PULSE | Direct-Drive DC Door Operator

Pulse 400 Series

Commercial Direct-Drive Operator for Large Balanced Industrial or Commercial Doors

Installation Manual and Setup/User Instructions

Pulse Toll Free Technical Support:
1-833-PulseDC (1-833-785-7332)
Get live 24/7 technical support with **Aura, our AI assistant**, or browse our complete **troubleshooting library** at
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General Overview

The Pulse 400 is specifically designed for use with large balanced doors.

It is engineered to accept universal input voltage from 208 - 600Vac (3 Ph) or 208 - 240Vac (1 Ph), out of the box without adjustment. This eliminates the need for a step-down transformer or any additional configuration to achieve the required voltage.

The 400 allows users to program precise gearbox output speeds based on revolutions per minute (RPM). The advanced control system ensures that the output RPM remains stable, even in environments where voltage levels are subject to fluctuation.

Fully Compliant With UL 325:2023 Requirements

This PULSE operator is provided with a monitored Thru-Beam sensor. This must be installed to meet UL 325 requirements. Once the CLOSE button is activated, the operator verifies that the Thru-Beam is connected and functional, is not bypassed by means of a jumper, and it continues to monitor the sensor as the door closes. Note that the provided sensor is reliable to approximately 40 feet. For wider distances, acquire and install a sensor that meets the required door width.

These operators are compatible with monitored reversing devices. The 'R2' and the non-monitored R3 input terminal can be used for connection to any reversing device. R1 is for operator monitoring of a non-monitored device only.

This operator will initiate Push/Hold to CLOSE protocols should the photo-eye be misaligned/blocked or is otherwise compromised. Note that during Push/Hold to Close protocols, the door will reverse should it not fully reach the closed limit per UL 325.

Optional Electromechanical Brake Motor

An optional 180V electromechanical brake motor is available with the PULSE 400. The brake, attached to the bottom of the motor, automatically engages when the operator stops. This important safety feature locks the door securely in place, preventing unwanted movement to keep your staff and facility safe.

Box Inventory

Before beginning installation, please verify that all components are accounted for:

1. Brake Motor Assembly: Motor, Gearbox, Encoder, Motor Power Cable, Multi-Conductor Centre Cable (all pre-assembled)
2. Control Panel
3. Home Position Limit Sensor and Bracket
4. Torque Arm, Mounting Bolts, Mounting Brackets
5. Shaft Collar and Shaft Key
6. Monitored Thru-Beam Sensor

In case any of the above items is missing, please contact iControls and provide us with details of the missing part(s), as well as the serial number of your operator.

WARNING

These instructions are intended for experienced personnel trained for service and installation of commercial/industrial doors and operators. All safety precautions and local codes must be followed.

1. READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.

2. Have qualified service personnel make necessary repairs to ensure door is operating smoothly without any unusual noise. Install operator only on a smoothly operating door.

3. Remove all pull ropes and remove locks (unless mechanically and/or electrically interlocked to the power unit) connected to the door before installing the operator.

4. A commercial/industrial door operator that has exposed moving parts capable of causing injury to persons or employs a motor deemed indirectly accessible by clause 10.6 by virtue of its location above the floor shall include:
   a. Install the door operator at least 2.44m (8 ft) or more above the floor: or
   b. If the operator must be installed less than 2.44m (8ft) above the floor, then exposed moving parts must be protected by covers or guarding; or
   c. Both a. and b.

5. Do not connect the operator to the supply power until instructed to do so.

6. Locate the push button station: (a) within sight of the door, and (b) at a minimum height of 1.53m (5 ft) above floors, landings, steps, or any other adjacent walking surface and (c) away from all moving parts.

7. Install an Entrapment Warning Placard next to the control station in a prominent location.

Operator Mounting Requirements

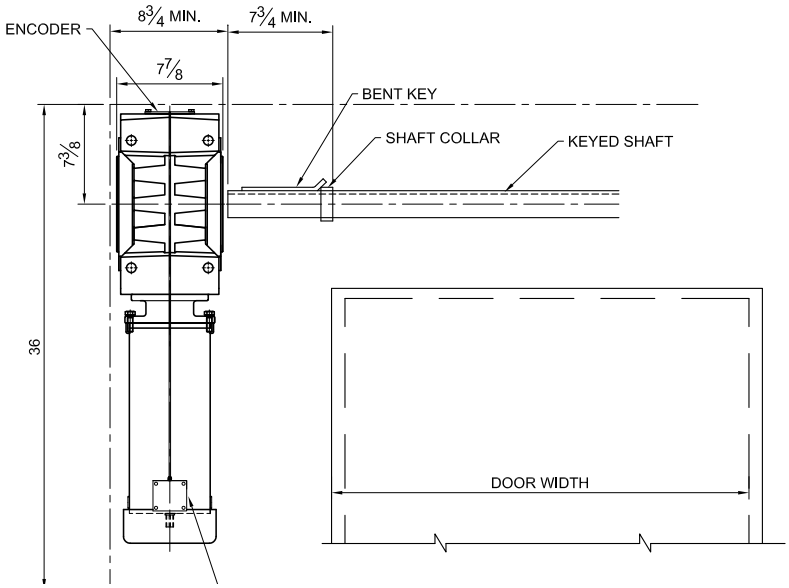
PULSE 400 Series operators can be mounted directly anywhere along the door shaft. Before installing the operator, please ensure following criteria are met:

Provided Home Position Sensor Brackets should be installed 1" min. past door's desired fully open position, and within allowable maximum door open height, to prevent the doors from over-travel. Over travel brackets, bumper and pusher springs or other physical stop can be added for extra safety.

The door has a solid keyed shaft with a minimum recommended exposed length of 4" on the operator side.

Clearance of at least 8 3/4" from end of shaft, and above shaft centre, as well as 30" vertically below the shaft. There is adequate structural support surface to securely install the torque arm mounting bracket/torque arm. For more details, see mounting installation instructions to the right.

Mounting space for the control panel: Min. 5 ft. from ground level, within clear sight of the door but far enough away as to prevent users from coming into contact with moving parts.



Mounting Balanced Door Installation Instructions

WARNING

- **To reduce the risk of personal injury or death, do not connect electrical power until operator motor, control panel and photo-eye are installed, secured and protected per the following instructions.**
- **Ensure that area is clear of personnel and cordoned off to access while installing operator.**
- **Use proper safety protocols according to internal, local and federal requirements.**

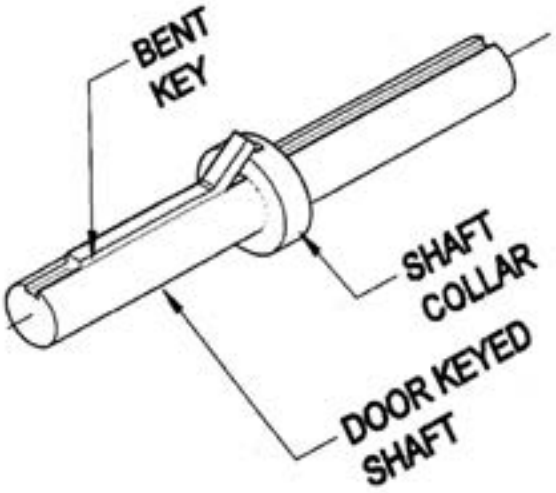
Mandatory First Step - Home Position Sensor Bracket Installation
If your door is not already equipped with bumper/pusher springs, it is mandatory to install the supplied home position sensor brackets. Mount one bracket to the top of each track to prevent over-travel of the door, and enable automatic encoder recalibration prior to setting limits (and possibly after an extended power-loss). These should be mounted inside the door-tracks at the door's maximum allowable travel point, and are required to be located at the same exact position on both tracks so that the top rollers of the door rest against them in a level position. (More details on Page 7)

To install, manually open the door to the uppermost opening position allowable by the cables, clamp the door in place, and secure the brackets to the track using the top rollers as the reference points for the brackets.

In the absence of bumper/pusher springs, installation of home sensor limit brackets is mandatory prior to operator installation. Without the sensor, the door can run out of its tracks and cause severe personal injury and/or cause severe damage to the door. Furthermore, you will be unable to set the limits.

Shaft Collar/Bent or Straight Key Installation

The Shaft Collar serves as an end-stop for the bent shaft key to prevent it from back-travel out of the keyed shaft and from rubbing on the bearing plate. It needs to be mounted in conjunction with the key as shown in diagram.



Adjust the door so that the shaft keyway is facing up (you may have to open/wedge/clamp the door open slightly to achieve this).

