PULSE 300 Direct-Drive DC Door Operator

Engineered for balanced commercial and industrial doors, the flagship PULSE 300 Series from iControls delivers reliable power and high-speed performance.

What Makes the PULSE 300 an Industry-Leading Door Operator?

A high-performance 90V DC horsepower-rated motor capable of lifting balanced doors up to 1,595 lbs (available in 1/2, 3/4, and 1 HP options) and rated for unlimited continuous-duty operation

Included 24V integrated battery backup; optional chain hoist also available

Advanced programmable speed control: up to 24"/s opening speed and 16"/s closing speed

Soft start/stop functionality to extend door's longevity

Adjustable force monitoring detects obstructions and automatically takes action to prevent damage and injury

Large floor-level LCD control panel display housed in a NEMA 4 enclosure for door monitoring, programming, troubleshooting and wiring

2-year, 1,000,000-cycle warranty against manufacturing defects

UL 325 listed for trusted compliance

c UL us
Listed - E516991
Door Operators

The PULSE 300 Series Delivers Reliable Power and High-Speed Performance for Balanced Commercial & Industrial Doors

Key Features Include:

Powerful 90V Direct-Drive DC Motor

The PULSE 300 Series features a direct-drive 90V DC motor. Designed for straightforward installation, operation and maintenance, it delivers speed, strength and quiet performance with minimal moving parts. It's ideal for balanced doors up to 500 sq. ft. or 1,595 lbs**. The PULSE 300 is available in 1/2, 3/4 and 1 horsepower-rated (not equivalent) motor options.

Included 24V Battery Backup

With an integrated built-in battery backup system, the PULSE 300 ensures continued door operation during power interruptions. The battery backup operates the door, as normal, at a reduced speed until power is restored or battery power is depleted. At low power, to conserve battery life, it switches to a "last cycle" mode, allowing manual operation via "push and hold" functionality. A trickle charger keeps the batteries ready at all times. A crankshaft socket provides mechanical backup if needed.

Unlimited Continuous-Duty Operation

The 90V direct-drive DC motor powering the PULSE 300 is built for nonstop performance. With unlimited continuous-duty operation, the PULSE 300 runs all day without interruption. Extended-duty capability isn't an upgrade or add-on, every PULSE 300 model delivers unlimited continuous-duty operation as a standard feature.

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 components and prevents cable throw. This programmable feature allows customization to match specific door requirements.

Adjustable Force Monitoring

Should the door encounter an obstruction or become jammed during the closing cycle, the system will detect the change in force, stop and reverse the door to prevent further damage. During opening, a detected obstruction or jam will cause the door to stop. This virtually eliminates the need for an additional safety edge. The sensitivity of this feature is adjustable and can be tailored to the application or disabled entirely, if desired.

Advanced Speed Control

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

Centralized Control Panel

The PULSE 300 is operated via a large, centralized control panel. Much of the relevant wiring can be completed through this panel at ground level, making troubleshooting and programming significantly more convenient. The large LCD display uses intuitive language that is clear and easy to understand: no abstract codes to look up.

Door Balance Check

Once selected from the control panel menu, the door automatically completes one full cycle and reports, via the LCD screen, the difference in force required to open versus close the door. Use this feedback to verify proper door balance without removing the operator. A properly balanced door extends the life of the door springs and maximizes battery backup performance.

Optional Chain Hoist

The PULSE chain hoist ensures manual operation remains available during power interruptions. Engagement is straightforward: it engages with a red cord and disengages with a green cord. This simple, reliable mechanism helps prevent downtime and keeps operations running when it matters most. Note: The standard chain length is 26’ for a 17’ shaft height. Contact iControls if an extra 26’ chain kit or other chain-hoist customizations are required.

Optional Weather-Protect

To improve the operator’s resistance to water ingress, the Weather-Protect option is available. The standard reflective photo-eye is replaced with a more powerful through-beam sensor for reliable monitoring. Note: 1 HP PULSE 300 models include a through-beam sensor as standard. Zinc-plated hardware is replaced with stainless steel and the operator is treated with a water-resistant coating.

Programmable Closing Timer

This feature allows users to automatically close the door after a selectable delay of 1 to 99 seconds.

Door Type Selection

During initial programming, the user is prompted to select whether the door is sectional or rolling steel. For sectional doors, the factory default setting allows users to proceed without additional input, whereas for rolling steel installations, you are prompted to specify the minimum and maximum roll diameter. Configuring this selection properly ensures constant open and close speeds throughout the door cycle while operating a rolling steel door.

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 upon full close. Settings include an adjustable door motion delay from 100 to 500 ms to ensure optimal functionality and performance. Compatible with most 24V automatic locking systems.

Reliable & Precise Encoder

Mounted inside the gearbox, the encoder enables simple, foolproof limit setup and flexible left or right-side mounting. It also supports advanced door functionality including soft start/soft stop, dual open limits and motion monitoring. Should the door stop moving during its cycle, the encoder detects the loss of motion and halts operation to prevent potential damage to the operator and door. In battery backup mode, the encoder continuously monitors door position with no reset required when power is restored.

Ordering

Substitute the desired gearbox ratio value for 'XX' to suit your application. A 40:1 gearbox ratio is recommended for most balanced commercial applications. Use 30:1 for higher-speed balanced requirements. Use 50:1 when using pusher/bumper springs. Substitute the desired length of motor cable for 'YY' in feet — choose from 10, 15, 20 or 25.

For example, PDC-300-075-1-40/63-10 is the part number for a Series 300, 3/4 HP motor operator with 1" hollow shaft, gearbox size 63, gearbox ratio 40:1 and 10 ft of motor cable.

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, 40:1 or 50:1	up to 200 sq. ft.	up to 1,013 lbs.	up to 90.7	up to 803	10, 15, 20 or 25
PDC-300-050-1-XX/63-YY	1/2	1"	63	50:1	up to 200 sq. ft.	up to 937 lbs.	up to 83.9	up to 743	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 1,153 lbs.	up to 125.8	up to 1,113	10, 15, 20 or 25
PDC-300-075-1.25-XX/75-YY	3/4	1 1/4"	75	30:1 or 40:1	up to 350 sq. ft.	up to 1,196 lbs.	up to 130.5	up to 1,115	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 1,239 lbs.	up to 135.2	up to 1,197	10, 15, 20 or 25
PDC-300-100-1.25-XX/75-YY	1	1 1/4"	75	30:1, 40:1 or 50:1	up to 500 sq. ft.	up to 1,595 lbs.	up to 174.0	up to 1,540	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.								

*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. Figures shown are calculated using a vertical-lift drum. Speeds, torque and cycle duty are not affected when using this type of drum.

Contact iControls for further details.

iControls®

35 East Beaver Creek Road #1
Richmond Hill, Ontario, L4B 1B3, Canada
sales@icontrols.ca • 905-597-8989
iControlsGlobal.com