

AUTO  MOSSA

HYPERCHILL™ AND HYPERFREEZE™

OPERATION MANUAL

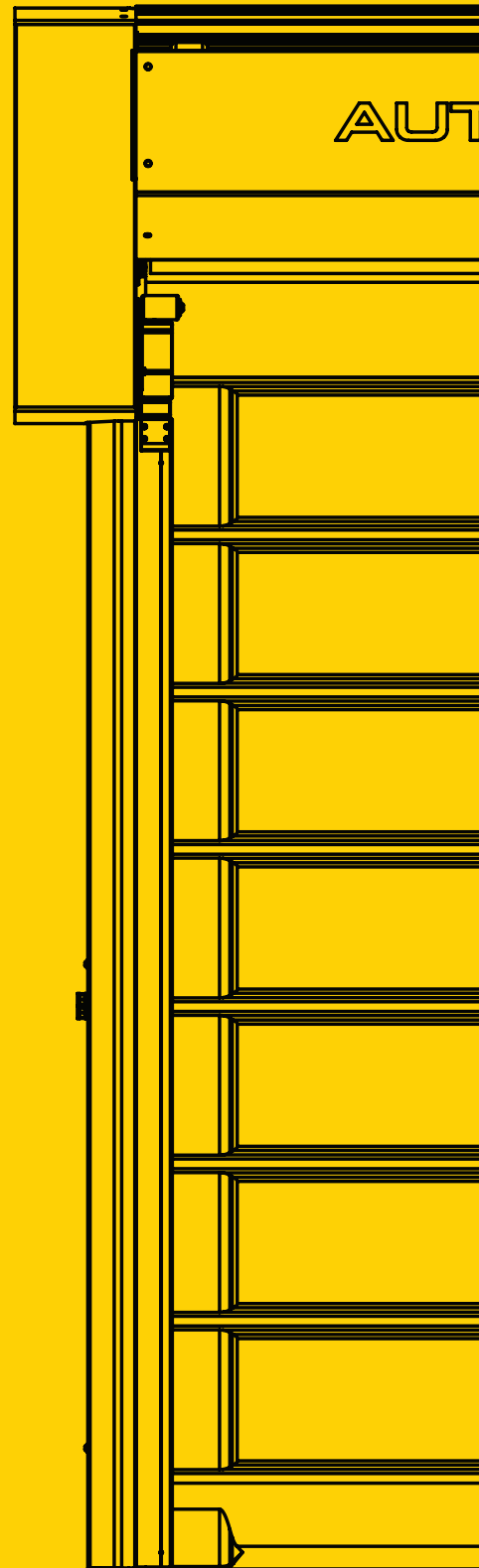


TABLE OF CONTENTS

1	Introduction	
1.1	Introduction.....	3
1.2	Contact Information.....	3
2	Product Description	
2.1	Disclaimer.....	4
2.2	Door Function.....	4
2.3	Base Design	4
2.4	Control Equipment	5
2.5	Main Door Components	5
3	Safety Information	
3.1	General Safety Advice.....	6
3.2	Application Area and Use.....	6
3.3	The User and Duty of Care.....	7
4	Control Box Functions	
4.1	Control Box Overview.....	8
4.2	Basic Control Box Operating Functions.....	8
4.3	Optional Control Box Operating Functions.....	9
5	Safety Features	
5.1	Safety Features – Standard.....	10
5.2	Safety Features – Optional.....	11
6	Activations	
6.1	Activations – Optional.....	13
7	Commissioning	
7.1	Commissioning Mode.....	15
7.2	Manual Mode.....	16
8	Manual Operation	
8.1	Ratchet Handle – Standard.....	17
8.2	UPS – Optional.....	18
9	Inspection and Maintenance	
9.1	General Maintenance.....	19
9.2	Scheduled Maintenance.....	19
10	Troubleshooting	
10.1	Door Staying Open.....	20
10.2	Door Not Operating.....	21
10.3	Door Operating Incorrectly.....	22
11	VSD Controller	
11.1	VSD Speed Adjustments.....	23
11.2	Motor Current and Frequency Settings.....	24
11.3	VSD Fault Codes.....	25

1 INTRODUCTION

General Overview

1.1 Introduction

The contents of this manual are designed to help you operate and maintain the AUTO MOSSA HYPER™ series of High Speed Doors. DO NOT operate or perform maintenance on the high speed door unless you have been advised to do so by an authorised AUTO MOSSA technician or authority.



The CAUTION symbol shown to the left will appear where a hazard may arise, and increased attention and care needs to be taken. Failure to heed the caution could result in serious injury.

1.2 Contact Information - Service

To contact the service department or organise a technician, please contact:

AUSTRALIA - NSW
65 Elizabeth St, Wetherill Park NSW 2164, Australia
Phone: 1800 667 721
Email: info@automossa.com

Contact Information - Manufacturer

NEW ZEALAND
AUTO MOSSA EQUIPMENT LTD
Phone: +64 272947695
Email: mark.brunton@automossa.com
Design and Manufacturing

2 PRODUCT DESCRIPTION

2.1 Disclaimer

This manual has been compiled by AUTO MOSSA, and covers the product descriptions and specifications for the HYPER™ series of High Speed Doors, including HYPERGLIDE™, HYPERCHILL™ and HYPERFREEZE™. The contents of this manual and the specifications of this product are subject to change without notice. AUTO MOSSA reserves the right to make changes without notice to any material/specifications within the manual and shall not be held responsible for any resulting damages or injuries caused by reliance on the materials presented.

2.2 Door Function

The AUTO MOSSA HYPER™ series of roll doors are vertically opening, high-speed roll-up doors and are designed to operate at high speeds with very high duty cycles. The opening/closing cycle serves as a means for quick access/egress for personnel and machinery, especially in rooms which require some degree of environmental or temperature control.

2.3 Base Design

The HYPER™ series of High Speed Doors contain two structural side columns, a PVC curtain with a flexible soft bottom edge, and a head section containing the top roll. Within the tracks is a frictionless surface that captures the wind bars and the flexible bottom edge which allows them to move smoothly during operation. The PVC curtain moves up and down via a top roll powered using a range of gearbox and motor sizes depending on door size and weight. There are two sets of safety photocells set into the side columns which de-activate as the door gets close to them during the closing cycle. During the operating cycle, activation of these safety devices leads to the door stopping and reversing to the top position. In the event of an accidental collision, the door is equipped with a curtain relocating system that will allow the door blade to automatically re-insert itself into the door guides on the next up cycle.

