

RAMP1 & RAMP3

User Manual

Table of contents

Important safety instructions	3
Important safety instructions for installation	3
Important safety instructions for use	3
Use of the system	3
Introduction	4
General description	4
Detailed description	4
<i>RAMP1</i>	5
<i>RAMP3</i>	6
Installation	7
Connections	8
Power	8
<i>Single-phase power and motor connection</i>	8
<i>Tri-phase power and motor connection</i>	9
Inputs	10
<i>RAMP1 control panel</i>	10
<i>RAMP3 control panel</i>	10
Outputs	11
<i>RAMP1 control panel</i>	11
<i>RAMP3 control panel</i>	12
Instructions for use	13
RAMP1 control panel	13
RAMP3 control panel	14
Maintenance	16
Maintenance warning	16
Maintenance	16
Fuse change	16
Troubleshooting	17
Notes	18
Technical data	19
Maintenance metre	19
Electric parameters	19
Disassembly	19
Waste removal	19
Regulatory Data	20
UKCA Declaration of conformity	20
EU Declaration of conformity	20

Important safety instructions

Important safety instructions for installation



Disconnect the power supply whenever you proceed to the installation, maintenance or repair of the equipment.

- Before installing the panel, remove all unnecessary ropes or chains and disable any equipment such as locks that is not necessary for the automatic operation.
- Before installing the panel, check that the door is in good mechanical condition, correctly balanced and that it opens and closes correctly.
- Install the manual unlocking device at a height lower than 1.8m.
- Install any permanent control next to the door away from any moving part and at a minimum height of 1.5m.
- For permanently connected equipment, an easily accessible power disconnection device must be incorporated into the wiring. It is recommended that this be of the emergency switch type.
- If the control panel is supplied without emergency stop button, this will be incorporated in the installation, connecting it to the STOP terminal.
- For correct use of the security edge, this must never be activated when the door is fully closed. It is wise to install the ends of run before activating the edge.
- This equipment can only be handled by a specialist fitter, by maintenance staff or by a suitably trained operator.
- To connect the power supply and motor wiring, 2.5 mm² section terminals must be used.
- Use protective goggles when handling the equipment.
- Fuses must only be handled when the appliance is disconnected from the mains.
- The instructions for using this equipment must remain in the possession of the user.
- European door normative EN 12453 and EN 12445 specify the following minimum protection and door safety levels:
 - for single-family dwellings, prevent the door from making contact with any object or limit the force of contact (e.g. safety band), and in the case of automatic closing, it is necessary to complement this with a presence detector (e.g. photocell).
 - for communal and public installations, prevent the door from making contact with any object or limit the force of contact (e.g. safety band), and complement this with a presence detector (e.g. Photocell).

Important safety instructions for use

- Do not allow children to play with the door controls.
- Keep the remote controls out of the reach of children.
- Watch the door movement and keep people away until the door is fully open or closed.
- Precaution when operating the manual unlocking device, as the door may suddenly fall due to the bad condition of the springs or door unbalance. Details on how to use the manual unlocking device must be provided by the manufacturer or the device installer.
- Examine the installation frequently, especially the cables, springs and supports, to detect signs of wear, damage or unbalance. Do not use the door if repair work or adjustments are required, as this may cause damage.

Use of the system

Designed for automation of garage doors, in accordance with the general description. Not guaranteed for other uses. The manufacturer reserves the right to alter equipment specifications without prior notification. No liability can be accepted for errors and misprints.

Introduction

General description

The control panel is designed to control levelling ramps with fold-up lips (RAMP1) / telescopic lips (RAMP3). The purpose of the lip is to compensate the empty space between the loading dock and the lorry and to provide access for carts and forklifts to the lorry.

The control panel is designed for 230 V CA or 400 V CA power.

The instruction manual refers to two control panels with the same application and a similar lorry/ramp situation, but with a different number of electrovalves and different buttons.

Panel RAMP1: control for a levelling ramp with a valve to provide movement of the ramp and folding lip.

