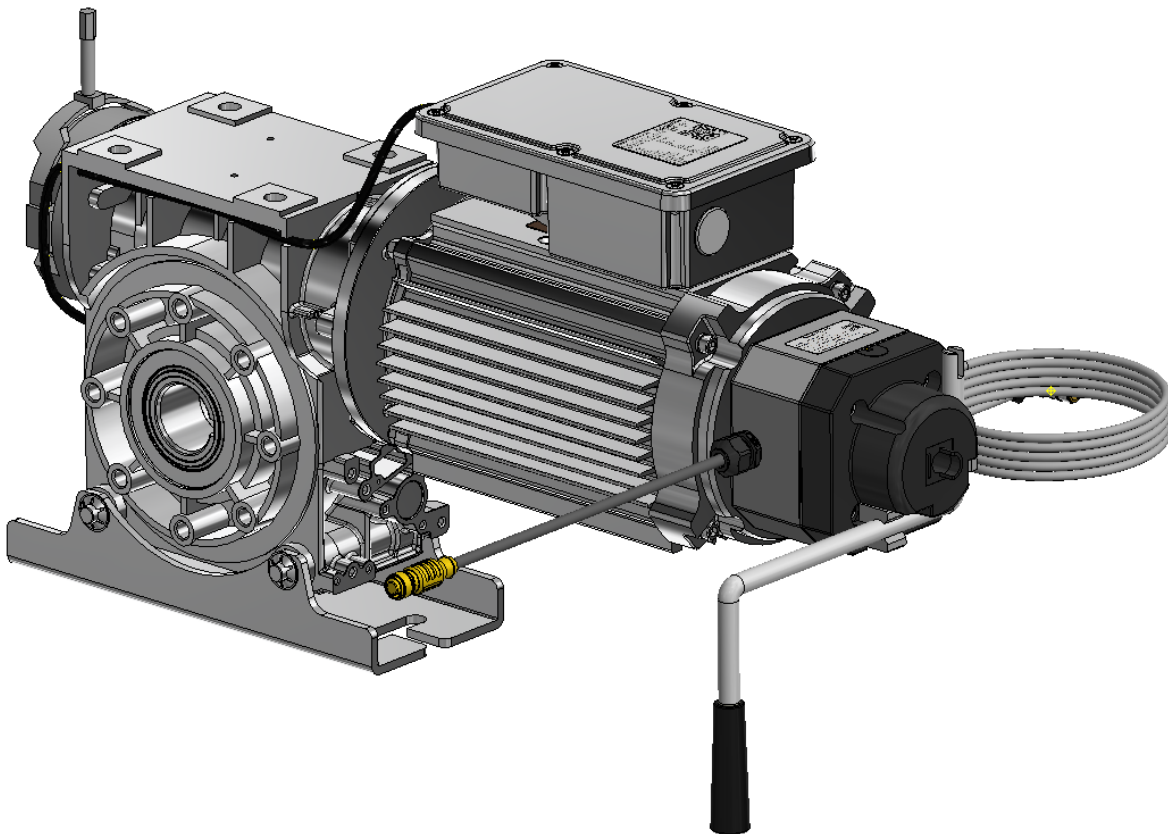




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# BTR Operator

## User Manual



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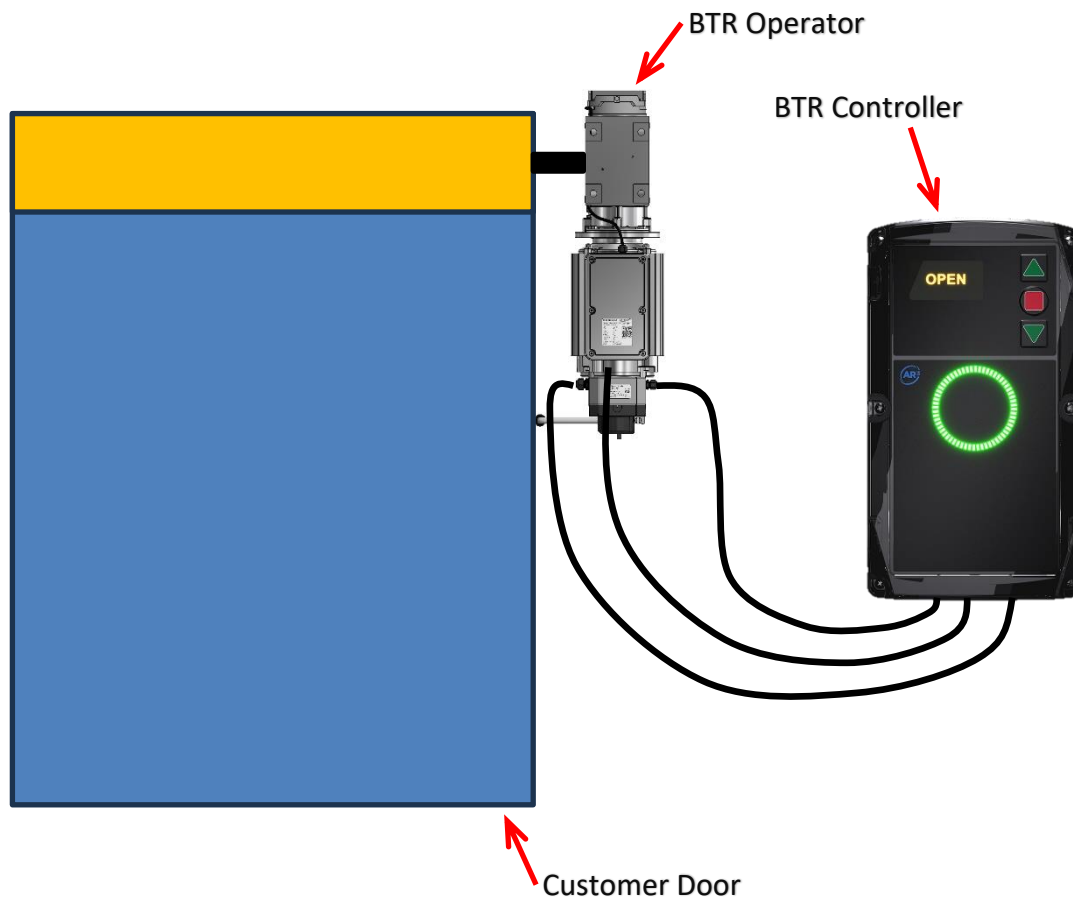
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# 1 Device Overview

BTR Controls' Door Operator is specifically designed for industrial powered doors and offers the highest performance available in the industry. No matter what size door you are using for your specific application, this next-generation technology results in smoother, faster, longer-lasting door functionality.

- Next-generation technology resulting in smoother, faster, longer-lasting door functionality.
- Designed and manufactured for rugged commercial door applications.
- Operator unit comes fully assembled with parking brake and absolute encoder installed.
- 100% scalable. Easily connects with BTR Controllers and compatible with other door controllers.