Loosen the Shaft Collar set screw and slide the collar over the shaft close to the bearing plate, but not so close as to touch it. Firmly tighten the set screw.

Insert the shaft key (provided with operator) into the door shaft keyway with the bent end (if using a bent key) facing the installed shaft collar.

Note that a straight key may be provided instead of a bent key, install it in the same manner without effect.

Operator Installation

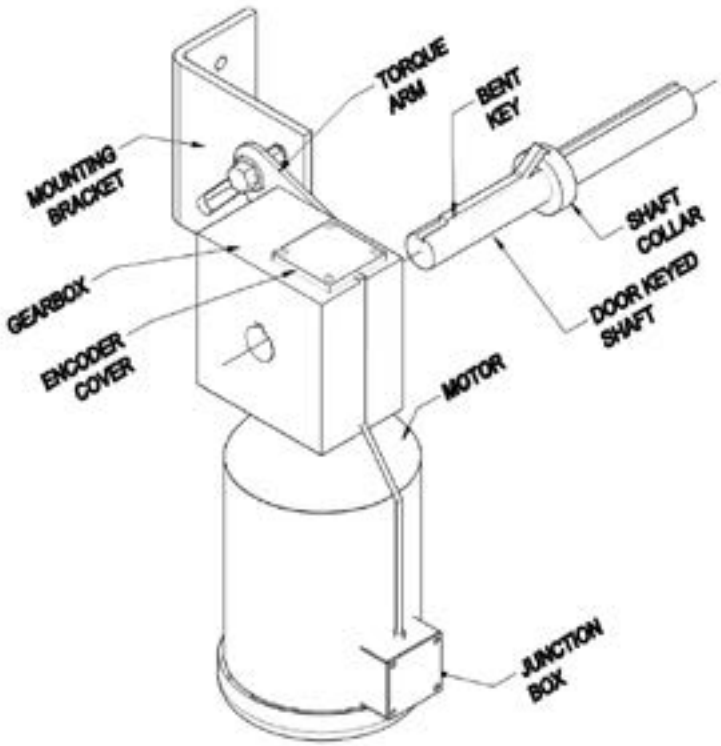
WARNING

Warning: the operator assembly is heavy and can cause serious injury or death should it be dropped during installation. Take all necessary safety precautions to avoid dropping the operator (i.e. Tether/tie down) prior to attempting installation. Scaffolding or scissor-lifts/platform-lifts are advised for operator installation. Never attempt to install an operator above eye-level or from a ladder.

Ensure that previous steps for shaft collar/bent key or straight key installation have been properly followed before proceeding.

Align the keyway of the gearbox with the pre-mounted bent key (see Key Shaft Collar/ Key Installation on previous page) located on the mounting side of the shaft. Bent section of key should face the shaft collar as noted in previous instructions.

Adjust the keyway of the hollow gearbox so that it is facing upwards (use a ratchet with a 9/16" socket placed in the bottom entry of the operator to rotate the gearbox). Slide the gearbox onto the shaft until it makes contact with the bend radius of the key or shaft collar.



Fasten the torque arm to structural support by means of the supplied bolt, locking nut and washers. The supplied bracket may be required. If the torque arm does not align with structural support, you may try adjusting the torque arm position on the gearbox accordingly or use the provided Torque Arm Bracket.

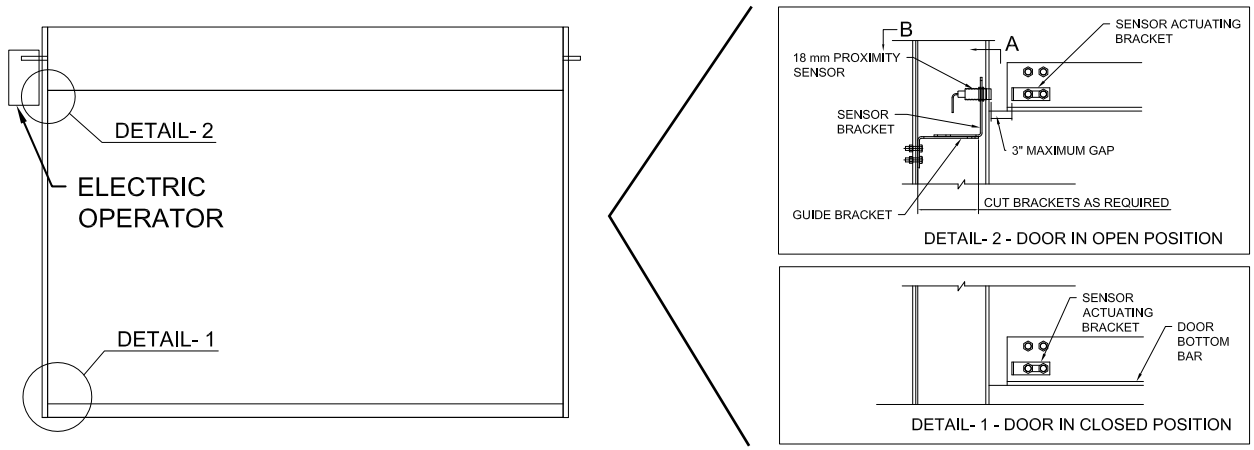
If the Torque Arm Bracket is needed, pre-assemble the bracket to the Torque arm using the provided fasteners prior to sliding on the operator (NOTE: DO NOT OVERTIGHTEN). Locate the proper position for the bracket on solid structural support (i.e. wall), mark the mounting holes, and install anchors as required (you may need to remove the operator to do this). Fasten the bracket to the support, then tighten the Torque Arm Bolt.

Failure to securely fasten torque arm could result in damage, serious injuries or death and will void the warranty.

Home Position Limit Sensor Mounting

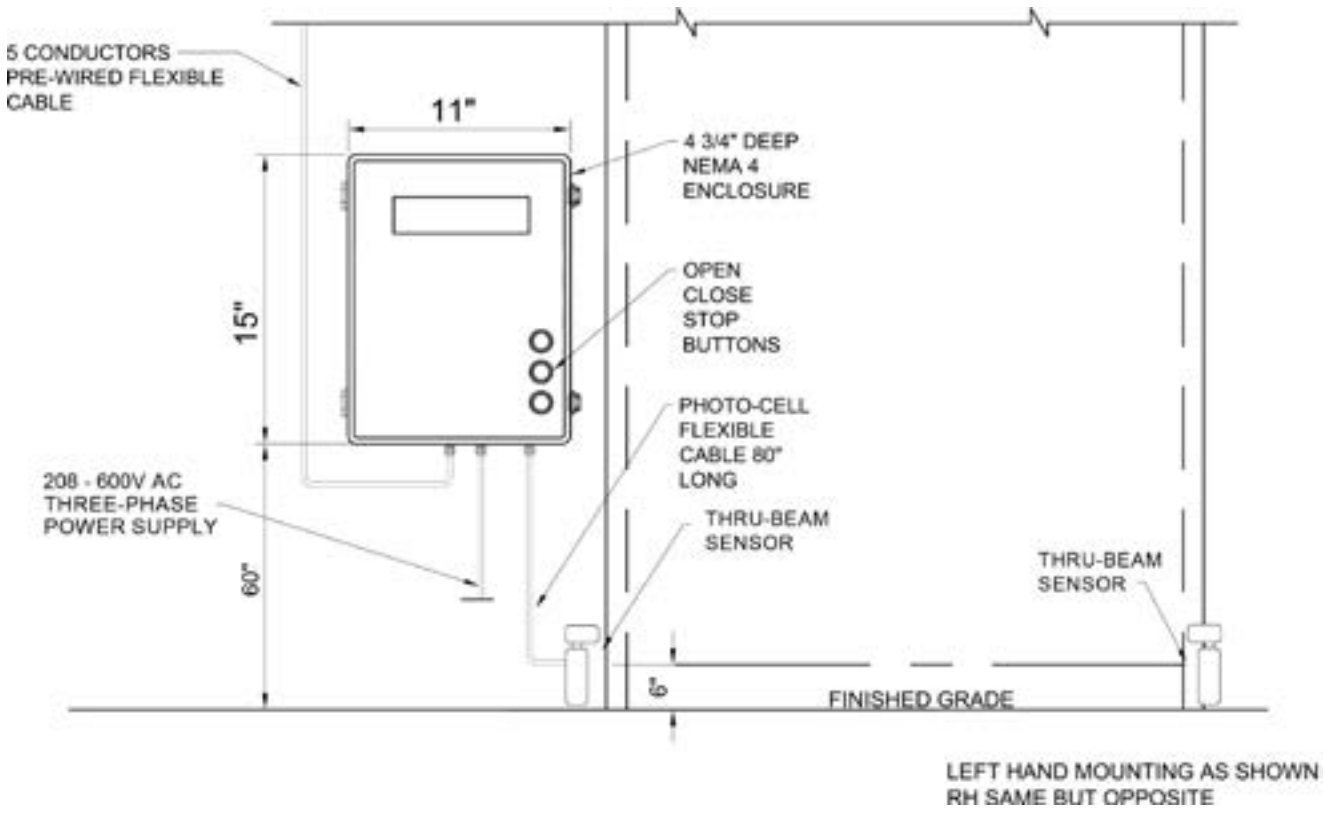
The included home position photo-sensor kit is used to sense the fully open position of the door for setting limits or resetting the encoder after a power outage. Affix the sensor in its adjustable bracket and fasten it to the door support at the desired full open door height. Mount the 90 degree tang bracket to the bottom of the door edge, on the same side as the sensor.