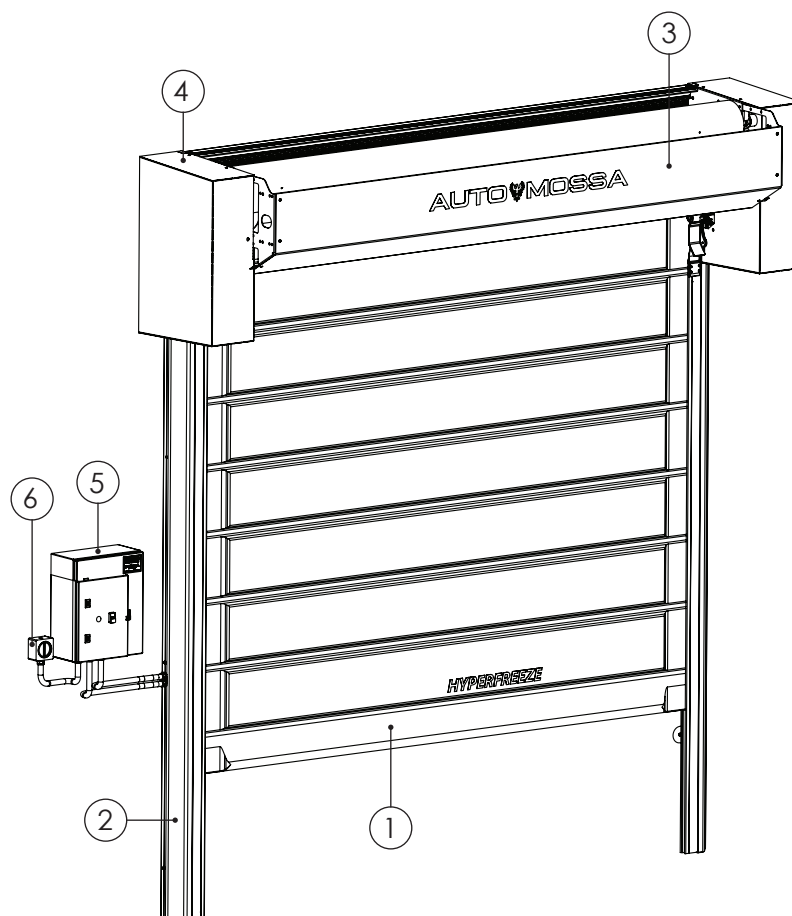
2 PRODUCT DESCRIPTION

2.4 Control Equipment

The controller The AUTO MOSSA roll doors come standard with a variable speed drive or frequency converter control unit which enables soft start and soft stop capability. The maximum opening speed is max. 2.5 m/s (depending on door size). The door closes with a speed reduced to approx. 0.7 m/s.

2.5 Main Door Components

- 1 PVC Curtain
- 2 Side Frame
- 3 Front Cover (Covers Top Roll)
- 4 Motor Cover (Covers Motor/Gearbox)
- 5 Control Box
- 6 Isolator Switch



3 SAFETY INFORMATION

3.1 General Safety Advice

- Do not use this door for purposes it is not intended for.
- Should this door be transferred to a third party this user manual must also be transferred to this party.
- Do not put your hands within the side columns of the door or near the top roll during operation.
- Ensure persons do not use the main traffic door opening for pedestrian access. Pedestrian traffic should use existing pedestrian doors for access.
- When maintenance work is carried out on the door, ensure the main isolator switch is powered OFF and correct lock-out tag-out (LOTO) procedures are followed.
- Upon damage of the door (mechanical or electrical) it must immediately be turned off at the isolator switch and discontinued from use until cleared by an authorised technician.
- It is important to note that operating the door during heavy wind pressure can be dangerous and could result in harm to personnel working in close proximity.
- For the safety of all who work in and around these doors all safety instructions outlined in this manual must be observed.
- This door operates automatically and as a result may suddenly activate from a stationary position. Personnel must exercise caution when working around the High Speed Door.
- Personnel, machines and product are not to remain stationary in the doorway.
- Keep the area through and around the door tidy and free of any debris (including liquids) that could cause trip/slip hazards.

3.2 Application Area and Use

The AUTO MOSSA HYPER™ series of High Speed Doors are developed and tested for normal conditions (-30°C to 60°C). For an application with special environmental conditions it is important that the application should be discussed with an AUTO MOSSA sales representative or an affiliate authorised AUTO MOSSA Dealer. The door is generally designed for the closing of door openings, and particularly used for traffic movement in

3 SAFETY INFORMATION

industrial buildings. Traffic may be personnel, Fork lifts or larger vehicles such as trucks. The doors are designed for either internal or external use. Both applications may require design capabilities to withstand high winds or high positive pressures. In both cases the doors are expected to operate quickly and smoothly to ensure high frequency traffic flow.

3.3 The User and Duty of Care

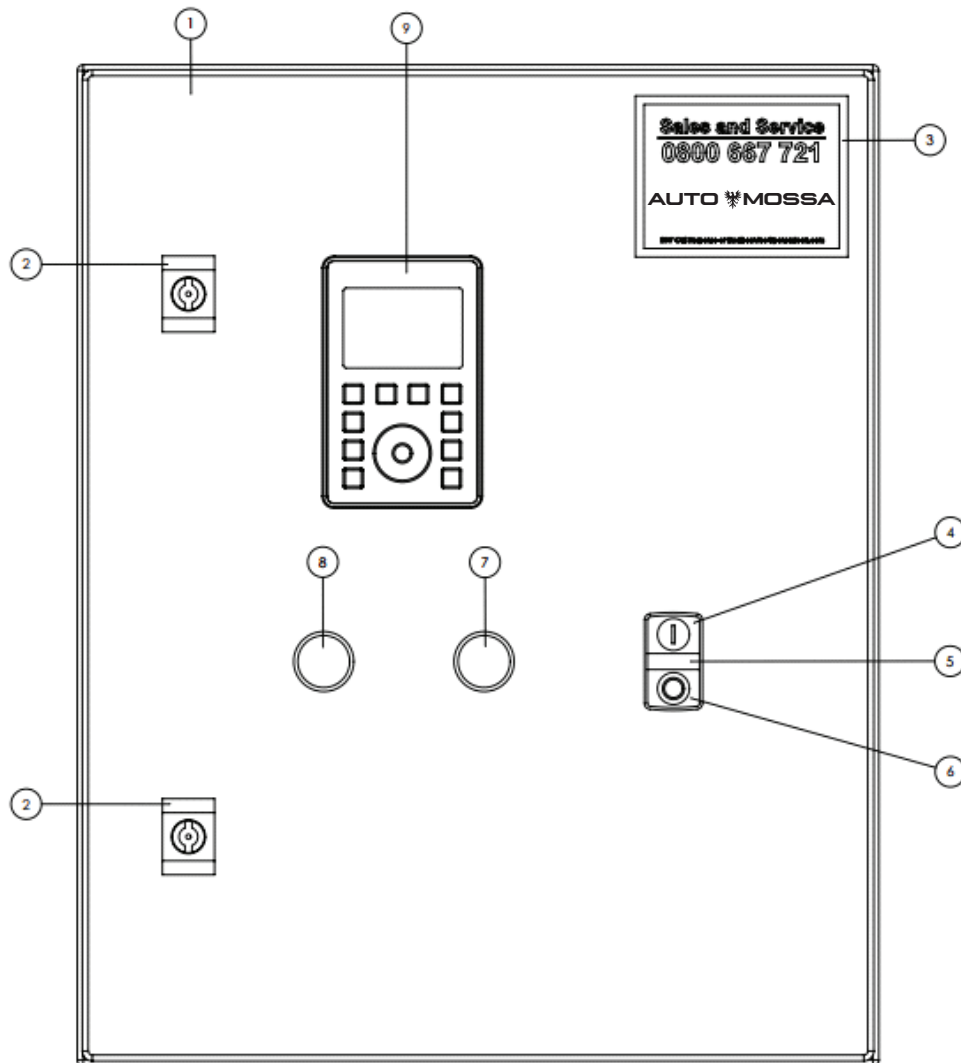
The door itself has been designed and manufactured with components that are qualified and of a high standard. The parts, assembly process and testing of the product all form part of what gives the final product a high level of safety. But this safety standard can only be reached by the user if all necessary measures and precautions are observed. It is important that the user operates the doors in a responsible way and that all safety functions are in place around the door that fit with the doors location and application. Please read the operating manual carefully and keep in a safe place for future use.