## 1.1 Basic Interface Diagram



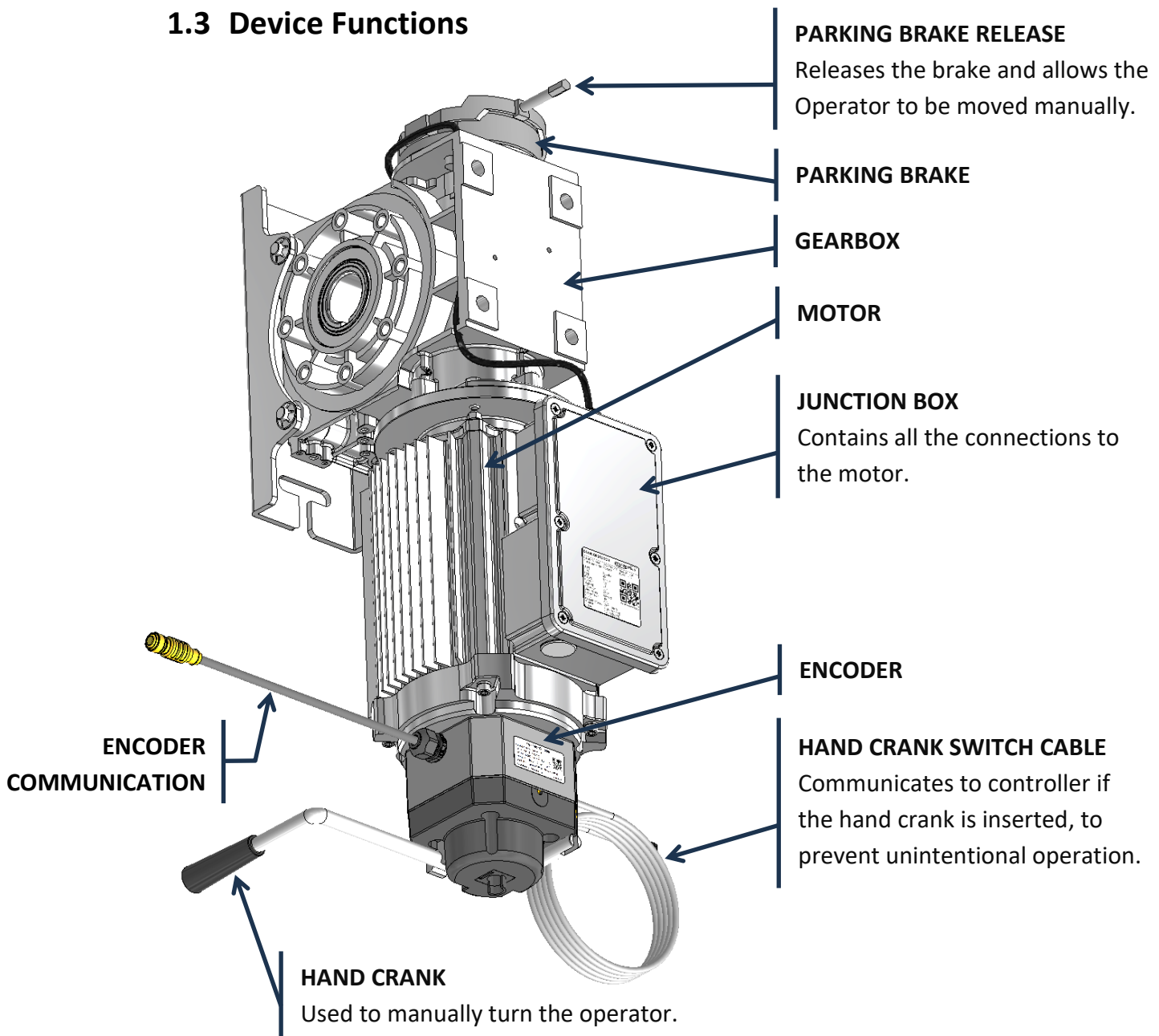
## 1.2 Product and Operating Characteristics

Standard Operating Conditions (unless otherwise stated)			
Characteristic	HPO-180.112 90-300-0000	HPO-230.084 90-300-0001	Units
Torque	180	230	Nm
Revolutions Per Minute	112	84	rpm
Supply Voltage	230/460	230/460	V
Frequency	60	60	Hz
Current	9.1/5.2	9.1/5.2	A
Power	2.2	2.2	kW
Duty Rating	S3-40	S3-40	%
Cycles/Hour	30	30	-
cos $\Phi$	0.78	0.78	-
Shaft	1.5[38.1]	1.5[38.1]	in[mm]
Brake	15/205	15/205	Nm/Vdc

Environmental Specifications	
Operating Temperature	23°F - 104°F (-5°C - 40°C)
Ingress Protection	IP55

<b>WARNING</b>	Operating the device outside of these specified limits may cause damage and will VOID the Warranty
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### 1.3 Device Functions