When the tang bracket rises into the sensor's field of view the encoder is reset to its home position. Ensure that the sensor and the tang bracket are no more than 3" apart. It's recommended that the home sensor be installed within three feet of the PULSE motor.



Control Panel Mounting

The control panel should be securely mounted at or around eye level (minimum 5 ft. from floor) on the same side as the operator/junction box. Ensure that the control panel is mounted far enough away from the door as to avoid user contact with the door while in operation, but close enough that the user has a clear view of the door at all times. Four (4) brackets are provided with the control panel to facilitate mounting.



Wiring Instructions

Motor Connections

The PULSE 400 Series operators are supplied with a 3 conductor 14AWG motor power cable that is pre-wired to the junction box of the motor. This cable needs to be connected into terminals located in the control panel. Additionally, a separate two conductor 20 AWG encoder cable is pre-wired, at the same length, for control panel termination. Should you purchase the chain-hoist option (Page 18), a four conductor 20 AWG cable will be provided for encoder and chain hoist override connections.

All Control Panel connections, including power, motor and peripherals should be performed by an installation professional.

Run cable from Motor to the Control Panel in accordance with local and national regulations. Then wire as follows:

- Motor Wires: Connect White wire to M1, Black wire to M2 and Green wire to GND (Ground) terminals in control panel. Do not reverse polarity or motor will operate in the opposite of its intended direction.
- Encoder Wires. Connect to Red to E1 and Black to E2 terminals in control panel. Do not reverse polarity or encoder will not work, and could suffer damage on power up.
- Chain Hoist Wires, if applicable, are polarity independent. Wire the Green and White to the BR terminals.
- Connect Brake Wires to the BR terminals.

Power Connections

208 - 600V Three Phase (50 or 60 Hz) or 208 - 240V Single Phase (50 or 60 Hz)

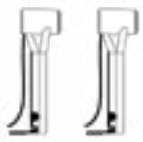
1. **ENSURE POWER IS DISCONNECTED!**
2. Run power wires into control panel in accordance with local and national regulations.
3. Connect incoming power to L/L1, N/L2, L3 and GND (Ground).

Home Position Limit Sensor

Once mounted, run the cables for the sensors into the control panel and connect wires as follows: Brown to H1, Blue to COM and Black to H2.

Thru-Beam Photo-Eye Sensor

Once mounted, run the cables for the sensors into the control panel and connect wires as follows: Black wire with no lines to COM. Black wires with dotted lines to R2 and 1K resistor from R2 to +24.



Thru-Beam Sensor Mounting

The included thru-beam sensor should be mounted so that it scans area that spans the entire width of the door at a height of no more than 6 inches from the ground. One sensor should be mounted on the operator side (as it will be wired into the control panel), while the other sensor should be mounted on the opposite side of the door, facing the other sensor so that its center meets the beam. Secure to the thru-beam sensor to the wall and adjust its length to ensure the beam clears the track of the door. Refer to the specific mounting details provided with the sensor. For final alignment of the sensor, apply power to the sensor. Once properly aligned the indicator will light up in confirmation.

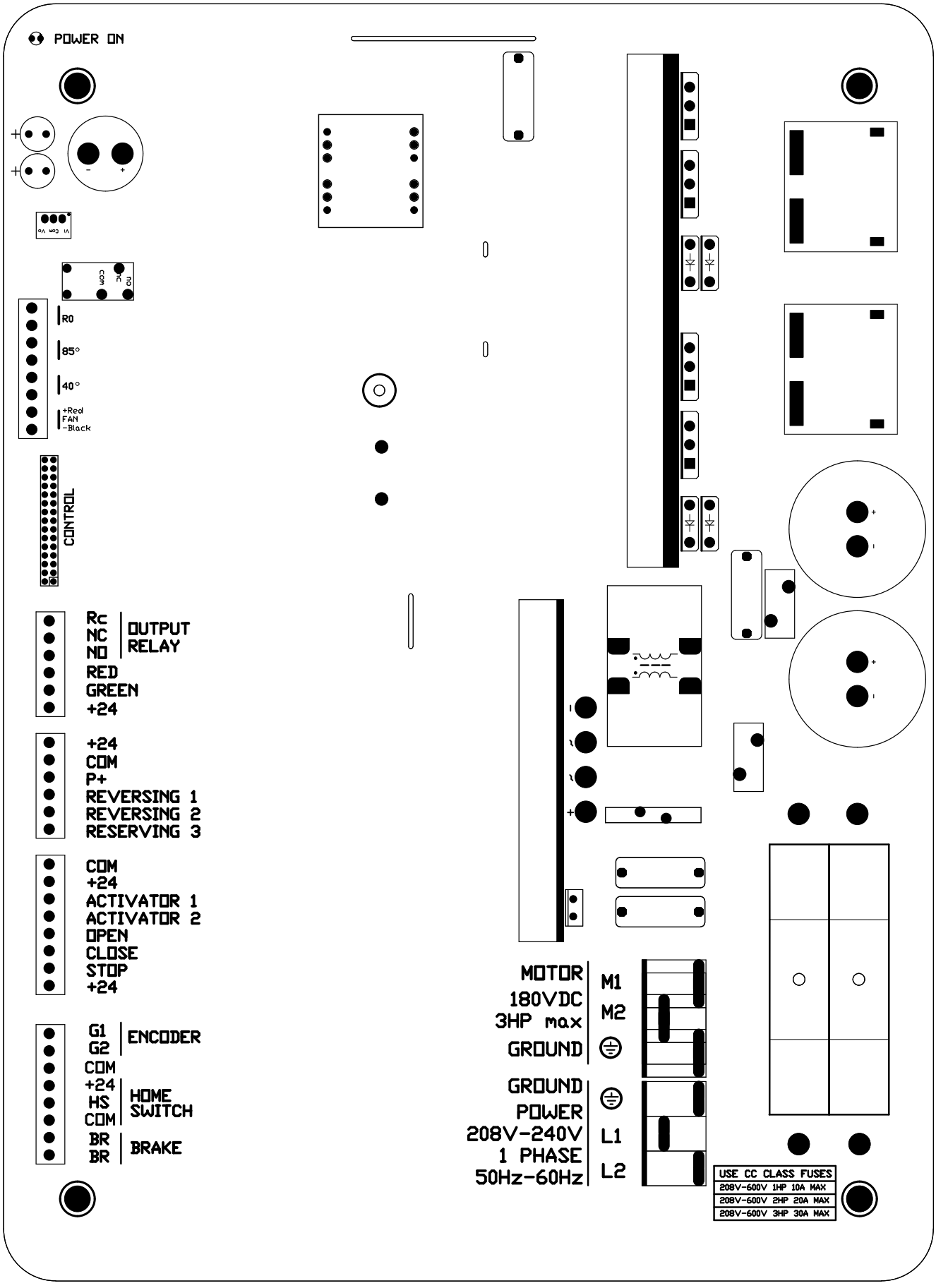
Wiring of Peripherals

The PULSE 400 Series operators can accommodate added 24Vdc reversing devices (Light Curtains, Reversing Edges, etc.) and added 24Vdc activation devices (Remote Push Buttons, Remote Radio, Floor Loop, Pull Cord, Motion Detector Etc.) - contact iControls for more information. As well, there is an on board relay for interlocking or external communication for signaling devices, security systems, fire systems, etc. Furthermore, terminals for the addition of a 3rd party 24Vdc electric lock are provided as well as connections for an LED Stop and Go Traffic Light.

