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1. Revision Control

Revision	Date	Reviwer	History
01	02/03/2022.	<ul style="list-style-type: none"> • Ezequiel Kellermann • Nicholas Hahn • Igor Cunha • Leandro Dandolini 	<ul style="list-style-type: none"> • New dGate manual.
02	11/17/2023.	<ul style="list-style-type: none"> • Leandro Dandolini • Cledisson Escobar • Ezequiel Kellermann 	<ul style="list-style-type: none"> • Sensor cross-referencing; • Dual sensors; • Identification of MCP connectors.
03	02/29/2024.	<ul style="list-style-type: none"> • Leandro Dandolini • Cledisson Escobar • Ezequiel Kellermann • Peter Elbling 	<ul style="list-style-type: none"> • Dimensions in millimeters, inches, and tolerances for key measurements; • Detailed adjustment of sensor angles; • Standardization of terms, corrections, and new details; • New packaging: drawings and unpacking procedures.


2. Safety Instructions

2.1 Symbols

You will find the symbols below in the Product Manual. They indicate important Attention and Caution warnings related to the safety, installation, operation, and maintenance of the equipment.

 **ATTENTION!**: Describes something important that must be known by qualified technical professionals and users.

 **CAUTION - RISK OF INJURY!**: Describes situations that may lead to injuries and/or harm.

 **ATTENTION - RISK OF DEATH!**: Describes high-risk situations that could lead to death. These cases are related to interacting with the internal parts of the equipment, and it is advised to use a qualified technical professional..


Read and keep the instructions in this manual: Read and keep this Product Manual for future reference. Carefully read all safety, unpacking, installation, operation, and maintenance instructions before operating this equipment.

Follow the instructions and warnings of attention and caution: Follow all installation, operation/use, and maintenance instructions. Pay attention to all attention, caution, and precaution notices in the operating instructions, as well as those attached to the equipment. The attention and caution warnings are essential for the protection of the user and the qualified technical professional, as well as for the longevity of the equipment.

2.2 Terminology

The terms defined below are used in this document. The definitions provided are based on those found in safety standards:

Qualified Technical Professional: The term qualified technical professional refers to individuals trained and certified by Digicon who are authorized to install, replace, or provide technical support for its equipment. It is recommended that the qualified technical professional use their experience, technical skills, and best practices to avoid potential injuries to themselves and others, due to risks present in restricted access areas. This approach should be adopted to mitigate risks and also to extend the equipment's lifespan.

 **ATTENTION!:** Installation and/or maintenance performed by unqualified technicians may void the equipment's warranty.

User : The term user applies to individuals who are not qualified technical professionals and operate the equipment.

2.3 Risks

The following safety information and warnings are provided to protect you from injury and prevent damage to the equipment. Children and individuals requiring assistance may be unable to assess the risks associated with using the equipment, potentially injuring themselves or putting themselves in life-threatening situations. Therefore, they should use the equipment under adult supervision. Special attention should also be given to animals that are near the equipment.

Below, we will mention risks to be aware of in various situations:

2.3.1 Risks During Equipment Unpacking

 **ATTENTION!:**

- Always use the appropriate tools.
- Always use the necessary PPE (gloves, safety shoes, and goggles).

 **CAUTION - RISK OF INJURY!**

- Be careful when handling the equipment packaging, as it is made of wood and may splinter.
- The packaging is heavy; ensure that it does not tip over, as it may cause injury and/or damage to the equipment
- Some materials used in the construction of the packaging may cause cuts and injuries.
- Some materials used in the construction of the packaging may cause cuts and injuries.
- To remove the screws securing the equipment to the base of the packaging, the side access doors must be removed. Handle with care, placing them in a safe location.
- Be cautious with your hands and feet when removing the equipment from the base of the packaging and positioning it at the installation site.

2.3.2 Risks During Equipment Installation:

 **ATTENTION!:**

- All installation steps must be performed by a **qualified technical professional**, using appropriate tools and PPE;
- Before turning on the electrical power, perform a detailed inspection of the installation.

 **Use two or more people to move the equipment.**

- Be careful when positioning this equipment at the installation site, as its size and weight can cause injuries;
- Use two or more people to move the equipment.
- During the initial phase of operation, the doors may move. Keep the passage area clear to avoid them colliding with objects and people.

 **DANGER - RISK OF DEATH!**

- This equipment operates with dangerous electrical voltages. To avoid the risk of electric shock, installation must be carried out exclusively by a qualified technical professional;
- Before connecting the equipment to the power grid or performing any procedure, ensure that the electrical power is turned off.

2.3.3 Risks During Equipment Use

 **ATTENTION!:**

- Access control equipment with the dGate operates at energy levels considered safe for most people. However, electronic and magnetic devices may theoretically interfere with the functioning of pacemakers or other implanted medical devices. Most modern pacemakers are designed to be resistant to electromagnetic interference, but caution is always advised.
- Digicon recommends that users with pacemakers or other implanted medical devices consult the pacemaker manufacturer and/or the device user manual for specific guidance on exposure to electromagnetic fields or electronic devices. Additionally, it may be helpful to contact a healthcare professional directly for further guidance on using the dGate with a pacemaker.

 **Caution - Risk of Injury:**

Be careful, this is an access control equipment; the doors may close in certain situations. The impact of the doors with the human body may cause injuries.

 **Caution - Risk of Death!**

Children and individuals requiring assistance should be constantly supervised, as they may be unable to assess the risks associated with using the equipment, potentially injuring themselves or placing themselves in life-threatening situations..

2.3.4 Risks During Equipment Maintenance

 **ATTENTION!:**

- All maintenance steps must be carried out by a qualified technical professional, and appropriate tools and PPE must be used.

 **CAUTION - RISK OF INJURY!:**

- Be careful with your hands and fingers during the maintenance process, as the door movement mechanisms can cause serious injuries.

 **CAUTION - DANGER OF DEATH!:**

- The equipment has several tempered glass parts. Always wear safety glasses and gloves;
- Before performing any procedure, ensure that the electrical power is turned off;
- Failure to follow the above recommendations may result in serious injuries and risk of death.

2.3.5 Risks during the equipment cleaning process

 **ATTENTION!:**

Wear the necessary PPE (gloves and safety glasses) throughout the entire cleaning process.

 **CAUTION - RISK OF INJURY!:**

- Be careful during the cleaning process, as the doors may close in certain situations. The impact of the doors with the human body can cause injuries;
- The side access doors and the top covers are made of glass, so be careful not to apply excessive force while cleaning them;
- In the cleaning chapter of this manual, the appropriate cleaning products for the equipment are listed. Using the correct products protects both the equipment and the skin of the person performing the cleaning.

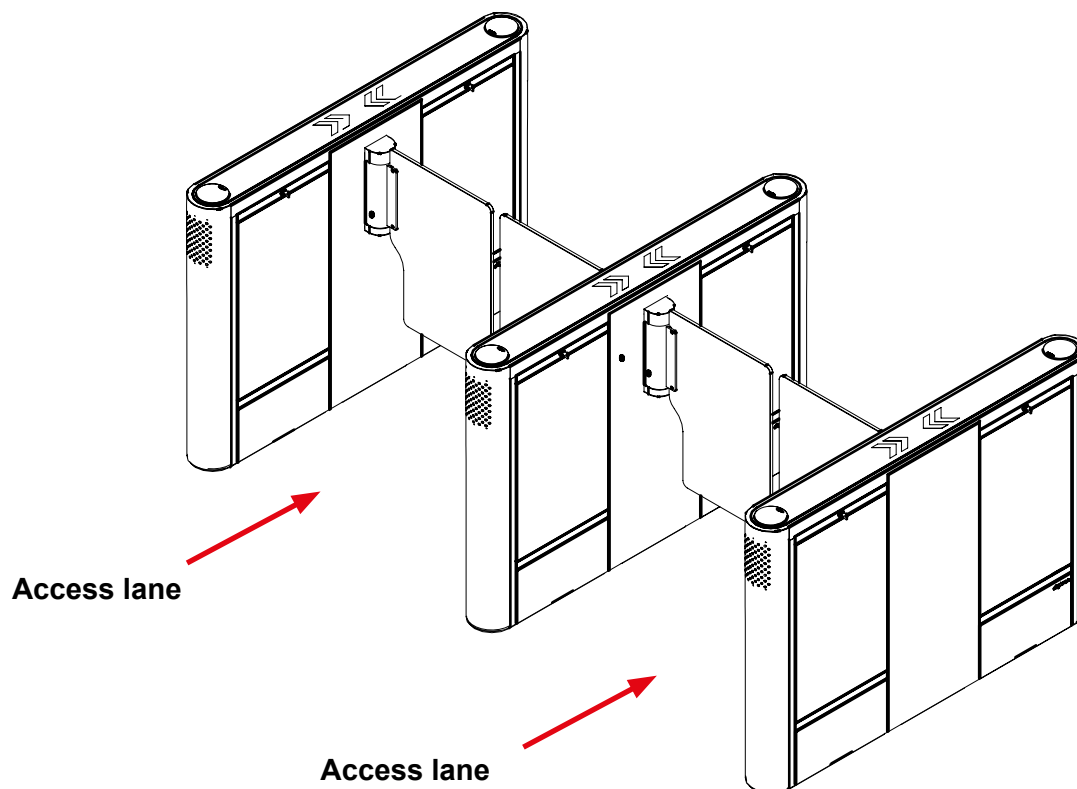
3. Presentation

Digicon is pleased to present the dGate, the perfect solution for access control. Developed after extensive research and hard work by our engineers, it embodies the best in quality, durability, reliability, and design.

The dGate is robust and reliable, designed to last and perform well for many years, whether in commercial buildings, clubs, or hospitals. Besides its strength, it also features a modern appearance that fits any environment.

With the dGate, you can be confident you are choosing a high-quality product that will exceed all expectations and enhance the aesthetics of your space. Digicon has developed this equipment using our years of experience, always focusing on what matters most to our clients.

The dGate can be supplied with access lanes of various widths and door heights. For more information, please consult Digicon.



4. Features of the dGate SW and UW modules

Model SW:

1. The dGate features a motorized system for opening and closing the access doors, which are activated after the identification and authorization of an authorized user. A sensor system is used to detect and prevent unauthorized passage or piggybacking attempts, as well as to ensure the safety of users.
2. Manufactured in high-durability stainless steel. Carbon steel versions with epoxy paint are available upon request.
3. Available models with SW type doors (Swing Doors) in 12mm thick polycarbonate or 10mm thick tempered glass
4. Side doors with key-lock access for entering the equipment, facilitating configuration and maintenance.
5. A specific microprocessed controller that allows configuration of a range of operational parameters to optimize passage flow, asset security, and personal safety.
6. High-performance brushless motors that enable silent and efficient door movement.
7. Configurable acoustic signal (Beep) for access control.
8. Detection System: 10 infrared sensors for passage detection and asset security and user integrity functionalities.
9. Anti-crush system: ensures safety by preventing door movements when sensors detect obstacles, thereby avoiding any risk of crushing users or objects.
10. Anti-fraud system with audible and visual alarms, detecting attempts at piggybacking, reverse passage, and unauthorized entry.
11. Direction control. Allows the following access modes:
 - - Controlled access in both entry and exit directions
 - - Controlled access only in the entry direction, with free or blocked exit
 - Controlled access only in the exit direction, with free or blocked entry
 - Blocked access in both entry and exit directions
 - Free access in both entry and exit directions

12. Emergency opening: automatic door opening through a digital input and manual opening in case of a power failure.
13. Has a specific internal space for integrating access control devices, identification systems (cards, biometric, etc.).
14. Full range power supply (100 to 240V AC).
15. Low energy consumption in standby mode.
16. Upper operation pictogram, optionally expandable with up to two high-brightness RGB LED modules with color control (request desired configuration at the time of purchase).
17. Front orientation pictogram with high-brightness RGB LEDs.
18. Dedicated microcontroller for controlling each motor.
19. Door positioning control monitored by a magnetic encoder, free from mechanical wear.
20. Side doors in glass or, optionally, in stainless steel.
21. Allows installation of proximity readers at the ends.
22. Available with an option for a 2D barcode and QR code reader.
23. Available with an option for a biometric reader.
24. Available with a facial reader, with options including or excluding a temperature sensor.
25. Model available with access lane widths of 520 mm and 920 mm to accommodate people with disabilities (PWD).

Model UW:

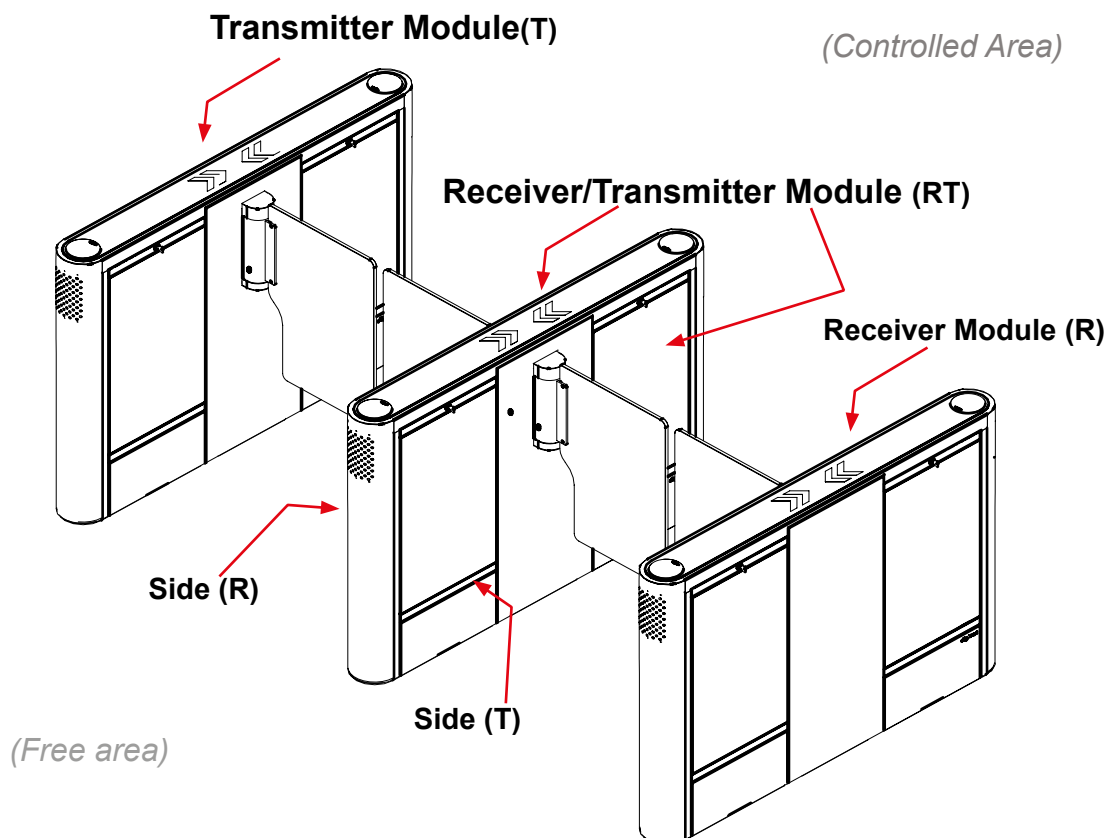
26. All the options above.
27. Option for a high glass door.
28. 10mm thick glass door.
29. Maximum width 920mm.

4.1 Functional Description

The dGate features a motorized system for opening and closing access doors, activated after user identification and access authorization. A sensor system is used to detect and prevent unauthorized passage or piggybacking attempts, also providing user protection. Since the motor does not use a brush set for electrical activation, there is no mechanical wear on electrical contacts, extending the motor's lifespan.


The equipment operates with a brushless (without brushes) permanent magnet motor mechanism.

To form a passage, two modules will always be required. On the right side, observing the passage from the free area to the controlled area, there will be a **Receiver Module**. On the left side, there will necessarily be a **Transmitter Module** or a **Receiver/Transmitter Module**, in the case of multiple passages.



Receiver Module (R): The side that houses the receiving sensors and the electrical panel, which includes: interconnection board, passage control module (MCP), power terminal block, and power supply module.

Transmitter Module (T): The side that houses the transmitting sensors and the interconnection board. All interconnection cables are factory-installed on the Transmitter Module side.

 **ATTENTION!**- For creating a complete layout with more than one passage, there are hybrid modules called RT (Receiver Module + Transmitter Module).

Receiver/Transmitter Module (RT): This module contains both a Receiver side and a Transmitter side. It includes all the components listed in both the R and T modules.

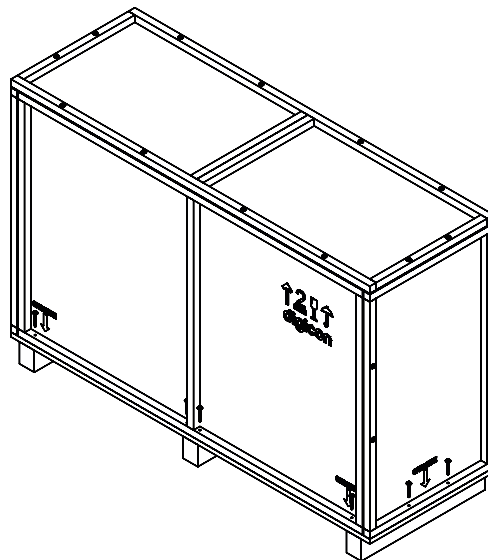
5. Unpacking, Installation, and Electrical Connection

⚠ ATTENTION! - Digicon recommends that only qualified technical professionals install this equipment. The installation must comply with all local standards and regulations.

5.1 Opening the packaging

Since the items in the packaging may vary (depending on the customer's request), it is extremely important to perform a careful visual inspection before starting the installation process.

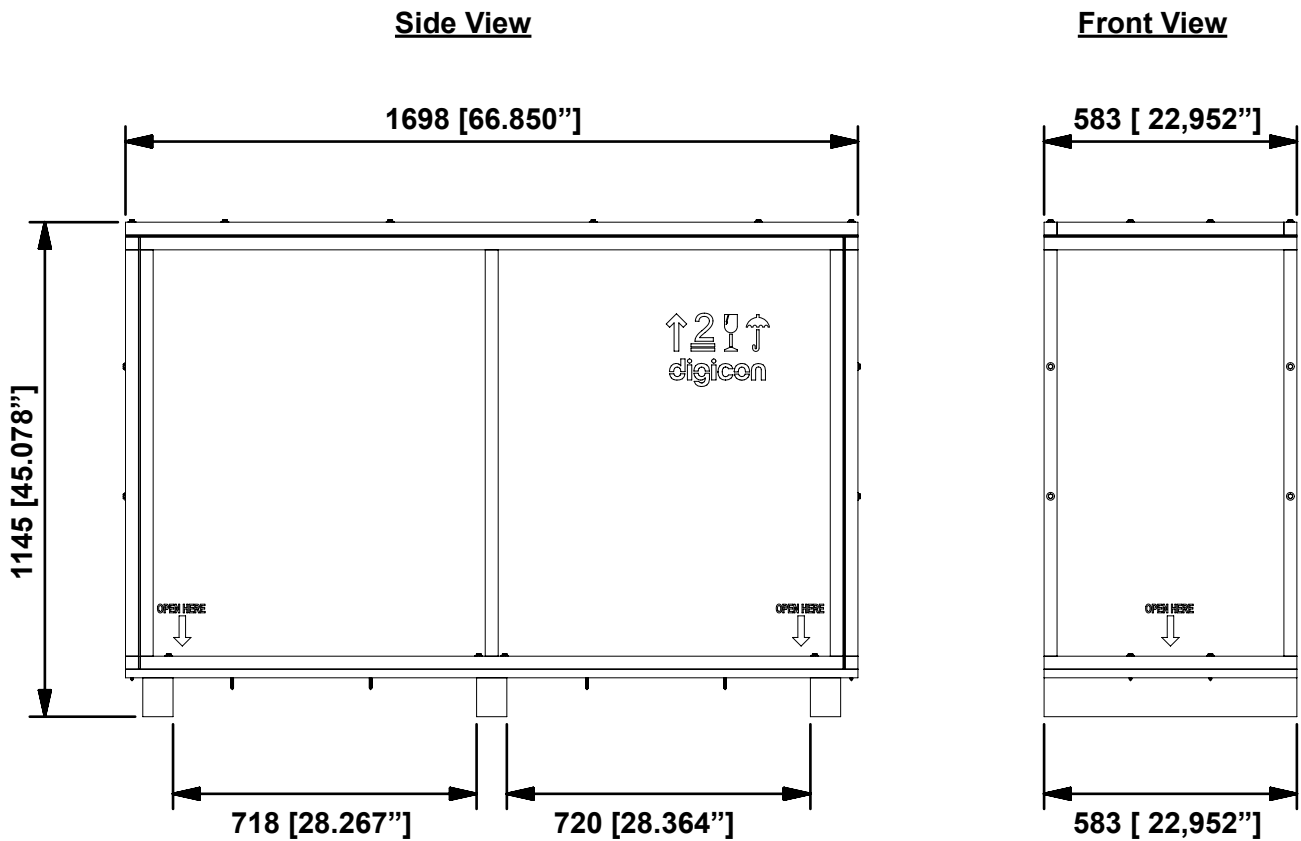
⚠ ATTENTION! - Upon receiving the equipment, check for any damage to the packaging. If there is damage, take photos and send them to the responsible carrier.



⚠ CAUTION - RISK OF INJURY! The packaging, with the equipment inside, is heavy (approximately 140/150kg). To transport it, appropriate lifting equipment is necessary, such as a forklift.

⚠ CAUTION - RISK OF INJURY! Always wear the necessary PPE (gloves, safety shoes, and protective glasses).




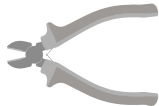
5.1.1 Packaging Dimensions:



⚠ ATTENTION! - The packaging dimensions of the dGate modules are illustrated in millimeters and [inches].

⚠ ATTENTION! - Tolerance of 10mm [0.4"].

