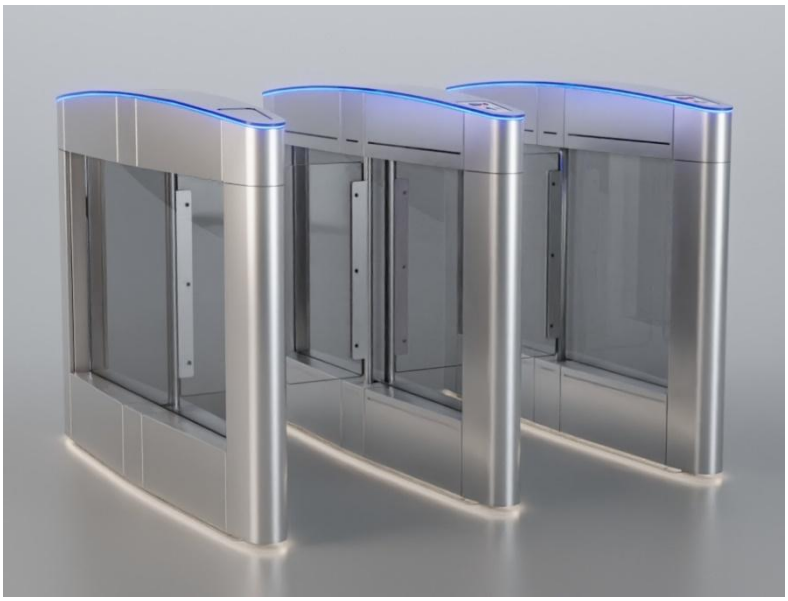
WOLVISION



TECHNICAL MANUAL

Table of Contents

1. Introduction

Wolpac, a company specialized in Access Control equipment, is proud to be recognized in the market for the functionality and efficiency of its products, whose qualities and technical warranty are now at your disposal.

Additional clarifications, comments and suggestions on this manual can be obtained through the technical support division exercised by our affiliate **ATA SERVICE**.

Site.: www.wolpac.com/assistenciatecnica

Make sure the version of this manual is the most up-to-date! **Wolpac** reserves the right to make any changes to this document, or to the technical specifications of the product without prior or subsequent notification to any organization.

Welcome to Wolpac **Technology**.

2. Important Safety Instructions

General Instructions

The main characteristics of Wolvision, how it is installed, and the precautions to be taken to ensure proper operation are described in this manual. Read carefully before starting any type of operation to ensure the total and full performance of the product.

Wolpac makes every effort to ensure that this manual is periodically reviewed and whenever significant changes are made to the project. However, our continuous improvement policy may result in some minor differences between the unit provided and the description provided in this document.

Electrical Precautions

The electrical energy used to supply this equipment has a voltage sufficient to endanger a person's life. Before performing any maintenance or repair, you must ensure that the equipment has electrical insulation and perform tests proving that this insulation is complete.

When the power supply cannot be interrupted, functional tests, maintenance and repairs of electrical units must only be performed by persons fully qualified in relation to the hazard involved and that appropriate precautions and training are taken.

Notes about Ownership

All information contained in this document is the property of **Wolpac,** possession of this manual and use of the information is strictly limited to persons previously authorized by Wolpac.

Reproduction, transcription, server storage and translation into any language of this document or part thereof is not permitted without prior authorization from Wolpac.

Changes to the Equipment

No product changes can be made without the authorization of Wolpac, who will be responsible for ensuring that the proposed change is acceptable in safety and functionality aspects of the equipment. Only persons authorized by Wolpac may make changes to the equipment.

Good Usage Practices

The equipment being installed should not be abandoned unless all potential electrical and mechanical hazards have been safely remedied. A responsible person should be left in charge of the equipment when there is a potential unsafe installation.

The following points below indicate good practices that will contribute to safety and avoid damage to the equipment:

- Make sure that all electrical power is disconnected and disconnected before proceeding with any type of work on the equipment;
- Never leave the equipment in a potential unsafe state;
- Only use the correct tools, preferably indicated in this manual;
- When working with the equipment, remove any jewelry that may be conductive, or clothing that may become entangled in the mechanical parts of the equipment.

Important Notice

Wolvision is a safety product, any child or minor using the equipment should be supervised and accompanied by a responsible adult. Wolpac is not responsible for any incidents if this rule is not applied.

3. Product Description

The Wolvision product is a glass door access control equipment used for medium flow (equal to or less than 2,000 cycles*/day) and medium security level, and can be used in both directions of passage, equipped with an electronic control module capable of processing and providing information to the system in which the equipment is integrated/interconnected.

The equipment can be configured to work in different states and installation positions, thus defining the flow direction from A to B or vice versa, as specified by the customer.

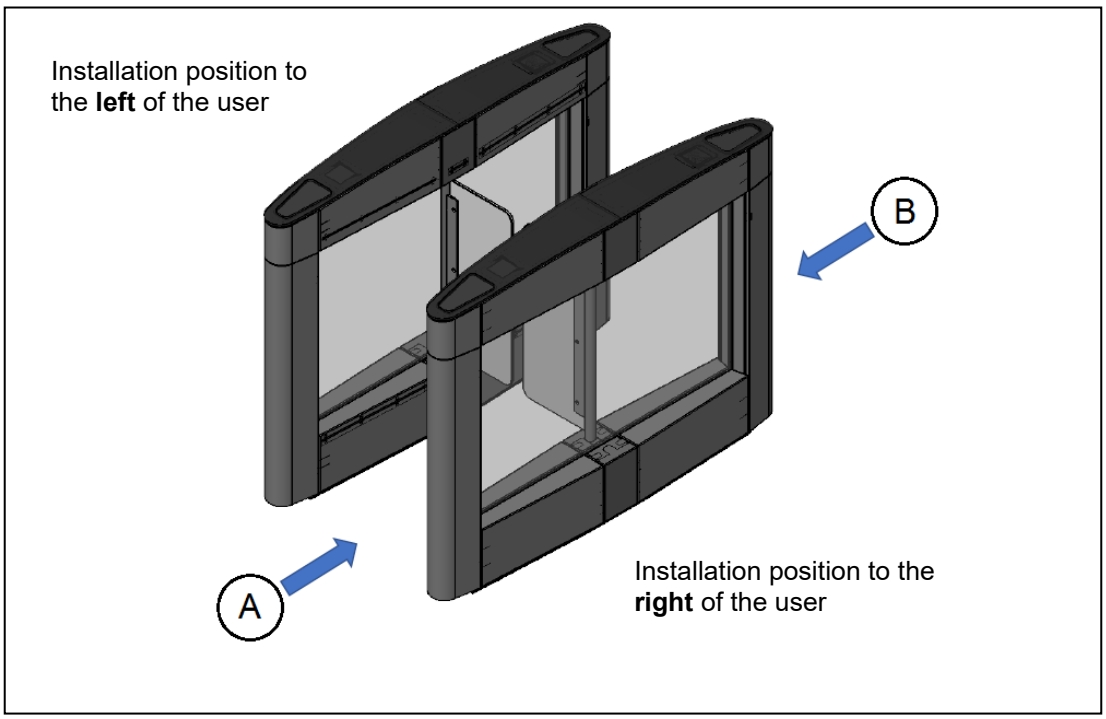
The configuration of the operational status of the equipment is performed through the PCCS V control module configuration software (supplied by Wolpac), through a RS-232 serial interface for communication with a computer and Bluetooth for communication with a smartphone, the settings are made through PCCS V control module software or configuration application, which is supplied by Wolpac.

The equipment operational commands can be carried out through digital signals (I/O) or through the available serial port.

Applications:

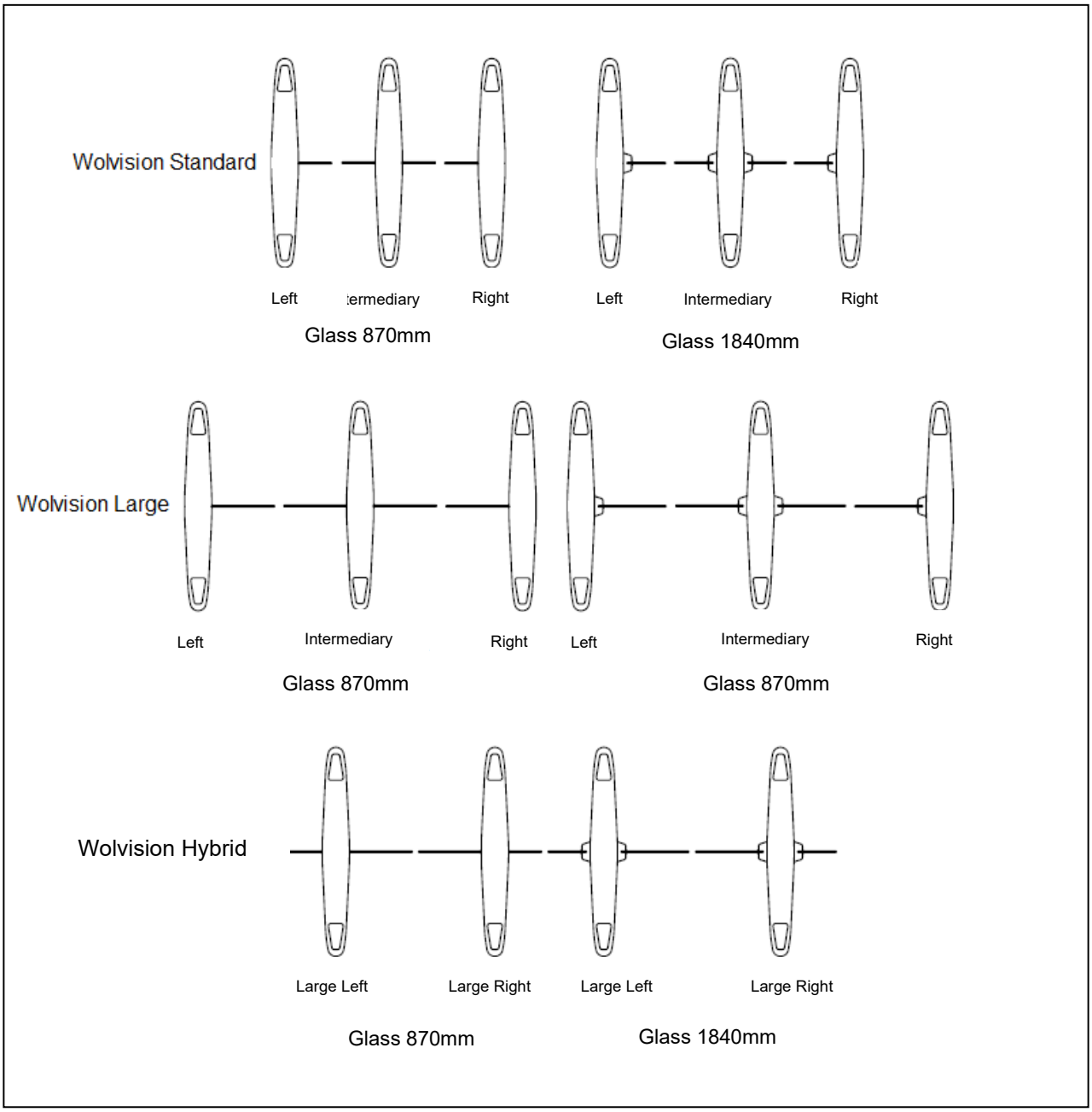
- Companies
- Industries
- Schools
- Office Buildings
- Clubs
- Parks

