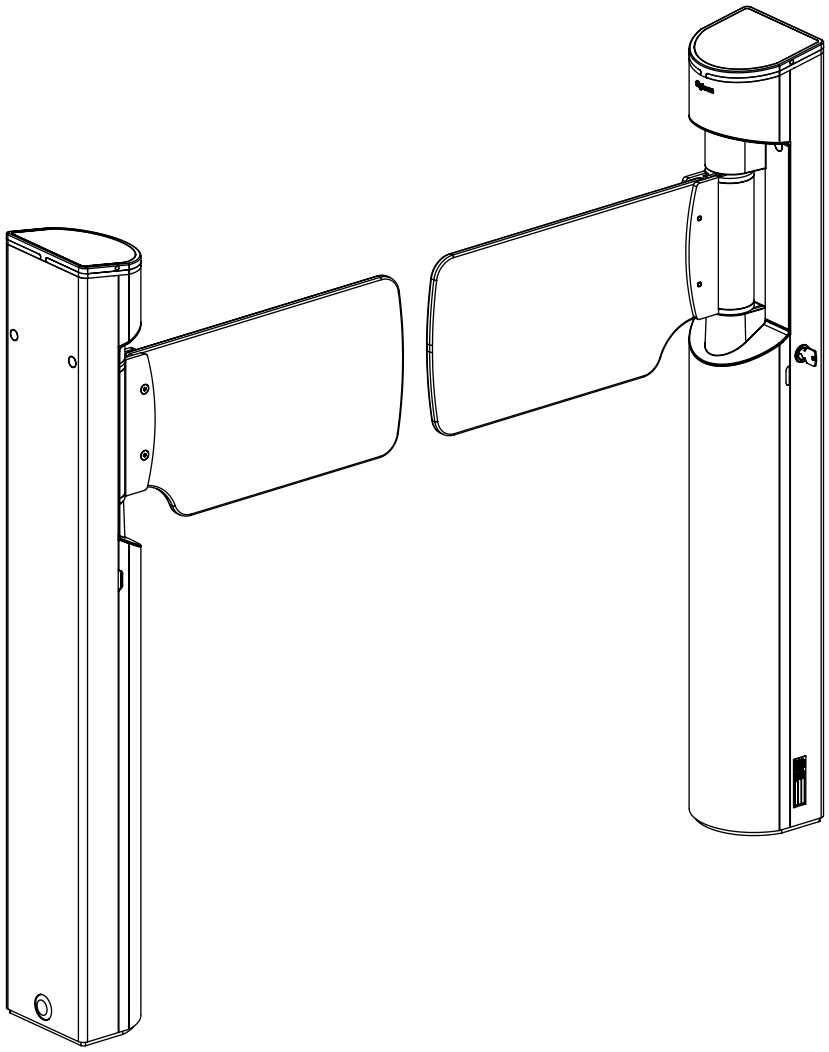
dSlim



digicon

Code: 069.31.285

Version: 03 - English

This manual was prepared by: Digicon S.A. Controle Eletrônico para Mecânica

Setor de Documentação - EDS

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1. Revision Control

Revision	Date	Reviewer	History
01	Jul 7th, 2021	• Nicholas Hahn; • Ezequiel Kellermann; • Nicholas Reis	• New dSlim manual
02	December 5th, 2024	• Fabio Duarte	• The DS1 and DS2 tables provide greater detail, with expanded descriptions of the configurable states, including: • Door movement speed (low or high). • Safety modes to prevent closing when sensors are obstructed. • Configuration of card retention time. • Inclusion of a detailed description of the R module sensor, highlighting its role in passage monitoring, proper alignment during installation, and configuration via dip switches, along with improved visual explanation through diagrams and practical examples.
03	May 26th, 2025	• Fabio Duarte • Ezequiel Kellermann;	• Restructuring of tables DS1 and DS2 with new factory-configurable parameters. Inclusion of a detailed functional description of the R module sensor with DIP switch adjustment and alignment. Update of the door calibration procedure with individualized instructions for R and T modules. Removal of the configuration with RT module; dSlim now operates with R and T modules. Restructuring of the preventive maintenance table, adding actions per component and technical periodicity.

2. Safety Instructions

2.1 Symbols

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

⚠ ***ATTENTION!:*** Describes something important that must be known by the qualified technical professional and the user.

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

⚠ ***WARNING! - RISK OF DEATH!:*** Describes high-risk situations that may lead to death. These cases are related to interaction with the internal parts of the equipment, and it is advisable 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 warnings, cautions, and precautions in the operating instructions, as well as those affixed to this 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 applies to individuals trained and certified by Digicon who are authorized to install, replace, or provide technical assistance for their 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 an unqualified technician may void the equipment's warranty.

User: The term "user" applies to individuals who are not qualified technical professionals and use 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 who require assistance may be unable to assess the risks associated with using the equipment, potentially injuring themselves or putting themselves in life-threatening situations.

Special attention should also be given to animals that may be near the equipment.

Below, we will mention risks that should be considered in various situations:

2.3.1 Risk of Unpacking the Equipment

⚠ ***ATTENTION!:***

- Always use the appropriate tools.
- Always use the necessary PPE (gloves, shoes, and protective glasses).

⚠ ***WARNING! - RISK OF INJURY/DAMAGE!***

- Handle the equipment packaging with care.
- The packaging is heavy, be careful to prevent it from tipping over, as it could cause injury and damage to the equipment.
- The packaging is heavy, ensure it does not tip over, as it may cause injury and damage to the equipment.
- Be cautious with your hands and feet when removing the equipment from the packaging and placing it in the installation location.
-

2.3.2 Risks During Equipment Installation:

⚠ ***ATTENTION!:***

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

Before turning on the power, perform a detailed inspection of the installation.

⚠ ***WARNING! - RISK OF INJURY/DAMAGE!***

- warning: Be careful when positioning this equipment in the installation location, as its size and weight may cause injury.
- During the initial operation phase, the doors may move. Keep the passage area clear to avoid collisions with objects and people.

⚠ ***CAUTION – DANGER OF DEATH!:***

- This equipment operates with hazardous voltage levels. To avoid the risk of electric shock, installation must be performed exclusively by a qualified technical professional.
- Before performing any procedure, ensure that the power supply is turned off.

2.3.3 Risks During Equipment Use

⚠ ***CAUTION – RISK OF INJURY!***

- Be careful, this is an access control device, and the doors may close in certain situations. If the doors come into contact with the human body, they may cause bruises or even fractures.

⚠ ***CAUTION – DANGER OF DEATH!***

- Children and individuals who require assistance must be constantly supervised, as they may be unable to assess the risks associated with using the equipment, which could lead to injury or life-threatening situations.

2.3.4 Risks in Equipment Maintenance

ATTENTION!:

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

CAUTION – DANGER 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 contains glass parts. Always wear protective glasses.
- 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!:

- Use the necessary PPE (gloves and protective glasses) throughout the entire cleaning process.

CAUTION – DANGER OF INJURY!:

- Be careful during the cleaning process, as the doors may close in certain situations. The impact of the doors on the human body can cause bruises and even fractures.

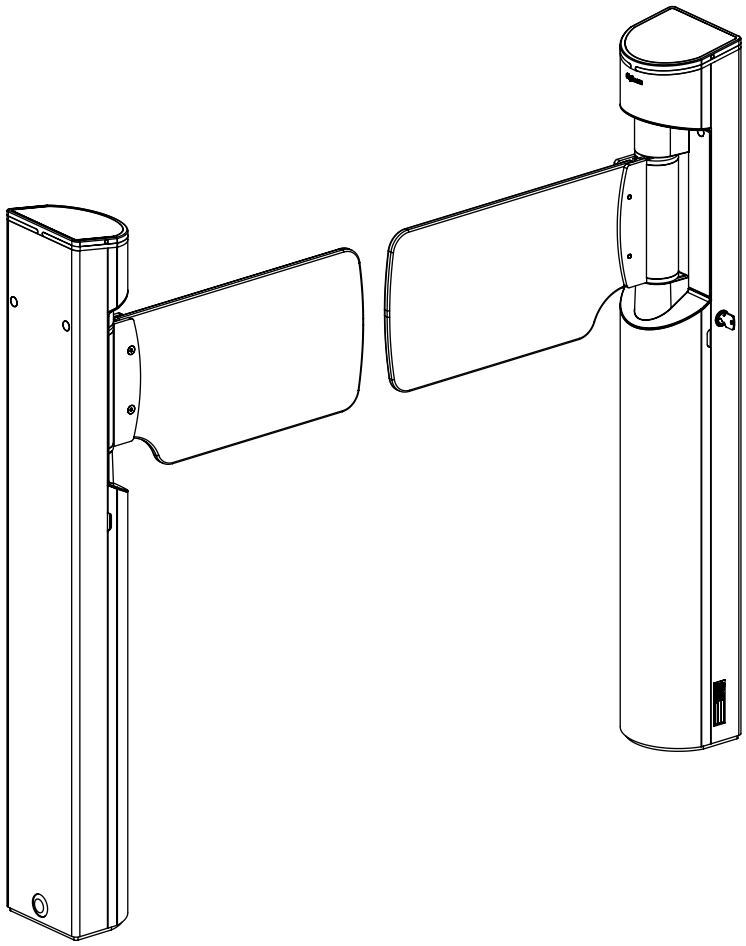
  The cleaning chapter in this manual lists the appropriate cleaning products for the equipment. Using the correct products protects both the equipment and the skin of the person performing the cleaning.

3. Presentation

When innovation meets robustness and design meets reliability, you find the best solution in access control. Digicon presents a solution designed in every detail to bring innovation, quality, and design to the access control market.

The dSlim is the result of an intense research process into global trends and exhaustive engineering work.

Learn more about our turnstiles by visiting our website through the QR Code below.



4. dSlim Features

1. Innovative design
2. Robust solution with motorized system and proprietary control technology
3. Reinforced structure for floor mounting
4. Multiple door options such as 10mm polycarbonate or clip-style stainless steel
5. Available with 10mm polycarbonate doors
6. Configurable door movement speed
7. Available with mechanical or electronic door brake options
8. Optional pictogram to indicate access authorization (green LEDs) or denial (red LEDs); dynamic movement as an optional feature inspired by the dFlow product line
9. Configurable acoustic signal (beep) for access control
10. Bidirectional door movement
11. Inputs for controlling door opening and closing
12. Top cover allows installation of proximity reader
13. Available with 2D/QR Code barcode reader option
14. Easy integration with market-available access controllers
15. Easy interconnection between “R” and “T” turnstiles
16. Configurable passage time control modes
17. Configurable safety mode
18. Available in versions with or without passage sensing

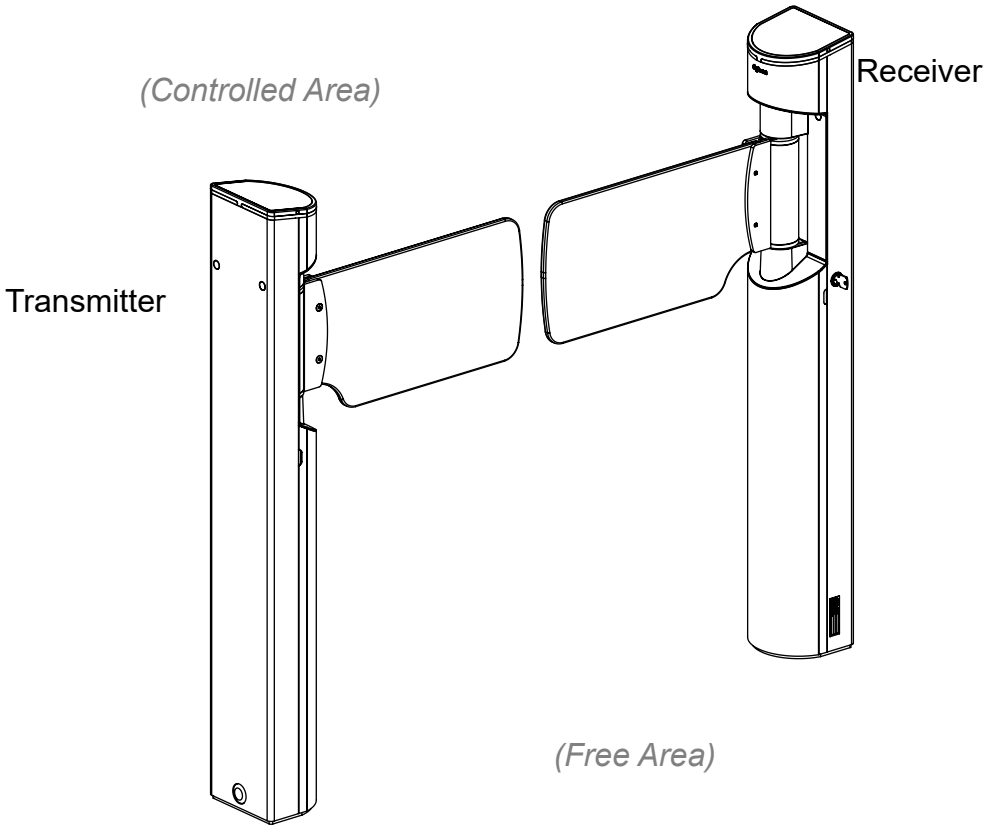
4.1 Functional Description

The dSlim features a motorized system for opening and closing the access doors, which is activated after the user's identification and access authorization. A sensor system is used to monitor the passage of people, controlling the direction of movement. These sensors also serve to protect the user.

The equipment includes an operating mechanism driven by a brushless permanent magnet motor.

Since the motor does not use a set of brushes for electrical actuation, there is no mechanical wear on electrical contacts, which extends the motor's lifespan.

To form a complete passage, two modules are always required. On the right side, observing the passage from the free area toward the controlled area, there will be a Receiver module. On the left side, there must be a Transmitter module. See the example below:



Receiver (R): This is the side that houses the receiver sensors and the electrical panel, where the interconnection board, controller board, power terminal block **(BN1),** and power supply module are installed. The interconnection cables leave the factory on the receiver side.

Transmitter (T): This is the side that houses the transmitter sensors and the interconnection board (BN2).