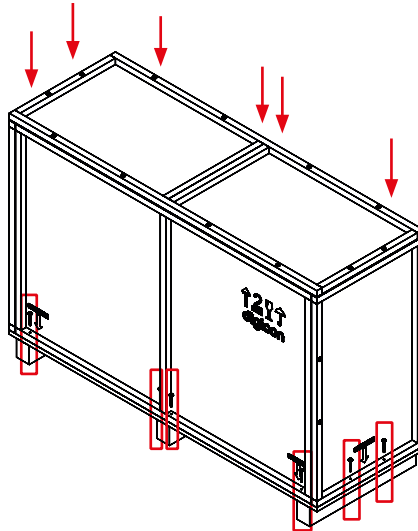
5.1.2 Required Tools:

Medium-sized Phillips screwdriver (for unpacking and opening the protective cover).	Combination wrenches (or ratchet wrenches) of 13mm, and for removing the internal module, two 17mm wrenches are needed.	Protective gloves (PPE):	Cutting pliers
			

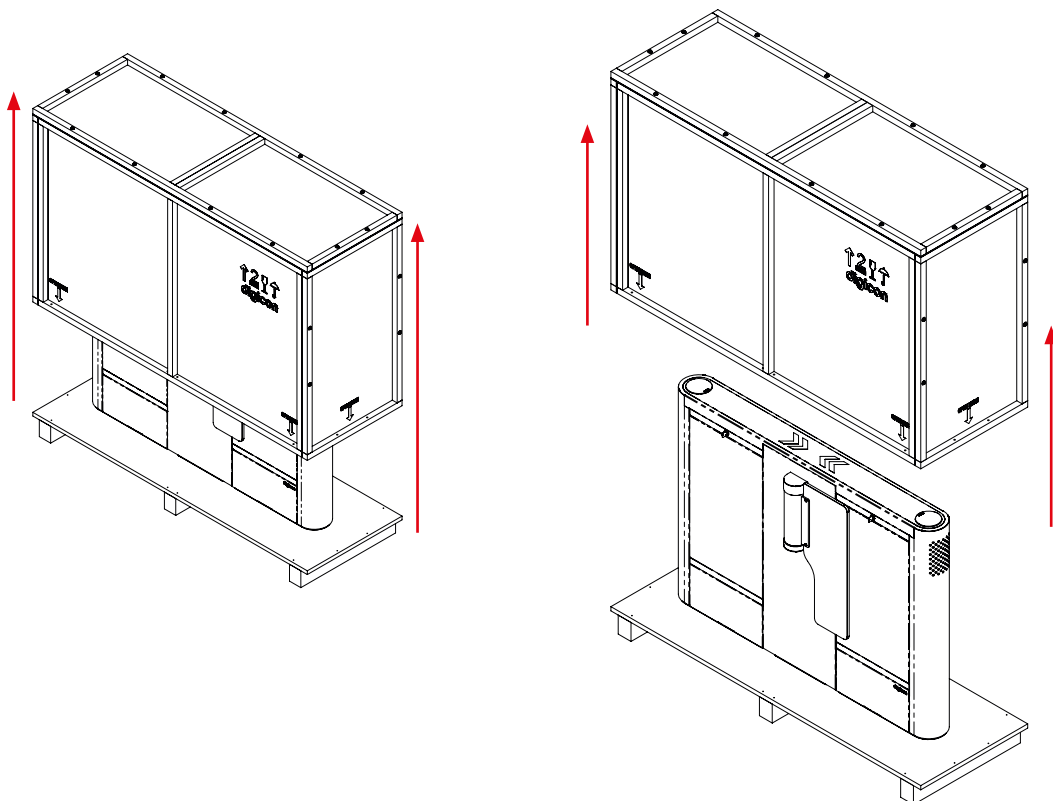
⚠ ATTENTION - RISK OF INJURY! Metal parts of the packaging may cut the person handling it.

5.1.3 Step-by-step Packaging Opening:

Remove the screws on the outer part of the box: four screws on each side, two screws on the front side, and two screws on the back side, totaling 12 hexagonal screws



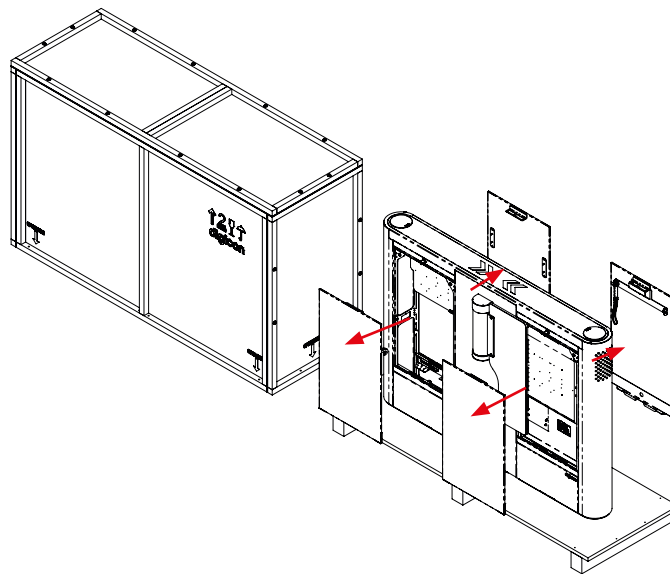
1. Lift the box lid vertically. Ideally, this should be done with two people, lifting it until the lid is above the module.



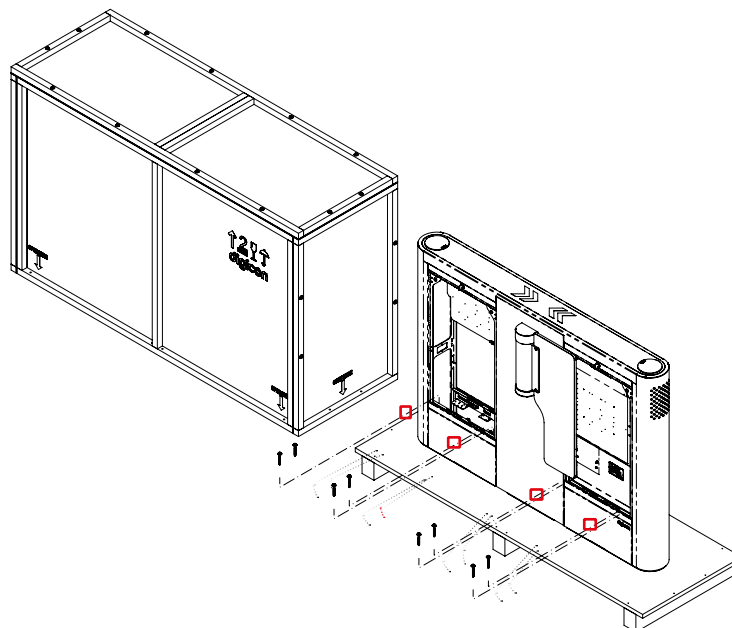
⚠ ATTENTION: After lifting the box lid vertically, carefully remove the plastic wrap and bubble wrap to ensure the equipment's integrity.

2. After removing the lid, the side doors of the module need to be removed to access the screws securing it to the bottom of the packaging (pallet). The keys for the doors are in a package, along with the user guide and information, which are attached to the side of the module.

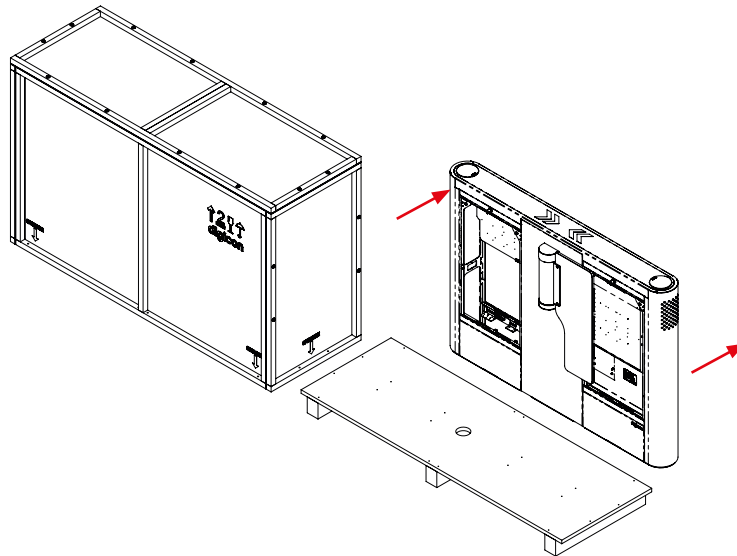
⚠ CAUTION! - The side doors may be made of glass. Handle them with care to avoid breaking them and causing injury to the technician or user. Always place the doors in a safe location.



Remove the 8 screws that secure the module to the pallet (use the two 10mm wrenches).



3. Remove the module from the pallet, reinstall the side doors, and place the module in the desired location.



⚠ CAUTION - RISK OF INJURY!: At least two people are required to move the module.

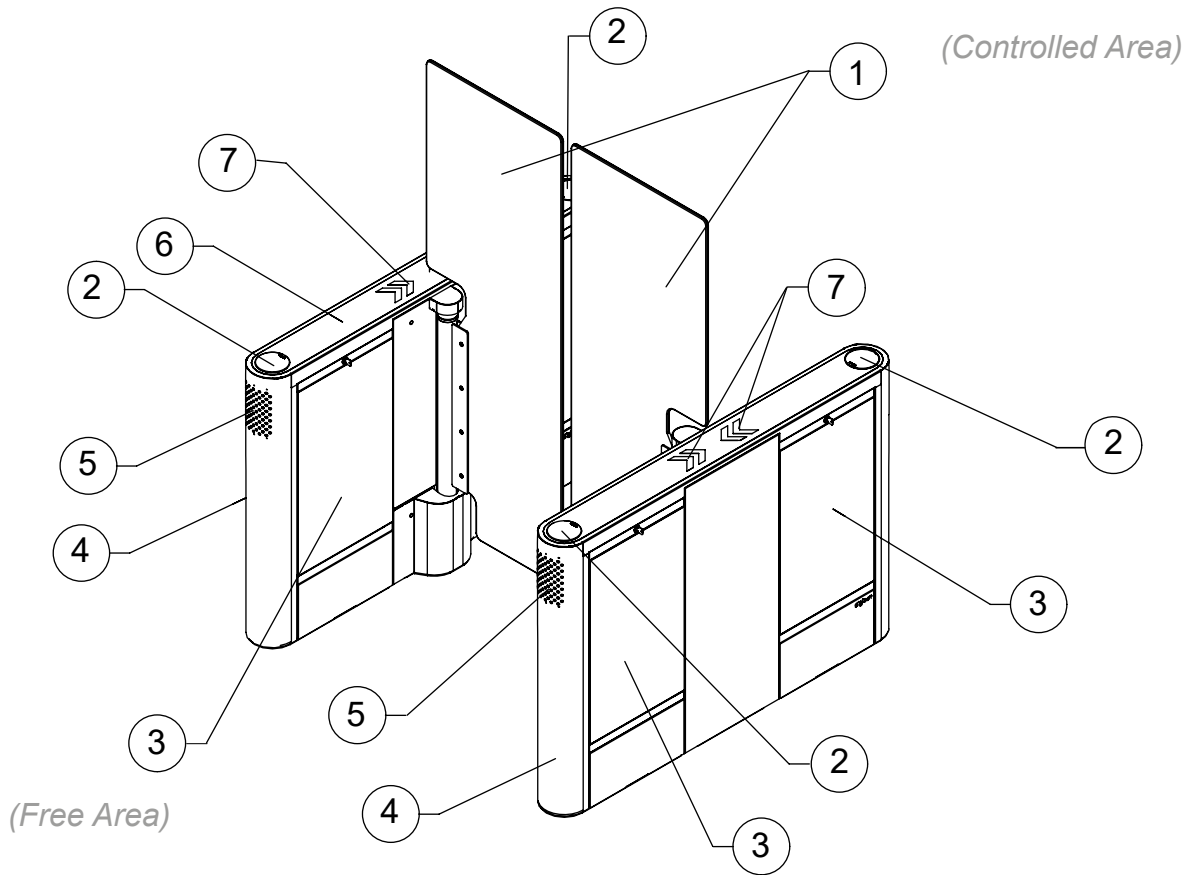
⚠ ATTENTION! - Do not discard the packaging lid, as it can be used to protect the equipment after installation and before final use.

5.1.4 Important Parts of the Product

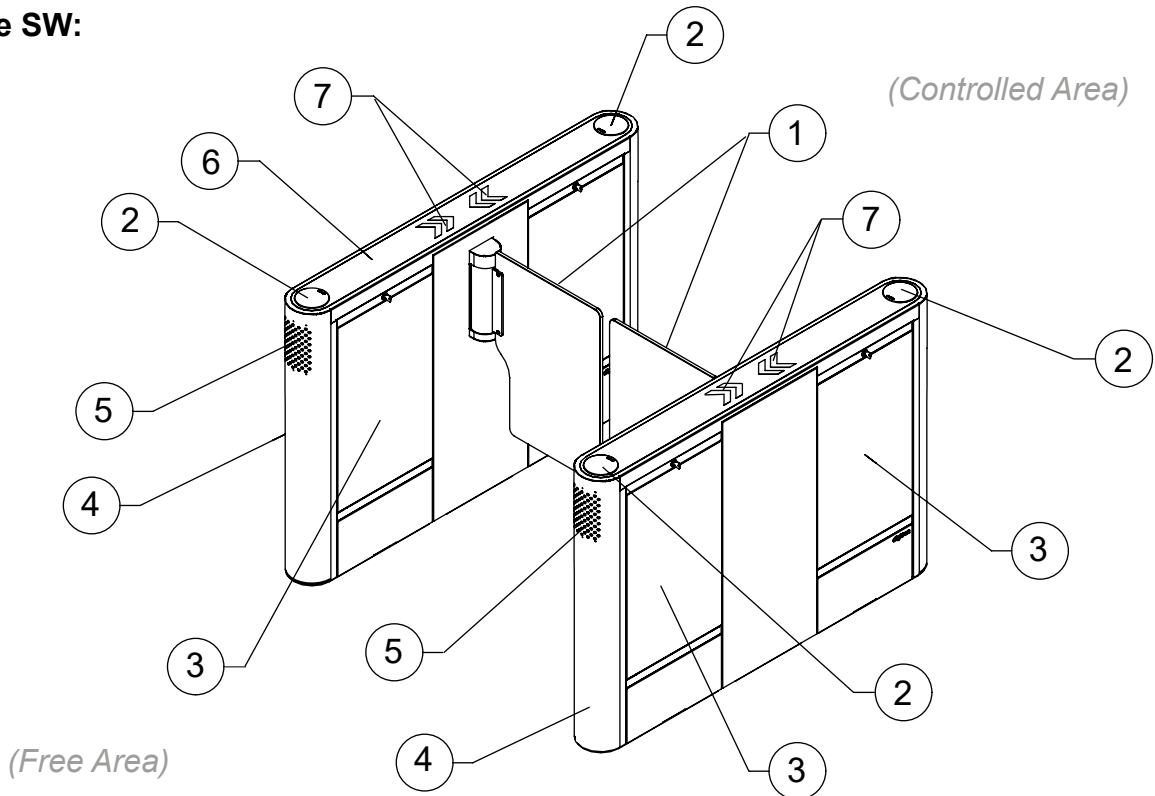
The external parts of the dGate modules are listed and identified by numbers in the figures below:

4. Polycarbonate or glass door for the SW model and glass door for the UW model
5. Socket for optional kits (Biometrics, bars, Mifare, etc.).
6. 4 side doors for access to the electronics and mechanism of the module (glass or stainless steel).
7. Cabinet/Module R, Module T, or Module RT.
8. Orientation pictogram (front/rear).
9. Top cover (glass or stainless steel).
10. Operation pictogram (upper).

dGate UW:



dGate SW:



5.2 Installation


5.2.1 Before installing the dGate modules, check:


- Ensure that the chosen location for the equipment installation is firm and level. It must meet the following flatness and leveling requirements, respectively: (Standards: ASTM E 1155-96 and ACI 117-90).

PP ≥ 25 (Floor Flatness)

NP ≥ 20 (Floor Levelness)

- Check if there is a nearby power source that is compatible with the equipment's power consumption and complies with local regulations.
- Ensure the chosen location is suitable for installing the access controller, and that it is within an indoor and roofed environment.
- Check if the floor is suitable for anchor bolts (minimum 4 cm thickness, concrete FCK15 MPa or equivalent). Digicon recommends using HILTI anchor bolts, preferably chemical; size M10x100.
- Ensure that the embedding boxes and conduits for electrical and data cables are properly installed (as outlined in this manual in sections 5.2.2 and 6).;
- Ensure that all necessary tools are available.
- Ensure that all necessary PPE for installation is available.

 **ATTENTION!** - Since the installation of the dGate modules requires drilling into the floor, it is extremely important to choose the installation location carefully.

 **ATTENTION!** - Allow only qualified technical professionals to install this equipment. The installation must comply with all local standards and regulations.

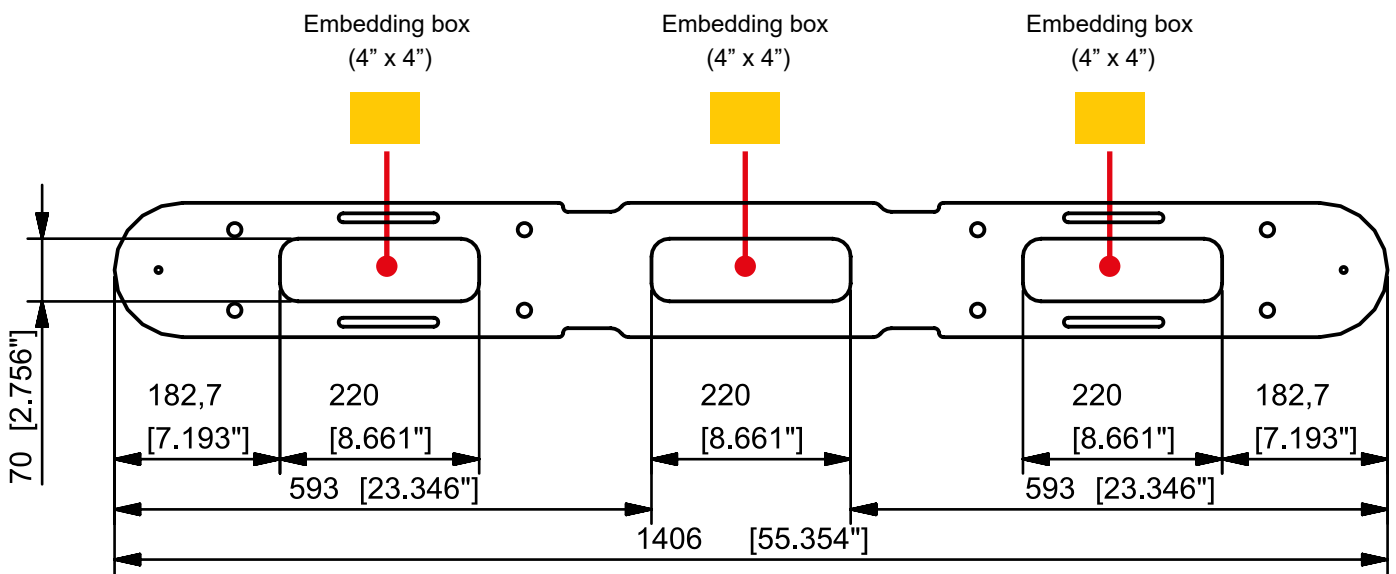
5.2.2 Positioning and Securing on the Floor

The image below shows the positioning of the embedding boxes that should be installed before securing the module to the floor, as well as the layout of the fixing points. The surface must be firm and level to ensure proper alignment of the sensors.

Embedding boxes:

⚠ ATTENTION! - The dimensions of the dGate modules are illustrated in millimeters and [inches].

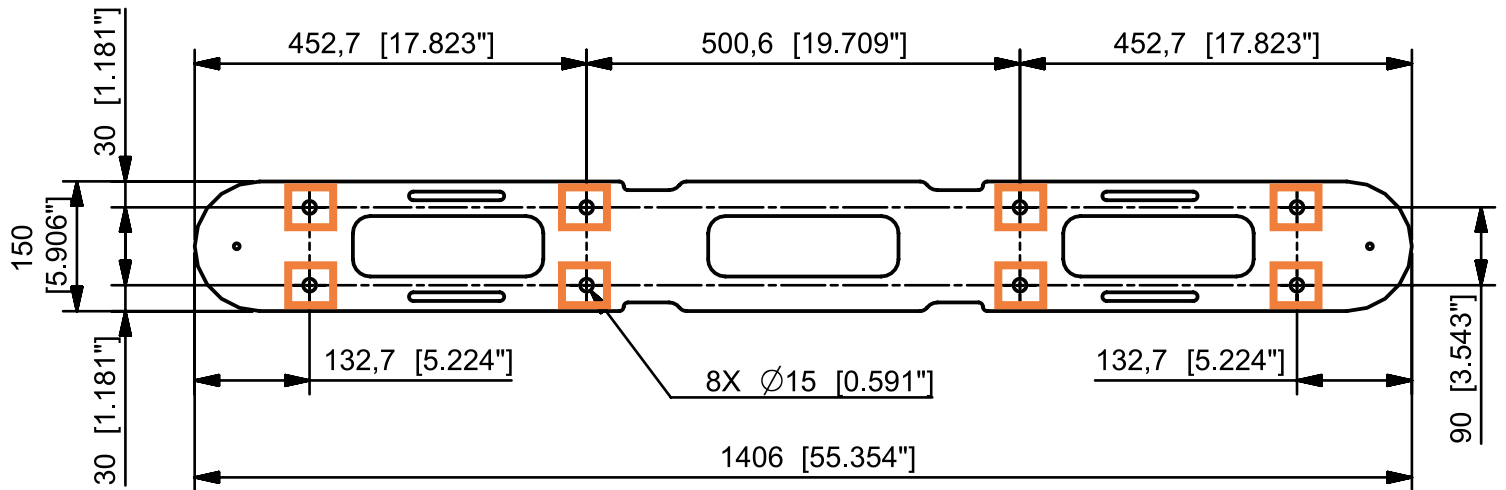
⚠ ATTENTION! - Tolerance of 10mm [0.4"].




Fixing points:


Fixing can be done using chemical anchor bolts. Mechanical anchors, also known as parabolts, can be used but are not preferred.

Drilling template for dGate SW and UW:



 - Fixing points

 **ATTENTION!** - Use a long extension for tightening the screws.

 **ATTENTION!** - The measurements above are illustrated in millimeters and [inches].

 **ATTENTION!** - Tolerance of 10mm [0.4\"/>

Note: To facilitate floor drilling, Digicon can provide template files according to the model of the equipment purchased. These templates must be purchased separately. Please contact a Digicon salesperson.

5.3 Internal Access to the dGate After Securing

⚠ CAUTION - RISK OF DEATH!

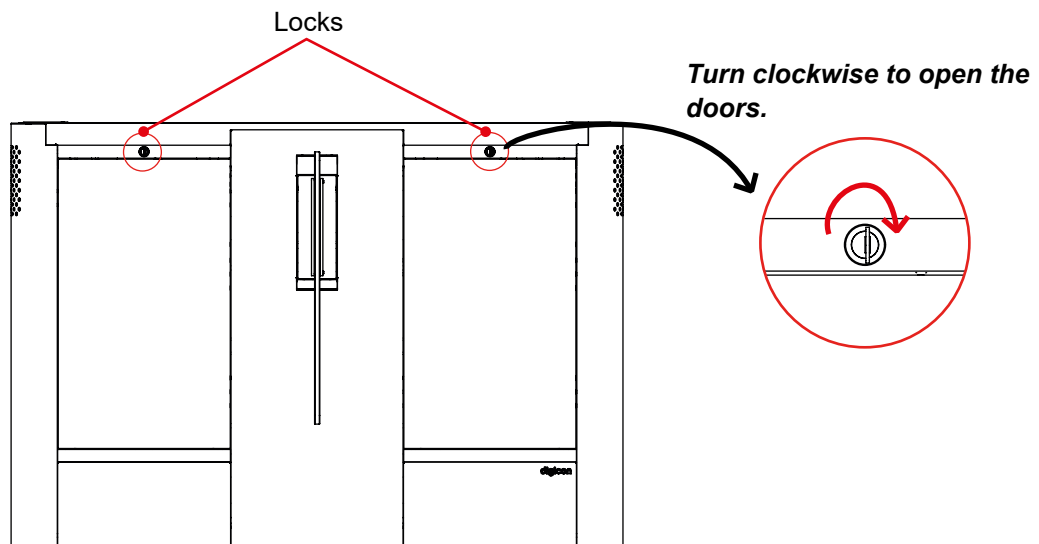
- Avoid electrical shock! Opening or removing the side access doors of this equipment may expose you to dangerous voltages.
- To reduce the risk of electrical shock, before accessing the equipment internally, turn off the power by switching the circuit breaker to the OFF position. All services requiring internal access to the equipment should be performed only by qualified technical professionals.