Detail of installation positions and directions of passage



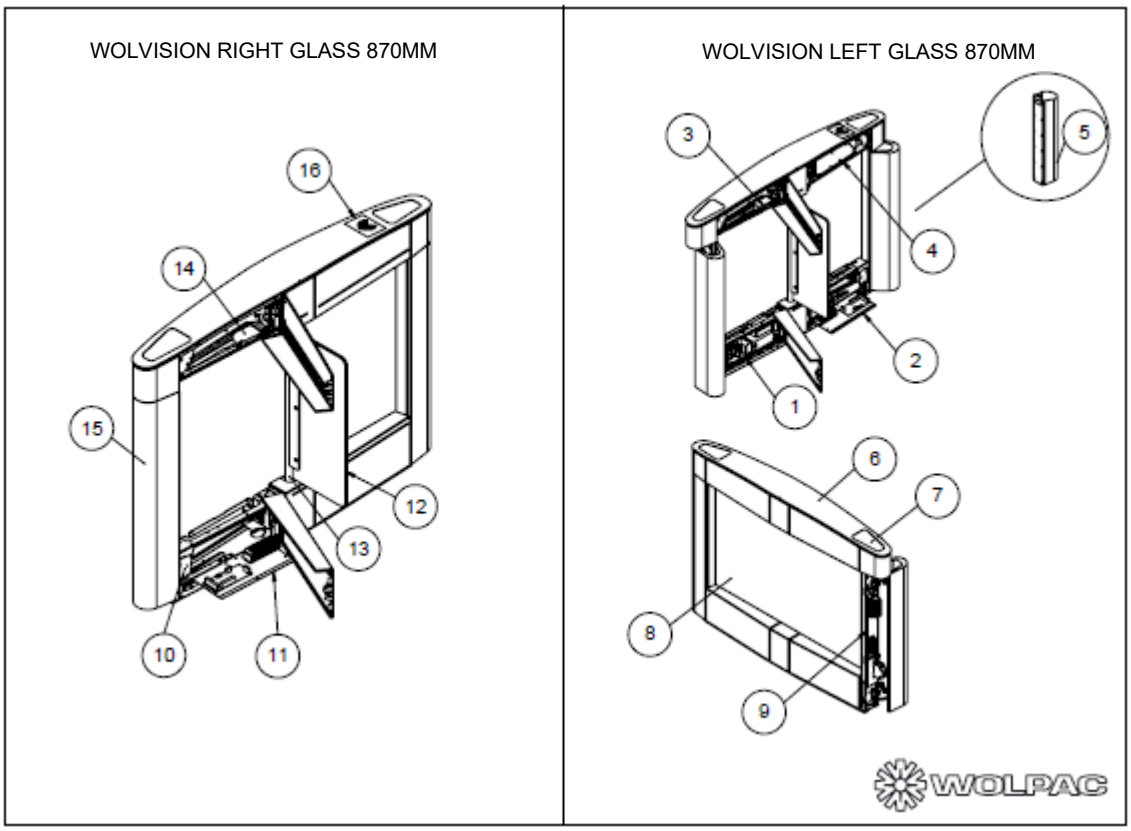
* Cycle definition: It is the passage of a user through the equipment, regardless of the direction of passage, and can be determined by opening and closing the panels.

4. Equipment models



5. Equipment Composition

Unit Type



Legend:

1. Font Bracket Assembly
2. PWDM II Master Bracket Assembly
3. Master PWSP Board Set
4. Support for Customer Integration
5. Card Collector Vault
6. Curved Glass Top
7. Integration Frame
8. Center Smoked Glass
9. PCCS V Board Holder
10. Painted carbon steel structure
11. PWDM II Slave Bracket Assembly
12. Tempered Glass Door
13. MECHANISM SHAFT
14. PWSP Slave Board Set
15. Finishes in Stainless Steel or Electrostatic Painting
16. Operation pictogram

6. Technical Specifications

Material:	Top	8 mm thick Tempered Smoked Glass
	Cabinet	AISI 304 Brushed Stainless Steel
	Structur	Carbon steel painted with epoxy powder paint
	Panel	Transparent tempered glass 10 mm thick
	Center Glass	Tempered Smoked glass 8 mm thick

Dimensions: See pages 29 and 30 of this manual

Installation: Right or left direction of passage (Fig. page4)

Functionality: Motorized for two-way passage control

Mechanism: Control of the operation of the equipment is performed by an electromechanical mechanism located on the inside of the cabinet. Its locking is automatic after a user passes through the equipment.

Power Outtage: In cases of power outtage or emergency events, the equipment was developed so that the panels open automatically, leaving the passageway free for the user, returning to its normal operation after the interruption of power is restored.

Interface: The equipment is equipped with the control module called PCCS V, responsible for controlling the user's passage, as well as the operational and orientational signals, such as sound alarms and pictograms.

Power supply: Full range
Maximum consumption: 300 W

Protection Index: IP-42

MCEF (Mean cycles between failures): 5 million cycles

Working temperature: -5 to 50°C

Storage temperature: -10 to 55°C

Relative humidity: Max. 95% non-condensing

Approximate weight typical unit: 80 kg (Standard) and 82 kg (Large)

Installation Location: Do not install on escape routes or obstructing emergency exits.

7. Installation

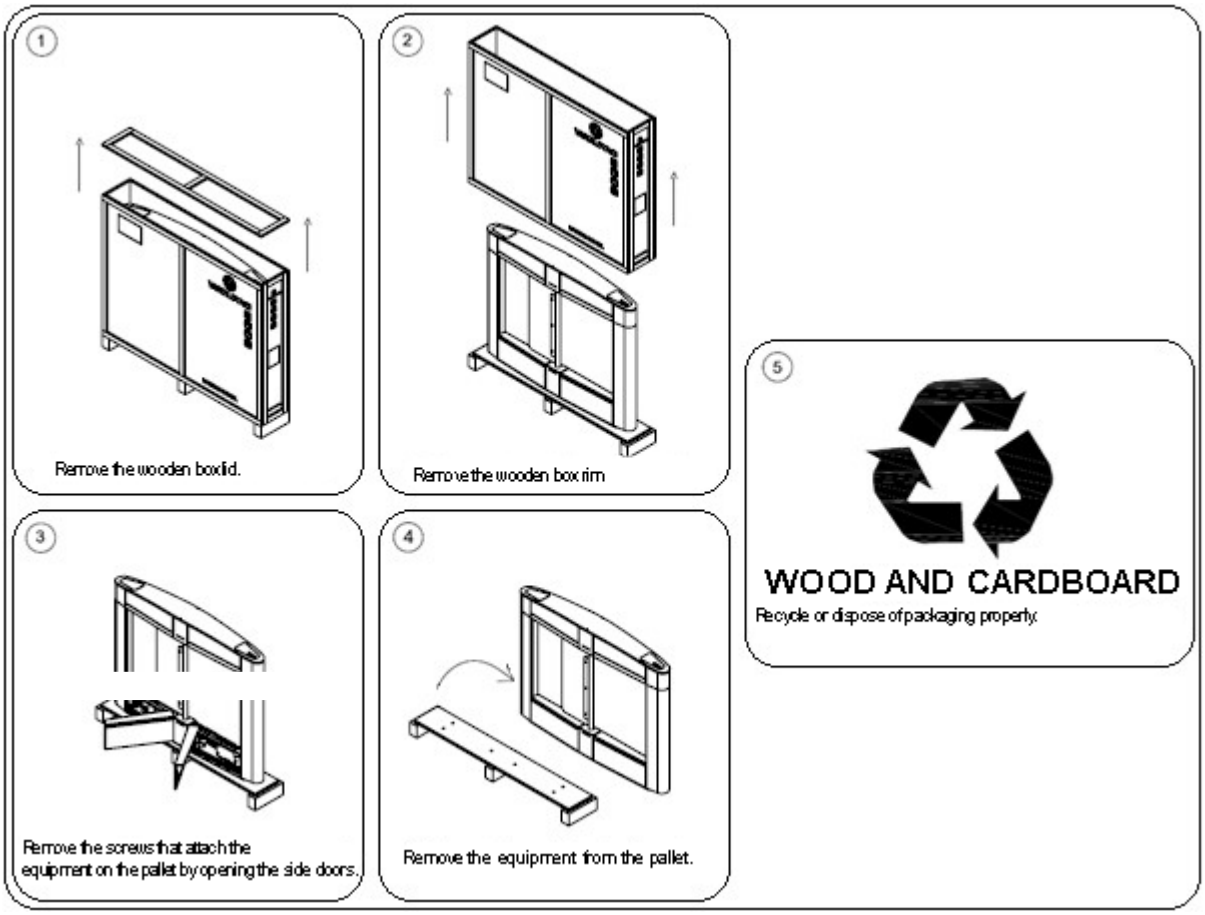
Unpacking the product

When receiving the product at the installation site, check that all items are complete and undamaged. In case of any damage caused by the transport of the product, the extent of the damage must be reported to the carrier and, if necessary, report the incident to Wolpac.

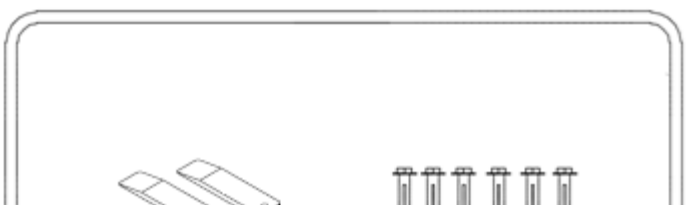
Have the installation guide handy, which should be found inside the equipment packaging on the top cover.

Wolpac is not responsible for any injury or damage occurring due to noncompliance with the instructions contained in this Technical Manual provided with the product.

Unpacking Instructions



Items and accessories



2 Equipment keys	**6 Equipment ancho bolts 5/16 x 3 1/4''**

Note: All the tools necessary to install the equipment, as well as how to drill and mount the equipment to the floor are described in the equipment installation guide.

Preparation of the floor

Before installing your equipment the following items should be checked:

- Conditions of the installation environment;
- Characteristics of the product's power supply;
- Physical space of the location;
- Cabling layout;

Environmental conditions

For the correct operation of the installed equipment, the following conditions should be found:

- Working temperature between -5 and 50°C
- Relative humidity not exceeding 95%
- Environment without any metal dust
- Environment without the presence of solid, liquid and gaseous polluting components that may corrode cables and metal components of the equipment.

Caution!

Do not expose the equipment to poor weather conditions or direct sunlight.

General conditions of the floor

The floor must be flat with a slope tolerance of no more than 2% in the equipment installation area.

The concrete used must follow the resistance specifications and have a minimum layer of 100 mm at the anchorage site of the anchor bolts.

Chemical anchor bolts can be used in cases where there is not enough concrete layer or on special floors such as granite.

Conduits must be provided under the floor, with a minimum diameter of 1 ¼" (32 mm), providing passage boxes at the points indicated in the installation drawing (Fig. page11).

Electrical connections

The electrical installation of this product must be performed by a qualified technical team. The handling, installation and specifications of the cables must be in accordance with the instructions based on this manual.

