



Good Gate™ Inc.

User Manual

Saber™ Carriage Gate Operator



CSA/ US Certification Listing Number: E11083

1 Warnings

ATTENTION!

This product should be installed and maintained by a qualified elevator technician.

Failure to comply with all of the instructions and “WARNING”(s)in this manual as well as any associated drawings and maintenance manuals/ requirements may cause a situation to be present where serious injury or death could occur.

This installation requires access to the top of the elevator car and hoistway. Observe all safety precautions required when entering a hoistway. After positioning the cab where you have access to the top and underside of the cab, secure all sources of power to the elevator that can allow it to move. Follow all lockout/tag-out safety procedures.

If there is any doubt about the instructions in this or other manuals related to this product please contact Good Gate Inc. at info@goodgate.ca for clarification.

2 Ratings

Voltage: 24V d.c. Nominal, 19.2 – 26.4V d.c.

Max Current: 3A

For use in Dry Locations Only

Load Rating = 7.5lbf

3 Introduction

Many other carriage gate operator products need to have the “handedness” for the gate known in advance. The Good Gate™ Saber™ Operator has been designed such that the operator can be configured for either left or right hand opening gates.

The operator is designed to accommodate a clear opening of up to 36in but can be custom ordered to handle clear openings that are larger or smaller. Simply send us your needs and we'll be happy to help.

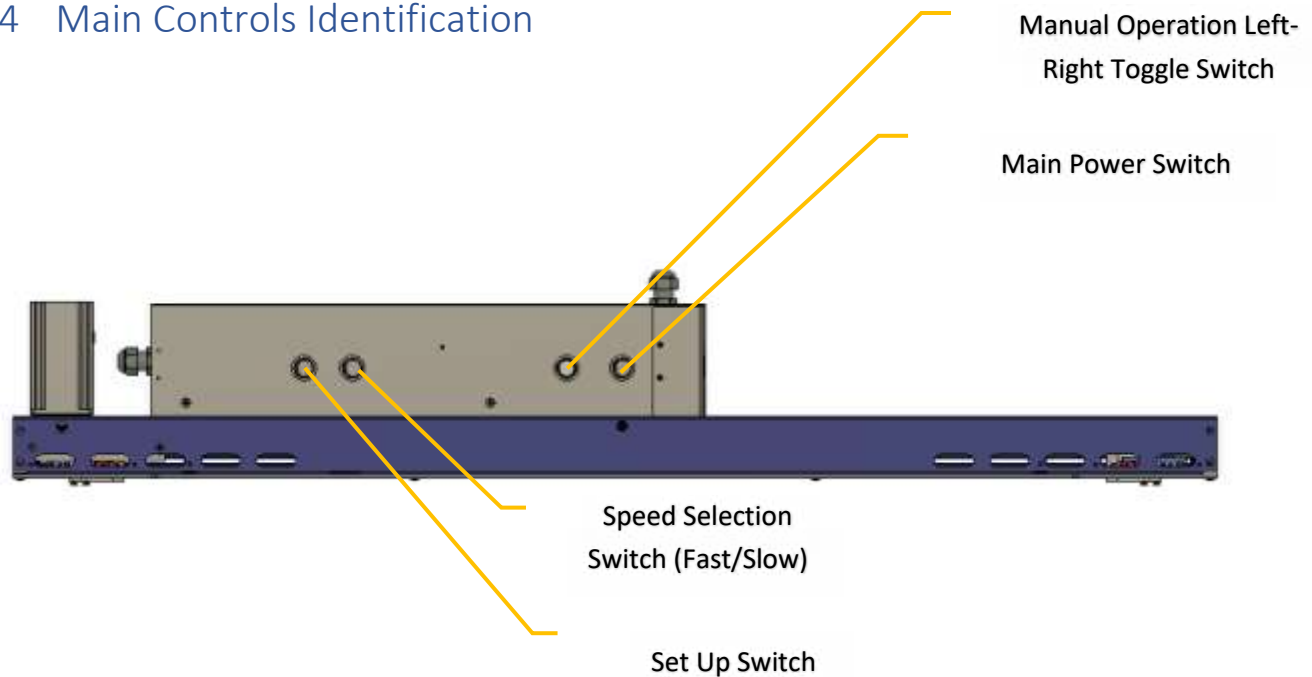
Unlike most operators, the Saber™ gate operator incorporates only a single limit switch at either end of travel. Typically, there have been two switches at each end; the first switch is used to indicate to the controller that the operator should start to reduce the speed of motion and the second switch is then used to indicate that the motor should stop. Good Gate™ has included only the “stop” switches and used algorithms in the set up of the operator to allow for slow down near the ends of travel.

