ED900 Low Energy Swing Door Operators

ED900 Swing Door Operators

dormakaba USA quality and environmental management systems in Reamstown, PA and Steeleville, IL are certified to ISO 9001:2015 and ISO 14001:2015.

ISO 9001:2015 CERTIFICATION™ Intertek   ISO 14001:2015 CERTIFICATION™ Intertek

ED900 Swing Door Operators

dormakaba's most advanced low-energy swing door power operator.

The ED900 is fully ADA compliant – helpful for children, the elderly, persons with disabilities, or those carrying or pushing objects. The operator is exceptionally quiet, safe, and easy to use. Doors open at precisely controlled speeds and forces, assuring safety for all users.

The ED900 features Contur design for a highly aesthetic look especially when used with the TS93 family of closers.

Technical Details

- Onboard power supply for access control devices: 1.5 A @ 24 VDC.
- Maximum door size: 48" (1219 mm) wide.
- Maximum door weight: 220 lb (100 kg).
- Operator weight: 26.58 lb (12 kg).
- Operating temperatures: 5° F to 122° F (–15° C to 50° C).
- Standard operator dimensions: 27" W × 2-3/4" H × 5-1/8" D (685 mm × 70 mm × 130 mm).
- Maximum opening angle: Powered—110°, Manual—180°.
- Non-handed.
- On-board cycle counter.
- 27" cover standard.
- One unit for push/pull track and top jamb applications.

- Axle extensions: 0, 5/16" (9 mm), 3/4" (20 mm), 1-3/16" (30 mm), and 2-3/8" (60 mm) — standard.

Certifications

- ANSI/BHMA 156.19 Power Assist and Low Energy Power Operated Doors.
- UL and CUL listed for fire door operators with automatic closers.
- ICC/ANSI A117.1 Accessible and Usable buildings and facilities.
- Underwriters Laboratories: ANSI/UL 325 Door, Drapery, Gate, Louver, and Window Operators and Systems.
- California State Fire Marshall (CSFM) approved.

Specifications

ED900 Series low energy operators with selectable low energy or power assist. Low energy function to cycle the door open as programmed. Power assist function for decreased opening force when manually operated. Operator to have a programmable push and go. All operators to have programmable sweep speed, latch speed, and backcheck cushioning. Operators to have the following programmable options for power open functions: delay time, opening time/ opening force, opening angle, and door width selector. Operators to have selectable jumper to accommodate push or pull side applications. Operators to have on/off strike delay when the ED900 must delay while a locking device releases. Push side (top jamb) and pull side (track) arms to be available. All operators will be hard wired. All operators to have selectable on/off obstacle detection on closing.

Optional Specifications

All operators to have remote switch wiring for tamper-resistance. Hold open function is deleted. On/off status can be controlled from a remote location. Specify RS. All operators to be powered with a power cord plugged into a 120 VAC receptacle. Specify PC.

Electrical Specifications

- Power requirements: 115 VAC +/– 10%, 50/60 Hz, 6.6 A max.
- Current: 6.6 A.
- Fuse: 3 Amp – type AGC – size 1/4" – 1-1/4".
- Branch circuit protection: 15 A min.
- Auxiliary power output 24 VDC (normally) filtered, unregulated 1.5 A max range 24 VDC +/– 10%.
- Form "C" relay contact for controlling fail-secure or fail-safe locking devices 50 VAC or DC at 1 A max. When incorporating the

ED900 into a system with other electrical components, dormakaba's Technical Services Department offers assistance with point-to-point wiring diagrams. Please contact them with specific requirements.

Programmable Features

- Opening and closing speed.
- Hold open time: from 0–30 seconds.
- Backcheck & latching angles.
- Blow open/night bank hold open.
- Wall blanking on pull side.
- Safety sensor testing.
- Delayed opening for unlocking: From 0–4 seconds. Use with electromechanical access control peripherals such as electric strikes or exit devices with electric latch retraction.
- Closing force prior to unlocking: Works with the delayed unlocking feature and accommodates reduction of latch bolt locking force prior to releasing the electro-mechanical access control device.
- Opening and closing force.
- Latching action force: Power boost during latching cycle to overcome resistance for door seals, locking devices, or door/frame misalignment.
- Keep closed force: designed to keep the door in the closed position when unlocked.

- Latching action angle: For engaging the programmable latching action feature. Opening angle range 2°–5°.
- Push and go.
- Program switch type.
- Cycle counter.
- Opening angle.
- Door closer/ automatic function.
- Activation angle for Helping Force function and Helping Force function.
- Remote interface.
- Backcheck when door is opened manually.
- Astragal angles for double-leaf doors—Opening of the second door can be delayed up to 30° of when the first door is opened.
- Wind load control: Opening and closing cycles. Variable include door size and weight, hinging, alignment, wind loads, HVAC imbalance. Forces measured at each door must confirm with ANSI 156.19 to maintain ADA compliance.
- After hours access hold open times: From 0–30 seconds.
- Day/night (push/pull): Unlocking during business hours.
- Door position status: Monitors when door has reached fully open or fully closed position. Can communicate status to external monitoring device or console.
- Activation via safety sensor on push side.
- Thickness of door.
- Deactivation of operator depending on contact setting.
- Hinge clearance.
- Reset of service interval display.
- Level of factory settings.
- Deletion of error log.
- Internal program switch delayed activation.
- Unlock in "Automatic" mode.
- Function of status relay.

Activation (Trigger) Options
The ED900 Automatic Operator can utilize a Normally Open (N.O.) dry contact activation input to automatically open a door. See the Electronic Access Control Components brochure for other options.

ED900 & Motorized Latch Retraction Exit Devices
The ED900 Automatic Operator can be used in conjunction with the Motorized Latch Retraction (MLR) 9000 Series Exit Device. The onboard 1.5 A power supply of the ED900 can directly power and control one MLR device, providing seamless operation of an automatic latch retraction door without the need for an auxiliary power supply. See the 9000 Series Exit Device brochure for additional information.

ED900, Electric Strikes & Electromagnetic Locks
The ED900 Automatic Operator can be used in conjunction with Electric Strikes to provide Access Control to an opening. See Electronic Access Control Components in the Door Hardware section of our website for additional information.

