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MANUAL DE INSTRUCCIONES Y ESQUEMAS
MANUAL OF INSTRUCTIONS AND DIAGRAMS
MANUEL D'INSTRUCTIONS ET SCHÉMA

CONTROL BOX
RSPV ECO

Speed Doors
Sectional Doors
Dock Levellers
Dock Shelters
Bridging Platforms

Puertas Rápidas
Puertas Seccionales
Muelles de Carga
Abrigos de Carga
Pasarelas Móviles
Mesas Elevadoras

Portes Rapides
Portes Sectionnelles
Quai Niveleur
Sas d'etanchéité
Passerelles

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INDEX

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1. INSTRUCTIONS

Read this instruction manual thoroughly and follow the instructions, as well as the maintenance and safety instructions.

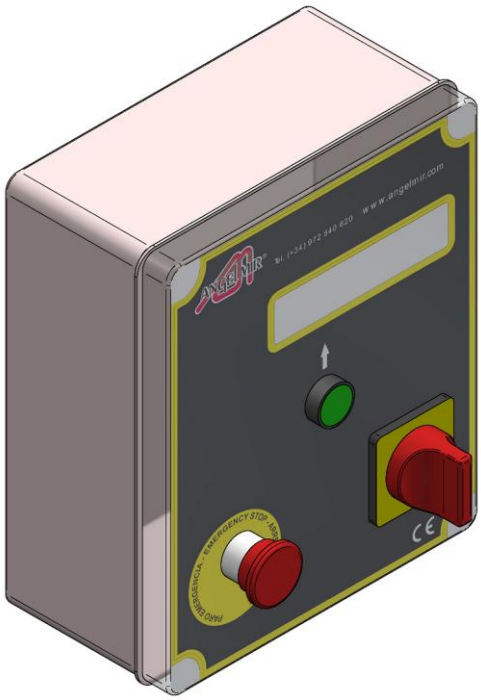
2. USER GUIDELINES

- Please follow all the instructions for the assembly of the product.
- The door should only be installed by personnel authorised by the distributor or manufacturer.
- In the case of any faults you should contact the authorised distributor or the manufacturer.
- Do not modify the construction of the door.
- Make sure that the product is only used when in good condition and by trained personnel regularly check that all safety devices are working correctly.
- You should keep a record of all services or repairs carried out on the door.

3. DESCRIPTION

The RSPV ECO control stand is a stand designed to control automatic doors using 200-240 V. triphasic V **.With power supply at 200-240 single phase but will not exceed the 3/4HP.**

Manufactured and designed by PORBISA S.A., in compliance with current safety and Low Voltage electrical protection guidelines.



(fig.1)

3.1. EXTERNALLY MOUNTED COMPONENTS:

On the control cabinet door **See (fig.1)** the following switches can be found:

Open push button(green): This is used to open the door, as well as acting as a reset after a power cut or emergency stop. It also has a light to illuminate the button. This light also indicates that the power supply is on.

Emergency latching stop button: Cuts the power supply stopping the door in whatever position it was in at that time. To restart the door cycle, un-latch the stop button and press the green open button.

Isolating switch: Cuts the three phase supply to the controller.

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3.1. INTERNALLY MOUNTED COMPONENTS:

Inside the stand is a programmable relay circuit board for speed doors designed for intensive use, which has different inputs and outputs for the door drive, the fault control and the door drive counters. .

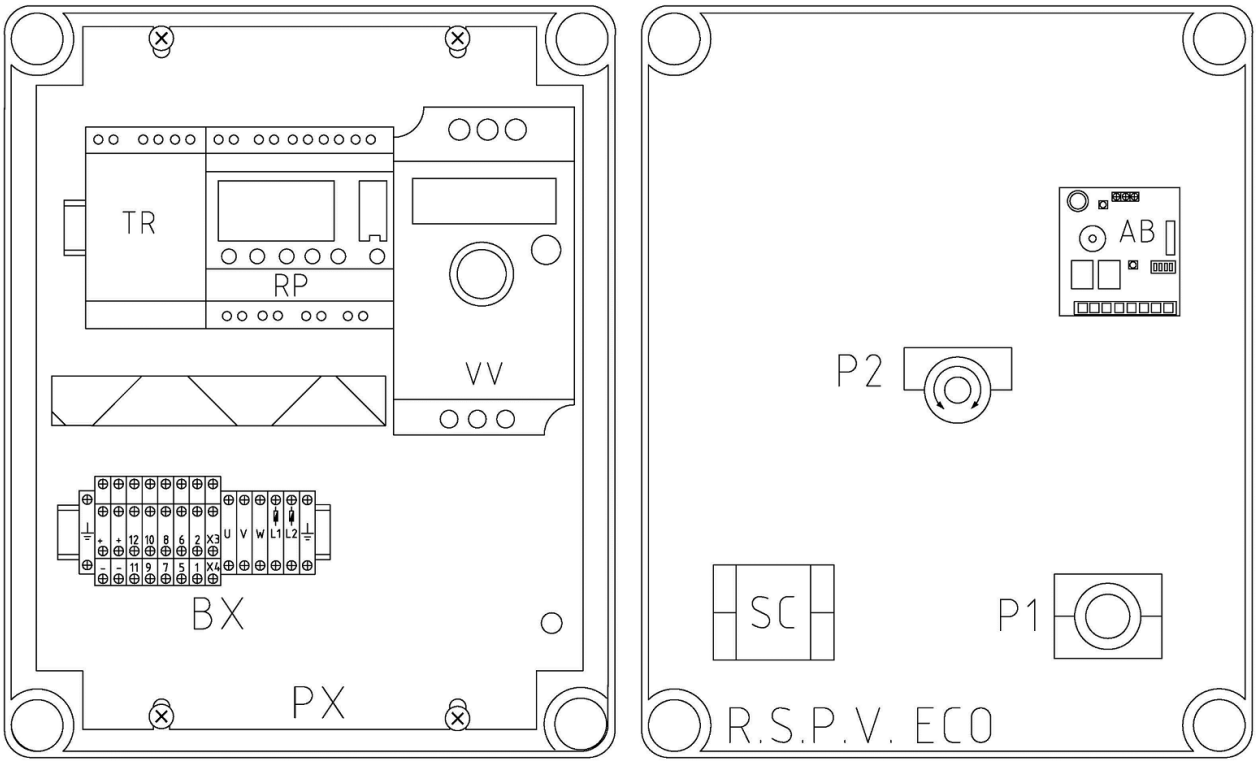
The voltage circuit board is independent, with an output which has a frequency variator which allows the speed of the raising and lowering of door to be programmed independently guaranteeing a long usage life. The motor is protected by calibrated fuses.

