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825 SERIES 3 SUPER-DRIVE

Torsion Shaft Mounted DC Commercial Sectional Door Operator

Tucker ZAP PATENT NUMBER / TITLE / REGISTRATION DATE:

USA 8,182,381 | Drive arrangement | May 22, 2012

USA 8,115,438 | Aperture closure member control arrangements | Feb. 14, 2012

USA 8,033,374 | Drive arrangement | Oct. 11, 2011

USA 7,633,253 | Control and monitoring arrangements for an aperture closure member | Dec. 15, 2009

USA 7,437,971 | Drive arrangement | Oct. 21, 2008

USA 7,333,308 | Control arrangement | Feb. 19, 2008

USA 7,005,884 | Monitoring apparatus for monitoring electrical drive current for an electric motor | Feb. 28, 2006

USA 6,188,198 | Aperture closures | Feb. 13, 2001

Mexico 243645 | Aparato de monitoreo | Feb. 6, 2007

Canada 2445152 | Monitoring apparatus | June 25, 2013

Canada 2440772 | Control arrangement | June 21, 2011

Canada 2560530 | Drive arrangement | May 21, 2013

Canada 2641641 | Aperture closures | April 26, 2011

Canada 2445123 | Drive arrangement | Feb. 16, 2010

Canada 2338191 | Aperture closures | Dec. 30, 2008



Safety

- NEMA 4X compliance for the controller as a standard feature
- Compact size reduces potential for lifting injuries during installation
- Universal torsion shaft mounting system reduces the potential for unsafe work practices during installation
- Fully adjustable automatic obstruction sensing system detects obstructions on any part of the door in the open or close direction while monitoring the entire door movement for unsafe operation or service conditions
- Inherent soft start-soft stop, safety stop-reverse eliminates the mechanical stress damage to the door when the door reverses
- Self determining limit system prevents thrown cables from debris, ice, and snow left in the door opening

Value

- Continuous duty rated low voltage motor
- Ultra-Quiet DC Motor, will not thermally overload
- No extra costs to have controller achieve NEMA 4/IP 66 rating.
- Wet location motor cover included
- Built in service due reminder may be activated to ensure regular maintenance based on cycles of usage
- Fully programmable timer-to-close
- Built in interlock terminals to prevent door operation
- Programmable mid-stop
- Motor maximum amperage draw 2.8 Amps reducing number circuits required for multiple door applications
- Automatic obstruction sensing system surpasses the capabilities of a sensing edge detecting obstructions on any part of the door, eliminating the cost of a safety edge and associated wiring
- Reduces the occurrence of catastrophic damage to the door

Simplicity

- Simple one person installation that eliminate steel build ups, back hangs, welding, and specialty anchors
- Simplistic maintenance design concept
- PCB based system controller eliminates the cost of servicing electrical contactors, limit systems, and countless other parts
- When the operator emergency release lever is disengaged the door easily operates by hand
- Operates all lifts of sectional doors with counter-weights or torsion springs, including rear mount torsion
- Versatile sectional door application mounting. May be mounted vertically, horizontally, upside down, inside the cable drum, rear mount torsion, all without requiring wall or ceiling mount
- Simple wiring configurations and accessory modules that eliminate external limit relays to achieve various interlock configurations

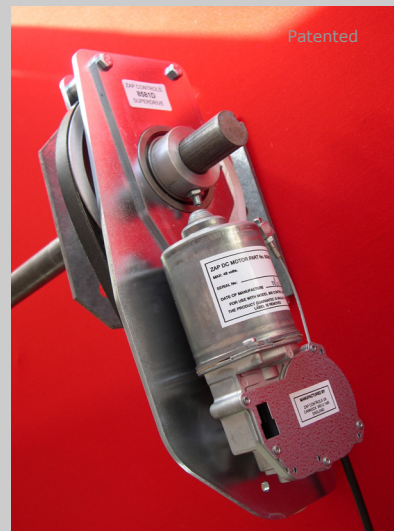
Reliability

- Industrial components ensure years of service
- Motor and controller eliminates the problem of stuck motor switches, limit system failures, burned out starting capacitors and A/C motor malfunctions