Finishes

Standard Sprayed Finishes
- Aluminum: 689
- Bronze: 690 (Statuary), 691 (Dull), or 695 (Dark Duranodic)
- Gold: 696
- Black: 693

Optional Custom Color or Designer Color Finishes
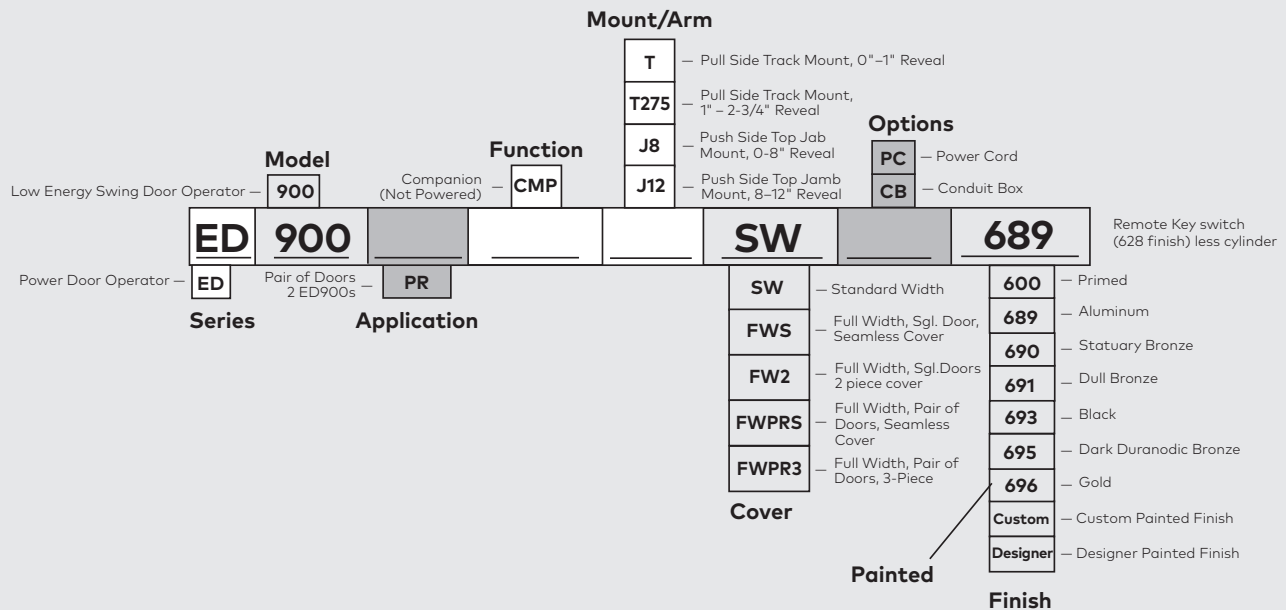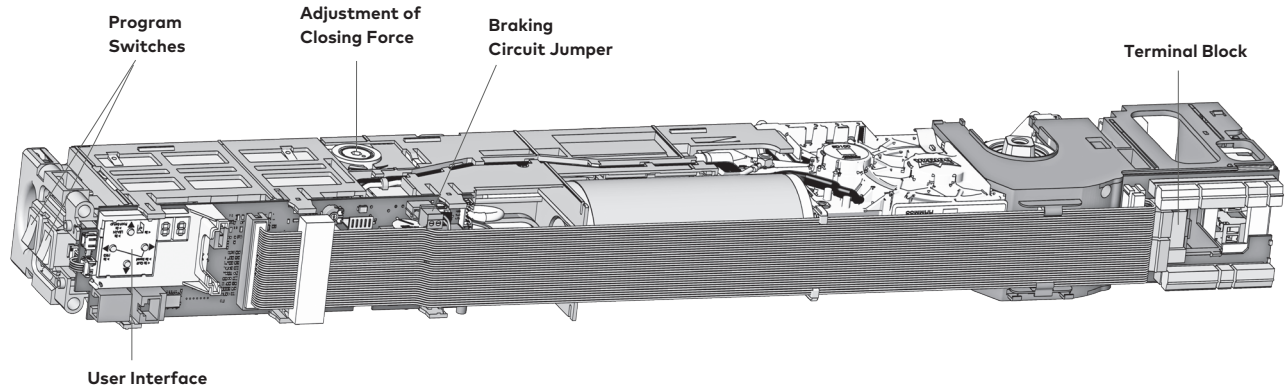Contact Customer Service.

Fire Door Applications
The ED900 is UL/CUL Listed for your installation on labeled fire doors.
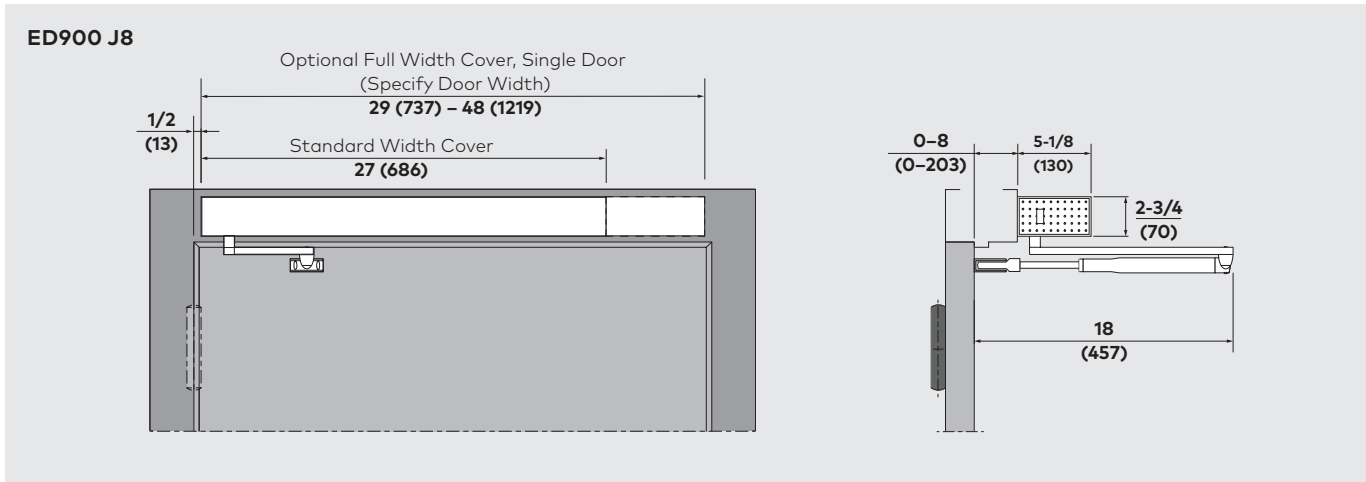
Warranty
For details, refer to **Limited Warranty** on our website at go.dormakaba.com/Terms-DA.

