

PULSE 300 Series



A high-performance direct-drive door operator with a 90V DC horsepower-rated motor, engineered for balanced commercial and industrial doors



Features

- Advanced speed control: up to 24"/s opening, up to 16"/s closing
- Built-in 24V, 9Ah battery backup
- Soft start/stop functionality
- Universal single-phase power compatibility: 110-240V, 50/60Hz
- Adjustable force monitoring
- Programmable closing timer: 1-99s
- Precise encoder for speed and position tracking
- Door balance check feature
- Compatible with 24V locking systems
- 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 and 60:1
- Shaft sizes: 1" and 1 1/4"
- 2-year, 1-million-cycle warranty against manufacturing defects

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The **Pulse 300** Series Operator from **iControls** Delivers Reliable Power and High-Speed Performance for Commercial Industrial Doors



The Pulse 300 Series features a direct-drive 90V DC motor, offering advanced capabilities and customizable options. Designed for straightforward installation, operation and maintenance, it delivers speed, strength and quiet performance. Ideal for balanced doors up to 500 sq. ft. or 1,500 lbs.

Key features include:

Integrated Battery Backup System

With a built-in battery backup, the operator ensures continued door operation during power outages. The system operates at reduced speeds until power is restored or the battery power is significantly reduced. At low power, to conserve battery life, it switches to a "last cycle" mode, allowing manual operation via panel buttons with a push-and-hold protocol. A trickle charger keeps the batteries ready, and a crankshaft socket provides mechanical backup if needed.

Soft Start/Soft Stop Functionality

The Pulse 300 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 application or turned off if required.

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.

Door Lock Activation

Third party door locks can be connected with ease. Once installed and selected, the operator activates the unlock function prior to opening and the lock function at full close. Settings for this feature include an adjustable door motion delay from 100 to 500/ms to ensure optimal functionality and performance. Compatible with most 24V automatic locking systems.

Optional Chain Hoist

The Pulse Chain Hoist enhances reliability by ensuring manual operation during extended power outages. Simple to use, it engages with a red cord and reengages with a green cord. It prevents downtime, protects operations, and delivers peace of mind for businesses needing uninterrupted performance. To order add the -CH suffix to part numbers below.



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, 9Ah 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.

Part Number	Horse Power	Gearbox			Max Door Size and Weight		Max Output Torque		Cable Length 'YY'
		Shaft	Size	Ratio - 'XX'	Size	Weight**	N-m	Lb-in	
PDC-300-050-1-XX/50-YY	1/2	1"	50	30:1 or 40:1	up to 200 sq. ft.	up to 1,200 lbs.	up to 49.1	up to 434.3	10, 15, 20 or 25
PDC-300-050-1-XX/63-YY	1/2	1"	63	50:1 or 60:1	up to 200 sq. ft.	up to 1,200 lbs.	up to 73.6	up to 651.4	10, 15, 20 or 25
PDC-300-050-1.25-XX/75-YY	1/2	1 1/4"	75	30:1, 40:1, 50:1 or 60:1	up to 200 sq. ft.	up to 1,200 lbs.	up to 73.7	up to 652.3	10, 15, 20 or 25
PDC-300-075-1-XX/63-YY	3/4	1"	63	30:1, 40:1 or 50:1	up to 350 sq. ft.	up to 1,500 lbs.	up to 92.0	up to 814.6	10, 15, 20 or 25
PDC-300-075-1.25-XX/75-YY	3/4	1 1/4"	75	30:1, 40:1, 50:1 or 60:1	up to 350 sq. ft.	up to 1,500 lbs.	up to 110.5	up to 978.3	10, 15, 20 or 25
PDC-300-100-1-XX/63-YY	1	1"	63	30:1 or 40:1	up to 500 sq. ft.	up to 1,580 lbs.	up to 98.2	up to 868.9	10, 15, 20 or 25
PDC-300-100-1.25-XX/75-YY	1	1 1/4"	75	30:1, 40:1, 50:1 or 60:1	up to 500 sq. ft.	up to 1,580 lbs.	up to 147.4	up to 1,304.4	10, 15, 20 or 25
SSLV-1.25-1		Shaft sleeve adapter to convert 1" shaft to 1.25" shaft - Allows for use of a Size 75 Gearbox on 1" shaft doors.							

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. Substitute the desired length of motor cable for 'YY' in ft. - Choose from 5, 10, 15, 20 or 25 feet. I.E. PDC300-075-1-40/63-10 is the part number for series 300 3/4 HP motor operator with 1" hollow shaft, size 63, 40:1 ratio gearbox and 10 ft of motor cable.

*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, drum and gearbox ratio. Contact iControls for further details as required.