

SECTION 08 71 00

DOOR HARDWARE

PART 1 – GENERAL

- 1.1 The purpose of this guideline is to assist the Design Architect in the proper selection of Door Hardware and to ensure maintaining the University of Texas at Arlington standardization of door hardware. It is the Architect's responsibility to properly coordinate these products to meet applicable building codes, life safety codes and ADA requirements during preparation of the Hardware Sets when developing Section 08 71 00 – Door Hardware.
- 1.2 The Architect is to consult with a representative of UT Arlington during preparation of the Hardware Sets to determine the function of each door and required locations of access control products. The door hardware specification must contain the following:
- 1.3 LESSONS LEARNED AND DESIGN CONSIDERATION**
- A. The Contractor shall provide all door hardware components, including construction lock cores, which will be swapped out by UTA Key Shop.**
 - B. Keying Meeting: Prior to the release of orders to the lockset manufacturer, meet with the UT Arlington Lock Shop to review the keying requirements.**
 - C. New academic buildings shall use CorMax cores. Verify with UT Arlington Lock Shop at the beginning of project.**
 - D. No closers or kick plates on Office doors.**
- 1.4 **QUALITY ASSURANCE**
- E. Pre-Installation Conference for Hardware: Prior to installation of mechanical and electronic hardware, arrange a conference between manufacturer's representatives, hardware supplier, hardware installers and related trades to review materials, procedures and coordinating related work.
 - F. Hardware specification shall be reviewed and approved by UT Arlington.
- 1.5 **EXTRA MATERIALS**
- A. Pre-Installation Conference for Hardware: Prior to installation of mechanical and electronic hardware, arrange a conference between manufacturer's representatives, hardware supplier, hardware installers and related trades to review materials, procedures and coordinating related work.
 - 1). Provide 2 of each lock function.
 - 2). Provide 1 of each exit device function.
 - 3). Provide 2 of each closer arm application used.
- 1.6 **ELECTRONIC HARDWARE SYSTEMS**
- A. Provide complete wiring diagrams, prepared by an authorized factory employee, for each opening, requiring electronic hardware, except openings where only magnetic hold-open devices are specified. Provide a copy with each Hardware Schedule submitted after approval.
 - B. Provide complete operational descriptions of electronic components listed by opening in the Hardware Submittals. Operational descriptions are to detail how each electrical component functions within the opening, incorporating all conditions of ingress and egress. Provide a copy with each Hardware Schedule submitted for approval.
 - C. Provide elevation drawings of electronic hardware and systems identifying locations of the system components with respect to their placement in the door opening. Provide a copy with each Hardware Schedule submitted for approval.
 - 1). Prior to installation of electronic hardware, arrange conference between supplier, installers and related trades to review materials, procedures and coordinating related work.
 - 2). The electrical products contained within this specification represent a complete engineered system. If alternate electrical products are submitted, it is the responsibility of the distributor to bear the cost of providing a complete and working system including re-engineering of electrical diagrams and system layout, as well as power supplies, power transfers and all required electrical components. Coordinate with electrical engineer and electrician to ensure that line voltage and low voltage wiring is coordinated to

provide a complete and working system.

PART 2 – PRODUCTS

2.1 KEYING: **NO SUBSTITUTIONS ALLOWED.**

- A. Acceptable Manufacturer: Best.
- B. Match Owner’s Existing Key Systems.
- C. Furnish a total of 2 keys per cylinder. Actual cut keys to be determined by Owner.

2.2 CORES: **NO SUBSTITUTIONS ACCEPTED.**

- A. Acceptable Manufacturers: Best, 7-PIN.
- B. Renovation work: Match Buildings existing key system, unless approved in advanced by Owner Representative.
- C. Locksets: Shall be ordered less cylinder and construction cylinders shall be provided during the construction period.
- D. Permanent Keys: Shall be shipped directly to the Owner.

2.3 Hinges

- A. Acceptable Products: **NO SUBSTITUTIONS ALLOWED.**

	Ives
Standard Weight	5BB1
Standard Weight, Non-Ferrous	5BB1
Heavy Weight	5BB1HW
Heavy Weight, Non-Ferrous	5BB1HW

- B. All hinges to be 5-knuckle, in accordance with manufacturers guidelines, ball-bearing type.
- C. Hinges shall be Stainless Steel material on exterior doors and on steel material on interior doors.
- D. Provide NRP hinges on all doors.
- E. Furnish 3 hinges up to 90” high and 1 additional hinge for every 30” or fraction thereof.
- F. Provide size 4½” x 4½” for all 1¾” thick doors up to and including 36” wide. Doors over 36” wide provide 5” x 4½” hinges.
- G. Where required to, clear trim or permit doors to swing 180°, furnish hinges of sufficient throw.

2.4 Continuous Hinges

- A. Acceptable Products:

	Ives	Select
Heavy Weight	112HD	SL11

2.5 Pivots

- A. Acceptable Products
 - 1). Pivots and Intermediate pivots on Aluminum Doors shall be provided by Door Manufacturer.

2.6 Locksets

- A. Acceptable Products: **NO SUBSTITUTIONS ALLOWED.**
- B. Preferred Manufacturer:
 - 1). Grade 1 Cylindrical: Best 9K3 15D S3, 626 finish.
- C. Unless otherwise specified, all locks and latches to have:
 - 2). 2-3/4 inch Backset.
- D. Provide guarded latchbolts for all locksets, and latchbolts with sufficient throw to maintain fire rating of both single and paired door assemblies.
- E. Length of strike lip shall be sufficient to clear surrounding trim.
- F. Provide wrought boxes for strikes at inactive doors, wood frames, and metal frames without integral mortar covers.

2.7 Exit Devices

- A. Acceptable Products: **NO SUBSTITUTIONS ALLOWED.**
- B. Preferred Manufacturer:
 - 1). Von Duprin 35A/98 Series x 626. **Coordinate model with door stile if door is a glass storefront.**
 - a). Exit Devices shall be used at all Exterior Egress doors, Fire Exit Doors and Stairwell Doors.

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- b). Provide pull trim at exterior doors. Provide lever trim for interior applications.
- c). Provide through bolts for all exit devices.
- d). Provide standard hex-key dogging on all non-fire rated exit devices. Cylinder dogging shall be used only at the request of the Owner.
- e). Vertical Rod Exit Devices are not permitted unless required by code. Rim Exit Device and removable mullion to be provided and installed wherever possible. When vertical rod exit devices are used, provide and install interior surface and concealed vertical rod exit devices as Less Bottom Rod (LBR) unless otherwise indicated.
- f). All exterior doors requiring access control shall be furnished with QEL function (Electric Latch Retraction). Provide PS873 with Altronix eFlow 6NX8 Power Supply with options required to fit application. Provide 24VDC power supply for use with Sargent Electric Latch Retraction. **All Power Supplies to be located in HUB rooms, not above doors.**
- g). Provide (EPT) Electric Power Transfer on all doors with Electric Latch Retraction.
- h). Provide Key Removable Mullions as required by Owner.
- i). Provide all doors with factory documented 3 year warranty.
- j). **All exterior doors are required to be tied into campus wide remote locking system and equipped with electronic locking mechanisms, DPSs, etc.**

2.8 Door Closers

- A. Acceptable products: ***NO SUBSTITUTIONS ALLOWED.***

	<u>LCN</u>
Exterior Doors	4040 CUSH Series
Interior Doors	4040 Standard Arm Selections

- B. Through-bolts shall ***NOT*** be provided unless required by Door Manufacturer at rated openings.
- C. Provide spring cushion arm on all exterior applications and interior out swinging corridor applications where a wall stop cannot be used.
- D. Supply appropriate arm assembly and drop plates where required for each closer so that closer body and arm are mounted on non-public side of door opening and on the interior side of exterior openings, except where required otherwise in the hardware sets.
- E. Provide blade stop spacers and 5th screw hole supports where required by frame conditions.
- F. All door closers shall have a factory documented 10 year warranty.

2.9 Automatic Door: See Section 08 42 29 – Automatic Entrances, for additional information.

- A. All door closers shall be ANSI 156.19, Grade 1 Certified.
- B. Units shall have adjustments for door closing force and back-check, motor assist from 0 to 30 seconds, motor start up delay, vestibule interface delay, electric lock delay, and door hold open delay up to 30 seconds.
- C. Operator units shall provide conventional door closer opening and closing forces unless the power operator motor is activated by an initiating device with door closer assembly having adjustable spring size, back-check valve, sweep valve, latch valve, speed control valve, and pressure adjustment valve to control door closing.
- D. Operators shall have push and go function to activate power operator or power assist functions. Units shall have a presence detector input to prevent a closed door from opening or a door that is fully opened from closing and shall have a hold open toggle input to allow remote activation for indefinite hold open; door shall close the 2nd time the input is activated.
- E. Operators shall have a SPDT relay for interfacing with latching or locking devices.
- F. All controlling operator switches shall be of radio-frequency design and not hardwired.
- G. All exterior doors shall have locking mechanism.
- H. All exterior doors shall tie into campus remote locking system.

2.10 Door Stops

- A. Acceptable Products: ***NO SUBSTITUTIONS ALLOWED.***

	<u>Ives</u>
Exterior Doors	FS18S
Interior Doors	FS13, FS17
Wall Stops	WS406/407CCV
	WS406/407CVX

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- B. Furnish a wall stop at all interior doors where possible and overhead stop where there is no wall to stop door and a cushion stop arm is not being used on the closer.
- C. Floor stops shall be used at exterior doors and at rooms that will be unoccupied.