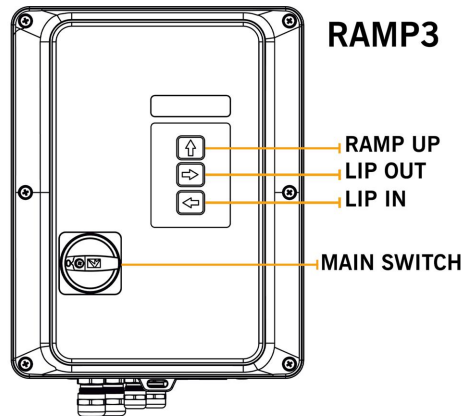
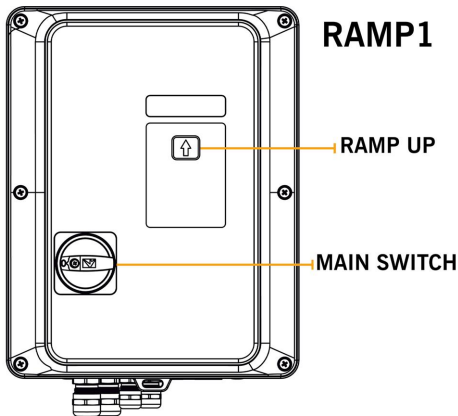
Panel RAMP3: control of a levelling ramp with three valves. This is similar to the panel RAMP1 but provides control of the telescopic lip.

Detailed description

The control panel consists of:

Upper box cover

- Main switch
 - Control buttons with indication
 - 1 button for the panel RAMP1
 - 3 buttons for the panel RAMP3
- Main circuit board
 - 230/400 V power block
 - Inputs to control limit switches
 - Outputs to control valves
 - Output terminal to control electric motor



RAMP1

1- FUSE

1 A/230 V in the second transformer spool for work power

2- BRIDGE

Bridge to determine the 230/400 V power mode

3-FUSES FOR L1/L2/L3

6 A/250 V

4- MOTOR TERMINAL BLOCK

Connector for motor U (phase), V (neutral), W (empty)

5-POWER TERMINAL BLOCK

Input connection for power L1 (phase), L2 (neutral), L3 (empty)

6- GROUNDING TERMINAL BLOCK

Grounding connection

7- VALVE TERMINALS

Valve terminals 24 V CC 700 mA

8- BUTTON INTERFACE MODULE CONNECTOR

Connector for the button interface module

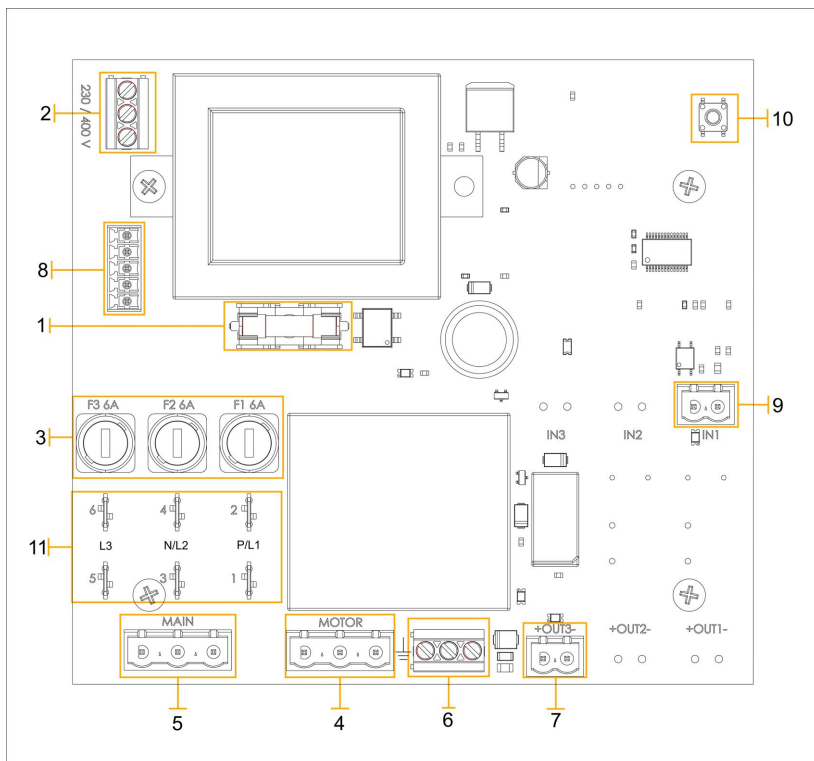
9- LIMIT SWITCH TERMINALS

Limit switch terminals

10- SERVICE BUTTON

Setup of maintenance periods

11- CONNECTOR FOR THE SWITCH INTERFACE PLATE



RAMP3

1- FUSE

1 A/230 V in the second transformer spool for work power

2- BRIDGE

Bridge to determine the 230/400 V power mode

3-FUSES FOR L1/L2/L3

6 A/250 V

4- MOTOR TERMINAL BLOCK

Connector for motor U (phase), V (neutral), W (empty)