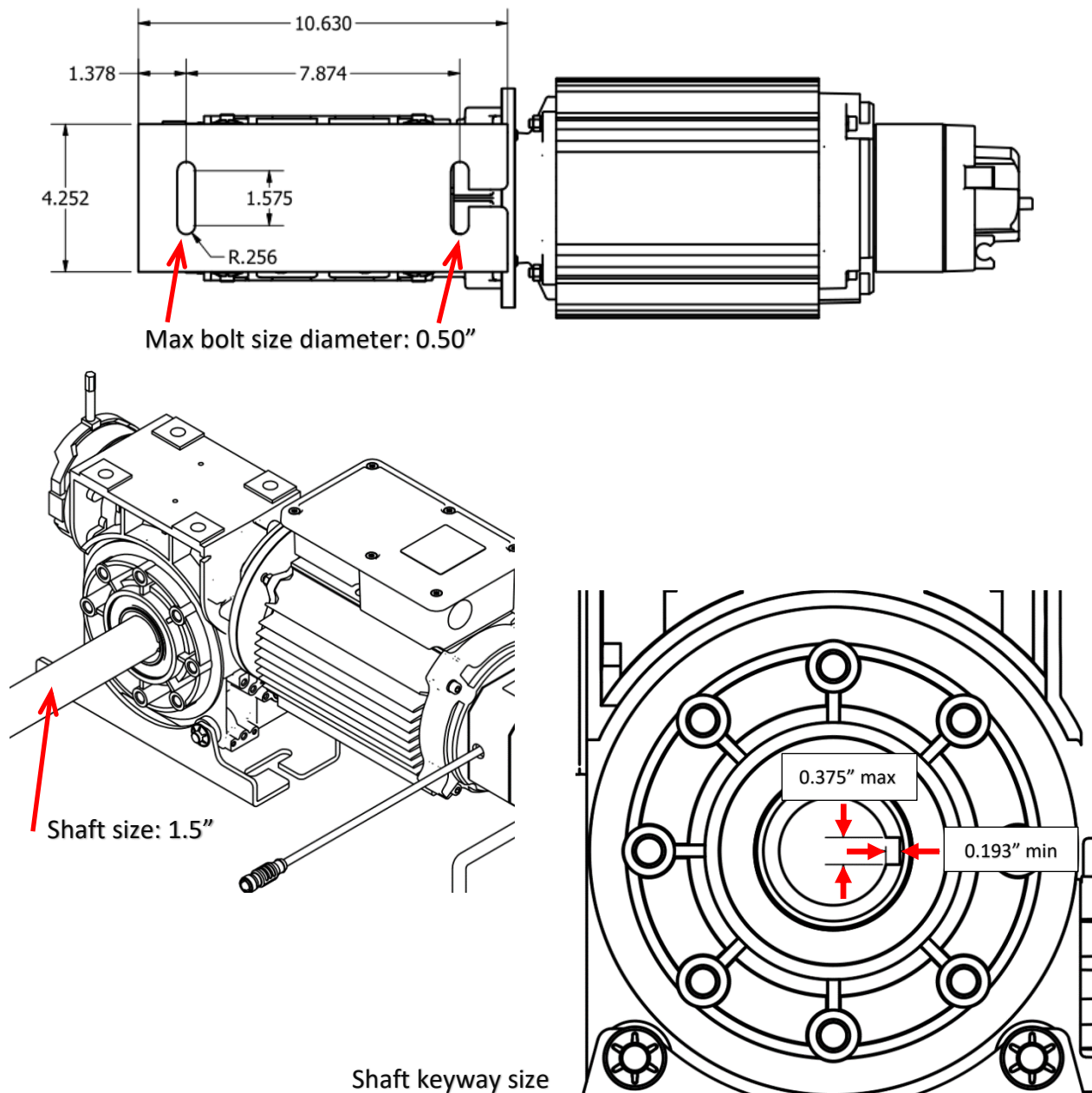


## 2 Installation

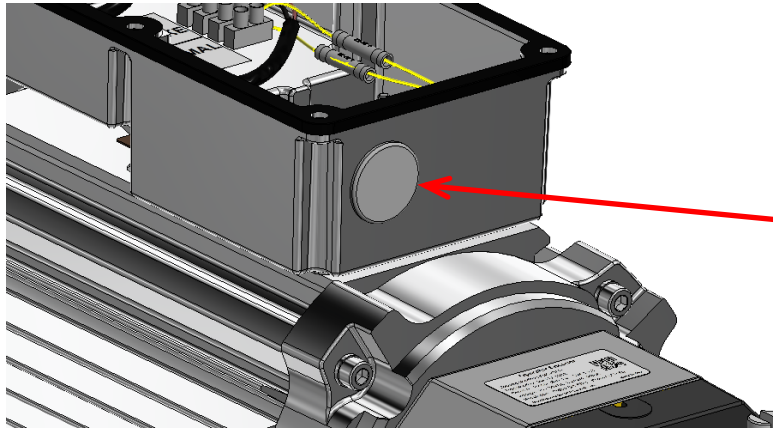
This section covers the BTR Operator installation.