2.11 Flat Goods

- A. Acceptable Products: **NO SUBSTITUTIONS ALLOWED.**

	<u>Rockwood</u>	<u>Trimco</u>	<u>Hager</u>
Pulls	108	Equivalent	Equivalent
Push Plates	70C 6 x 16	Equivalent	Equivalent

- B. All kick plates shall be 10” high x 2” less door width on single doors, 1” less door width on pairs of doors.
- C. All armor plates shall be a maximum 40” high or as high as possible without conflicting with locksets and exit devices, and 2” less door width on single doors, 1” less door width on pairs of doors.
- D. All protection plates shall be 16 gauge (.050” thick).
- E. All protection plates shall have countersunk holes and all 4 edges beveled.

2.12 Flush Bolts & Coordinators

- A. Acceptable Products: **NO SUBSTITUTIONS ALLOWED.**

	<u>Ives</u>
Flush Bolts	FB51P/FB61P
Dust Proof Strikes	DP2
Coordinator	COR x FL

- B. Provide coordinators at all pairs of doors having automatic flush bolts and closers on the inactive leaf, and for pairs of doors having vertical rod/mortise exist device combinations with overlapping astragals.
- C. Provide appropriate filler bars, closer mounting brackets, carry bars, and special top latch preparations as required by adjacent hardware.

2.13 Electromechanical Products

- A. All electromechanical hardware equipment must be compatible and integrate with CBORD Squadron door controllers.
- B. Acceptable Manufacturers:
 - 1). Allegion
 - 2). Schlage
 - 3). Products as approved by Owner.
- C. Preferred Electronic Locks:
 - 1). Schlage ND80 or L Series wired electric
- D. Preferred Electric Latch Retraction:
 - 1). Von Duprin QEL Function
- E. Power Supplies:
 - 1). Altronix eFlow4N8-12V Power Supply or Altronix eFlow6NX8-24V Power Supply as appropriate.
 - 2). Power supply installed at HUB room; not above respective door.
- F. Auto Operators:
 - 1). Detex AO19 Series AO19-1
- G. Electric Power Transfers:
 - 1). Von Duprin EPT 2/EPT 10 as required for Exit Devices
 - 2). Confirm application with Owner.
- H. Magnetic Locks: **CURRENTLY NOT USED BY OWNER.**
- I. Electric Strikes:
 - 1). As approved by Owner. Confirm with Owner.

2.14 Seals and Gaskets

- A. Acceptable products:

	<u>National Guard</u>	<u>Pemko</u>	<u>Zero</u>
Thresholds	425E	171A	Equivalent
Weather Strip	130NA	315CR	Equivalent
Smoke Seals	2525	S88	Equivalent

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Drip Caps	16	346	Equivalent
Sweeps	C627, 600	345AP, 18041CP	Equivalent
Astragal	125N	305N	Equivalent

- B. To comply with UL 10C, UBC test 7-2, provide category “A” Intumescent as part of the fire rated wood door assembly. This material shall be specified in Section 08 14 00 – Wood Doors.
- C. Substitutions per Division 01.

PART 3 – EXECUTION

3.1 QUALITY ASSURANCE

- A. Post-Installation Inspection for Hardware: Upon completion of installation of all door hardware and prior to Owner acceptance of the project, arrange a post-installation inspection of all mechanical and electrical door hardware. Inspection shall include the Contractor, Architect, Hardware Supplier and Hardware Manufacturer’s Representative. Repair or replace any product found to be installed improperly or functioning incorrectly. Any additional costs related to repair or replacement shall not be the responsibility of the Owner.

PART 4 – APPENDIX

4.1 PRODUCT DATA / CUT SHEETS

- A. Best, 9K Series Locksets
- B. Schlage, B500 Series Deadbolt
- C. LCN, 4040XP Series Closer
- D. Detex, AO19 Series Automatic Door Operator – AO19-1
- E. Von Duprin, 33A/35A Exit Device
- F. Von Duprin, 98/99 Exit Device
- G. Ives, 5BB1 Hinges
- H. Ives, 5BB1HW Heavy Duty Hinges
- I. Select Hinges, SL11 Continuous Hinges
- J. Rockwood, 108 Door Pull
- K. Ives, 8400 Series Kick Plate
- L. Ives, 8200/8300 Series Push Plate/Pull Plate
- M. Ives, WS406/407CVX Wall Bumper
- N. Ives, FS13 Interior Floor Stop
- O. Ives, FS18S Exterior Floor Stop
- P. Rockwood, 570 Floor Strike
- Q. Rockwood, 555 Flush Bolt
- R. Schlage, M490/492 Electromagnetic Locks
- S. Schlage, M400 Series Glass Door Kit – HDB
- T. Mercury Security, MR5 Magnetic Card Reader
- U. Alarm Controls, TS-21RPN Pneumatic Exit Button
- V. Bosch, DS160 Series High Performance Request-to-exit Detectors
- W. Schlage, ND Series Cylindrical Locks

END OF SECTION

Backset – 2 3/4" standard, 3 3/4" and 5" available.

Chassis – Critical latch and chassis components are brass or corrosion-treated steel. 2 1/16" diameter to fit 2 1/8" hole in door (Conforms to ANSI A115.2). Lost Motion feature available as an option. (see page 5 for options/features).

Door thickness – Available for 1 3/4" to 2 1/4" doors only. Spacers available for 1 3/8" doors.

Roses – C – 3" Convex, D – 3 1/2" Convex, K – 3" Convex-no ring, L – 3 1/2" Convex-no ring

Products protected by one or more of the following patents – 5,590,555 5,794,472 Other products patent pending.

Finishes –

(BHMA) US	DESCRIPTION	(BHMA) US	DESCRIPTION	(BHMA) US	DESCRIPTION
605 3	bright brass	613 10B	oxidized satin bronze, oil rubbed	622 19	flat black
606 4	satin brass	618 14	bright nickel plated	625 26	bright chromium plated
611 9	bright bronze	619 15	satin nickel plated	626 26D	satin chromium plated
612 10	satin bronze			690 20	dark bronze

Antimicrobial Finish – 626AM satin chrome plated with UltraShield™ antimicrobial protected coating

The BEST UltraShield™ finish inhibits the growth of bacteria and other microbes on the surface of the hardware.



NOTE: BEST's UltraShield™ option is recommended for use on any hardware application where product cleanliness is a high priority. i.e.: Hospital/Healthcare, Elderly Care, Education, Transportation, Food-Service, Hospitality.

Latch – Solid brass 9/16" throw. Front 2 1/4" x 1 1/8" beveled.

Lever handles – Lever handles are a high-quality zinc alloy. Trim components are brass or bronze. Body is approximately 5/8" in diameter; Handle is approximately 4 3/4" long (from center-line of chassis). #14 and #15 levers conform to California Administrative Code Title 19 and Title 24. All three styles of levers conform to the Illinois Accessibility Standard.

Mounting – In addition to standard door preparation (ANSI A115.2 for 1 3/4" doors), two additional holes are needed for through-bolts. Through-bolts require two 5/16" diameter holes located at 12 o'clock and 6 o'clock positions. A drill jig can be ordered to insure accuracy of the holes. (see KD303 page 5).

Projection on door – Approx. 2 3/4" when mounted on 1 3/4" door.

Strike – STK: Conforms to ANSI A115.2 (2 3/4" x 1 1/8" with curved lip & box). S3: Conforms to ANSI A115.2 for 1 3/4" doors (4 7/8" x 1 1/4" with curved lip). S3-7/8: Conforms to ANSI A115.2 for 1 1/4" doors (4 7/8" x 1 7/8" flat)

How to Order

9K	3	7	AB	15	A	STK	626	
Series	Backset	Core Housing	Function Code	Lever	Rose Style	Strike Package	Standard Finishes	Options
9K	3 – 2 3/4" 4 – 3 3/4" 5 – 5"	0– keyless 7– 7-pin housing accepts all BEST® cores	AB– entrance D– storeroom L– privacy N– passage R– classroom etc.	♿14– curved return ♿15– contour angle return ♿16– curved no return	C– 3" convex D– 3 1/2" convex K– 3" convex - no ring L– 3 1/2" convex - no ring	STK– 2 3/4" ANSI S3– 4 7/8" ANSI S3– 7/8- 7/8" flat strike	605 606 611 612 613 618 619 622 625 626 690	AL– abrasive lever LL– lead lined LM– lost motion RQE– request to exit** SH– security head screws TL– tactile lever 3/4– 3/4" throw latch 7/8" LTC– flat lip strike NOTE: specify inside (I), outside (O), or both (B) for AL,TL options
			pages 6-9	pages 4-5	pages 4-5	page 11		page 5

*Handles are made from a zinc alloy, and have been plated to be equivalent in appearance to the finishes listed.

For information on 9K non-IC products please refer to BEST's non-IC keying products brochure.

**RQE option requires modification to chassis and is sold with assembly unit only.

Shipping Weights

The chart is the approximate shipping weight for the standard 9K functions locksets. This weight includes the weight of the lockset with the "#15" style lever, "K" style rose, latch, strike package, and box. Listed separately are the approximate weights for "with core" and "less core" shipments.

Lock Function Nomenclature	Case Quantity	Shipping Weight With Core	Shipping Weight Less Core
Y	9		31 lbs
N	9		40 lbs.
L,NX,P	9		40 lbs.
AB,D,E,H,HJ,R,T	9	42 lbs.	40 lbs.
C,G,IN,S,W	9	44 lbs.	40 lbs.

Lever Styles and Trim

#14C 



#15C 



#16C 



#14D 



#15D 



#16D 



#14K 



#15K 



#16K 



#14L 



#15L 



#16L 





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Schlage B500-Series Deadbolt

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- [Schlage B250-Series Deadlatch](#)

Overview

Styles

Downloads

Key Systems

Options/Accessories



Select Sweets ProductTAG to Annotate Content

Latches and Bolts

B-Series bolt and latch fronts are available in a variety of configurations to fit your door prep dimensions. Latches are furnished in brass, bronze or chrome finishes compatible with the lock finish.