The user is responsible to ensure the following:

- The installation, commissioning, inspection, maintenance and any repair work is undertaken only by personnel approved by AUTO MOSSA.
- That all personnel involved with the operation, or working within close proximity of the High Speed Door must be trained to operate the door safely and be advised of the safety precautions in this manual.
- That the door is only used in accordance with its applied purpose and all related safety devices applicable to that usage are functioning as required.
- All safety devices should be checked regularly to ensure correct operation and functioning.
- That the operation manual shall be kept in a readable state and stored within the doors control box.

4 CONTROL BOX FUNCTIONS

4.1



- | | | | |
|---|-----------------------------|---|--------------------------------|
| 1 | Controller Enclosure | 6 | Stop Button |
| 2 | Controller Enclosure Locks | 7 | Optional) Interlock Status |
| 3 | Service Contact Information | 8 | (Optional) Heat Circuit Status |
| 4 | Up/Automatic Operation | 9 | (Optional) HMI Interface |
| 5 | LED Status Light | | |

4.2 Basic Control Box Operating Functions

Up/Automatic Operation: Press to operate the door in automatic mode, or to release the door from its 'Stopped' state. When in automatic mode, the door will rise to the upper limit position, time out, and then close.

4 CONTROL BOX FUNCTIONS

LED Status Light: A steady light shows the door is in a 'Stopped' state, a flashing light signifies an error, and a rapidly flashing light shows the door is in a 'Hold-To-Run state'.

Stop Button: Press to stop the door at any point during its operating cycle (including its top and bottom limit positions). All external activations will be ignored during 'Stop' mode. The 'Stopped' state can be cleared with the Up/Automatic Operation button.

Door Cycle Description: With the mains power on and the door in a ready state (eg. not in a 'Stopped' state), when the door receives an open command from either the Up/Automatic Operation button or an automatic activation device (see the 'Activations and Safeties' section for more information), the door will ramp up to full speed, then slow down before stopping at the fully opened position. The door will remain open until an internal timer reaches a pre-set count (this count is reset with each additional activation command). Once the pre-set hold-open time has elapsed, the door will close at a slow speed before ramping down to stop at its bottom position.

4.3 Optional Control Box Operating Functions

Door Interlocking: Allows only one of the interlocked products to operate at a single time, for example in a red-line environment. Once one door has left the 'Closed/Down' position, the paired door will not accept any activation commands until the open door has returned to its closed position. Usually a status light is installed along with this setup to allow machinery operators and personnel to know the state of the door, along with an 'Interlock Override' switch in case the interlock has to be disabled for any kind of reason.

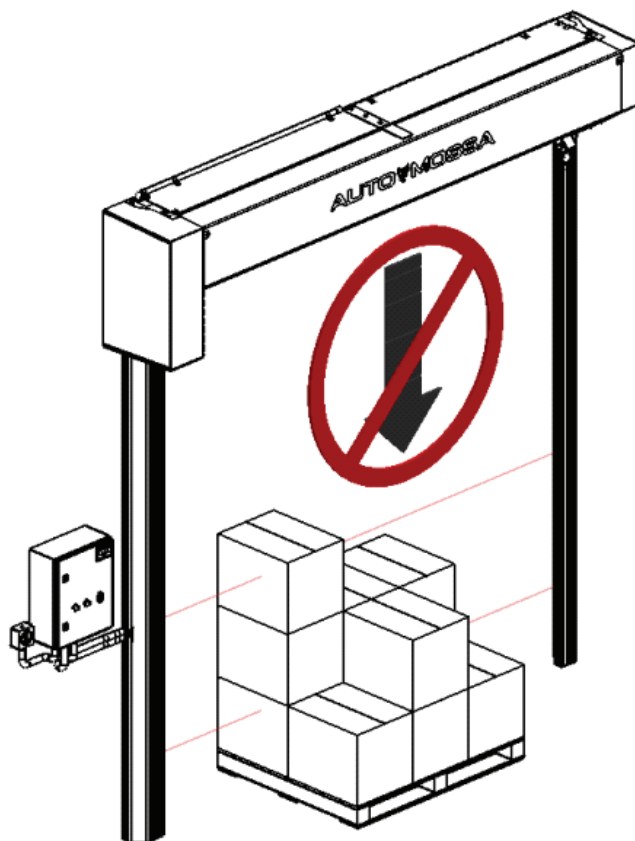
Heating Circuits: Usually installed to the Side Frames in colder environments, the heating circuit keeps components of the door warm to prevent condensation and ice build-up. A status light is commonly installed alongside this feature to let the operator know at a glance whether the heating circuit is operational or not.

5 SAFETY FEATURES

5.1 Safety Features – Standard

Photocells: The AUTO MOSSA HYPER™ series doors are fitted with two sets of photocells installed inside the side frames. Depending where the door is during its operating cycle, the photocells will affect the door in the following ways:

- If the door is in the open position, a dirty, blocked or misaligned photocell will cause the door to hold open until the obstruction is cleared or the misalignment rectified.
- If the door is closing, a blocked photocell will cause the door to reverse back to the open position and remain open until the obstruction is cleared.



5 SAFETY FEATURES

5.2 Safety Features – Optional

Bottom Edge Sensor: The bottom edge sensor is housed in the bottom of the flexible PVC curtain. When the bottom edge of the curtain comes into contact with an obstruction, an electrical circuit is closed which causes the door to reverse back to the open position. This can be customised to continue operation as normal or enter into a faulted state until an authorised person has cleared inspected/cleared the fault.

Condor IR Field: The Condor Sensor is mounted above the door, and projects an INFRA-RED (IR) field onto the ground. The IR sensor will detect stationary and moving objects inside the IR field. Depending where the door is during its operating cycle, the IR field will affect the door in the following ways:

- If the door is in the open position, anything inside the IR field will cause the door to hold open until the obstruction is cleared or re-scanned into the IR field. A red LED will show on the sensor if something is detected inside the IR field. (The IR field can be re-scanned on door power up. To re-scan, turn the power off to the isolator switch for 20 seconds. Make sure the area is clear, and turn power back on (ensuring you're not standing in the scan zone). The green and red LEDs on the sensor will flash alternatively. Once the LEDs stop flashing, the scan is complete.
- If the door is closing, any obstruction detected in the IR field will cause the door to reverse back to the open position and remain open until the field is cleared.