5-POWER TERMINAL BLOCK

Input connection for power L1 (phase), L2 (neutral), L3 (empty)

6- GROUNDING TERMINAL BLOCK

Grounding connection

7- VALVE TERMINALS

Valve terminals 24 V CC 700 mA

8- BUTTON INTERFACE MODULE CONNECTOR

Connector for the button interface module

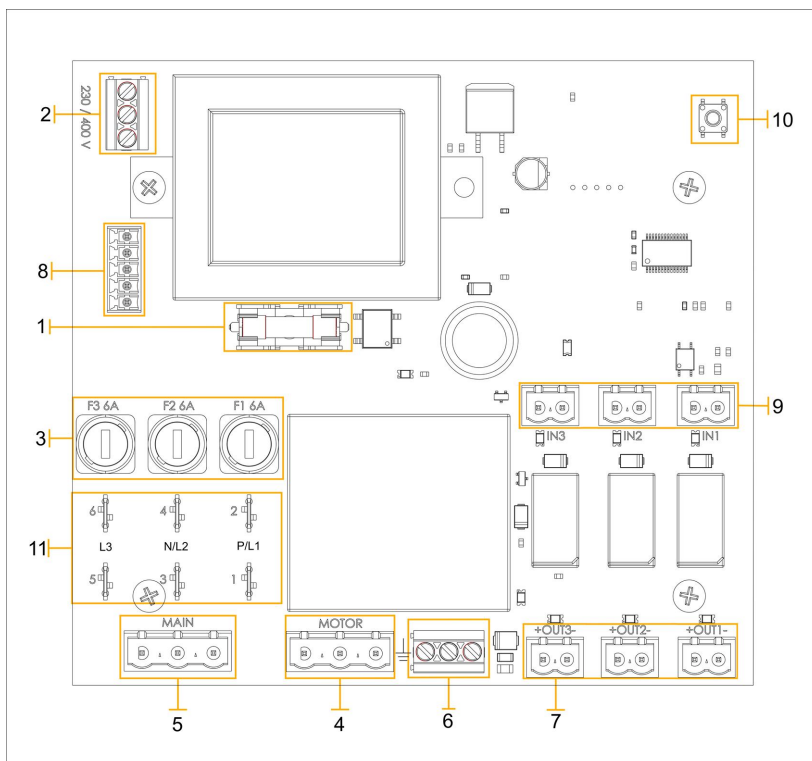
9- LIMIT SWITCH TERMINALS

Limit switch terminals

10- SERVICE BUTTON

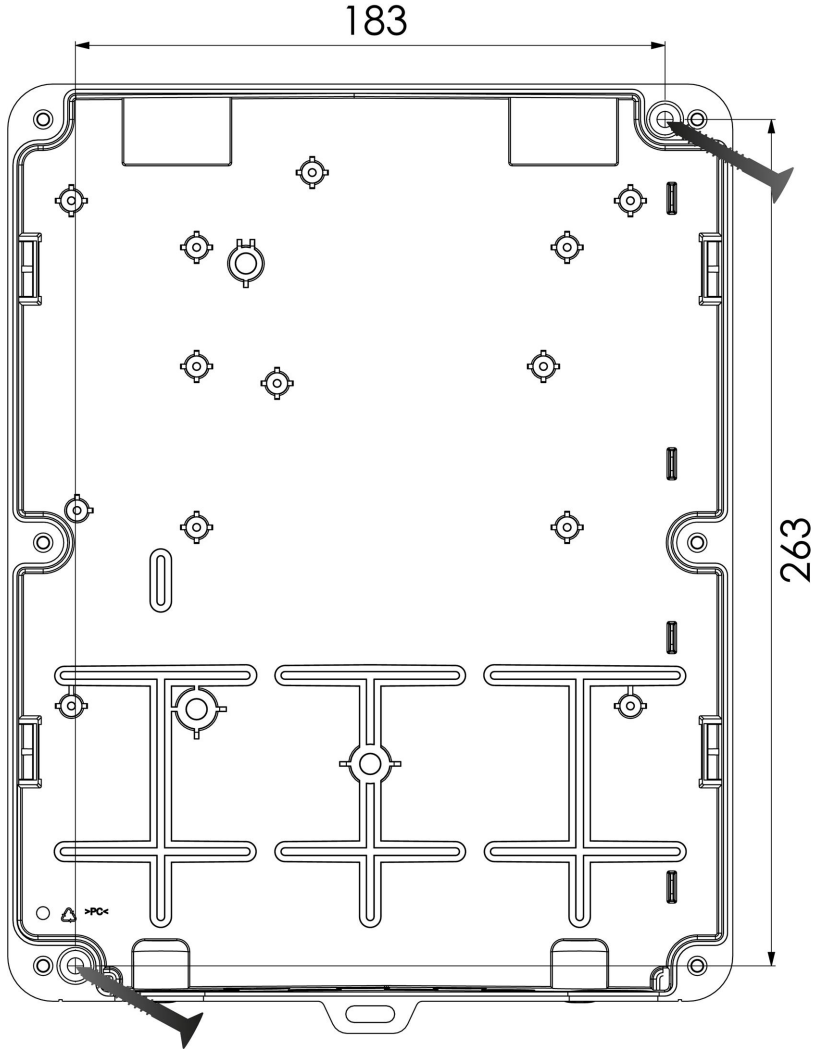
Setup of maintenance periods

11- CONNECTOR FOR THE SWITCH INTERFACE PLATE



Installation

Install the control vertically on the wall, at a height of 1.5m, following the assembly instructions.



