *Normal mode* (Entrance gate) and *SCO mode* (Exit gate). If the gate is in Normal mode socket #3-5 will be used. If the gate is in SCO mode socket #2-5 will be used (see table Normal mode and SCO mode below). The number on the socket 1-5 is labelled on the MMI board. To get the colour for a specific function connect the LED cable (colour green, red or blue) in the socket for that function. Black cable is 12V and shall always be connected to socket #5.

To change colour just change the wires to the socket with the wanted function.

### Colour of the LED light cable

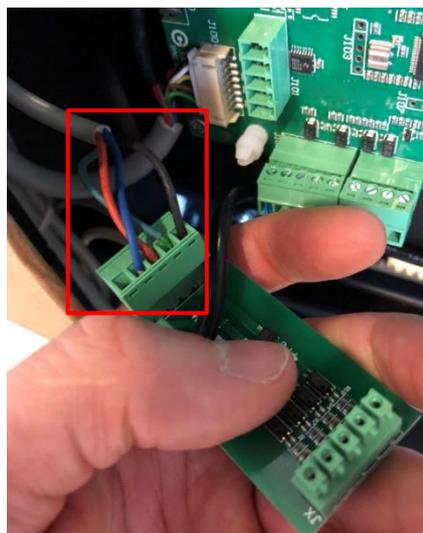
Cable colour	Function/LED colour
Black	12V
Green	Green
Red	Red
Blue	Blue

### Normal Mode

Number on socket	Function
1	No Function
2	No Function
3	Alarm
4	Normal stage
5	12V

### SCO Mode

Number on socket	Function
1	No Function
2	Closed position
3	Closing and Alarm
4	When opening
5	12V



Socket for LED cable

If the same colour wants on two functions, just add a cable between the two functions in the socket.

## 7 Technical information

<b>Ambient temperature</b> (when in use)	Between +5°C and +35°C
<b>Ambient humidity</b> (when in use)	Between 30% and 80%
<b>Measurements</b> (D/W/H)	Sigmagate Standard: 200mm/ 565mm/ 1105mm Sigmagate MPB: 305mm/ 565mm/ 1125mm
<b>Weight</b>	SigmaGate standard: 87 kg SigmaGate MPB: 96 kg
<b>Frequency</b>	50/60 Hz
<b>Voltage</b>	220V-240V 1N~
<b>Power standby</b>	60 W (1 gate unit)
<b>IP-classification</b>	IP20
<b>Sound pressure emission</b>	LpA ≤ 70 dB(A)
<b>Panic Breakout force (SigmaGate MPB)</b>	Default: 90N
<b>Motor</b> Voltage Power Rating Rated Current	24 V/DC 20 W 0.9 A
<b>PEC (Photoelectric Cell)</b> Voltage Output Switching Capacity Power Input	10-30 V/DC NPN 100 mA 25 mA
<b>Radar Movement Detector</b> Voltage Max Power Transmission Frequency Transmission Power Output	12-24 V/DC 60 mA 24,175 GHz < 5 mW/cm <sup>2</sup> NPN

## 8 Maintenance

### **⚠ WARNING**

**Always make sure there is no power supply to the SigmaGate during maintenance or service.**

**Installation of hardware or other work with the cabling by turning off the main switch.**

**Danger to life!**

**External power supply is always connected.**

**Make the SigmaGate powerless by disconnecting all main distribution blocks.**

### **⚠ CAUTION**

**Perform maintenance and service regularly.**

### 8.1 Periodic maintenance

To maintain satisfactory functionality of the SigmaGate when used under normal environmental and working conditions, maintenance must be carefully performed.

All attendance and maintenance described in this document should be carried out by store personnel. Other service and repair should be performed by authorized technicians.

ITAB recommends that maintenance work is scheduled, to ensure high operation reliability, thereby reduce the risk of unnecessary disruption in the store. Scheduled maintenance means that the SigmaGate is subject to continuous review in the form of functional testing and thorough cleaning.

For questions about, and service or repair of, SigmaGate, contact ITAB Shop Products AB refer to chapter 1.6.

#### **Note**

*Service shall only be performed by authorized ITAB personnel.*

---

## 8.2 Maintenance Schedule

Maintenance	Daily	Weekly	Monthly
Perform a visual check of the SigmaGate.	x		
Clean all sheet metal surfaces with a damp cloth and, if necessary, water containing a standard detergent. Be careful, because the SigmaGate contains electrical components.			x
Clean the gate doors using a soft cloth and soapy water.			x

## 9 Troubleshooting

### ⚠ WARNING

Always make sure there is no power supply to the SigmaGate during maintenance or service.

Installation of hardware or other work with the cabling by turning off the main switch.

**Danger to life!**

External power supply is always connected.