How to order ED900 Series

Mount/Arm

Code	Description
T	— Pull Side Track Mount, 0"–1" Reveal
T275	— Pull Side Track Mount, 1" – 2-3/4" Reveal
J8	— Push Side Top Jab Mount, 0–8" Reveal
J12	— Push Side Top Jamb Mount, 8–12" Reveal

Options

Code	Description
PC	— Power Cord
CB	— Conduit Box

Model
900

Companion (Not Powered)

Function
CMP

Low Energy Swing Door Operator — 900

| ED | 900 | | | | SW | | 689 |

Remote Key switch (628 finish) less cylinder

Power Door Operator — ED   Pair of Doors 2 ED900s — PR

Series   **Application**

Cover

Code	Description
SW	— Standard Width
FWS	— Full Width, Sgl. Door, Seamless Cover
FW2	— Full Width, Sgl. Doors 2 piece cover
FWPRS	— Full Width, Pair of Doors, Seamless Cover
FWPR3	— Full Width, Pair of Doors, 3-Piece

Finish

Code	Description
600	— Primed
689	— Aluminum
690	— Statuary Bronze
691	— Dull Bronze
693	— Black
695	— Dark Duranodic Bronze
696	— Gold
Custom	— Custom Painted Finish
Designer	— Designer Painted Finish

Painted

Program
Switches

Adjustment of
Closing Force

Braking
Circuit Jumper

Terminal Block

User Interface

Top Jamb Installation — Single

ED900 J8

Optional Full Width Cover, Single Door
(Specify Door Width)
29 (737) – 48 (1219)

1/2
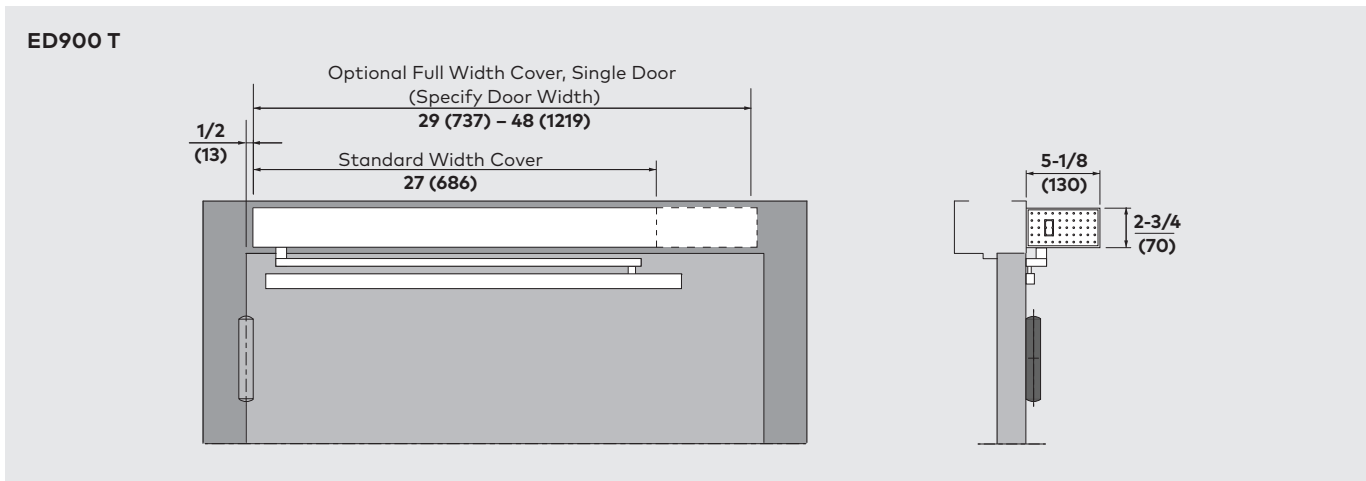(13)

Standard Width Cover
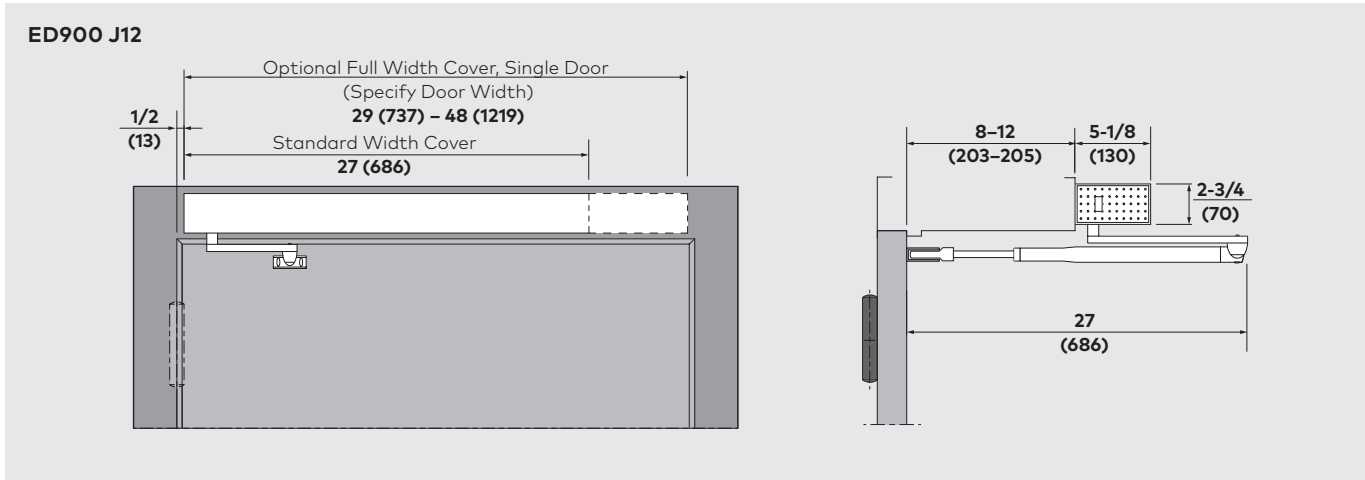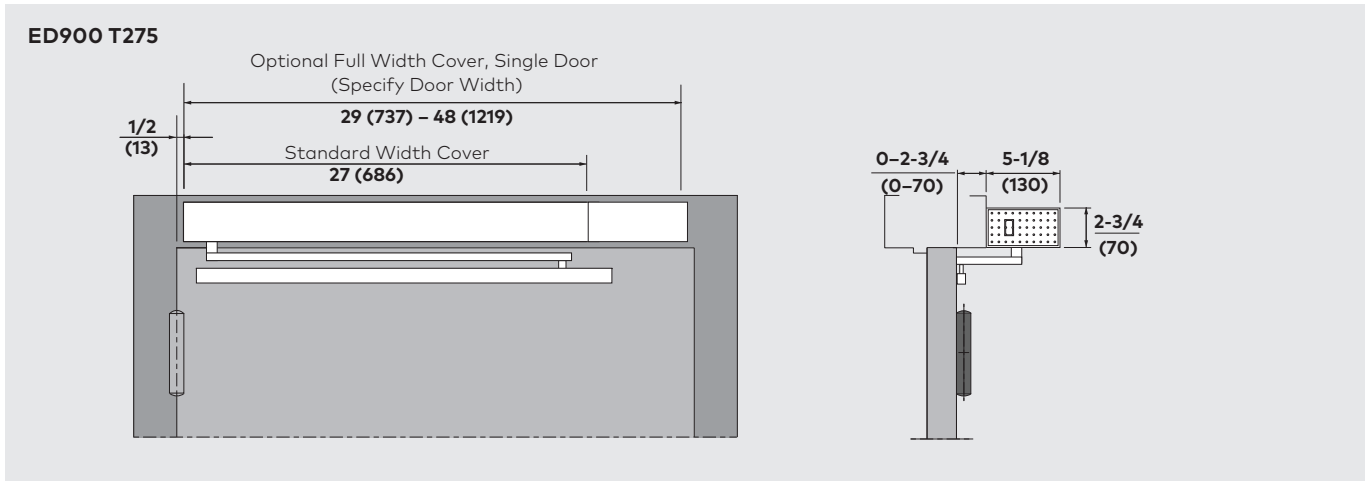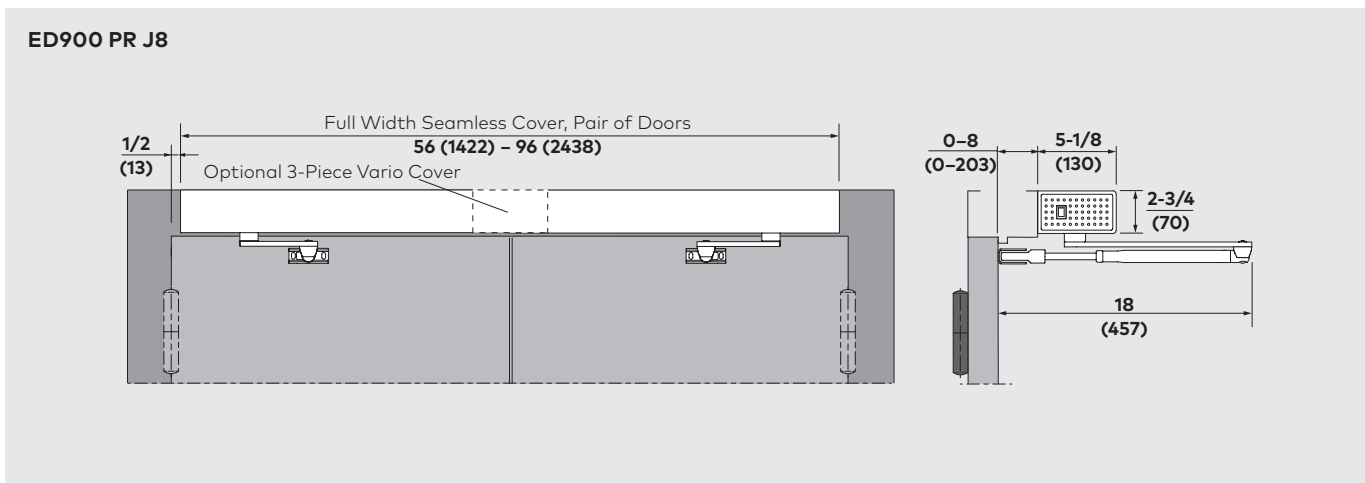**27 (686)**