Connections

Power

Single-phase power and motor connection

Determine voltage of the 230 VAC power mode with the bridge.

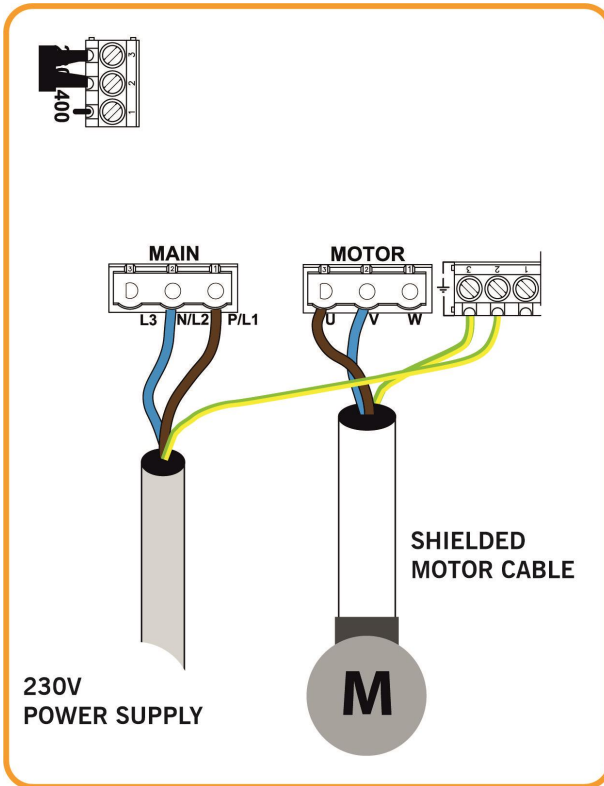
Install the bridge in the position shown in the figure below.

Connect the power cable with the following configuration:

- Phase cable to connector L1
- Neutral cable to connector L2
- Grounding cable to grounding connector

Connect the motor:

- Phase cable to connector U
- Neutral cable to connector V
- Grounding cable to grounding connector



Tri-phase power and motor connection

Determine voltage of the 230/400 VAC power mode with the bridge.