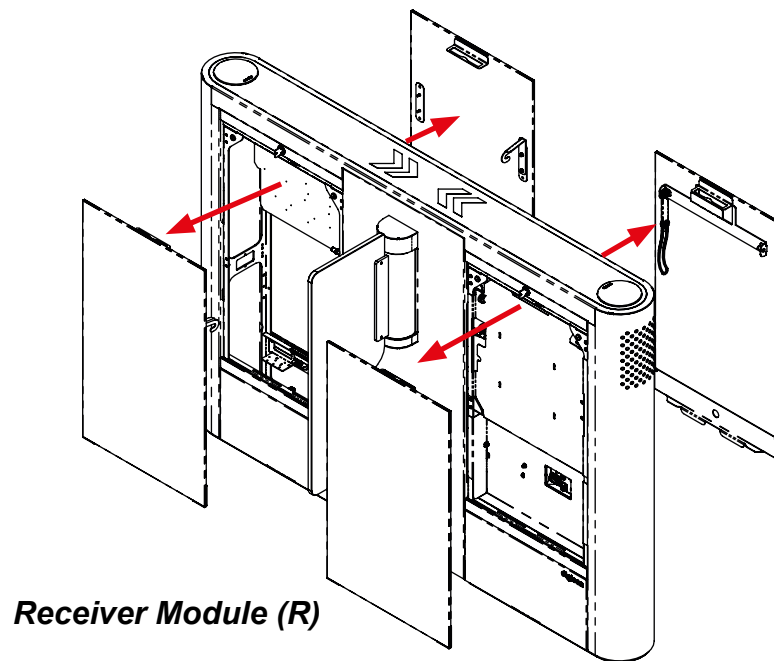
Once the dGate is installed and assembled, internal access can be achieved through two routes: the door leading to the electrical panel and the door leading to the integrator area.

⚠ ATTENTION! - It is necessary to remove the CE protective covers to access the electrical panel.

Step-by-step for opening:

1. Use the key (which is fixed in a package on top of the equipment) to open the side doors:
2. After opening the doors, they should be removed and stored in a safe location.

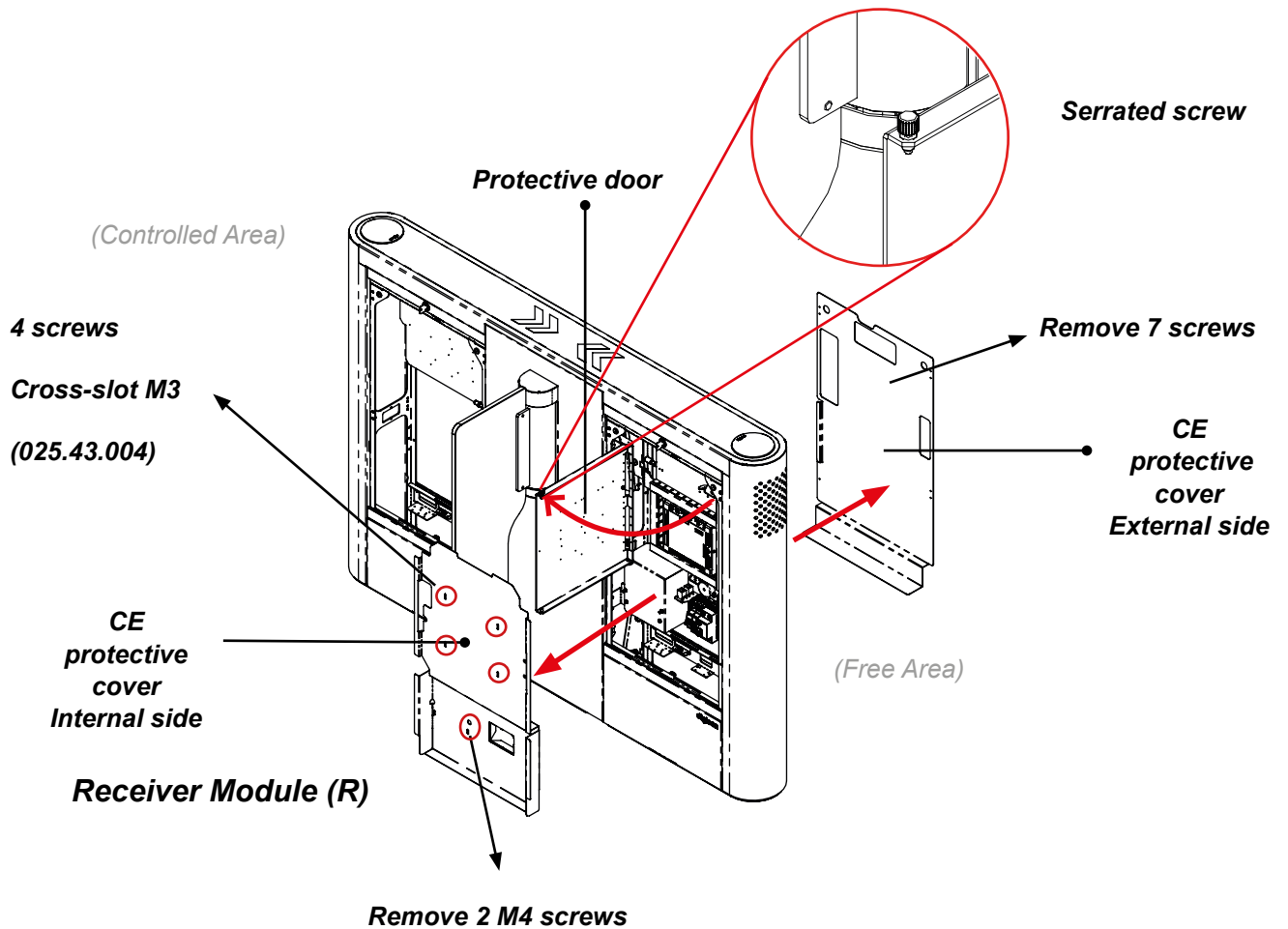


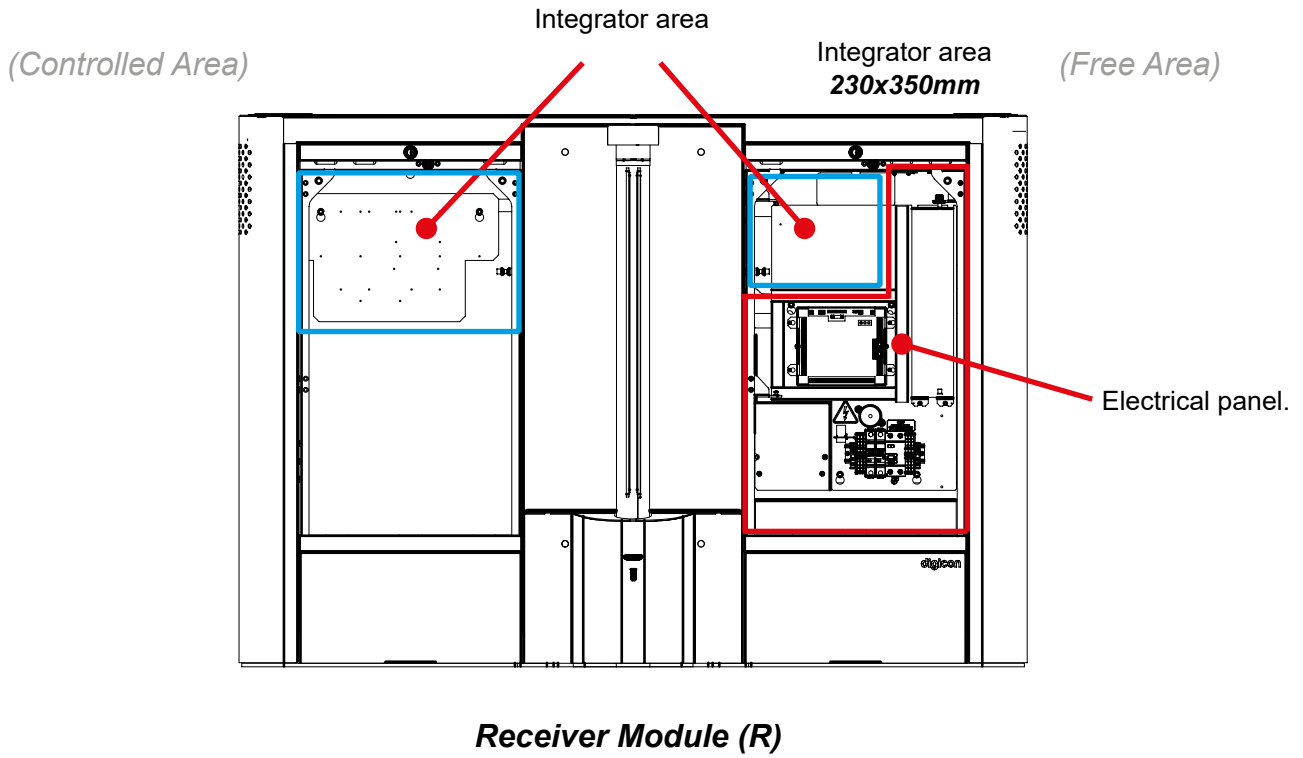


3. Remove the CE protective covers and open the protective door to access the electrical panel, as illustrated below:
4. dGate Module R open:


5. The following chapters will detail the steps for the correct electrical connections and interconnections of the equipment.

⚠ ATTENTION! To open the protective door, loosen the serrated screw and turn the door clockwise. The door opens to a maximum of 90°.





5.4 Electrical Connections

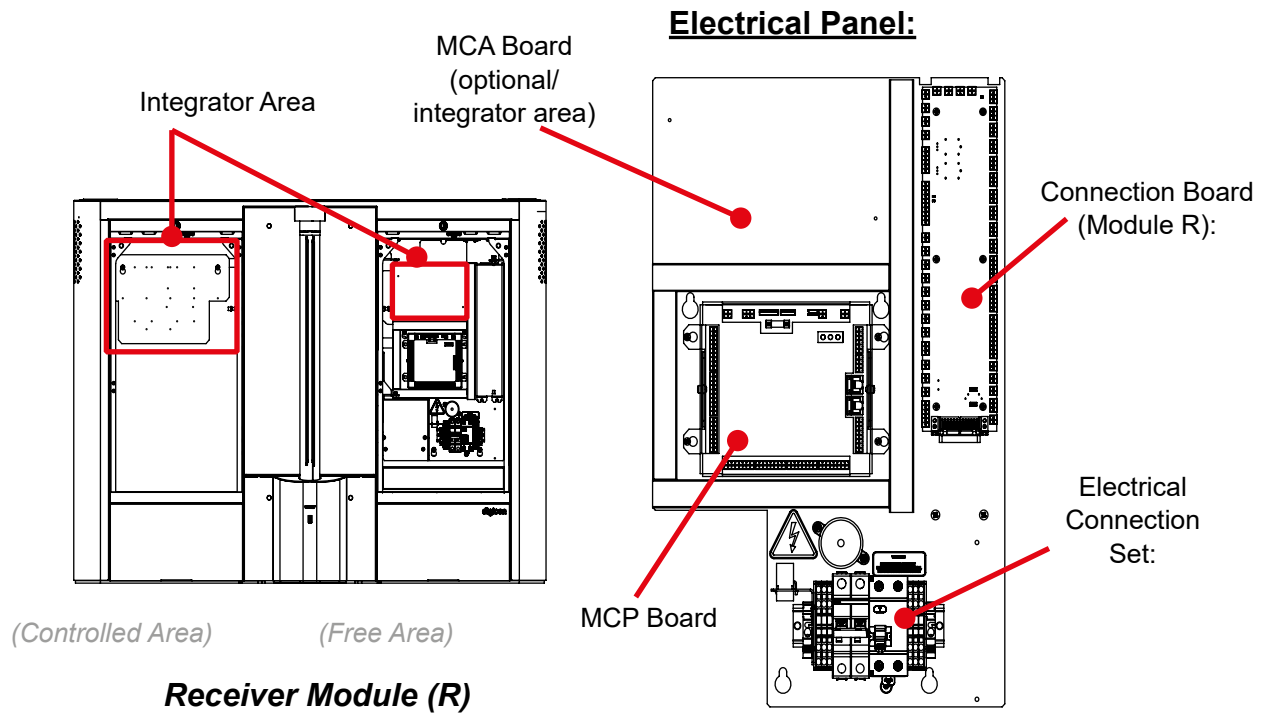
 **CAUTION - RISK OF DEATH!** To reduce the risk of electrical shock, before accessing the equipment internally, turn off the power by switching the circuit breaker to the OFF position. All services requiring internal access to the equipment must be performed only by qualified technical professionals.

5.4.1 Electrical Panel

The electrical panel includes the MCP module (Access Control Module), the connection board, and the electrical connection set. Additionally, the dGate features a dedicated area for physical expansion, should the integrator require extra space. This area also contains the connections for the access lane sensors and the electrical power.

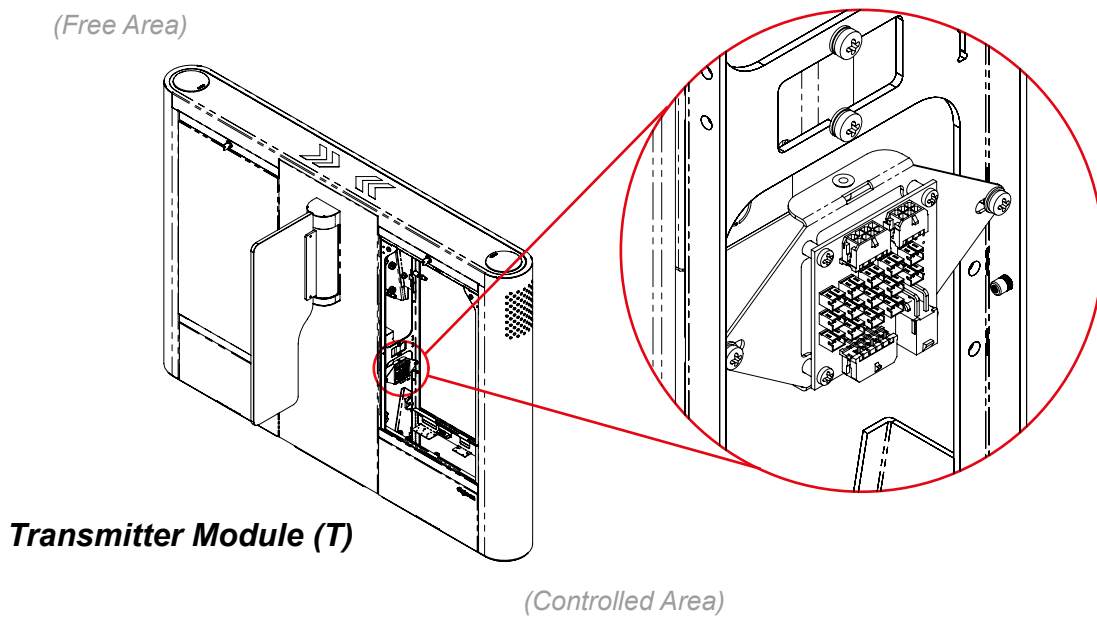
The Electrical Panel will always be located in the Receiver Module.

- **Integrator Area:** Space designated for the installation of the integrator's/client's device.
- **MCA Board:** Digicon Access Control Module. When available, it manages all functions of the equipment.
- **Connection Board:** The board responsible for connecting the R, T, and RT modules.
- **Electrical Connection Set:** This set is used for protection (circuit breaker and residual current device) and connection to the power grid. It also includes an electrical outlet for the T module.
- **MCP Board:** Passage Control Module, responsible for managing user passage control.



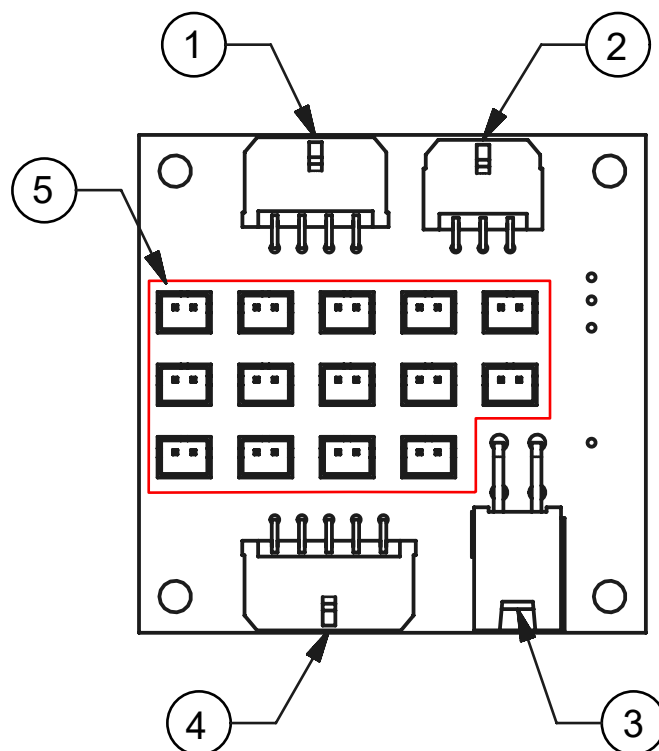
⚠ CAUTION - RISK OF DEATH! - Risk of electric shock at the panel.

The dGate interconnection board is located on the opposite side of the passage, in the dGate Transmitter Module.



5.4.2 Connectors on the Module T Interconnection Board:

1. CN9 - Signals and DC power for the top pictogram of the T module.
2. CN2 - Signals and DC power for the motor board of the T module.
3. CN1 - DC power input.
4. CN10 - Signal interconnection between modules.
5. CN3, CN4, CN5, CN6, CN7, CN8, CN11, CN12, CN13, CN14, CN15, CN16, CN17 e CN18 - CN2 - DC power supply for sensors in module T.



6. Electrical and data interconnections

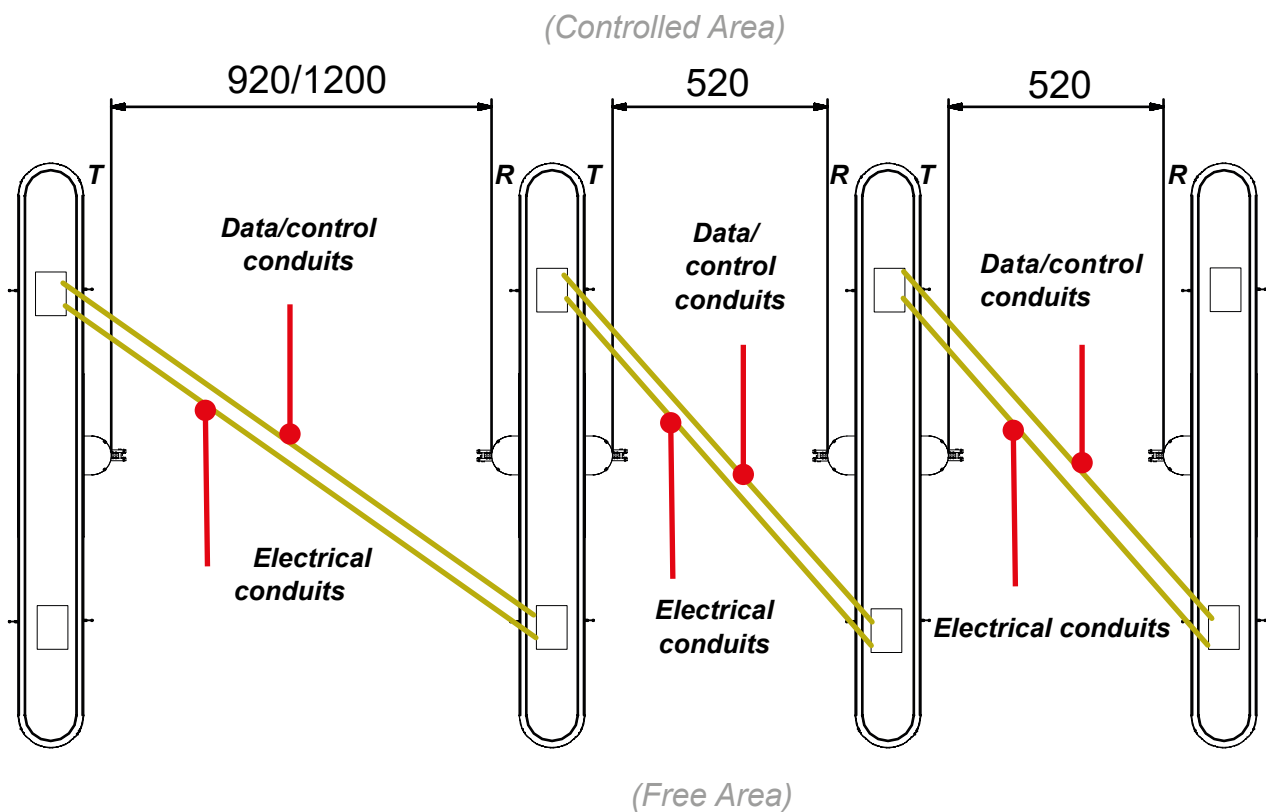
⚠ ATTENTION! - Only qualified technical professionals are authorized to install this equipment. Installation must comply with all local standards and regulations.

To form an access lane, two modules are always required. Proper interconnection of these two modules is crucial for the equipment's proper functioning.

The interconnection of the equipment is carried out through electrical power cables and data/control cables.

It is important that these cables are routed in separate conduits to ensure the proper functioning of the equipment.

Example of layout with 3 passages:



Note: The conduits for cable passage should be flexible with a diameter of 2" (50mm).

Note: Connection to the external power network can be made using any of the existing junction boxes in the installation. The choice of the box depends on the position where the client's power cable arrives.

⚠ATTENTION! - This infrastructure is only a suggestion from Digicon. The electrical conduits and data conduits must be separated by at least ten centimeters (10cm); the infrastructure must comply with local regulations.

⚠ATTENTION! - The dimensions of the dGate are illustrated in millimeters and [inches].

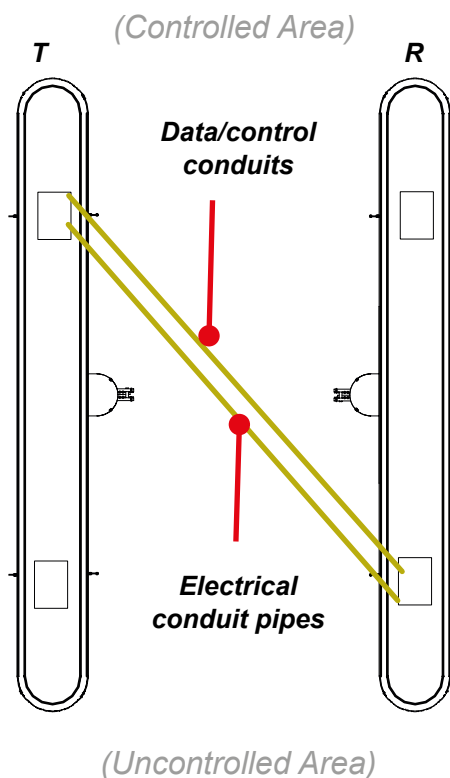
6.1 Interconnection Between Modules

Data Tubing:

037.13.383 - SIGNAL INTERCONNECTION CABLE (RS485 + UPPER PICTOGRAM) - DGATE (5 meters)

Electric network tubing:

037.13.382 - AC INTERCONNECTION CABLE - DGATE (6 meters).