0–8
(0–203)
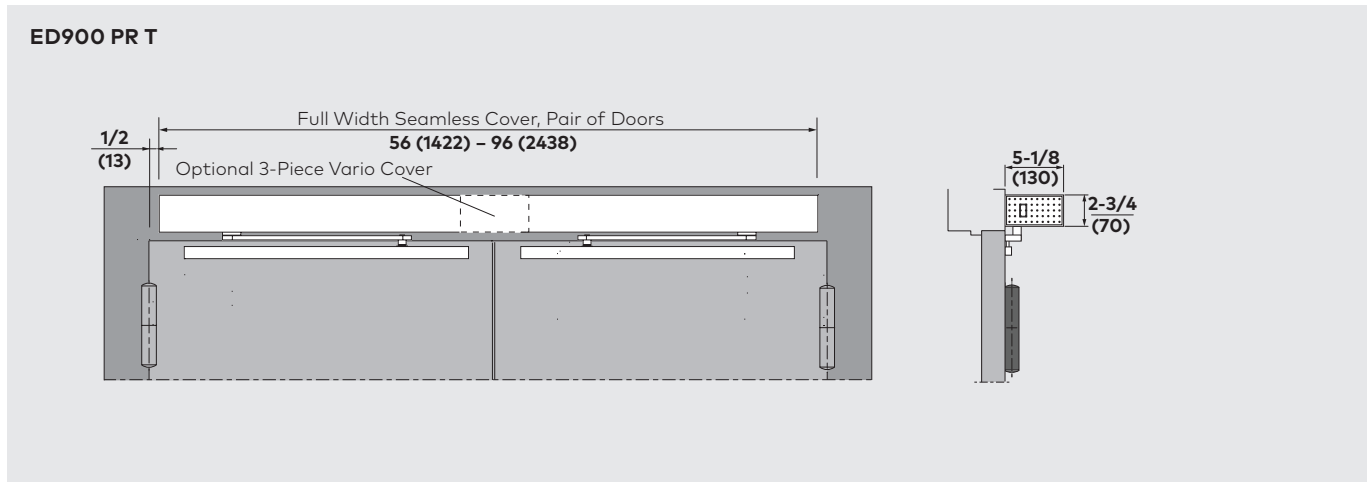
5-1/8
(130)

2-3/4
(70)

18
(457)

NOTE: Refer to the included bumper/stop to limit door travel to a maximum 110° to prevent possible damage to the ED900 arm.
Where this is not practical, the ED900 J × Drop Mount with a surface door stop is recommended.

Track Mount Installation — Single

ED900 T

Optional Full Width Cover, Single Door
(Specify Door Width)
29 (737) – 48 (1219)

1/2
(13)