The safety system circuit board (contact strip, crank handle, emergency button, etc...) is independent, guaranteeing protection in the event of a fault with the programmed relay or any other factor.

The control works at low voltage **(24 V. DC)** using a transformer that guarantees a good galvanic insulation. Furthermore different elements can be connected to this output that require a low voltage supply in order to function.

The transformer supplies the corrector that once corrected supplies us with the necessary current to supply the electric motor brake, avoiding connection between the motor brake and the motor winder and minimising damage to the corrector due to stray currents.

The electric motor brake's corrector is mounted in motor.



DRAWING REF.	DESCRIPTION
AB	SAFETY EDGE RECEIVER
BX	TERMINAL CONNECTION LEAD
VV	VARIABLE SPEED
TR	TRANSFORMER
RP	PROGRAMMABLE RELAY
P1	OPENING BUTTON
P2	EMERGENCY STOP WITH BLOCK
SC	ISOLATING SWITCH
PX	METAL SUPPORT BASE

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4. GENERAL SPECIFICATION OF THE RSPV ECO CONTROL PANEL

SUPPLY

200-240v three phase at 50/60 Hz. plus EARTH

TRANSFORMER

Primary: 200-240v. A.C.
Secondary : 24 v D.C.
Power: 1.2A

POWER CIRCUIT

FREQUENCY VARIATOR

Supply of:
200-240 V A.C. monophasic.
(Manual speed controller inside the control unit).

Adjustable parameters:

HSP: 50 Hz raising speed
ITH: 1.7-3.8 A
ACC: 0.1 acceleration
DEC: 0.1 deceleration
SP2: 35 Hz lowering speed
SP3: 25 Hz raising speed 2.
SP4: 25 Hz lowering speed 2.

PROTECTIVE FUSES

Terminal:

L1: Crystal fuses 10 A.
L2: Crystal fuses 10 A

PROGRAMMABLE AUTOMATIC RELAY (PLC)

Control drive, fault detection, timers, cycle counter:

T1: To regulate the time that the door is open.
(See programming of the relay on separate Page).

T2: run timer for the duration of the raising or lowering of the door
(Programmed during manufacture).

CONTROL SYSTEM SAFETY EDGE

Explanation of the connections and failures in page 6.

OPERATIONAL TEMPERATURE

From -20ºC to +55ºC.

ASSISTANCE

The assistance detailed here only applies if the installation of the door has been completed properly following the technical instructions given and if it has been done by an installer authorised by a distributor or the manufacturer.

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5. PROGRAMMING THE AUTO-TIMED RETURN

The programming of the relay **See (FIG.10)** is carried out during assembly at the factory and is used to test the door prior to being dispatched for installation on site by an approved installer.

Steps for programming the time that the door remains open:

1. press key Nº 4 until the following appears:

   SETUP
   PASSW: 000000
   OPERAC: 00000000 =cycle counter

2. Hold down the white key, at this point in the bottom right hand side of the screen (above the green key) the word **Param.** will appear. (VERY SMALL LETTERS).

3. Still holding down the white key press key Nº4, at this point the word **Param.** will change to the word **Prog.** At this point the password will be activated and will flash on the screen.

4. To change press key Nº3, the password is: **00001**. after this press the green OK screen and the screen will change :

   SETUP N-1
   T. OPEN: 00.0
   T. FLASH: 00.0
   (T. OPEN: Time door open).
   (T. FLASH: Time flashing Light activation before closing door).

5. Go back to step nº 2 and nº 3, the screen will flash and by pushing keys 2 or 3 (lower or raise) the time can be changed, when the time has been set press the green key (OK) and exit by pressing key Nº1 until you exit to the screen showing Angel Mir.

REMEMBER: The factory set time is in seconds (01.0 seconds).

See (FIG.10)

WITH T. OPEN TO ZERO, THE OPEN PUSH BUTTON THE STAND CONVERTS IN ALTERNATE.

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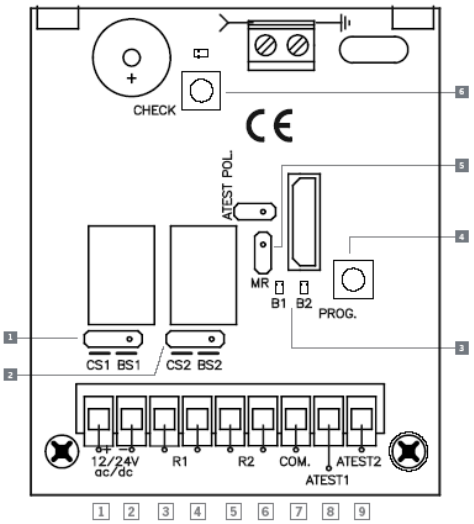
6. BAND RADIO INTRODUCTION

Radio band system is designed to be installed along with band security garage door installations.
This system enables the guard band connection - wireless control unit.

6.1. RECEIVER



1 Puente Selector R1
Pontet Sélecteur J3
Selector Bridge R1
Steckbrücke R1

2 Puente Selector R2
Pontet Sélecteur J4
Selector Bridge R2
Steckbrücke R2

3 Leds de indicación activación relés
Leds de signalisation activation des relais
Relay activated indicator lights
(and low battery in Radioband-T)
Anzeigeleds für die Aktivierung des Relais
(und Batterie fast leer in Radioband T)

4 Pulsador de programación
Poussoir de Programmation
Programming button
Programmier-schalter

5 Puente de Reset Total MR
Pontet MR pour effacement des RADIOBAND-Transmetteurs
Total Reset Bridge MR
Reset-Überbrückung Total MR

6 Led y pulsador de verificación
Led et poussoir de vérification
Check led and check button
Check-Led und Check-Taster

CONNECTIONS

Terminals	Function	Cable connected
1	Power supply 12/24V ac / dc (+)	M24
2	Power supply 12/24V ac / dc (-).	0
3	Contact R1	15
4	Contact R1	16
5	Contact R2	FREE
6	Contact R2	FREE

LIGHT INDICATORS

	In operation	In programming
Relay 1 LED	Normally off. Indicates the status of the relay output. If R1 is not connected, on.	On. Indicates the channel to be programmed.
Relay 2 LED	Normally off. Indicates the status of the relay output. If R2 is not connected, on.	On. Indicates the channel to be programmed.