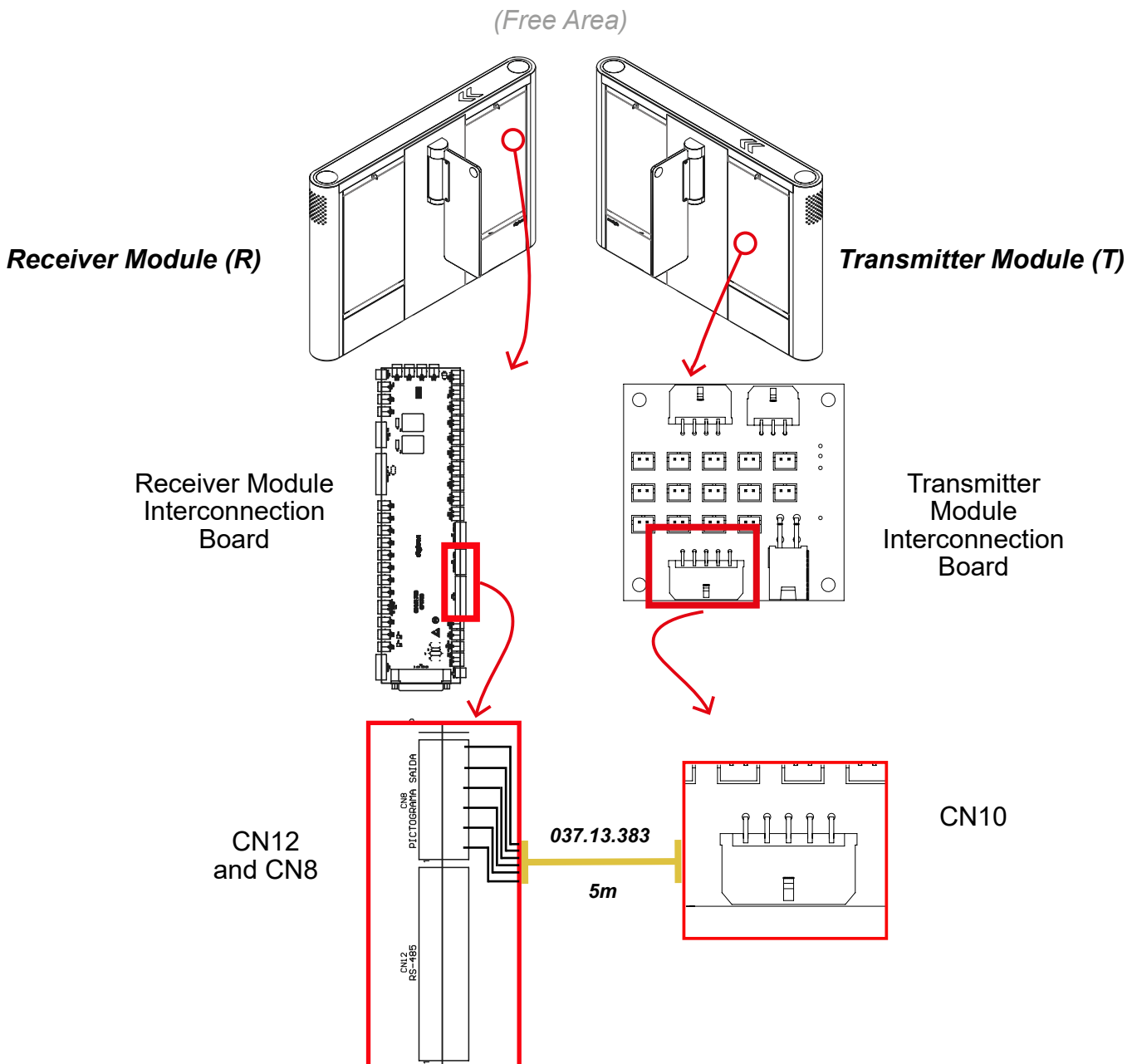
 **ATTENTION!** -

- Digicon provides the necessary interconnection cables with the T module. The depth of the conduits should be adjusted to ensure that the cables are properly accommodated. If longer cables are needed, contact Digicon. Any excess cables should be coiled and placed inside the equipment in a free space within the transmitter module (T).

a) Interconnection between modules (037.13.383):

⚠ CAUTION - RISK OF DEATH! - To reduce the risk of electric shock, turn off the power to the equipment; switch the circuit breaker to the OFF position. All maintenance work must be performed by qualified technical professionals only.

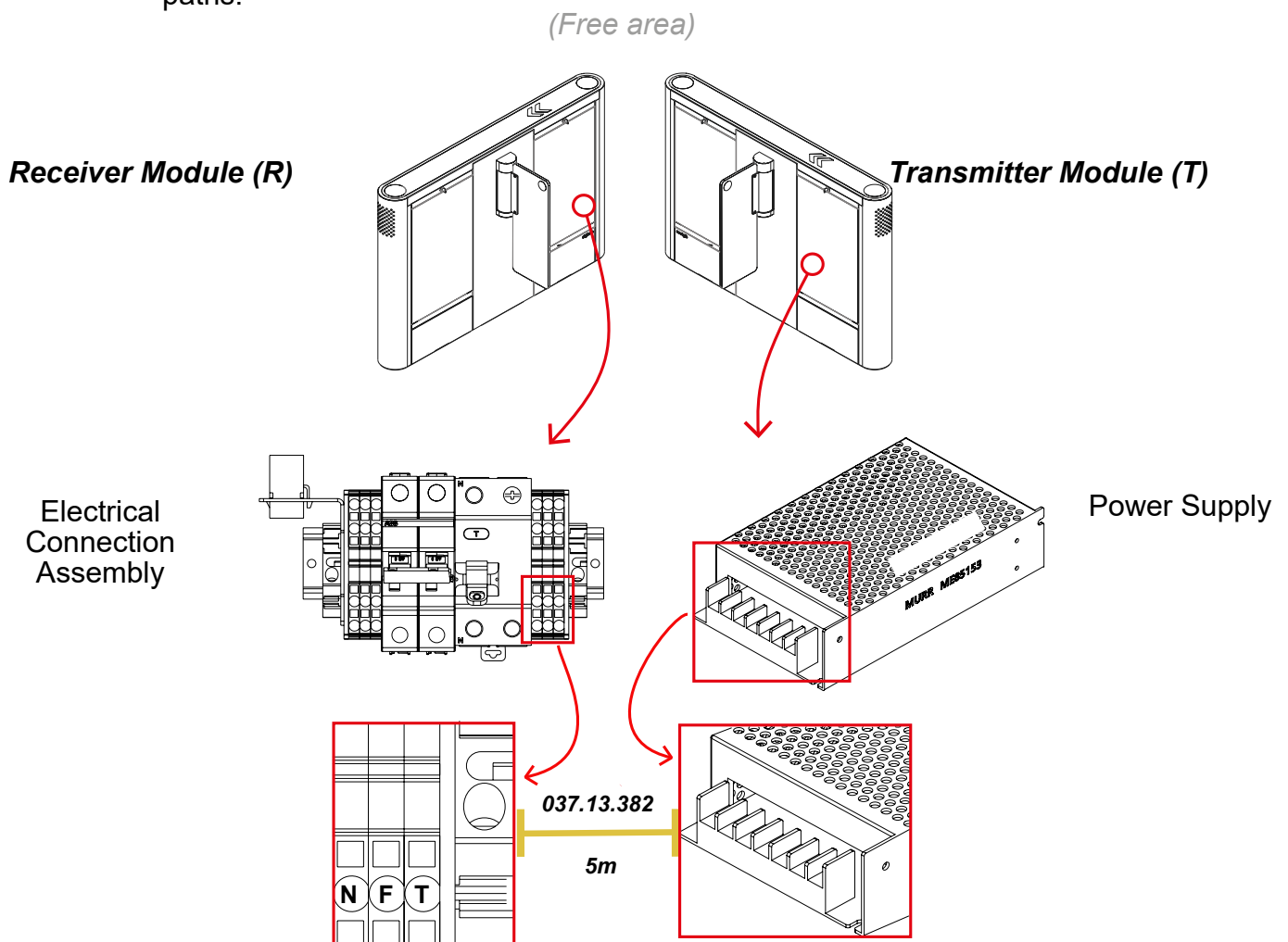
1. In module R, connect cable 037.13.383 to the interconnection board at connectors CN12 and CN8, following the identification ring markings.
2. In module T, connect the other end of cable 037.13.383 to connector CN10 on the interconnection board.



b) Power supply cable interconnection AC (037.13.382):

⚠ CAUTION - RISK OF DEATH! - To reduce the risk of electric shock, turn off the power to the equipment; switch the circuit breaker to the OFF position. All maintenance services should be performed only by qualified technical professionals.

1. In the Receiver Module, connect the power cable to the electrical connection set at terminals F-N-T, according to the identification tags placed on the cable paths of 037.13.382.
2. In the Transmitter Module, the cable is pre-connected from the factory to the power supply at terminals F-N-T, according to the identification tags placed on the cable paths.



⚠ ATTENTION! - The cable 037.13.382 is factory-connected to the power supply; it only needs to be connected to the electrical connection assembly of the receiver module.

6.2 Electrical Network Connection

The dGate is powered by a voltage of 100 to 240 VAC. The NBR 5410 standard or the current local standard should be used as a reference for all electrical installations. The dGate has an electrical panel located in the R Module with a set of electrical connections where the power cables (phase and neutral) and grounding cable should be connected.

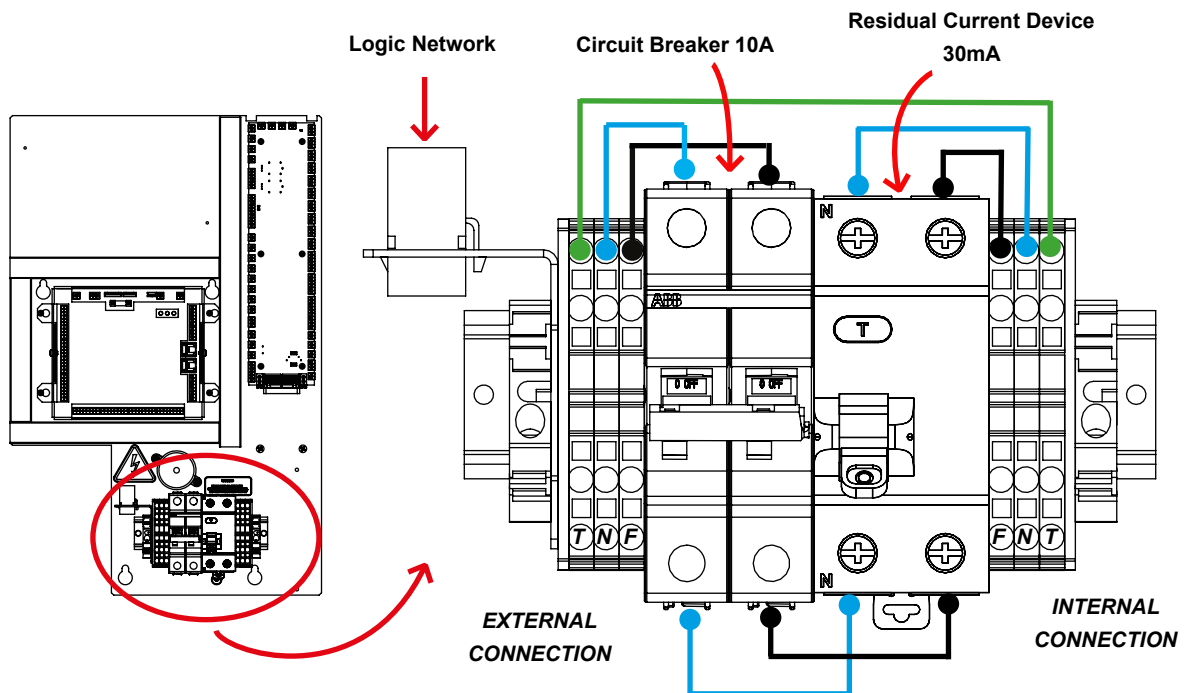
⚠ ATTENTION - RISK OF DEATH! - To reduce the risk of electric shock, before maintenance, disconnect the power supply to the area where the equipment will be installed and ensure that the electrical conductors are de-energized. All maintenance services should be performed only by qualified technical professionals.

- Electrical connection set; for power and logic network connection:


Logic network:

Technical specifications of the terminals:

- Minimum wire gauge: 28 AWG



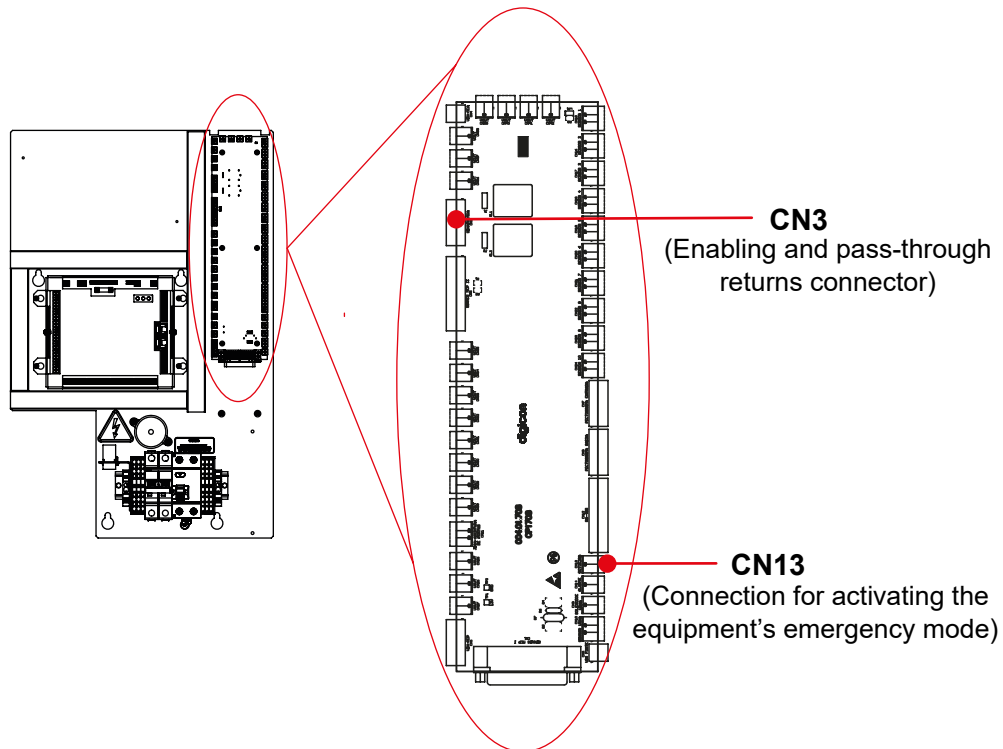
- Maximum wire gauge: 12 AWG
- Voltage rating: up to 800V
- Current rating: up to 24A

 **ATTENTION!** - We recommend that the AC and grounding cables be of good quality and with dimensions compatible with the distance to the power panel. The data cable should be of the CAT5E type or higher.

6.3 Connections for the integrator

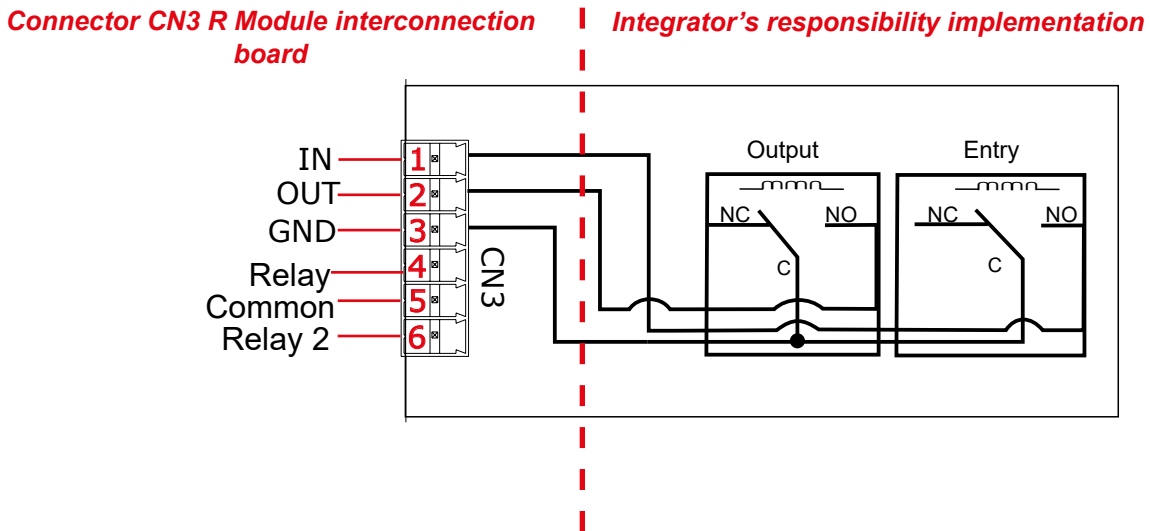
The dGate has connectors designed to facilitate the customer's integration with the equipment, and it can also be operated through hardware of their choice. Below are the connectors where this integration is possible:

R Module interconnection board



6.3.1 Pass-through activation via dry contact through connector CN3

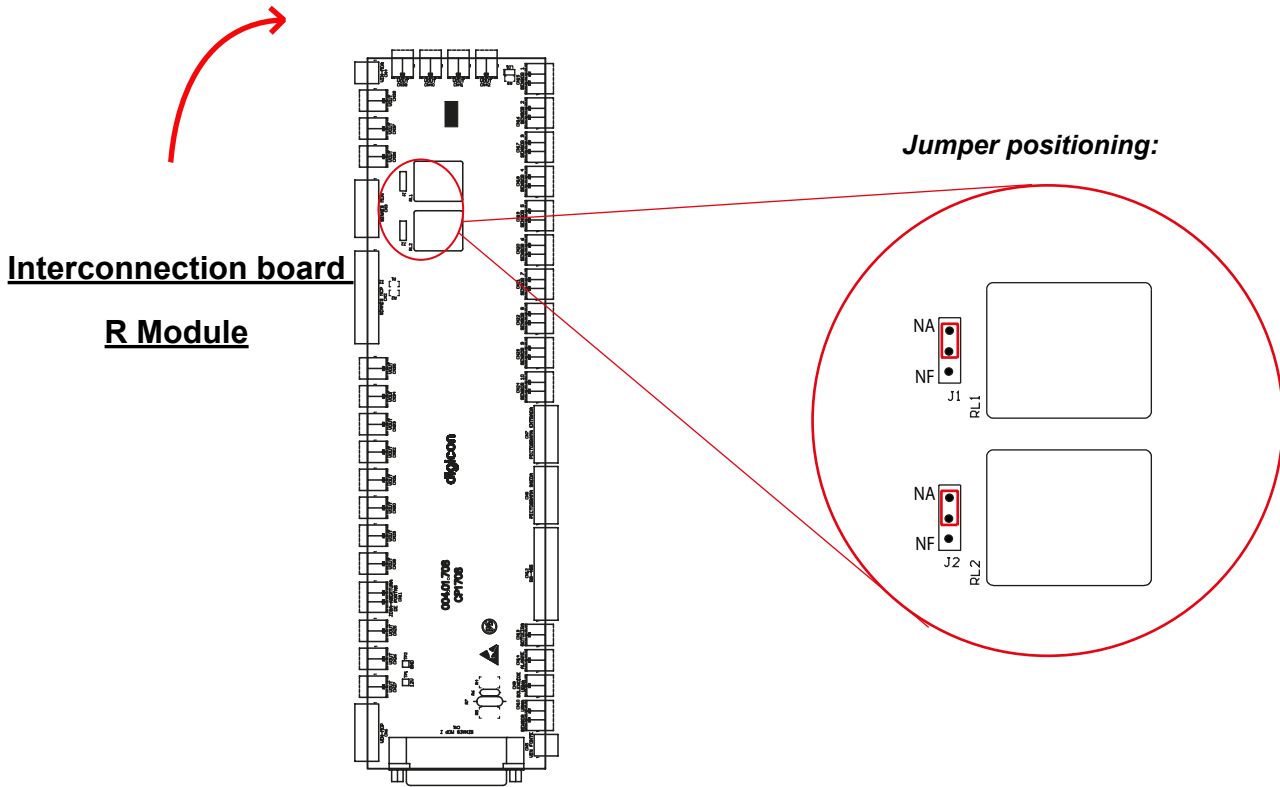
The dGate has the functionality to enable pass-through in the direction of entry or exit via dry contact. Entry activation is achieved by the contact between pin IN (pin 1 of connector CN3) and pin GND (pin 3 of connector CN3). Meanwhile, exit pass-through activation is accomplished by the contact between pin OUT (pin 2 of connector CN3) and pin GND.



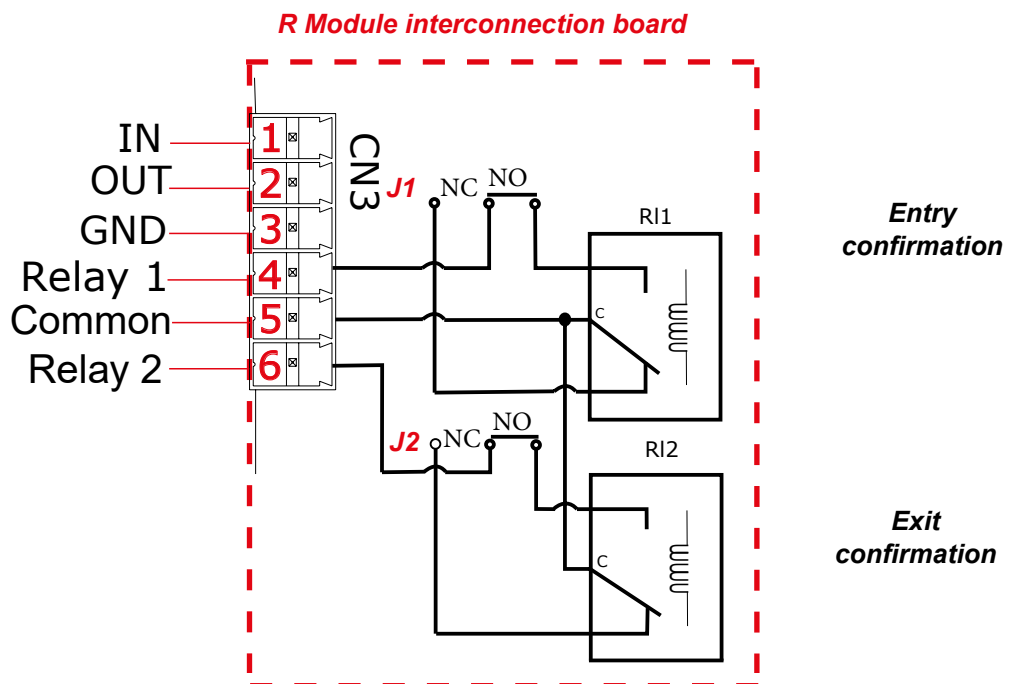
The figure above illustrates an electrical diagram for pass-through activation, where the contacts are made by two external relays to the dGate. This implementation is the responsibility of the integrator (relays not provided).