Basic preparation of the electrical installation

For Wolvision equipment **two** types of cabling are required:

- Power wiring
- Electrical interconnection wiring (accompanies the product)

Below are instructions for installing the equipment wiring:

- Floor conduits with a diameter of no less than 1 ¼" (32 mm).
- Install power and signal transmission conduits so that they are separated, avoiding possible noise problems.
- Install conduits away from high voltage cabling or radio frequency cabling, electric motors and other machines.
- Position the conduits as far away from the equipment anchor holes on the floor as possible.
- All power, communication and conduit cables are provided by the customer and must be in place prior to installation (Excluding only the interconnection cable between the equipment, as this is provided with the product).
- Check that the main power source is isolated.

Important!

In addition to powering the equipment, the grounding connection is essential for correct and safe operation of the product.

Specifications

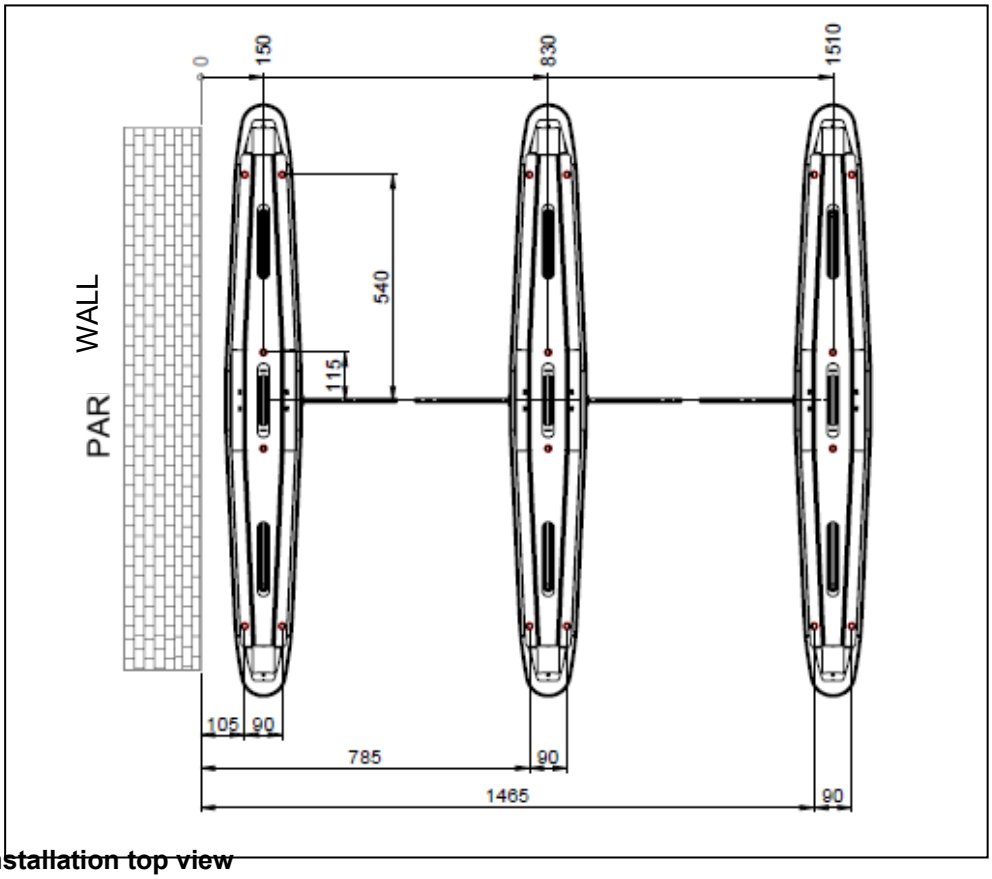
Conductive electrical cables with a minimum section of 1.5 mm² (14 AWG) should be used to supply the equipment, connecting the equipment directly to the electrical power panel, without the use of outlets or connectors.

The equipment accepts a variation of +/- 10% on the nominal value of the supply voltage, and the product power source works at both 110 and 220V voltages.

Important!

For installations with large voltage oscillations it is recommended to use voltage stabilizers.