BRIDGE SELECTOR CONTACT

Contact	In position	contact output
R1	BS1	Closed contact output (N.C)
	CS1	Output resistive touch 8.2 k
R2	BS2	Closed contact output (N.C)
	CS2	Output resistive touch 8.2 k

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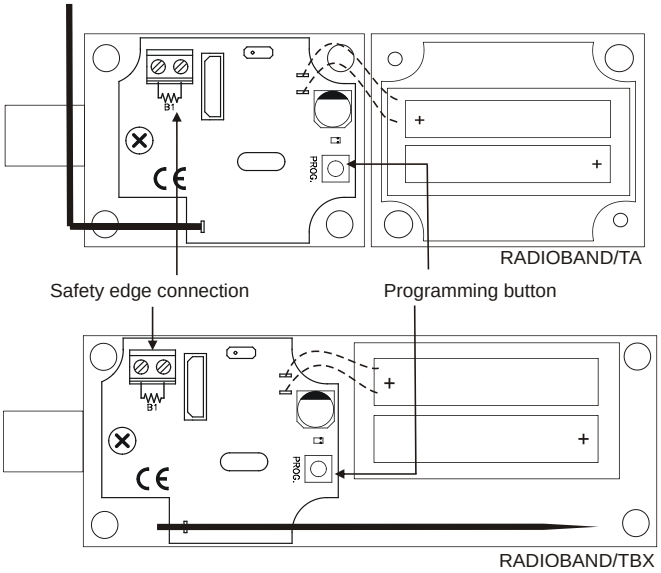
6.2. TRANSMITTER



CONNECTIONS

	Function	**Function 2**
terminal block B1	Connecting band resistive touch	N.C closed safety contact
Selector jumper	No points for resistive band	Dotted for closed contact
Led	Led Normally OFF	Power. To set the receiver

6.3. MANUAL PROGRAMMING

RADIOBAND-R makes it possible to store 6 R.BAND-T (3 on Relay 1 and 3 on Relay 2).

Press the receiver programming PROG button for 1s; a sound signal will be heard.

The receiver will go into programming the first relay.
If the programming button is kept pressed, the receiver will go into programming the second relay, moving cyclically from one really to another.
Once the programming relay has been chosen for the transmitter you want to start using, send the programming code by pressing the transmitter.

Every time a transmitter is programmed, the receiver will emit a sound signal for 0.5s. If 10 seconds pass without programming, the receiver will go out of programming mode, emitting two 1s sound signals.

If, when programming a transmitter, the receiver's memory is full, it will emit 7 sound signals lasting 0.5s and come out of programming.

TRANSMITTER LOW BATTERY INDICATION

if low battery of a transmitter programmed into the receiver, this makes 4 short signals every 20 seconds. The transmitter is connected to the band have turned up low battery. Proceed to change.

TOTAL RESET

In programming mode, keep the programming PROG button pressed down and make a bridge with the "MR" reset jumper for 3s.
The receiver will emit 10 warning sound signals and then more at a faster frequency, indicating that the operation has been carried out. The receiver will stay in programming mode.

If 10 seconds elapse without programming, or if you press the programming button quickly, the receiver will go out of programming mode, emitting two 1s sound signals.

For more information check the complete manual for the radio frequency system that is attached to the door.

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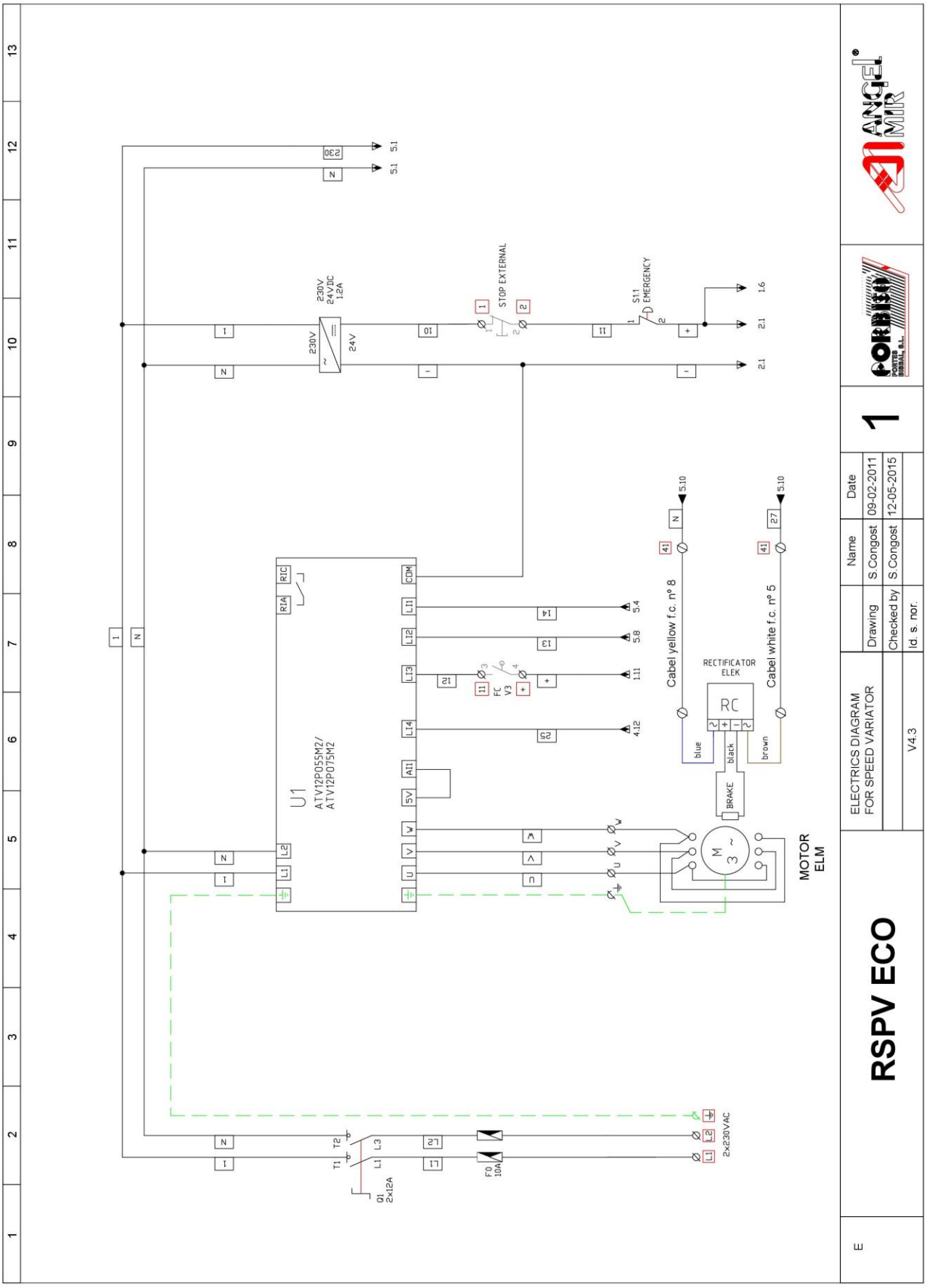
7. ***ELECTRICAL CIRCUIT DIAGRAM***