B500-Series Deadbolts

Number	Backset	Description	Housing
12-288	Adjustable: 2 3/8" or 2 3/4"	1" x 2 1/4" - square corner	1"
12-289	Adjustable: 2 3/8" or 2 3/4"	1 x 2 1/4" - 1/4" radius corner	1"
12-287	Adjustable: 2 3/8" or 2 3/4"	Triple option includes: square corner, 1/4" radius and drive-in faceplates	1"
12-290	Adjustable: 2 3/8" or 2 3/4"	Circular / drive-in (626 only)	1 1/16"
12-291	Adjustable: 2 3/8" or 2 3/4"	1 1/8" x 2 1/4" - square corner	1"

Door Reinforcement

Reinforcing unit is required to reinforce and help prevent the collapse of hollow metal doors when locksets are tightly mounted. This kit should be used with long backsets for B-Series lock installations in hollow metal doors to prevent lateral movement of the latchbolt. Specify door thickness, 1 3/8" (35 mm) or 1 3/4" (44 mm), when ordering reinforcement kits.

Reinforcement Kit

37-001

Kit includes:

Reinforcement

A501-566 for 13/4" doors or

A501-565 for 13/8" doors

Sleeve

A501-567 for 5" backsets

Strikes

All B-Series strikes are fully reversible for right handed and left handed doors, and are furnished complete with screws. Strike boxes are also included with all standard strikes. B-Series deadbolt strikes are also packed with

Related Products

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our exclusive wood frame reinforcer or a metal dust box reinforcer for added protection against "kick-in" attack.

Strikes for Deadbolts (B-500)

Number	Lip Length	Description
10-064	----	1 3/16" Circular drive-in
10-087	1 3/16"	1 1/4" x 4 7/8" ANSI
10-092	1 1/8"	1 5/8" x 2 1/4" Radius round corner, no box
10-094	----	1 1/8" x 2 1/4" x 3/32" Square corner, no box
10-095	1 1/8"	1 5/8" x 2 1/4" Full lip, no box
B250-283	----	Box for 10-055, 10-094 and 10-108
10-104	----	1/4" round corner 1 1/4" x 3 5/8". 4 hole no reinforcement strike provided. 605, 609, 620, 650 only
10-108	----	Round corner, 1 1/8" x 2 3/4"
10-103	----	1/4" round corner 1" x 2 1/4", no reinforcement strike provided. 605, 609, 630 only

B500-Series Tailpiece and Retainer Packs (Non-IC Models)

Function	Description	Tailpiece
B560, B563	1 3/8"– 1 3/4" (35 mm– 44 mm)	B520-651
B560, B563	1 3/4"– 2 1/4" (44 mm– 58 mm)	B520-652
B571	1 3/8"– 2 1/4" (35 mm– 58 mm)	B520-653
B580, B581	1 3/8"– 2 1/4" (35 mm– 58 mm)	B600-041
B562	1 3/8"– 1 3/4" (35 mm– 44 mm)	B600-045
B562	1 3/4"– 2 1/4" (44 mm– 58 mm)	B600-046

Two each required for double cylinder locks.

B-Series Interchangeable Core Tailpieces

Function	Tailpiece
B560BD, B563BD	B202-957
B560J, B660J, B661J, B663J	B600-041
B562BD (two tailpieces required)	B202-580
B562J, B662J (two tailpieces required)	B600-040
B660BD, B663BD	B202-557
B561BD	B220-032
B662BD (two tailpieces required)	B202-370
B662BD thick door (two tailpieces required)	B202-453

B600R and B700R-Series use the same tailpieces as listed for B600J-Series.

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LCN®

4040XP Series

Door controls



Fire Rated: Tested on fire door assemblies in accordance with Australian Standards, refer fire door manufacturer for specific approval details

The LCN 4040XP Series is a non-handed surface mounted door closer. A wide choice of options, mounting accessories and ease of installation offer maximum versatility.

The LCN 4040XP Series is a heavy duty door closer designed to be used on aluminium, hollow metal or wood swinging commercial interior/exterior doors and is ideally suited for hospitals, educational, institutional and other high traffic applications.

Features

- Universal, fully reversible, non-handed door closer
- Closer cylinder constructed of high strength cast iron for extra durability
- Tested to 10,000,000 cycles
- Fully adjustable 1-6 spring strength to suit door size and site conditions
- Factory set to strength 3
- Standard closer offers 3 installation options
 - Regular (pull side)
 - Top jamb (pull side)
 - Parallel arm (push side)
- Independent adjustment valves for adjusting backcheck, closing and latching speeds
- All adjustment valves are concealed behind the cover to prevent tampering
- Joints in arms and shoe brackets adapt to uneven mounting surfaces
- Fast adjust dial (fast accurate spring tension) to help installers accurately adjust the closer to match the conditions of the application. As spring power is adjusted, the size appears on the face of the dial
- Stick-on template for fast, accurate installation. Cuts installation time in half
- Closers installed according to LCN installation instructions require minimal periodic maintenance or adjustments
- Cush-N-Stop® function has a built in stop incorporated into the arm to prevent damage to the closer, door or frame in the event of an abrupt stop
- The 30 year warranty provides specifiers and users with assured quality and performance

Specification guide

Series LCN 4040XP Series LCN4040XP	Function Regular R Hold open HO	Finish Aluminium ALUM
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1. Series
Select the desired series e.g. LCN 4040XP Series LCN4040XP
2. Function
Select the required function LCN4040XPR
3. Finish
Select the desired finish e.g. Aluminium LCN4040XPRALUM

Selection chart

Select strength based on width of door

Strength	Exterior door	Interior door
2	NA	610mm - 864mm
3	610mm - 762mm	864mm - 965mm
4	762mm - 914mm	965mm - 1219mm
5	914mm - 1067mm	1219mm - 1372mm
6	1067mm - 1219mm	1372mm - 1524mm

Specifications

Door type	Timber or metal
Door size	External door 610mm - 1219mm Internal door 610mm - 1524mm
Applications	Regular - pull side mount Parallel arm - push side mount Top jamb - push side mount
Adjustment controls	Closing speed Latching speed Backcheck
Strength	1-6 adjustable
Options	Hold open arm Adaptor plate Parallel arm drop plate Square metal cover
Finishes	Aluminium, satin stainless steel (optional cover only), polished stainless steel (optional cover only)
Warranty	30 year mechanical



The LCN 4040XP is designed for reduced opening force which when set to a 1 strength makes it suitable for use by people who are frail, aged or disabled. This closer can operate at between 14-20Nm from initial opening up to 90°

Caution! Where door closers are installed and adjusted to meet reduced opening force requirements, there may be insufficient power to reliably close and latch the door, depending on prevailing operating conditions

Note In areas of high wind pressure and/or air conditioning pressures LCN Automatic Door Operators are recommended

Regulating Controls

The LCN 4040XP has independent regulators to control:

Closing speed	Adjustment to increase or decrease the speed at which the door closes. This allows the appropriate momentum to close the door in a safe and secure manner. Closing speed adjustment operates from the maximum opening to 15°
Latching speed	The latching speed allows the door to close quietly and firmly. It can be adjusted to increase or decrease the speed at which the door finally closes. This assists the final stage of the closing cycle to help overcome stubborn latch bolts or air pressure conditions. Alternatively the latching speed can be decreased to cushion the door into the frame. The latching speed adjustment operates from 15° to closing
Backcheck	Adjustable hydraulic backcheck provides a cushioning effect when the door is forcibly thrown open to prevent damage to the closer, door and frame. The backcheck adjustment allows the level of resistance in the latter stage of opening to be set at the level required. Backcheck is effective from 75°. Backcheck is a requirement for all fire rated closers
Power adjustment	Spring strength may be increased or decreased by turning the allen head screw located in the end of the door closer body

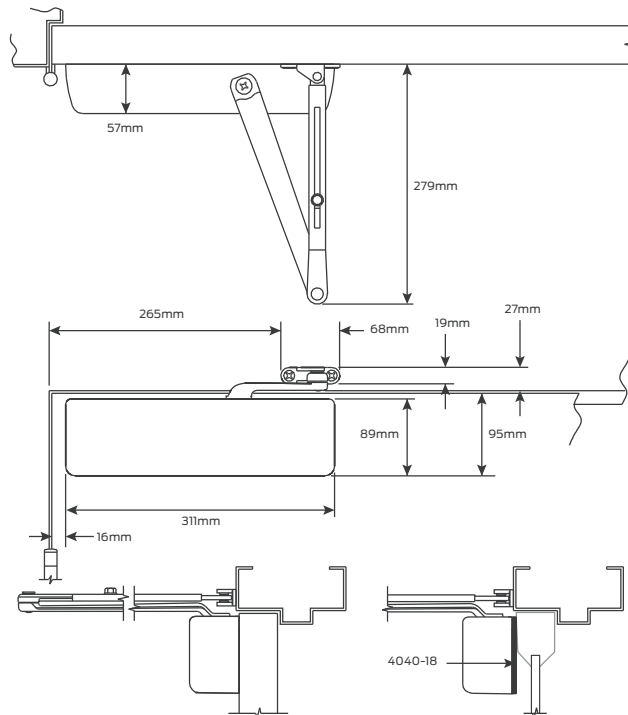
Functions

Regular	For applications where the door must fully close after each opening
Hold open	Suitable for doors where the door may need to be left in a hold open position. The hold open function can be set to hold open at a single point. Hold open closers can not be used on fire doors
Delayed action	Delayed action closers have an inbuilt adjustable control that delays the closing of the door, for up to 1 minute. The delayed action feature allows unimpeded movement through the door which makes this function suitable for frail, aged and disabled environments. The delay adjustment is totally independent of the back check adjustment. Pressure override allows the closer to be pulled closed from the delay cycle without causing damage
Cush-N-Stop®	Used predominantly on outward swinging doors in situations where it is not practical to fit a door stop. The Cush-N-Stop® function has a built in stop incorporated into the arm to prevent damage to the closer, door or frame in the event of an abrupt stop. It is recommended that metal door frames be reinforced where the arm attaches to the transom. Maximum door opening 100°
Hold Open Cush-N-Stop®	Provides the same function as the Cush-N-Stop®, but has the added feature of a hold open function in the arm, which is engaged/disengaged by a tee handle. Maximum door opening 100°