6.3.2 Pass-through confirmation via dry contact through connector CN3

The interconnection board in the R Module includes an electronic pass-through confirmation circuit to notify another system integrated with the equipment when the user completes their pass-through. At the end of a complete entry pass-through, relay 1 on the interconnection board makes contact with Relay 1 (CN3 pins 4 and 5, respectively). Similarly, for a complete exit pass-through, the dGate signals to the integrated systems by making contact with Relay 2 (CN3 pins 5 and 6, respectively). By default, the relays have their normal states in NO (normally open) mode relative to the common pin, but each relay can be individually configured to operate in either NO or NC (normally closed) mode through jumpers J1 and J2, respectively, located next to connector CN3 on the interconnection board.



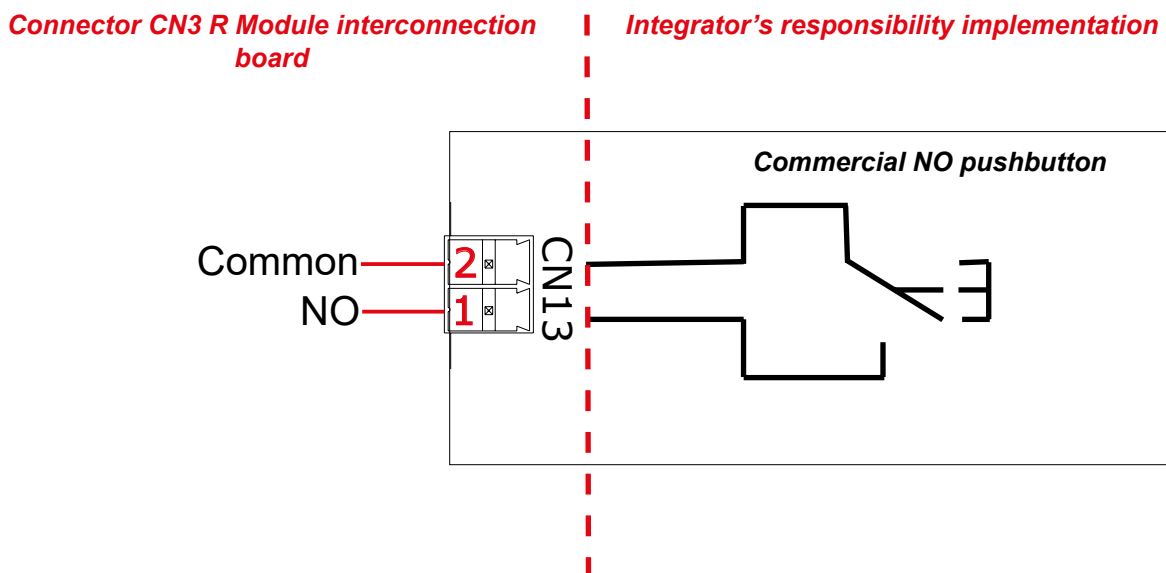
The electrical connection present on connector CN3 and the circuit connected to it are shown in the figure below:



6.3.3 Activation of emergency mode

Connector CN13 allows for the integration of an emergency contact. By connecting the terminals of connector CN13 (pin 1 and pin 2), the dGate system opens the doors in the exit direction, allowing passage in both directions as long as the pins of connector CN13 remain in contact. If the connection between the two pins is broken, the device returns to standard operation.

The figure below illustrates the connection of an emergency contact; in this example, the contact is made by an external commercial pushbutton (of the NO type) to the dGate.



⚠ ATTENTION! - After all configurations and electrical connections of the equipment are completed, the side doors must be closed, and the keys stored in a secure location.

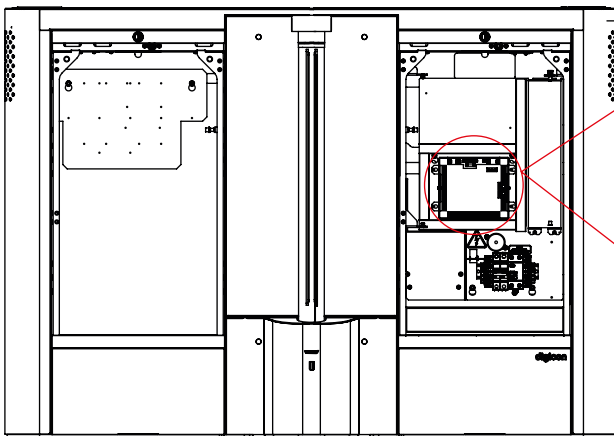
7. Identification of internal parts and functionalities

7.1 MCP Controller Board

The MCP controller board has the functionality to control user passage, pictogram indicators, sensor readings, and all system logic processing, according to signals received from an access control system. The MCP controller can be accessed through the internal side door on the entry side of the R module.

7.1.1 MCP Connectors:

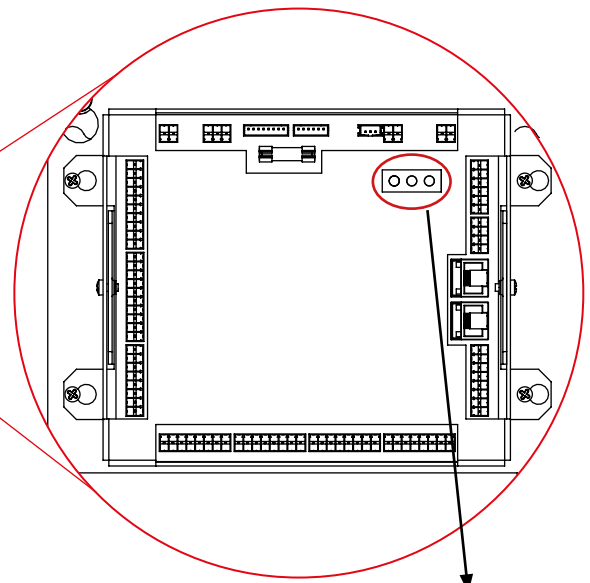
MCP Board:



(Controlled Area)

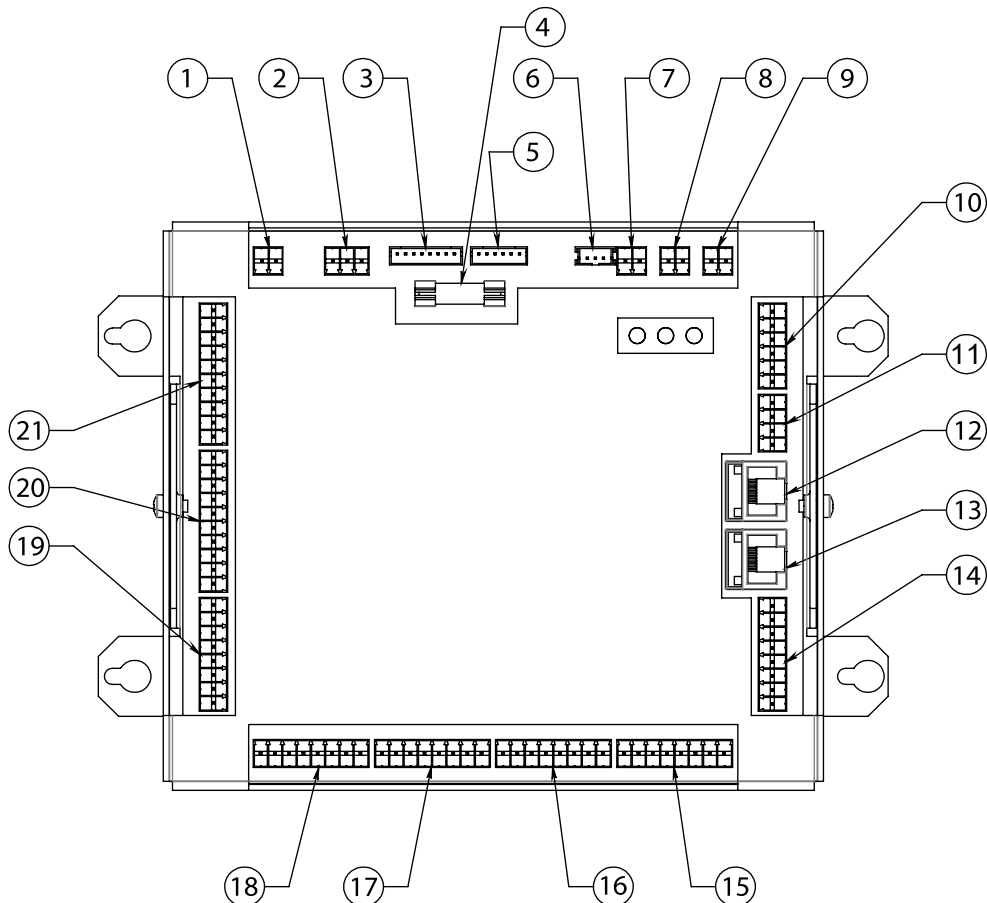
Receiver Module

(Free Area)



Activation LEDs

- | | |
|---|---|
| 1. CN1 - DC power connector | 13. CN11 - Serial communication connector (function not implemented in the current application) |
| 2. CN2 - DC power connector | 14. CN15 - 6 PWM outputs |
| 3. CN5 - SPI communication | 15. CN19 - 4 power outputs |
| 4. Fuse - 3A 5 x 20mm | 16. CN18 - 4 power outputs |
| 5. CN6 - JTAG connector | 17. CN14 - 4 power outputs |
| 6. CN4 - Debug (Digicon use) | 18. CN13 - 6 analog inputs (function not implemented in the current application) |
| 7. CN3 - DC power connector | 19. CN17 - 6 digital inputs |
| 8. CN16 - Acoustic signaler | 20. CN7 - 8 digital inputs |
| 9. CN20 - Emergency mode activation signals | 21. CN10 - 8 digital inputs |
| 10. CN12 - 2 input / 2 output | |
| 11. CN8 - RS-485 communication | |
| 12. CN9 Serial communication connector | |



7.2 Pictograms

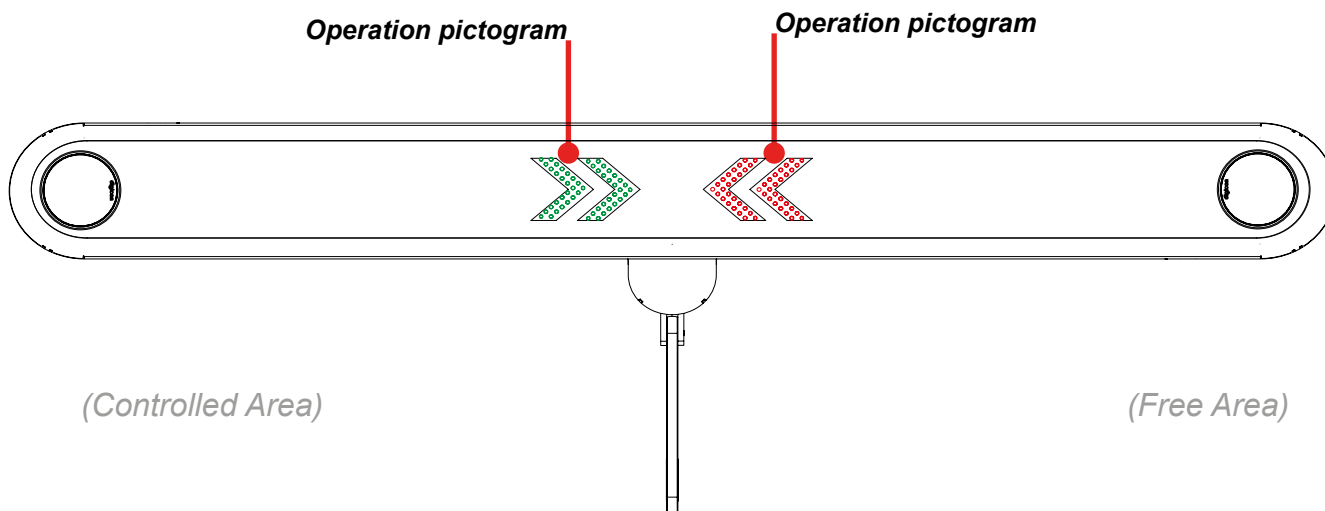
The dGate has four pictograms, differing in types and positioning: two front orientation pictograms (one for entry and one for exit), and two top operation pictograms (one for entry direction and one for exit direction). The operation of both types of pictograms is described below.

⚠ ATTENTION! - The dGate pictograms are identical for both modules.

Operation pictogram (top):

The operation pictograms are installed on the top of the equipment, positioned to the right of the user approaching the equipment from both entry and exit directions. They can display green (access allowed) or red (access denied) colors, directing the flow of passage through the equipment. A flashing red pictogram on either side indicates that passage is not allowed.

The green pictogram flowing in the direction of passage indicates that access is allowed.

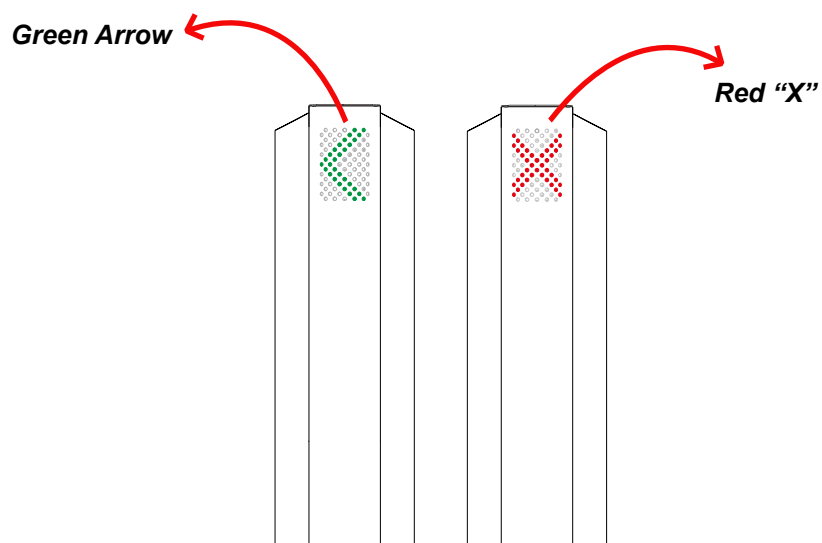


Orientation pictogram (front):

The orientation pictogram is installed at the ends of the equipment and is represented by a green arrow or a red "X".

The red pictogram indicates to the user that the dGate is not operating in this direction or that passage is not allowed at the moment.

The green pictogram informs the user of the direction in which the dGate is operating.



7.3 Sensor barriers

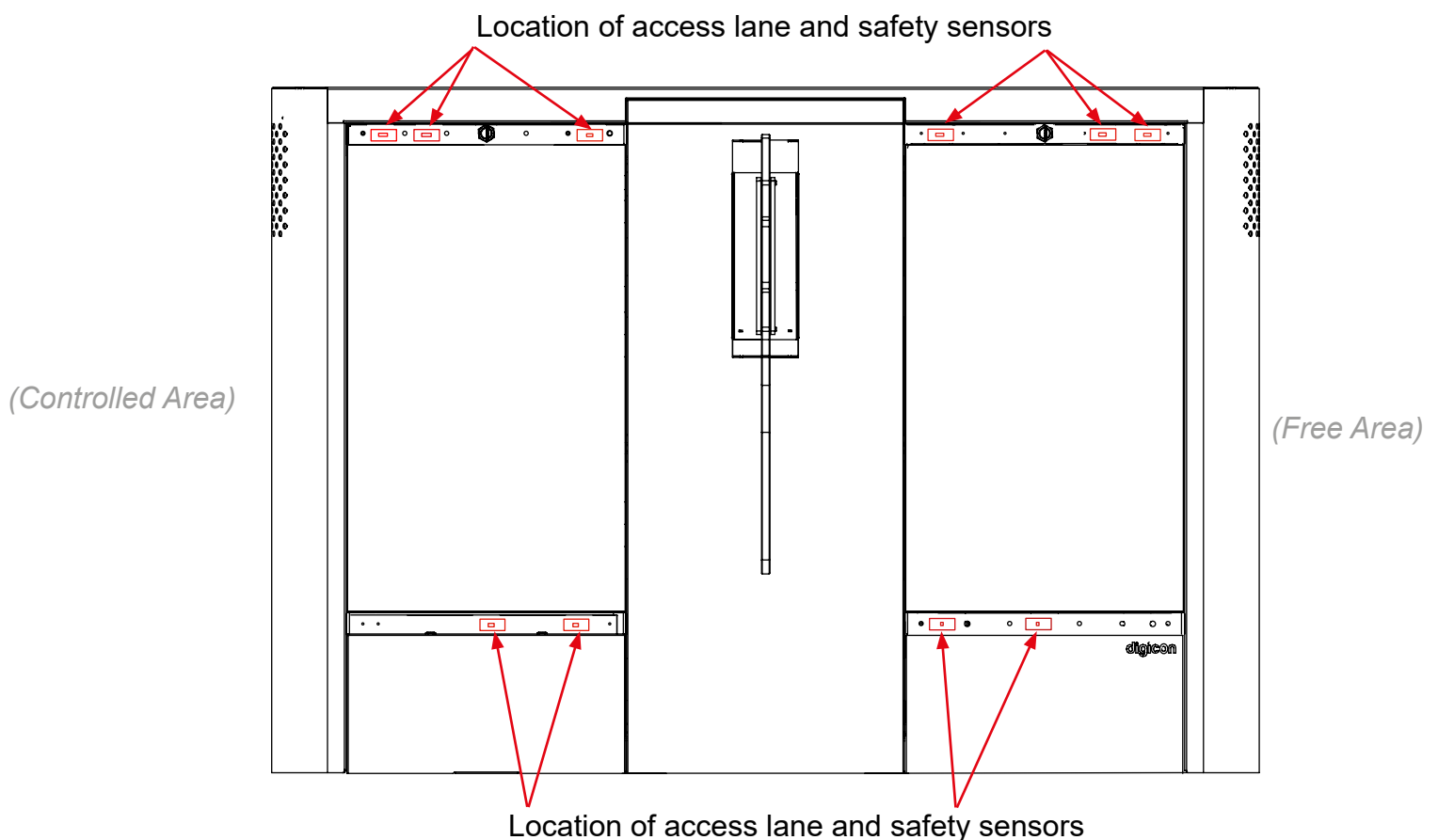
They are designed for detecting the direction of passage, protecting users, and detecting unauthorized passage.

The dGate uses infrared (IR) sensors to control the user's passage through the lane.

The dGate has a total of ten IR sensor sets, forming barriers that inform the MCP module of the user's position within the passage lane.

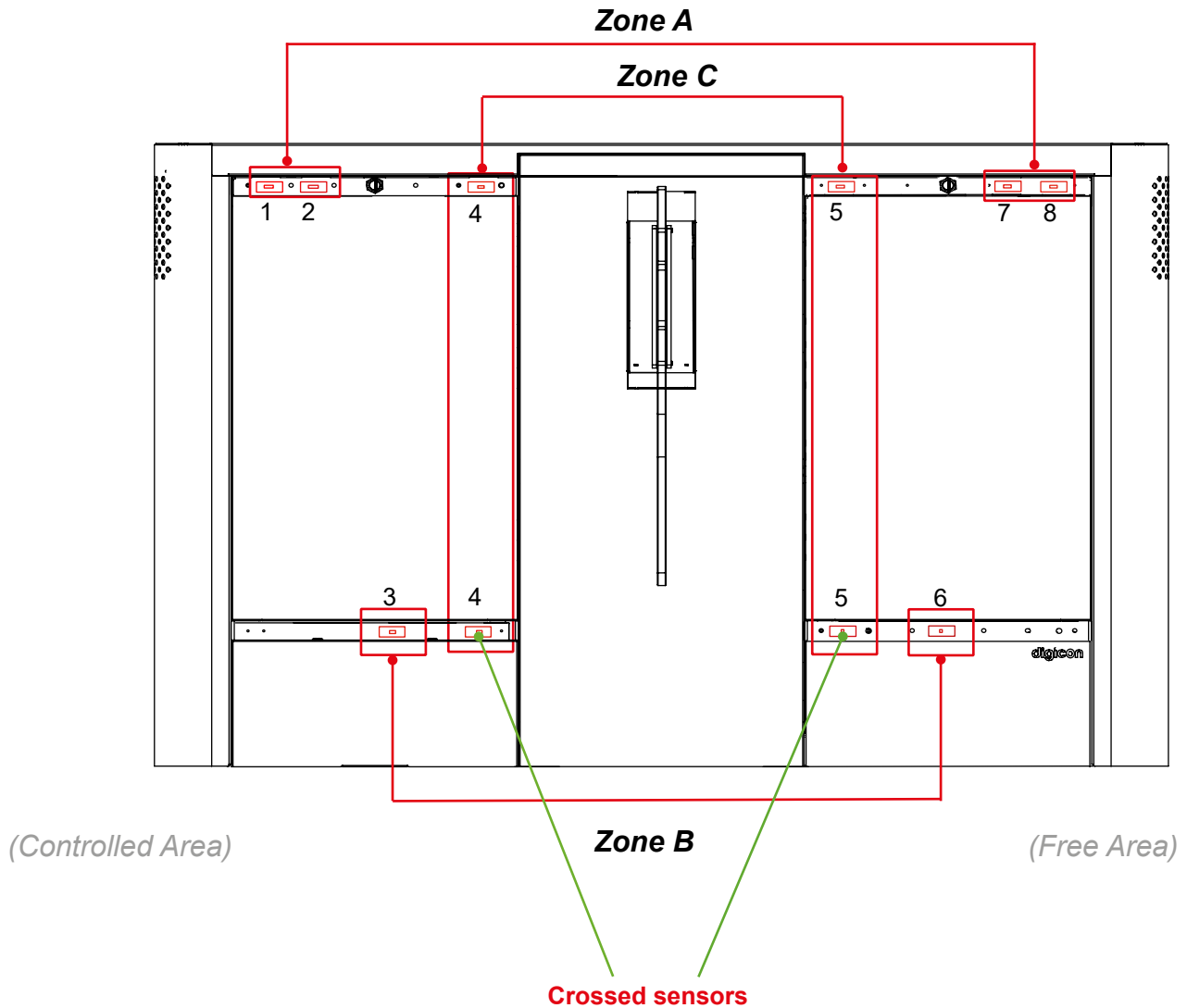
In the central part, there are sensors responsible for the safety system (anti-crush).

Along with the sensors, the MCP module manages the configuration of various dGate operating modes, allowing control of the passage direction (bidirectional operation), the desired security level (prioritizing asset security or user safety), and the operating mode (free, controlled, blocked) in each direction.