Additionally, the limit switches are directly accessible from the front of the operator using a hex key and do not require any panels to be removed for adjustment by the installer.

To further simplify the set up and operation, Good Gate™ has limited the speed settings of the operator to be either fast or slow. The fast setting is roughly double the speed of the slow setting and is also accessible from the outside of the operator with no need to remove panels; this contrasts with a typical potentiometer that must be set inside the electronics casing of other operator products.

The Saber™ operator also employs a geared tooth timing belt drive system and a high torque precision stepper motor drive that is capable of being used on both Good Gate™ 4-panel sliding gates (80in through 96in cab height) and common accordion carriage gates.

4 Main Controls Identification



5 Gate Closure Direction and Bracket

The Saber™ operator is capable of being used for either left or right hand pocketing gates of both the Good Gate™ 4-panel sliding gate type of the commonly available accordion style carriage gates.

The operator comes with a steel bracket and two screws for attachment to the main guide block. Depending on the installation of this bracket the operator will be set up for left or right-hand pocketing.

The image to the side shows the bracket set up for a right-hand pocketing. The intended usage has the flat of the bracket engage with magnets to pull the gate toward the “slam post”. If the gate encounters too high a load or a foreign object the magnets will release.

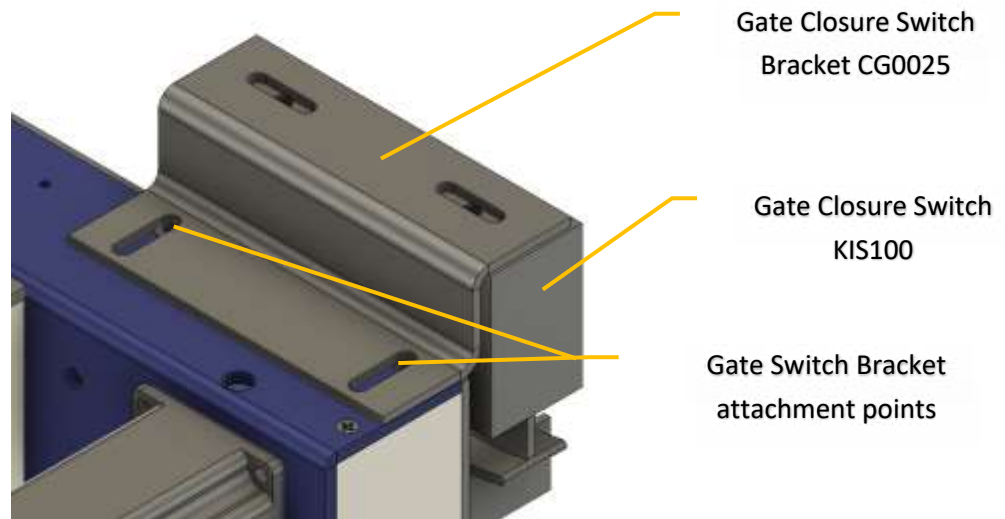


As shown on the guide block, there are mounting holes to reverse the bracket.

The only other requirement to change the arrangement of the gate operator is to move the gate closure switch from one “slam post” side to the other.

The gate closure switch is conveniently located on the exterior of the operator and is easily moved from one side to the other with two screws. Wiring to the gate switch can run directly to the gate switch from your control system and be completely external to the operator. This also allows you to use your own bracket and gate switch, should you desire to do so.

An alternative to run the wiring through the operator is provided but is not required.



6 Mounting/ Mechanical Installation

6.1 Accordion Gate

The Saber™ operator can be directly mounted on to the top of the carriage with #8 or #10 wood screws for an accordion gate.

The operator has 5 slotted hole sets that allow you to install these screws directly from above without having to remove the front cover.

The position of the operator will need to be adjusted based on the exact arrangement of your carriage but, typically, the outermost edge of the operator would line up with the “daylight” line of the carriage and once you have attached a gate interface arm the distance away from the front edge of the carriage would then be adjusted to allow for complete interface with the magnet but avoid rubbing on the face of the operator.



6.2 Good Gate™

For a Good Gate™ the same holes can be utilized but the operator must be mounted above the track. 3 brackets should already be supplied with your gate and no extra brackets are supplied with the operator.

