

# PULSE 500-Series



High-Performance DC Direct-Drive Door Operator with Horsepower Rated Motors Suitable for Sectional Commercial Industrial Doors



**UL Listed**  
325:2023 - E516991

## Features

- Advanced speed control: up to 24"/s opening, up to 16"/s closing
- Built-in 24V battery backup
- Soft start/stop functionality
- Universal power compatibility: 110-240V, 50/60Hz
- Adjustable force monitoring
- Programmable closing timer: 1-99s
- Precise encoder for position tracking
- Door balance check feature
- LCD screen for setup, monitoring and troubleshooting
- Programmable output relay
- Motor options: 1/2, 3/4, 1 HP; gearbox ratios: 30:1, 40:1, 50:1 or 60:1
- Shaft sizes: 1" and 1 1/4"
- 2-year, 1-million-cycle warranty against manufacturing defects

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**The Pulse 500 Series operator from iControls sets the standard for DC shaft-mount operator performance. Easy to install, set-up and trouble-shoot, this high-cycle operator is loaded with features, remarkably reliable and very simple to use.**



Key features include:

#### **Battery Backup**

If power should fail, the included batteries provide power for multiple door cycles (press and hold operation for safe emergency use). Built on a separate circuit, the Pulse battery backup will work even if the control and/or drive board has been damaged (lightning strike, impact, etc) - setting it apart from all other systems that rely on full functionality of the printed circuit board. A built-in trickle charger ensures that the batteries are always charged and ready. Should the batteries be fully drained or missing, a crankshaft socket is also provided as a mechanical backup.

#### **Soft Start/Soft Stop**

The Pulse 500 offers smooth acceleration and deceleration through its soft start/soft stop functionality, which helps extend the life of mechanical parts and prevents cable throw. The programmable feature allows customization to match specific door requirements.

#### **Advanced Speed Control**

Set the speed that best suits the installation. Achieve opening speeds up to 24"/s and closing speeds of up to 16"/s (\*varies according to gearbox, drum size/type and door style).

#### **Intelligent Force Monitoring**

Should the door hit an obstruction or become jammed during the closing cycle, the system will sense the change in force and reverse the door to avoid further damage. On opening, a sensed obstruction or jam will cause the door to stop. This all but eliminates the need for an additional safety edge. The sensitivity of this feature is adjustable, and can be tailored to the installation.

#### **Door Balance Check**

Once selected from the menu, the door automatically moves through one complete cycle and reports (on the LCD screen) the difference in force required to open the door versus closing it. Use this feedback to verify proper door balance without having to remove the operator. A properly balanced door will extend the life of the door springs and maximize battery backup performance.

#### **Separated Voltages**

A junction box mounted near the motor contains all incoming power connections, keeping dangerous voltages away from users. The control panel requires only 24Vdc (supplied from the operator) and has all connections for peripherals providing easy, safe low-voltage access.

#### **Ordering**

1/2, 3/4 or 1 HP-rated 90Vdc motor door operator with a gearbox for 1" or 1 1/4" keyed solid shaft. Includes 24V battery backup system, reflective photo eye (Through-beam on 1 HP models). For balanced doors to 500 sq. ft. / 1500 lbs. 40:1 Gearbox ratio is recommended for most balanced commercial applications. Use 30:1 for higher speed balanced requirements. Use 50:1 or 60:1 when using pusher/bumper springs. (Contact iControls for recommendations)

Part Number	Horse Power	Gearbox			Door	
		Shaft	Size	Ratio - 'XX'	Size	Max. Weight**
PDC-500-1-XX	1/2	1"	50	30:1, 40:1, 50:1 or 60:1	up to 200 Sq. Ft.	1,200 lbs.
PDC-750-1-XX	3/4	1"	50	30:1, 40:1, 50:1 or 60:1	up to 350 Sq. Ft.	1,500 lbs.
PDC-750-1.25-XX	3/4	1 1/4"	75	30:1, 40:1, 50:1 or 60:1	up to 350 Sq. Ft.	1,500 lbs.
PDC-1000-1-XX	1	1"	63	30:1, 40:1, 50:1 or 60:1	up to 500 Sq. Ft.	1,580 lbs.
PDC-1000-1.25-XX	1	1 1/4"	75	30:1, 40:1, 50:1 or 60:1	up to 500 Sq. Ft.	1,580 lbs.

Part number creation: Substitute the desired gearbox ratio value for 'XX' to suit your application. 40:1 Gearbox ratio is recommended for most balanced commercial applications. Use 30:1 for higher speed balanced requirements. Use 50:1 or 60:1 when using pusher/bumper springs. (Contact iControls for recommendations).

\*Opening door speeds are dependant on installation variables such as drum size, gearbox ratio, door balance, door size, etc. Speeds indicated represent figures based on optimal installations and conditions. \*\*Max. Weight is for counter-balanced doors with a max imbalance of up to 75 lbs. And is dependent on external factors including shaft and drum size, and gearbox ratio.