Mounting details

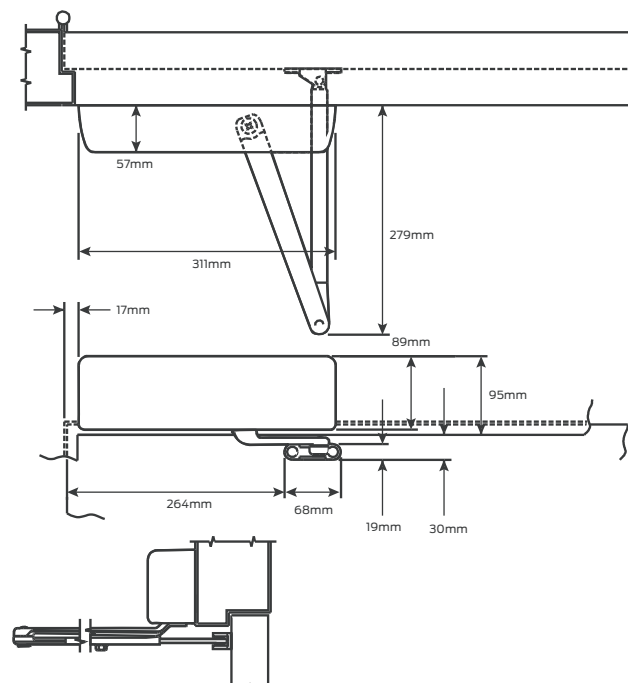
Regular (pull side) mounting

Regular mounting has a maximum opening of 120°. The hold open arm allows the door to be set at an open point between 85° to 120°. The reveal should not exceed 19mm for a regular or hold open arm. Top rail less than 95mm requires adaptor plate. Adaptor plate requires a 51mm minimum top rail. Clearance of 70mm behind door is required for 90° installation



Top jamb (push side) mounting

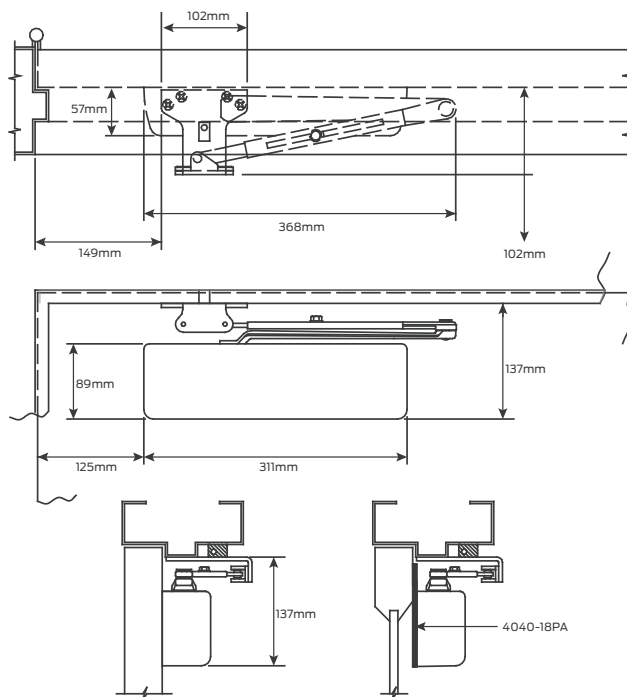
Top jamb mounting has a maximum opening of 120°. The hold open arm allows the door to be set at an open point between 85° to 120°. A reveal of 65mm for regular and hold open arms allows a 120° opening. Top rail requires 32mm minimum. Head frame requires 89mm minimum



Mounting Details

Parallel arm (push side) mounting

Parallel arm mounting has a maximum opening of 180°. The hold open arm allows the door to be set at one given open point up to the maximum opening. Clearance for the PA shoe is 102mm from door face. Top rail less than 140mm measured from the stop requires drop plate. The drop plate requires a 51mm minimum from the stop. Minimum stop width is 25mm. Blade stop clearance requires 13mm blade stop spacer. When installing closers in parallel arm configuration, strength may need to be adjusted upwards to compensate for power reduction

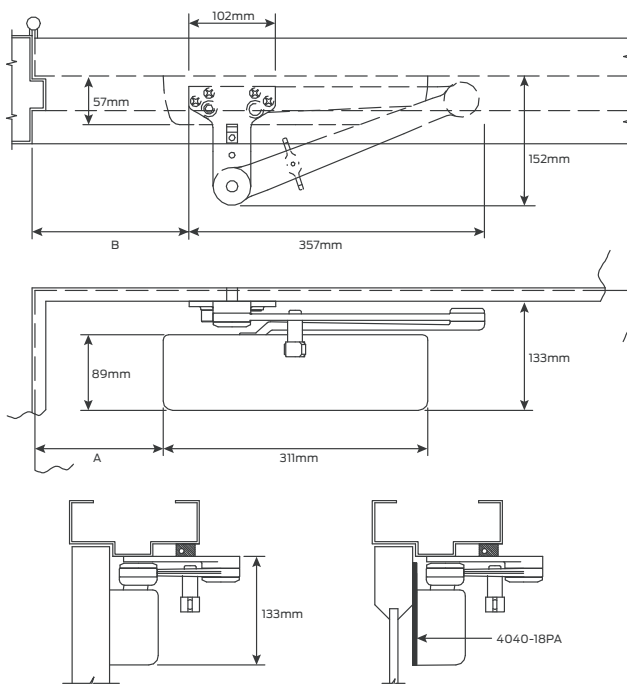


Cush-N-Stop® (push side) mounting

Cush arms can be templated for the following maximum opening/hold open points:

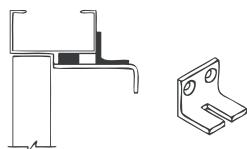
1. 85° - A = 202mm & B = 232mm
2. 90° - A = 183mm & B = 216mm
3. 100° - A = 154mm & B = 184mm
4. 110° - A = 129mm & B = 162mm

Clearance for the Cush Shoe is 140mm from door face



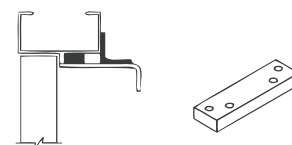
Cush shoe support 4041-30

Provides anchorage for fifth screw used with cush arms where reveal is less than 78mm



Blade stop spacer 4041-61

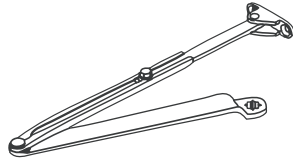
Lowers PA shoe to clear 13mm blade stop



4040XP Series accessories

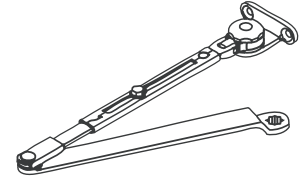
Regular arm 4041-3077

Standard, non-handed arm mounts hinge side or top jamb. For parallel arm mounting, a PA Shoe is also required
Finish: Aluminium



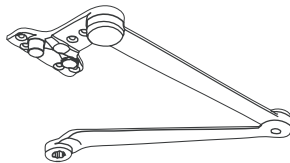
Hold open arm 4041-3049

Non-handed, hold open arm mounts hinge side or top jamb. For parallel arm mounting, a PA shoe is also required. Hold open adjustable at shoe
Finish: Aluminium



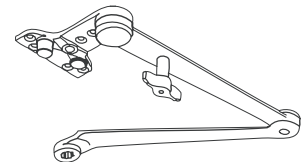
Cush-N-Stop® arm 4041-3077CNS

Non-handed parallel arm features solid forged steel main arm and forearm, with stop in soffit shoe
Finish: Aluminium



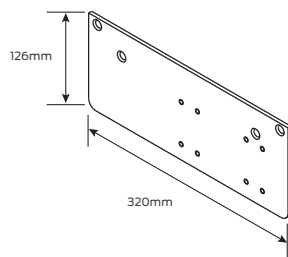
Hold open Cush-N-Stop® arm 4041-3049CNS

Non-handed arm, provides hold open function with templated stop/hold open points. Hold open controlled by tee handle.
Finish: Aluminium



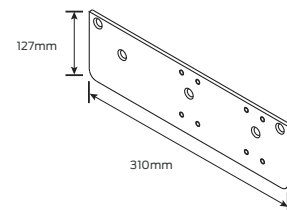
Drop plate 4040-18PA

Mounting plate required for parallel arm mounting configuration where top rail is less than 114mm, measured from the stop. A drop plate requires a 44mm minimum top rail.



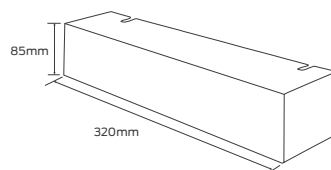
Adaptor plate 4040-18

Mounting plate required top jamb mounting where head frame is less than 60mm or a flush ceiling condition exists.



Square metal cover 4041-MC

Non-handed cover, providing complete enclosure of closer body.
Finishes: Polished stainless steel, satin stainless steel



AO19 SERIES®

AO19-1

Low Energy Automatic Door Operators for Single Doors

The AO19 Series Automatic Operator for single doors is an easy to install, heavy duty product for high use and high abuse low energy applications. The AO19 Series meets requirements for ANSI/BHMA A156.19 (American National Standard for Power Assist and Low Energy Power Operated Doors) and provides standard features that meet the requirements of the American Disabilities Act.