- Section 2.1 Mounting
- Section 2.2 Wiring

### 2.1 Mounting



## 2.2 Wiring



Remove the pre-installed plug and install a seal tight M25 cable gland.  
Install power cable through cable gland.

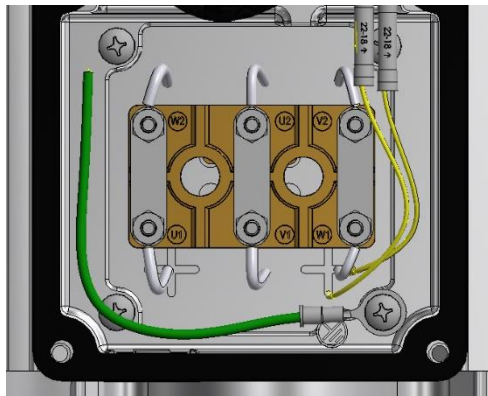


Figure 1: 230V (Delta Configuration)

The BTR Operator can be configured for two different nominal voltages of 230V and 460V. The motor can be easily configured by the terminal block jumper tabs located inside the junction box.

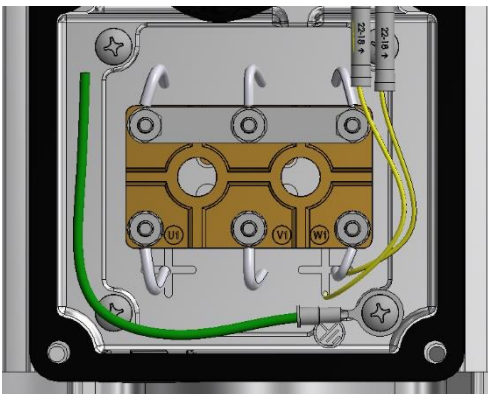
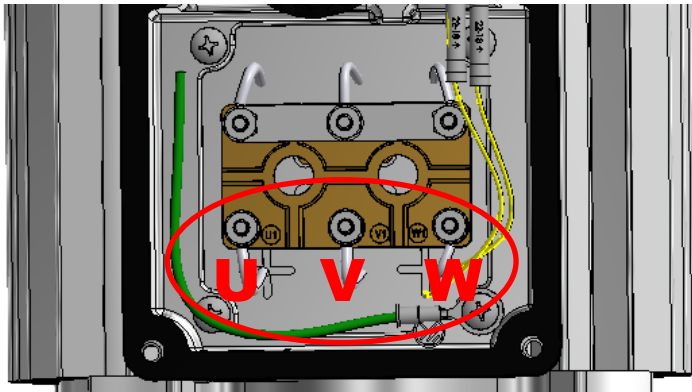
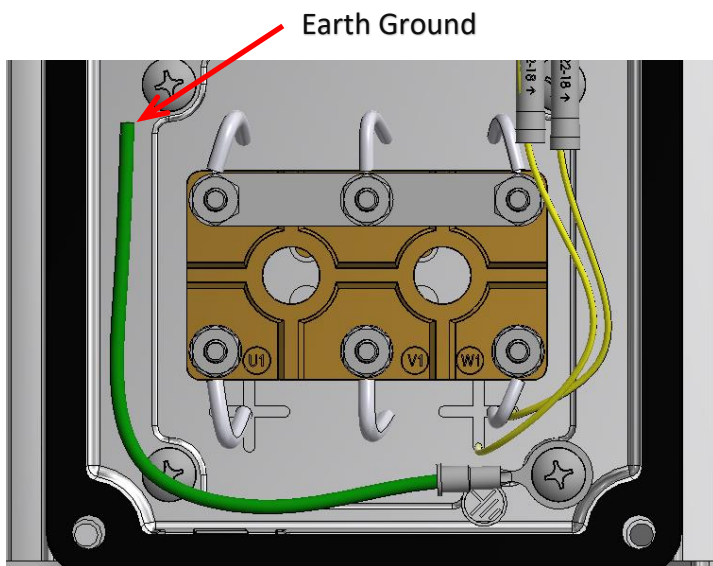


Figure 2: 460V (Wye configuration)