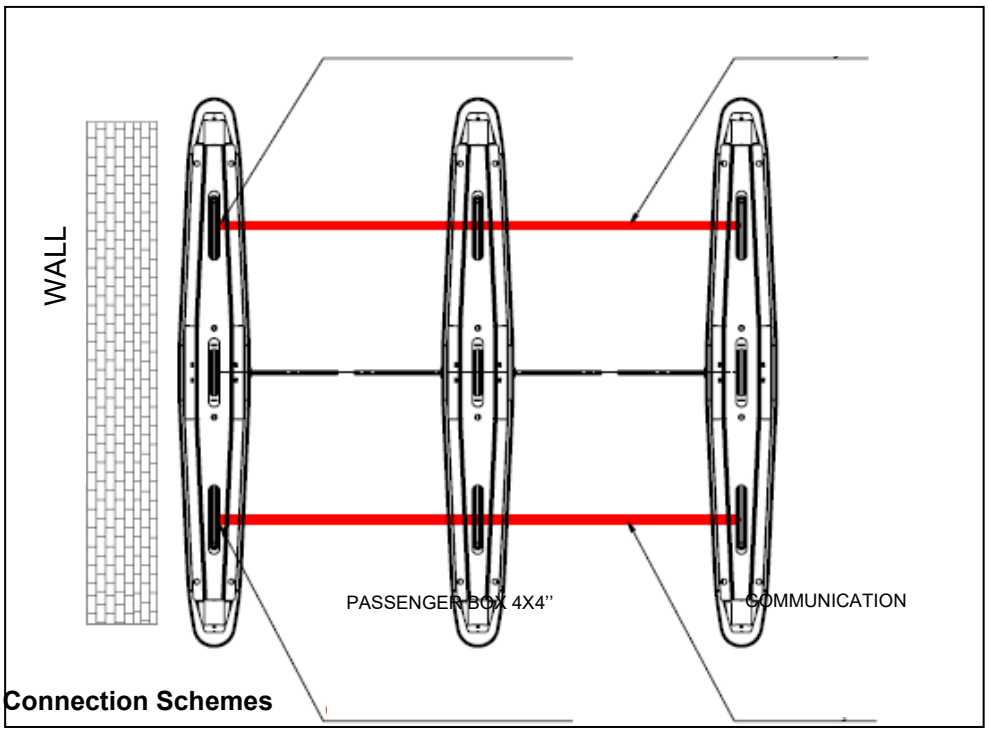
Mounting Detail



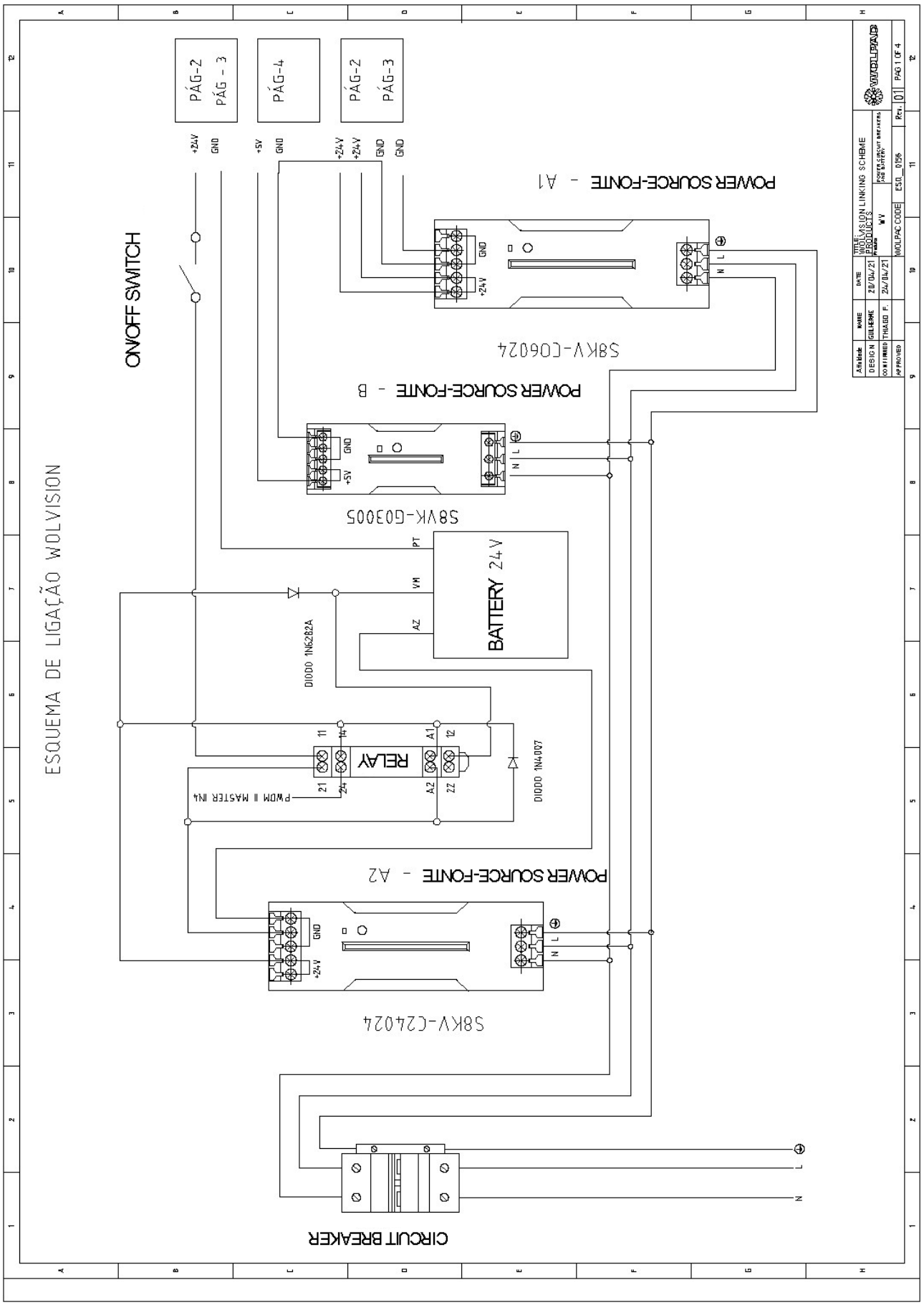
Sequence installation top view

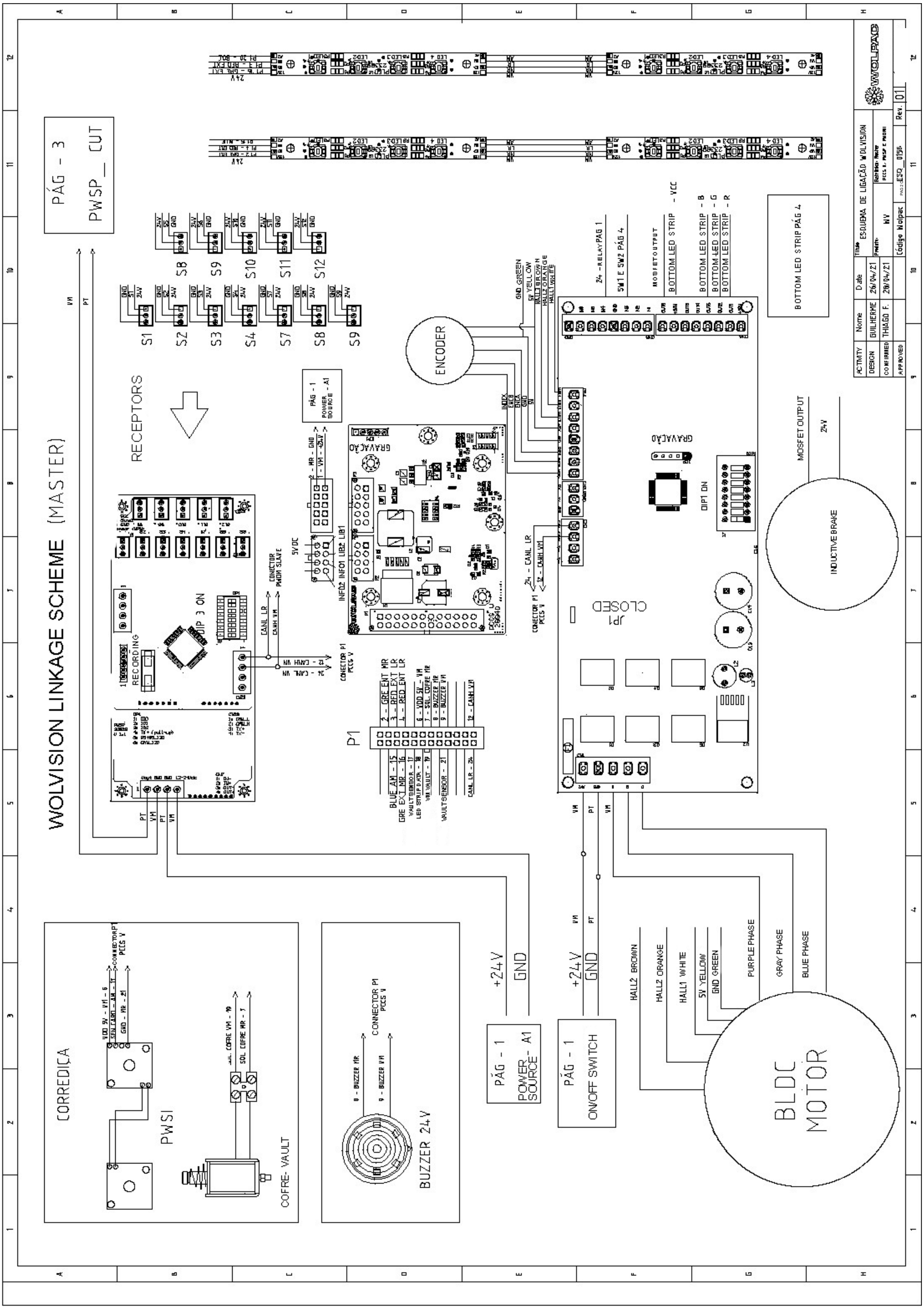
PASSENGER BOX 4X4''

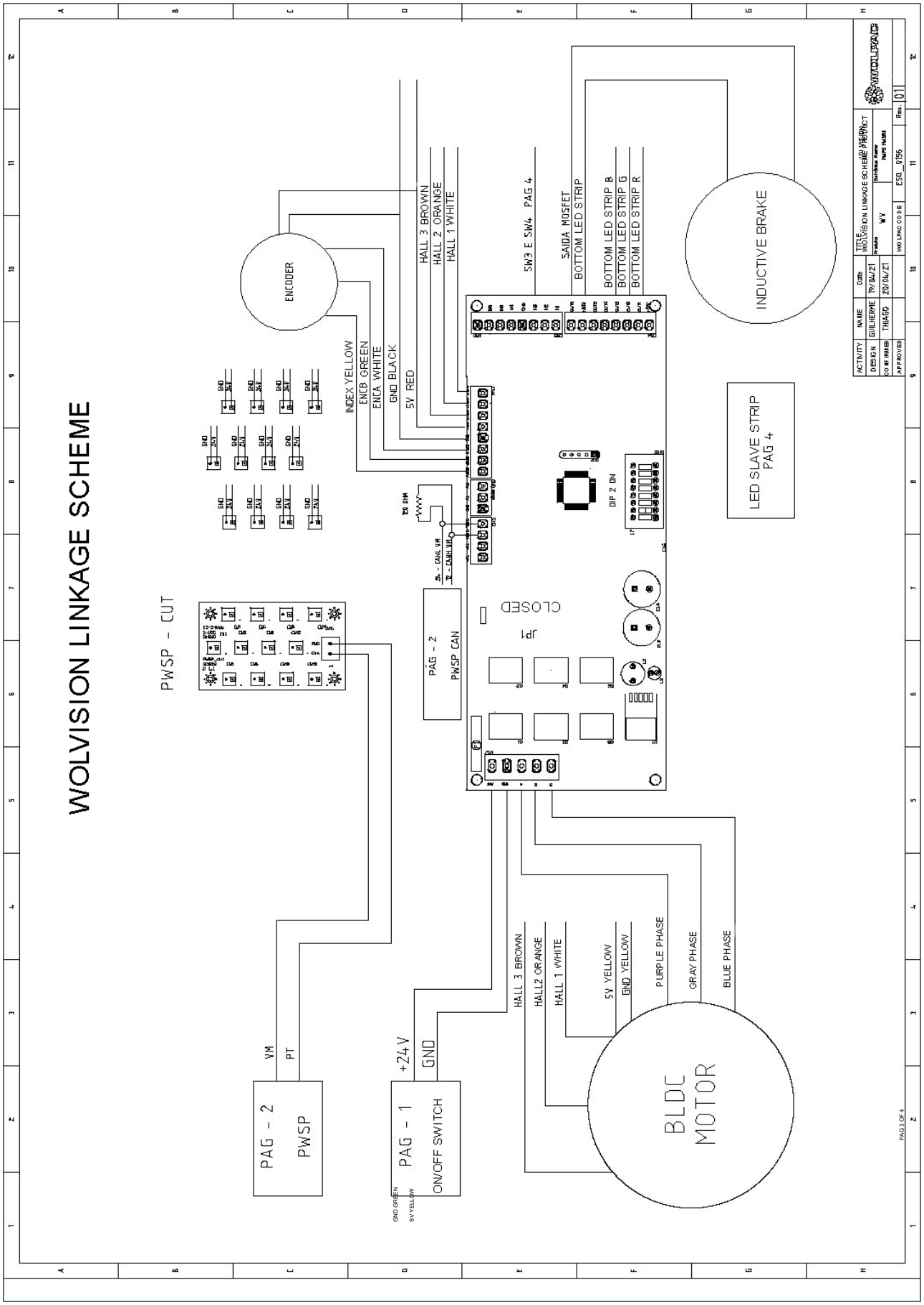
POWER SUPPLY

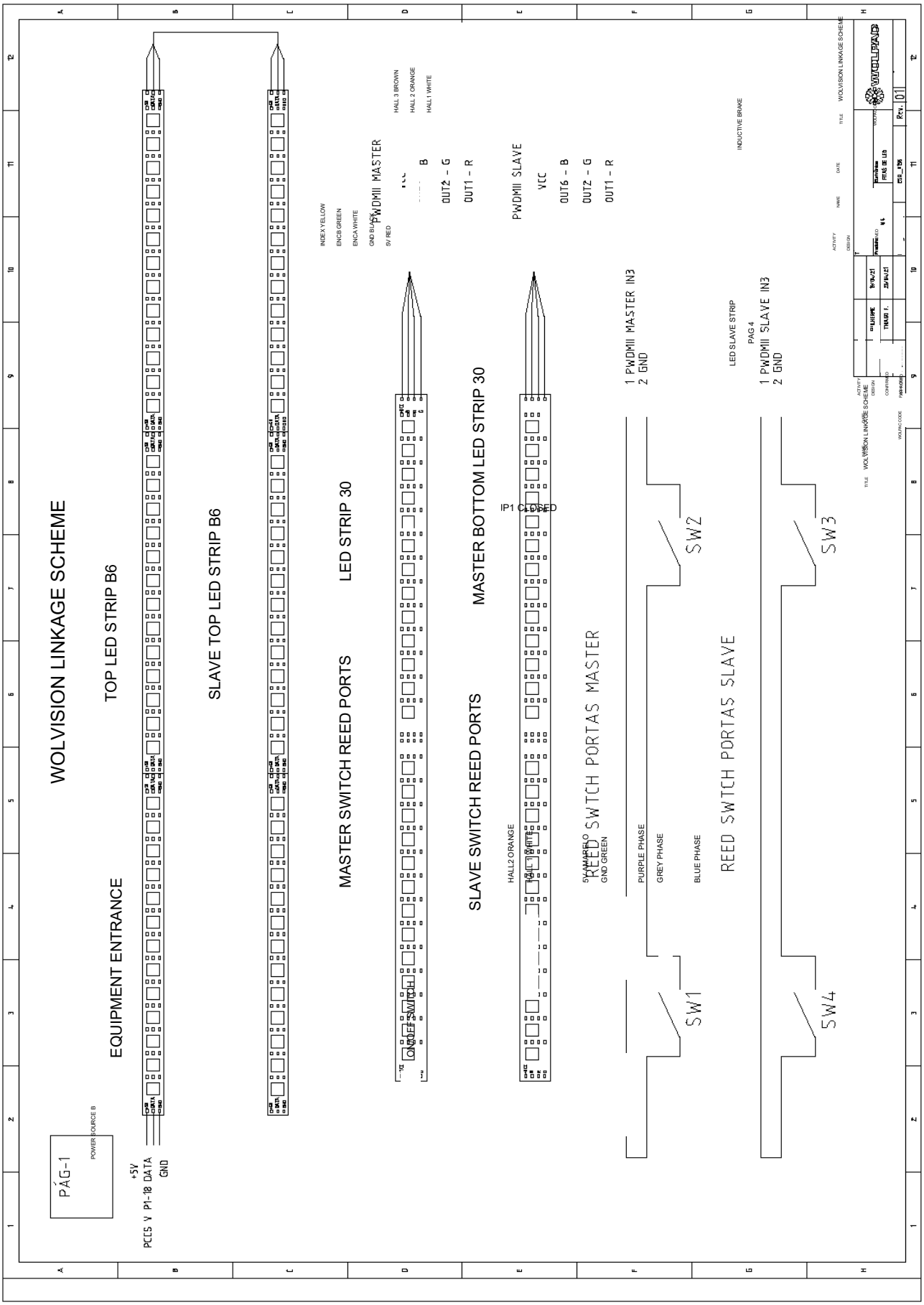


Connection Schemes


ESQUEMA DE LIGAÇÃO WOLVISION
ON/OFF SWITCH
PÁG-2 PÁG - 3
PÁG-4
PÁG-2 PÁG-3
+24V GND
+5V GND
+24V +24V GND GND
POWER SOURCE-FONTE - A1
S8KV-C06024
POWER SOURCE-FONTE - B
S8VK-G03005
BATTERY 24V
PT
VM
AZ
DIODO 1N6282A
RELAY
11 14 A1 12
21 24 A2 22
PWDM II MASTER IN4
DIODO 1N4007
POWER SOURCE-FONTE - A2
S8KV-C24024
CIRCUIT BREAKER
L
N
TITLE: WOLVISION LINKING SCHEME
WOLPAC CODE ES0_0196
Rev. 01 PAG 1 OF 4