7.3.1 Crossed Sensors - dGate SW and UW

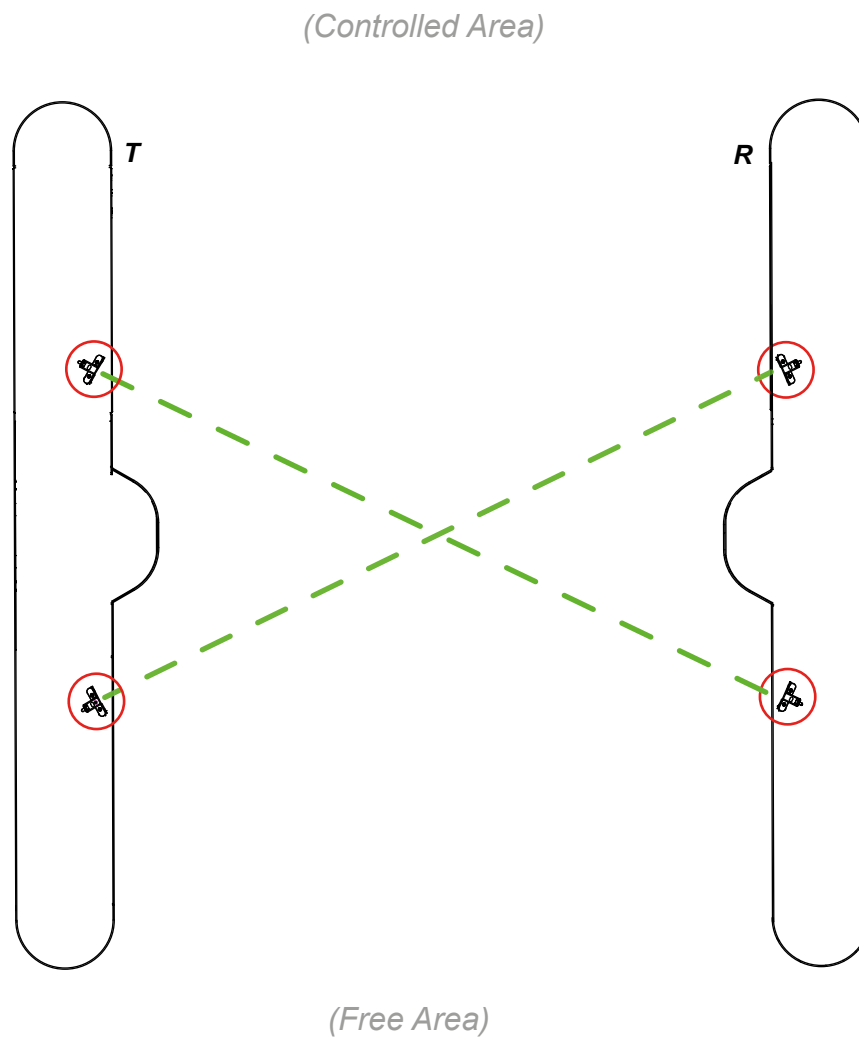
The central region of the module (Zone C), together with the other sensors, functions to detect user access but can also be configured for user protection, preventing the door from colliding with them.



Note: The image above shows a dGate SW, but the sensor positions are the same on the dGate UW.

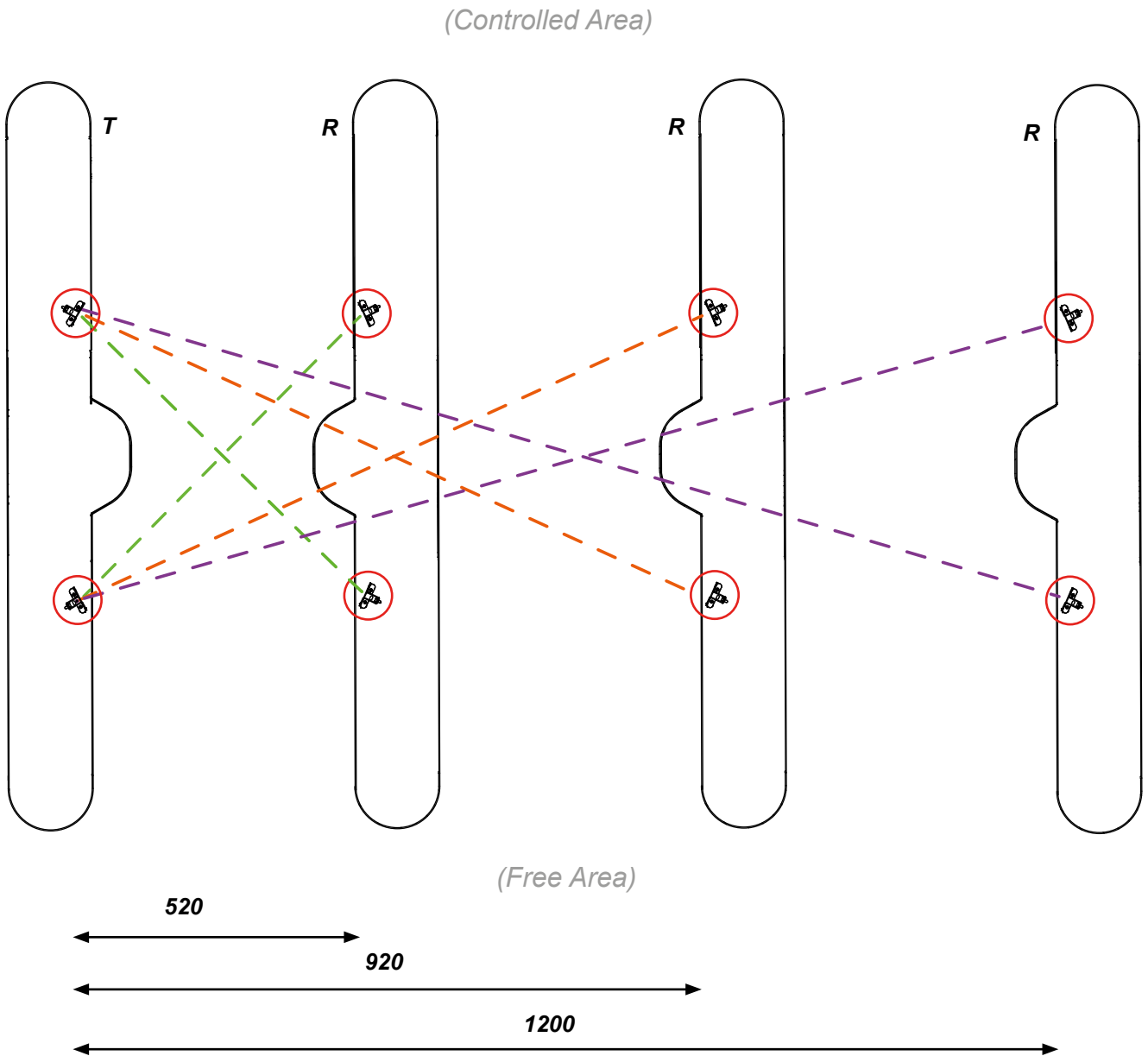
To ensure a more efficient protection area and avoid blind spots, the lower sensors in Zone C are crossed. The crossing occurs on both the Receiver Module side and the Transmitter Module side.

The following figure shows a projection of how the infrared (IR) beams from the lower sensors in Zone C behave.



⚠ ATTENTION! - Illustrative image and not to scale.

Since the lower sensors in Zone C are crossed, their angle is related to the width of the access lane. Access lanes of 520mm, 920mm, or 1200mm require different sensor angle adjustments.



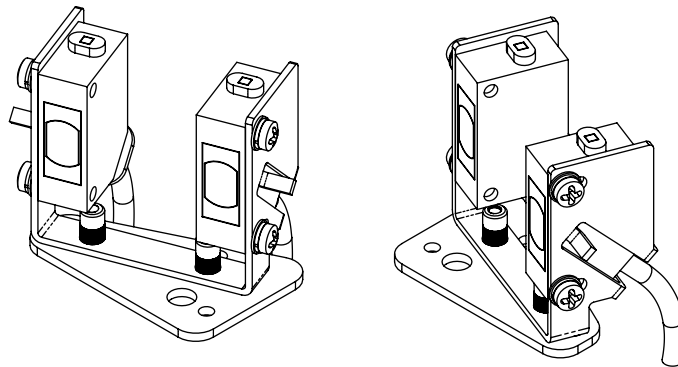
⚠ ATTENTION! - Illustrative image and not to scale.

Note: On the dGate SW, angle adjustment is not critical, as the doors do not pass in front of the sensors. Less precise adjustments are sufficient for proper operation.

7.3.2 dGate's sensor angle adjustment

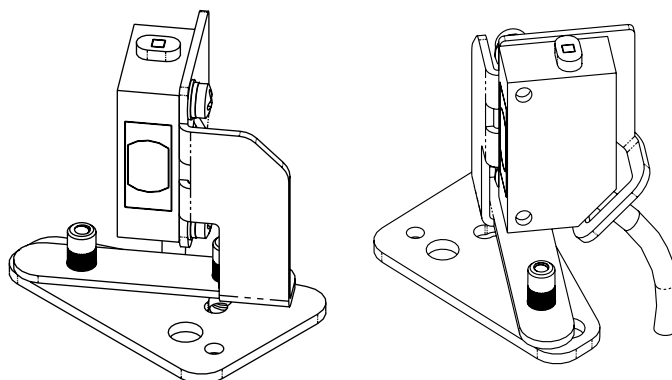
In applications with tall doors (UW model), where the door interferes with the upper and lower IR beams, dual transmitters are used in the central lower region (Zone C). This increases the IR emission field, ensuring that minor deviations in the beam trajectory do not interfere with the equipment's operation.

Dual transmitters



Even in applications where dual transmitters are necessary, only one receiver sensor is used. The goal is to increase the IR transmission field to the single receiver sensor, minimizing trajectory deviations caused by the door's movement.

Single receivers

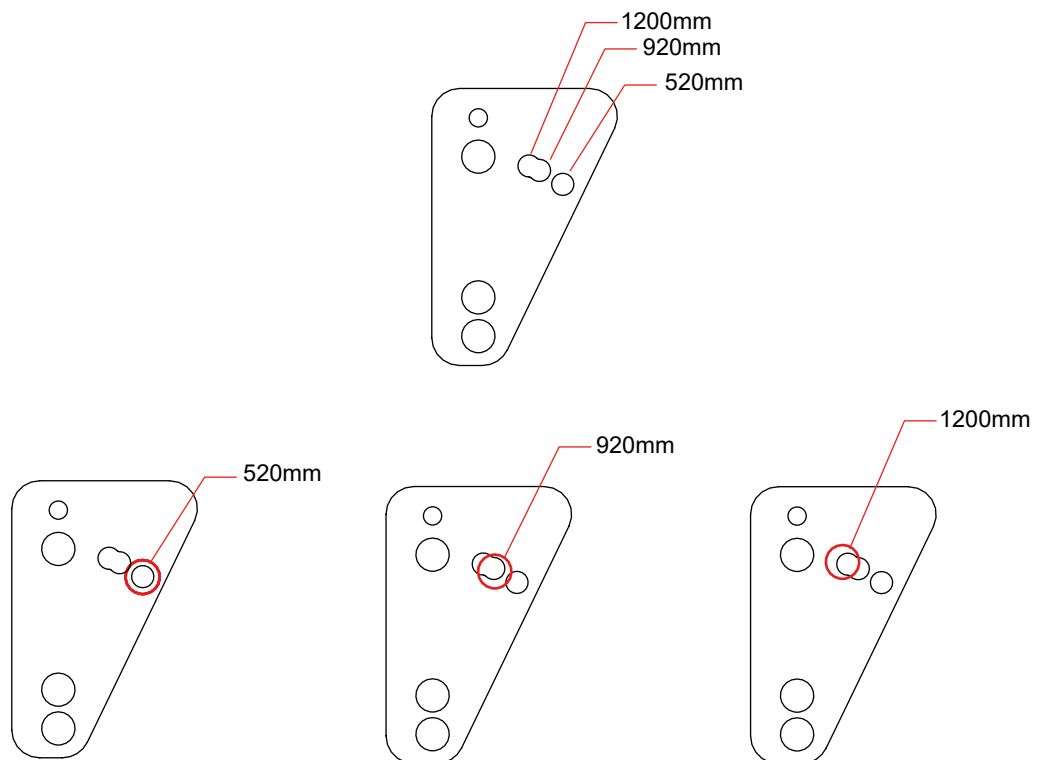


The precise adjustment of the angle of the crossed sensors on the dGate UW is extremely important for the proper functioning of the equipment. Incorrect adjustments can cause false detections, rendering the dGate unusable. Carefully follow the instructions below.

Due to the importance of this adjustment, Digicon recommends that this task be performed by a qualified technical professional.

The figures below show the sensor mounts and their different adjustments.

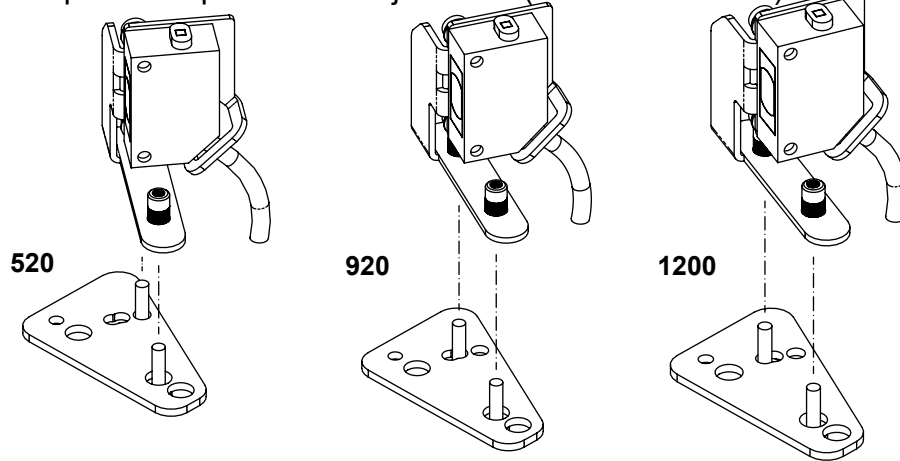
The angles of the sensors must be correctly adjusted on both the Receiver Module side and the Transmitter Module side.



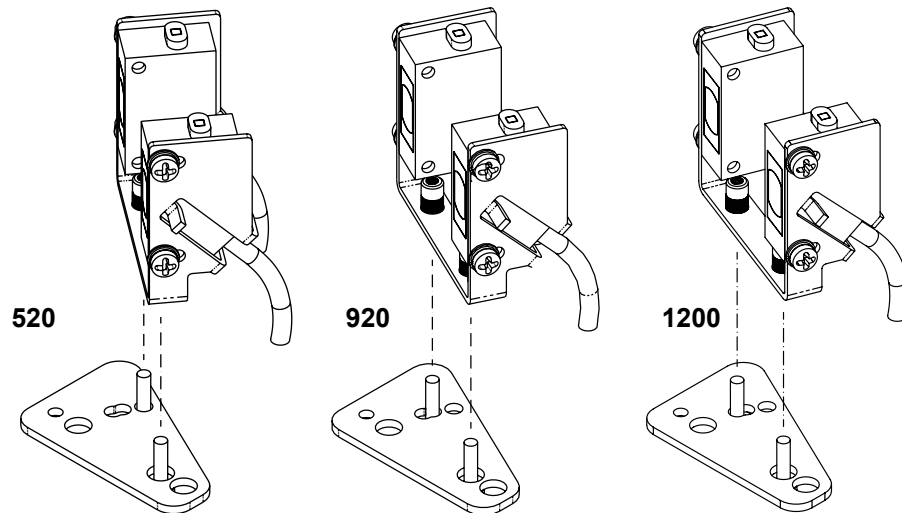
⚠ ATTENTION! - Since the adjustment for access lanes of 920mm and 1200mm is very close, the adjustment holes on the mount are almost together, without a separation area. Digicon does not recommend using tall doors in access lanes of 1200mm due to the large mass of the doors.

The angle adjustment of the sensors must be done on both the Receiver Module and the Transmitter Module.

- Example of simple sensor adjustment (Receiver Module):



- Example of dual sensor adjustment (Transmitter Module):



7.4 Panic button

For emergency situations, the emergency contacts should be used as directed in item 6.3.3 of this manual, which causes the dGate to open the doors in the exit direction, clearing the access lane in both directions for as long as the contacts are activated.

Another way to enter emergency mode is by de-energizing the equipment, which will then be in a resting state (doors closed) but unlocked, allowing the user to push the door open to pass through.

7.5 Functionalities

The dGate has various functionalities to customize its operation. These functionalities are configurable via software only by a qualified technical professional and are detailed below.

- Selectable passage control modes, independent for entry or exit directions
- Independent door speed configuration for opening and closing
- Access control configuration with doors open
- Anti-crush protection system
- Passage timeout
- Detection of passage direction
- Detection of user return
- Detection of stopped users
- Detection of module intrusion
- Detection of piggybacking users
- Asset security mode
- Accumulation of passage authorizations

7.5.1 Passage Control Modes

The dGate can be configured to control entry or exit passages in different modes, independently for each direction of passage.

Each direction of passage can be set to operate in 3 different states: open, blocked, and controlled. In the open state, any passage in this direction is allowed, whether or not the user is authorized. In the blocked state, any attempt to pass will be blocked, regardless of whether the user is authorized or not. In the controlled mode, passage is only allowed for properly authorized users.

With the arrangement of different configuration possibilities for each direction of passage,

passage, the dGate equipment can be configured (only via software by a qualified **technical professional**) to operate in the following modes:

Operation Mode	Access lane in the entry direction	Passage in the exit direction
Mode 1	Blocked	Blocked
Mode 2	Controlled	Blocked
Mode 3	Blocked	Controlled
Mode 4	Controlled	Controlled
Mode 5	Open	Blocked
Mode 6	Blocked	Open
Mode 7	Controlled	Open
Mode 8	Open	Controlled
Mode 9	Open	Open

Factory default:

- Operating Mode = Mode 4 (Controlled Entry/Controlled Exit).

7.5.2 Door Speed Configuration

The dGate module allows for the selection of door movement speed in 3 different levels: slow, medium, and fast.

Door speed configuration is independent for each movement, allowing for different speeds for door opening and closing. The dGate opens the doors always in favor of the enabled passage direction, i.e., from entry to exit when an entry passage is enabled, and from exit to entry when an exit passage is enabled. The selected speeds for opening and closing will be the same for both entry and exit passage enablement. Note that larger doors (height, width, weight, etc.) may exhibit differences in speed levels.

Factory default:

- Opening Speed = Slow
- Closing Speed = Slow

7.5.3 Access Control Configuration with Doors Open

For a more user-friendly and welcoming access control, the dGate allows configuration of the resting state with the doors open. In this resting state, access control is managed in reverse logic, blocking unauthorized users.

After presenting a valid passage authorization, the dGate keeps its doors open regardless of the user's direction of passage, allowing entry or exit from the controlled environment. Conversely, if an unauthorized user attempts to pass in any direction, the dGate will close the doors and prevent the completion of the passage between environments.

Factory default:

- Access control with doors open = Disabled.

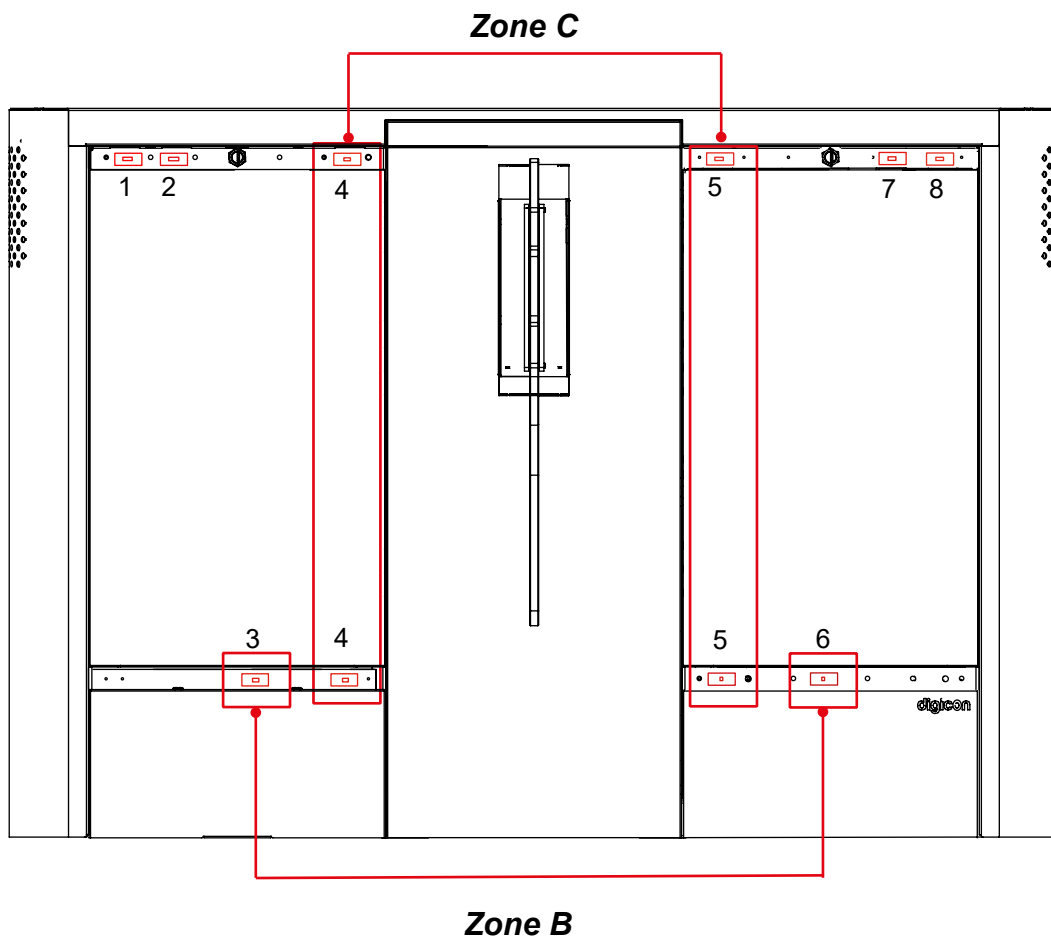
7.5.4 Anti-crush protection system

The anti-crush protection feature aims to enhance user safety with the dGate. When this feature is enabled, the system will not perform door opening or closing movements if the sensors in the areas where the doors would move detect obstruction by users or objects.

If the obstruction occurs before the system starts moving the doors, the action will be delayed until the user or object clears the path. If the door movement has already started when the obstruction occurs, the system will stop the door movement and return to the previous position, delaying the execution of the movement until the path is clear.

The area covered by the anti-crush protection system initially includes the sensors closest to the door movement axis (Zone C) but can also be configured to encompass sensors in the mid-range zones of entry and exit (Zone B).

Once the anti-crush protection is enabled, it will act on all motor movements, whether opening or closing, for both entry and exit passage releases.



Factory default:

- Anti-crush protection system = Enabled (Zone C)

7.5.5 Passage timeout

The passage timeout is the maximum time interval during which the module will maintain passage authorization for the validated user. This time interval can be configured in increments of 100ms (up to 7 seconds). If no passage timeout is configured, the dGate will remain open indefinitely, awaiting passage in the authorized direction.

After the passage timeout occurs, the dGate system will cancel the passage authorization and close the module's doors (unless obstructed by the anti-crush functionality)

The timeout countdown can also be configured to restart when the system detects a user entering in the authorized direction or in the opposite direction, even if the user does not complete the passage. The timeout reset can be enabled separately for each of these cases.

When there are only 3 seconds remaining before the configured timeout value is reached, the dGate will alert users during this period with intermittent audible signals (beeps), alternating red and green lights on the upper pictogram in the authorized direction, and flashing red light on the upper pictogram in the opposite direction to the authorization.

Factory default:

- Passage timeout = Enabled.
- Timeout duration = 7s.
- Reset countdown on user detection = Enabled.
- Reset countdown on user detection in the opposite direction = Enabled.

7.5.6 Passage Direction Detection

The dGate has a passage direction detection feature, meaning the system recognizes the direction of movement by reading its sensors during the user's passage.

By employing direction detection, the dGate can be configured to allow passages in opposite directions. For example, when passage is enabled in one direction, it allows both entry and exit. Practically, this functionality allows a user within the environment to authorize someone else located at the other end of the access lane.