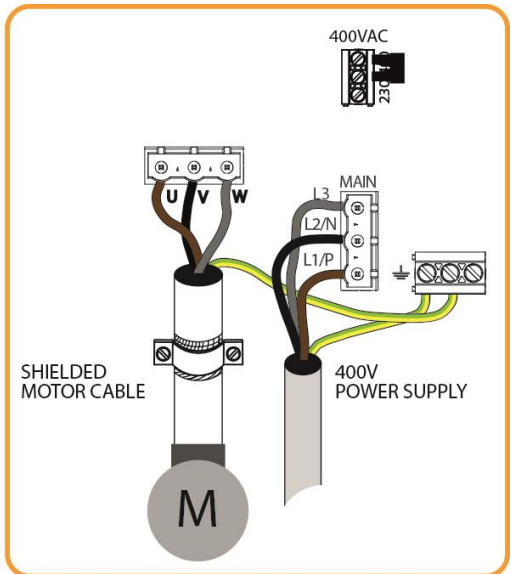
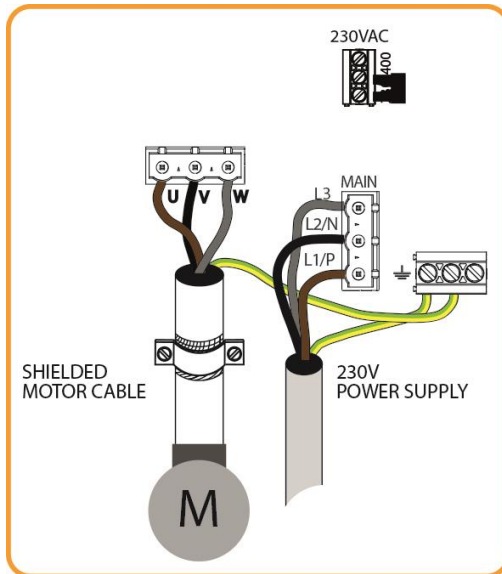
Install the bridge in the position shown in the figure below.

Connect the power cable with the following configuration:

- Phase cable 1 to connector L1
- Phase cable 2 to connector L2
- Phase cable 3 to connector L3
- Grounding cable to grounding connector

Connect the motor:

- Phase cable 1 to connector U
- Phase cable 2 to connector V
- Phase cable 3 to connector W
- Grounding cable to grounding connector

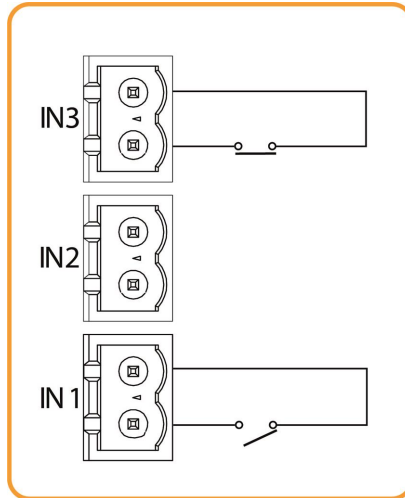


Before connecting the motor, set a rotation direction with a sequence rotation metre.

Inputs

Diagram of wiring for limit switches and thermal protection for the motor.

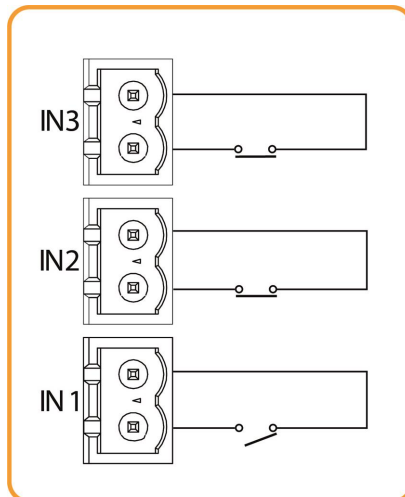
RAMP1 control panel



IN 1 DOOR, limit switch: contact closed in door-open position.

IN 3 Thermal protection for motor.

RAMP3 control panel

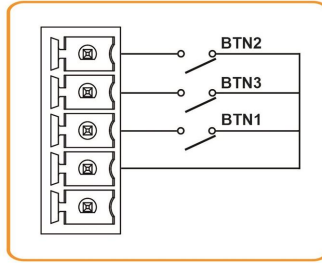


IN 1 DOOR, limit switch: contact closed in door-open position.

IN 2 DOOR, limit switch: NC contact for limit switch.

IN 3 Thermal protection for motor.

Diagram of wiring for buttons.



BTN1 Button 1 "Ramp up"

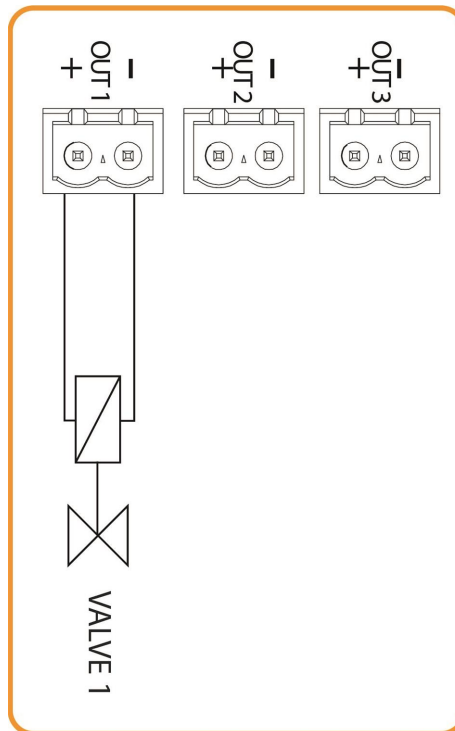
BTN2 Button 2 "Lip out"