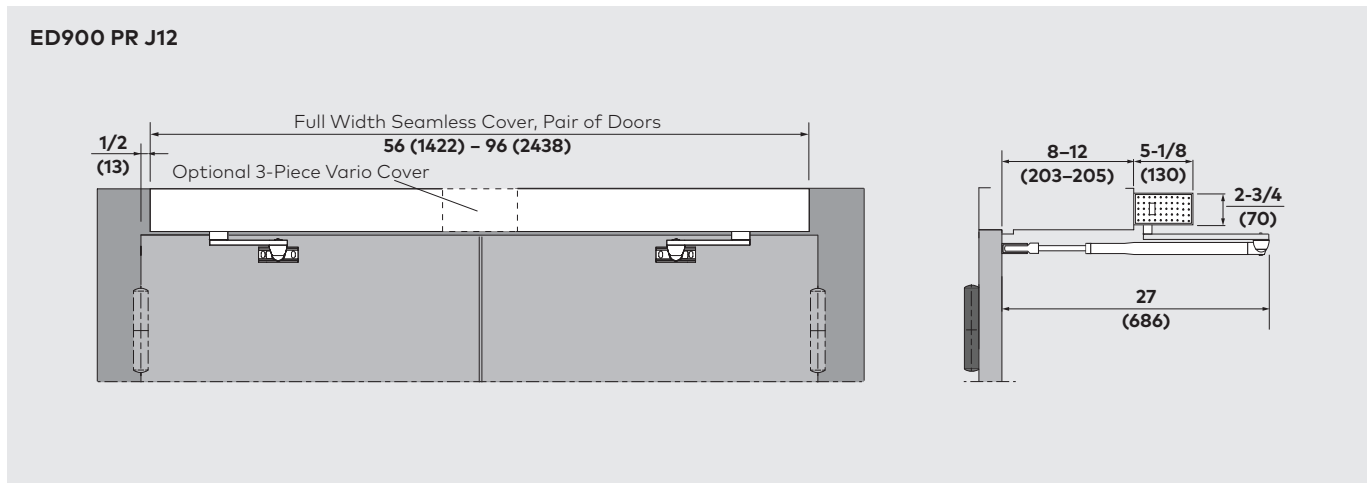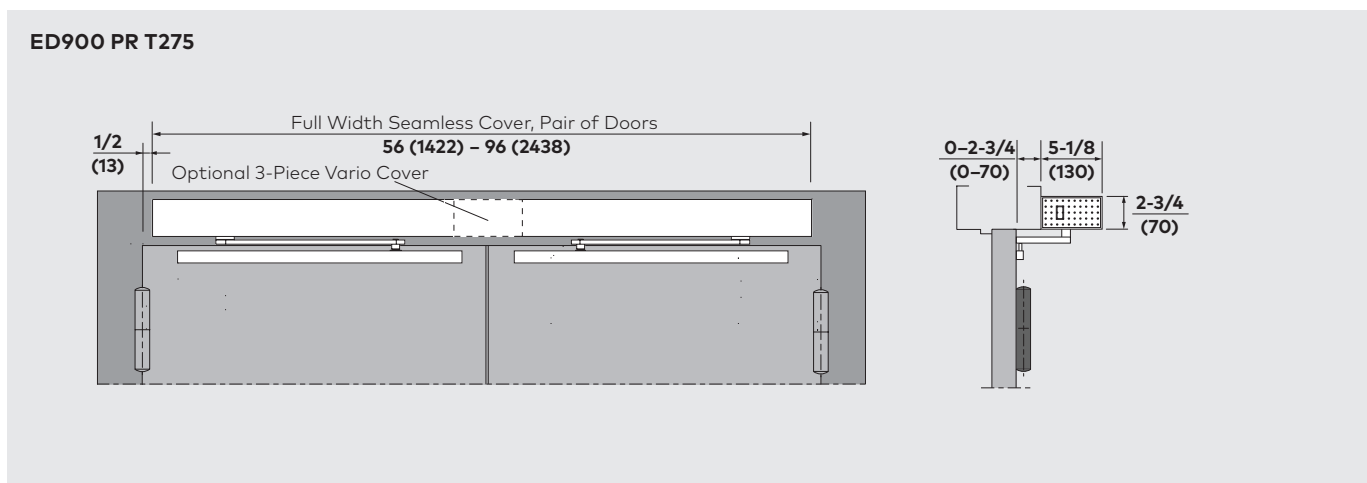Standard Width Cover
27 (686)

5-1/8
(130)

2-3/4
(70)

NOTE: Refer to the included bumper/stop to limit door travel to a maximum 110° to prevent possible damage to the ED900 arm.
Where this is not practical, the ED900 J × Drop Mount with a surface door stop is recommended.

Top Jamb Deep Reveal Installation — Single

ED900 J12

Optional Full Width Cover, Single Door
(Specify Door Width)
29 (737) – 48 (1219)

Standard Width Cover
27 (686)

1/2
(13)

8–12
(203–205)

5-1/8
(130)

2-3/4
(70)

27
(686)

NOTE: Refer to the included bumper/stop to limit door travel to a maximum 110° to prevent possible damage to the ED900 arm. Where this is not practical, the ED900 J × Drop Mount with a surface door stop is recommended.

Track Mount Deep Reveal Installation — Single

ED900 T275

Optional Full Width Cover, Single Door
(Specify Door Width)
29 (737) – 48 (1219)

Standard Width Cover
27 (686)

1/2
(13)

0–2-3/4
(0–70)

5-1/8
(130)

2-3/4
(70)

NOTE: Refer to the included bumper/stop to limit door travel to a maximum 110° to prevent possible damage to the ED900 arm. Where this is not practical, the ED900 J × Drop Mount with a surface door stop is recommended.

Top Jamb Installation — Pair

ED900 PR J8

Full Width Seamless Cover, Pair of Doors
56 (1422) – 96 (2438)

Optional 3-Piece Vario Cover

1/2
(13)

0–8
(0–203)

5-1/8
(130)

2-3/4
(70)

18
(457)

NOTE: Refer to the included bumper/stop to limit door travel to a maximum 110° to prevent possible damage to the ED900 arm. Where this is not practical, the ED900 J × Drop Mount with a surface door stop is recommended.

Track Mount Installation — Pair

ED900 PR T

Full Width Seamless Cover, Pair of Doors
56 (1422) – 96 (2438)

1/2 (13)

Optional 3-Piece Vario Cover

5-1/8 (130)

2-3/4 (70)

NOTE: Refer to the included bumper/stop to limit door travel to a maximum 110° to prevent possible damage to the ED900 arm. Where this is not practical, the ED900 J × Drop Mount with a surface door stop is recommended.

Top Jamb Deep Reveal Installation — Pair

ED900 PR J12

Full Width Seamless Cover, Pair of Doors
56 (1422) – 96 (2438)

1/2 (13)

Optional 3-Piece Vario Cover

8–12 (203–205)

5-1/8 (130)

2-3/4 (70)

27 (686)

NOTE: Refer to the included bumper/stop to limit door travel to a maximum 110° to prevent possible damage to the ED900 arm. Where this is not practical, the ED900 J × Drop Mount with a surface door stop is recommended.

Track Mount Deep Reveal Installation — Pair

ED900 PR T275

Full Width Seamless Cover, Pair of Doors
56 (1422) – 96 (2438)

1/2 (13)

Optional 3-Piece Vario Cover

0–2-3/4 (0–70)

5-1/8 (130)

2-3/4 (70)