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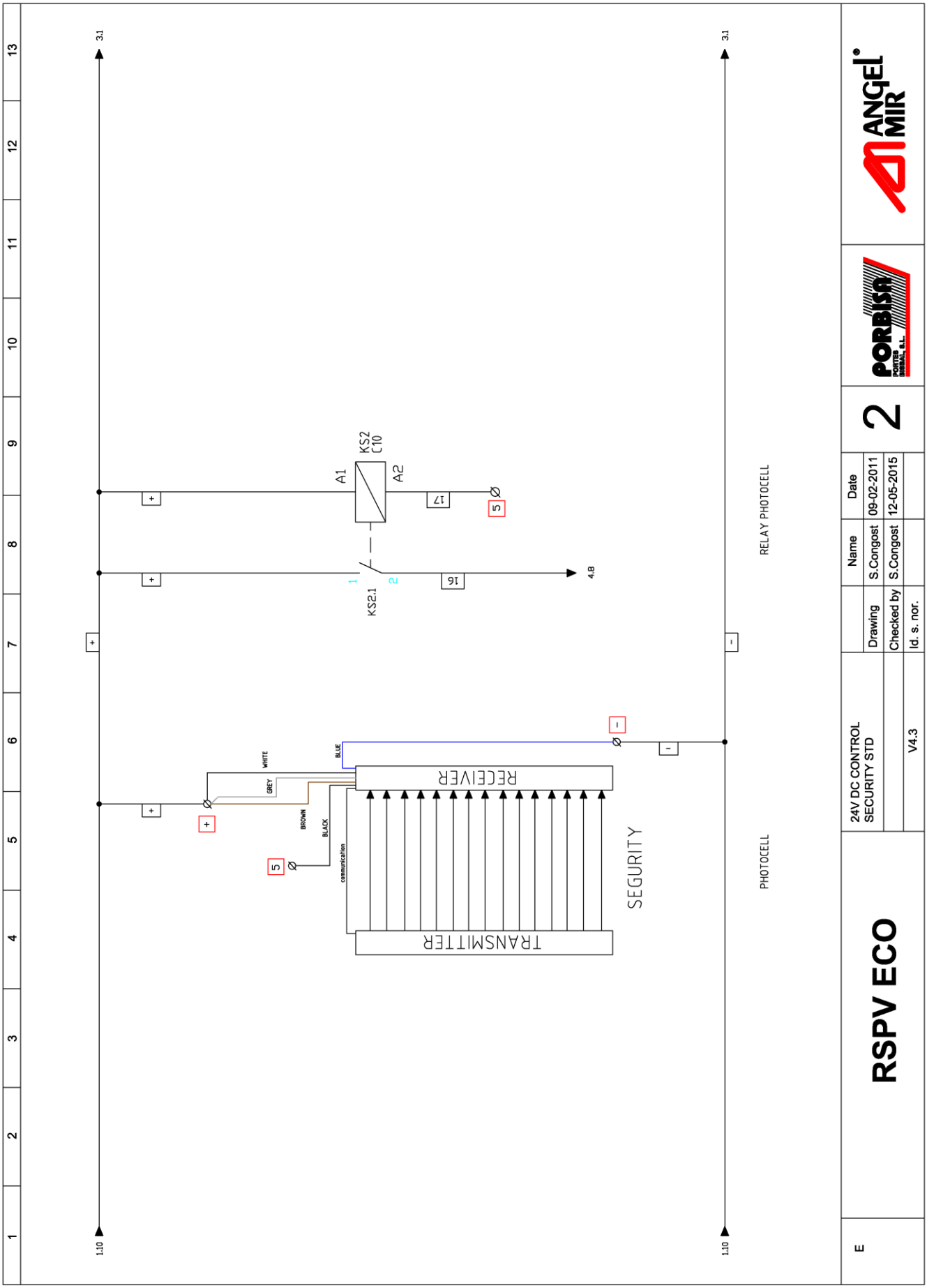