The Good Gate support brackets are shown in the image below and there are 3 of them required to match up with the holes in the operator and provide enough support for the operator across its length. The brackets have threaded holes for #8 screws.



7 Attachment to Gates

7.1 Accordion Gate

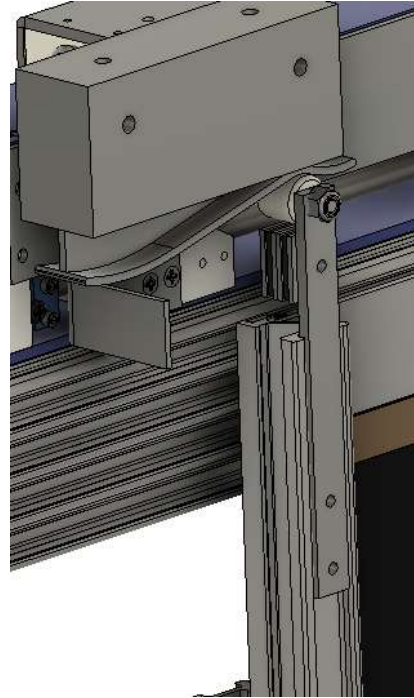
A typical accordion gate supplier has an armature such as the one shown in the image to the side and has instructions on mounting it to the gate itself. Simply attach the gate arm and move the Saber™ operator in to position such that the magnets on the arm engages fully with the operator bracket that attaches to the guide block. A gate switch and mounting bracket can be provided by Good Gate™ should you wish to purchase those optional items.



7.2 Good Gate™

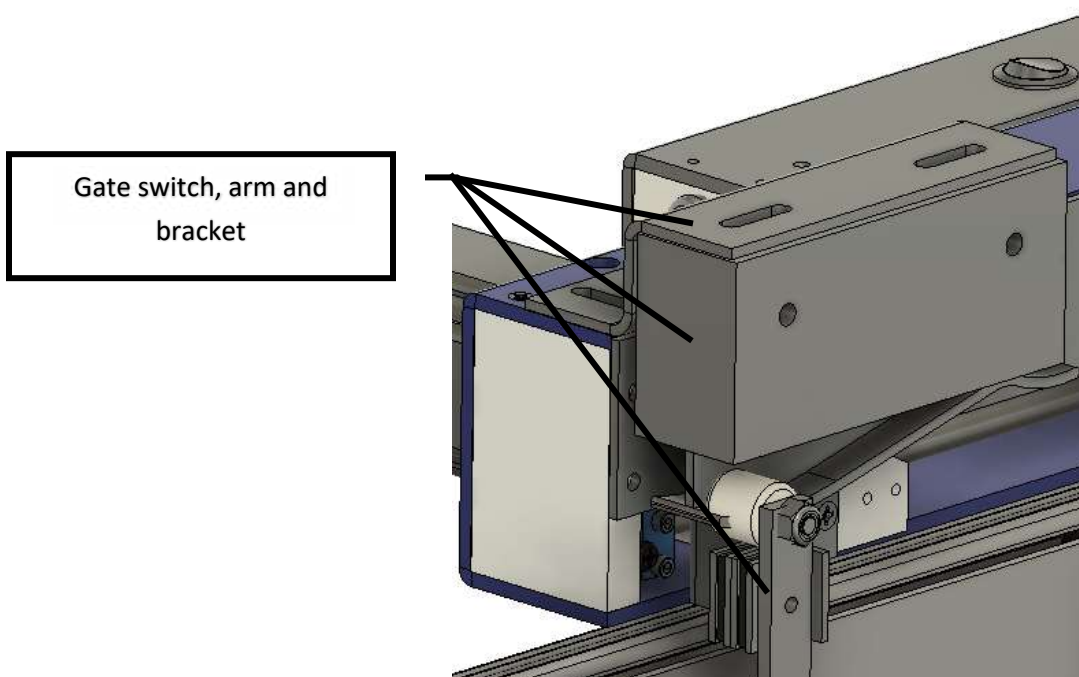
For the Good Gate™ sliding gate product we suggest you order the gate arm (CG0031) from us so that it can be inserted directly into the slot at the leading edge of the gate. Simply insert the arm into the slot and then mark points where holes should be drilled to allow for proper activation of the gate switch.

Drill the holes and then use the supplied nuts and bolts to secure the arm.



8 Closure Sensor and Armature

ASME A17.1/ CSA B44 safety code requires that a carriage gate closure switch be incorporated into the controls so that, if the gate is not in the closed position, then the elevator will not be allowed to operate.