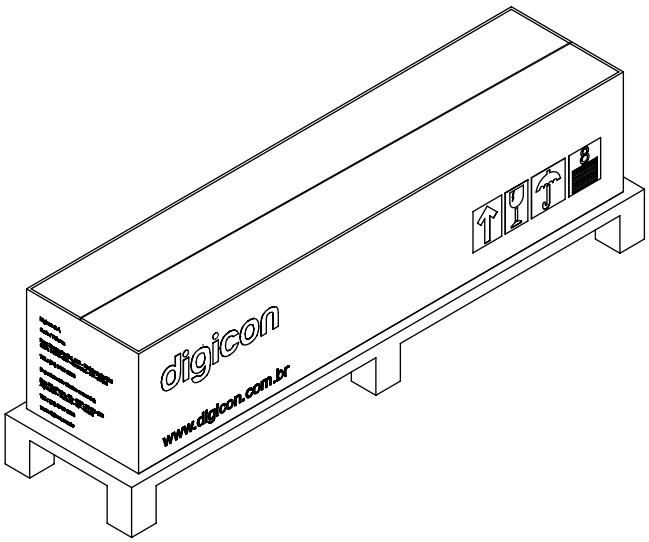
5. Unpacking, Mounting, and Electrical Connection

⚠ ***ATTENTION! –*** Only qualified technical professionals are allowed to install this equipment. The installation must comply with all local standards and regulations.

5.1 Opening the Packaging

As the items included in the packaging may vary (depending on the customer's request), it is extremely important to carry out a careful visual inspection before starting the installation and assembly process. All Digicon packages are accompanied by a checklist, which serves as a guide for this inspection.

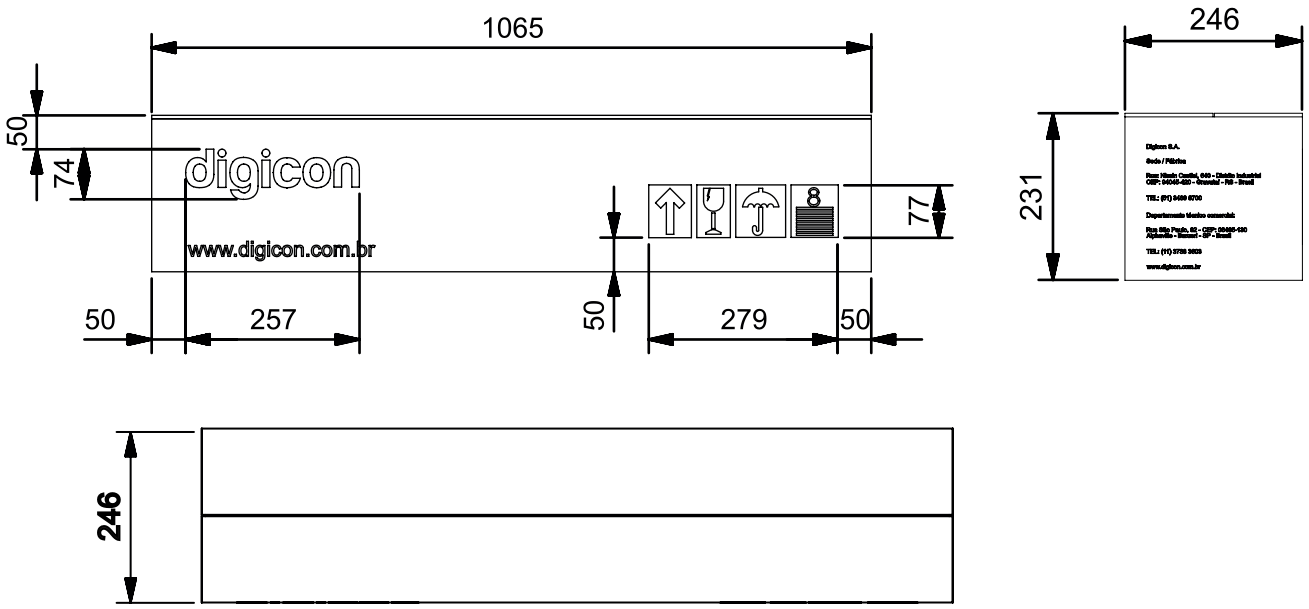
⚠ ***ATTENTION! –*** Upon receiving the equipment, check for any damage to the packaging. If any damage is found, take photos and send them to the responsible carrier.



⚠ ***CAUTION – DANGER OF INJURY!:*** The packaging is heavy; appropriate transport equipment, such as a pallet jack, is required to move it.

⚠ ***CAUTION – DANGER OF INJURY!:*** Always use the required PPE (gloves, safety shoes, and protective glasses).

5.1.1 Packaging Dimensions:



⚠ ***ATTENTION! –*** The dSlim measurements are illustrated in millimeters and inches.

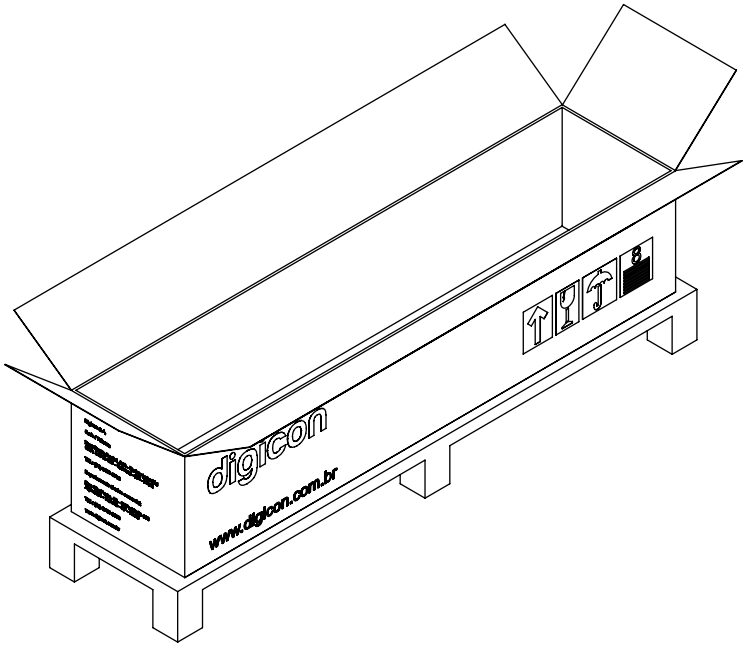
5.1.2 Required Tools:

- Protective gloves (PPE)
- Scissors or utility knife

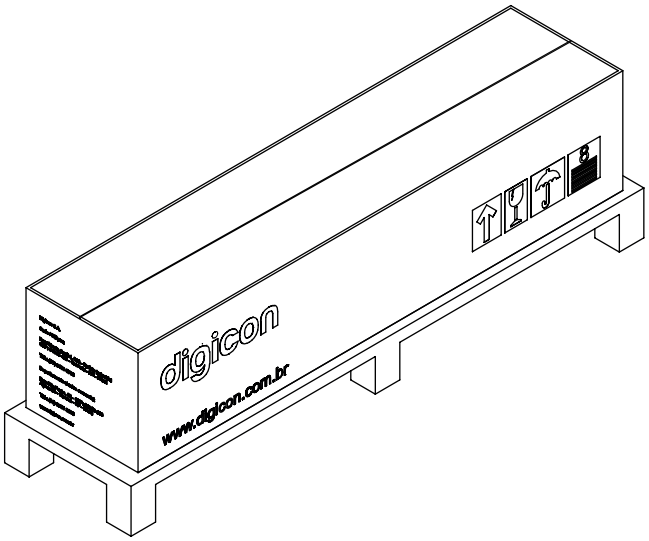
⚠ ***CAUTION – DANGER OF INJURY!:*** Be careful when handling cutting tools required for opening the packaging. They can puncture or cut the person unpacking the equipment.

5.1.3 Step-by-Step Packaging Opening:

1. To open the cardboard box, cut the straps securing the box to the pallet using scissors or a utility knife.

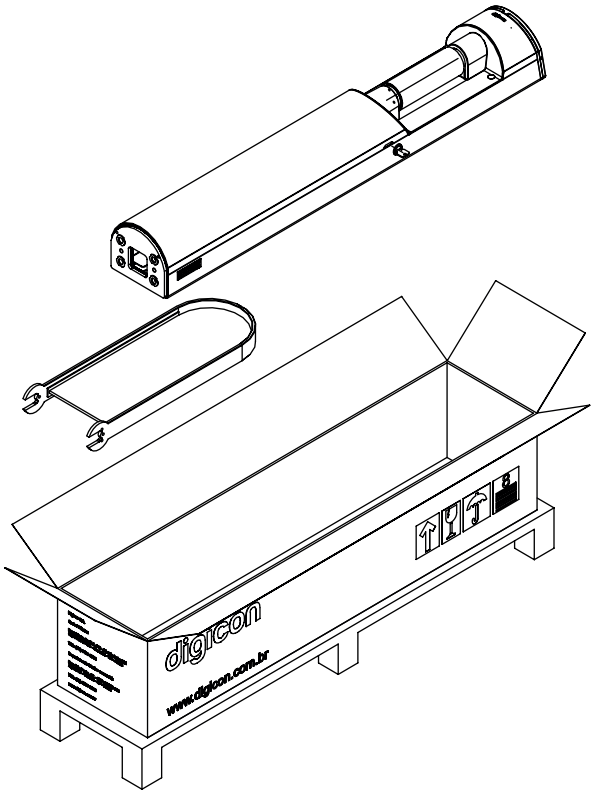


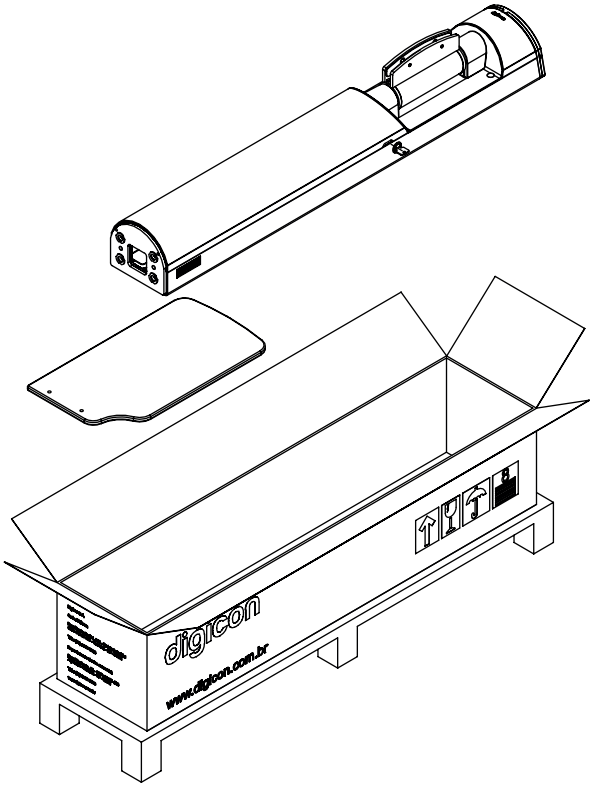
2. To open the cardboard box, use scissors or a utility knife to cut the straps securing the box to the pallet.



3. Once opened, the dSlim parts can be removed.

⚠ ***CAUTION! –*** Use appropriate protective footwear, as heavy parts may fall on the feet of the qualified technical professional.



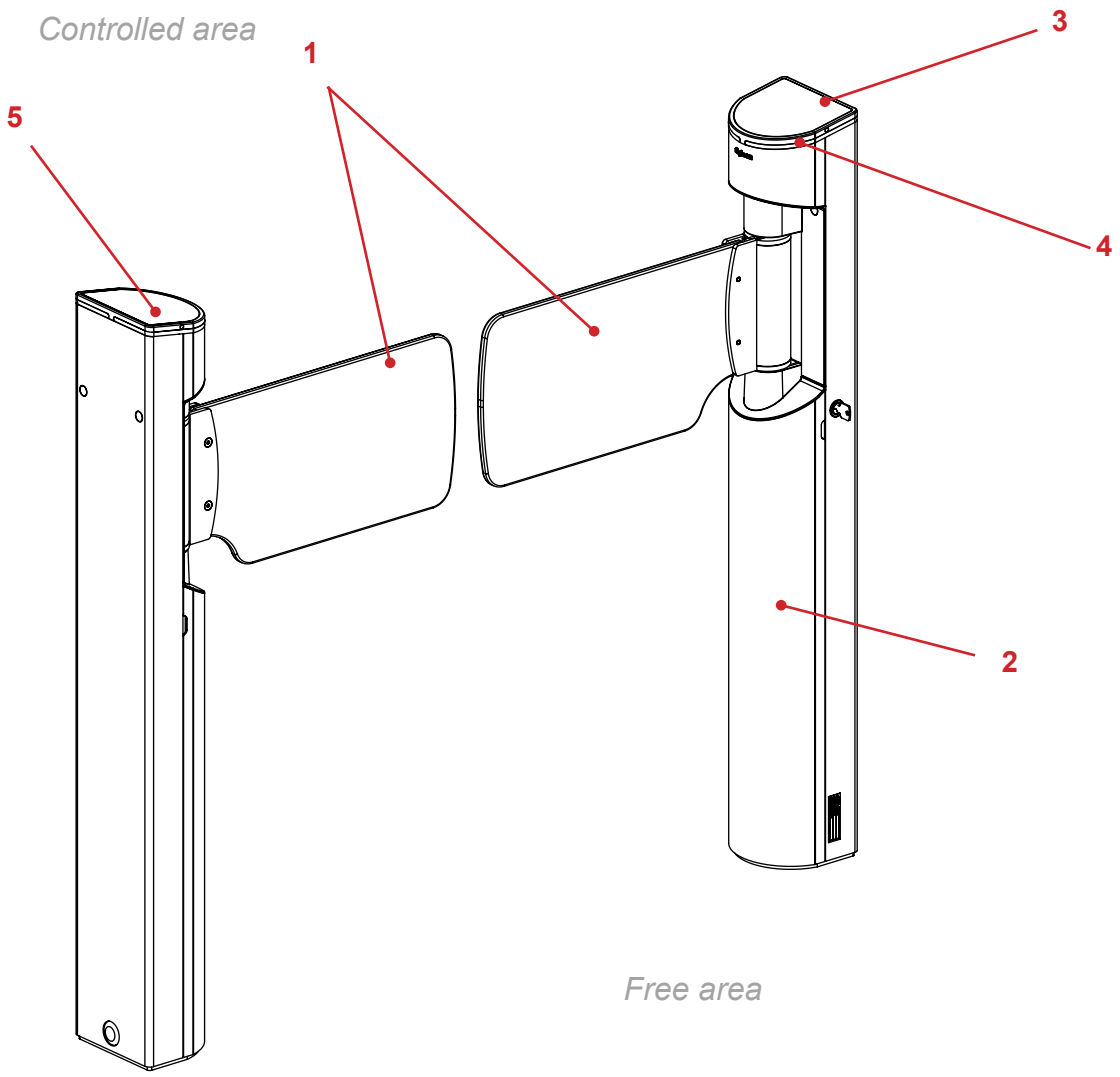


⚠ ***CAUTION – DANGER OF INJURY!:*** At least two people are required to move the module.