NOTE: If the IR field is set to 'passive' or is not wired in, the red LED will still show, but will have no effect on the door operation.

Refer to Condor Radar activation (page 16) for a visual guide.

5 SAFETY FEATURES

LZR Laser Sensor: The LZR Sensor is mounted either above the door or horizontally at varying dimensions above the ground. The LZR projects 4 laser sheets at customisable dimensions (only field width and depth are customisable – the dimensions between the sheets are fixed). The LZR sensor will detect stationary and moving objects inside the laser field. Depending where the door is during its operating cycle, the laser field will affect the door in the following ways:

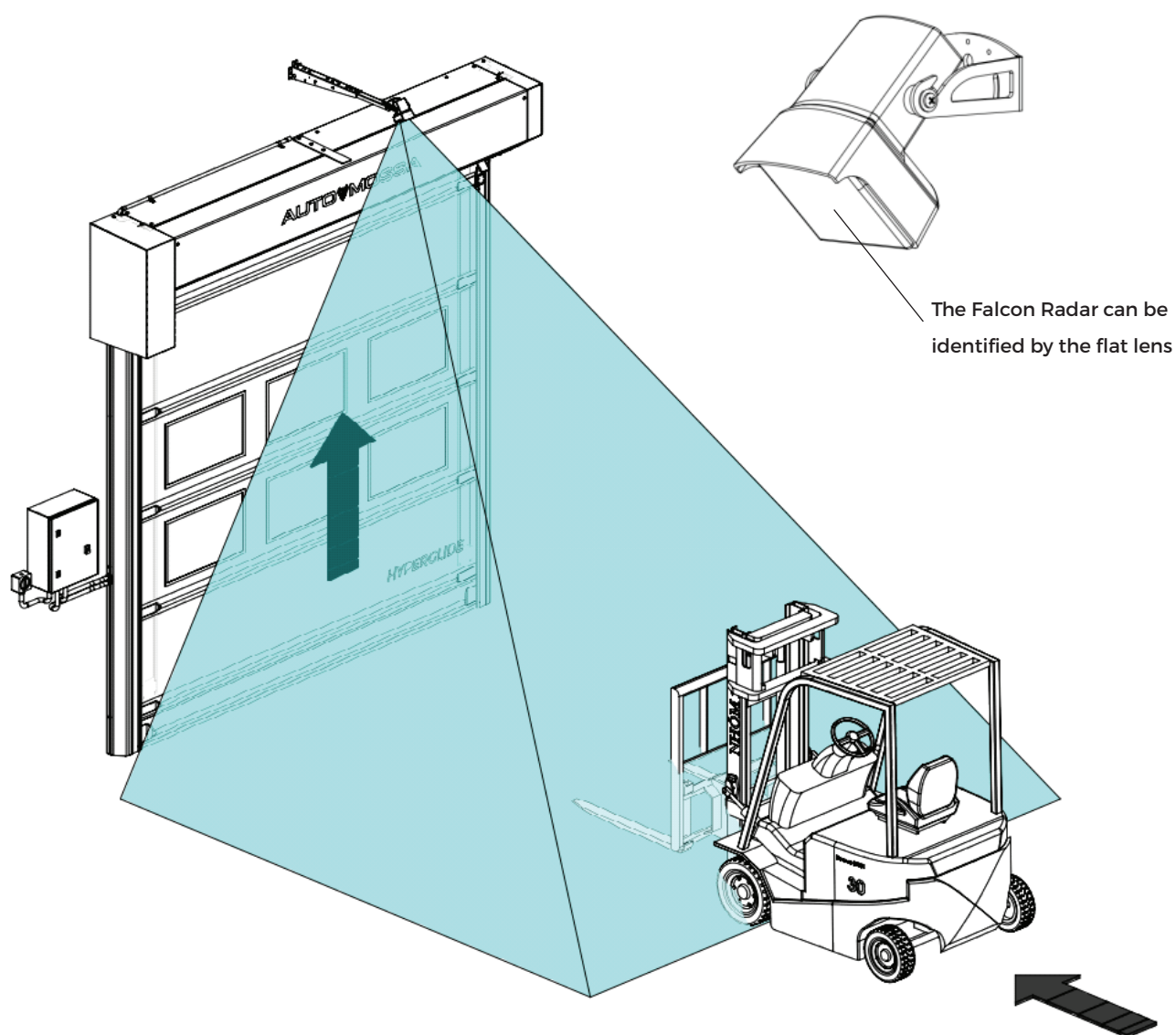
- If the door is in the open position, anything inside the laser field will cause the door to hold open until the obstruction is cleared or re-scanned into the laser field. Red LEDs will show on the sensor if something is detected inside the laser field. The laser field can only be re-scanned by a special remote, so if anything is permanently added or removed from the field (for example a barrier or bollard), a technician will need to modify this.
- If the door is closing, any obstruction detected in the IR field will cause the door to reverse back to the open position and remain open until the field is cleared.

Refer to LZR Laser activation (page 18) for a visual guide.

6 ACTIVATIONS

6.1 Activations – Optional

Activations - Falcon Radar: The door is activated when motion is detected inside the sensing field. Sensor will NOT detect stationary objects. Suitable for all traffic types and has adjustable sensitivity (can be set to include or ignore pedestrian traffic).



6 ACTIVATIONS

Activations – Ground Loop/Induction Loop: The door is activated when metal is detected inside of the induction loop area. The loop will detect all metal objects whether moving or stationary (Fig. 1). If steel plant or pallets containing steel products are stored over the loop, the door will remain open until the loop is cleared or re-scanned (Fig. 2) Note: Loop is scanned on door power up. To reset, turn power off at the isolator switch for 20 seconds. Ensure loop is clear and turn power back on. Leave the loop clear for approximately 10 seconds.