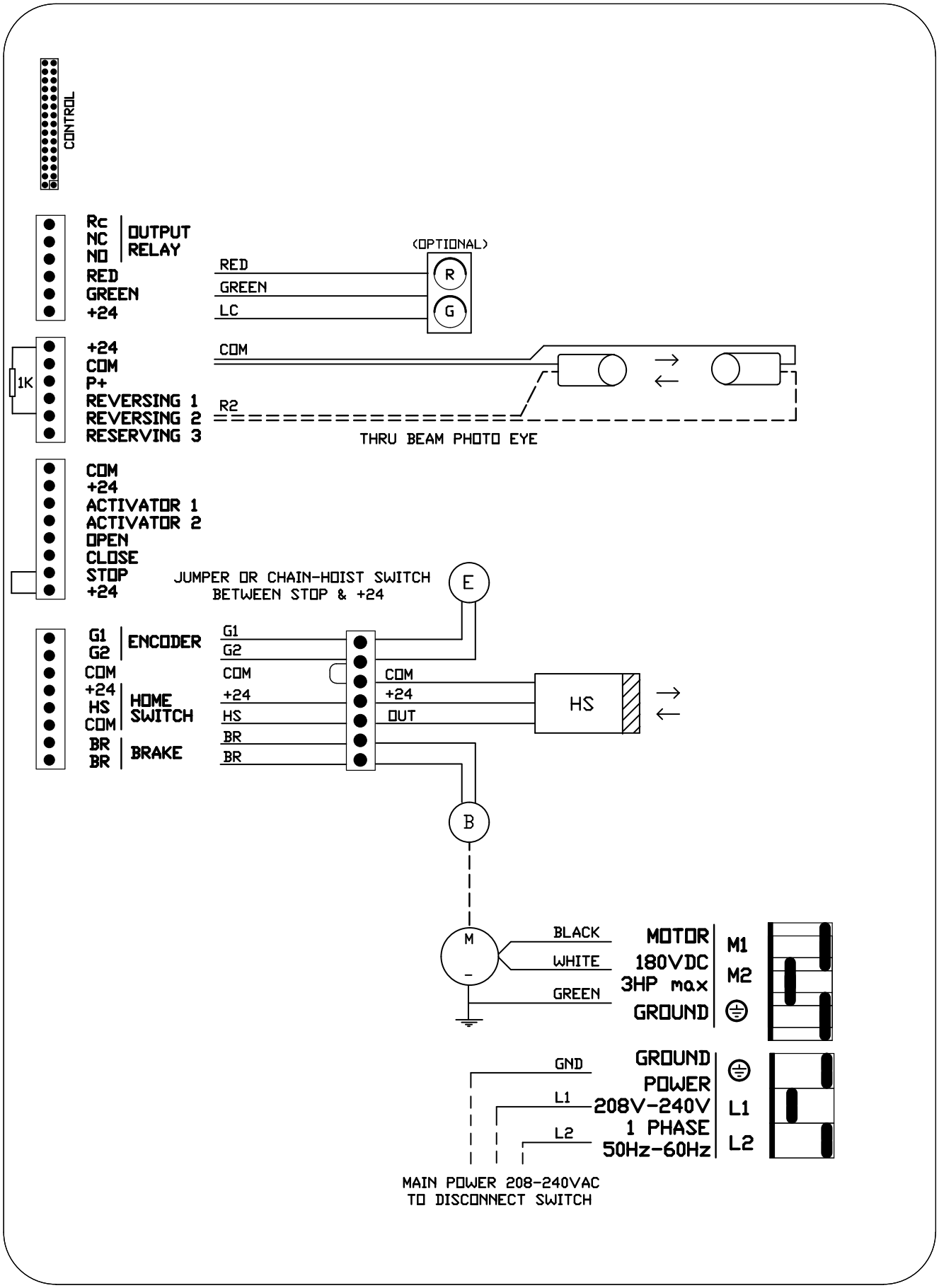
Note: it is required to drill holes into the bottom of the control panel enclosure for wire access for peripherals. When doing so, do not drill into the printed circuit board, clean all shavings/debris from inside the panel and use appropriate connector for cable entry.

DO NOT DRILL INTO THE TOP OR SIDE OF THE ENCLOSURE, ONLY DRILL THE BOTTOM OF THE ENCLOSURE.