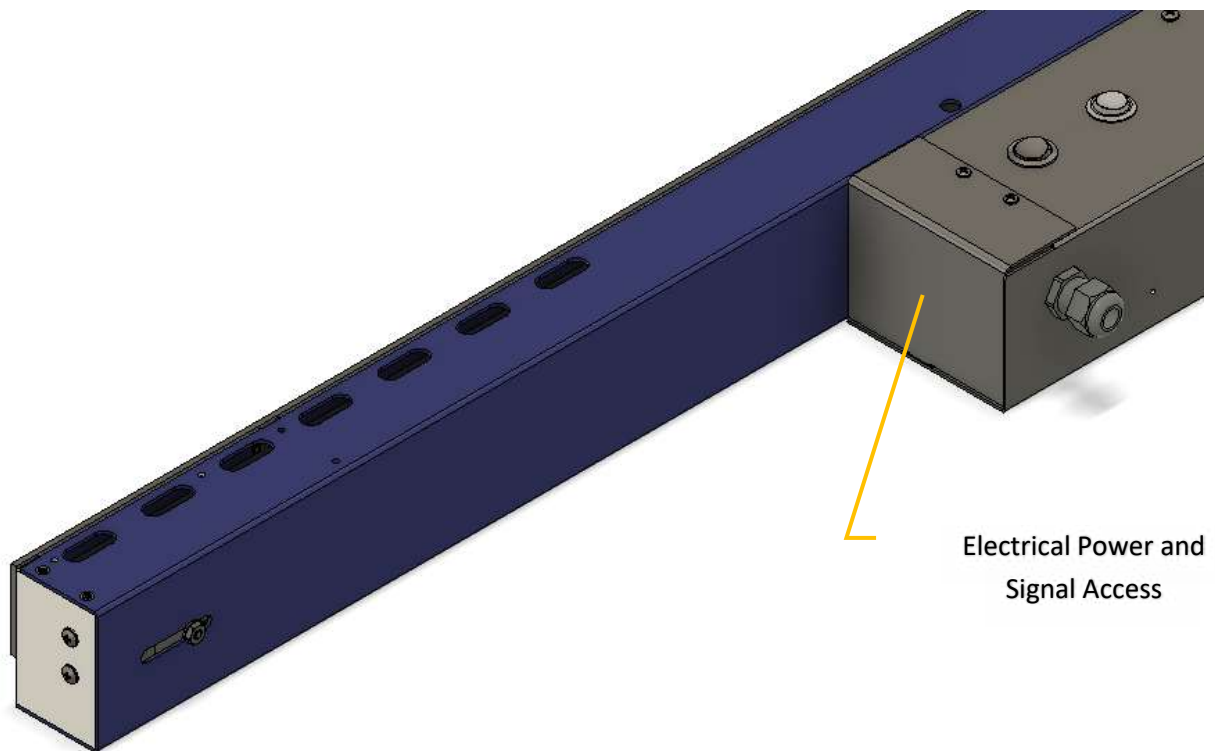
Warning: The Good Gate™ and Saber™ operator products are not intended to operate without a gate closure switch that is connected to elevator controls. Failure to install a code compliant gate closure switch could result in injury or death.

There are different gate closure switch brackets, depending on whether the Saber™ operator will be applied to an accordion gate or a Good Gate™ product. If you are ordering gate switches and brackets from Good Gate™ please ensure to specify which application you need. The switches and brackets can be ordered and stocked separately from the operator itself.

9 Wiring

The interface for connecting power and signal to the Saber™ operator is located on the side of the electrical compartment.

Simply remove the 1 or 2 screws (depending on model) on the aluminum panel to access the terminal block.



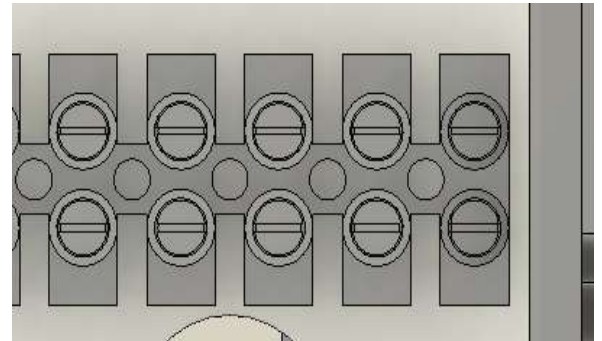
9.1 Power

19.2 – 26.4VDC (Nominal 24VDC) regulated power is required for the Saber™ operator and contacts for those connections are shown below in the contact block image.