5.1.4 Key Parts of the Product

The external parts of the equipment are listed below and identified by numbers in the figure below.

4. Polycarbonate door or stainless steel Clip model door;
5. Front access door to electronics and locking mechanism (1020 steel or stainless steel);
6. Location for optional reader (biometric, barcode, Mifare, etc.);
7. Operation and orientation pictogram (top);
8. Top cover (1020 steel).



5.2 Controlled area

5.2.1 Before installing the dSlim, check:

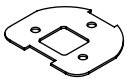
- If the chosen location for equipment installation is firm and level. It must meet the following flatness and levelness requirements respectively (Standards: ASTM E 1155-96 and ACI 117-90).

  PP ≥ 25 (Floor Flatness)

  NP ≥ 20 (Floor Levelness)
- If there is an energy source near the location, compatible with the equipment's consumption;
- If the chosen location is suitable for the installation of the access controller (covered environments);
- If the floor is suitable for installing anchors (minimum 4 cm of concrete FCK15 M.P.A. or equivalent). Digicon recommends HILTI brand anchors;
- If embedded boxes and conduits for electrical and data cables are properly installed;
- If all necessary tools are available;
- If all necessary PPE for installation is available.

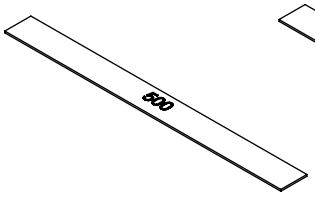
⚠ ***ATTENTION!*** **–** Since installing the dSlim requires drilling into the floor, it is extremely important that the installation location be chosen carefully.

Positioning Template: The template must be requested separately; it is an item sold apart from the product.



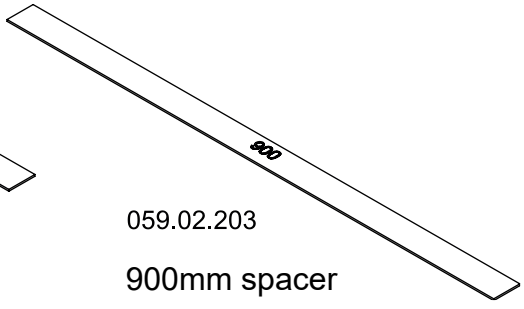
059.02.202

R and T



059.02.205

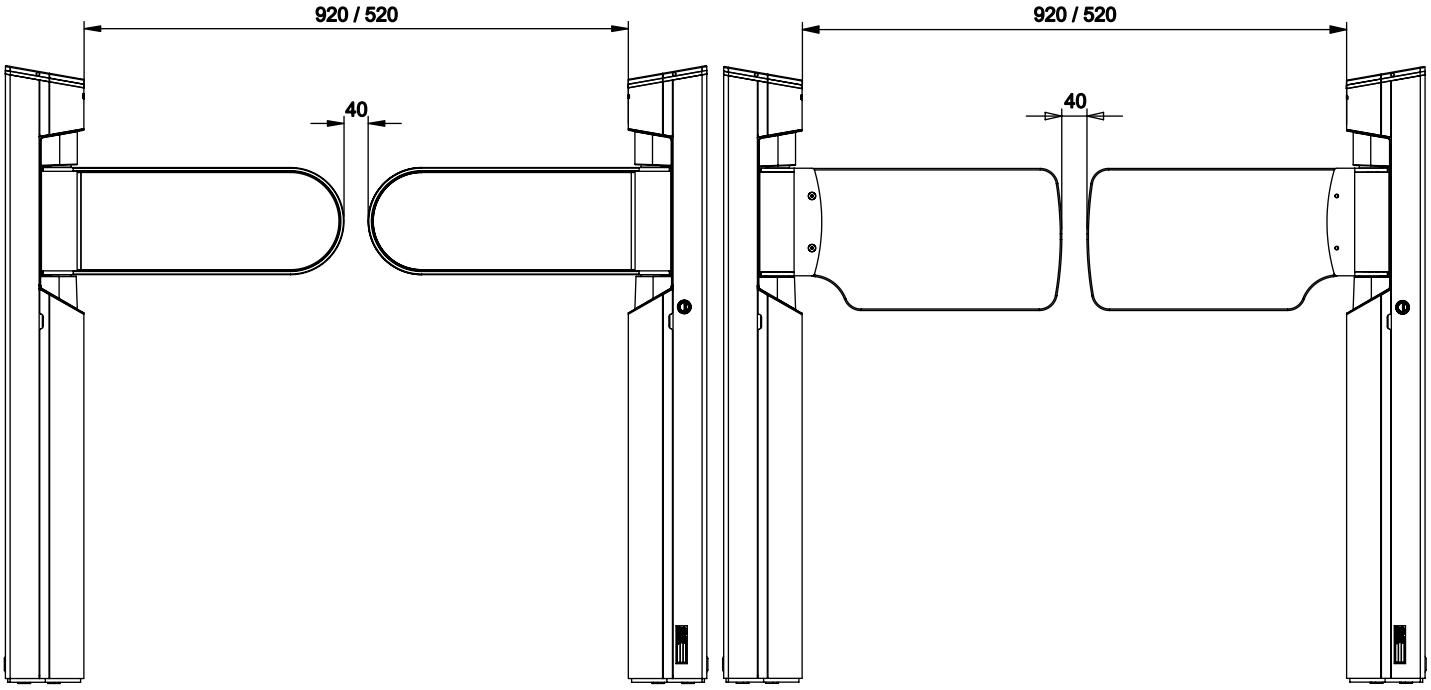
500mm spacer



059.02.203

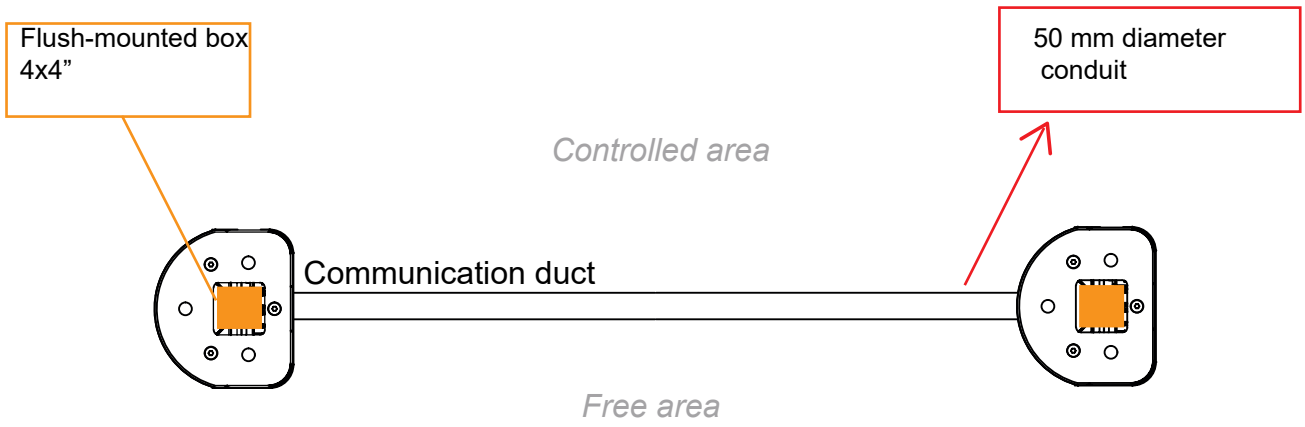
900mm spacer

The distance between the cabinets depends on the door size. Doors should be adjusted to have a small clearance of approximately 40 mm between them.



This clearance is important to ensure that even when the door is closed, it does not injure the user.

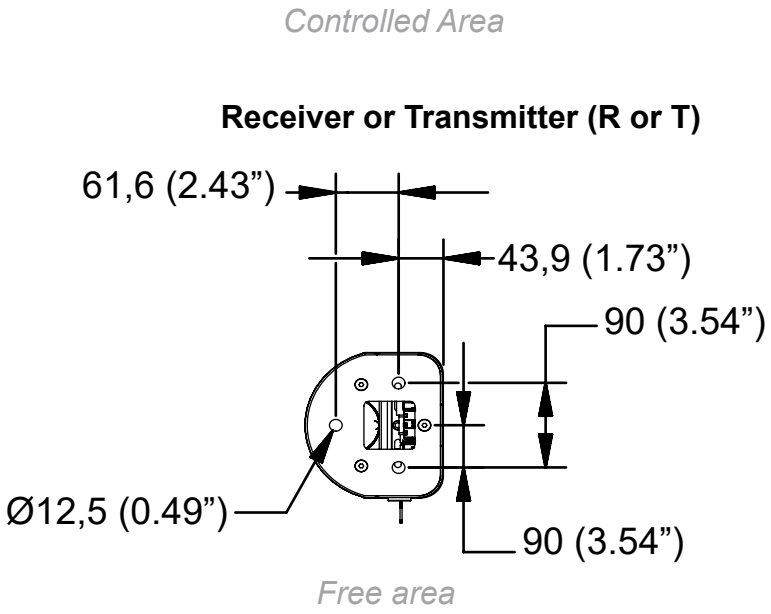
⚠ ***ATTENTION!*** **–** The dSlim measurements are illustrated in millimeters.



5.3 Floor Fixation

- The image below indicates the product's floor fixation points.
- The surface must be firm and level to ensure proper operation of the passage control sensor and maintain door alignment.
- The image below indicates the product's floor fixation points.
- The surface must be firm and level to ensure proper operation of the passage control sensor and to maintain door alignment.

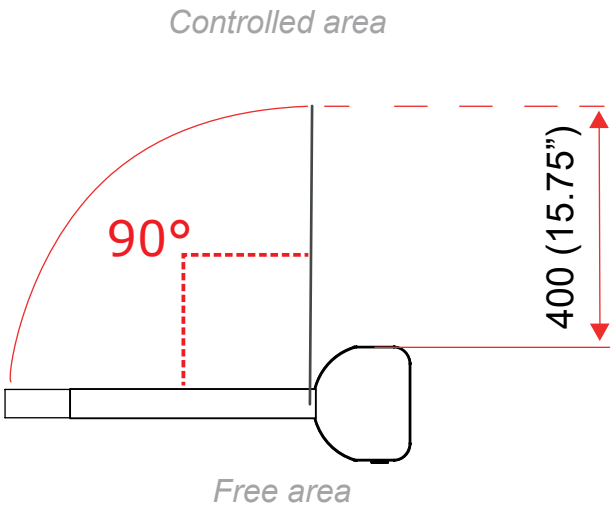
⚠ ***ATTENTION! –*** To facilitate tightening of the screws, a long extension should be used.



⚠ ***ATTENTION! –*** To facilitate tightening the screws, a long extension should be used.

It is very important to check the door alignment in the closed position during installation. The distance between the doors must be the same from the top to the bottom.

Free passage width:



Digicon complies with the ABNT NBR 9050 standard for Accessibility to buildings, furniture, public spaces, and urban equipment.

Step-by-step:

1. Using a 12 mm (0.47”) drill bit, drill a hole with a depth of 90 mm (for M10 threaded rod);
2. Clean the hole with a blower or vacuum to remove dust residue;
3. For installation of the fastener (mechanical or chemical), refer to the manufacturer’s instructions.

5.4 Door Installation

Some dSlim models may be packaged with the doors disassembled from the main structure of the product. To assemble the doors, simply follow the example shown in the figure below using a 4mm Allen key.

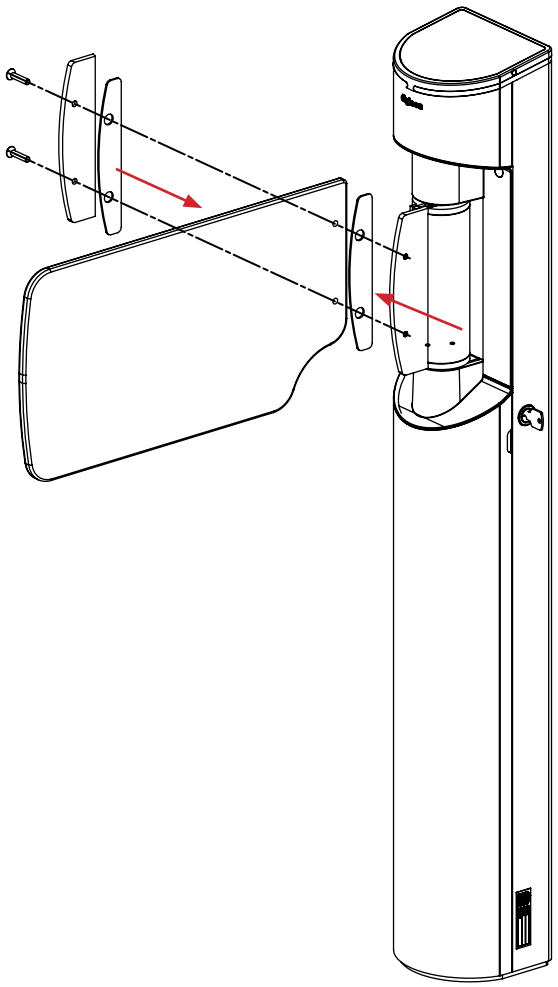
To install/fix the doors, just follow the step-by-step instructions below:

Step 1

- Insert both door shafts into the holes on the equipment's rotation rod.

Step 2

- Using a 4mm Allen key, insert the M6 Allen screws (included with the doors) into the two holes located behind the door shaft fittings, thus securing the door system to the equipment's rotation rod. A torque of 10 Nm is recommended.



5.5 Access to the dSlim After Assembly

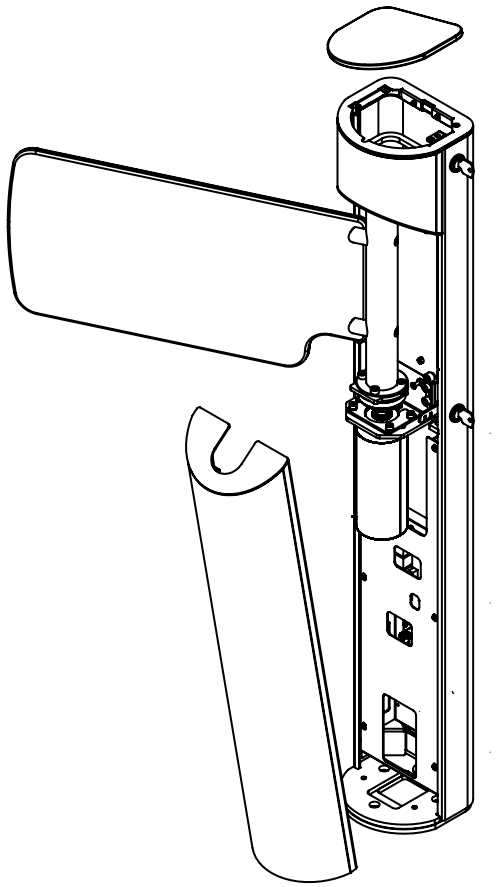
⚠ ***CAUTION – DANGER OF DEATH!:*** Avoid electric shock! Opening or removing the doors of this equipment may expose you to hazardous voltages.