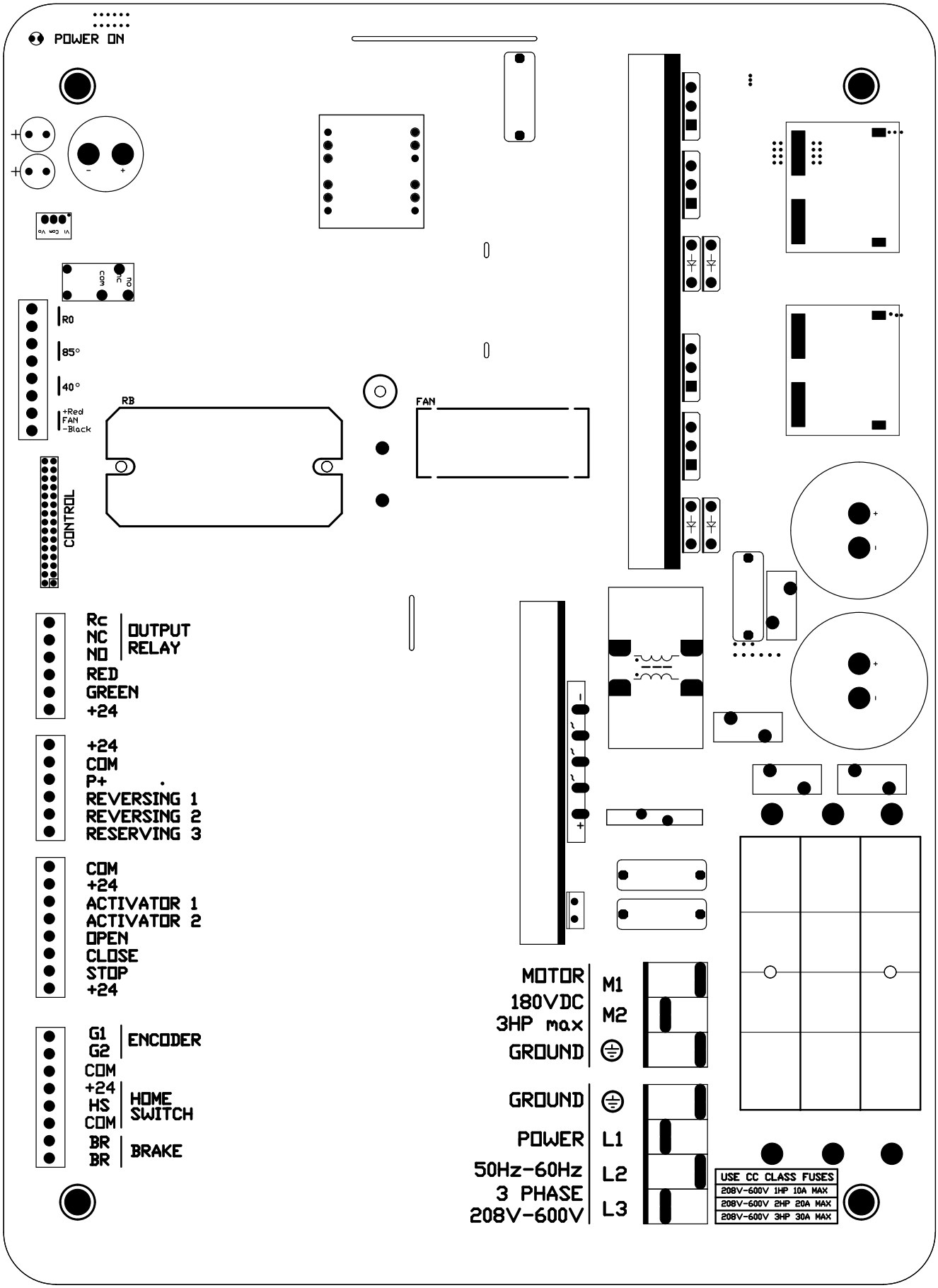
Single-Phase Board



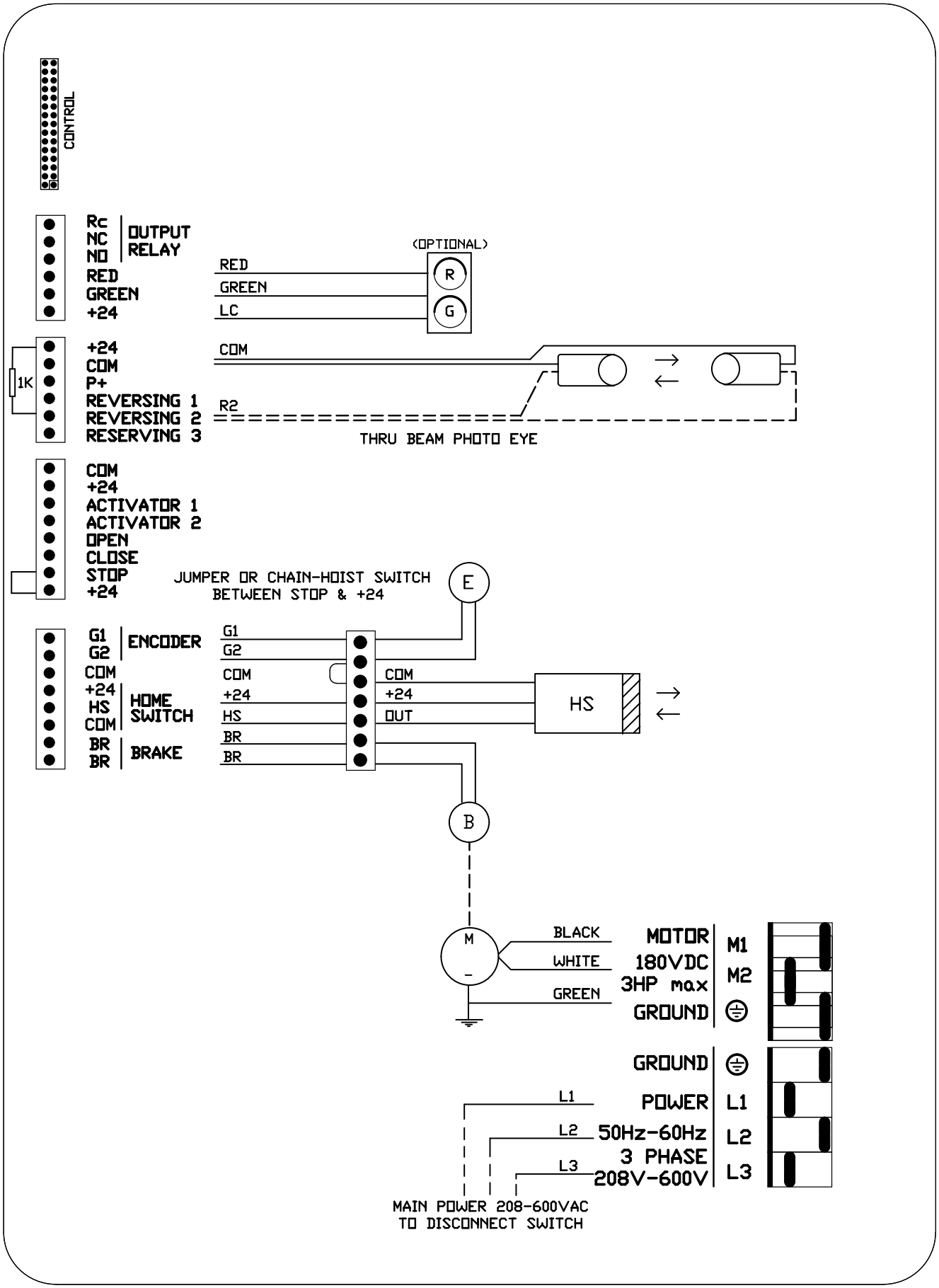
Single-Phase Wiring Diagram



Three-Phase Board



Three-Phase Wiring Diagram



Startup Procedure/Programming

CAUTION! **Before applying power to the Pulse operator, ensure that the unit is firmly positioned on the door shaft and securely fastened to the torque arm/bolt.**
Also that the fully open limit sensors are in place and that the encoder is properly fastened on the gearbox.

Powering Up

Turn power on at source. The Control Panel LCD Screen should light up and run a self-diagnostic. If LCD screen is not lit, refer to Trouble Shooting on Page 21. Once it has run through its self-diagnostic, the screen will read 'Pulse 400 Series - Press Open to Start'. THIS IS A DEFAULT MESSAGE FOR POWERUP DURING REGULAR USAGE - DO NOT OPERATE THE DOOR AFTER INITIAL POWER UP - LIMITS MUST BE SET.

Once powered on, check Thru-Beam - Both LEDs should be solid if aligned properly. If Green LED is on and Red LED blinks twice the Photo-eye is not properly aligned. If Red LED blinks three times, that means the photo-eye receiver is receiving sunlight or interference from another sensor. If either fault condition is present make appropriate adjustments to ensure both LEDs are solid. Refer to page 2 and 3 for Thru-Beam Photo-Eye installation and wiring.

Startup Menu & Accessing All Menu Selections

For access to the startup menu press and hold the **STOP BUTTON FOR 10 SECONDS** - do not release until the words 'startup menu' appear on the screen. Once accomplished, you can scroll between the various startup menu options by pressing the open and close buttons. Once you have reached a selection that you would like to modify, press the stop button. Use the open and close buttons to scroll/toggle between options within the selection, and then press stop to save your selection and return to the startup menu.

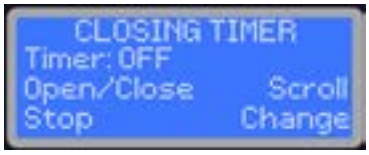
Closing Timer

It is not recommended to set the closing timer until after the unit has been fully tested.

The Closing Timer will automatically close the door after opening by the preset number of seconds that have been programmed using this STARTUP MENU option.

Once you have accessed this option, use the OPEN and CLOSE buttons to increase or decrease the closing timer value in 1 second intervals. If it is not required, ensure that the Closing Timer is set to OFF. If it is required, set it to any number of seconds from 1 to 99. Remember that this is the number of seconds that the door will remain open before automatically closing. Press the STOP button to save the value and return to the SETUP MENU.

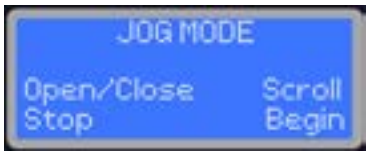
The Closing Timer is disabled in the event that a reversing device fails, and manual Push and Hold to Close protocols will apply to door closing operations. To temporarily de-activate the closing timer, press the STOP button. The closer timer will re-active upon next cycle.



Jog Mode

To access the Jog Mode Setting, ensure you are in STARTUP MENU (see above instructions), then toggle between options using the OPEN or CLOSE buttons until Jog Mode appears on the screen. Then press the STOP button to begin using.

Jog Mode enables manual control of the door using the OPEN and CLOSE buttons. During Jog Mode, **ALL LIMITS ARE DE-ACTIVATED**, and push-hold protocols are initiated. This selection can be used to test door functionality in a safe manner. The door will travel in each direction at the set OPEN SLOW SPEED and CLOSE SLOW SPEED, for safe operation.



Door Limits

Note: programming of limits should be performed by trained personnel only. The encoder will retain these limits until re-programmed.

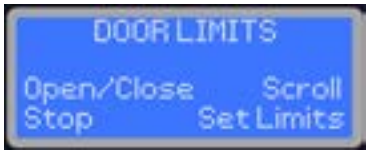
Door must have physical stops installed at maximum open position or alternatively have a limit switch/sensor installed at maximum open position, prior to setting limits.

Access the door limits selection from the startup menu and press the STOP button. Once selected, door limits heading will appear with a prompt to 'push open to start'. Push the OPEN button, and the door will open to it's maximum open position and stop. The open limit now needs to be set.

Set Open Limit
Press CLOSE to jog the door to the desired set open limit (If maximum open position desired do not move the door). Press STOP button to save open limit and advance to set close limit.

Set Close Limit
From the open limit, jog to the desired close position, using the close button (open available for fine tuning). Ensure that the door is properly sealed at the bottom.

Press STOP button to save and return to startup menu.



Opening Speed

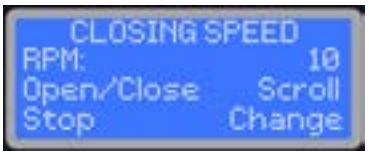
To access the Opening Speed Settings, ensure you are in STARTUP MENU (see above instructions), then toggle between options using the OPEN or CLOSE buttons until Opening Speed appears on the screen. Then press the STOP button to access and make changes.

This Pulse 400 model operates at speeds set by RPM. The default opening speed is 20 RPM, but you may select any value between 1 and 30 RPM for the Opening Speed.

Closing Speed

To access the Closing Speed Settings, ensure you are in STARTUP MENU (see above instructions), then toggle between options using the OPEN or CLOSE buttons until Closing Speed appears on the screen. Then press the STOP button to select.