WOLVISION LINKAGE SCHEME (MASTER)
RECEPTORS
PÁG - 3
PWSP_ CUT
ENCODER
DIP 3 ON
RECORDING
GRAVAÇÃO
DIP1 ON
JP1 CLOSED
P1
MOSFET OUTPUT
24V
INDUCTIVE BRAKE
BOTTOM LED STRIP PÁG 4
+24V
GND
PÁG - 1 POWER SOURCE - A1
PÁG - 1 ON/OFF SWITCH
HALL2 BROWN
HALL2 ORANGE
HALL1 WHITE
5V YELLOW
GND GREEN
PURPLE PHASE
GRAY PHASE
BLUE PHASE
BLDC MOTOR
CORREDIÇA
PWSI
COFRE- VAULT
BUZZER 24V
CONNECTOR P1 PCCS V
ESQUEMA DE LIGAÇÃO WOLVISION
GUILHERME
THIAGO F.
26/04/21
28/04/21
Rev. 01

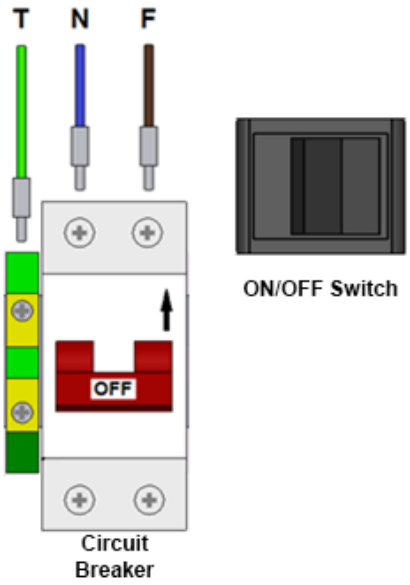

WOLVISION LINKAGE SCHEME
ENCODER
INDEX YELLOW
ENCB GREEN
ENCA WHITE
GND BLACK
5V RED
HALL 3 BROWN
HALL 2 ORANGE
HALL 1 WHITE
SW3 E SW4 PAG 4
SAIDA MOSFET
BOTTOM LED STRIP
BOTTOM LED STRIP B
BOTTOM LED STRIP G
BOTTOM LED STRIP R
INDUCTIVE BRAKE
LED SLAVE STRIP
PAG 4
DIP 2 ON
JP1
CLOSED
PAG - 2
PWSP CAN
PWSP - CUT
PAG - 2
PWSP
VM
PT
PAG - 1
ON/OFF SWITCH
+24V
GND
GND GREEN
5V YELLOW
HALL 3 BROWN
HALL2 ORANGE
HALL 1 WHITE
5V YELLOW
GND YELLOW
PURPLE PHASE
GRAY PHASE
BLUE PHASE
BLDC
MOTOR
TITLE
WOLVISION LINKAGE SCHEME
ESQ_0756
01


WOLVISION LINKAGE SCHEME
EQUIPMENT ENTRANCE
TOP LED STRIP B6
SLAVE TOP LED STRIP B6
MASTER SWITCH REED PORTS
LED STRIP 30
SLAVE SWITCH REED PORTS
MASTER BOTTOM LED STRIP 30
IP1 CLOSED
PÁG-1
POWER SOURCE B
+5V
P1-18 DATA
GND
INDEX YELLOW
ENCB GREEN
ENCA WHITE
GND BLACK
5V RED
PWDMII MASTER
HALL 3 BROWN
HALL 2 ORANGE
HALL1 WHITE
B
OUT2 - G
OUT1 - R
PWDMII SLAVE
VCC
OUT6 - B
OUT2 - G
OUT1 - R
HALL2 ORANGE
HALL1 WHITE
5V MARRÓN
GND GREEN
REED SWITCH PORTAS MASTER
1 PWDMII MASTER IN3
2 GND
PURPLE PHASE
GREY PHASE
BLUE PHASE
SW1
SW2
SW3
SW4
REED SWITCH PORTAS SLAVE
LED SLAVE STRIP
PAG 4
INDUCTIVE BRAKE
1 PWDMII SLAVE IN3
2 GND
WOLVISION LINKAGE SCHEME
Rev.: 01

8.Turning on the equipment

After performing the entire product installation stage, proceed with the following steps:

1. Check that the electrical interconnection was performed correctly; Refer to the wiring diagram for more details.



Trigger the Equipment Circuit Breaker;

2. Turn on the equipment on/off switch;
3. After activating the power switch, check that the equipment performs the functions in the sequence below:
    a. An audible beep is activated for approximately 3 seconds, indicating the operation of all photoelectric sensors;
    b. Operational pictograms flash three times, displaying the three operational colors (green, red and blue);
    a. Again a beep is sounded, but this time for three times with the pictograms lit up in blue;
    b. After the audible beep, the glass panels will move, performing the opening and closing cycle for two consecutive times, in this case, observe the guidance pictograms that will indicate the red color;
    c. After the period of the previous item, the equipment will be locked in both directions with the pictograms lit in blue.

Note: If any of the actions described do not take place, the interconnections must be checked, including the connection of the grounding wire, as well as the presence of electricity. After the check, the steps must be redone and if the problem persists, technical assistance should be contacted by e-mail www.wolpac.com/assistenciatecnica.

Congratulations! The equipment is ready for use and integration!

9.Electronic Integration - PCCS V Module

The PCCS V control module is a microprocessed electronic set capable of integrating, in a complete way, any proprietary access control system, with inputs and outputs for receiving signals to release passages and send information to the operating control system, such as passages made and alarms. As it is a microprocessor set, the control module can be configured according to specifications predefined by the system to be integrated, for this the module has an RS-232, RS-485, CAN and Bluetooth interface for communication with a computer or smartphone , the settings are made through the PCCS V control module configuration software or application, supplied by Wolpac.

Smartphone Connection

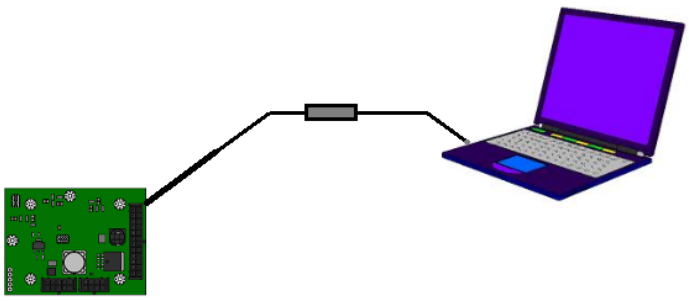
To connect the PCCS V module, the Smartphone device must have Bluetooth enabled. When activating, it will search for all available nearby devices and find Wolflap III, so just click and wait for pairing.

Once this is done, open the Wolpactec App. Okay, now the user has the Wolflap III in their hands, thus being able to make pass releases, time out and other configurations with ease, this according to the existing hardware or even according to operating requirements.

These same settings can be performed by the **PT_PCCS V** Software.

Using the configuration software

1. Install the setup program on your computer;
2. Connect communication cable between computer and PCCS V board connector **P1**;
3. Run the **PT_PCCS V** program.
4. Choose the serial port.
5. Start communication by clicking on the “Open COM” button.



Important!

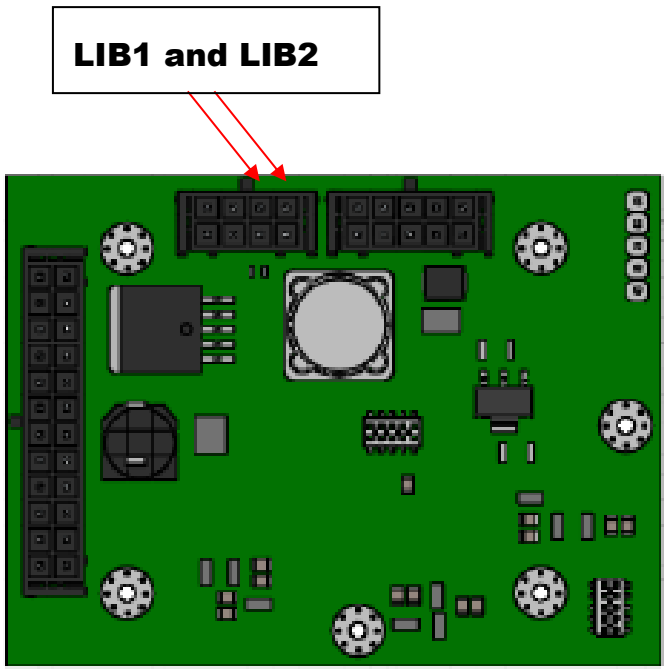
The equipment purchased has a factory default configuration based on our experience of use. Make

sure you really need to change this setting!

Pass release signal inputs

Release input signals can originate from dry contact. The following tables specify the LIB1 and LIB2 inputs.

Location of LIB2 and LIB1 signal inputs



Setting release signals

The release input signals can be originated on contact for low level (GND). Release inputs, LIB1 user right release and LIB2 user left release.

PCCS V connector	Wire no.	Signals
P2	1	LIB1
P2	5	VDD5
P2	2	LIB2
P2	6	VDD5

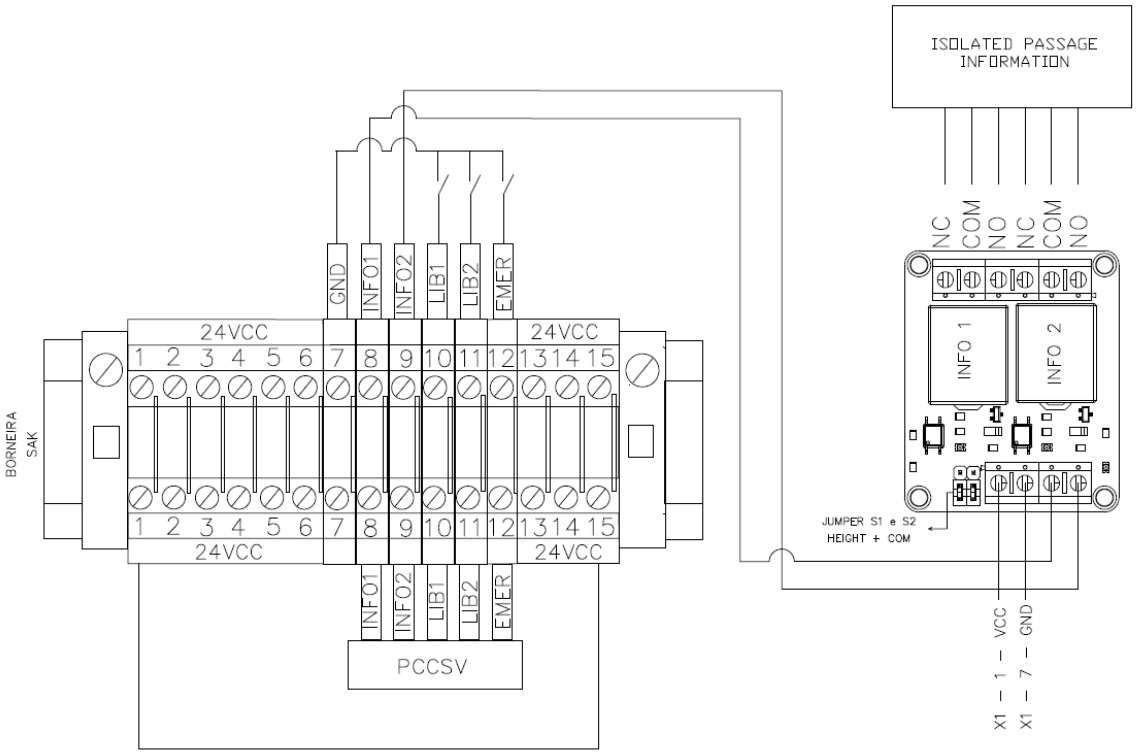
(*) isolated voltage = When the GND of the validation system is independent of the GND of the PWAC module

(*) non-isolated voltage = When the GND of the validation system is common to the GND of the PWAC module

The minimum width of the 200ms release pulse (not configurable via test program).