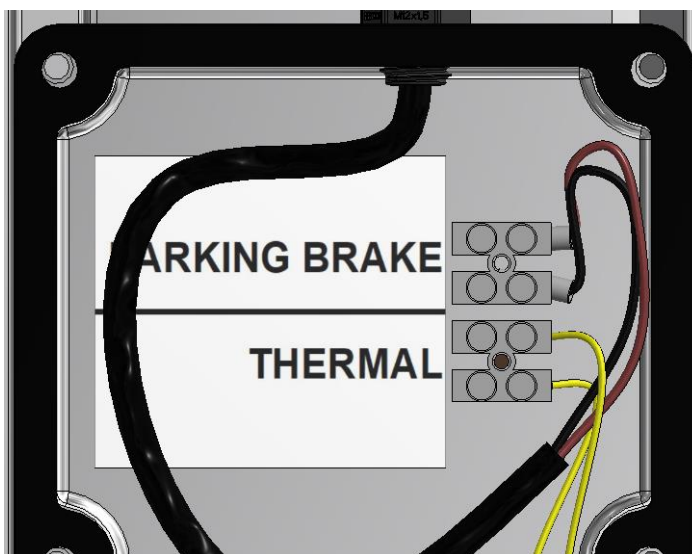
The BTR Operator, by default, is configured for 460V (Wye Configuration). To change the voltage configuration, remove the fastener nuts and install the jumper tabs as pictured. Reinstall the fastener nuts.



Connect the incoming power to the terminal block terminals labeled U, V and W respectively.



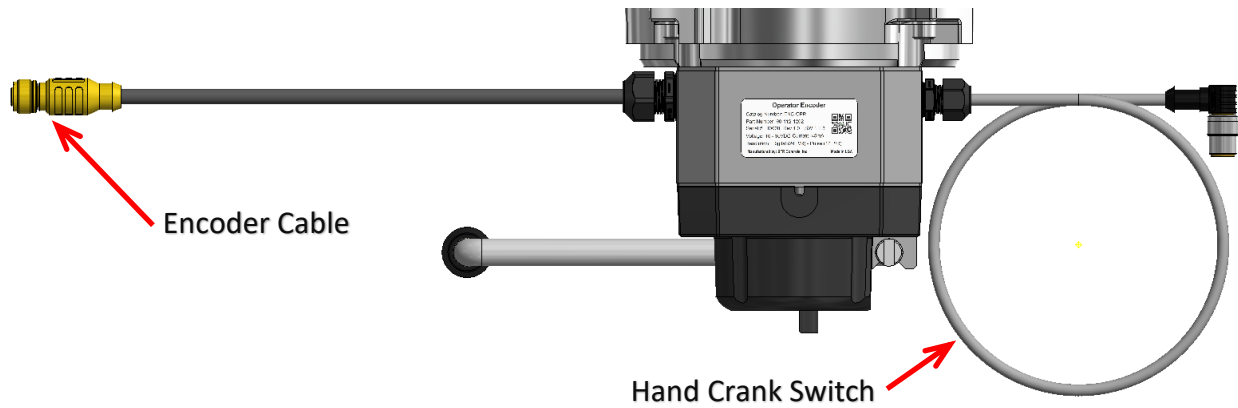
Connect the earth ground to the provided earth ground wire and fasten using a wire nut.



Connect the parking brake controls to the provided terminal block labeled "PARKING BRAKE".

(Optionally) Connect the thermal switch output to the provided terminal block labeled "THERMAL".



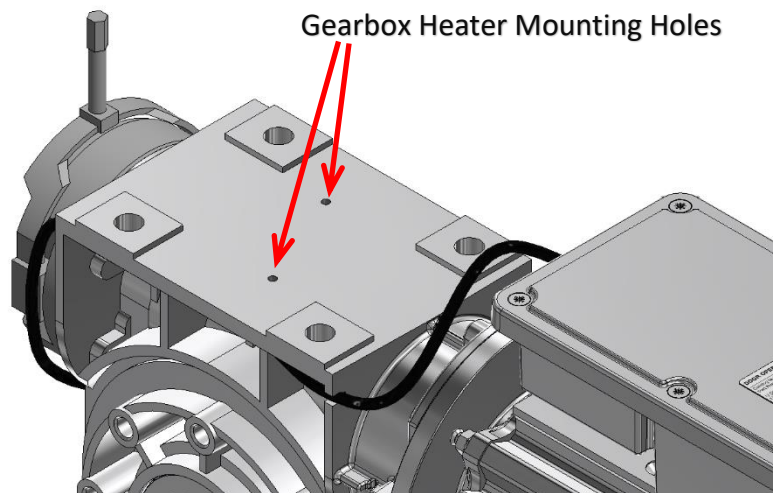


Connect the encoder cable and the handcrank switch to the controller using the provided M12 cables.