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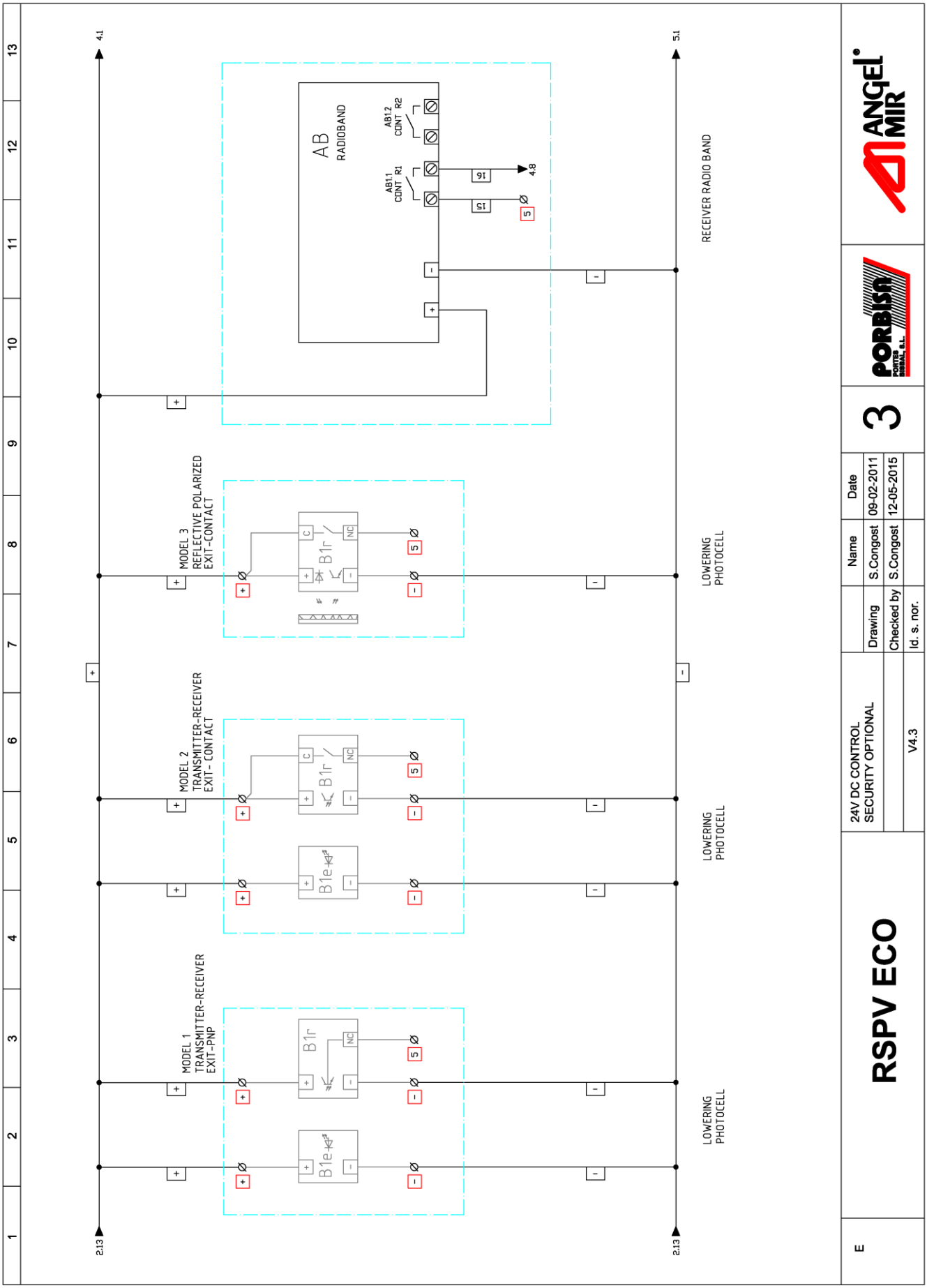

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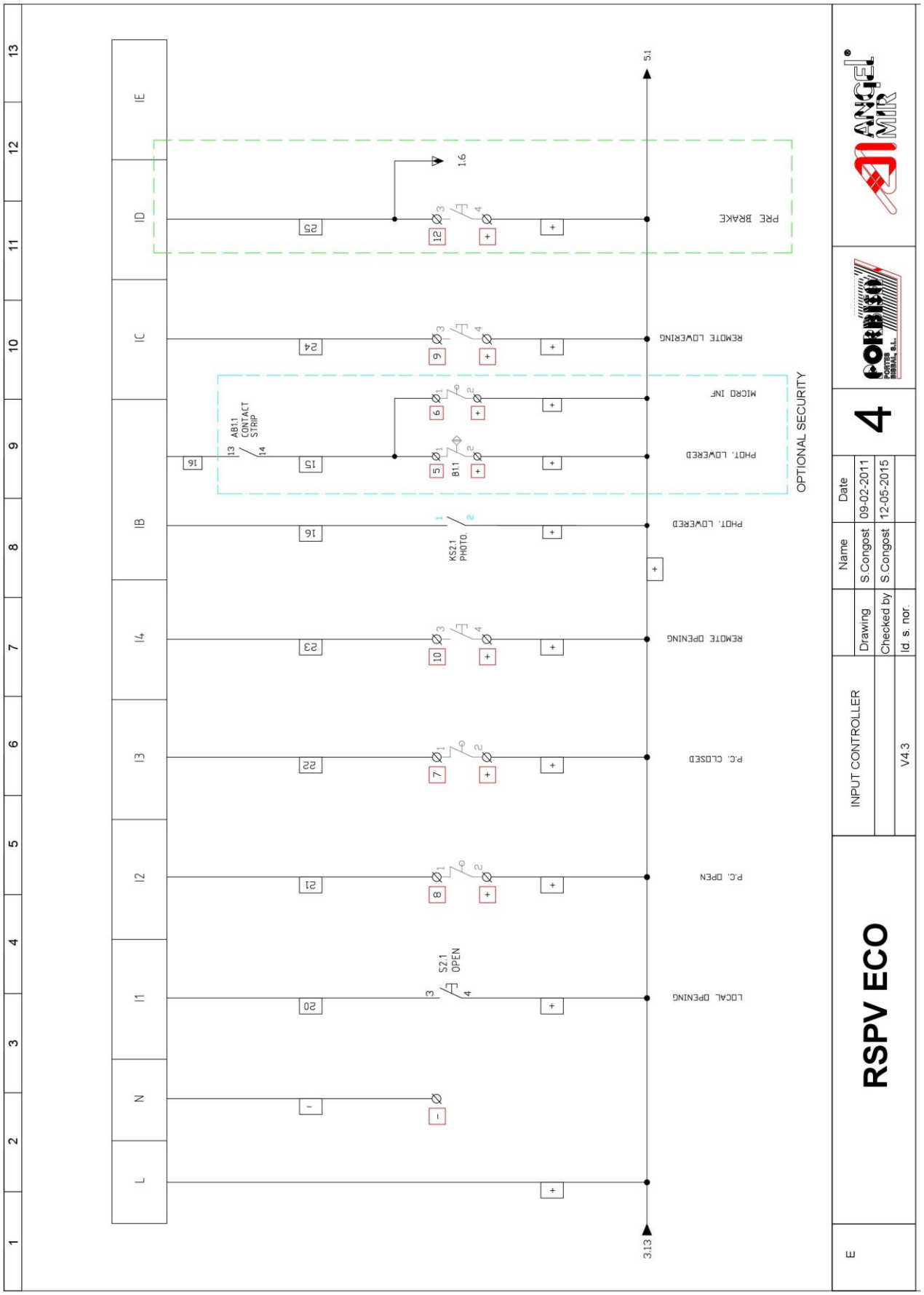