⚠ ***CAUTION – DANGER OF DEATH!:*** To reduce the risk of electric shock, disconnect the equipment from the power supply before maintenance by switching the circuit breaker to the OFF position. All maintenance services must be performed exclusively by qualified technical professionals.

Once the dSlim is installed and assembled, access to the internal components of the equipment can be made using the key provided, through two ways**:**

1st Through the top cover: provides access to the readers, pictograms, and motor board.

2nd Through the access door: provides access to the controller board, interconnection board, AC terminal blocks, circuit breaker, and power supply.



5.6 Connection to the Power Supply

⚠ ***CAUTION – DANGER OF DEATH!:*** To reduce the risk of electric shock, disconnect the equipment from the power supply before performing maintenance by switching the circuit breaker to the OFF position. All maintenance services must be carried out only by qualified technical professionals.

⚠ ***ATTENTION! –***

Digicon recommends using the NBR 5410 standard as a reference for the electrical installations of its equipment.

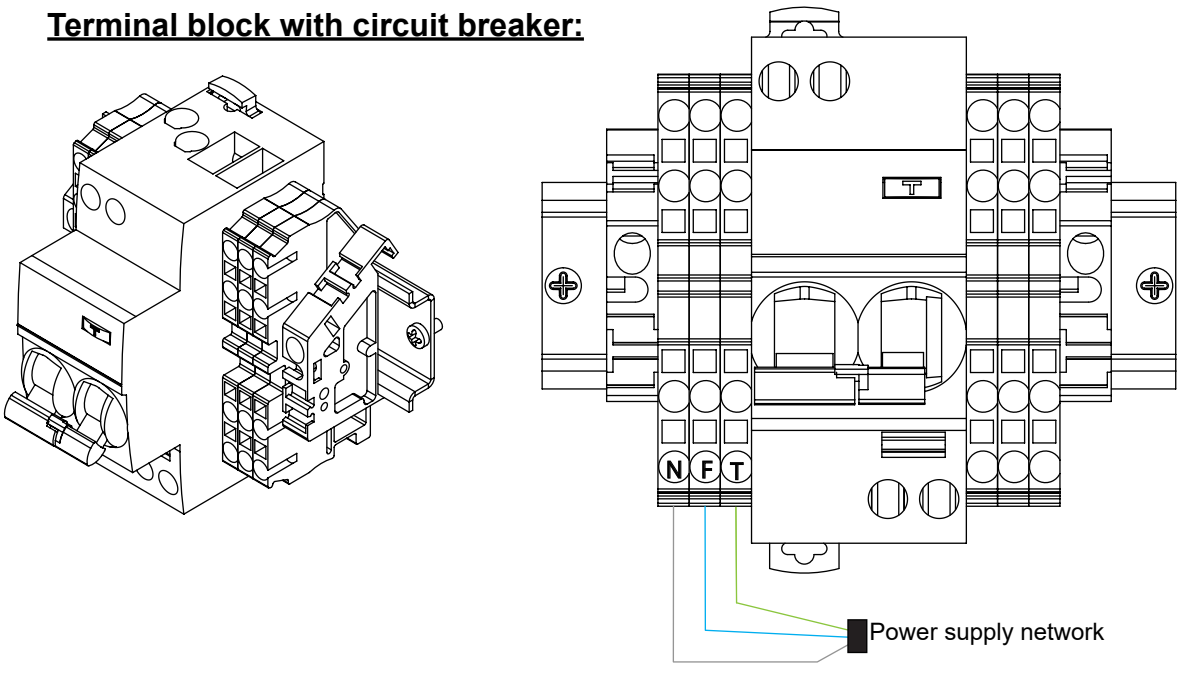
- We recommend using a high-quality AC grounding cable with dimensions suitable for the distance to the distribution panel. The data cable should be CAT5E type.

The connection must follow the configured setup, and the terminal block assembly may or may not include a circuit breaker, as illustrated below:

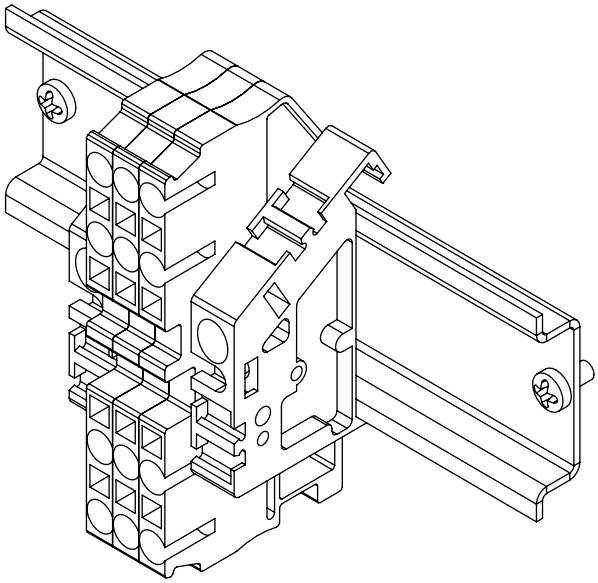
- The power supply cables must be connected to the terminal blocks as indicated: Phase (F), Neutral (N), and Ground (T).

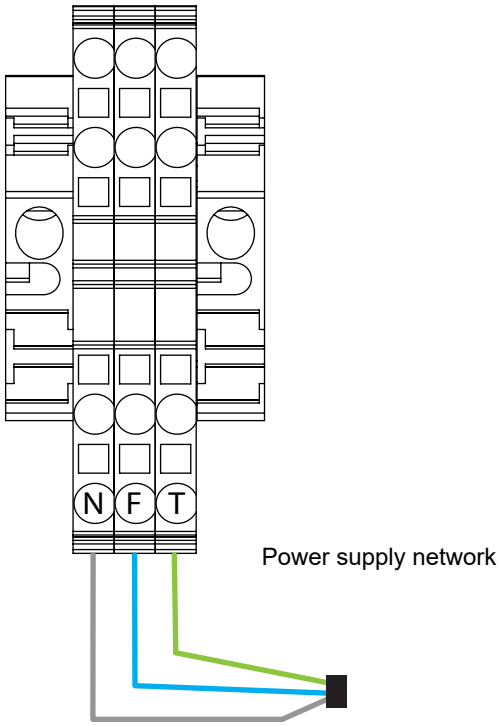
  Refer to the diagram below for more details.

Terminal block with circuit breaker:



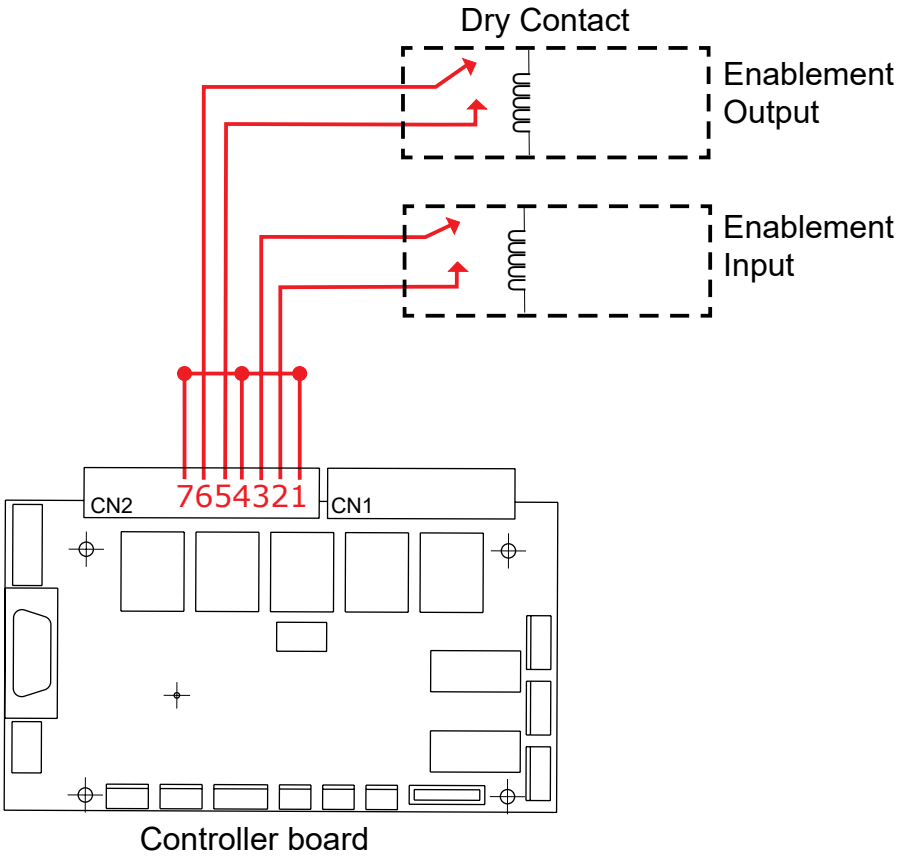
Terminal block without circuit breaker:



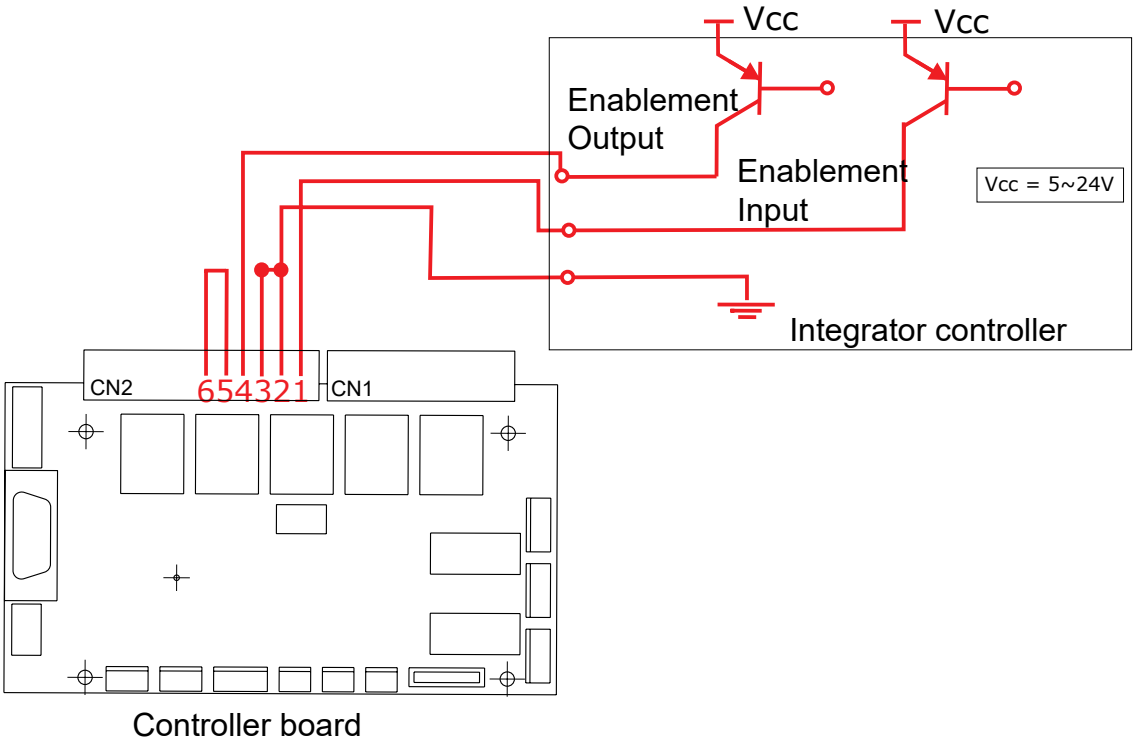


⚠ ***CAUTION – DANGER OF DEATH!:*** To reduce the risk of electric shock, disconnect the equipment from the power supply before maintenance by switching the circuit breaker to the OFF position. All maintenance services must be performed exclusively by a qualified technical professional.