AO19-1 RH Push

Shown with 21 Series
Electric Latch
Retraction (ER)

Benefits

- Economical operator provides safe and easy access in medium to high-traffic and security areas
- Provides ADA compliant access to handicap applications
- Quiet operation
- Hanger plate allows quick installation
- Self-contained unit in an extruded case allows easy access for maintenance and adjustments
- Works with existing access control, locking and computer signal devices
- Reduced service calls due to heavy-duty construction
- 3-way low-voltage ON/OFF/HOLD switch for ease of service and setup
- 115VAC power plug-in mounted in header
- Easy manual use

Features

- Available in single, pair (twin) for independent, simultaneous and dual egress openings
- Power close applies a reverse power to aid in latch check position. Must be selected to activate.
- Single voltage source required to operate
- Adjustable delayed activation for sequenced vestibule doors
- Reverse on obstruction stalls a door during closing cycle and re-activates to open if an obstruction is sensed anytime before the latch position. Must be selected to activate.
- Adjustable closing speed
- Push & Go (Use for Handicap) activates when door is manually pushed to open. Must be selected to activate.
- Electric lock relay provides an adjustable delay before door opens to unlock an electric strike, maglock or other types of electric locks - prevents binding

Mechanical Options

- LH Push - Left Hand Push
- RH Push - Right Hand Push
- LH Pull - Left Hand Pull
- RH Pull - Right Hand Pull
- 39.5" - Fits above most 36" doors
- 45.5" - Fits above most 42" doors
- 52" - Fits above most 48" doors

Accessories

- 104792 - Wireless Button Package (includes 2 push plates, 2 mounting boxes and 1 receiver)
- PB-2048-3 - Mushroom switch, hard-wired
- DS-3681-630 - Electric Strike, cylindrical

Call for available activation options

Technical Information

Power Requirements -
 • 115VAC 60 HZ 3 amps

Motor
 • 115VDC rectified
 • 1/8 hp
 • 60:1 gearbox

Module -
 • Activation input terminals
 • Form C lock switch terminals
 • Safety lock-out built in
 • 17 additional features standard on board

Enclosure -
 • 7" h x 4 1/2" d
 • Approximately 50 lbs
 • Aluminum extrusion

- Push reveal depth up to 11" with standard arm. Extended arm available.
- Pull reveal depth up to 5"

Listings and Approvals



Certified to ANSI/UL 325
 Tested - ANSI 156.19



Meets ADA requirements

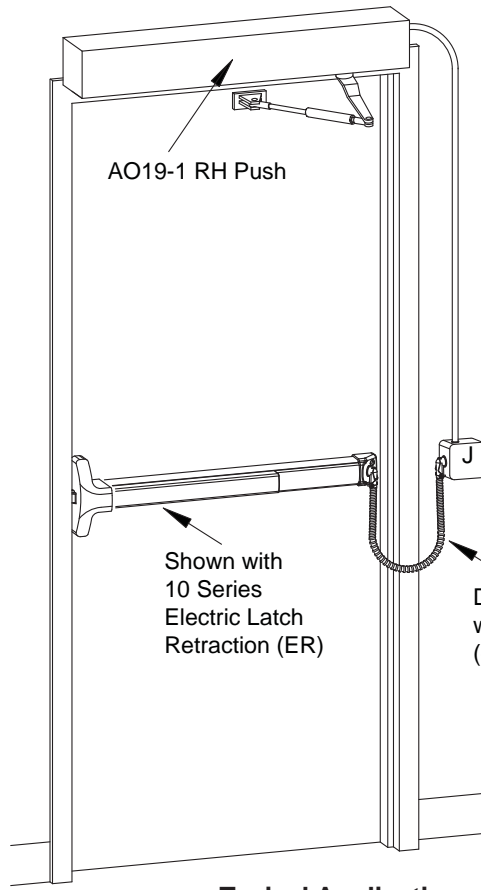


3-Hour Fire Listed

Finishes

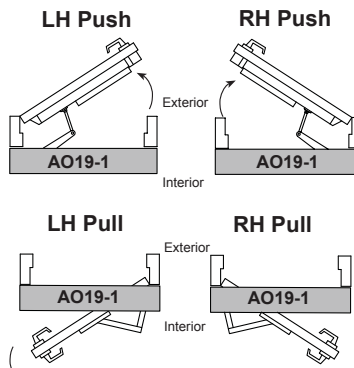
- AL - 204-Ri Clear: Arch. Class II anodized coating, AA-M12C22A31
- BZ - 313-Ri Dark Bronze: Arch. Class II Anodized coating, AA-M12C22A32

Riser Diagram



Typical Application

Handing Diagram



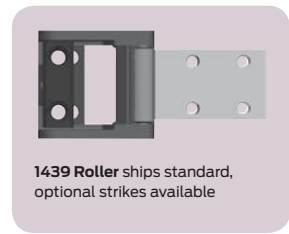
Detex Limited Warranty

3 Year Mechanical / 1 year Electrical
 Limited Manufacturer's Warranty



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 FAX (800) 653-3839
<http://www.detex.com>
 USA Sales:
marketing@detex.com
 International Sales:
export@detex.com

33A/35A Rim device



1439 Roller ships standard, optional strikes available



299 Strike needs to be specified for Hollow Metal Frames

33A and 35A for all types of single and double doors with mullion, UL listed for panic exit hardware. Devices are ANSI A156.3 – 2014 Grade 1. The 35A has a smooth mechanism case and the 33A has grooved case. The rim device is non-handed except when the SS (signal switch) option is used. See opposite page for available outside trim and device functions.

33A/35A fits door stiles as narrow as 1 3/4" (44mm). Newly designed device has a one piece center case cover.

Finishes – US3, US4, US10, US15 (35A Only) US26, US26D, US26D-AM, US28, 313 and 315.

Specifications

Device lengths	3' 2' 4" to 3' (711mm to 914 mm) Door size 4' 2'10" to 4' (864 mm to 1219 mm) Door size
Device centerline from finished floor	39 13/16" (1011 mm) 39 11/16" (1008 mm) with Mullion
Center case dimensions	8 3/16" x 1 9/16" x 2 13/32" (208mm x 40mm x 62mm)
Mechanism case dimensions	2 1/4" x 2 1/4" (57mm x 57mm)
Projection	Pushbar Neutral – 3 13/16" (97 mm) Pushbar Depressed – 3 1/16" (78 mm)
Latch bolt	Deadlocking, 3/4" (19mm) throw
Fasteners & sex bolts (SNB)	Includes 1 3/4" (44mm) – 2 1/4" (57mm) wood & metal doors #425 SNB furnished standard for end case #325 SNB furnished standard for EO (exit only device)
Electric options	ALK Alarm kit CX Chexit delayed exit EL Electric latch retraction HD-EL Electric latch retraction with hex dogging QEL Quiet electric latch retraction RX Request to exit, WP-RX waterproof option LX Latchbolt monitoring LX-RX Request to exit / latchbolt monitoring RX-LC, LX-LC, LX-RX-LC Low current option for RX, LX, LX-RX SS Signal switch CON Allegion Connect
Mechanical options	AX Accessible device
Miscellaneous options	GBK Glass bead kit PN Pneumatic SG Safety glow SEC Security screws SNB Sex bolts
Dogging feature	Hex Dogging standard CD Cylinder dogging LD Less dogging
Strikes	1439 – Dull black Optional strikes

QEL
Quiet electric latch retraction
 • Bolt retraction via switch
 • Converts exit door to push-pull operation

AX
Accessible device
 • UL certified to meet new 5 lb. maximum operating force requirement
 • Exceeds ANSI/BHMA requirements

CX
Chexit delayed exit
 • Meets NFPA 101 requirements
 • Self-contained controls, locking, alarm

ALK
Alarm exit kit
 • Unauthorized opening triggers 85-decibel horn
 • Set in armed or disarmed mode by key

EL
Electric latch retraction
 • Enables remote unlatching
 • Alternative to manual dogging

RX
Pushpad monitor switch
 • Signals use of an opening
 • SPDT switch to monitor pushpad





E (E360L)
Electric lever trim
 • Electrified remote locking/unlocking
 • Fail safe & fail secure options available
 • No key override





CON
Allegion Connectors
 • Common connectors to connect various door hardware all the way to the power supply

PN
Pneumatic latch retraction
 • For areas where electrical devices banned
 • Special linkage for mechanical or pneumatic dogging

CD
Cylinder dogging
 • Replaces hex key dogging
 • Requires standard 1 1/4" mortise cylinder

Standard trim

	EO	DT	NL	NL-OP
				
Product description	33A-EO 35A-EO	33A-DT 35A-DT	33A-NL 35A-NL	33A-NL-OP 35A-NL-OP
Trim description	—	386DT	386NL	388
Base size	—	7 ¹⁵ / ₃₂ " x 1 ⁵ / ₈ " (190x41mm)	7 ¹⁵ / ₃₂ " x 1 ⁵ / ₈ " (190x41mm)	7 ¹ / ₂ " x 1 ¹¹ / ₁₆ " (190x43mm)
Grip size	—	8 ¹ / ₂ " x 4 ⁵ / ₁₆ " (216x110mm)	8 ¹ / ₂ " x 4 ⁵ / ₁₆ " (216x110mm)	—
Projection	—	2 ⁷ / ₁₆ " (62mm)	2 ⁷ / ₁₆ " (62mm)	1" (25mm)
ANSI function	01	02	03	03
Cylinder type	—	—	Rim	Rim
Handing	—	—	Handed	—
Optional trim	—	x360L-DT x550DT x IVES 8190	—	x550DT x IVES 8190 10"

	L	L-BE	T	T-BE
				
Product description	33A-L 35A-L	33A-L-BE 35A-L-BE	33A-T 35A-T	33A-T-BE 35A-T-BE
Trim description	360L	360L-BE	360T	360T-BE
Base size	7 ¹ / ₂ " x 1 ¹¹ / ₁₆ " x 7 ⁷ / ₈ " (190x43x22mm)	7 ¹ / ₂ " x 1 ¹¹ / ₁₆ " x 7 ⁷ / ₈ " (190x43x22mm)	7 ¹ / ₂ " x 1 ¹¹ / ₁₆ " x 7 ⁷ / ₈ " (190x43x22mm)	7 ¹ / ₂ " x 1 ¹¹ / ₁₆ " x 7 ⁷ / ₈ " (190x43x22mm)
Grip size	—	—	—	—
Projection	3" (76mm)	3" (76mm)	1 ¹³ / ₁₆ " (46mm)	1 ¹³ / ₁₆ " (46mm)
ANSI function	08 or 09 field selectable	—	11 or 12 field selectable	—
Cylinder type	1 ¹ / ₄ " Mortise	—	1 ¹ / ₄ " Mortise	—
Handing	Handed/Reversible	Handed/Reversible	—	—
Optional trim	—	E360L-BE	—	E360T-BE

Note: 360L & 360T used on wood door require the 33A-WDA cover plate

Notes

98/99 Rim exit device



The 299 Strike ships standard, optional strikes available

98 and 99 Rim exit devices for all types of single and double doors with mullion, UL listed for panic exit hardware. Devices are ANSI A156.3 – 2014 Grade 1. The 98 device has a smooth mechanism case and the 99 device has a grooved case. The rim device is non-handed except when the following device options are used: SD (special dogging), -2 (double cylinder) or SS (signal switch). See Opposite page for available outside trim and device functions. Covers stock hollow metal doors with 86 or 161 cutouts on single doors (may cover cutouts on pairs – consult template).