BTN3 Button 3 "Lip in"

Outputs

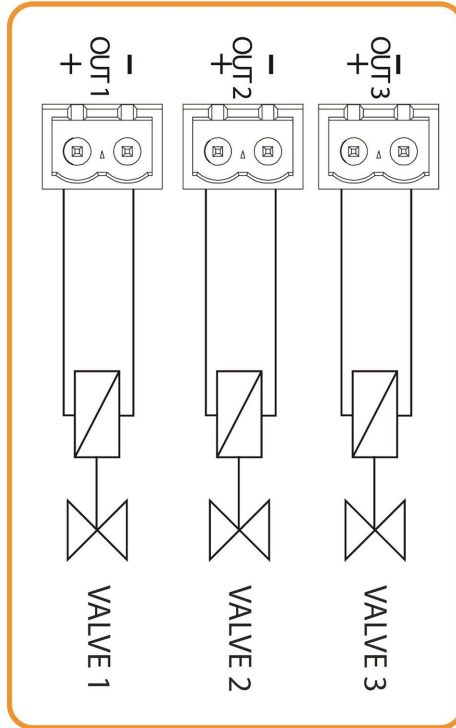
Diagram of wiring for control valves for ramp down, lip out, and lip in.

RAMP1 control panel



Out 1 Valve 1: electromagnetic valve "ramp down."

RAMP3 control panel



Out 1 Valve 1: electromagnetic valve "ramp down."

Out 2 Valve 2: electromagnetic valve "lip out."

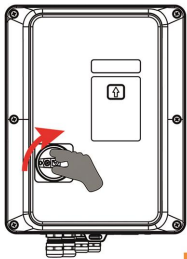
Out 3 Valve 3: electromagnetic valve "lip in."

Instructions for use

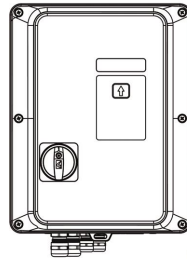
RAMP1 control panel

Check that the main door is totally open.

Start the module up by turning the main switch clockwise from the "0" position to the "1" position, as shown in the figure.



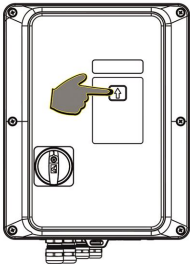
1



2

Wait until the lorry is entirely parked.

Keep the "Ramp up" button pushed until the levelling loading ramp has reached its upper limit.



Release the "Ramp up" button.

The levelling loading ramp will lower to rest on the lorry.

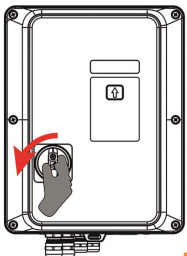
Once you have completed the loading/unloading activity and before the lorry leaves, the worker must release it from the levelling loading ramp.

Keep the "Ramp up" button pushed until the levelling loading ramp has reached its upper limit.

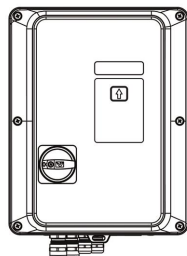
Check that the leveller loading ramp is in resting position.

Turn the module off by turning the main switch in an anticlockwise direction from position "1" to position "0."

Close the main door.



1

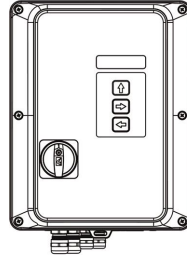
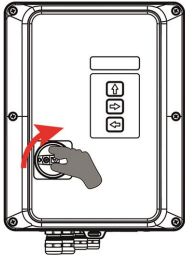


2

RAMP3 control panel

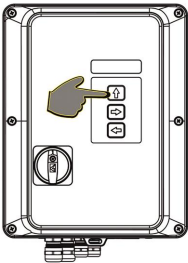
Check that the main door is totally open.

Start the module up by turning the main switch clockwise from the "0" position to the "1" position, as shown in the figure.