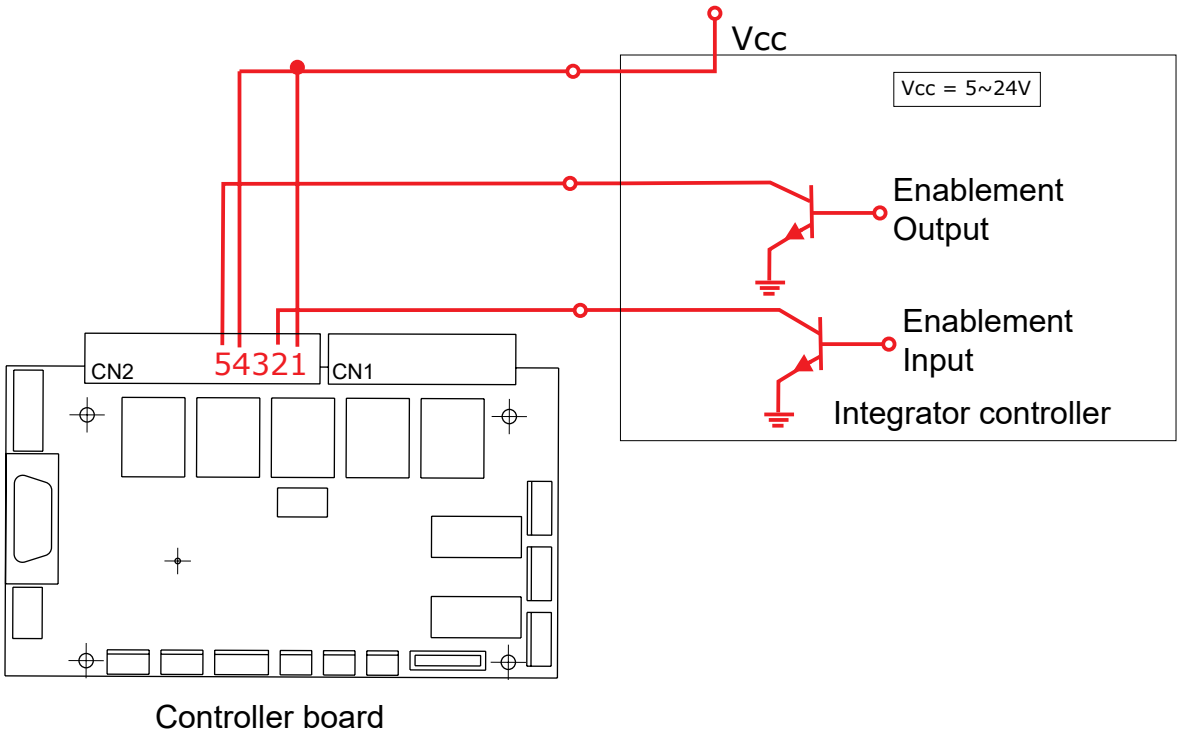
Dry contact enablement with 2 relays:



Enablement via solid-state (positive, positive voltage):

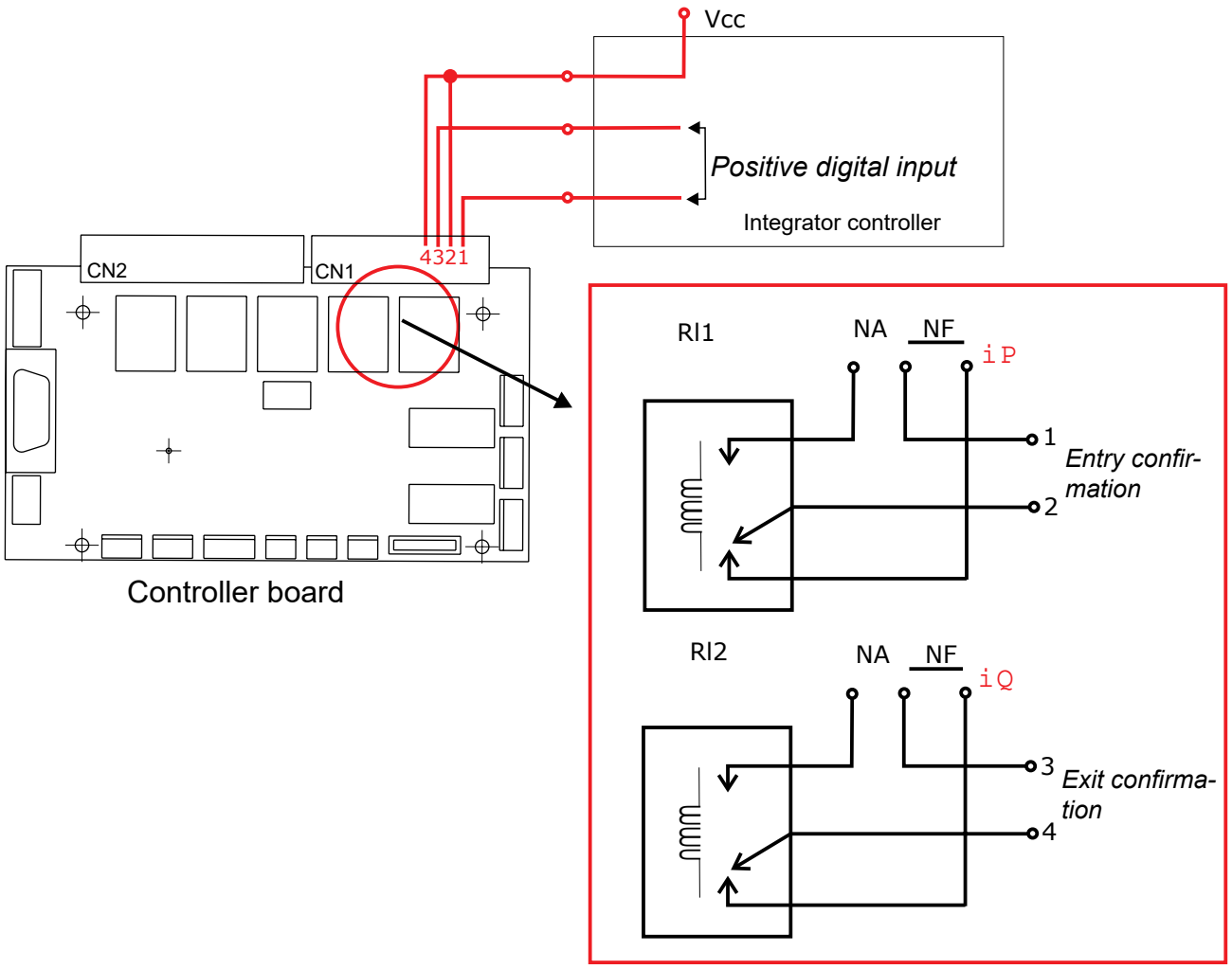


Solid-state enabling (negative)



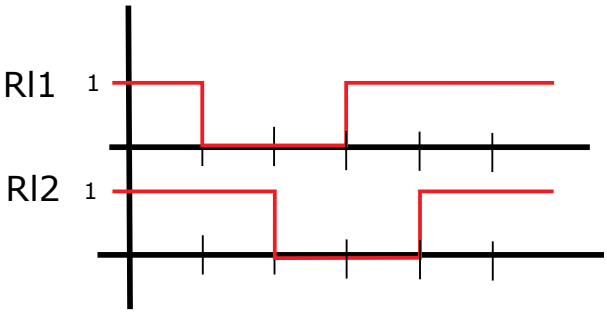
Integrator controller

Vcc – true logic level, configured in “disk emulation” mode with DIP switch Ds2 no. 7 set to ON.

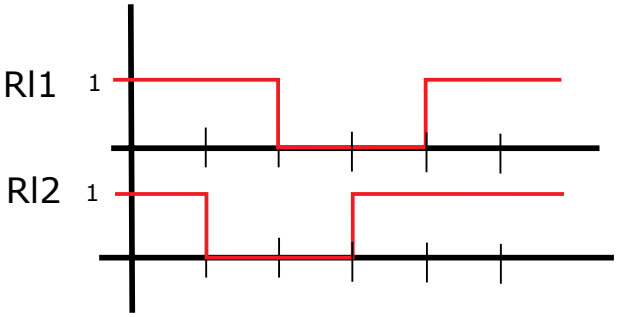


Passage confirmation via disk emulation

Entry confirmation



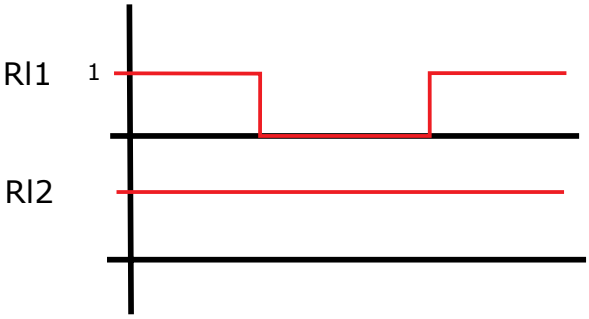
Exit confirmation



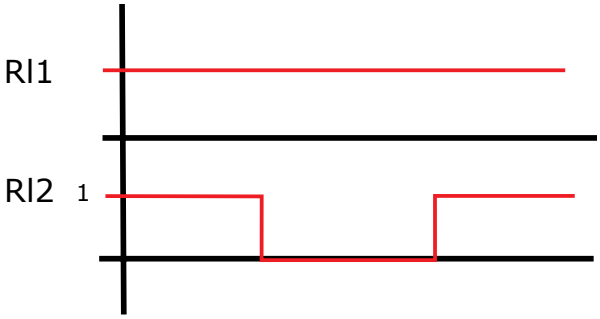
In this operating mode, either of the passage confirmation outputs – output RI1 or RI2 can be used to trigger an electromechanical counter in order to record the passage flow in both directions of the equipment.

Passage confirmation by pulses

Entry confirmation



Exit confirmation



In this operating mode, the RI1 output can be used to trigger an electromechanical counter to record the passage flow in the entry direction of the equipment. Similarly, the RI2 output can be used to record the passage flow in the exit direction.

Passage confirmation by pulse or “disk emulation” can be configured using dip switch DS2, no. 7. If the switch is in the ON position, disk emulation is enabled. Otherwise (OFF), a passage confirmation pulse will be generated.

6. Interconnections

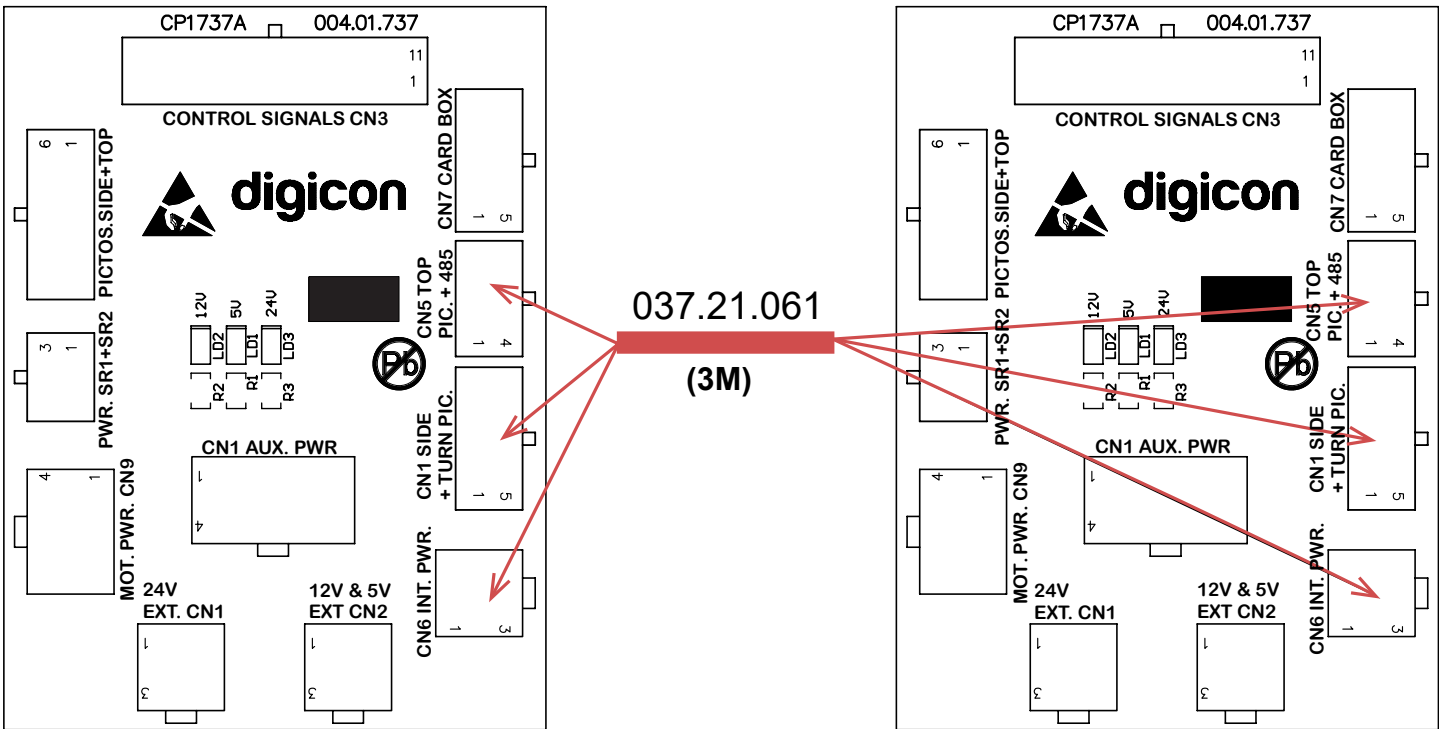
⚠ ***CAUTION – DANGER OF DEATH!:*** To reduce the risk of electric shock, disconnect the equipment from the power supply before performing maintenance by switching the circuit breaker to the OFF position. All maintenance services must be performed exclusively by qualified technical professionals.

The interconnection cables are located in the dSlim R and must pass through the ducts as shown below:

Interconnection duct for signal and DC power cables:

- **037.21.061 -** Signal and DC power interconnection harness – dSlim

Insert connectors CN4, CN5, and CN6 into their respective positions according to the silkscreen labeling on the dSlim interconnection board.



7. dSlim Operation

⚠ ***CAUTION – DANGER OF DEATH!:*** To reduce the risk of electric shock, disconnect the equipment from the power supply before performing maintenance by switching the circuit breaker to the OFF position. All maintenance services must be carried out exclusively by a qualified technical professional.

The dSlim R will always be the master module of the turnstile. In this module, the controller board responsible for managing the operation of the turnstile is installed.

7.1 Controller board

The controller board has the functionality to control user passage, pictograms, sensors, and all system logic, receiving signals from the access control board.

7.2 dSlim door calibration

⚠ ***CAUTION - RISK OF INJURY!:*** All configuration steps must be carried out by a qualified technician, using appropriate tools and personal protective equipment (PPE).

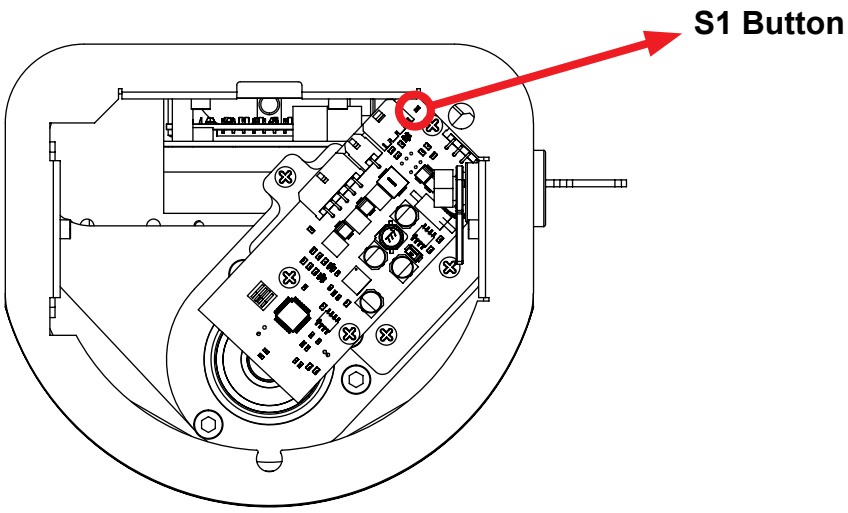
⚠ ***CAUTION - RISK OF DEATH!:*** Before turning on the power, perform a detailed inspection of the installation.