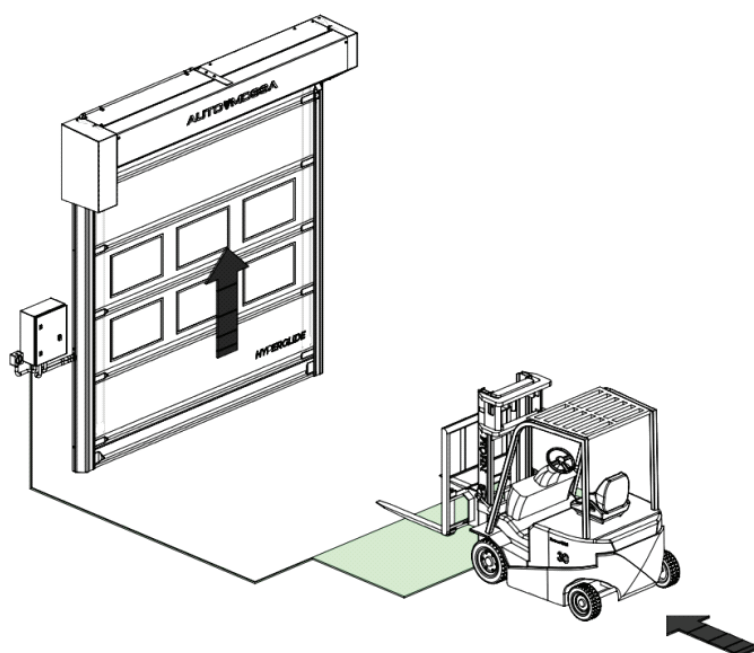


Fig. 1

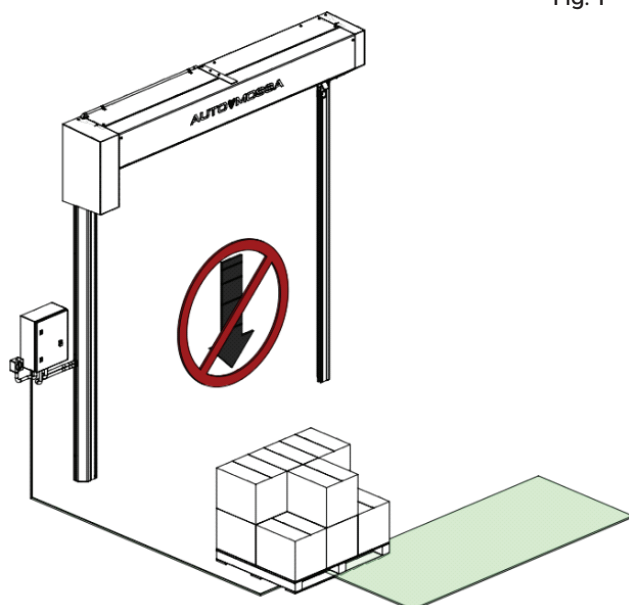


Fig. 2

7 COMMISSIONING

Controller Setup Procedure Hyperglide, Hyperchill and Hyperfreeze

7.1 Commissioning Mode

Step 1 - Hold in STOP button and press GO button 5 times, light flashes slowly to indicate instruction is successful. When the light stops flashing the door is ready to be positioned.

Step 2 - Setting down Position - Drive door to DOWN position using the STOP button, use the GO button if you need to jog the door up. Once the door is in the down position hold the STOP and GO button in for 3 seconds, indicator light will flash again indicating instruction is successful.

Step 3 - Setting Up Position - Repeat Step 2 for the UP position

Step 4 - Set slow down position (marked with red tape on door frame)
- Position door at the required slow down point and press the STOP and GO button for 3 seconds, indicator light will flash again indicating instruction is successful.

Step 5 - Pedestrian Height Selection - Position door at the required pedestrian door height and press the STOP and GO button for 3 seconds, indicator light will flash again indicating instruction is successful.

Step 6 - Photo Sensor and Light Curtain Selection -
Photo Sensors - Position door at the required height above top photo sensor and press the STOP and GO button for 3 seconds, indicator light will flash again indicating instruction is successful. Repeat this instruction for the lower photo sensor.
Light curtain - Position door at the required height above light curtain and press the STOP and GO button for 3 seconds, indicator light will flash indicating instruction is successful

Step 7 - Set Hold Open Time - Hold open time (preset for 4 seconds)
- Following on from step 6 bring the door down to bottom position and hold stop button in for 10 seconds, the light will flash indicating the hold open time is ready to be accepted, Press the Go button for however many seconds is required for hold open (1 pulse = 1 second). If for example a hold open time of 10 seconds is required then 10 pulses of the GO button are

7 COMMISSIONING

required starting within the 5 second time frame. Once the 10 inputs have been completed the light will flash for a further 5 seconds and then stop. This is the final instruction required and once complete the light will go to solid and wait for the user to activate the door.

7.2 Manual Mode

Hold To Run Mode - this is required if the door blade has been knocked out and needs to be reset or in the event of power outage. This mode is driven directly from the VSD so gives the user the ability to drive the door up and down past both top and bottom limits.

Hold STOP and Go for 10 seconds, light flashes to acknowledge instruction, door now able to be used in manual mode.

To reset to automatic, drive door down to bottom position and hold STOP and GO for 10 seconds, door now back to automatic mode, light on static ready for go command.

Important

It is important that all the above settings are done in sequence. The door must be in the down position or '0 position' before the door is reset to automatic.

8 MANUAL OPERATION

8.1 Ratchet Handle – Standard

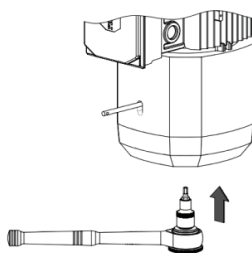
In the event of a power failure, the door can be raised and lowered by manually winding the motor through means of a ratchet handle housed inside the control box. The instructions for this procedure can be found on the label on the motor-side side frame. In order to access the motor, the motor cover may need to be removed. This will require a 5mm hex key to remove the motor cover fixings.

IMPORTANT: If the door is repositioned while power is off, a bottom limit reset will be required. Refer to page 16, 7.2.

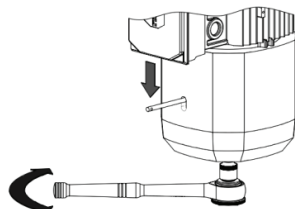
Emergency Operation Instructions

1. Ensure Power is isolated
2. Take the hand-crank from the control box
3. Insert the hand crank in the bottom of the motor where marked manual operation
4. Pull down on the brake release lever and hold
5. Turn hand crank while holding brake release lever until door is at the required height
6. Return hand crank to the control box

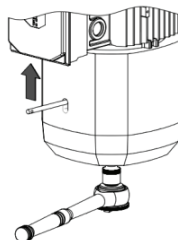
AUTO MOSSA



Insert the socket into the bottom of rotor shaft of the motor through the hole in the motor cowling.



While holding the ratchet handle firmly, pull down on the brake release lever. Once the brake has released, turn the ratchet as far as possible to raise the door.