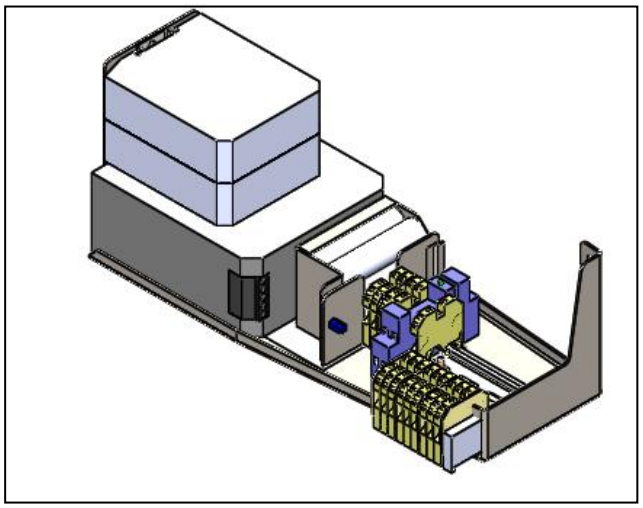
Passage information

The has isolated pass-through information via a relay interface. Below is a diagram of the terminal block where the integration takes place.



Power Input

Electronic cards must be powered by a specially stabilized power supply to service the Wolpac security interlock line. This power supply is full range and can work at 127V / 220V voltage.



8. Instructions for Use

The information contained in this item should be used as a basis for instructing users on the proper use of the Miniblock equipment.

Using Wolvision

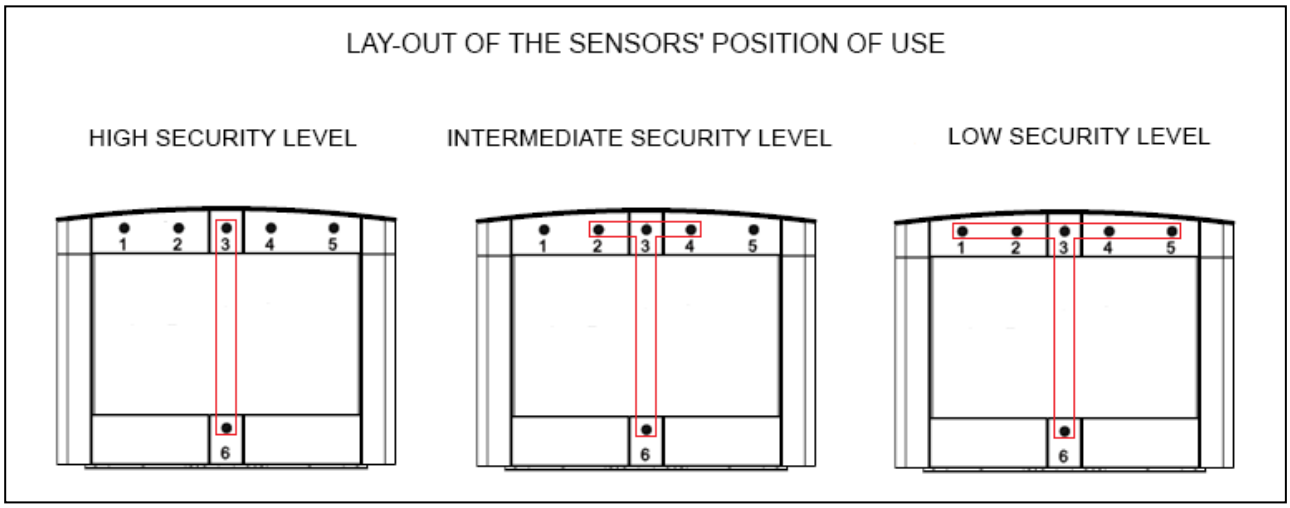
The Wolflap III is equipped with a motorized mechanism that maintains the user's passageway normally closed through its glass panels, and can work in uni- or bi-directional way (in one or both directions), and by means of a release signal, by means of a reader or simply a release button, the user is allowed to pass through the opening of the glass panels.

In case a user does not proceed to pass through the equipment after release, the control module, when in the “Momentary Pulse” mode, will wait for a determined time and after this time (Time Out), the module will cancel the release and will be ready to receive the release for the next user.

The user's overtaking is monitored through photoelectric sensors strategically positioned throughout his cabinet, allowing an effective monitoring of the user's movement. This, in addition to allowing the user's safety when using the equipment, also guarantees security against system violations.

In the case of dual-pass intent, that is, two users who intend to travel the free path only for a release, the equipment emits a beep, alerting the occurrence.

The equipment also allows for a control configuration, ensuring a greater or lesser level of security at the site, this allowed by the barrier sensor monitoring system and the information processing logic, below are the settings:



For configuration of the Wolvision security system the product configuration software is required, for more information see PCCS V Manual.

Important notes!

- The equipment must be used by one person at a time;
- Do not try to hold the equipment panel with your hands while you are passing through the passageway;
- Do not go through the gate using bags or large packages in front of you or dragging behind you;
- Do not drag bags and/or similar items over the equipment cabinet;
- No items should be stuck in the glass panels of the equipment, if this occurs, stop and do not continue forcing the passage in the same direction.

Instructions for users

Basic instructions on how to use the Wolvision equipment were placed just below, with the following visual instructions offered by the operational pictogram. These have been developed so that users can get used to using the product in a quick and practical manner.

The guidleine pictogram changes color as per the operation pictogram.

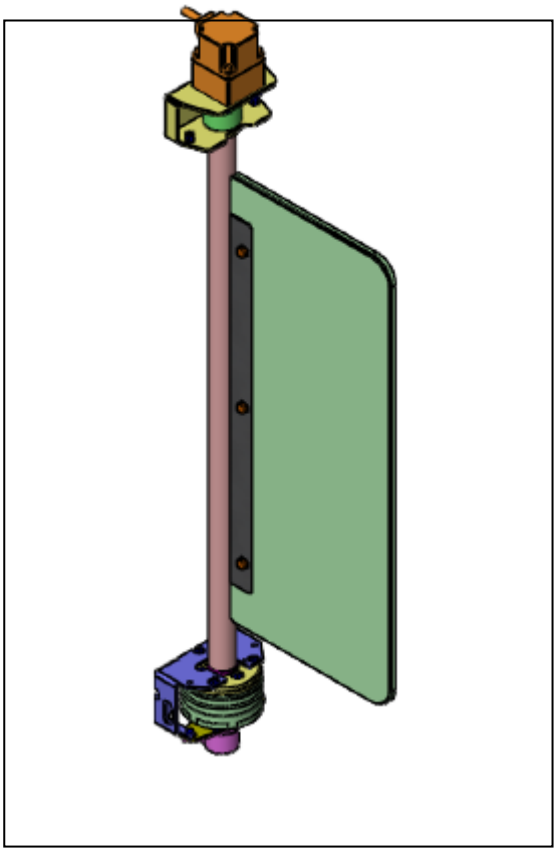
	**Blue** Equipment in normal operation mode, present card or other release system.
	**Green** Release request authorized, proceed with equipment override.
	**Red** Unauthorized passage or attempted tampering, re-present card or seek assistance from an authorized person.

11. Wolvision Mechanism

It is mounted on the inside of the equipment structure by easily accessible screws and its removal is carried out completely from the front of the equipment, requiring the removal of front doors, thus facilitating its maintenance.

- Brushless type electric motor driven mechanism;
- Glass fixing rulers in brushed stainless steel;
- Bearing shaft;
- 10 mm thick, clear tempered safety glass panel;
- Elastic Coupling
- Electromagnetic toothed brake;
- Encoder for turning monitoring;
- Its components receive surface treatments that provide durability and corrosion resistance.

Wolvision Standard mechanism Overview



12. Preventative Maintenance

Estimating the flow of a maximum of 60,000 users per month under normal conditions of use, a more effective verification and possible replacement of the components mentioned below is recommended:

Number of cycles (x 1000)			
	1000	2000	5000
Geared motor			X
Electromagnetic brake		X	
Bearings		X	
Elastic Coupling	X		

Note!

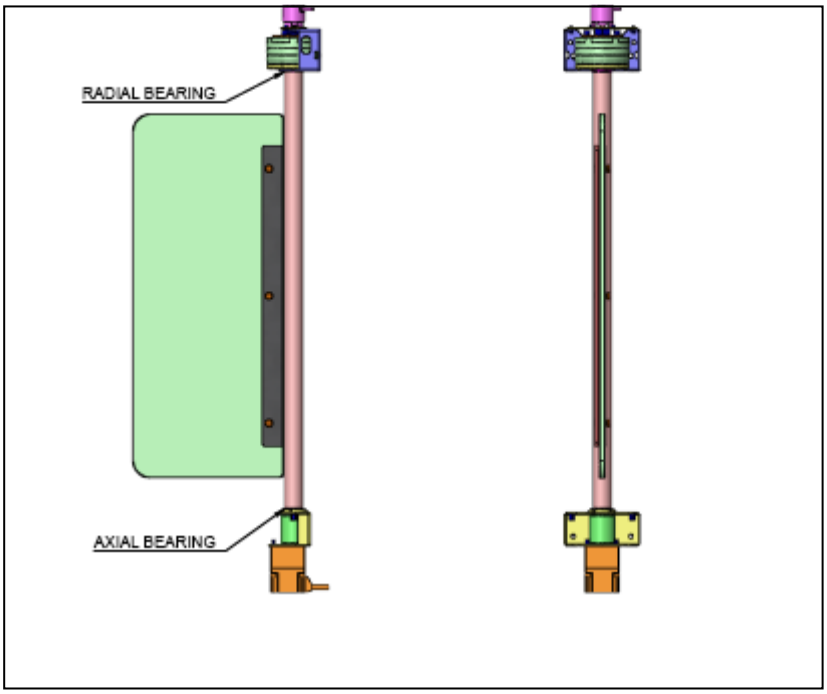
At each intervention, cleaning must occur for the removal of dust and any foreign bodies from the internal parts of the equipment.

For residue removal, use a dry flannel (or lint-free fabric). Do not use benzines, solvents, acids or other aggressive chemicals, steel sponges or rags in the cleaning of the equipment.

The operations described below should be performed every 4 months or 240,000 cycles, whichever occurs first, and may be changed according to the intensity of the flow of people.