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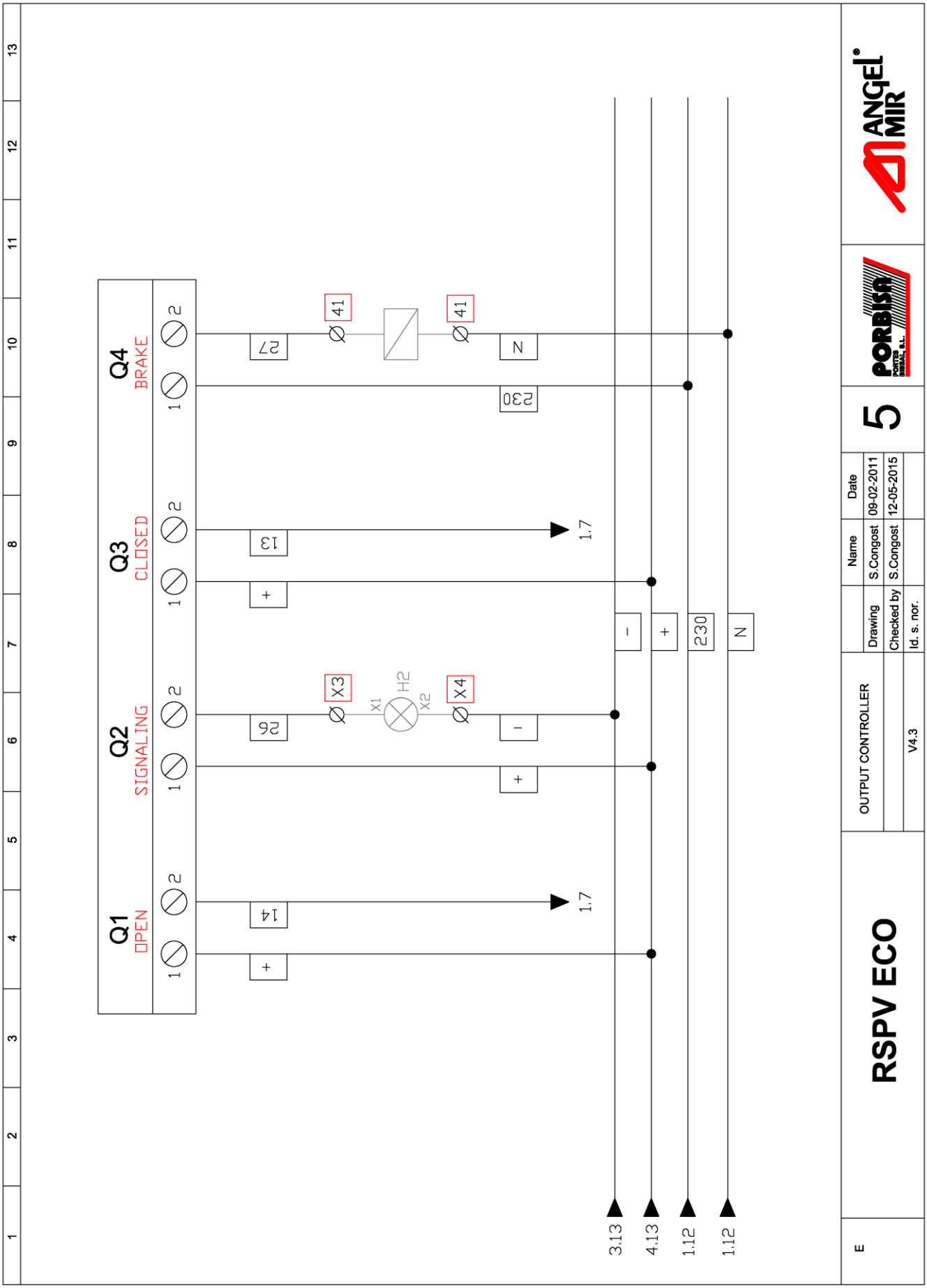

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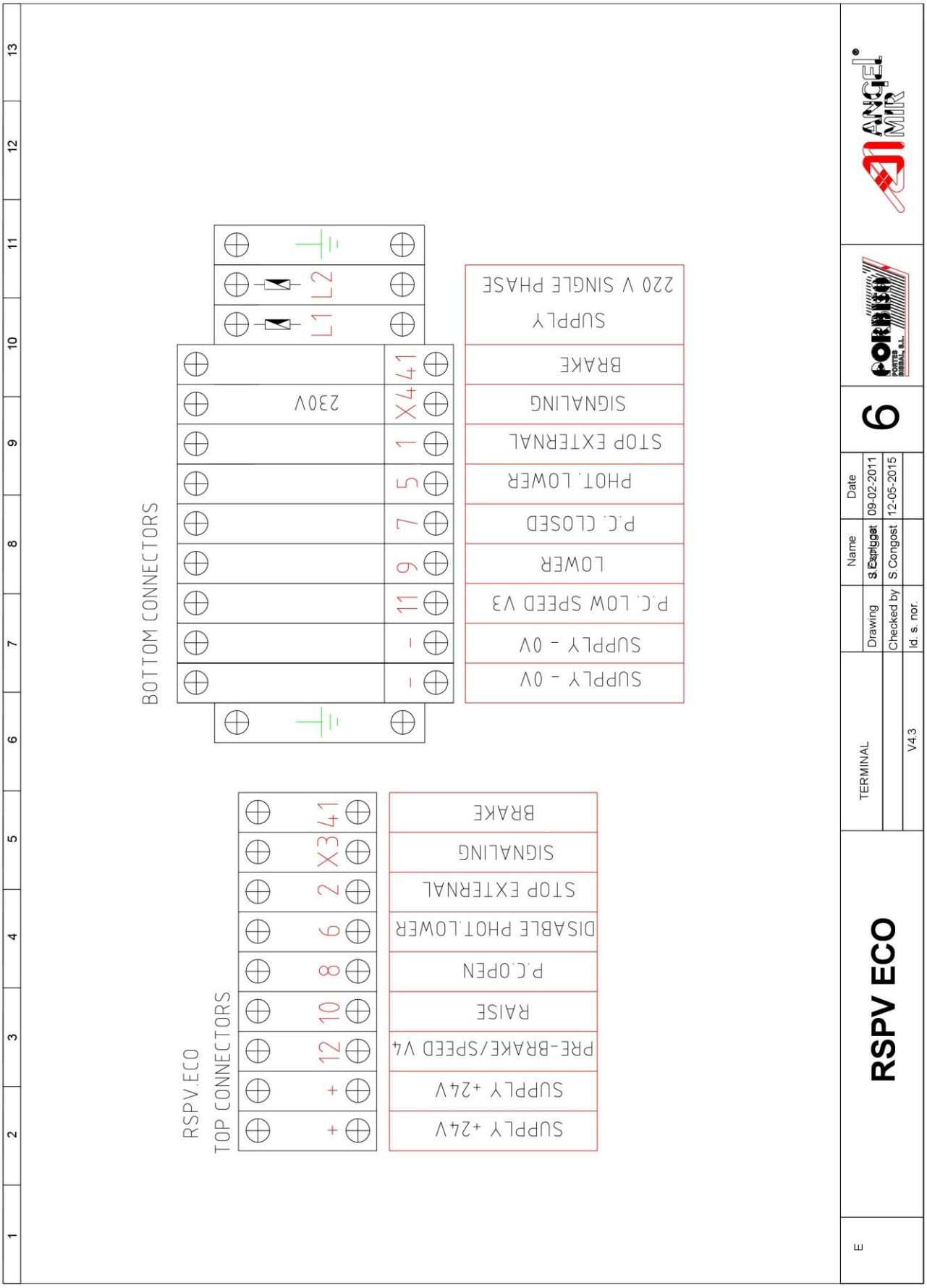