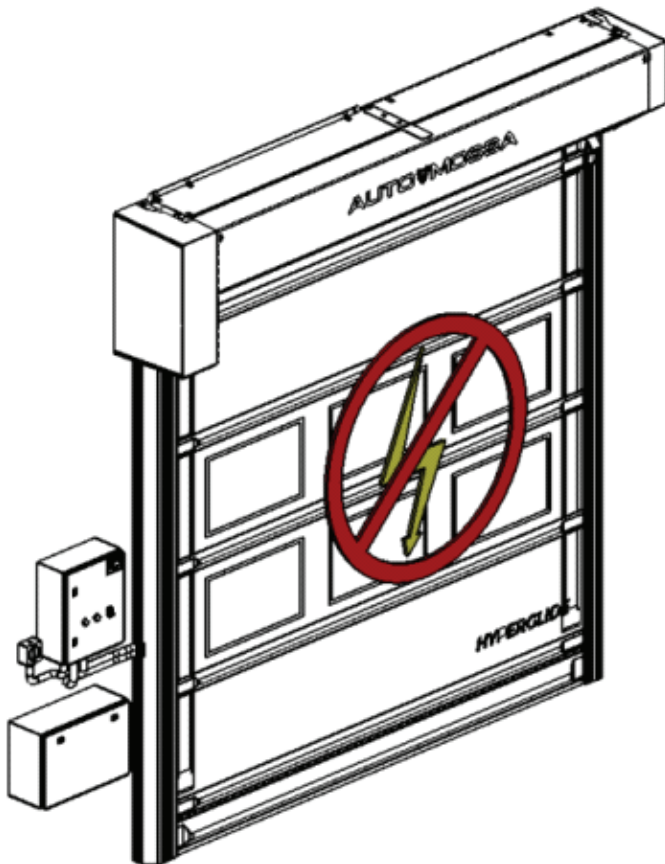


While holding the ratchet at the end of its movement, release the brake handle. Move the ratchet back to the start of its range and repeat the previous step until desired height is achieved.

8 MANUAL OPERATION

8.2 UPS - Optional

The door can be fitted with an Uninterruptible Power Supply (UPS). In the event of a power failure the UPS battery will hold enough charge to raise the door high enough to allow personnel and machinery to evacuate, or for product to still be accessed. It is recommended the door be stopped once in the up position until power has been restored. In the event that the UPS battery drains and the unit faults out, it may require a reset button to be pressed on/around the UPS display panel (accessed by opening the UPS enclosure).



9 INSPECTION AND MAINTENANCE

9.1 General Maintenance



When undertaking any maintenance work around the doors it is imperative that operators in the area know that works are taking place and that the power to the door is switched off for the duration of the works. Safety cones and/or barriers must block off the work area before any work is undertaken. AUTO MOSSA High Speed Doors are designed to be as low maintenance as possible, and as such there are only a couple of tasks recommended for the customer to undertake on a weekly basis:

- Sweep the floor inside and around the door opening and dry/mop up any water or spilled liquids that may be present. Remove any swept up debris and dispose of in the correct manner.
- Gently clean the photocell lenses with a soft cloth, ensuring not to push too hard on the lenses.

For any cleaning of the PVC curtain, do NOT use any abrasive cloths, power washers, or chemicals. Only use warm water with a small amount of mild plastic cleanser and a soft cloth. Dry off any liquid to prevent streaks/dirt runs. For cleaning of the aluminium side frames, use warm water with a mild cleaner and a soft cloth.

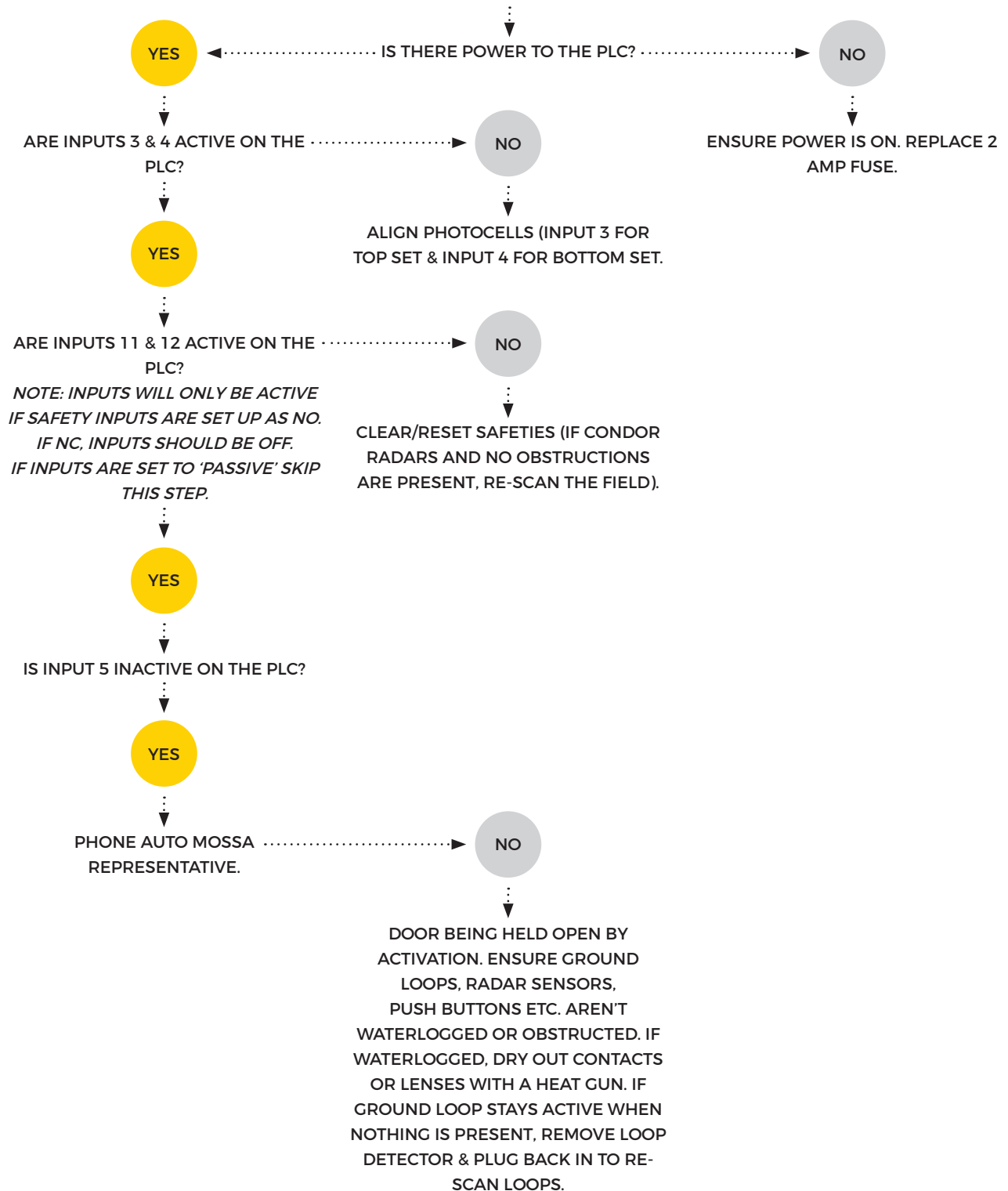
9.2 Scheduled Maintenance

AUTO MOSSA High Speed Doors are designed to operate regularly at high speeds in all environments. It is highly recommended that the doors are regularly serviced by an authorised service technician in order to maintain the doors at peak operating conditions, and to ensure all safety systems are functioning correctly. Frequency of servicing is dependent on usage and environment, but as a general rule it is recommended servicing be carried out at 6 monthly intervals, or every 75,000 operating cycles. Maintenance and repairs must only be undertaken by AUTO MOSSA, or authorised AUTO MOSSA agents.