- Check that the displacement of the lock occurs smoothly, observing the action of the speed reducer;
- Check if the locking component, such as the electromagnetic brake, has excessive wear;
- Check that the bearings rotate freely;
- Check fastening of the elastic coupling;
- Check that all screws and nuts are tightened and locked;
- Check that all cables are connected and positioned in a way that does not impair the activation of the moving parts of the equipment;
- Check that the connectors and terminals are correctly mounted;
- Proceed with electrical tests, checking pictograms, arm locking etc.
- There are certain parts in this mechanism that require special care, such as the lubrication of mechanical items as described and demonstrated in the figure below. The use of specific lubricants described in **item 13** is essential;

- **Main lubrication points**



NOTE: Excessive use of lubricant may be harmful to the equipment!

13. Lubricants and Adhesives

In order to avoid premature wear of the mechanical parts of the equipment, subject to abrasion and corrosion actions, it is recommended to use the following lubricant(s) according to the table below. As well as in the parts and attachment components (nuts, screws etc.), the use of adhesives is recommended to maintain their proper functioning:

Lubricant	Application
MP-2 Lubricating Grease	Radial Bearing
	Axial Bearing

Sticker	Application	Examples of application
Permabond HH 120 (High Torque)	Fastening of screws and other elem. That do not have their removal foreseen	Panel pivot point shaft fastening screws
		Panel turning point bearing fastening screws
		Lever stop fastening screws
Permabond HH 115 (Medium Torque)	Fastening of screws and other elemen-ts that have their removal foreseen	Mechanism fastening screws
		securing fastening brackets

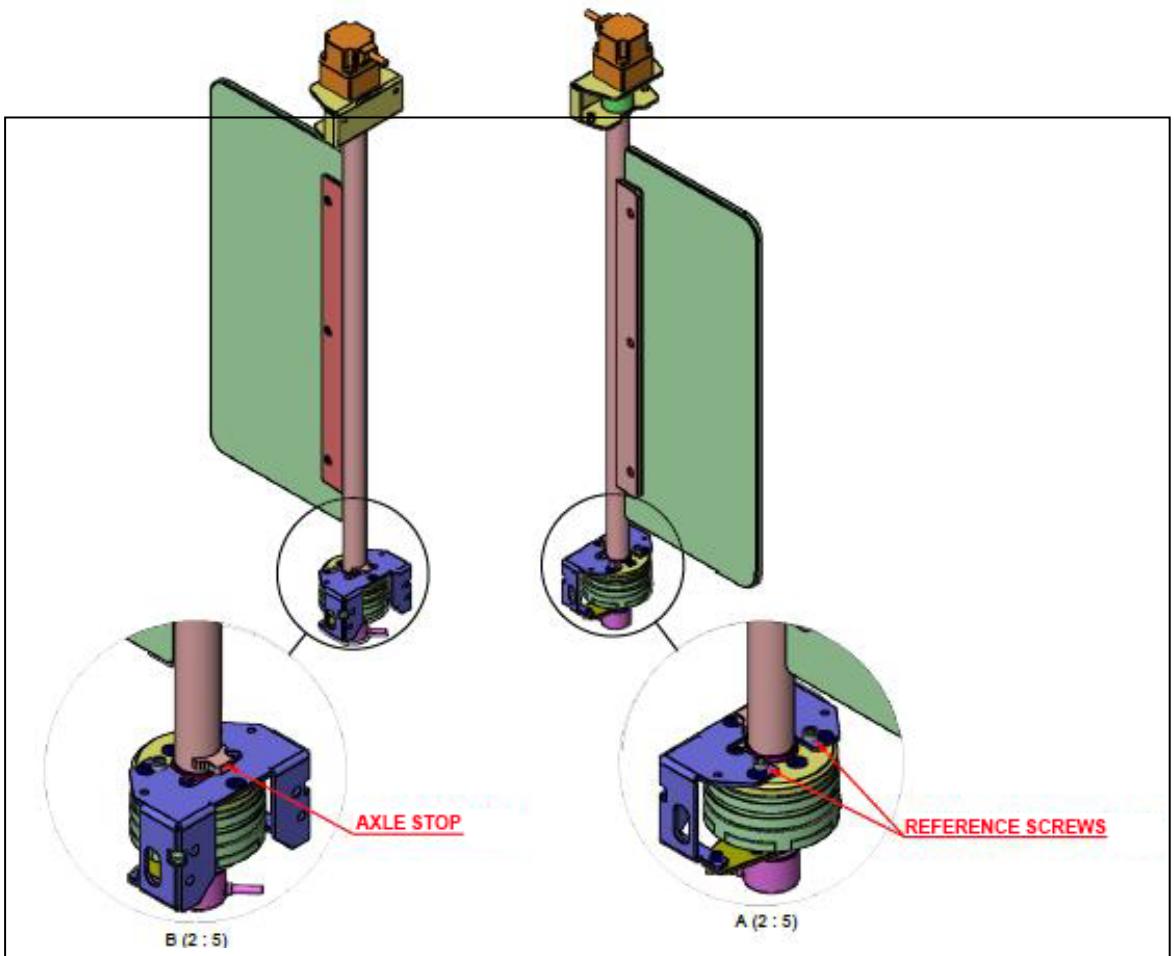
14. Technical Regulations and Interventions

Caution!

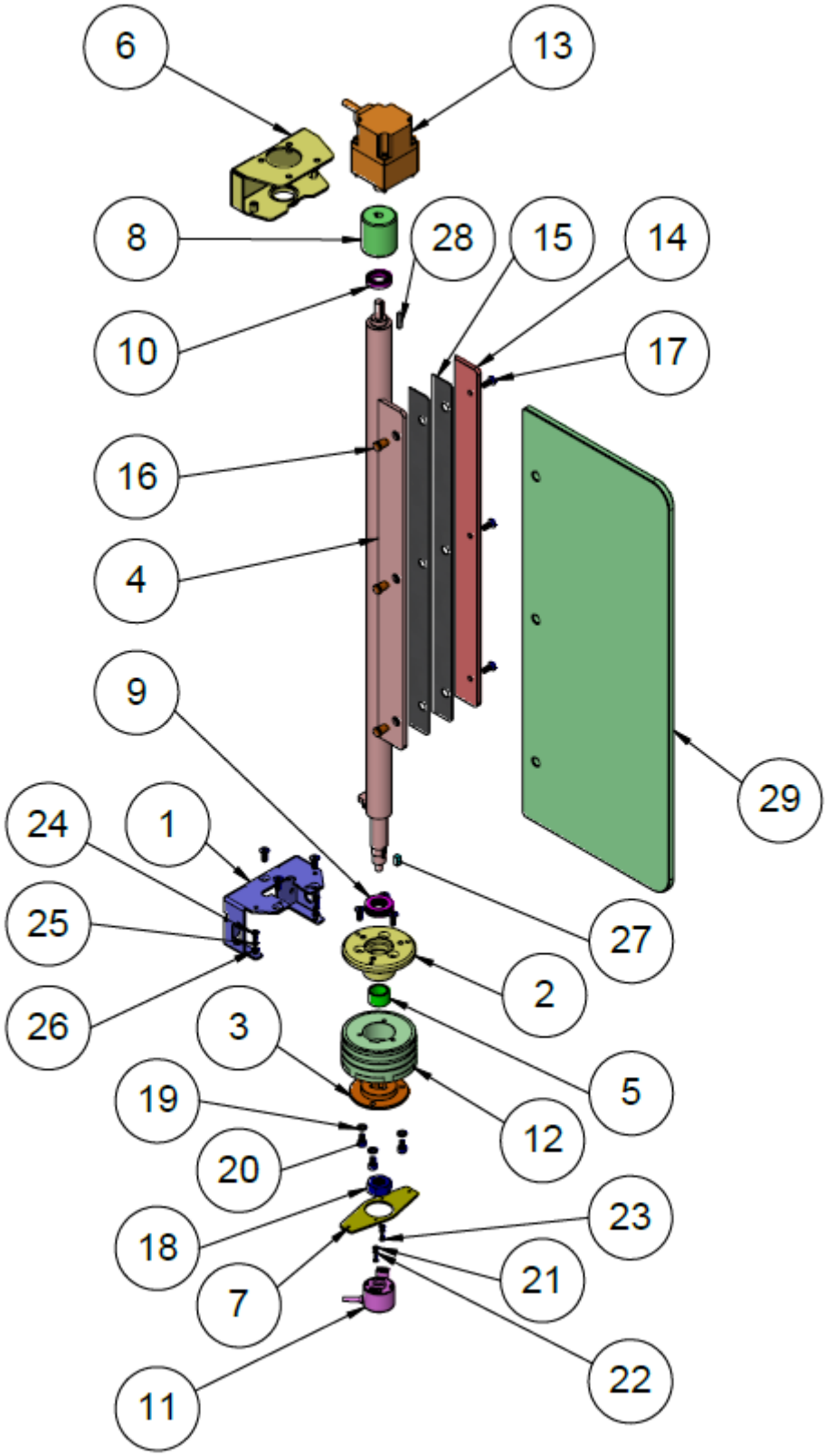
The equipment contains mechanical items and electro-electronic elements, any negligence during an intervention can cause serious consequences for your safety and for the proper functioning of the product. So when there is a need to carry out a technical intervention, the power must first be cut off, the handling of elements must be carried out carefully and by people trained to develop such services.

Turning damping mechanism

- The adjustment in the equipment stops system is carried out at the factory, with no need for new adjustment or replacement of the stops.



15. Exploded View of the Mechanism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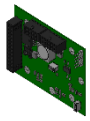
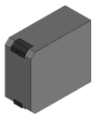
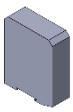
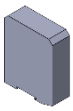
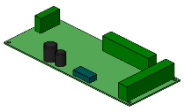
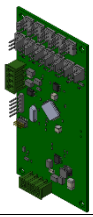
16. List of Mechanism Parts