NOTE: Refer to the included bumper/stop to limit door travel to a maximum 110° to prevent possible damage to the ED900 arm. Where this is not practical, the ED900 J × Drop Mount with a surface door stop is recommended.
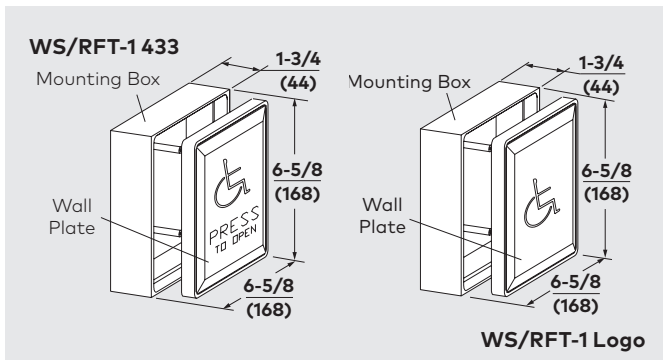
Accessories
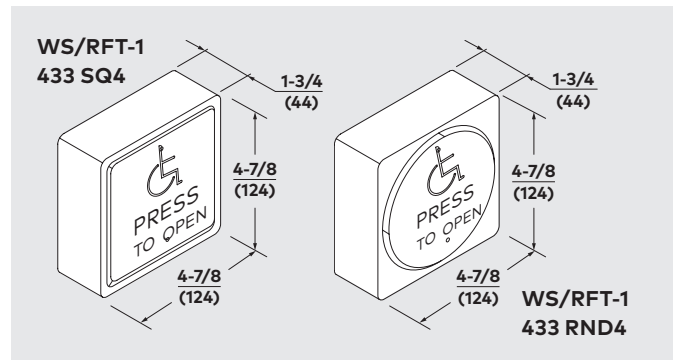
Wall Switches
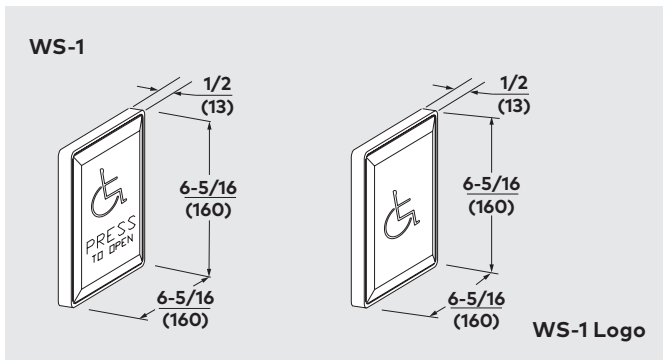
WS-1 — Tamper-resistant 6" × 6" wall plate with a normally open switch. Includes a heavy duty injection molded black ABS mounting box. Satin stainless steel wall plate with blue engraving. Wall plate displays the accessibility symbol and "PRESS TO OPEN." Fits a standard 4" × 4" electrical box. Must be hard wired. Flush design allows the optimum in weather resistance, in surface, or recessed applications.

WS-1 LOGO — Same as the WS-1, except that the wall plate displays the accessibility symbol only.
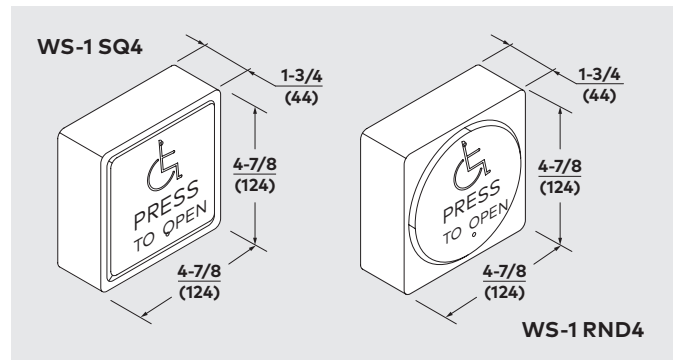
WS-1 SQ4 — Tamper-resistant 4-1/2" × 4-1/2" wall plate with a normally open switch. Includes a heavy duty injection molded black ABS mounting box. Satin stainless steel wall plate with blue engraving. Wall plate displays the accessibility symbol and "PRESS TO OPEN." Fits a standard 4" × 4" electrical box. Must be hard wired. Flush design allows the optimum in weather resistance, in surface, or recessed applications.

WS-1 RND4 — Same as the WS-1 SQ4, except that the wall plate displays the accessibility symbol only.

Wireless Wall Switches

WS/RFT-1 433 — Tamper-resistant, 433 MHz, 6"× 6" wall plate with a normally open wireless switch. Includes a heavy duty injection molded black ABS mounting box with a radio frequency transmitter and 9 VDC battery. Must be used in conjunction with the RFR 433 receiver. Maximum range is 50ft. Satin stainless steel wall plate with blue engraving. Wall plate displays the accessibility symbol and "PRESS TO OPEN." Flush design allows the optimum in weatherresistance, in surface, or recessed applications. Ideal where conditions prohibit hard wiring.

WS/RFT-1 LOGO 433 — Same as WS/RFT-1 433, except that the wall plate displays the accessibility symbol only.
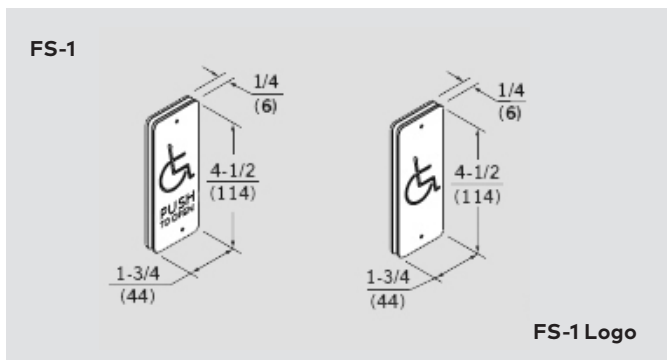
WS/RFT-1 433 SQ4 — Same as WS/RFT-1 433, except wall plate is 4-1/2" × 4-1/2" square.

WS/RFT-1 433 RND4 — Same as WS/RFT-1 433, except wall plate is 4-1/2" round.
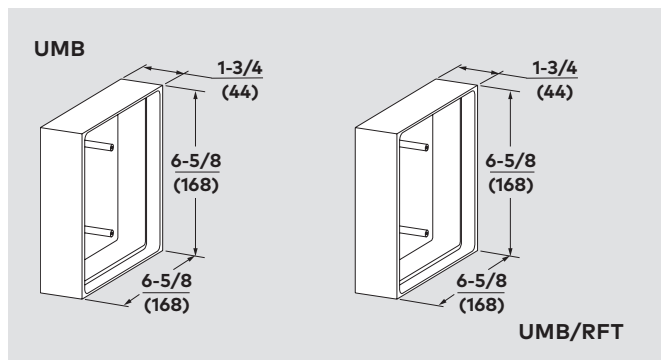
Frame Switches

FS-1

FS-1 Logo

FS-1 — 1-3/4" × 4-1/2" frame plate with a normally open switch. Satin stainless steel frame plate with blue engraving. Frame plate displays the accessibility symbol and "PRESS TO OPEN." Fits a minimum 1-3/4" × 4" frame section. Must be hard wired.

FS-1 LOGO — Same as FS-1, except that wall plate displays the accessibility symbol only.
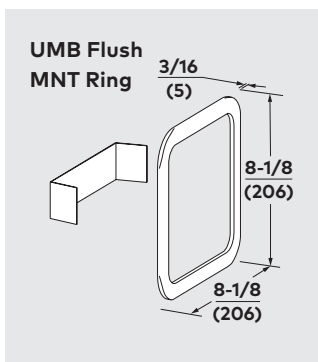
Mounting Boxes

UMB

UMB/RFT

UMB — Black ABS universal replacement mounting box for WS-1 type switches.