10 TROUBLESHOOTING

10.1

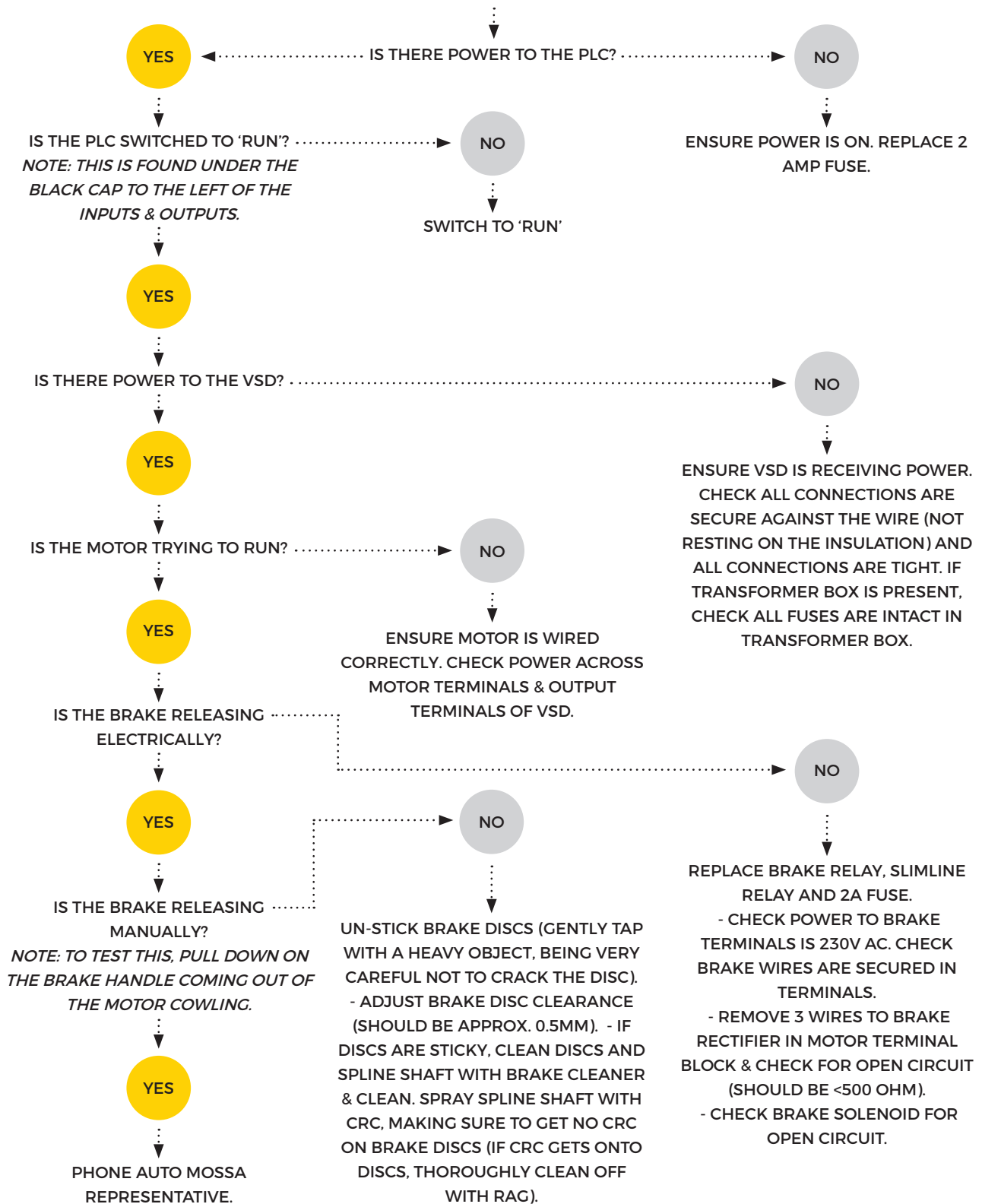
DOOR STAYING OPEN



10 TROUBLESHOOTING

10.2

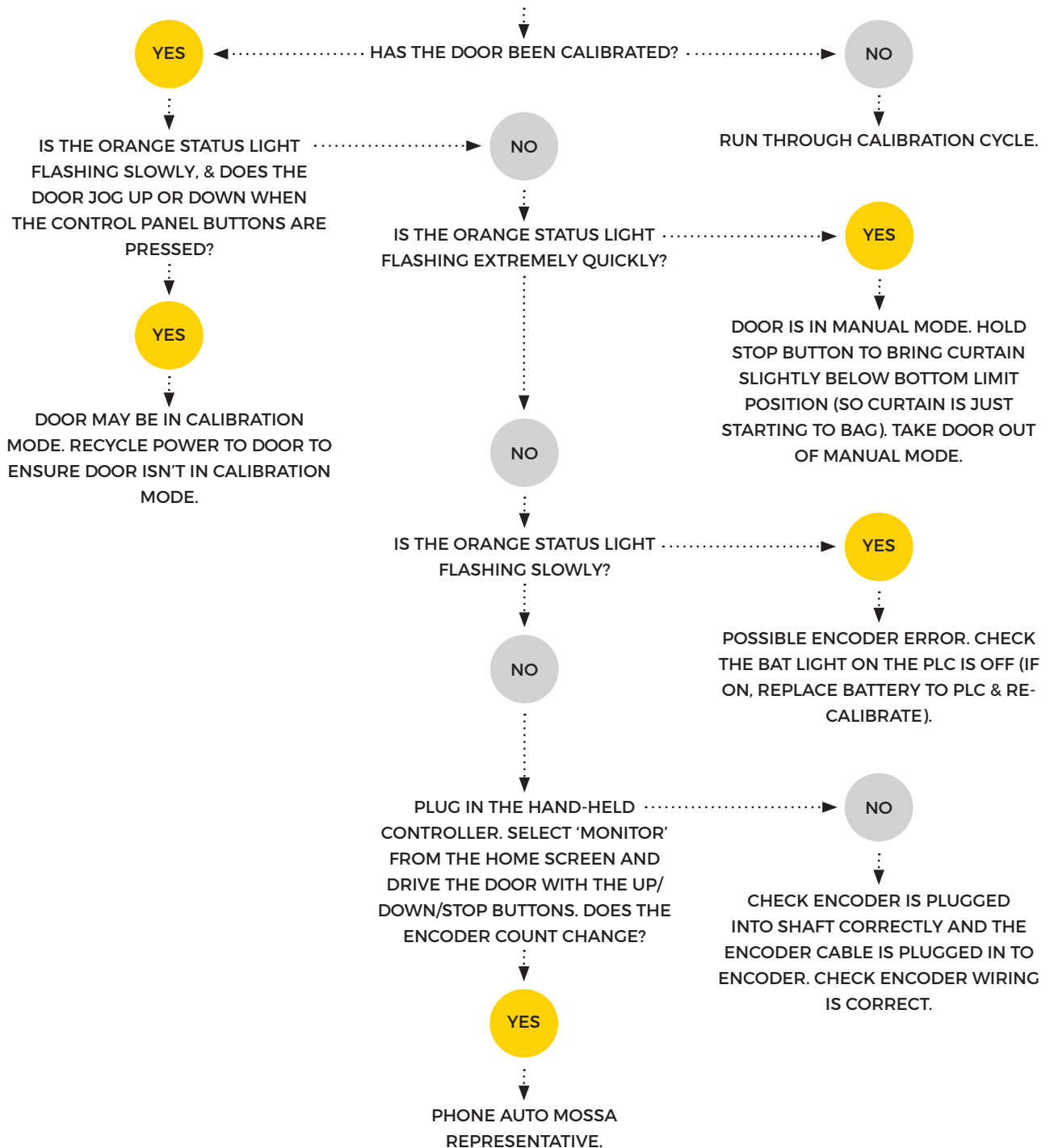
DOOR NOT OPERATING



10 TROUBLESHOOTING

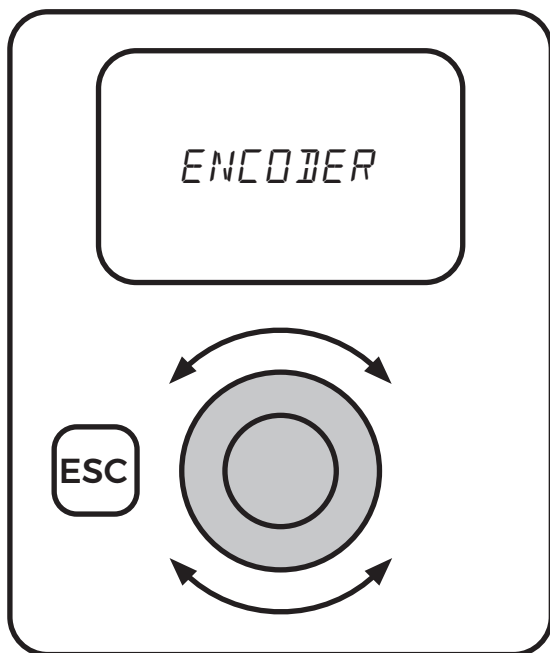
10.3

DOOR OPERATING INCORRECTLY

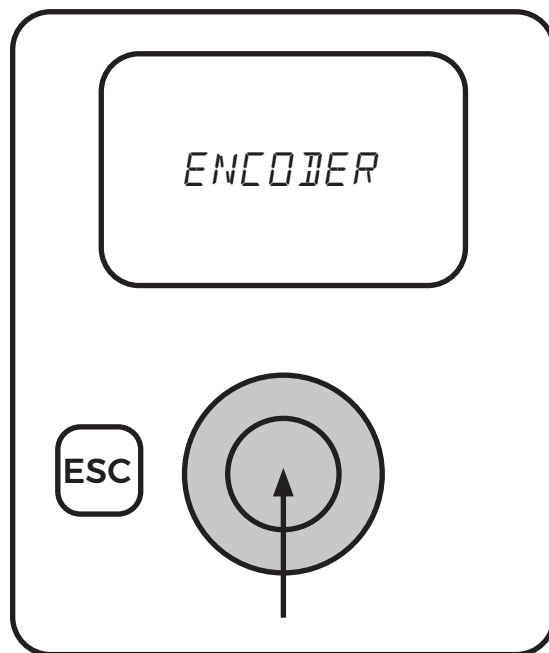


11 VSD CONTROLLER

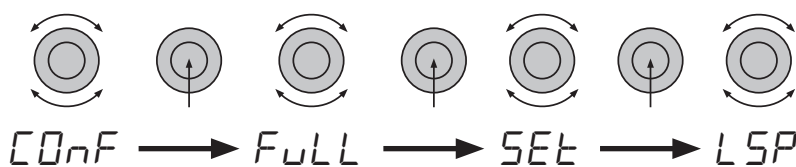
11.1 VSD Speed Adjustments



ROTATE TO MAKE SELECTION



PUSH TO ENTER SELECTION



SETS LOW SPEED. LOW SPEED USED DURING RAMP CREEP AND MANUAL OPERATION.

HSP SETS 'UP' SPEED. HIGH SPEED USED DURING 'UP' CYCLE.

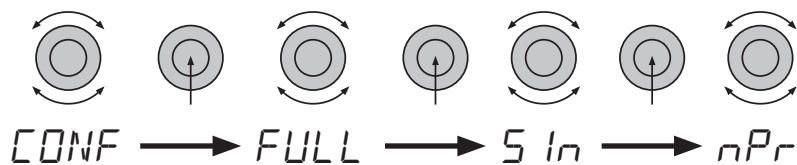
SP2 SETS HIGH SPEED. HIGH SPEED USED DURING 'UP' CYCLE (SET SAME AS HSP).

SP3 SETS 'DOWN' SPEED. LOWER SPEED USED DURING 'DOWN' CYCLE.

SP4 SETS 'BOOST' SPEED. BOOST SPEED USED DURING RE-TRIGGER IN RAMP-DOWN ZONE ON 'UP' CYCLE. *IMPORTANT* - DO NOT ADJUST IF UNFAMILIAR WITH RAMP-ZONE MECHANICS.

11 VSD CONTROLLER

11.2 Motor Current and Frequency Settings