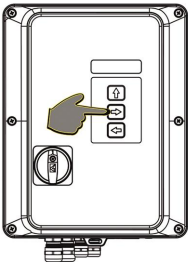


Keep the "Ramp up" button pushed until the levelling loading ramp has reached its upper limit.

Release the "Ramp up" button.



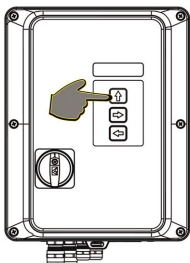
Next, adjust the lip to support 100...150 mm in the lorry with the buttons "lip out" and "lip in."



The levelling loading ramp will lower to rest on the lorry. Once you have completed the loading/unloading activity and before the lorry leaves, the worker must release it from the levelling loading ramp.

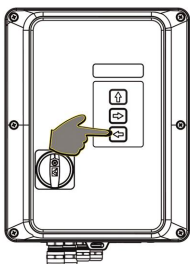
Keep the "Ramp up" button pushed until the levelling loading ramp has reached its upper limit.

Release the "Ramp up" button.



Next, hold the "lip in" button down.

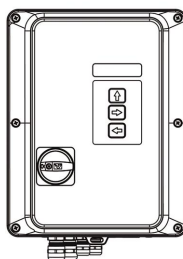
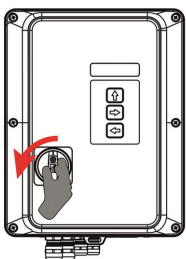
Once the lip has entered completely, release the "lip in" button.



The leveller loading ramp will lower. Check that the leveller loading ramp is in resting position.

Turn the module off by turning the main switch in an anticlockwise direction from position "1" to position "0."

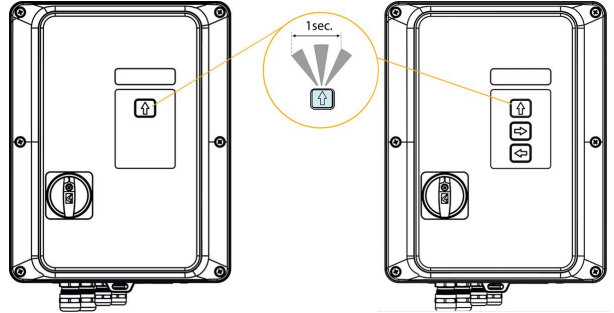
Close the main door.



Maintenance

Maintenance warning

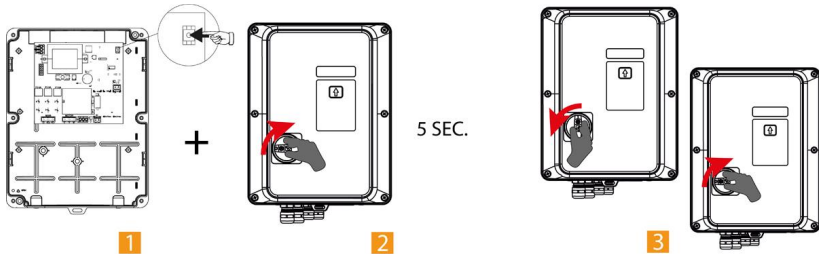
If you have exceeded the number of operations or work hours, the panel will go into maintenance mode, the "Ramp up" button will begin to blink, and the function keys will stop working.



Maintenance

When the module says maintenance is required, follow these steps:

1. Module turned off with the main switch/the switch must be on in position 0.
2. Open the front cover.
3. Keep the service button pressed / as shown in the image below, step 1.
4. While pressing the service button, turn the main switch on / as shown in the image below step 2.
5. Release the service button only after the maintenance light turns off (approximately 5 seconds).
6. After releasing the service button, restart the module / power supply, and then turn the module on with the main switch.



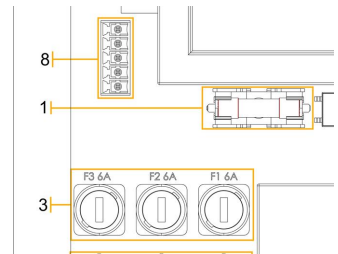
Fuse change

Open the front cover and check the fuses in positions 1 and 3 of the figure.