⚠ ***CAUTION - RISK OF INJURY!:*** During the calibration process, the doors will move automatically. Keep the passage area clear and well signaled to prevent collisions with objects and people.

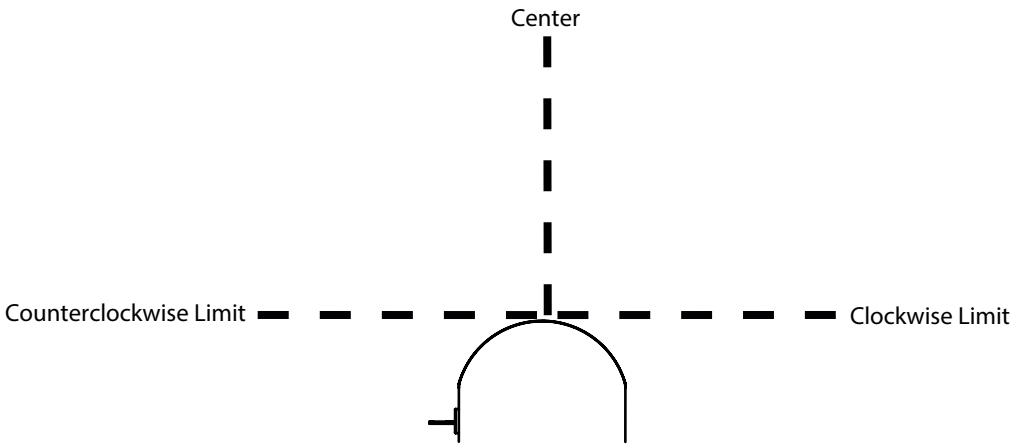
To program the DS2, place each switch in the desired position according to the table below.

- The calibration process consists of storing the positions of both endpoints (maximum positions, limited by the equipment's mechanical stops) and the central door position. The calibration of the dSlim doors is performed individually (for both dSlim R and T units) and can be carried out through the following process:

- Open the top cover of the equipment to access the motor control board.
- Press and hold the S1 button on the motor controller board for 3 seconds.



- The door will move counterclockwise until it detects the end of its movement range and will remain in this position for 5 to 15 seconds to register the information in memory. After that, it will repeat the movement in the opposite direction, that is, clockwise.



7.3 Features

The dSlim features several functionalities, some of which are configurable via the DS1 and DS2 dip switches located on the controller board. To program DS1, set each switch to the desired position according to the table below.

DIP SWITCH DS1								
Switch	1	2	3	4	5	6	7	8
Activates intrusion audible alert	ON							
Deactivates intrusion audible alert	**OFF**							
Input signal for enablement: NO contacts		**ON**						
Input signal for enablement: NC contacts		OFF						
Allows intrusion			ON					
Does not allow intrusion			**OFF**					
Enables free access for entry (keep OFF)				ON				
Disables free access for entry (keep OFF)				**OFF**				
Enables free access for exit (keep OFF)					ON			
Disables free access for exit (keep OFF)					**OFF**			
Activates audible alert 2s before door closes						**ON**		
Deactivates audible alert 2s before door closes						OFF		
No maximum time – waits for valid passage							ON	ON
Maximum time of 5 seconds							**OFF**	**ON**
Maximum time of 10 seconds							ON	OFF
Maximum time of 15 seconds							OFF	OFF

(The gray squares (in bold) in the table above indicate the default configuration, i.e., factory settings.)

To program the DS2, set each switch to the desired position according to the table below.

DIP SWITCH DS2								
Switch	1	2	3	4	5	6	7	8
Final door closing time: 0.50s	OFF	ON						
Final door closing time: 1.25s	ON	ON						
Final door closing time: 2.00s	ON	OFF						
Final door closing time: 5.00s / SMART SPEED	**OFF**	**OFF**						
Enables credit accumulation			ON					
Disables credit accumulation			**OFF**					
Door movement speed: LOW				ON				
Door movement speed: HIGH				**OFF**				
Enables Safe Mode (doors do not close even if sensors are obstructed)					**ON**			
Disables Safe Mode (doors close even if sensors are obstructed)					OFF			
Card retention time in collection box for reading: 1s						**ON**		
Card retention time in collection box for reading: 2s						OFF		
Passage confirmation via disk emulation							**ON**	
Passage confirmation via pulse							OFF	
Operating mode with sensors								**ON**
Operating mode without sensors								OFF

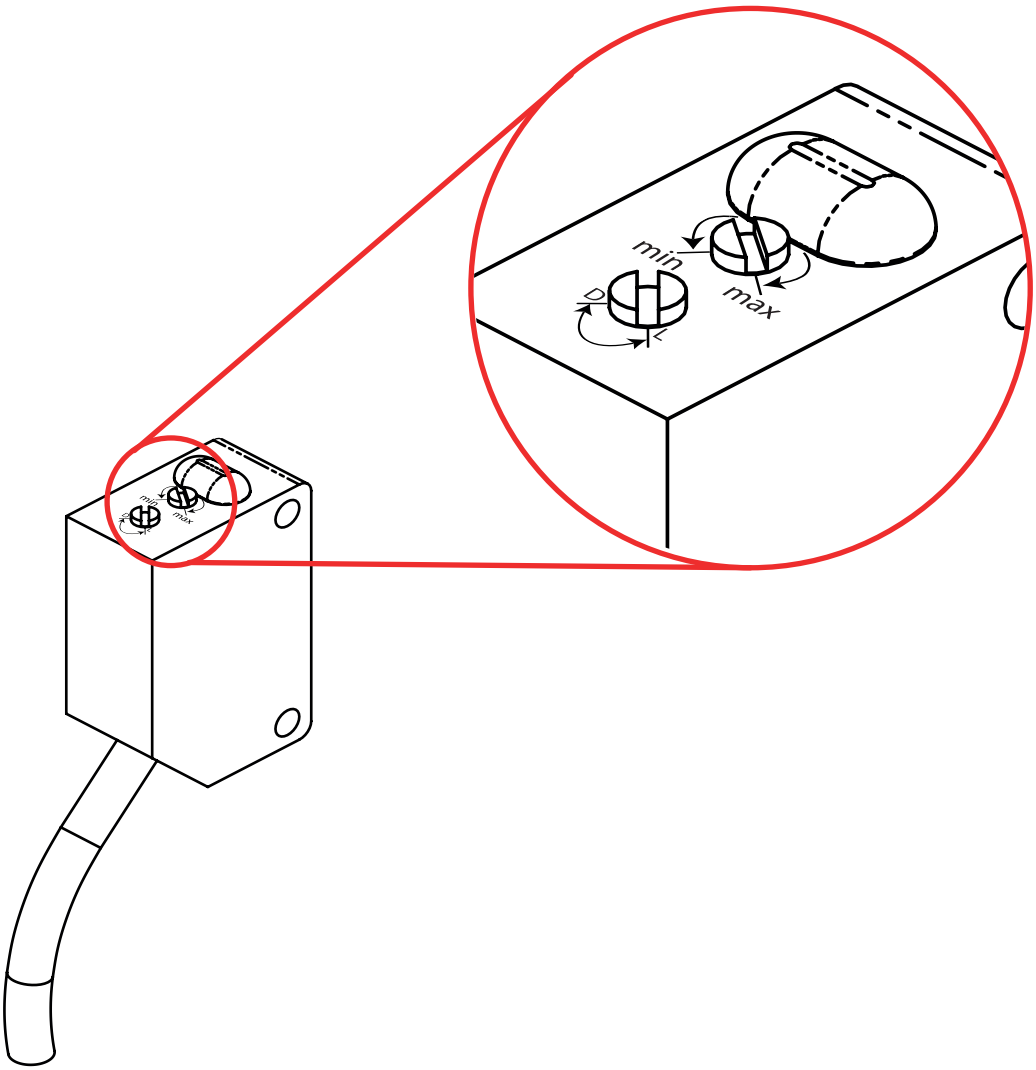
The gray squares (in bold) in the table above indicate the default configuration, that is, the factory setting.

When the dSlim includes dual sensors in its configuration, user passage detection becomes highly precise, requiring the following events to occur in this order:

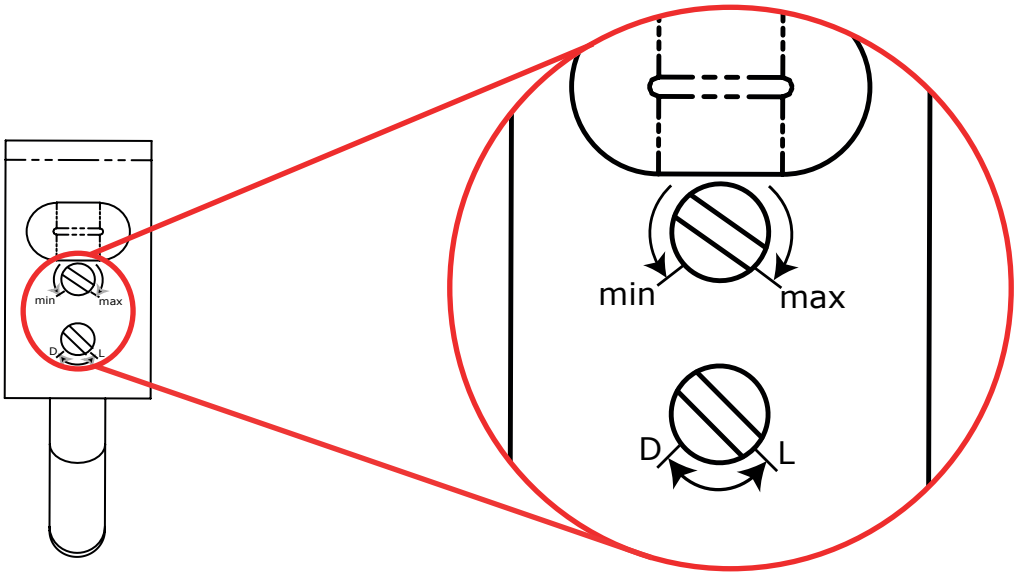
1. Block the first sensor;
2. Block the second sensor (without releasing the first). At this point, both sensors must be blocked;
3. Release the first sensor;
4. Release the second sensor.

If the above events do not occur in the indicated order, the system may interpret the change as an intrusion, tailgating, or cancellation, and will signal accordingly based on its interpretation.

For this function to operate correctly, it is essential that the sensors on the receiver side have their switches properly configured as shown in the image below.



⚠ ***ATTENTION:*** the upper sensitivity switch must be set to “Max” and the lower switch to “L”, as specified.

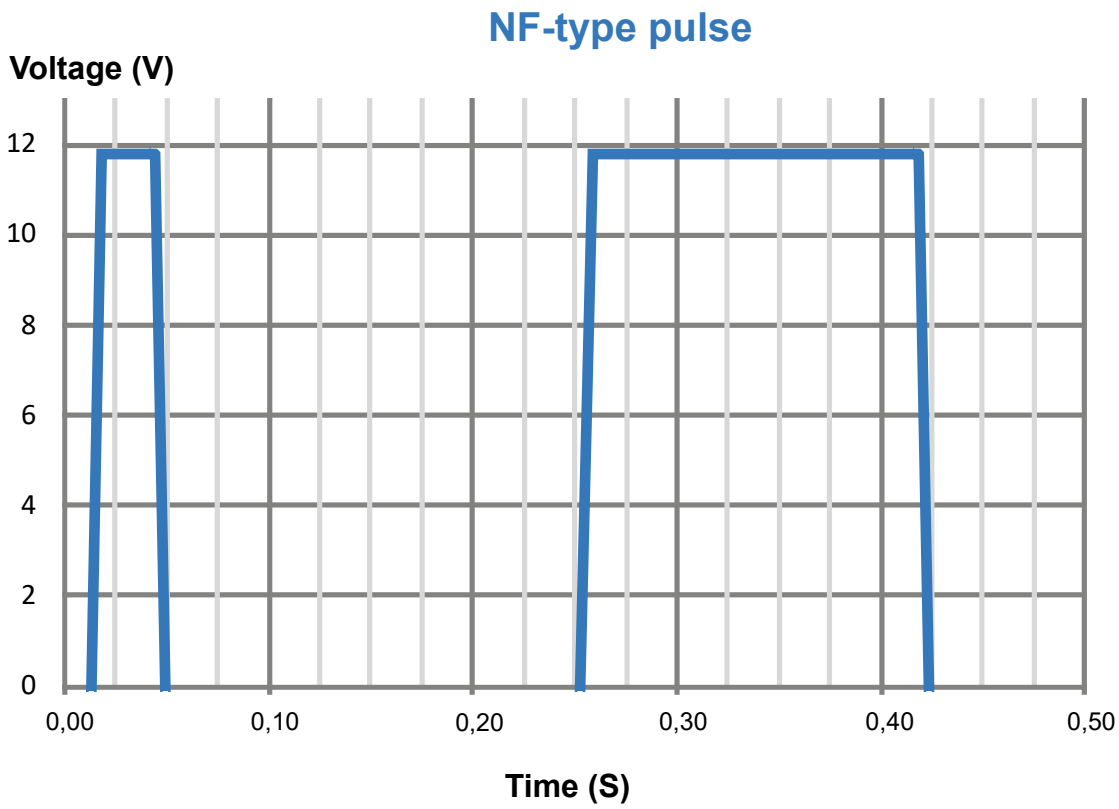


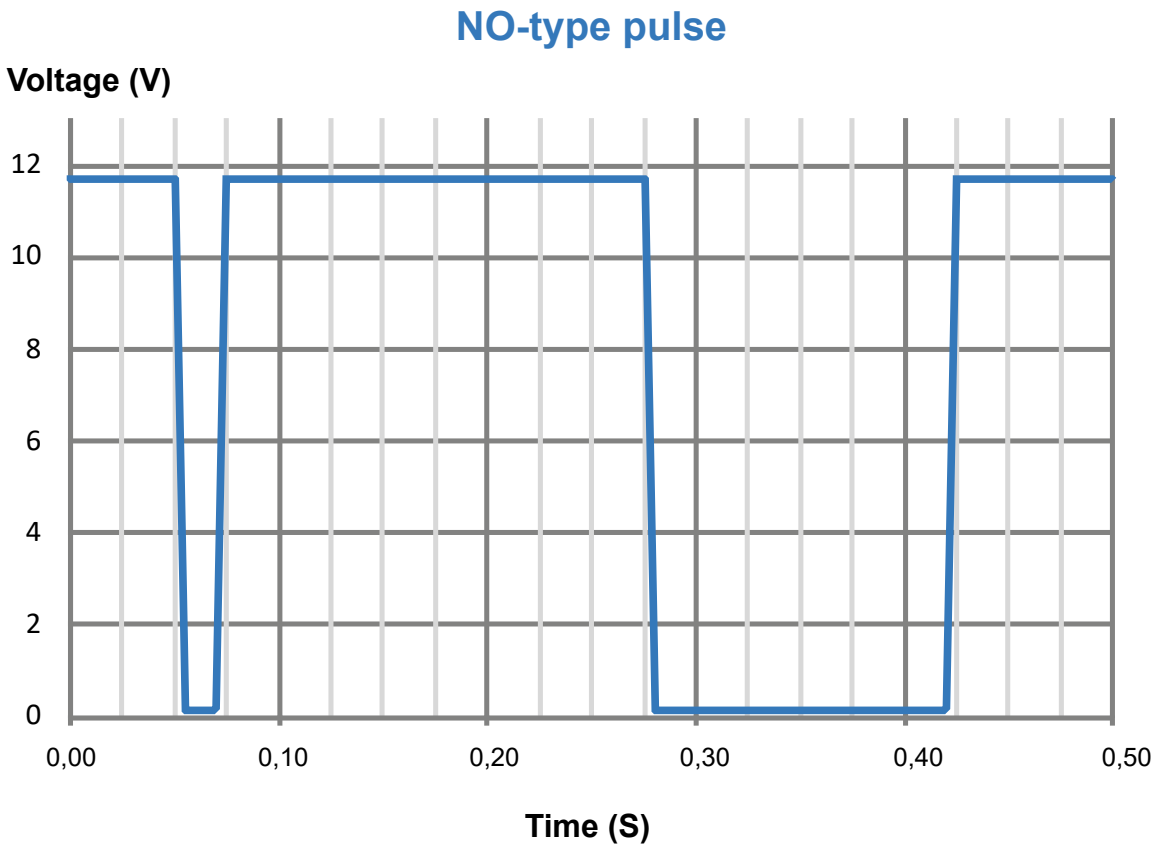
a) Enable Pulse:

The enable pulse is a signal (relay dry contact) sent by the access control system, indicating that the user has been identified and authorized for passage. Passage enablement occurs based on the voltage level of the enable pulse, which must have a minimum duration of 20 ms and must respect a minimum interval of 20 ms between pulses. If the pulse does not comply with these intervals, the enablement will be ignored. If the pulse duration exceeds the passage cycle, a new passage will not be granted—that is, the signal must be turned off for at least 20 ms to allow a new enablement.

⚠ ***ATTENTION!*** **–** This function also depends on the access management system supporting queueing for consecutive accesses.

In the figures below, showing NC and NO contacts respectively, each image illustrates two examples of valid pulses—one of 20 ms and another of 150 ms, with a 200 ms interval between them. In this situation, if the credit accumulation function is enabled, the dSlim would register two accesses, allowing two people to pass in sequence without the door closing.





7.3.1 Configurable Functions (via inputs)

a) Free Pass:

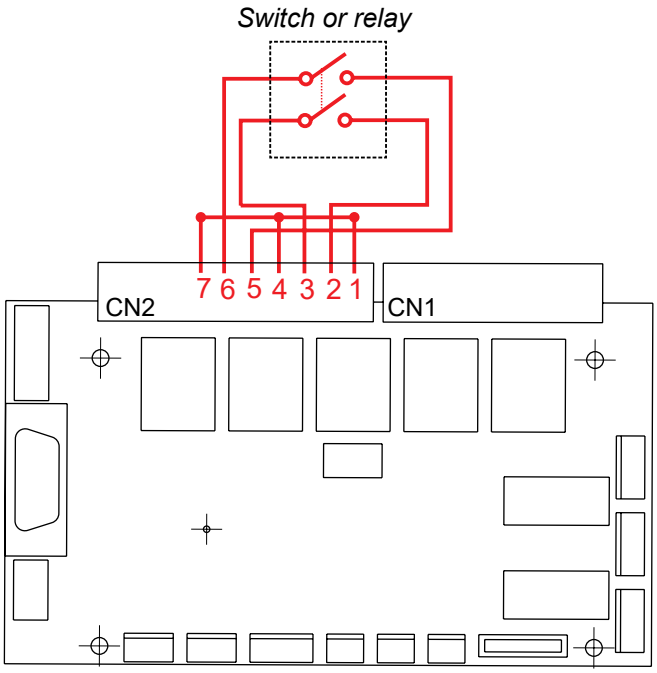
Activation: Send both entry and exit commands simultaneously and keep them active. The free pass mode is suitable for situations that require the system to remain unlocked for an indefinite period without passage control. It can be used as an emergency mode in locations where legislation allows simplified release control. In places with stricter regulations, a master switch should be used to cut power to the system, keeping the door unlocked.

During free pass mode, the door remains open for exit, and the top pictograms blink continuously. This mode stays active as long as the input and output enable signals are present.

b) Bidirectional Release

In this mode, the equipment waits for user interaction to determine the direction in which the passage should be allowed and then opens the door accordingly. This interaction occurs by gently pushing the door in the desired direction after the system has indicated that access is granted. This type of release is especially useful in lanes that share a single reader for both directions.

The bidirectional release is activated by sending both entry and exit commands simultaneously for a minimum enablement time of 20 ms.



(Switch or relay with two poles and single activation.)

7.3.2 Configurable Functions (via DS1)

a) Intrusion Audible Alert:

Selection: DS1-P1 ON. When this function is enabled, it emits audible signals when the following events occur: intrusion from either side of the blocking area with the door closed; intrusion in the opposite direction of the authorized passage with the door open; or tailgating by another user.

b) NO or NC Contact:

Selection: DS1-P2 ON for Normally Open (NO) contacts, OFF for Normally Closed (NC) contacts. This setting allows the logic of the enable pulse to be configured according to the type of relay contact used—either normally open or normally closed.

c) Passage With or Without Intrusion:

Selection: DS1-P3 ON allows intrusion, OFF does not allow intrusion. This function defines whether the turnstile accepts sensor obstruction (intrusion) while in idle state.

If the function is set to not allow intrusion, any obstruction of a sensor will trigger a visual alert on the top pictograms and, if enabled, an audible alert will sound. In this case, passage will not be allowed, even if the user is authorized.

On the other hand, if the function allows intrusion, no alert will be triggered and the user validation will proceed normally.

d) Free Access Mode:

Selection: DS1-P4 and DS1-P5.

The free access mode can be used for special events where it is necessary to keep the equipment unlocked in a specific direction, either for entry or exit. It can also be used for testing to verify the door's operation.

When switch DS1-P4 is activated, the door will open for entry and remain in this state until it is deactivated. The same applies to DS1-P5, but the door will open for exit.

If both switches are activated at the same time, the equipment enters demonstration mode, in which it continuously performs opening and closing movements at intervals of approximately 4 seconds.

e) Closing Audible Alert:

Selection: DS1-P6 ON. When this function is enabled, it emits a continuous beep two seconds before the end of the maximum passage time and the subsequent door closing. The maximum passage time is defined using DS1-P7 and P8.

f) Maximum Passage Time:

Selection: DS1-P7 and DS1-P8. This function defines the maximum allowed time for the user to complete the passage. It is possible to set the time to 5 seconds, 10 seconds, 15 seconds, or unlimited (waits until a valid passage occurs).

7.3.3 Configurable Functions (via DS2)

a) Waiting Time After Passage:

Selection: DS2-P1, DS2-P2. This function allows you to set the waiting time before the door closes after a valid passage or after the sensors are cleared when “Safe Mode” is enabled.

When “Safe Mode” is enabled, the available times are 0.5 seconds, 1.25 seconds, 2.0 seconds, or 5.0 seconds.

When “Safe Mode” is disabled, the available options are 0.5 seconds, 1.25 seconds, 2.0 seconds, or Smart Speed.

In the Smart Speed option, the system measures the user’s passage speed and calculates the ideal closing time for the person to safely leave the blocking zone. The blocking zone includes the maximum distance the door can reach plus an additional 100 mm, as shown in the shaded area of the figure below. In Smart Speed mode, the minimum and maximum times are 0.5 and 10 seconds, respectively.

The Smart Speed function operates correctly as long as the user’s passage speed remains constant.

b) Validation Accumulation (Access Queue):

Selection: DS2-P3. This function allows multiple consecutive authorizations to be registered so that a line of users can pass continuously without the door closing. To be effective, the next person in line must be authorized while the first person is still passing through (before the door begins to close).

c) Door Movement Speed:

Selection: DS2-P4. This setting allows you to configure the speed of the equipment’s doors during opening and closing cycles. The slow movement speed corresponds to 30% of the equipment’s nominal speed.

⚠ ***CAUTION – DANGER OF INJURY!:*** High door movement speeds may cause injury to users in the event of a collision, especially to elderly individuals and children.

d) Safe Mode:

Selection: DS2-P5. When this setting is enabled, the equipment's doors remain open as long as the user is obstructing the sensors. Additionally, during the door-closing process, if the sensors or doors are obstructed, the doors will reopen and only attempt to close again after the preconfigured time set via switches DS2-P1 and DS2-P2.

When this function is disabled, the doors will close even if the user is still obstructing the sensors, forcing users to clear the passage area.

⚠ ***CAUTION – DANGER OF INJURY!:*** The door may hit the user if they are not authorized to pass from the free area to the controlled area.

e) Passage Confirmation Configuration:

Selection: DS2-P7. (This setting is available only on clip models.) It enables the confirmation of a user's passage through the access lane. To detect this event, the equipment performs a small door movement ("invitation") and waits for the user to indicate their intent to pass by gently pushing the door. Once the passage is detected, the system generates a confirmation based on the DS2-P7 configuration, which can be either:

f) Operating mode:

Selection: DS2-P8. Selects the operating mode of the equipment, which includes the following:

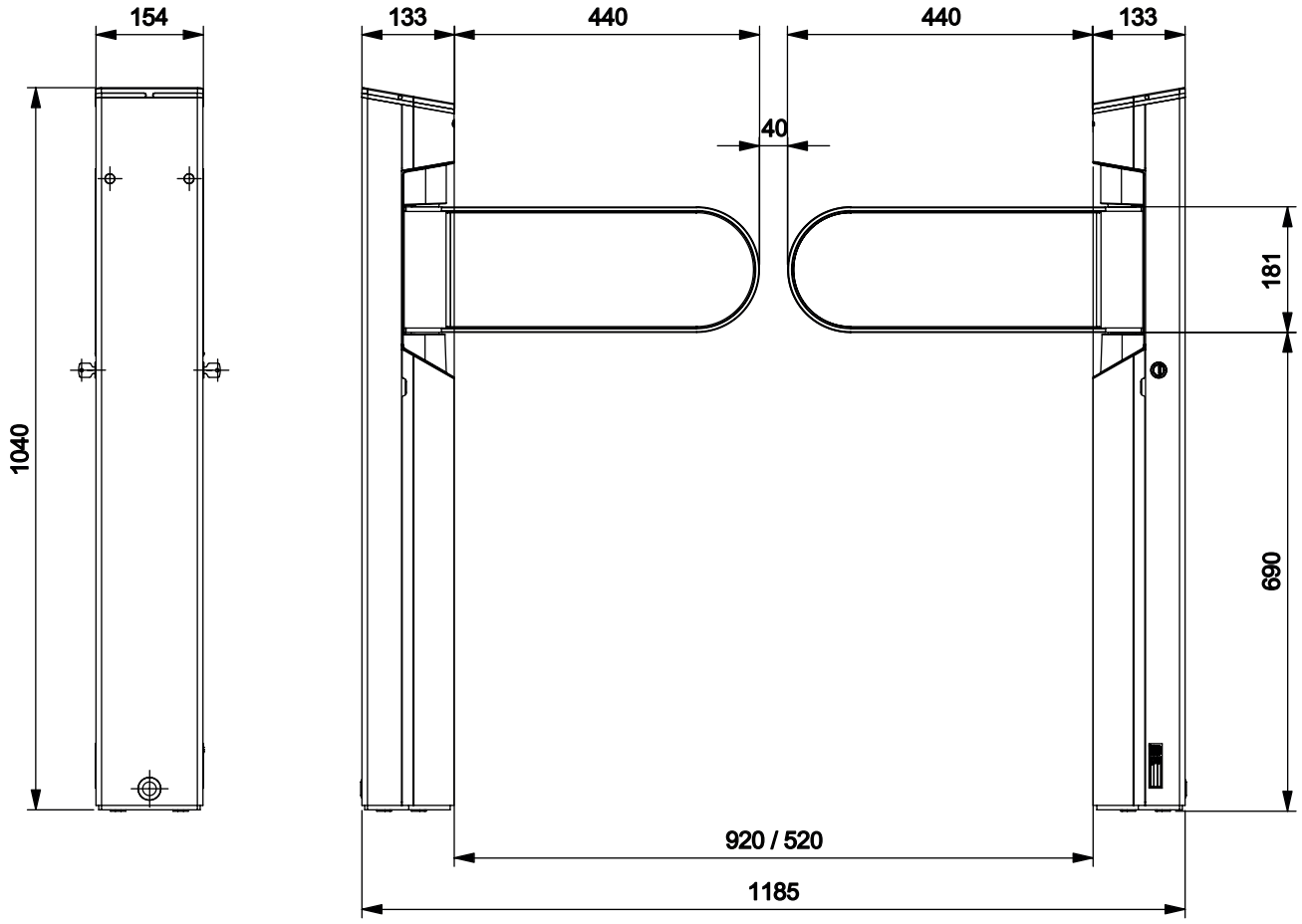
- Sensor mode: in this mode, the sensors track the user throughout the entire passage.
- Non-sensor mode: operates without the aid of sensors for passage control and relies solely on the passage timeout to close the doors.

⚠ ***CAUTION – DANGER OF INJURY!:*** The equipment does not have user detection sensors to prevent accidents. There is a risk of door collision with users, which may cause falls and injuries—especially for elderly users and children.