Hex key dogging comes standard on 98/99 Rim exit devices



Finishes – US3, US3A, US4, US4A, US10, US26, US26D, US26D-AM Antimicrobial, US28, 313, 315 & 643E. US15 and US32D available with 98 Series only.

Specifications

Device functions	Device ships EO/DT/NL. Field selectable. For TP, K or L remove NL drive screw from device.	
Device lengths	3'	2'4" to 3' (711mm to 914 mm) Door size
	4'	2'10" to 4' (864 mm to 1219 mm) Door size
Device centerline from finished floor	39 ¹³ / ₁₆ " (1011 mm) 39 ¹¹ / ₁₆ " (1008 mm) with mullion	
Center case dimensions	8" x 2 ³ / ₄ " x 2 ³ / ₈ " (203mm x 70mm x 60mm)	
Mechanism case dimensions	2 ¹ / ₄ " x 2 ¹ / ₄ " (57mm x 57mm)	
Projection	Pushbar neutral – 3 ¹³ / ₁₆ " (97 mm) Pushbar depressed – 3 ¹ / ₁₆ " (78 mm)	
Latch bolt	Deadlocking, ³ / ₄ " (19mm) throw	
Fasteners & sex bolts (SNB)	Includes screw pack for 1 ³ / ₄ " (44mm) and 2 ¹ / ₄ " (57mm) thick metal or wood doors. Optional 425 SNB available, see page 9 for quantities.	
Electric options	LX	Latchbolt monitor switch
	RX	Pushpad monitor switch
	RX2	Double pushpad monitor switch
	E	Electric locking & unlocking trim
	EL	Electric latch retraction
	QEL	Quiet electric latch retraction
	SS	Signal switch
	CX	Chexit delayed exit
	ALK	Alarm exit kit
	WP-RX	Waterproof request to exit
	CON	Allegion Connect
Mechanical options	-2	Double cylinder
	AX	Accessible device
	GBK	Glass bead kit
	PN	Pneumatic latch retraction
	XP	Extra protection
	SNB	Sex bolts
	SEC	Security screws
Dogging feature	Hex key dogging standard	
Dogging options	CD	Cylinder dogging
	SD	Special center case dogging
	LD	Less dogging
	DI	Dogging indicator
	CI	Cylinder dogging indicator
Strikes	299 – Dull black	

XP
Extra protection

- 90° latch-to-strike contact
- Force resistance of 2,000+ lbs.

CD
Cylinder dogging

- Replaces hex key dogging
- Requires 1 1/4" mortise cylinder with inverted cam

QEL
Quiet electric latch retraction

- Bolt retraction via switch
- Converts exit door to push-pull operation

RX
Pushpad monitor switch

- Signals use of an opening
- SPDT switch to monitor pushpad

CX
Chexit delayed exit

- Meets NFPA 101 requirements
- Self-contained controls, locking, alarm

AX
Accessible device

- UL certified to meet new 5 lb. maximum operating force requirement
- Exceeds ANSI/BHMA requirements

EL
Electric latch retraction

- Enables remote unlatching
- Alternative to manual dogging

ALK
Alarm exit kit





- Unauthorized opening triggers 85-decibel horn
- Set in armed or disarmed mode by key





PN
Pneumatic latch retraction

- For areas where electrical devices banned
- Special linkage for mechanical or pneumatic dogging

CON
Allegion Connectors

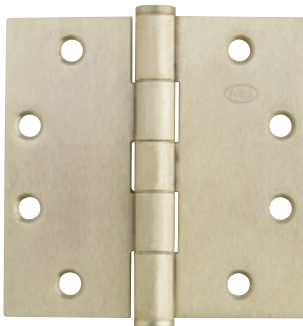
- Common connectors to connect various door hardware all the way to the power supply

Standard trim				
	EO	DT	NL	NL-OP
				
Product description	98EO 99EO	98DT 99DT	98NL 99NL	98NL-OP 99NL-OP
Trim description	—	990DT	990NL-R/V	110NL-MD 110NL-WD
Escutcheon plate size	—	3" x 14 ^{13/16} " x 3 ^{3/32} " (76x360x2mm)	3" x 14 ^{13/16} " x 3 ^{3/32} " (76x360x2mm)	—
Pull center to center	—	5 ^{1/2} " (140mm)	5 ^{1/2} " (140mm)	—
Projection	—	2" (51mm)	2" (51mm)	—
ANSI function	01	02	03	03
Cylinder type	—	—	Rim	Rim
Handing	—	—	—	—
Optional trim	x990EO x996EO	x996K-DT x996L-DT x696DT x697DT	x996K-NL x996L-NL x696NL x697NL	
Optional #425 SNB quantity for device	6	2	2	6

	L	L-NL	L-BE	L-DT
				
Product description	98L 99L	98L-NL 99L-NL	98L-BE 99L-BE	98L-DT 99L-DT
Trim description	996L-R/V*	996L-NL-R/V	996L-BE-R/V*	996L-DT
Escutcheon plate size	2 ^{3/4} " x 10 ^{3/4} " x 2 ^{7/32} " (70x273x21mm)	2 ^{3/4} " x 10 ^{3/4} " x 2 ^{7/32} " (70x273x21mm)	2 ^{3/4} " x 10 ^{3/4} " x 2 ^{7/32} " (70x273x21mm)	2 ^{3/4} " x 10 ^{3/4} " x 2 ^{7/32} " (70x273x21mm)
Pull center to center	—	—	—	—
Projection	2 ^{7/8} " (73mm)	2 ^{7/8} " (73mm)	2 ^{7/8} " (73mm)	2 ^{7/8} " (73mm)
ANSI function	08	03	14	02
Cylinder type	Rim	Rim	—	—
Handing	Handed/Reversible	Handed/Reversible	Handed/Reversible	Handed/Reversible
Optional #425 SNB quantity for device	2	2	2	2

* Electrified lever operation available

Notes



Meets ANSI/BHMA A156.1
A8133 – Steel
A5133 – Stainless Steel
A2133 – Brass

5PB1 5 Knuckle, Plain Bearing Full Mortise Hinge

- For standard weight doors
 - Low frequency usage
 - Packed with wood and metal screws
- Not for use with a door closer.*

Options

- NRP, Non-Removable Pin
- SH, Security Stud
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge
3.5 x 3.5	89 x 89	0.123
4 x 4	102 x 102	0.134
4.5 x 4	114 x 102	0.134
4.5 x 4.5	114 x 114	0.134
5 x 4.5	127 x 114	0.134



Meets ANSI/BHMA A156.1
A8112 – Steel
A5112 – Stainless Steel
A2112 – Brass

5BB1 5 Knuckle, Ball Bearing Full Mortise Hinge

- For standard weight doors
- Medium frequency usage
- 2 ball bearing
- Packed with wood and metal screws

Options

- NRP, Non-Removable Pin
- SH, Security Stud
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge	Size (Inches)	Size (mm)	Gauge
3.5 x 3.5	80 x 102	0.130	5 x 4.5	127 x 114	0.146
4 x 4	102 x 102	0.130	5 x 5	127 x 127	0.146
4.5 x 4	114 x 102	0.134			
4.5 x 4.5	114 x 114	0.134			

Finishes brass

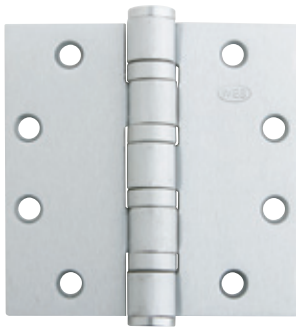
Ives Finish	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	605	606	612	613	614	616	619	625	626

Finishes steel

Ives Finish	USP	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	600	632	633	639	640	641	643	646	651	652

Finishes stainless steel

Ives Finish	US32	US32D
BHMA	629	630



Meets ANSI/BHMA A156.1
A8111 – Steel
A5111 – Stainless Steel
A2111 – Brass

5BB1HW

5 Knuckle, Ball Bearing, Heavy Weight Full Mortise Hinge

- For heavy weight doors
- High frequency usage
- 4 ball bearing
- Packed with wood and metal screws

Options

- NRP, Non-Removable Pin
- SH, Security Stud
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge	Size (Inches)	Size (mm)	Gauge
4.5 x 4	114 x 102	0.180	5 x 4.5	127 x 114	0.190
4.5 x 4.5	114 x 114	0.180	5 x 5	127 x 127	0.190



Meets ANSI/BHMA A156.1
A8111 – Steel

5BB1WT

5 Knuckle, Ball Bearing, Wide Throw Full Mortise Hinge

- For medium weight doors
- Medium frequency usage
- 2 ball bearing
- Packed with wood and metal screws