9.2 Left-Right Inputs

For an operator that is capable of being used for either left or right hand gates the definition for the input signals is changed to “left” and “right” rather than open and closed and those contacts are noted below in the contact block image.

Depending on your control system, you can provide a signal wire for each direction and connect them. Input signal can range between 5VDC and 28VDC but it is recommend to be Nominal 24VDC for reliable signalling.



AUX	Left	Right	+24VDC	-VE
Brown	Blue	RED	BLACK	

9.3 Auto Close

If you choose to use a single wire open signal only arrangement, the manual operation switch is used to set the operator to close when the open signal is removed. The manual operation switch is a toggle type. It can be set to have signal going continuously to either the left or right input on the controller. Depending on your “close” direction for the automatic close operation you can simply set this to that side of travel. Then hook your open signal up to the terminal block for your open direction. In this setup an open signal will tell the operator to open and stay open. When the open signal is turned off the operator will automatically start to close the gate. Turning the open signal back on will override the closed signal. This is useful if you have a light curtain that could tell your operator to open due to an object interfering with the gate path.

10 Set Up Procedure

The Saber™ operator, when it is first installed requires the adjustment of the physical limit stops and at the travel distance your gate requires. This procedure can be completed as many times as you like.

10.1 Limit Switch Stops

Once you have the gate installed and the operator fixed in place such that it can accommodate the travel of your gate you can set the limit switch stops.

The Saber™ operator limit switches can be accessed directly from the front of the operator without removing the cover plate.

Simply use a hex key to loosen the screw that holds the limit switch slider block in place and then slide it to the right or left to adjust the position you would like the gate to stop. Adjust both sides as required.

WARNING: This limit switch is not a carriage gate safety switch and should not be used in place of a suitable ASME A17.1/ CSA B44 gate closure safety switch.



Limit Switch Stop
Adjustment Screw

10.2 Travel Distance

While you can adjust the limit switches to a rough position initially, running the gate is required as part of set up and final installation.

To set the travel distance, move the gate/ operator guide block to the fully deployed position (the gate is fully covering the entrance) such that the limit switch is activated. If the limit switch is activated it should make an audible click as you engage it.

Ensure that the switches on the top of the main operator electrical compartment are set to the appropriate positions before powering up the unit.

Main Power – Off Position

Manual Operation – Neutral (This is a three position switch)

Speed – Slow

Set Up – Off

Once power is available, power up the unit by flipping the MAIN POWER switch to “ON”

Now switch the SET UP switch to “ON”

Toggle the MANUAL OPERATION switch to “Open” direction. Depending on the handedness of the gate this may be left or right.

The operator should move in the open direction and then stop at the full open/ pocketed side.

Toggle the MANUAL OPERATION switch to “Closed” direction and allow the gate/ operator to travel to the full closed or deployed direction.

If you are happy with the positions simply toggle the MANUAL OPERATION switch to neutral and then exit the set up by switching the SET UP switch to “OFF”. This action should cause the gate/ operator to cycle one full cycle to show that it has accepted all the new parameters and they are now set.

If you are not satisfied with the limit stop positions, simply adjust them and run the set up sequence again.

There are no slow down limit switches as these parameters are calculated as part of the control system and this distance setting avoids an extra slow down switch setting.

11 Speed Setting

The SET UP cycle will run at lower speed than the final operation and there are two speeds for final operation.

The speed can be selected by simply toggling the SPEED selection switch to one or the other positions on the top of the operator.