This Pulse 400 model operates at speeds set by RPM. The default closing speed is 10 RPM, but you may select any value between 1 and 27 RPM for the Closing Speed.



NOTE: The factory default settings for the menu options on Pages 15, 16 and 17 are optimized for most industrial applications and should not require change. We recommend only changing these settings at the advice of iControls Technical Support.

Open Slow Speed

At the beginning of a cycle the door starts at a slower speed (Soft Start). Added force/speed may be required to complete opening.

Factory default is '5' RPM but you may select any value between 1 and 13 RPM for Open Slow Speed.

Close Slow Speed

When the door is approaching Close Limit and decelerates down to slow speed before the stop (Soft Stop), added force/speed may be required to complete closing.

Factory default is '5' RPM but you may select any value between 1 and 13 RPM for Close Slow Speed.

Open Rampdown Distance

This setting is used to change the point where the door begins to decelerate to slow speed as it approaches the Open Limit. The user can choose between auto (which is configured by the system) or the desired number of shaft rotations (between 0.25 turns and 9.5 turns).

The Factory setting for this feature is AUTO [1.00].

Close Rampdown Distance

This setting is used to change the point where the door begins to decelerate to slow speed as it approaches the Close Limit. The user can choose between auto (which is configured by the system) or the desired number of shaft rotations (between 0.25 turns and 9.5 turns).

The Factory setting for this feature is AUTO [0.75].

Open Ramp-Up Time

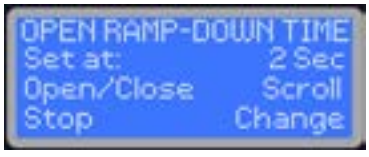
This setting is used to change the time it takes to get to the set "Open Speed" at "Open Slow Speed" for a soft start on an opening cycle

The Factory setting for this feature is 2 seconds. The setting can be changed from 0.5 seconds to 5 seconds in half second increments.

Open Ramp-Down Time

This setting is used to change the time it takes to get to the set "Close Speed" at "Close Slow Speed" for a soft stop on an opening cycle

The Factory setting for this feature is 2 seconds. The setting can be changed from 0.5 seconds to 5 seconds in half second increments.



Close Ramp-Up Time

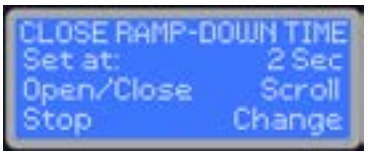
This setting is used to change the time it takes to get to the set "Open Speed" at "Open Slow Speed" for a soft start on a closing cycle

The Factory setting for this feature is 2 seconds. The setting can be changed from 0.5 seconds to 5 seconds in half second increments.

Close Ramp-Down Time

This setting is used to change the time it takes to get to the set "Close Speed" at "Close Slow Speed" for a soft stop on a closing cycle

The Factory setting for this feature is 2 seconds. The setting can be changed from 0.5 seconds to 5 seconds in half second increments.



Remote Radio Mode

This setting allows two options for how the remote operates if it is pressed while the door is opening.

In 'Open/Close' mode when pressing the remote button from the Closed position, the door will open to the chosen limit setting. Pressing the remote again during its travel will have no effect. Once it reaches the Open position, pressing the remote will command the door to close.

In 'Open/Stop/Close' mode pressing the remote button when the door is closed, the door will open to the chosen limit setting. Should you press the remote again during the Open cycle, the door will stop. If it is pressed again, it will close from the stopped position. This is the factory default setting.

In either mode, if the remote is pressed while the door is closing, it will reverse.

Current Limit

This setting limits the maximum torque the motor operates at its capacity. The limit is predefined by the manufacturer based on motor size. For this model, the default is set to 150%. Other available options include: 100% and 180%.

Reversing Devices

There are 4 states the reversing device can be in;
O - Normally Open
C - Normally Close
M - Monitored Device
P - Non-monitored Primary Device
M (only for R2 and/or R3) indicates a monitored photo-eye is hooked up, this is treated as the primary reversing device.
P (Only for R1) indicates that there is no monitored device detected and that R1 is being used as the Primary device, this means that R1 will be checked for timing via the P+ power.
O and C indicates that the normal state of the reversing device is either and normally open or closed relative to +24

Motion Detect Time

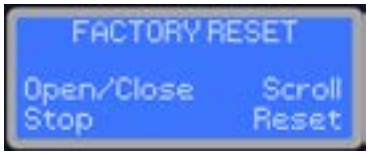
As an added safety feature, the encoder monitors the rotation of the shaft. Should it detect no motion where there should be motion, the system will halt the cycle command, and show a fault display of 'NO MOTION DETECTED'. The allowable delay before this fault is recognized by the system can be adjusted from 0.1s to 0.5s, but should not be altered from the Factory Default setting of 0.3s unless instructed to do so by technical support personnel.

Factory Reset

This setting allows for a reset of all menu options to the factory default recommended for balanced doors. These are the Factory Settings:

Closing Timer ..... OFF
Jog Mode..... OFF
Open Speed ..... 20 RPM
Close Speed ..... 10 RPM
Open Slow Speed..... 5 RPM
Close Slow Speed..... 5 RPM
Open Ramp-down Distance ..... Auto [1.00]
Close Ramp-down Distance ..... Auto [0.75]
Open Ramp-up Time ..... 2 seconds
Open Ramp-down Time ..... 2 seconds
Close Ramp-up Time ..... 2 seconds
Close Ramp-down Time ..... 2 seconds
Remote Radio Mode ..... Open/Stop/Close
Current Limit..... 150%
Motion Detect Time..... 0.3s

After performing factory reset (if deemed necessary), adjust settings as required and re-program limit settings.



Weather-Resistant Applications

iControls recommends an available upgrade for all weather-resistant applications. Standard PULSE operator motors are rated IP44, and could be vulnerable to water ingress. iControls offers a cost-effective water-resistant "Weather Protect" upgrade that seals ingress points on the motor junction box, improving it to IP54 (NEMA 3 Equivalent). We also apply a water repellent coating to the motor and replace all plated hardware with stainless steel.

Please contact iControls for details and pricing.

Chain Hoist Option

For added emergency redundancy, The PULSE 400 operator supports a durable, easy-to-use chain hoist option should it be required.

Chain Hoist Overview

The PULSE Chain Hoist uses a chain and two pull cords to engage or disengage manual operation. The hoist is pre-mounted to the bottom of the PULSE operator. A 26' chain is supplied for up to 17' shaft height, with 13' of rope provided to engage and disengage the chain hoist. If more chain and rope is required, extra 26' kits are available to order. Please contact iControls to order an extra chain kit or for any other custom accommodation.

Chain Installation

The chain is shipped in a separate bag and is not pre-installed on the hoist assembly.

To Install Chain

1. Remove the shaft collar shown in the chain hoist graphic below.
2. Extend the chain wheel past the chain guard.
3. Loop the chain onto the wheel.
4. Return the wheel to its original position and reinsert/secure the shaft collar.

Pull Cord Functionality

When installing a PULSE operator with a chain hoist, ensure it's disengaged. The disengage position is shown below, where the green (disengage) cord hangs lower than the red (engage) cord.

To engage the chain hoist, pull the red cord. The red cord will then hang lower than the green cord. This indicates that the chain hoist has been engaged and power to the operator has been disconnected, and inoperable, even if power is restored.

To disengage the chain hoist, and re-engage the operator, pull the green cord.