Options

- NRP, Non-Removable Pin
- SH, Security Stud
- HT, Hospital Tip
- RC, Round Corners - 1/4" or 5/8" Radius
- SEC, Security Fastners - Pin-in-Socket

Dimensions

Size (Inches)	Size (mm)	Gauge
4.5 x 5	114 x 127	0.134
4.5 x 6	114 x 152	0.134
5 x 6	127 x 152	0.146
5 x 7	127 x 178	0.146
5 x 8	127 x 203	0.146

Finishes *brass*

Ives Finish	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	605	606	612	613	614	616	619	625	626

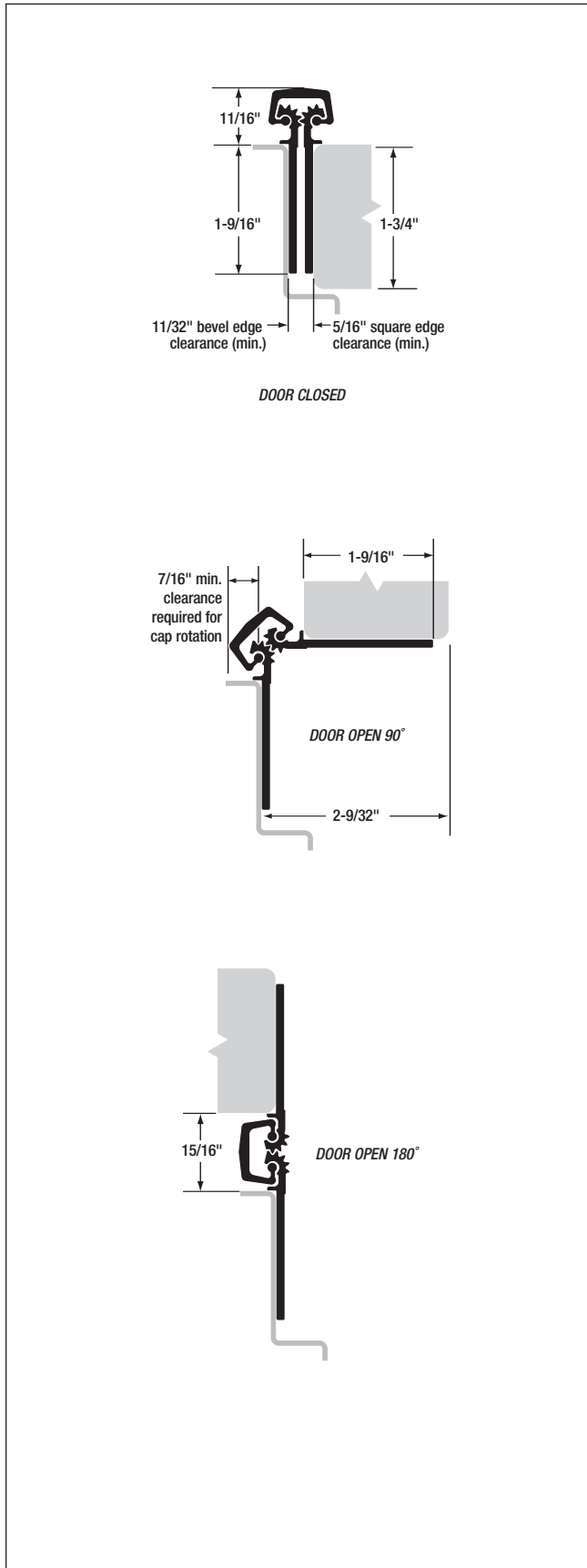
Finishes *steel*

Ives Finish	USP	US3	US4	US10	US10B	US10A	US11	US15	US26	US26D
BHMA	600	632	633	639	640	641	643	646	651	652

Finishes *stainless steel*

Ives Finish	US32	US32D
BHMA	629	630

SL11 Concealed Geared Continuous Hinge



MATERIAL: Extruded 6063 T6 aluminum alloy with self-lubricating polyester thrust bearings.

LENGTHS: 83", 85", 95" and 120" lengths standard for nominal door heights. Custom lengths are available.

LOAD/FREQUENCY RATINGS: For 1-3/4" doors. 48" max. door width in 16 gauge hollow metal (min.) or 1/8" aluminum (min.).

Standard Duty — Tested per BHMA standards for medium-frequency doors up to 200 lb. without frame or door reinforcement.

Heavy Duty — Tested per BHMA standards. Up to 200 lb. doors (high-frequency) and up to 400 lb. doors (medium-frequency) without frame or door reinforcement; up to 600 lb. doors (low-frequency) with the use of Rivnuts in the frame and door.

Heavy Duty (LL) — Our HD hinge with additional fastener holes for low-frequency doors up to 1,000 lb., including most lead-lined doors. Rivnuts are recommended in the frame and door on extremely tall, extremely heavy or wide doors.

FINISHES: All SL11 hinges are stocked in Clear, Dark Bronze and Black anodized aluminum. Custom anodized or painted finishes are available. Product painted or anodized in the field voids the SELECT hinge warranty.

CLOSERS: Conventional overhead surface, concealed sliding arm overhead or floor closers may be used with SELECT hinges. Pivot-type floor closers (with a fixed, conflicting center pivot) must be replaced.

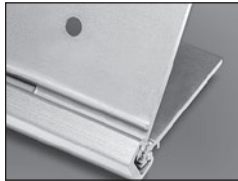
ORDER: Specify length, finish and standard duty (SD), heavy duty (HD) or heavy duty with additional fastener holes (LL). Also, specify door and frame screw applications. 12-24 x 3/4" self-drilling, thread-forming 410SS Phillips undercut flathead screws are provided as a standard pack unless otherwise specified. Wood and thread-forming screws also available. Security screws optional at extra cost.

AVAILABLE ELECTRIC PREPS: EPT, ATW, EMS, CTW4, CTW5, CTW8, CTW10, CTW12, CMG, AP and RP. For CTW12 prep, please consult factory for engineering approval.

BHMA CERTIFICATION: SL11SD, SL11HD and SL11LL geared continuous hinges conform to BHMA Standard ANSI/BHMA A156.26-2006 Grade 1.

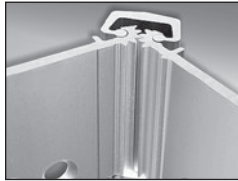
SL11 HINGE SCREW COUNT		
HINGE LENGTH & DUTY RATING	DOOR SCREWS	FRAME SCREWS
79" HD	19	19
83" SD/HD	19	19
85" SD/HD	19	19
95" SD/HD	21	21
120" SD/HD	23	23
83" LL	26	26
85" LL	26	26
95" LL	30	30
120" LL	34	34

SELECT ADVANTAGES



PAIR-MATCHED™ HINGE LEAVES

Manufactured together, machined together and anodized together, making SELECT hinges fit your doors better and last longer. An exclusive SELECT benefit.



LIFETIME LUBRICATION

Eliminates the need for periodic maintenance. Quiet performance. Fights gear cap wear. An exclusive SELECT benefit.



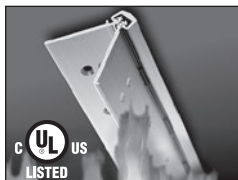
ANODIZED AFTER MACHINING

Delivers superior wear, durability and life. Inhibits corrosion. Few hinge makers follow SELECT's lead in using this superior manufacturing process.



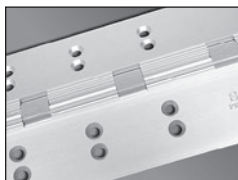
MEETS LEED REQUIREMENTS

Made from recycled aluminum. Reduces environmental impact and qualifies for LEED points. An exclusive SELECT benefit.



PATENTED 3-HR. FIRE RATING

Most SELECT hinges are fire rated for 90 minutes. 3-Hr. fire rating, optional at extra cost, approved for positive/negative pressure. No fire pins or studs required. Patented design innovation. An exclusive SELECT benefit.



CONSISTENT TEMPLATING

Hole pattern is identical on both Standard and Heavy Duty models, so SELECT hinges line up precisely for easier and faster installation. An exclusive SELECT benefit.



COATED FASTENERS

Provide additional corrosion protection with either self-drilling, thread-forming (SDTF) or thread-forming (TF) screws. An exclusive SELECT benefit.



CUSTOM COLORS

Match any paint color on the gear cap or the entire hinge and fasteners, including our always-in-stock Bone White gear caps. Anodized colors also available.

SELECT HINGE PERFORMANCE

- A SELECT geared continuous hinge has been tested in accordance with ANSI 250.4-1994 test procedure and acceptance criteria for physical endurance for steel doors and hardware and has surpassed 25,000,000 cycles during testing by an independent laboratory. On a door cycling 400,000 times per year, a SELECT hinge will be performing for over 62 years.
- SELECT geared continuous hinges are built to handle abuse from high-traffic applications. They are applied to the surface on the edge of the frame and door. No machining or reinforcement is required.
- The revolutionary SELECT geared continuous hinge puts an end to costly and irritating hinge failure problems, the most common cause of entrance failure.
- On conventional hinges, opening and “kick-back” energy concentrate on a few inches of fastened reinforcing plate — with the top hinge handling 100% of the force. Pinless SELECT hinges bond the door and frame into an integrated, sag-free unit. “Kick-back” energy dissipates along the entire length of the door and frame. (Compare this to a conventional hinge’s 4-1/2" to 5" at the top of the door and frame).
- SELECT geared continuous hinges eliminate the gap between the door and frame, providing a weatherproof, rust-proof, tamper-proof barrier. When the door is closed, there are no accessible screws, bolts or pins.
- SELECT SL11 geared continuous hinges are listed and tested by Underwriters Laboratories to meet the Positive and Negative pressure requirements of UL10B and UL10C, and are in accordance with UBC 7.2 (1997). SELECT SL11 geared continuous hinges are for use on swinging single fire doors (max. door opening of 4'x10') or pairs of fire doors (max. door opening of 8'x10'), including double egress, installed in masonry or drywall. SELECT SL11 geared continuous hinges are rated for up to 1-1/2 hours for wood composite and wood core type fire doors. A special patented process can be added to increase the fire rating to 3 hours (NO FIRE PINS OR STUDS REQUIRED) for hollow metal or steel covered composite type doors.