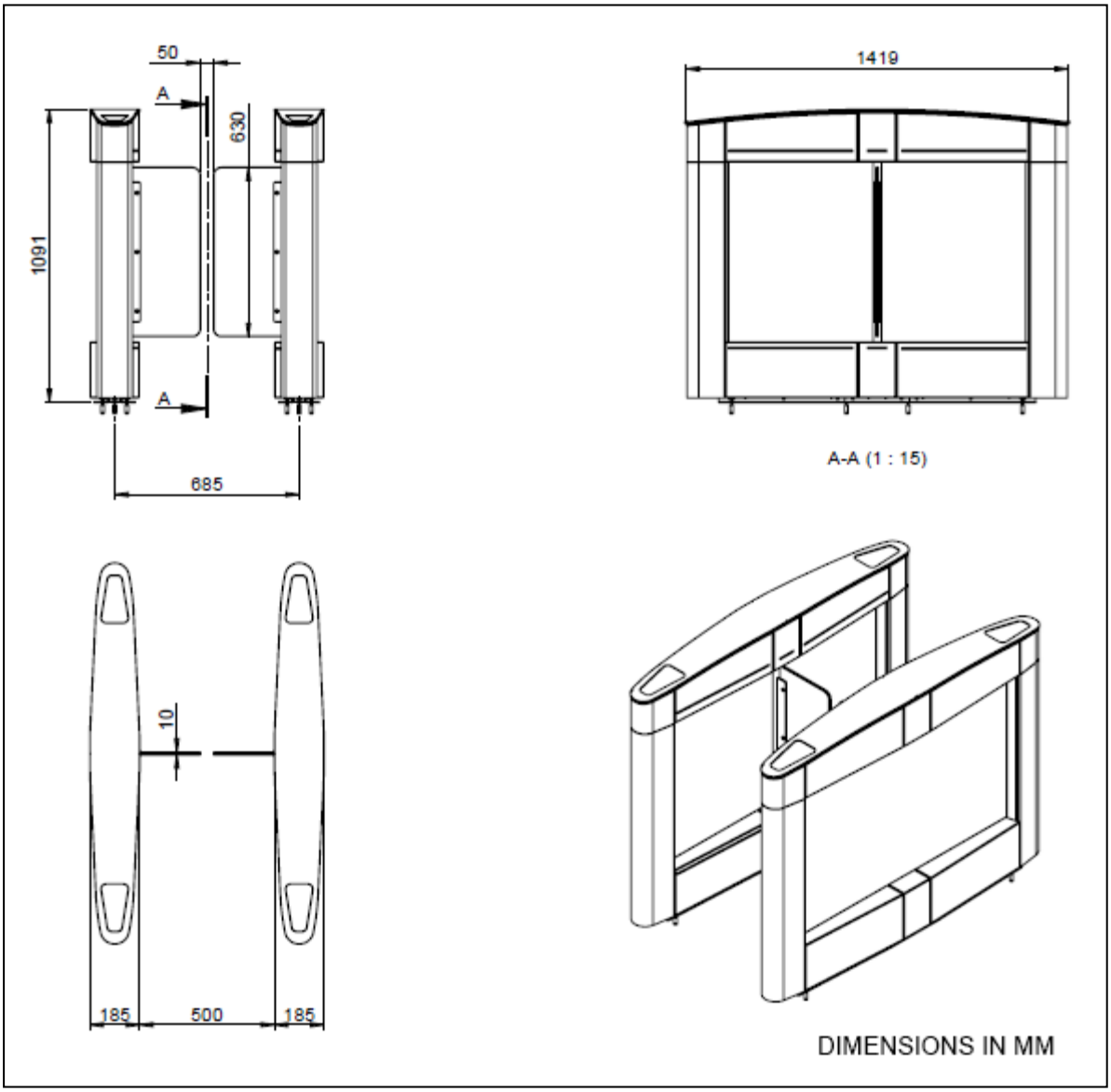
29	1	DOOR GLASS 461 X 1560 LARGE PLUS	31920
		DOOR GLASS 461 X 630 LARGE	31919
		DOOR GLASS 261 X 1560 STD. PLUS	31918
		DOOR GLASS 261 X 630 PLUS	31917
28	1	DIN6885 PARALLEL SQUARE WRENCH	29228
27	1	PARALLEL SQUARE WRENCH	05777
26	2	4 mm FLAT WASHER	00316
25	2	4 mm PRESSURE WASHER	00327
24	2	SCREW DIN7985 M4 x 10 mm	02937
23	2	DIN7985 CYLINDRICAL HEAD SCREW W/ CROSS SLIT M3x6	00289
22	2	3 mm PRESSURE WASHER	00326
21	2	3 MM FLAT WASHER	00315
20	3	DIN. 912 CYLINDRICAL HEAD SCREW W/INT. HEX.M6x10	00251
19	3	6 mm PRESSURE WASHER	04561
18	1	HEXAGONAL NUT- M 16	06371
17	9	DIN7991 M6 X 16 mm SCREW	04330
16	3	RULER BUSHING	29317
15	2	HINGED GLASS CORK	31914
14	1	COUNTER GLASS ATTACHMENT RULER	31913
13	1	24V 30W BRUSHLESS MOTOR	29329
12	1	ELECTROMAGNETIC SPROCKET CLUTCH	29229
11	1	ENCODER K38 24V	28983
10	1	BEARING 6804 ZZ	23587
9	1	THRUST BEARING 20X35X10	29240
8	1	DOUBLE ELASTIC COUPLING DIAPHRAGM SIZE 44X50	29230
7	1	ENCODER BRACKET	31915
6	1	SUBSET MOTOR SUPPORT	31912
5	1	MECHANISM BUSHING	31908
4	1	SUBSET MECHANISM SHAFT	31907
3	1	CLUTCH FLANGE	31903
2	1	THRUST BEARING	31902
1	1	CLUTCH HOLDER	31901
Item	QTY.	Name	Code Wolpac

17. Electronic Components List

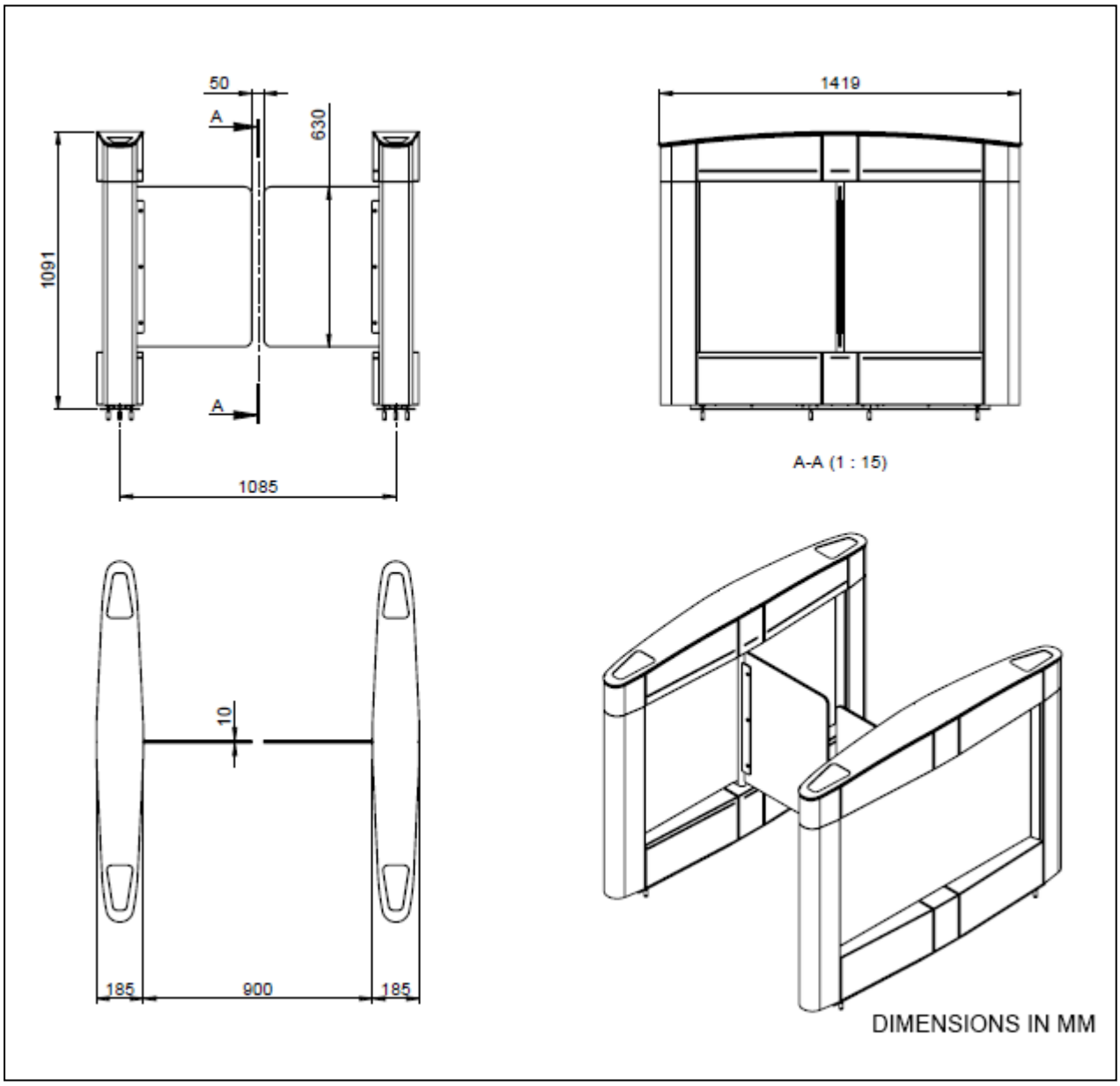
ELECTRONIC ITEMS				
ITEM	**QTY.**	**NAME**	**CODE WOLPAC**	**IMAGE**
1	1	PCCS V CARD	28940	
2	1	S8VK-C24024 (OMRON) 24V / 10A	31279	
3	1	S8VK-C06024 (OMRON) 24V / 2.5A	31280	
4	1	S8VK-G03005 (OMRON) 5V/5A	31281	
5	1	LI BATTERY - ION 21.6 V 13.2 AH	31282	
6	2	PWDMII CARD - WOLPAC ENGINE DRIVER CARD	28847	
7	1	PWSP PLATE CARD WOLPAC PLATE PASSAGE SENSORS	30528	
8	6/12	NPN PHOTOELECTRIC SENSOR	17150	

18. General dimensions

Wolvision Standard



Wolvision Large



19. WARRANTY

I - This product is warranted by Wolpac - Sistemas de Controle Ltda for a period of 365 days (limited warranty), against any defects in material or workmanship, provided the following conditions are met:

a) For the warranty to be valid, it is essential that the product seals remain intact and its identification label does not show signs of violation.

b) The warranty period will be counted from the date of delivery of the product to the first purchaser, even if the product is transferred to third parties, so it is necessary to present the tax document.

c) In the first 90 (ninety) days of the warranty period, the costs of parts and repair services must be performed at Wolpac Authorized Technical Service Centers. For the remaining period, only the costs of parts that may require replacement to repair the product shall be covered, excluding the costs of repair services (labor), collection of the product (shipping and return) and travel and accommodation of the specialized technician.

d) The products sent to the Authorized Centers must be packed in packaging that guarantees their physical integrity, and the shipping and return expenses are the customer's responsibility.

e) Products sent to the Authorized Centres should be accompanied by a brief description of the problem presented.

f) Wolpac is not responsible for any loss or damage caused to the owner of the product, during the period in which the product is being maintained.

g) The replaced parts will be owned by Wolpac.

II - This warranty shall be null and void for defects caused by:

a) Misuse or operating error of the product.

b) Maintenance and/or alteration of the product not previously approved by the Wolpac Authorized Technical Service Center.

c) Services for installation, deinstallation and relocation of the product not authorized by Wolpac.

d) Surges and/or voltage peaks in the power grid typical of some regions, for which stabilizers should be used for correction.

e) Unforeseeable circumstances and force majeure.

f) Transport of the product in inadequate packaging.

g) Theft or robbery.

Wolpac Authorized Technical Service Centers have teams to provide services at the installation location of the products, for which service fees will be charged and, eventually, the execution of services, according to the time relative to the warranty period.

No Wolpac Accredited Reseller or Technical Service Center is authorized to modify the conditions set forth herein or make other commitments on behalf of Wolpac.

WOLPAC EFFICIENT CONTROLS

Commercial and Factory

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Ferraz de Vasconcelos – SP – Brasil

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