ZAP Series 3

Simply Logical

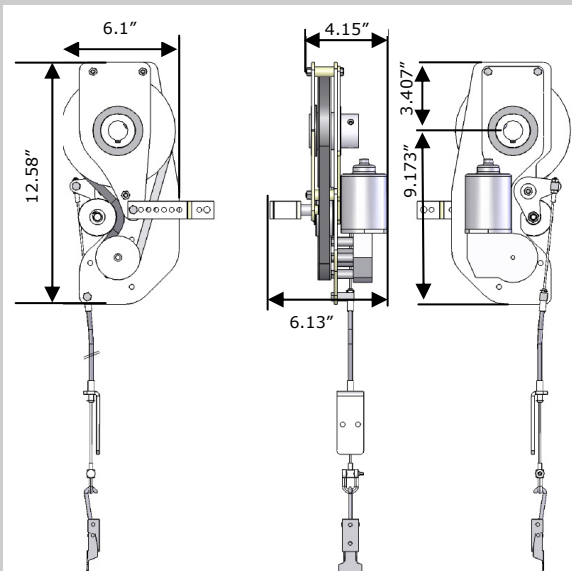
Not For Use In Residential Applications



ZAP Controls 825 Series 3 Super-Drive Torsion Shaft Mounted DC Commercial Sectional Door Operator

Technical information for the 825 Series 3

Controller case/push button	NEMA 4X/IP66
Controller dimensions:	8.7"H X 6.5"W X 4.7"D
Motor cover dimensions:	13.25"H X 6.5"W X 6.25"D
Single phase voltage:	115V US, 208-230V US, 230V EU
Amp draw:	2.8A
Power rating	650 Newtons Equivalent 1/2 HP
Control circuit voltage:	6VDC
Limits determination:	Physical/Self Calibrating
Duty cycle rating:	Continuous
Operating temp range:	-22 deg F to 212 deg F
Overload protection:	Inherent motor current sensing
Lubrication:	Permanent
Torsion shaft type required:	Solid w/keyway or hollow tube 1"
Fits torsion shafts diameter:	4.5" beyond outer edge of track
Torsion shaft length required:	4.5" min for motor only
Side clearance required:	7" with motor cover applied
Replacement red motor PN	600805
Replacement belt PN/size	825-B 600612 (AX22) 825-C 600602 (AX23) 825-D 600615 (AX25)



ZAP Controls

825 Series 3 Super-Drive

Commercial DC Sectional Door Operator

Lift Requirement	Low Headroom	Standard Lift	High Lift to 54"	High Lift above 54"	Vertical Lift
Door Size W X H					
8'-20"W X 6'-8'6" H	825-3V-B	825-3V-B	825-3V-C	825-3V-D	825-3V-D
8'-10"W X 8'6"-10' H	825-3V-B	825-3V-B	825-3V-C	825-3V-D	See 8825-3V-D

Please read the instructions fully or attend training online before installation. Consult factory for door sizes beyond scope provided above. The maximum door weight for sizes listed above is 600 Lbs. Minimum door height is 6'.

Standard Features

- **Motor and Controller**
Continuous duty rated DC Motor with controller, producing a powerful soft start/soft stop output of 650 Newtons of force to drive commercial sectional doors while reducing mechanical impacts that cause premature wear of door components.
- **NEMA 4X rated controller case**
ZAP Controllers and push buttons are NEMA 4X compliant as a standard.
- **Motor Cover**
A motor cover suitable for wet locations is provided.
- **Drive Reduction**
Worm drive gearbox & V-belt reduction drive with floor level, adjustable belt tensioning /emergency release lever.
- **Wiring Type**
C2 (factory default), B2 failsafe is standard with the addition of approved photo eye.
- **Radio Control and External Receiver Terminals**
Terminal strip provided inside the controller to provide quick, convenient connections for adding external radio control receivers from any desired manufacturer.
- **Bearings and Belts**
Drive systems use industrial grade bearings and automotive grade long life v-belts. Our simplistic service design concept allows simple service of components in a matter of moments.
- **Construction**
Heavy-duty 8-gauge electro-plate finish steel frame, industrial bearings, worm drive gear box, aluminum drive pulley, secured with key stock and set screw for simple servicing.
- **Push Button Station**
Control unit acts as the standard 3-button station for open/close/stop functions. Controller may mounted remotely up to 24 feet away from the operator, provided it is to be wired with other external control devices that are designed to function as the primary door controls. Power supply is wired directly to the controller not the motor. Low voltage motor cable is supplied for easy wiring of the motor.