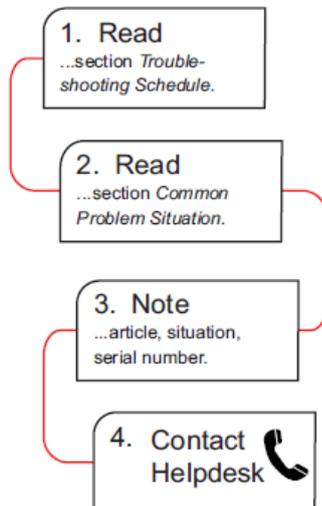
Make the SigmaGate powerless by disconnecting all main distribution blocks.

### ⚠ CAUTION

Do not use if repair or adjustment is necessary.

### 9.1 Before Contacting Helpdesk

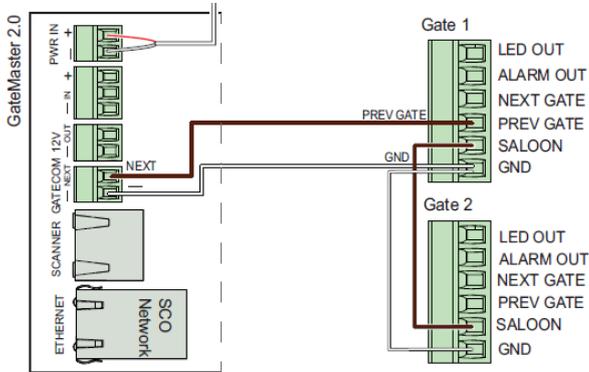
Before contacting Helpdesk, carry out the following steps (see picture to the left):



## 9.2 Troubleshooting Schedule

Before reading the common questions, perform the following steps:

- Gates do not open:
  1. Check that the motor key switch is turned ON.
  2. Check connections of GateCOM and triggering devices. Refer to chapter 5.2. For ScanMaster see below. Control the LED signals on the main control board when triggering is activated. See chapter 5.10 for LED signals. If Secure Function is used, check if the LED for REAR CLOSE is activated. If so, make sure the Secure Function radars is working properly and without interfering objects.
- Gates do not close:
  1. Check that the motor key switch is turned ON.
  2. Check that CLEANING MODE is not activated.
  3. Check that the photoelectric cells are pointing directly at the corresponding reflex. See chapter 5.4 for adjustment of PEC.
  4. If the gates are equipped with Mechanical Panic Breakout, check that the gates are in normal position.
  5. 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:
  1. Check that the motor key switch is turned ON.
  2. Check that the photoelectric cells are pointing directly at the corresponding reflex. See chapter 5.4 for adjustment of PEC.
  3. If Secure Function is used, make sure the Secure Function sensors are working properly and without interfering objects.
- The gates do not behave as intended:
  1. Check the configuration of the gates concerning MASTER & SLAVE according to chapter 4.7.1.
  2. Check that the photoelectric cells are pointing directly at the corresponding reflex. See chapter 5.4 for adjustment of PEC.
- If the problem persists, contact Helpdesk.



SigmaGate with ScanMaster

1. Check status for the LED on the GateMaster unit according to chapter 5.10.
2. Press the TEST BUTTON to ensure the gate opens. If not, check the GateCOM connection.
3. If the scanner does not start up within one minute when connecting the power supply, press the RESET BUTTON at the GateMaster 2.0 to restart. Refer to chapter 5.2.21. The scanner has two LED's that will shine with white light when the scanner is running correctly.
4. If the LED-strip inside the scanner housing flashes red longer than one minute check the following:
  - Cables are correctly connected.
  - Micro SD card is correctly connected.
  - DIP switches are correctly configured, refer to chapter 5.11.
  - Press the RESET BUTTON for the GateMaster 2.0 to restart. Refer to chapter 5.2.21. The scanner has two LED's that will shine with white light when the scanner is running correctly.
5. If the problem persists, contact Helpdesk.

## 9.3 Common questions

How do I test the scanner?	<p>Use the service barcode and scan the barcode on the scanner. The exit gates will open if the scanner is correctly installed and configured.</p> <p>Press the TEST BUTTON at the GateMaster 2.0. The exit gates will get an opening signal and open the gates.</p>
How do I reset the scanner?	See chapter 4.3 and 5.2.21 for instructions.
How do I adjust the breakout force on the Mechanical Panic Breakout function?	See chapter 5.5 for location of the panic adjustment screw. Always make sure to follow national regulations for maximum panic break out force.
How do I change a broken glass door?	<p>Remove top side plate and the support wheels that fixed the glass door.</p> <p>Then remove the three nuts (marked in green) completely and remove the glass door by pushing it pass the three bolts, (see chapter 5.3 for instructions of how to adjust the glass doors).</p> <p>To mount a new glass door, do the reverse way.</p> <p><b>Note</b> <i>Do not forget to attach the plastic bushing and the rubber damper on each bolt before mounting the glass door.</i></p>
How do I replace the main board?	Loosen all connectors connected to the main board. Then loose the screws holding the main board and replace it to a new one. Connect all connectors back again and adjust the dip switches and potentiometers according to the gate settings.