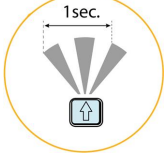
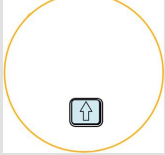
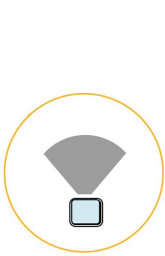
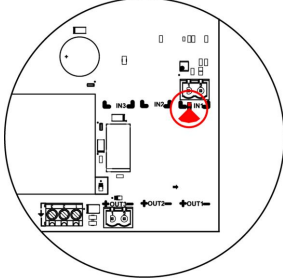
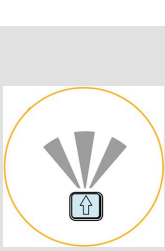
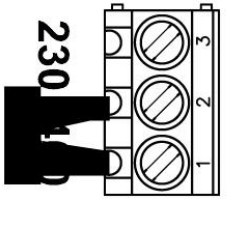
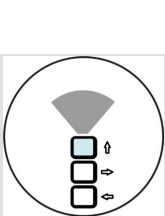
If necessary, replace the fuse with another of the same type.

For position 1: Slow blow glass fuse 2 A and 250 V.

For position 3: Slow blow ceramic fuse 6.3 A and 250 V.



Troubleshooting

Indicator	Lights	Solution
	<p>The "Ramp up" button blinks</p>	<ol style="list-style-type: none"> 1. You must conduct maintenance.
	<p>The "Ramp up" button does not turn on when the main switch is in position 1.</p>	<ol style="list-style-type: none"> 1. Check the main power source. 2. Check fuse 1 and, if necessary, replace it. 3. Check fuse 3 and, if necessary, replace it.
	<p>The "Ramp up" button is on and the function buttons do not respond.</p>	<ol style="list-style-type: none"> 1. Check that the main door is totally open. If it is, the indicator will light up. See the figure below. <div data-bbox="543 571 826 850" data-label="Image">  </div> 2. Check whether the motor's thermal protection is activated.
	<p>The "Ramp up" button blinks quickly but still works.</p>	<p>Check the power source selector connections</p> <div data-bbox="498 943 744 1169" data-label="Image">  </div> <ol style="list-style-type: none"> 1. Check the main power source. 2. Check fuses 1 and 3 and, if necessary, replace them.
	<p>The "Ramp up" button is on and the motor rotates but the ramp does not rise.</p>	<ol style="list-style-type: none"> 1. Rotate two motor phases (U --> W). 2. Increase working pressure for the hydraulic set (adjust limit valve).

Technical data

Maintenance metre



Motor activations longer than 10 seconds will be counted.

The unit is delivered with factory-set maintenance metres to warn that maintenance is required in:

total work time	400	[horas]
time limit for long movements	40000	[times]

Electric parameters

Parameter	Value
Power Supply	400V 3N~ / 230V~ (+/-10%) 50 / 60 Hz
Rated current	6A
Maximum motor power	1.2/2.2 kW
Watertightness	IP 54
Size (L/W/H)	225 x 295 x 117mm
Operating temperature	-20 °C a 55 °C

Disassembly

Disassembly is conducted by going in the reverse order of the Installation chapter.

Waste removal

Always remove packaging materials in an environmentally respectful way and pursuant to local applicable removal regulations.



■ If the rubbish bin has been crossed out on an electric or electronic appliance, this means that, once their life cycle is over, they must not be thrown out with household waste. There are collection points near you for electric and electronic appliances for free return. You may obtain their location from the town hall of your city or municipality. The purpose of the selective collection of waste from electrical and electronic equipment (WEEE) is to avoid reuse, recycling and other forms of reuse of WEEEs and avoid the negative impact on the environment and human health of eliminating all hazardous substances contained in the appliances.

Regulatory Data

UKCA Declaration of conformity

JCM TECHNOLOGIES, SAU hereby declares that the product **RAMP1 & RAMP3** complies with the relevant fundamental requirements of the Supply of Machinery (Safety) Regulations 2008 as well as with the Electromagnetic Compatibility Regulations 2016 and the Electrical Equipment (Safety) Regulations 2016 whenever its usage is foreseen; and with the RoHS Regulations 2012.

EU Declaration of conformity

JCM TECHNOLOGIES, SAU declares that the product **RAMP1 & RAMP3** complies with the relevant fundamental requirements of the Machine Directive 2006/42/EC as well as with the Directives 2014/30/EU on electromagnetic compatibility and 2014/35/EU regarding low voltage whenever its usage is foreseen; and with the 2011/65/EU RoHS Directive.

See website <https://www.jcm-tech.com/declarations/>

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