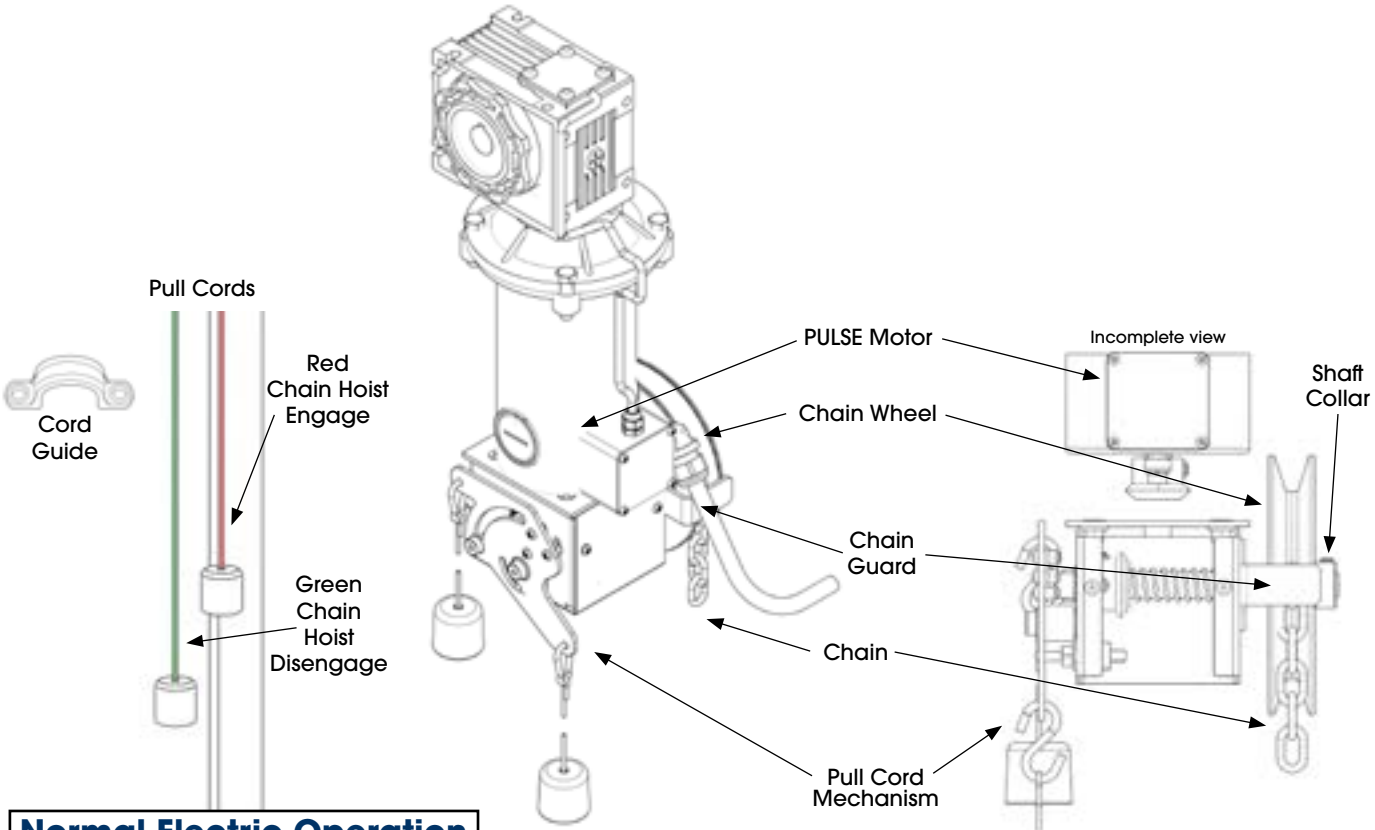
Cord Guide Installation

A cord guide is included with your chain hoist (see "Cord Guide" graphic below). Fasten the cord guide to the jamb, (wall) with the cords inside the loop, approximately 2' above the cord handles. This helps prevent tangling and ensures the cords do not interfere with the door's track assembly.

Note: When installing a PULSE operator with the chain hoist, ensure the cords match the configuration shown in the "Pull Cords" graphic below. If the cords hang at the same level, the gears may require better alignment. To correct this, the user may need to tug on the chain slightly to realign the gears.

Need Help?

If you require further assistance with your PULSE Chain Hoist, please contact iControls Support at 1-833-785-7332.

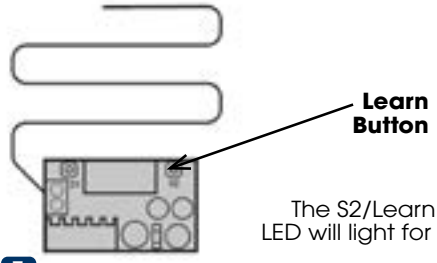


Normal Electric Operation

PULSE Accessory Pairing Instruction

RXTA-200/300 to TXTA-200

Press and release the **Learn** button on the plug-in receiver labeled **S2**.

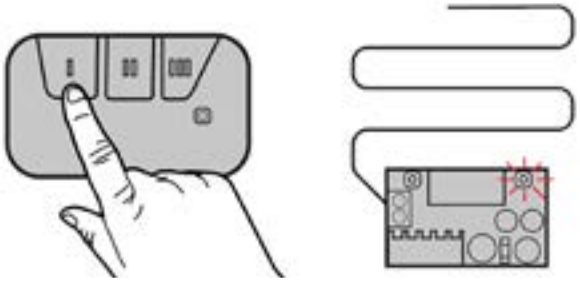


The S2/Learn LED will light for 8s.

1

Press the button you want to pair with receiver.

When pairing is successful, the S2 Learn LED will stop flashing

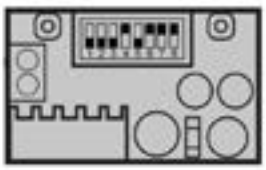


2

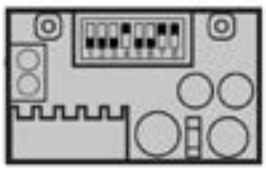
Frequencies for RXTA-300

Set the dip switches, as shown:

315 MHz



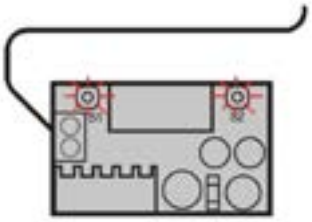
390 MHz



Unpair Remotes

Press and hold the **S1** and **S2** at the same time for 15s.

Both LEDs will turn off and back on when successfully cleared.



RXTA-200/300 to TXTA-KYPD

Press and hold the * and # buttons until the lights on the keypad stop blinking.

1

2 Enter a 4-digit personal identification number (PIN) of your choice:

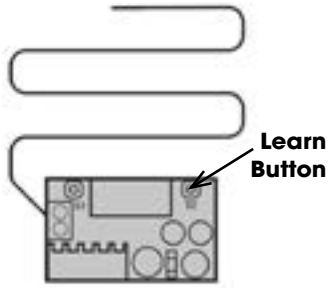
? ? ? ?

Then press the **#** button.

3 Press and release the **Enter** button twice.

4 To exit programming mode, press the **0** button.

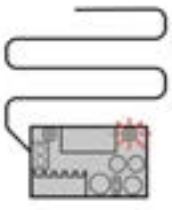
Press and release the **Learn** button on the plug-in receiver labeled **S2**.



5 The **S2/Learn** LED will light for 8s.

Enter the 4-digit personal identification number (PIN) programmed in step 2.

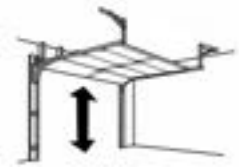
Then press and hold the **Enter** button until the **S2/Learn** LED stops flashing.



6

To test, press the PIN, then press the **Enter** button.

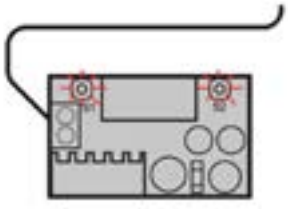
The garage door opener will activate.



7

Unpair Remotes

Press and hold the **S1** and **S2** at the same time for 15s.



Both LEDs will turn off and back on when successfully cleared.

NOTE: Do Not press buttons too quickly or they may not register.

Troubleshooting Guide

The following are common user experienced problems that are easily diagnosed and quickly resolved during installation and operation of a PULSE 400 Series operator.

If, after reviewing the trouble shooting guide you are unable to resolve whatever issue you may be experiencing, please call our toll-free technical support line for assistance.

PULSE Toll Free Technical Support:
1-833-PULSEDC (1-833-785-7332)
Get live 24/7 technical support with **Aura, our AI assistant**, or browse our complete **troubleshooting library** at
iControlsGlobal.com/pulse-400-support

Symptom	Probable Cause	Suggested Action
No Display At The LCD Panel	**No Power**	Check power is on at circuit breaker, disconnect switch is on, and ensure unit is plugged in.
		Check power fuse on control panel.
Door Reverses Before Reaching Close Position Or As Soon As The Close Button Is Released	**Photo-Eye/ Reflector Misaligned Or Obstructed**	Clean, re-align and/or clear obstruction in front of the sensors/reflector. Confirm yellow and green LED on Photo Eye is on.
	Third-Party Reversing Devices Malfunctioning or Activation Device	Disconnect third party reversing devices and test again. If working, reconnect reversing devices one at a time to isolate the defective device or mis-wiring.
Door Moves Few Inches After Open/ Close Command And Stops	**Third Party Push Button Does Not Have An NC (Normally Closed) Contact For The Stop Button.**	Replace the push button station (or the contact for the STOP button) for one that has an NC contact on the STOP button. Wired unit from factory is compliant.
	Third Party Push Button Station Wired Incorrectly.	Check and correct wiring as necessary.
	Jumper Missing Between +24 and Stop Terminal	If Jumper is missing and no other device is connected to the terminal, add jumper.