When permission for opposite direction passage is disabled, if the module detects an intrusion in the opposite direction to the enabled passage, the dGate will close its doors, preventing the completion of the movement in the opposite direction. The doors will close at the previously configured closing speed.

The restriction on opposite direction passages applies immediately after the passage has been enabled. To prevent enabling passage during the detection of an opposite direction intrusion, refer to the section - Module Intrusion Detection (item 6.5.9).

Factory Default:

- Direction Detection = Enabled

- Allow passage in the opposite direction = Enabled.

7.5.7 User Return Detection

With user passage direction detection, it is also possible to configure the dGate to allow user return detection. With this feature enabled, the dGate will allow a user who has already completed the passage movement through Zone C to return to the starting point of the movement. With this function disabled, the equipment will close the doors upon detecting the return (provided there are no obstructions due to the anti-crush functionality)

.

Factory default:

- Allow user return = Enabled.

7.5.8 User Standing Detection

Constant scanning of sensors for monitoring user movement, combined with timing in which the user occupies each region of the equipment's access lane, enables the user standing detection functionality and the action taken by the dGate in these cases. The user standing situation is defined when, after a passage is enabled, the user remains in the module's internal region obstructing the sensors without movement forward or backward for a certain interval of time. The maximum time a user can remain in the same region without being considered a standing user is configurable.

Upon detecting the user, the dGate system allows for enabling a smooth door closure and/or issuing audible alerts. The door closure due to user standing detection is performed smoothly, ensuring the safety of the equipment and the user. In this functionality, there is no option to configure the door closing speed, which is always performed slowly. This functionality is not applicable when the anti-pinch function is activated and the user is within the configured protection zone.

Audible alerts after detecting a standing user on the module are a standard feature but can also be disabled via configuration. The alert consists of intermittent beeps.

Factory default:

- Time to consider user standing = 5s.
- Close doors when detecting standing user = Disabled.
- Emit audible alert when detecting standing user = Enabled.

7.5.9 Module Intrusion Detection

Module intrusion is characterized by a user entering the internal area of the module without a valid passage authorization. The dGate provides functionality to configure actions in the event of a module intrusion.

When module intrusion is not allowed, the dGate emits intermittent audible alerts along with a red light indication on the pictograms as soon as the intruding user enters the sensor monitoring area.

Another permitted configuration is not to authorize passages if an intrusion occurs in any direction of the module, whether in the normal direction of passage or in the opposite direction. When operating with this functionality, the dGate will only authorize user passage if no sensor is detecting obstructions inside the equipment when the user presents a passage credit.

The functionality of not authorizing passage when module intrusion is detected refers only to intrusions during the credit validation attempt. In these cases, passage credits are not deducted until clearance is achieved.

Factory default:

- Allow module intrusion = Enabled.
- Do not allow authorization upon detecting intrusion = Disabled.

7.5.10 Detection of Tailgating User

The tailgating user is defined as a second, non-authorized user attempting to pass immediately behind an authorized user. The dGate has a tailgating detection system. This functionality allows configuring the module to detect fraudulent users (tailgaters), permitting only the passage of the authorized user. The doors close during the interval between the two users, considering the configured closing speed of the equipment, and is accompanied by red lighting indications on the pictograms and an intermittent audible alert.

This functionality conflicts with the anti-crushing system and will not close the doors if such action could impact any user within the configured safety area; however, the audible and visual alerts will still be issued as usual.

Factory default: Disabled.

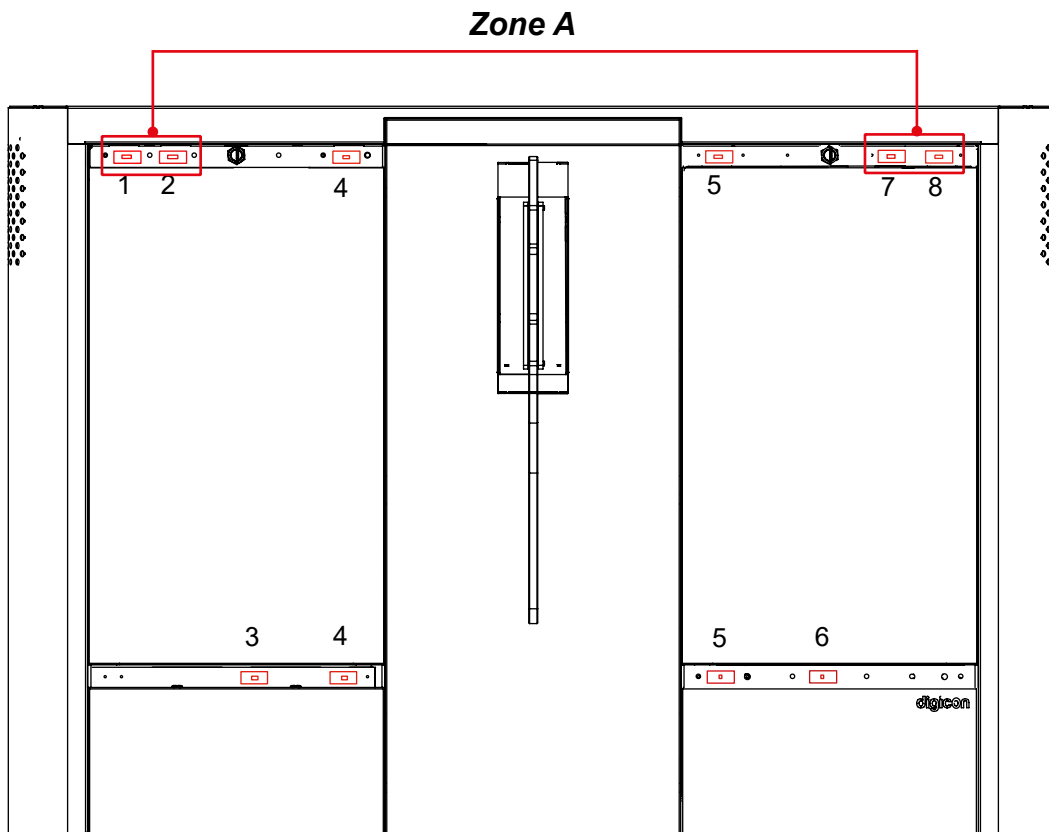
- Allow tailgating = Enabled.

7.5.11 Definition of Asset Protection Zone

To increase security in access control to the environment, the dGate module features the definition of an Asset Protection Zone. When configured, the dGate will only open the doors after the authorized user enters the Asset Protection Zone. With this functionality active, the passage credit is deducted from the user upon presenting the authorization, along with visual and audible indications of passage authorization. The doors will only open when the user enters the Asset Protection Zone (Zone A). The Asset Protection Zone aims to reduce the door opening period, thereby decreasing the possibilities of fraud to the access control system.

Factory default:

Property security zone definition = Disabled



7.5.12 Accumulation of passage authorizations

The accumulation of passage authorizations is defined by the possibility of a user enabling more than one passage without successfully completing the first enabled passage. When activated, this functionality affects both entry and exit movements and can be used by any user with more than one passage credit.

In practical terms, this functionality allows a user with multiple credits to enable more than one passage in the same direction, potentially granting access to other unauthorized users.

Factory default:

- Accumulation of passage authorizations = Disabled.

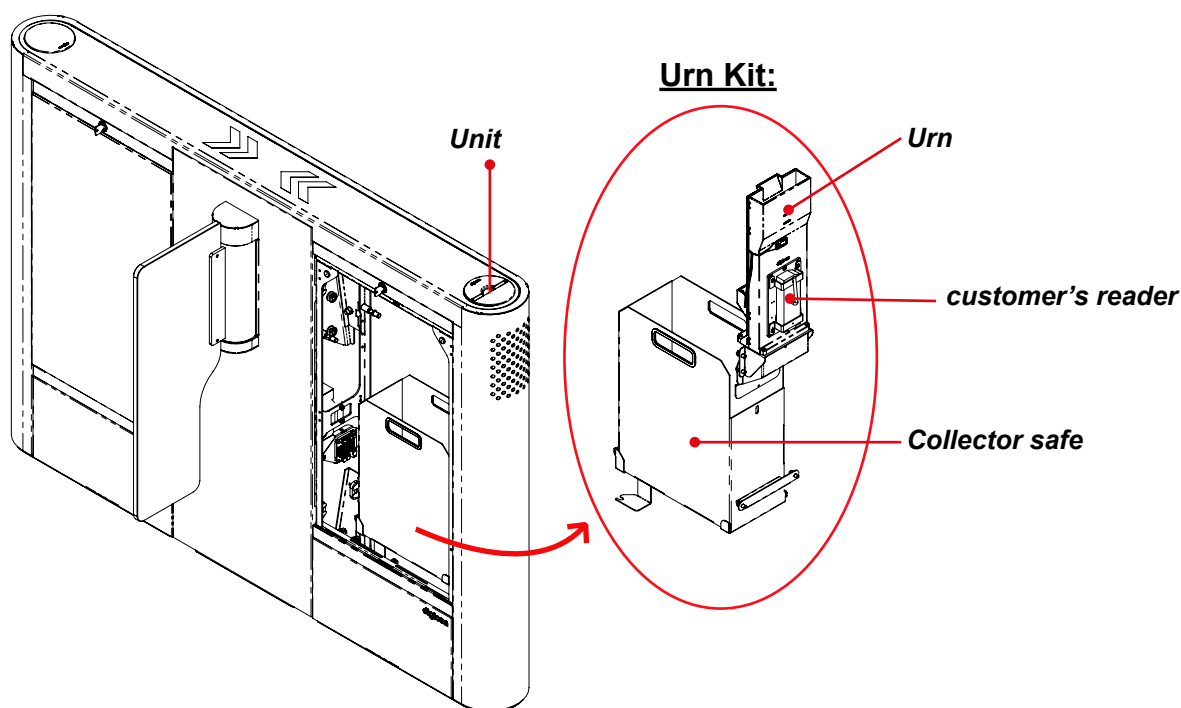
8. Optional Items

Despite compatibility with most access control technologies currently available, Digicon also offers a range of optional items that allow for the enhancement and customization of the dGate module's functionality to meet the client's needs. Below is a description of some of these items.

8.1 Card collector set

- The Card collector set includes a device for collecting, retaining, and retrieving cards or badges. It is ideal for places with visitors or occasional users. The kit consists of a mouthpiece, a solenoid-activated retention device, and a storage urn.
- The collection device can be configured with collection and release by timeout or models with card readers attached, which can include RFID and Mifare reading technologies.
- The following figure shows the items included with the collector kit with urn and can serve as a guide for its assembly.

8.2 Digicon MCA Board

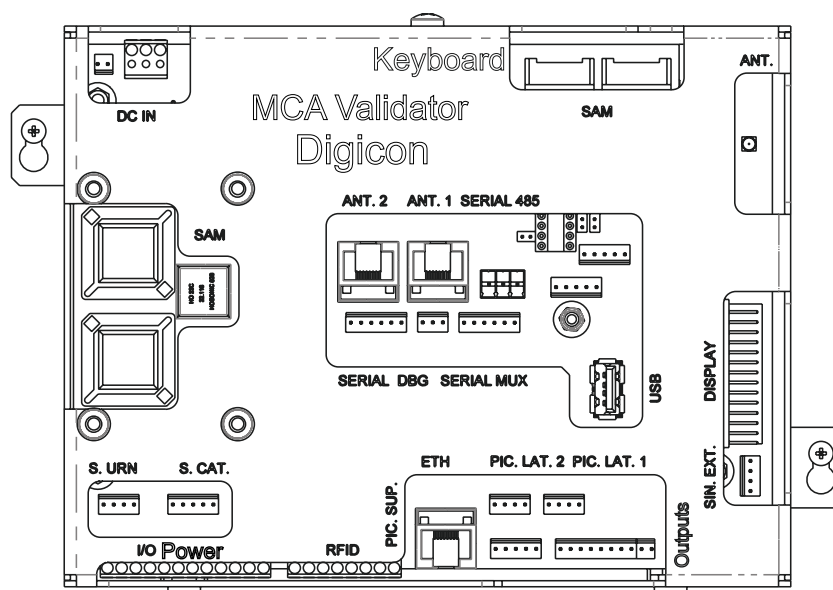


Digicon offers, as an additional option, an intelligent controller called MCA (Access Control Module), which plays a crucial role in integrating the equipment with control systems. This integration provides efficient and centralized management, allowing functionalities such as access control, activity monitoring, and event logging.

The MCA is a robust and versatile control board designed to integrate with a variety of access control and time management systems and software. It handles and stores identification rules, user validation, permissions, schedules, and event lists. The MCA hardware is designed to facilitate integration with various user identification systems.

The controller supports the connection of multiple types of readers, including contactless cards with RFID or MIFARE technology, barcode readers, QR code readers, biometric readers, and facial readers with temperature control. Its TCP/IP network performs database queries quickly and reliably, while its local storage capability allows for offline operation, enabling access data to be queried and stored.

Additionally, the fingerprint biometric solution offers excellent performance, ergonomics, and security for access control and attendance projects. This biometric technology can be integrated into 1:N or 1:1 applications, complementing the available card technology.



9. Maintenance

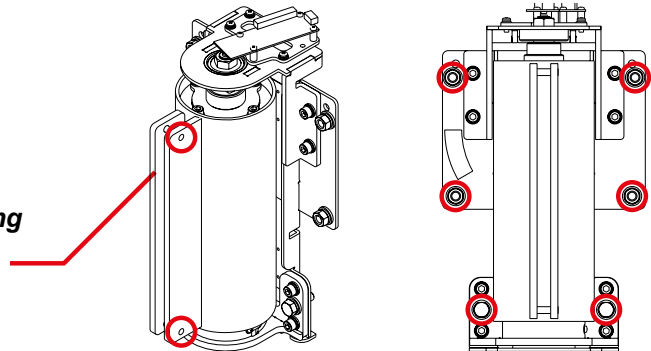
9.1 Door

Every six months, it is necessary to check the fastening of the door supports. This adjustment should be performed with a torque wrench set to 17 N·m.

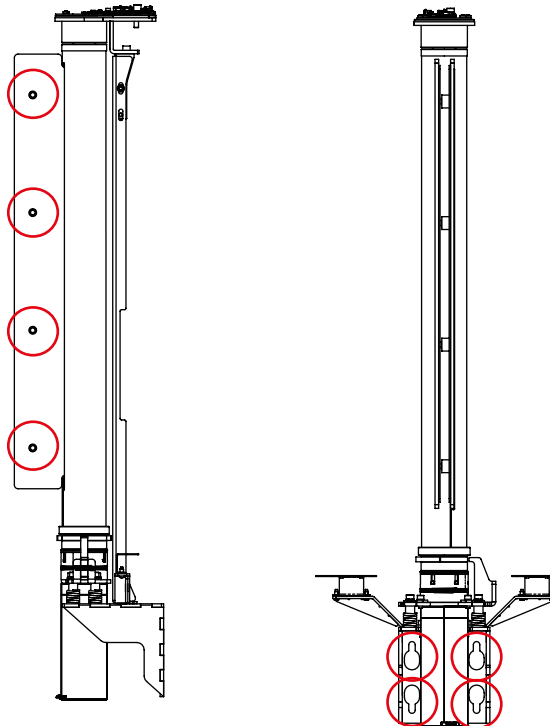
Fixing points: ○

dGate SW Mechanism:

Polycarbonate fixed according to the door model



dGate UW Mechanism:

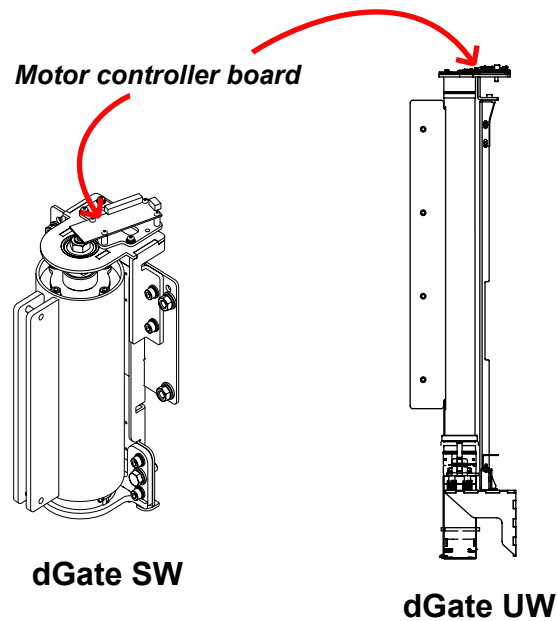


9.1.1 Calibration Routine

For synchronized operation of the dGate doors, both doors must be calibrated. The dGate comes factory-calibrated, but if necessary, this procedure can be easily performed.

Digicon recommends that this procedure be carried out by a qualified technical professional.

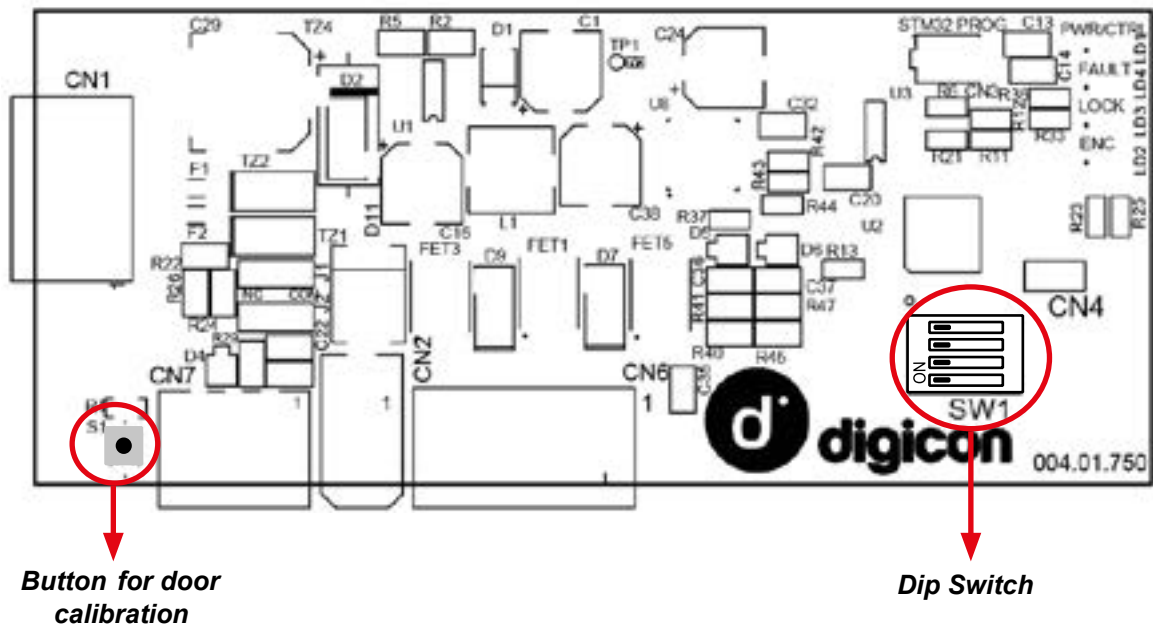
The dGate uses a Motor Control Board, which operates the door motors and reads their position. This board includes motor phase switching circuits and a magnetic encoder circuit, responsible for reading the absolute position of the door. One board is used for each motor, and they communicate with the MCP board via an RS-485 network. The board is factory-configured and requires no additional adjustments.



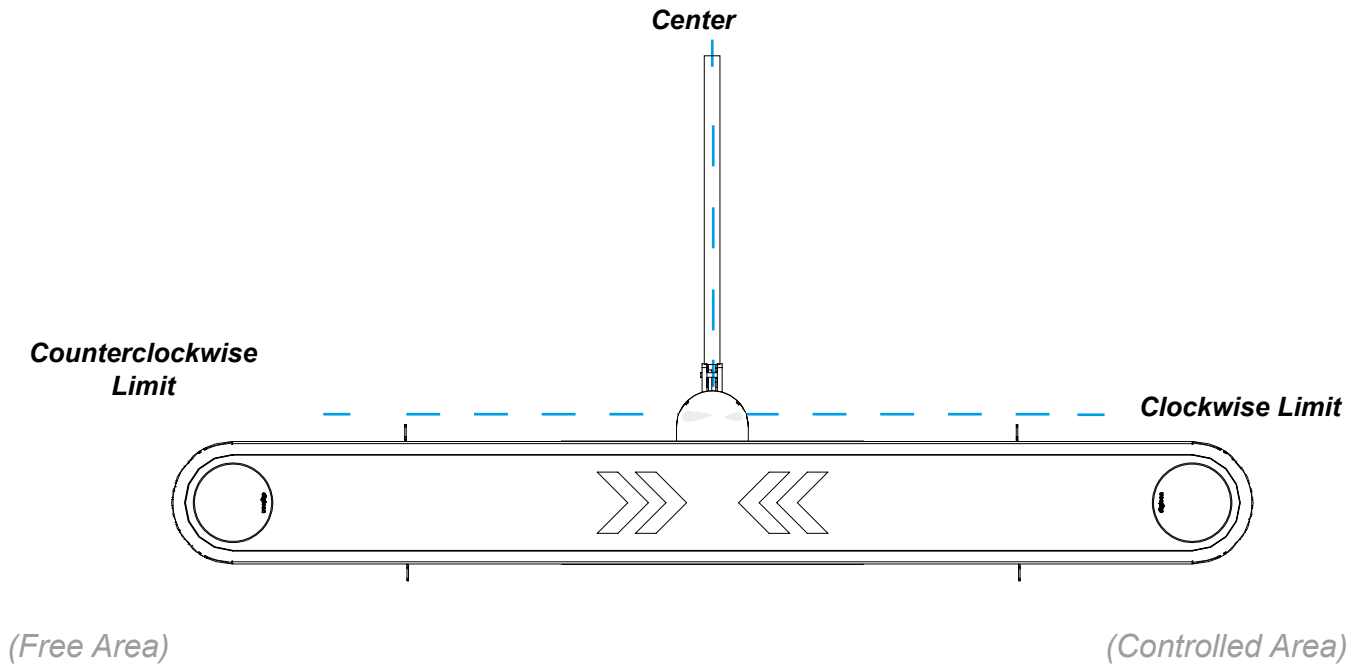
The null position of the encoder depends on the orientation of the magnet, which can vary depending on the mechanism. Since it is not possible to adjust the orientation of the magnet, it is sometimes necessary to perform the calibration process for the equipment's doors. The calibration process involves storing the positions of both ends (maximum positions, limited by the equipment's mechanics) and the central position of the door.

The calibration of the dGate doors is performed individually (dGate R and T) and can be carried out through the following process:

- Press the S1 button on the motor control board for 3 seconds:



- The door will perform a bidirectional movement process, reaching the counterclockwise limit and the clockwise limit, and then calculating the midpoint between the two ends, the door will position itself in the center.



- At this point, if necessary, the user can manually position the center by slightly moving the door to the desired position.
- Afterwards, the calibration process should be completed by pressing the S1 button on the motor control board once.

The motor control board is equipped with a Dip Switch (SW1) containing status selectors (ON-OFF). Selectors 2, 3, and 4 are designated for configuring the communication addressing of the board to the MCP, while selector 1 is used for controlling the electromechanical brake.