UMB/RFT — Black ABS universal replacement mounting box for WS/RFT-1 type switches. Includes a radio

Flush Mount Ring

UMB Flush MNT Ring

UMB Flush MNT Ring — Black ABS flush mount ring and metal mounting bracket. The ring is designed to cover the gap between the mounting box and the switch plate cutout in the wall for a nice clean look.

Hand Held Transmitters

HH/RFT-1 433

HH/RFT-4 433
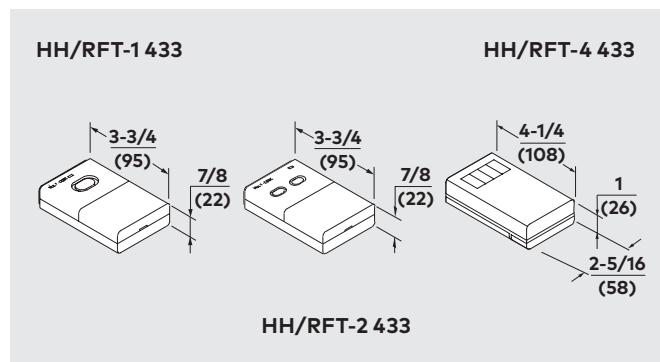
HH/RFT-2 433

HH/RFT-1 433 (Single Frequency), HH/RFT-2 433 (Dual Frequency), HH/RFT-4 433 (Quad Frequency) — Compact, portable, 433 MHz switches. Must be used with RFR 433 receiver. Maximum range is approximately 50 ft (depending on conditions). Powered by 9 VDC battery.

Well suited where multiple users must activate ED900 for accessibility, security, convenience, or where use of an exposed switch is not practical. Neutral case with grained finish. HH/RFT-2 and -4 433 require one RFR 433 per frequency.

Key Chain Transmitters

KC/RFT-1 433
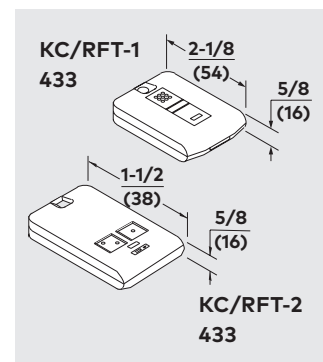
KC/RFT-2 433

KC/RFT-1 433 (Single Frequency), KC/RFT-2 433 (Dual Frequency) — Similar to HH/RFT-1 433 or HH/RFT-2 433, but more compact. Must be used with RFR 433 receiver. KC/RFT-2 433 requires one RFR 433 per frequency. The small size permits the use as a key chain or in cases where the hand held transmitter is too large. Powered by a watch battery.

Time Delay Module

TDM

2-3/16
(55)

4-1/16
(103)

7/8
(23)

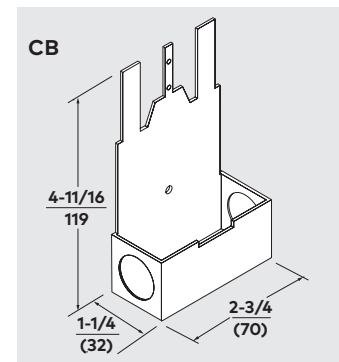## Conduit Box

CB

4-11/16
119

1-1/4
(32)

2-3/4
(70)
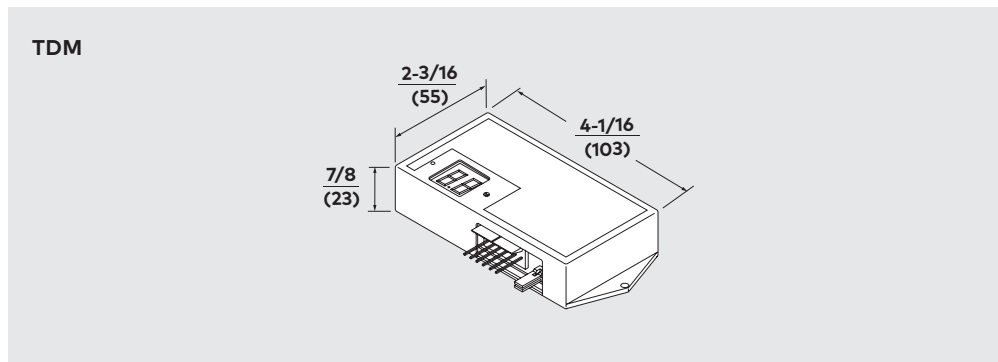
TDM — Advanced time delay module, allowing the installer to use only one time delay for any automatic door operation, on electrically or magnetically locked doors. TDM is required for vestibule sequencing and simultaneous triggering of (2) ED900 operators.
Takes 1 to 4 inputs and converts them to sequential relay outputs.

As a make/break relay, it eliminates mechanical binding of the locking mechanism on an automatic door. Make relay can be configured as a wet output to directly apply power to an electric locking device.

To sequence vestibule sets of doors, unit provides an initial relay output for the first door, a delay between

outputs 1 and 2, and another output for the second door. Also provides a delay between outputs 2 and 1, allowing you to sequence your vestibule in both directions with only one TDM. Each delay adjustable from 0.0 to 99 seconds.
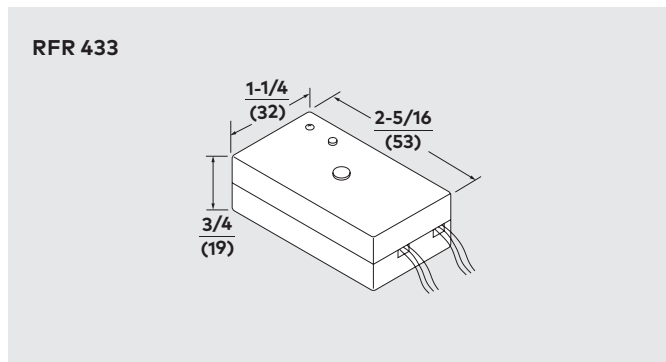
Power Requirements
12–24 V AC or DC +/– 10%, 50 or 60 Hz, 83 mA @ 24 VDC.

CB — UL approved conduit box accessory to provide surface wiring of 120 VAC power to ED900.

Reciever

RFR 433

1-1/4
(32)

2-5/16
(53)

3/4
(19)

Wiring Kit

PC

4-11/16
119

1-1/4
(32)

2-3/4
(70)

3/4
(20)

7/8
(22)

3/8
(10)

11/16
(17)

19-1/2
(495)

1-5/8
(41)

11/16
(17)

RFR 433 — Radio frequency receiver, 433 MHz. Required for use with all DORMA transmitter switches. Powered from the onboard power supply of the ED900. Ideal for applications with range and signal strength problems.

Maximum range typically 50 ft (conditions permitting).