**(Optional)**

An optional gearbox heater may be installed by attaching it to the top of the gearbox.

Use M5 screws to fasten the heater.

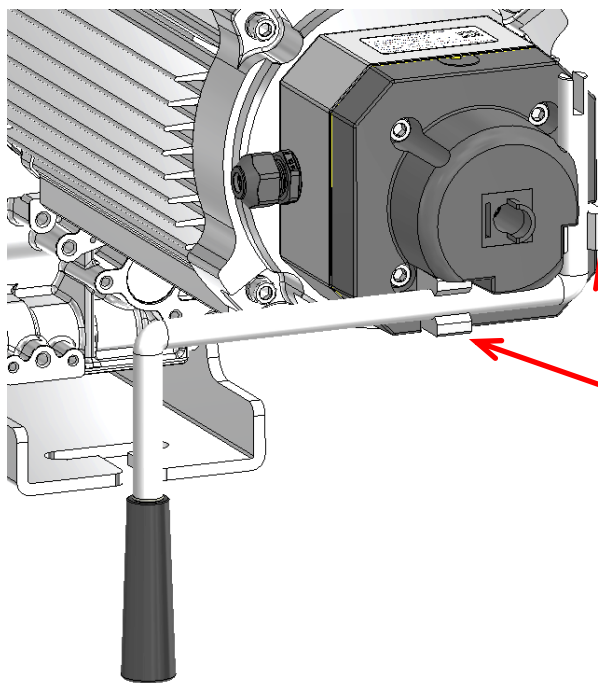


### 3 Manual Operation

**WARNING**

Extreme care must be taken when manually releasing the brake. This should be done only when the door is fully closed. Not following this procedure may cause the handle to spin out of control and may cause damage and/or harm to people around.

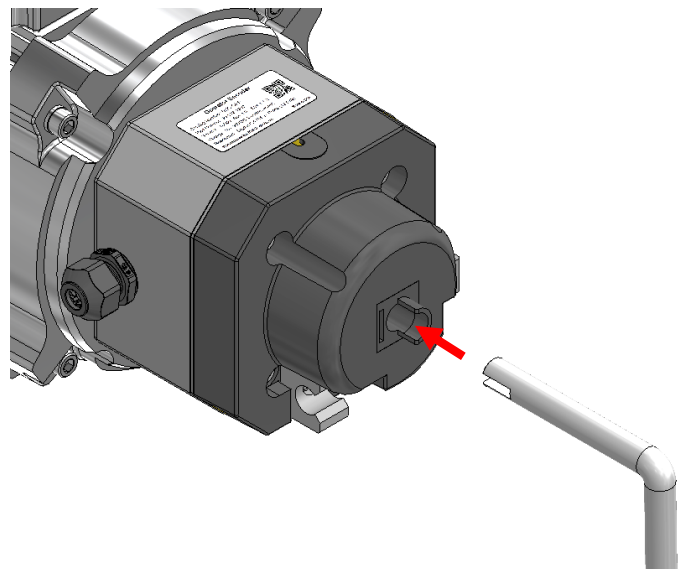
The hand crank can be used to manually turn the operator if necessary.