Symptom	Probable Cause	Suggested Action
Door Does Not Close On Remote Or Close Timer	**Jumper Missing Between +24 and Stop Terminal**	If Jumper is missing and no other device is connected to the terminal, add jumper.
	Closing Timer Not Set Or Not Set Appropriately.	Enter Menu, and ensure that Closing Timer is set for desired delay.
	Thru-Beam Is Blocked, Misaligned Or Damaged.	Check that the LED light on the Thru-Beam is on. If not, clean Thru-beam sensors. If still not on, Check Alignment. If still not on, check for damage to cable.
'No Motion Detected' Message On LCD Panel	**Door Is Obstructed Or Jammed.**	Ensure that door latch is disengaged. Check for obstruction or that door is jammed in tracks. Once obstruction is cleared, use jog mode to verify.
	Check Current Limit Setting.The Limit may be too low.	Contact iControls Tech support to verify issue.

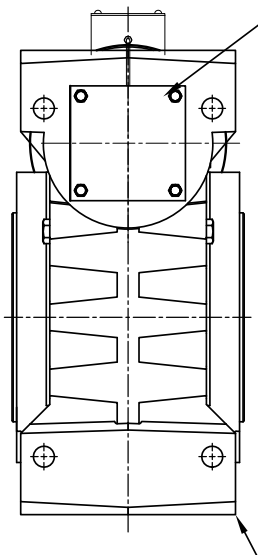
PULSE Operator Replacement Parts

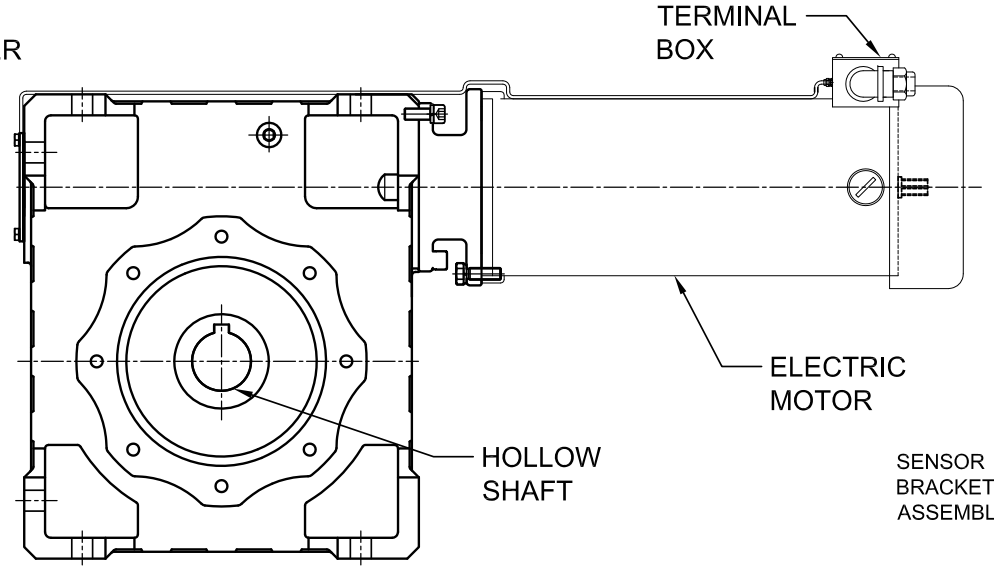
iControls can provide replacements for all components on the PULSE 400 Operators in the event of damage, wear or failure. Please contact our Technical Assistance team at 1-833-785-7332 and we will assist you with the diagnosis of the issue and identification of any and all necessary parts. These parts could include, but are not limited to:

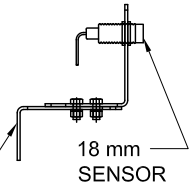
- Motor
- Motor brush set
- Gearbox
- Control enclosure
- Control LCD board
- Main power board
- Encoder
- Remote receiver
- Remote transmitter
- Push buttons
- Torque arm
- Torque arm bracket
- Limit Sensor and brackets
- Hardware kit
- Shaft collar/key
- Thru-Beam

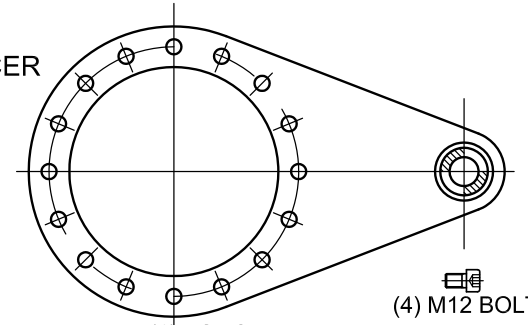
Should you require any of the above, our team will provide you with part numbers and direct you to the nearest distributors that can provide you with the items as quickly as possible.

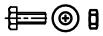
PULSE Operator Components



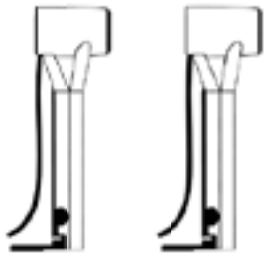






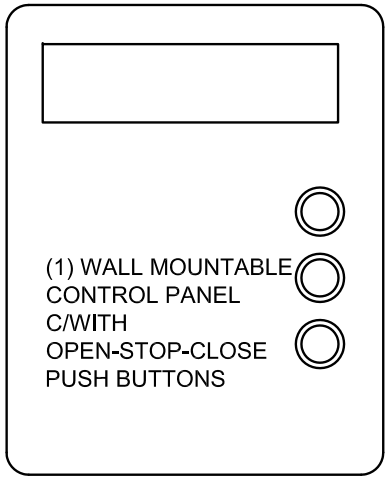


(1) $\frac{3}{8}$" DIA. BOLT, (2) WASHERS, (1) NUT



THROUGH-BEAM PHOTO-EYE

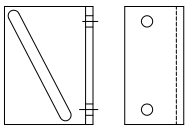
(4) $\frac{1}{4}$ x 20 HEX HD BOLTS, F/WASHERS, LOCK NUTS



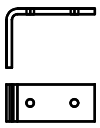
(1) WALL MOUNTABLE CONTROL PANEL C/WITH OPEN-STOP-CLOSE PUSH BUTTONS

(1) SHAFT COLLAR

(1) BENT KEY



(1) TORQUE ARM BRACKET



(2) OPEN/STOP TRACK ANGLE

SERIES 400 PULSE
DIRECT DRIVE DC
OPERATOR

iControls®
Richmond Hill, Ontario.

Notes

iControls®

PULSE 400 Warranty

Coverage

All PULSE operators are warranted for **two years** from the date of purchase or **1,000,000 cycles**, whichever occurs first.

This warranty is inclusive of, and limited to, all component and manufacturing defects only, and does not cover possible failure due to external forces including irregularities caused by impact, improper installation and/or connection, voltage surges and any and all other user and/or environmentally caused failures. This warranty is valid for replacement or repair of defective product only, and does not include any labour incurred for the removal or installation of defective part(s), re-installation of replacement/repaired product, shipping charges for the return of the product, or other possible costs related to the inoperability of the operator. Coverage does not extend to maintenance of motor brushes, which should be replaced every 200,000 cycles.

Software reliability and performance is also covered under our warranty, but does not include software updates, upgrades and/or custom modifications unless so authorized in writing by iControls.

Claims

Before making a warranty claim, please call PULSE Tech Support at **1-833-785-7332** and ask for troubleshooting assistance. **Do Not Remove The Product**, until so authorized.

Note

Upon request, iControls can also provide field assistance (additional fees may apply) and/or advice with installation, troubleshooting, product enhancement or improvement of our product. Under the terms of this limited warranty, for any operator components that are found to be defective upon inspection by authorized iControls personnel, iControls will replace the defective operator components.

Labour charges for installation or repairs shall be the responsibility of the customer and must be performed by an authorized iControls dealer. This warranty applies only to doors that are professional installed by an authorized iControls dealer. In the case that the operator or part is discontinued or becomes obsolete, iControls reserves the right to replace the product with a suitable alternative.

iControls shall not be liable for any consequential or incidental damages. All other warranties, express or implied, including any warranty of merchantability, are hereby expressly excluded. Some jurisdictions do not allow the exclusion or limitation of consequential or incidental damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction. To make a claim under these warranties, contact iControls.