Switches				Description
1	2	3	4	
ON				Mechanical brake enabled
OFF				Mechanical brake disabled
	ON			Addressing intended for communication between internal hardware components of the modules. Default settings should not be changed; if necessary, adjustments should only be made by qualified technical professionals.
	OFF			
		ON		
		OFF		
			ON	
			OFF	

Factory default:

Module R

Switches			
1	2	3	4
ON			
	ON		
		ON	
			ON

Module T

Chaves			
1	2	3	4
ON			
	OFF		
		OFF	
			ON

9.2 Defects and Possible Causes

Problems	Possible causes.	Action
The dGate Module does not power on.	The equipment is not receiving AC power; the circuit breaker is off.	Check the power supply.
	Circuit breaker off.	Verify the circuit breakers. Check the AC connection polarity (FNT).
Audible warning without the presence of an obstruction.	Access lane sensors misaligned.	Check if the module is perfectly aligned. Afterward, with the help of a qualified technical professional, use the MCP tester software to identify the defective sensor(s).
	Electrical connection failure of the components.	
Pictograms do not light up.	Cables/connectors disconnected or damaged	Check/replace cables and/or connectors.
	Cables/connectors disconnected or damaged	Check/correct DIP switches.
	Damaged pictograms	Replace pictograms.
When enabling passage, the doors open but do not close.	Check the sensors of the modules, as they may be detecting the presence of a user in the module.	Use MCP-tester software to check the faulty sensor. After that, perform sensor realignment or replacement.
Misaligned doors.	Door calibration.	Perform the calibration procedure; refer to the Calibration Routine chapter of this manual.

Problems	Possible causes.	Action
Door's mechanical brake.	Connection of the brake activation cable.	Check the brake coil cable connection with the motor control board connector.
	Dip Switch motor control board	SW1-01 should be in the ON position.
Door resistant to movement or making noise.	Damaged bearing.	Replace the upper bearing.
	Damaged brake.	Replace the brake.
	Motor finishdesalinhado.	Adjust or replace the motor cover.
Door does not move.	Burned motor.	Replace the motor.
	RS-485 communication failure.	Check cables and connectors.
	24V power supply damaged.	Replace the 24V power supply.
	Damaged encoder board.	Replace the encoder board..
	Misconfigured encoder board.	Check the DIP switch (SW1) configuration.
The equipment flashes red and the buzzer is activated (beeping).	Misaligned or damaged sensors.	Align or replace the sensors..
	Damaged MCP board.	Replace the MCP board.
Door does not lock.	Damaged encoder board.	Replace the board.
	Damaged or poorly connected cables.	Replace the cables.
	Brake does not engage.	Replace the brake.

Problems	Possible causes	Action
Door does not calibrate.	Damaged encoder board.	Replace the encoder board.
	Distance and/or alignment between the magnet and the encoder out of standard.	Adjust the distance and/or alignment between the magnet and the encoder on the board.
	Damaged magnet.	Replace the magnet.
MCP does not power on.	Damaged 12V power supply.	Replace the 12V power supply.
	Blown fuse on the MCP board..	Replace the fuse.
	Damaged MCP	Replace the MCP.

9.3 Preventive Maintenance

For estimating preventive maintenance times, it was assumed 1600 passages per day and a month of 30 days. Since these are reference values, they may vary based on the client's usage pattern, and adjustments should be made to obtain the new times.

Calculation base:

Passage cycle: 1600 (Estimated passages per day)

Month (days): 30

Cycles in a month: 48000

Cycles	Maintenance Month
288 thousand	6 Months
480 thousand	10 Months
1,056 million	22 Months
1,536 million	32 Months

9.3.1 Preventive Actions Table:

Action	Frequency
Calibrate the doors (if necessary).	1x / 3 Months
Analyze the operation of the doors to check for noises, heavy mechanisms, and irregular activations.	1x / 6 Months
Analyze the operation of the equipment's upper LEDs.	1x / 6 Months
Analyze the operation of the entry and exit pictograms.	1x / 6 Months
Analyze the buzzer activation through valid and invalid entries.	1x / 6 Months
Check the 24V voltage on the power supplies that feed the motor.	1x / 6 Months
Check the operation of the mechanical brake on the doors.	1x / 6 Months
Check the tightening of the door mounting screws.	1x / 6 Months
Visually inspect the motor keys.	1x / 6 Months
Check the operation of the motor.	1x / 22 Months
Visually inspect the condition of the doors.	1x / 6 Months
Check the operation of the locks.	1x / 22 Months

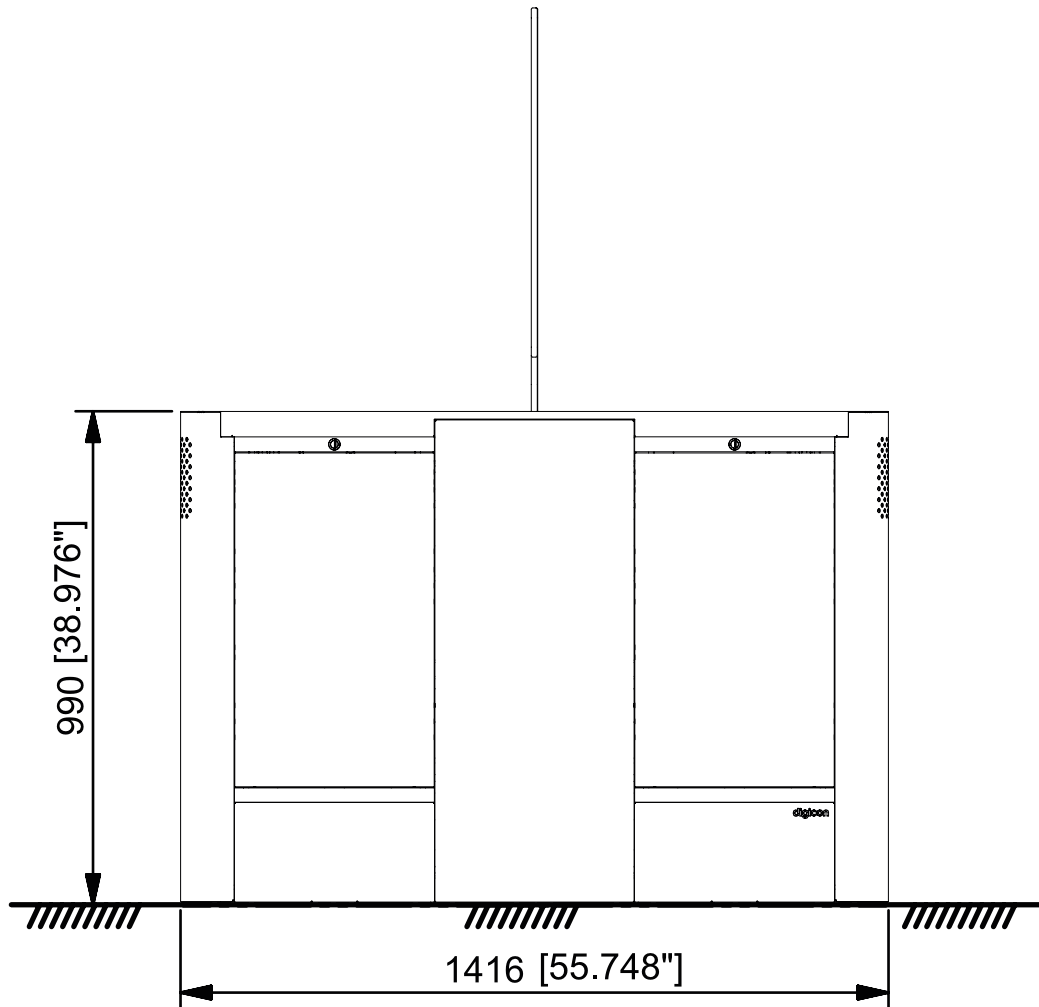
Registros de Manutenção Preventiva:

Manufacturer			
Company: Digicon S.A.	Contacts: +55 51 3489.7000 www.digicon.com.br		
product			
Model:	Code:	Serial number:	
Installation			
Company:	Contacts:	Date:	
Action	Date	Responsible:	Signature

10. Technical Specifications

10.1 Dimensions

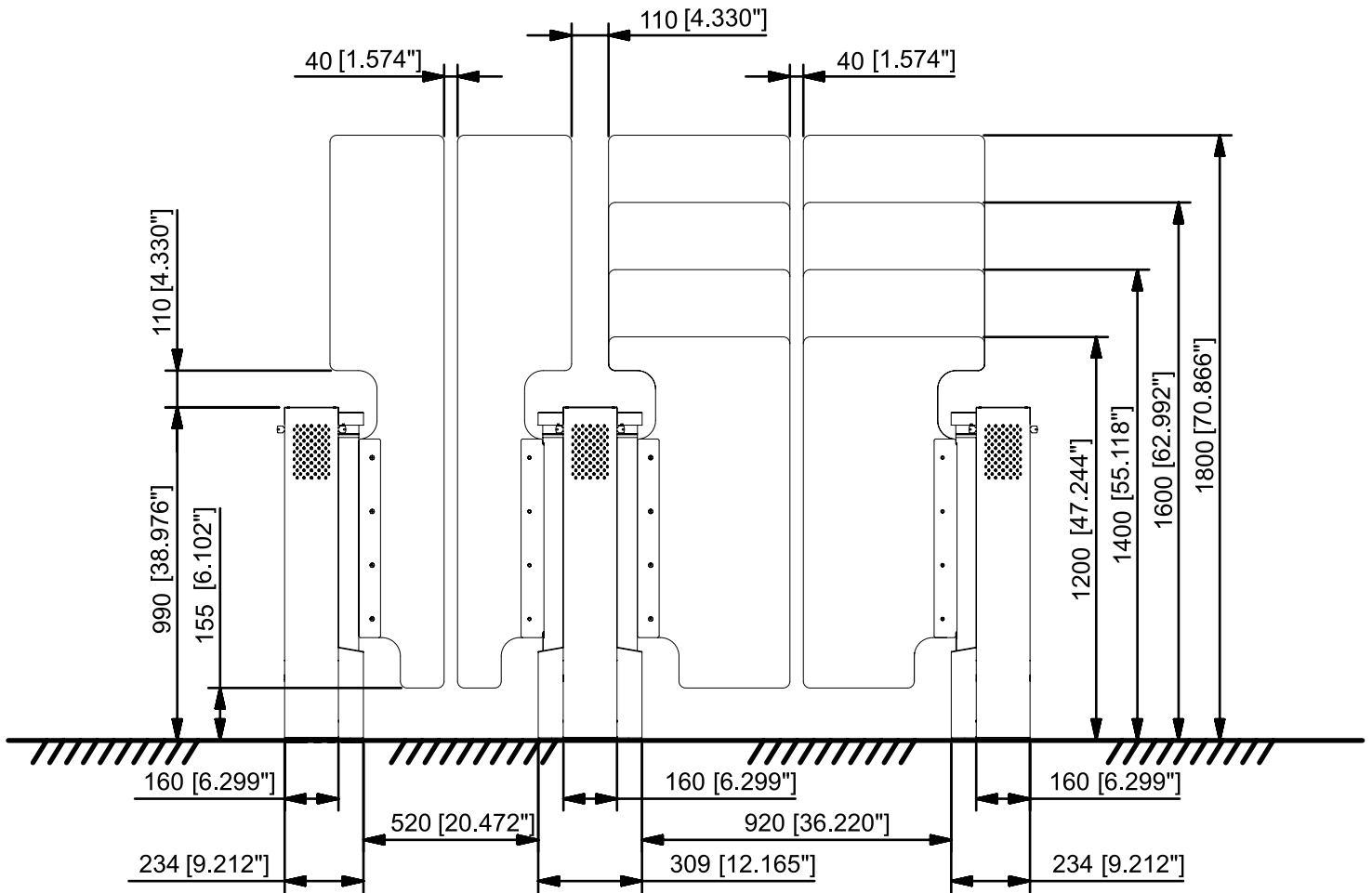
- dGate UW:



⚠ ATTENTION! - The dimensions of the dGate modules are illustrated in millimeters and [inches].

⚠ ATTENTION! - Tolerance of 10mm [0.4"].

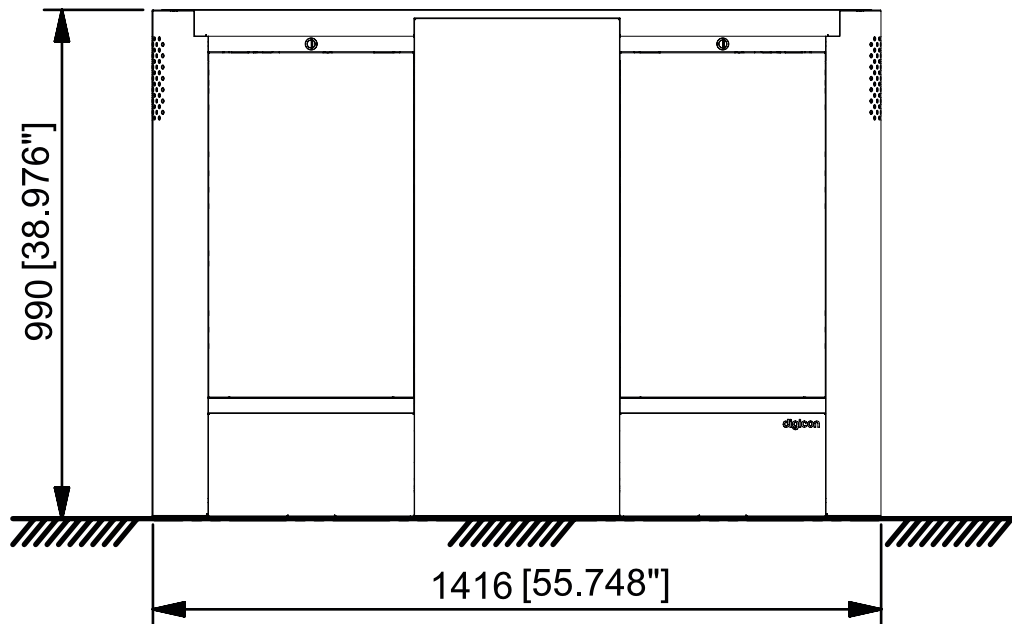
- **dGate UW access lanes:**



⚠ ATTENTION! - The dimensions of the dGate modules are illustrated in millimeters and [inches].

⚠ ATTENTION! - Tolerance of 10mm [0.4"].

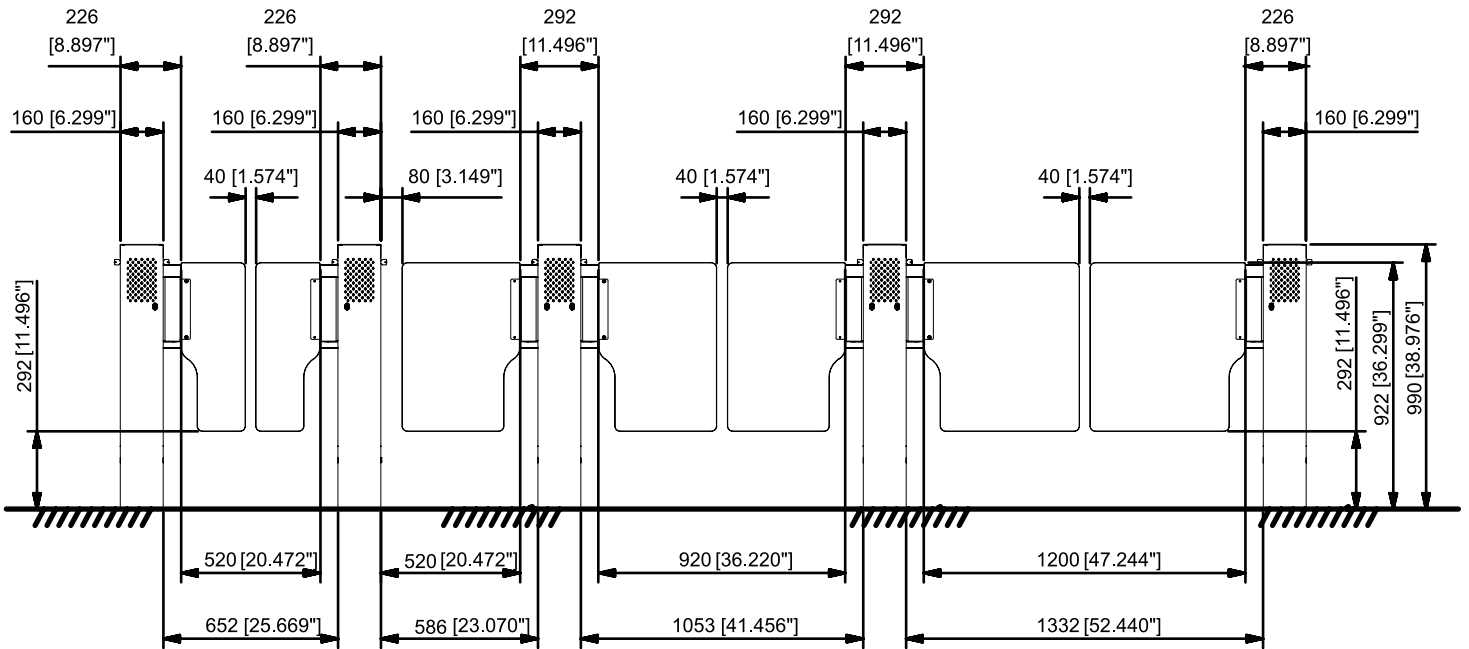
- dGate SW:



⚠ ATTENTION! - The dimensions of the dGate modules are illustrated in millimeters and [inches].

⚠ ATTENTION! - Tolerance of 10mm [0.4"].

- **dGate SW access lanes:**




⚠ ATTENTION! - The dimensions of the dGate modules are illustrated in millimeters and [inches].

⚠ ATTENTION! - Tolerance of 10mm [0.4"].

10.2 Additional Information

Technical data	Features
Power Supply	100 - 240 VAC (Automatic selection)
Frequency	50/60 Hz
Average door open/close time	1 second
Average operation cycle time	4,5 seconds
Weight	150 kg per packaged module
Consumption	Access lane SW/UW 500/900/1200 Startup: 49W Standby: 18.6W Operation: 42W
Maximum card capacity in the collector bin (optional)	120 cards
MTBF (Mean Time Between Failures)	Greater than 10,000 hours
MCBF (Mean Cycles Between Failures)	Greater than 8,000,000 cycles
Operating temperature	(0° a 40°C)
Temperature unit	Between 10% and 90% (Non-condensing)

 **ATTENTION!** - The average operation cycle time is based on an estimated time for a user to pass through the equipment, from validation to complete passage. This value can vary significantly depending on the user's speed.

11. Cleaning

11.1 Maintenance and care of stainless steel:

Cleaning brushed stainless steel requires additional care to maintain its appearance and finish. Below are some specific recommendations for cleaning brushed stainless steel:

Brushing Direction

Cleaning Direction: Always clean brushed stainless steel following the direction of the brushed finish. This helps to avoid scratches that may be more visible against the brushed pattern.

For Light Stains:

1. Warm Water and Mild Soap: Use a soft cloth or a non-abrasive sponge, dampened with a solution of warm water and mild soap. Remember to clean in the direction of the brushed lines.
2. Rinse and Dry: Rinse with clean water and dry with a soft cloth, following the direction of the lines to avoid streaks.

For Heavier Stains:

1. Vinegar or Isopropyl Alcohol: To remove limescale stains or fingerprints, use diluted white vinegar or isopropyl alcohol applied with a soft cloth, always following the direction of the brushed finish.
2. Baking Soda Paste: For persistent stains, a paste made of baking soda and water can be used. Apply gently with a non-abrasive sponge, always following the direction of the finish.

Additional Care:

Specific Stainless Steel Cleaners: There are cleaning products specifically designed for stainless steel that can be used to maintain shine and protect the surface. These products are generally safe to use on brushed finishes.

Avoid Abrasives: Never use steel wool or metal brushes, as they can permanently scratch the surface.

Avoid Chlorinated Products: Products containing chlorine or that are chlorinated can damage and stain stainless steel.

Maintaining the practice of cleaning in the direction of the brushed finish is crucial to avoid damaging the texture of this type of surface. Regular cleaning also helps preserve the desired appearance and the durability of the material.

11.2 Maintenance and Preservation of Polycarbonate (Doors):

To clean a polycarbonate door and maintain its transparency and durability, follow these specific recommendations:

1. Use mild products: Avoid abrasive cleaners or solvents such as acetone, benzene, or ammonia, as they can damage the polycarbonate. Opt for mild detergents or neutral soap
2. Use a soft sponge or cloth: Use a soft sponge or cloth to apply the cleaning solution. Abrasive sponges or brushes can scratch the polycarbonate surface.

Rinse with clean water: After gentle cleaning, wipe with a damp cloth and clean water to remove all soap residues, which can leave stains if not completely removed.


Rinse with clean water: After gentle cleaning, wipe with a damp cloth and clean water to remove all soap residues, which can leave stains if not completely removed.

Drying: Dry the surface with a clean, dry cloth or a microfiber cloth to avoid water spots.

Avoid steam cleaners: Excessive heat from a steam cleaner can potentially warp or damage the polycarbonate.

3. Regular cleaning: Maintaining a regular cleaning routine will help prevent dirt buildup and keep the door clear and in good condition for a longer period.

By following these recommendations, you can help ensure that your polycarbonate door remains clean, clear, and in good condition for many years.

 **ATTENTION!** - Even with more stubborn dirt, try starting with the mildest cleaning method. Be patient and repeat the process a reasonable number of times before resorting to harsher cleaning methods.

12. Warranty and Technical Support

Digicon is responsible for the design, high-quality workmanship, and materials used in the manufacturing of its products, ensuring that the equipment and all its parts are free from defects or material and manufacturing flaws. Digicon commits to replacing or repairing any part or equipment that shows a manufacturing defect at no cost to the buyer, under the conditions stipulated below:

1. The buyer is responsible for the round-trip transportation costs of the product.
2. The warranty period is counted from the issuance of the sales invoice and includes: 12 (twelve) months for equipment, accessories, parts, and components, including the legal warranty period of 90 (ninety) days.

Legal Warranty:

The consumer has a period of 90 (ninety) days, starting from the date of issuance of the purchase invoice, to claim any apparent irregularities (defects) that are easy and immediate to observe in the product, such as external parts and any other parts accessible to the user, as well as appearance parts and general accessories.

3. The warranty will be provided to the buyer only upon presentation of the invoice (original or copy). Service is provided by opening a support ticket at the following email addresses:

- **Access Control and exports areas:** sac.vca@digicon.com.br
- **Urban Mobility Area:** sac.vca@digicon.com.br
- **Necessary information for opening a ticket:**

Company Name:
TAX Id:
Full Address::
Responsible Person's Name:
Contact Phone:
Model(s) of Equipment with Defects:
Serial Number(s) of Equipment with Defect(s):
Defect(s) Presented:

13. Important Information

Digicon reserves the right to modify the characteristics of its products at any time to adapt them to the latest technological developments.

Digicon reserves the right to alter the information contained in this manual without prior notice.

- *“After the product’s useful life, dispose of it according to the National Waste Policy.”*
- The disposal should not be in regular trash, as it may cause harm to the environment and human health.”
- “You can send it to one of our addresses in Gravataí/RS or Barueri/SP, or dispose of it at a selective collection point in your area.”

Notes



Headquarters/RS
Development, Factory, Technical Assistance, and
Sales

Rua Nissin Castiel, 640 - Distrito Industrial

Gravataí/RS ZIP Code 94045-420

E-mail: vendas.aceso@digicon.com.br

www.digicon.com.br