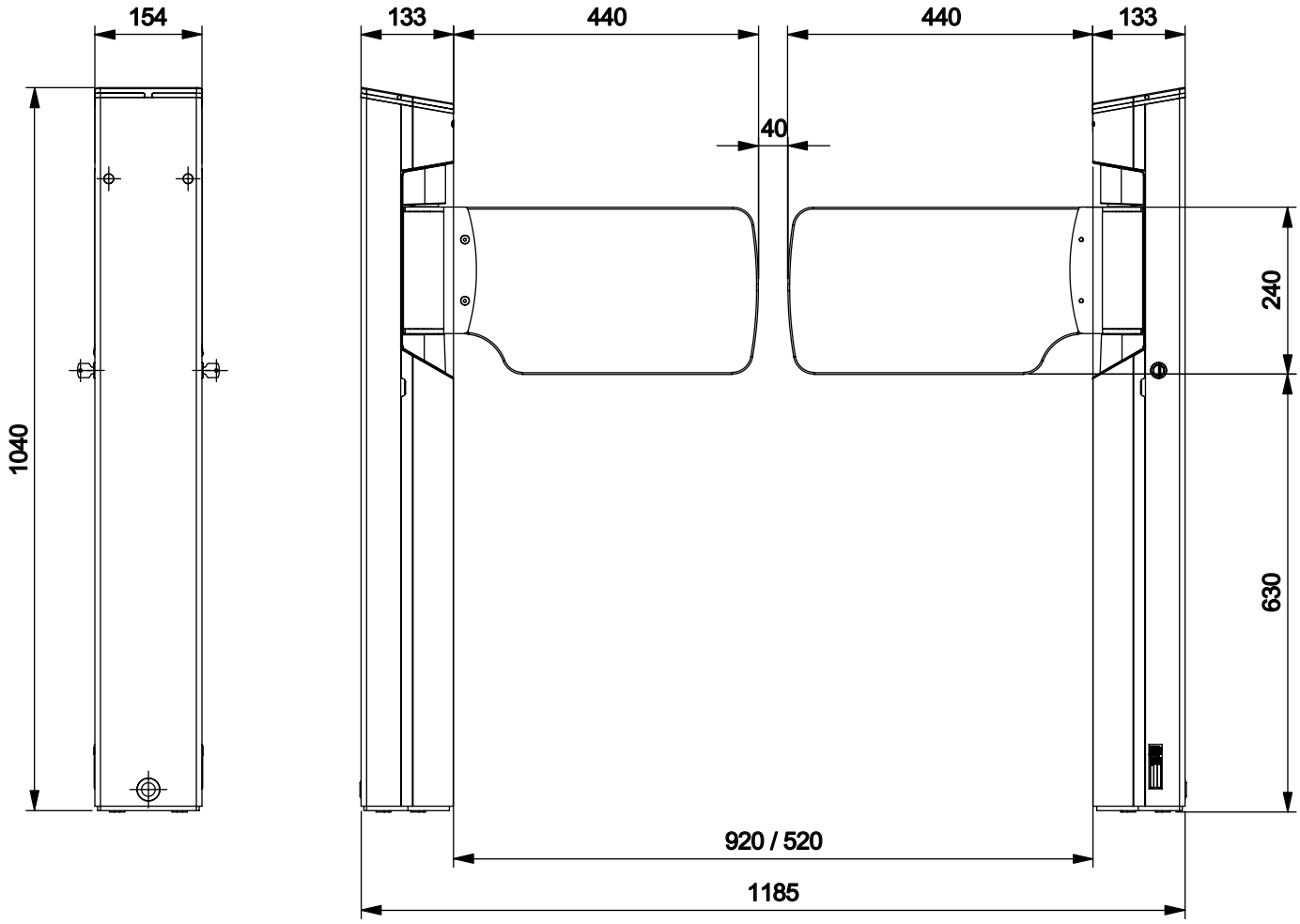
8. Technical Specifications

8.1 Dimensions

- **dSlim R or T with Clip door:**



- **dSlim R or T with polycarbonate door:**



⚠ ***ATTENTION!*** **–** The dSlim measurements are illustrated in millimeters and Inches

8.2 Other Information

TECHNICAL DATA	FEATURES
Internal power supply	100–240 VAC; 4.6–3.3 A
External power supply	24 VDC; 5 A (±5%) (one power supply per passage lane)
Frequency	50/60 Hz
Average door opening/closing time	According to configuration
Operating temperature	0 °C to 50 °C
Approximate weight	25 kg per module (approx.)

Consumption	
Standby	39 W
Peak during passage	62 W

9. Problem Solving

Fault	Possible causes	Action
dSlim does not power on	External AC power supply for dSlim R	Check if the AC power supply wiring is in accordance with the referenced item (refer to the AC electrical connection manual, cable 037.13.208).
	Internal DC power supply for dSlim R	Check the power status LEDs (LD1, LD2, and LD3) on the dSlim R interconnection board.
		Check connectors CN1 and CN2 on the dSlim R interconnection board.
dSlim T does not power on	Internal DC power supply for dSlim R	Check the power status LEDs (LD1, LD2, and LD3) on the dSlim R interconnection board.
		Check the CN6 connection of the interconnection cable between dSlim R and T.
When powering on the dSlim, the circuit breaker trips immediately.	Short circuit in the AC power supply network	Remove the interconnection to isolate the dSlim T, and check that the phase, neutral, and ground wires are properly connected to their correct terminals and in accordance with the specified items (refer to the AC power supply connection documentation).
Intermittent audible alert and side and top pictograms in red without any obstruction in the gate.	Misalignment of emitter and receiver sensors	Check the alignment between dSlim R and T.
	Power supply and signal for dSlim R sensors	Check the connections between the sensor cable and connector CN16 on the control board.
		Check the connection between the sensor cables and connector CN10 on the interconnection board.
	Power supply for dSlim T sensors	

Fault	Possible causes	Action
Side and top pictograms in red	Communication failure between the controller board and the motor control board	Motor control board addressing for dSlim R: SW1-01 ON SW1-02 ON SW1-03 ON SW1-04 ON
		Motor control board addressing for dSlim T: SW1-01 ON SW1-02 OFF SW1-03 OFF SW1-04 ON
		Check connector CN10 (control board), connectors CN3, CN9, and CN5 (interconnection board), and connector CN1 (motor board).
dSlim doors do not move	Power failure on the motor board.	Check the connections of connectors CN9 on the interconnection board and CN1 on the motor control board.
	Connections between the motor and the motor control board.	Connections between the motor and the motor control board.
dSlim door mechanical brake.	Brake activation cable connection.	Check the brake coil cable connection with CN2 on the motor control board.
	Motor control board DIP switch.	SW1-01 must be set to ON.
Top pictograms (no movement) on dSlim R are off.	Control or power cable disconnected.	Check the connection of CN12 and CN13 connectors on the dSlim control board. Check CN3, CN8, and CN11 connectors on the dSlim interconnection board. Check the connection between the wiring cable and the upper LED strips of the dSlim.
		Check the 24V status LED on the dSlim interconnection board.

Fault	Possible causes	Action
Top pictograms (no movement) dSlim T turned off.	Control or power cable disconnected	Check the connections of connectors CN12 and CN13 on the dSlim R control board. Check connectors CN8, CN11, and CN4 on the dSlim interconnection board. Check the connection between the wiring cable and the top LED strips of the dSlim.
		Check the 24V status LED on the dSlim interconnection board.
Top pictograms (with movement) dSlim R off.	Disconnected control or power cable.	Check the connection of connector CN10 on the dSlim control board. Check connectors CN3, CN8, and CN11 on the dSlim interconnection board.
		Check the connection of connectors CN10, CN3, and CN7 on the LED control board. Check the connection between the wiring cable and the upper LED strips of dSlim.
		Check the 5V status LED on the dSlim interconnection board.
Top pictograms (in motion) dSlim T turned off.	Control or power cable disconnected.	Check the connection of CN10 connectors on the dSlim control board. Check connectors CN3, CN8, CN4, CN5, and CN11 on the dSlim interconnection board. Check the connection of CN1, CN2, and CN3 connectors on the LED communication board. Check the connection between the wiring cable and the upper LED strips of the dSlim.
		Check 5V status LED on the dSlim interconnection board.

10. Preventive Maintenance

For the estimated preventive maintenance intervals, a usage of 1,600 passages/day and 30 days/month was assumed. These are reference values and may vary depending on the customer's usage conditions, who should make the necessary adjustments to determine the appropriate maintenance intervals.

Calculation Basis:

Passage cycle: 1,600 (Estimated daily passages)

Month (days): 30

Monthly cycles: 48,000

Cycles	Maintenance Month
300,000	6 Months
500,000	10 Months
1,000,000	22 Months
1,500,000	32 Months

10.1 Preventive Actions Table:

Action	Frequency
Calibrate the doors	1x / 3 Months
Analyze door operation for noise, stiffness, or irregular movements	1x / 6 Months
Check activation of the equipment's top LEDs	1x / 6 Months
Check activation of the entry and exit pictograms	1x / 6 Months
Check buzzer activation through validations and invalid entries	1x / 6 Months
Verify 24V power supply output to the motor	1x / 6 Months
Check mechanical brake operation of the doors	1x / 6 Months
Check functionality of biometric reader(s)	1x / 6 Months
Check functionality of contactless card reader(s)	1x / 6 Months
Verify the tightness of the door fastening screws	1x / 6 Months
Check bearing functionality	1x / 10 Months
Visually inspect the keys (chavetas)	1x / 6 Months
Check motor operation	1x / 22 Months
Visually inspect the condition of the doors	1x / 6 Months
Check lock functionality	1x / 22 Months

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

11. Cleaning

11.1 Stainless Steel Maintenance and Care

Do not use chemical products, bleach, or household cleaning agents.

Routine cleaning: The best products to preserve stainless steel are water, soap, mild neutral detergents, and ammonia-based removers, diluted in warm water and applied with a soft cloth or nylon sponge. Then rinse thoroughly with plenty of water, preferably warm, and dry with a soft cloth.

Grease, oils, and lubricants: Wipe off thick residues with a soft cloth or paper towel. Then apply a warm solution of detergent or ammonia. Follow with routine cleaning.

Fingerprints: Remove with a soft cloth or paper towel moistened with isopropyl alcohol (available at compounding pharmacies) or an organic solvent (ether, benzine).

Labels, stickers, or films: Peel off as much as possible. Apply warm water to the part and rub with a soft cloth. If residue remains, dry and gently rub with alcohol or an organic solvent. Caution: never scrape the stainless steel surface with blades, spatulas, or coarse abrasives.

Rust stains: Using a cotton swab soaked in water and 10% nitric acid, apply it to the area, keeping it moist for 20 to 30 minutes, repeating if necessary.

Heavier stains will require vigorous scrubbing of the affected area using a paste made with fine household abrasive (like scouring powder), water, and 10% nitric acid, applied with a polishing pad. Acid treatment must always be followed by rinsing with an ammonia or sodium bicarbonate solution and routine cleaning.

Moderate dirt / light stains: When routine cleaning is not enough, apply a mixture made from plaster or baking soda dissolved in household alcohol until it forms a paste. Use a soft cloth or nylon sponge to apply the mixture to the stainless steel surface. If preferred, a soft-bristled brush may also be used—gently and with long, even strokes in the direction of the polished finish, if any. Avoid scrubbing in circular motions. Then rinse thoroughly with water, preferably warm, and dry with a soft cloth.

Heavy dirt / stubborn stains: Apply warm or hot detergent, or a solution of an ammonia-based household cleaner and water. If this is not enough to loosen burnt-on food or carbonized deposits, stronger products such as caustic soda-based household cleaners may be used.

11.2 Maintenance and conservation of polycarbonate (doors):

Routine cleaning:

- Choose a dry day, preferably with low humidity, as this will make it easier to remove soot that may be deposited on the door.
- Preferably, and if possible, remove the polycarbonate item (door) for easier handling during cleaning.
- Wet the polycarbonate doors with water until you see that the excess dirt has come off. The insistence on using plenty of water is due to the fact that wiping over the soot particles could end up scratching the polycarbonate instead of cleaning it. This would result in a cloudy, dull (matte) door.
- Use a 100% cotton cloth and a well-known brand of neutral detergent. Do not use conventional brooms—they will scratch the polycarbonate.
- Mix the neutral detergent with water in a bucket until it foams well and gently apply the solution with the cloth in a single direction, following the flow of the water. Never wipe in circular motions. Rinse thoroughly and repeat the process until the result is satisfactory.
- Do not allow the sun to dry the solution on the polycarbonate, as it may leave stains.
- Paint splashes on polycarbonate: It is common for latex paint splashes to appear on the polycarbonate panel when painting nearby walls. Do not use solvents like thinner, gasoline, benzine, or acetone. Isopropyl alcohol or kerosene may solve the problem. Try to clean it before the paint dries and wash the area with a water and neutral detergent solution.

Paint splashes on polycarbonate: It is common for latex paint splashes to appear on the polycarbonate panel during wall painting. Do not use solvents such as thinner, gasoline, benzine, or acetone. Isopropyl alcohol or kerosene may solve the issue. Try to clean it before the paint dries and wash the area with a solution of water and neutral detergent.

Polycarbonate cleaning frequency: There is no specific interval for cleaning. The amount of airborne soot, generated by dirt roads, factories, and nearby construction, may require more frequent cleaning. Start with monthly cleaning and evaluate. Then, adjust the interval to what is most suitable. Always clean without scratching.

⚠ **CAUTION –** Even in the case of more resistant dirt, always try the gentlest cleaning method first. Be patient and repeat the process a reasonable number of times before resorting to more aggressive methods.

12. Warranty and Technical Support

Digicon is responsible for the design, quality workmanship, and materials used in the manufacturing of its products, ensuring that the equipment and all of its components are free from defects in materials or manufacturing. Digicon undertakes to replace or repair any part or equipment that presents a manufacturing defect, at no cost to the purchaser, under the conditions outlined below:

The purchaser is responsible for the shipping costs to and from the service location;
The warranty period is counted from the date of 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, counted from the date of the purchase invoice, to report any visible defects that are easily and immediately observable on the product, such as items that make up the external part and any other components accessible to the user, as well as cosmetic parts and general accessories.
The warranty will be provided to the purchaser only upon presentation of the invoice (original or copy). Service is provided upon the opening of a support ticket via the following emails:

Access Control and Time Attendance Division: [sac.vca@digicon.com.br]

(mailto:sac.vca@digicon.com.br)

Urban Mobility Division: [sac.mobilidadeurbana@digicon.com.br]

(mailto:sac.mobilidadeurbana@digicon.com.br)

Required information to open a support request:

Company Name:
Tax ID Number:
Full Address:
Responsible Person's Name:
Contact Phone Number:
Defective Equipment Model(s):
Serial Number(s) of Defective Equipment:
Reported Defect(s)::

13. Important Information

Digicon reserves the right to modify product characteristics at any time to adapt to the latest technological developments.

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

“After the end of the product’s life cycle, dispose of it in accordance with the National Solid Waste Policy.”

- The product should not be discarded in regular waste, as this can cause environmental damage and harm to human health.
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NOTES

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