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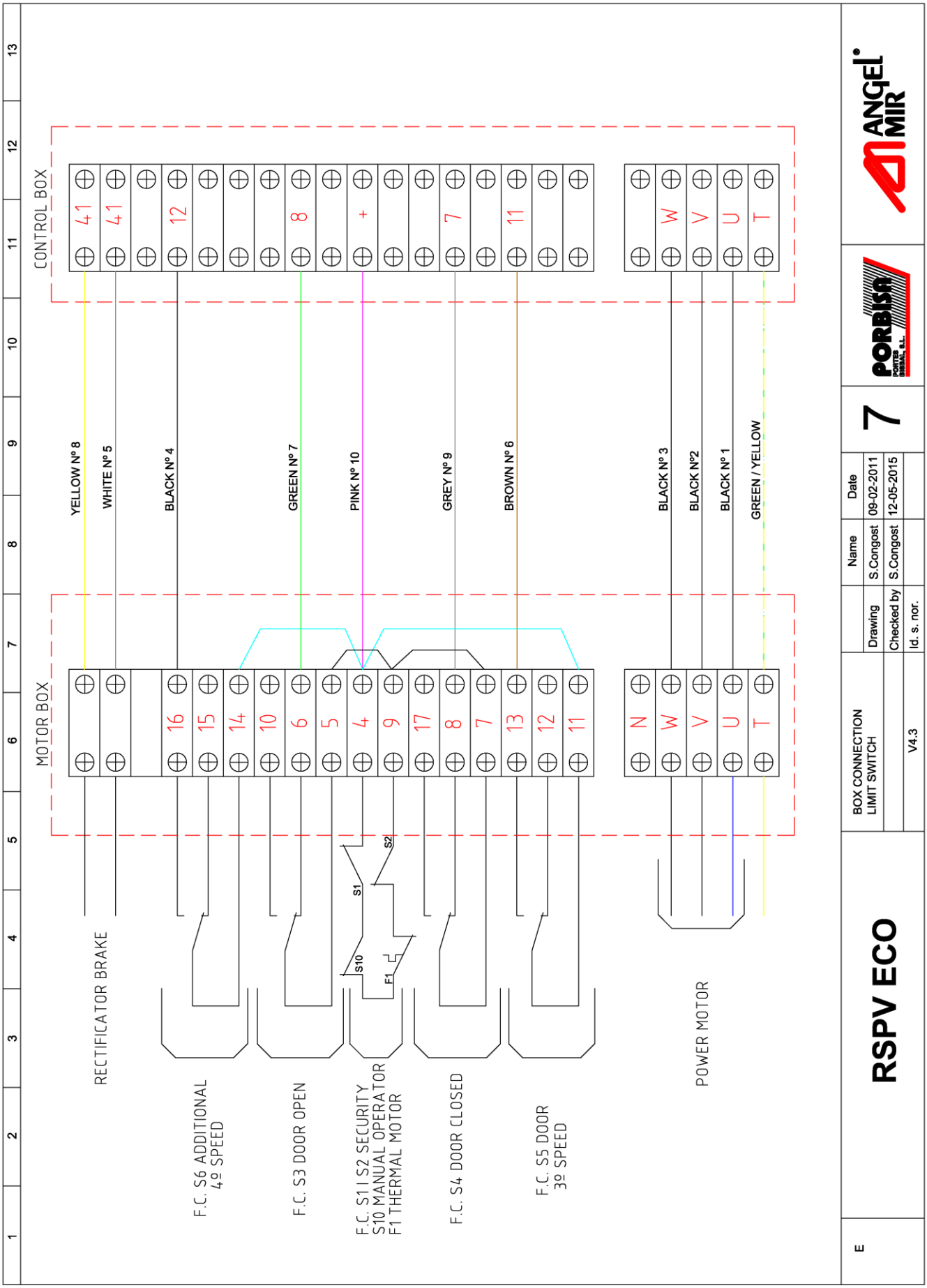

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8. OPTIONAL OPENING DEVICES

The controller allows the use of different devices to initiate opening the door, ie loop detecters (magnetic field), radio control, motion detection, passive and active infra red and presence sensing , photocells etc or any others which has a normally open volt free contact.

2-PUSH BUTTON SWITCH:(3-push button can be used)

This system consists of two push buttons: 1) Open 2) Emergency stop (latching).
auto-timed return useually eliminates the need for a close button.

LOOP DETECTOR (MAGNETIC FIELD)

This consists of a loop installed into the floor approx. X- metres away from the door. When
a metal object passes over the loop the door opens (the loop size and position vary according to individual site requirements)

MOTION OR PASSIVE / ACTIVE INFRA-RED WITH PRESENCE SENSING

The radar detects any movement near to the door and automatically opens the door, with presence sensing an object left stationary in the detection field will be detected and prevent the door from closing

PULL CORD SWITCH:

This consists of a switch, usually hung from the ceiling, From this hangs a chain or cable which when pulled signals the door to open.

RADIO CONTROL:

This consists of a small hand held control fob with a button which, when pressed, sends out radio a signal which is detected by a receiver in the controller which then signals the door to open
There are two types of remote control, according to the transmission channels:

Dual-channel: 1 remote control - 2 doors
Multi-channels: 1 remote - various doors

Any low voltage powered opening system **(24v DC) with a volt free n/o contact** can be linked to the controller.