Value Added Standard Features

- **Automatic Obstruction Sensing System**
Inherent motor current sensing system monitors the entire door system for obstructions and unsafe operating conditions in both directions of travel. The system provides protections unavailable with traditional commercial operators and can automatically sense obstructions like locks, broken springs, unsafe service conditions, and other obstructions that cannot be detected by reversing edges and photo cells.
- **Safety Stop and Reverse**
Inherent motor current sensing system automatically incorporates and safety stop before reopening in soft start.
- **Auto-Close Timer**
Fully programmable auto-close timer automatically closes the door. (4 minutes) Requires the addition of approved photo cell.
- **Part Open Programming (Programmable Mid Stop)**
Programmable part open to stop door at predetermined height.
- **Prevent door operation interlock**
Built in interlock to prevent door operation, used with truck restraint systems, shared track applications or pass doors.

- **Emergency Egress Manual Operation**
Emergency manual operation using a ground level over-ride lever disconnect. When lever is released, the door will operate manually by hand as if no operator is connected to the door. This unique system eliminates the need to electrically interlock the disconnect as the operator has no mechanical limits and physically disconnects from all drive systems when released. It also provides ground level adjustment of the motor drive belt.
- **Max run time protection**
Inherent motor current sensing system provides automatic max runtime protection.
- **Service Due reminder**
May be activated to ensure regularly scheduled maintenance based on cycles of usage.
- **Versatile mounting configurations**
8825 may be mounted in standard vertical, horizontal, inverted, inverted center mount inside the cable drum, or rear mount torsion configurations. Some applications may require the use of a longer Bowden cable for proper installation.

Options and Accessories

- **Fraba Optoeye UL 325 Compliant Monitored Entrapment Protection Device**
401002 photo eye is a Nema 4X UL 325 Compliant Monitored Entrapment Device designed for durability in all commercial applications.
- **Receivers and Transmitters**
2, 4, and 6 button handheld and permanently mounted forklift transmitters are available for use with the model 840 receiver. The 840 receiver module can use either an internal or optional external antenna. Terminals are provided inside the controller to facilitate the use of a 24VDC external receiver from any radio control manufacturer.
- **Auto-Lock**
8070 Auto-Lock provides integrated security with an electronic solenoid locking system that releases a shoot bolt above a roller when door is stopped and withdraws prior to door operation.
- **Rear mount torsion kit**
ZA0102 Bowden cable. 900005 Large offset torque arm.
- **Battery Back Up**
8830 Battery Back up systems allows operation of the operator during power outages.
- **Available Plug-in Modules**
 - **Auxiliary Input Expansion Module**
871 module allows for expansion of input functions beyond the available connections on the controls board. It provides additional open, stop, close and cyclic operation input connections as well as an additional 24VDC supply.
 - **Fire Station module**
871 FS allows the incorporation of a second set of photo cells above man traffic height that will prevent the auto-close timer from timing out and closing a door boor before the vehicle has departed the facility. Once the vehicle has departed the opening fully, the timer is released.
 - **Dock interlock/Traffic light control w/adv. warning**
82DTLM and the 822 Modules provide a N/O relay that closes when the door operator is in the fully opened position. It may be used as a dock interlock or to interlock a door that shares the same track system. Provides terminals to operate red/green driver communication lighting where mechanical dock levelers are used. 822 module provides advance warning of pending door closure with activation of the delay close programming. Terminals provided on 82DTLM may also be used to operate security, heating or other 5V to 240V devices up to 5 amps. Expansion port included for the addition of 8070 Auto-Lock, 871 FS, or 871 interface expansion modules.
 - **Closed interlock/Traffic light control w/adv. warning**
82TLM and the 821 Modules provide a N/O relay that closes when the door operator is in the fully closed position. It may be used as a sally port interlock or to interlock any device that requires the door to be in the closed position. Provides terminals to operate red/green through traffic lights where it is desired to know the door is fully opened before proceeding through. 821 module provides advance warning of pending door closure with activation of the delay close programming. Terminals provided may also be used to operate security, heating or other 5V to 240V devices up to 5 amps. Expansion port is included for the addition of 8070 Auto-Lock, 871 FS, or 871 input expansion modules.
 - **Loop Detectors**
Both single, and twin loop detectors are available for either plug in or wall mount installation.