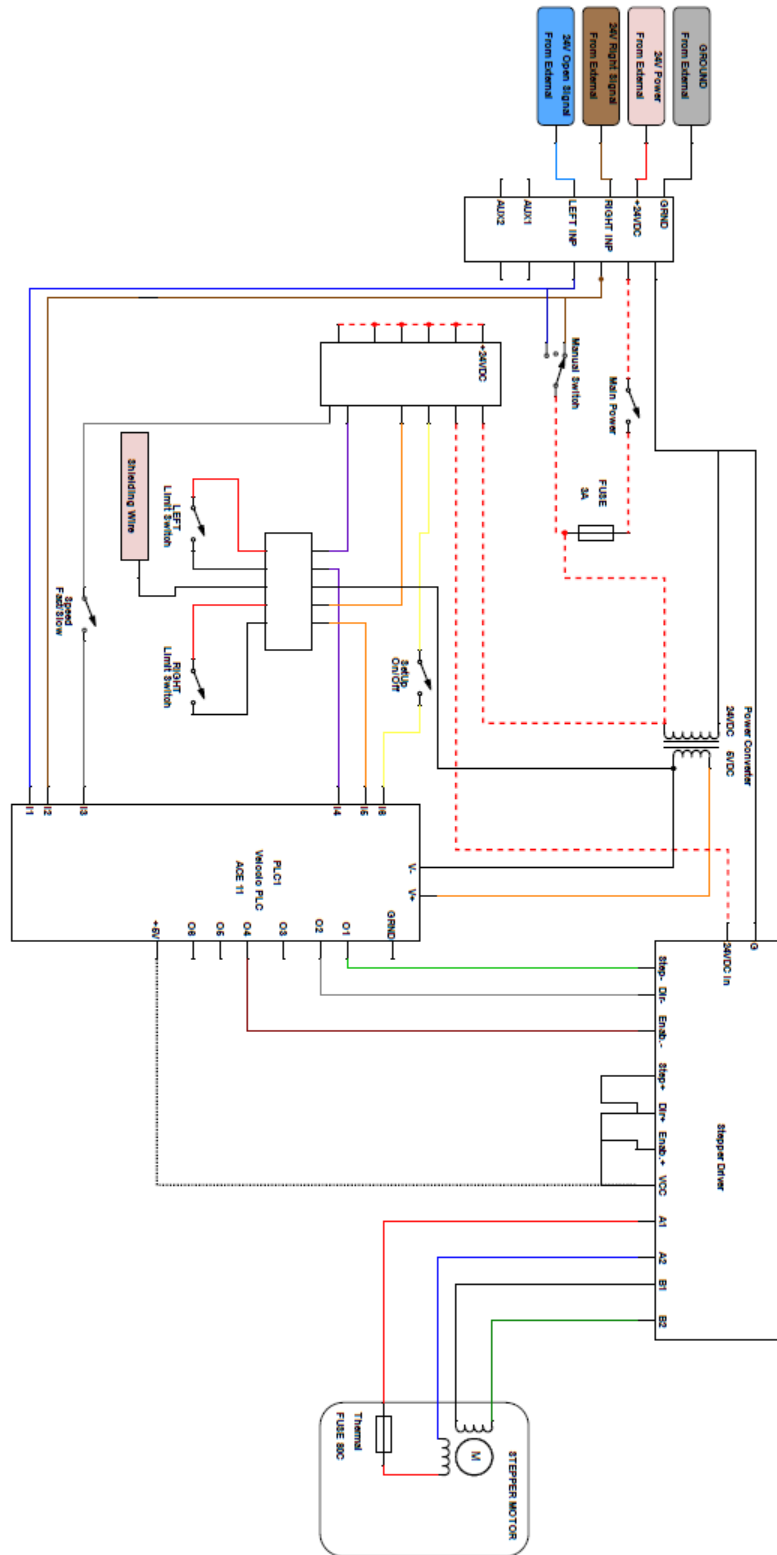
The FAST speed is roughly double the speed of the slow setting.

It is suggested that you do initial operations at the slow setting and then apply the fast setting if you find you need the gate to move more quickly.

12 Testing Checklist

Testing Check	Yes/ No
Gate moves smoothly and doesn't bind	
Check that the gate arm disengages from the steel plate when closing and there is an obstacle in place	
Brackets are in place and the operator is secured	
Electrical contact compartment is closed and the strain relief has been applied	
Gate closure switch is in place and activates/ deactivates correctly to avoid carriage movement if the gate is in the open position	
Motor does not grind or have excessive noise at either end of travel – if it does then the distance setting in the set up may not be completed properly	
Manual Operation switch is in Neutral position unless being used for auto-closing	
Limit switch adjustment screws are tight	
Front cover is installed and screws in place	

13 Wiring Diagram (Internal)



Revision History:

Rev	Date	Description of Changes
NC	10JUN2019	Issued
1	20APR2020	Changed wiring interface. Altered instructions on set up cycle. Corrected typos. Changed external terminal block instructions.
2	27MAR2021	<ul style="list-style-type: none"> - Added certification reference on front page - Added section on voltage, current, ratings - Modified pictures in section 3, 5, 8, 9 for design changes - Changed text relating to mounting from single holes to slotted holes - Removed section on jumpers for auto-operation
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