9. MAINTENANCE MANUAL

Preventative maintenance required control box RSPV..Irrespective of the service interval carry out minimum safety checks according to the following time periods

1. **CHECK EVERY 3 MONTHS:**

SAFETY ELEMENTS

-Check that both the safety photocells are working correctly.

-Check that the safety edge contact strip is working and check that upon activating it the curtain stops straight away and returns to the fully open position.

- Check the batteries of the radioband system not to be weak or empty.

2. **CHECK EVERY 6 MONTHS:**

OPENING DEVICES

-Check that all the opening devices fitted to the door cause the door to open when activated.

CONTROLLER

-Check that nothing is loose on/in the controller and that it is not making any buzzing or other strange noises.

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10. ADVICE ON MALFUNCTIONS

The door should only be repaired by installers approved by a distributer or the manufacturer and who have the necessary knowledge about all its components (the mechanics, electrics and safety systems).

In the following tables are a series of things which may lead to the malfunction of the door and various possible solutions.

The programmable relay has a series of warnings on the control screen that indicate the condition of the door. These, together with the attached table, can help us to identify what is going wrong.

WARNING: Remember there are components inside the controller operating at high voltage.
Do not carry out any work inside the controller without taking the necessary precautions.

MALFUNCTION SOLUTIONS TABLE – I

PROBLEM	TEST	CAUSE	SOLUTION
THE DOOR CAN NOT BE OPERATED.	P1 IS NOT ILLUMINATED OR THE RELAY IS NOT SWITCHED ON.	Loss of power in the feeding line or in one of its phases.	Check the voltage supply to the stand at points R-S-T.
		Main isolating switch in Off position.	Turn the isolating switch key to the On position.
		Check the condition of the fuses in the F1 - F3 transformer.	Change the broken fuse for one of the same power.
		Transformer output TR without power in the secondary 24 V AC	Replace the transformer.
		External STOP has been pressed (only on doors with this option).	Check the button and connections.
		Emergency stop has been pressed.	Reset the button.
		Thermic Relay frequency inverter failure **OCF.**	Disconnect power supply and re-activate. Check intensity of the motor and frequency inverter ITH parameter.
		Connection with the crank handle.	Check the placement of the crank handle, the disconnector inside the stand or the magnetic connection if the crank handle is located in the foot.
THE DOOR CAN NOT BE RAISED.	THE RELAY IS SWITCHED ON NO ALARM ON THE SCREEN.	P1 opening button sends no signal.	Check 24V-I1 zelio connections and/or replace.
		RADAR fault with the detector.	Check the 24V AC. supply and the connections. Change the detector.
		Fault in the remote control.	Check the batteries (12Vcc) Different codes between the control and the receiver.
		Fault in the receiver.	Check the 24V AC. supply and the connections. Contact SAT.
		The magnetic detector LED is not lit.	Check the 24V AC. supply and connections. Contact SAT
	DETECTOR LED IS NOT LIT.	Fault in the detector.	See if there is any metal object near to the detection devices; if there is, remove it. Turn off the general power supply to the door, wait 20 seconds and reconnect it. The LED should be lit in a series of intermissions and should stay off. If it remains lit then replace.
	END-STOP.	Raising end-stop broken. Fault in the Micro-Switch.	Check that the 24v-8 is a closed contact (except if the door is opened).
	ALARM ON THE RELAY SCREEN: **ALERT 4 OPENING TIME EXHAUSTED.**	Electricity failure on the frequency inverter.	Check if there is power supply to entry LI1 on the frequency inverter.

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MALFUNCTION SOLUTIONS TABLE – II

PROBLEM	TEST	CAUSE	SOLUTION
THE DOOR HAS BEEN RAISED BUT WILL NOT LOWER.	END-STOP.	Lowering end-stop broken. Fault in the Micro-Switch.	Check that the 24v-7 is a closed contact (except if the door is closed).
	OPENING DEVICES.	Any of the opening signalling devices is sending a fixed opening signal.	Check the Open button (See sect. 2). Check external opening buttons and/or devices, if there are any. Check if the entries to the programmable relay I1 and I4 are actives or non actives.
	THE RELAY IS SWITCHED ON NO ALARM ON THE SCREEN.	Magnetic field coil open	Check the run of the line.
		It is detecting metal elements.	Make sure that there are no metallic objects within the magnetic field.
		Interferences in the area.	These may be coming from High Voltage underground lines.
		A remote control is sending a signal.	Check the emitting device with the broken button.
		Remote control with stuck relay.	Change the receiver.
		Failure in the radar detection.	Check the 24V AC. supply and the connections. Change the detector.
	ALARM ON THE RELAY SCREEN: **ALERT 1 PHOTOCELL CONTACT STRIP ACTIVE .**	Contact strip activated.	Check that the batteries of the radioband system are not empty. Control the connections on the amplifier, the contact (must be closed), and the power supply 24 Vca.
		Control photocell activated.	Check the linearity, Check the connection in the 24-5 terminal (these should be closed) and the 24V AC. supply.
	ALARM ON THE RELAY SCREEN:**ALERT 5 LOWERING TIME EXHAUSTED**.	Electricity failure on the frequency inverter.	Check if there is power supply to entry LI2 on the frequency inverter.
OSF ON THE FREQUENCY INVERTER	OSF FAILURE	Motor not working correctly. Overheating. Overcharged.	Check the connections Phases input/output R/S/T-U/V/W.
		The electric brake is not deactivated	Rectifier in bad working order. Check CC 190 V output
		Transformer short-circuit	Change transformer.
		Curtain jammed or experiencing excessive friction, noise.	Check the guides, strips, the curtain exit, etc.
MOTOR MAKES NOISE, BUT THE DOOR DOES NOT RISE.	Correct indications. Upon activating the manual release, the door rises as normal.	The electric brake is not deactivated.	RST-UVW input/output phases Rectifier in bad working order. Rectifier connections. Check CC 190 V. output.
INCORRECT MOTOR OPERATION STOPS ABOVE AND BELOW OUT OF LINE.	UP show on the programmable relay and the door comes down DOWN shown on the programmable relay and the door goes up	Direction of drum inverted	Change phases output line and check The canvas to roll up on the exterior side of the rollers

NOTE 1: **For any other problem about the frequency inverter, please refer to the manual of the frequency inverter.**

NOTE 2: **For any other malfunction not specified here, please contact our Technical Assistance Service (SAT) directly.**

NOTE 3: **PORBISA reserves the right to do changes or modifications without prior notice.**