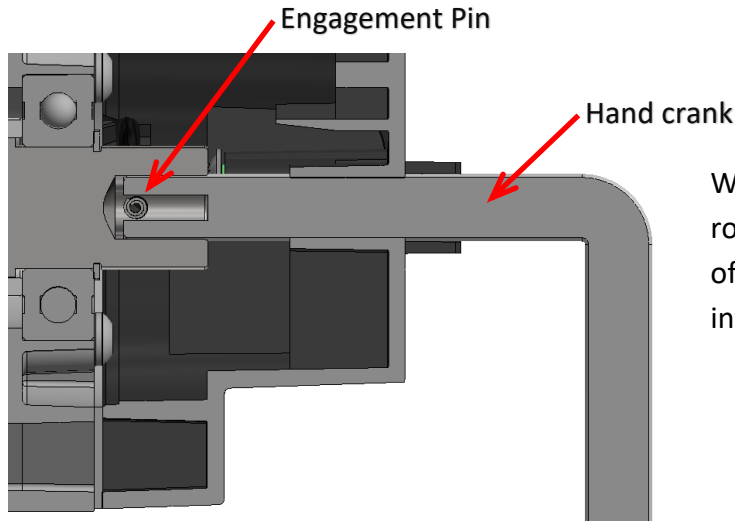


To operate using the hand crank, remove the hand crank from the storage clips by pulling on the hand crank gently in the outward direction.

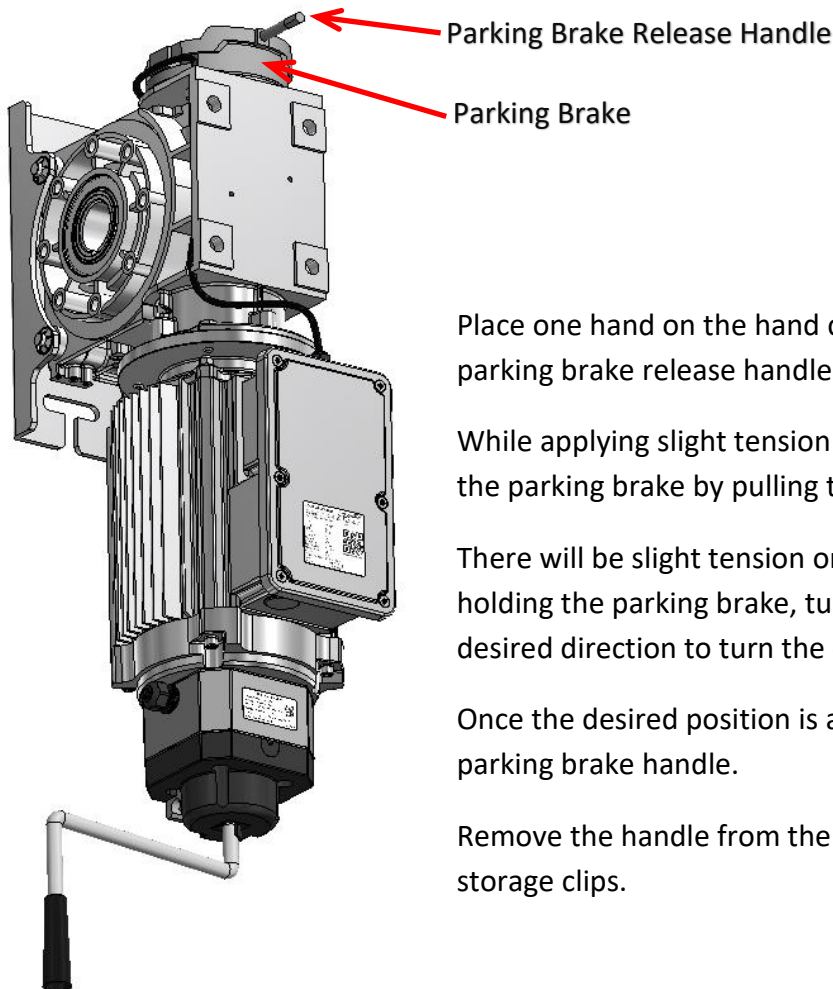
Storage Clips

Insert the end with the notch into the end cap of the operator.





While gently pushing the hand crank in, rotate the hand crank slowly. The notch of the hand crank must engage with the internal pin to operate it.



Place one hand on the hand crank and the other on the parking brake release handle.

While applying slight tension on the hand crank, release the parking brake by pulling the release handle down.

There will be slight tension on the hand crank, continue holding the parking brake, turn the hand crank in the desired direction to turn the operator.

Once the desired position is achieved, release the parking brake handle.

Remove the handle from the Operator and store it in the storage clips.

### **3.1 Technical Assistance**

*Contact:*

BTR Controls, Inc.  
1570 Todd Farm Dr.  
Elgin, IL 60123  
(847)608-9500