Surface applies remotely. Operates on 12 or 24 Volts AC or DC. 16 mA nominal (50 mA max. when relay is triggered).
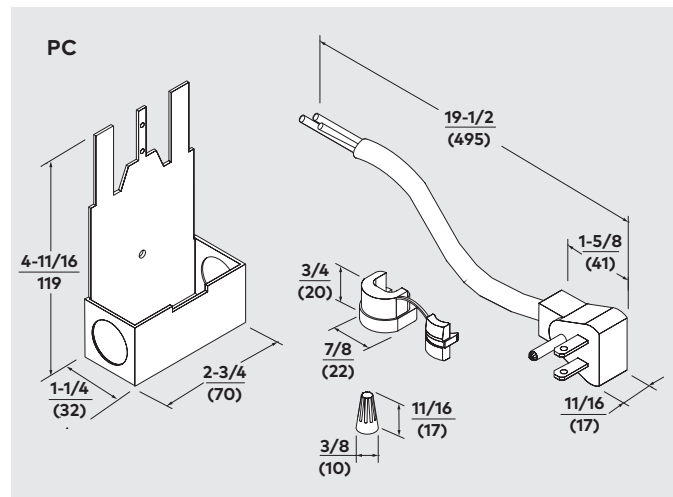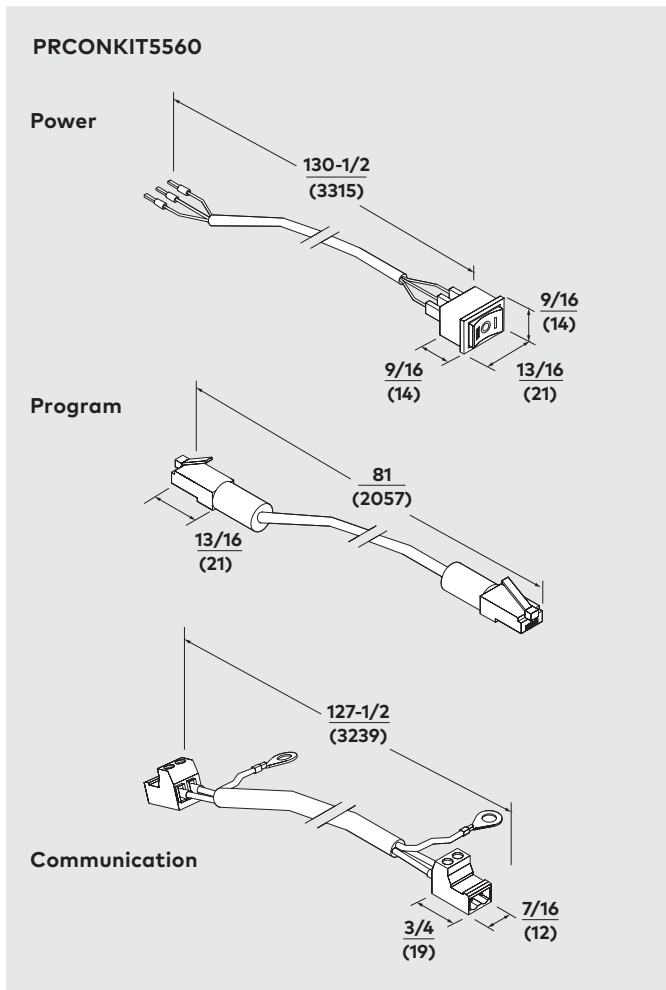
PC — Eliminates need for hard wiring. Permits ED900 to plug directly into 120 VAC/60 Hz receptacle. Cord measures 15" from end cap to center of plug.

Kit includes
• Power cord
• Wire nut
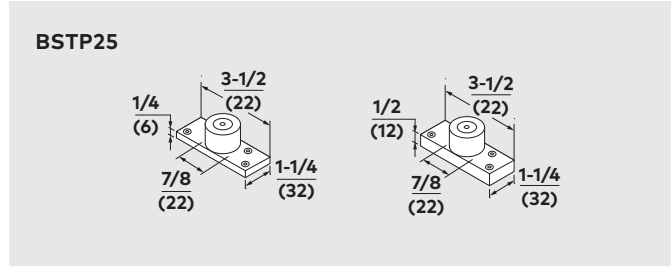• Cord grip
• Conduit box

Full-Width Three Piece Cover Kit

PRCONKIT5560

Power

130-1/2
(3315)

9/16
(14)

9/16
(14)

13/16
(21)

Program

81
(2057)

13/16
(21)

Communication

127-1/2
(3239)

3/4
(19)

7/16
(12)

Bumper Stops

BSTP25

3-1/2
(22)

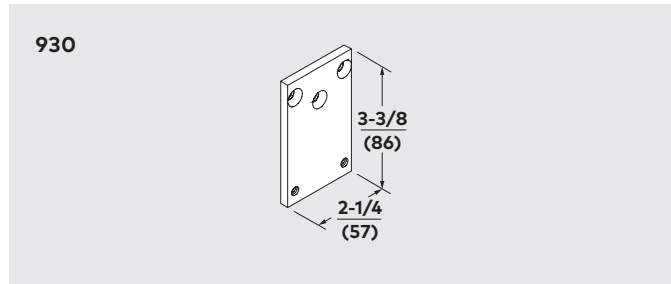1/4
(6)

7/8
(22)

1-1/4
(32)

3-1/2
(22)

1/2
(12)

7/8
(22)

1-1/4
(32)

BSTP25 (1/4" thick base plate)/ BSTP50 (1/2" thick base plate) — Header mounted bumper stop provides protection for

ED900J operator and door by limiting degree of opening when bumper stop is correctly located and installed.
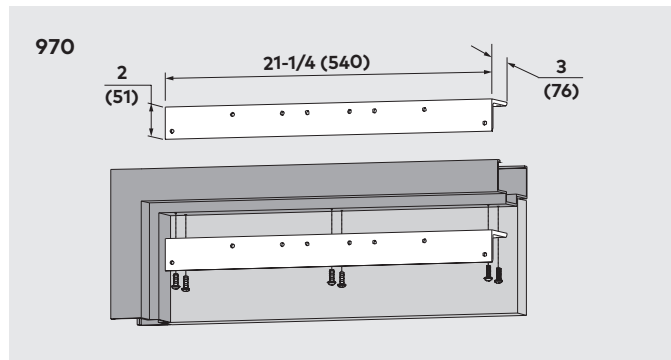
Drop Plate

930

3-3/8
(86)

2-1/4
(57)

930 — For mounting arm shoe in top jamb drop application when top door

rail is less than 4-5/8" (2" minimum required).

Angle Bracket

970

2
(51)

21-1/4 (540)

3
(76)

970 — For mounting ED900 J easily on deep reveal frame conditions or when frame face is less than 1-3/4".

Frame must be properly reinforced to secure bracket. Requires 2-3/4" minimum soffit width.

PRCONKIT5560
Allows installation and communication of two ED900s on a pair of doors.

Includes
• Communication cable to program coordination of the two operators.

• Power cable to link operators.
• New programming switch to enable proper commissioning.
• Backplate, middle cover, and seam covers.
• Kit can accommodate paired openings 86" to 110".

www.dormakaba.us