SETS 'RATED MOTOR POWER' IN KW.
SET TO MATCH MOTOR POWER ON
NAMEPLATE.

nCr

SETS 'RATED MOTOR CURRENT' IN AMPS.
SET TO MATCH CURRENT ON NAMEPLATE
(MAKE SURE CURRENT MATCHES MOTOR
CONFIGURATION IN DELTA OR STAR)

tFr

SETS 'MAX FREQUENCY'. CAN ADJUST
SPEEDS OVER 60HZ. SETTING CANNOT
EXCEED 10 TIMES THE VALUE OF FRS.

11 VSD CONTROLLER

11.3 VSD Fault Codes

<i>blF</i>	BRAKE'S MOTOR 3-PHASE LOSS	CHECK MOTOR IS WIRED CORRETLY (DELTA FOR 230V/STAR FOR 400V).
<i>brF</i>	BRAKE CONTACTOR DETECTED ERROR	CHECK BRAKE WIRING IS AS PER THE WIRING DIAGRAM. CHECK BRAKE AND FAILSAFE RELAYS.
<i>nSt</i>	FREEWHEEL STOP	CHECK STABLE MAINS POWER AND THAT MAINS CABLE IS RATED TO THE CORRECT SPEC. CHECK WIRES TO 'STOP' INPUTS ARE SECURE.
<i>obF</i>	OVERBRAKING	
<i>oCF</i>	OVERCURRENT	
<i>oHF</i>	DRIVE OVERHEATING	
<i>oLF</i>	MOTOR OVERLOAD	
<i>oPF 1</i>	MOTOR OVERLOAD	
<i>oPF2</i>	MOTOR 3-PHASE LOSS	
<i>oSF</i>	OVERSUPPLY DETECTED FAULT (OVERVOLTAGE)	
<i>uSF</i>	UNDERVOLTAGE	