Rockwood 108 - Door Pull



Specifications:

MATERIAL:

Aluminum, Brass, Bronze, Stainless Steel

FASTENER:

1/4"-20 x 2 1/4" thru bolt & finish washer (standard 1 3/4" door)

OPTIONS:

- Back to back mounting in pairs — use BTB suffix and mounting type number (108BTB5)
- Concealed mounting single pulls — use C suffix and mounting type number (108C6)
- Advise if door thickness is other than 1 3/4"
- Mounting selections for standard duty 1/4"-20 can be viewed at www.rockwoodmfg.com
- 2 1/2" Barrier Free clearance — use BF prefix (BF108)

Available Finishes:

- US28/628
- 313/710
- 315/711
- Powder Coat
- US3/605
- US4/606
- US10/612
- US10B/613
- US10BE/613E
- US26/625
- US26D/626
- US32D/630
- US32/629
- US32DMS
- US32D316
- US32316

MATERIAL SIZE:

3/4" dia.

CTC:

10"

OVERALL:

10 3/4"

BASE:

3/4"

PROJECTION:

2 5/8"

CLEARANCE:

1 7/8"

WEIGHT:

1.8 lbs.

ANSI A156.6: J401

8400 Series Protection Plates

- Door protection plates are available in .050" thick brass, stainless steel or aluminum; and 1/8" thick high impact polyethylene in clear or black.
- Bevel edge options; specify B4E for all four edges.
- Mounting screw pack furnished standard, 16 screws per pack. Optional screw packs are available for TEK or TORK screw heads. Refer to the following chart for ordering.
- Specify NMH for no mounting holes. (Not available on 8402)
- Specify NMH-A for no mounting holes with adhesive. (Not available on 8402)
- Specify CS for counter sunk mounting holes.
- Specify ERS prepped with extra row of screws.

Kickplate Gasket Tape Tape is recommended when using a brass plate on a metal door to reduce tarnishing from electrolytic oxidation. One tape pack will cover an the perimeters of a 8" x 34" kickplate. Order 8401 Gasket Tape.



8400 Protection Plate 8402 (UL)* Protection Plate

*UL mark appears in upper right corner. Factory supplied screws must be used.

Number of screw packs required by plate size (specify TEK Screws or TORK screws).

	22"-25"	26"-33"	34"-41"	42"-48"
4"-8"	1	1	1	1
9"-16"	1	1	1	1
17"-24"	1	1	1	2
25"-32"	1	1	2	2
33"-40"	1	2	2	2
41"-48"	2	2	2	2

Finishes brass 24" x 48" max. size

US Number	US3	US4	US10	US10B	US15	US26	US26D
BHMA	605	606	612	613	619	625	626

Finishes stainless steel

US Number	US32	US32D
BHMA	629	630

Finishes aluminum

US Number	US28
BHMA	628

Finishes plastic

Clear and Black

Residential Grade Kickplates available Carded only, finishes PA28, PA3, PA619, PA716, B3, B505, B619, B716

A
Hinges & Pivots

B14
Pulls & Plates

C
Flush Bolts & Coordinators

D
Latches, Catches & Bolts

E
Stops

F
Exterior Hardware

G
Miscellaneous Hardware

A
Hinges & Pivots

B6
Pulls & Plates

C
Flush Bolts & Coordinators

D
Latches, Catches & Bolts

E
Stops

F
Exterior Hardware

G
Miscellaneous Hardware



8200 Push Plate
8300 Pull Plate, Prep for Pull (less pull)

Available Sizes

- 3" x 12"
- 3.5" x 15"
- 4" x 16"
- 6" x 16"
- 8" x 16"

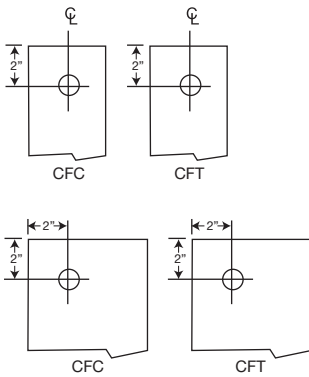
Special sizes are available. Consult factory.

Plates Cut for Cylinder or Thumbturns

Plates are available with cutout for cylinder or thumbturn; standard cutout is 2" from top and centered on plates up to 4" wide. For plates wider than 4" cutout is located 2" from outer edge, specify LH or RH. When pull location interferes with standard cutout location a detail drawing should be furnished with the order.

Standard cutout is 1-1/4" for cylinder and 3/8" for thumbturn.

Specify CFC for cutout for cylinder or CFT for cutout for thumbturn.



Finishes brass

US Number	US3	US4	US10	US10B	US15	US26	US26D*
BHMA	605	606	612	613	619	625	626

Finishes stainless steel

US Number	US32D*
BHMA	630

Finishes aluminum

US Number	US28
BHMA	628

** Available with Antimicrobial Coating, use suffix AM*



WS406CVX Wall Bumpers WS406CCV WS407CVX WS407CCV

- Constructed in sturdy yet economical wrought base of brass or stainless steel construction.
- Feature concealed tamper-proof mounting.
- Shipped factory preassembled backplate to reduce installation cost.
- Easy installation by inserting screwdriver through small hole in rubber.

WS406CVX & WS407CVX
Meets ANSI/BHMA 156.16 L22201 for brass,
and L52101 for stainless steel.

WS406CCV & WS407CCV
Meets ANSI/BHMA 156.16 L22251 for brass
and L52251 for stainless steel.

WS406CVX (406) – convex rubber bumper, packed with wood screw and plastic anchor.

WS406CCV (406-1/2) – concave rubber bumper, which avoids damage to locks with projecting buttons, packed with wood screw and plastic anchor.

WS407CVX (407) – convex rubber bumper packed with screw and drywall anchor.

WS407CCV (407-1/2) – concave rubber bumper which avoids damage to locks with projecting buttons and is packed with screw and drywall anchor.

Dimensions

Base Diameter: 2-1/2"

Base Thickness: 3/8"

Overall Projection: 1"

Finishes *brass*

Ives Number	US3	US4	US5*	US10	US10B	US15	US15A**	US26	US26D	B716**
BHMA	605	606	609*	612	613	619	620	625	626	

Finishes *stainless steel*

Ives Number	US32D
BHMA	630

* only available on WS407CVX Slim-Pak of 15

** available on WS407CCV or WS407CVX Slim-Pak of 15

A
Hinges & Pivots

B
Pulls & Plates

C
Flush Bolts & Coordinators

D
Latches, Catches & Bolts

E12
Stops

F
Exterior Hardware

G
Miscellaneous Hardware



Meets ANSI/BHMA 156.6, L12141.

FS13 Dome Stop

- Standard FS13 for use where no threshold is used.
- Heavy-Duty Cast Dome Stops constructed of brass.
- Unique riser design of R14 (below) allows easy conversion to threshold application.
- Units are packed with fasteners sufficient for mounting in all types of floor construction, including concrete.
- Replaceable grey rubber bumper.

Dimensions

Overall Height: 1"
 Base Height: 5/32"
 Base Diameter: 1-3/4"

Finishes

Ives Number	US3	US4	US10	US10B	US26	US26D
BHMA	605	606	612	613	625	626

R14 Dome Stop Rise

- Adapts the FS13 Dome Stop to threshold use.
- Brass Die Cast Construction.

Dimensions

Riser Height: 5/16"
 Base Diameter: 1-3/4" round

Finishes

Ives Number	US3	US4	US10	US10B	US26	US26D
BHMA	605	606	612	613	625	626



Meets ANSI/BHMA 156.6, L12161.

FS17 Dome Stop

- One piece dome stop for use with thresholds.
- Heavy-Duty Cast Dome Stops constructed of brass.
- Units are packed with fasteners sufficient for mounting in all types of floor construction, including concrete.
- Replaceable grey rubber bumper.

Dimensions

Overall Height: 1-11/32"
 Base Height: 1/2"
 Base Diameter: 1-3/4" round

Finishes

Ives Number	US3	US4	US10	US10B	US26	US26D
BHMA	605	606	612	613	625	626

A
Hinges & Pivots

B
Pulls & Plates

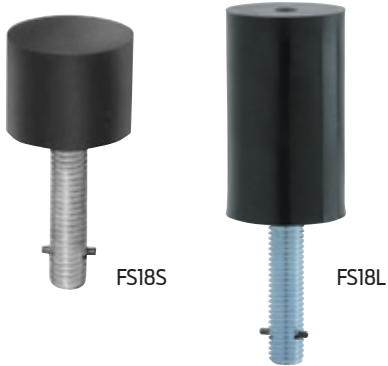
C
Flush Bolts & Coordinators

D
Latches, Catches & Bolts

E2
Stops

F
Exterior Hardware

G
Miscellaneous Hardware



**FS18S
FS18L Floor Stops**

- Security Door Stops designed for use in high vandalism areas.
- Molded from black flame resistant, resilient material around a heavy-duty stud.
- Once grouted in concrete, leaves no exposed fasteners to be tampered with or removed.
- Ideal for jail or security cell areas where floor mounted stops are required.
- FS18L also ideal for concrete wall applications.

Dimensions

FS18S Height: 1-1/2" FS18L Height: 3-1/2"
 FS18S Diameter: 2" FS18L Diameter: 2"
 FS18S Stud Length: 2-1/2" FS18L Stud Length: 2-1/2"

FS434 Floor Stop

- Burnished wrought steel.
- For undercut doors up to 1-1/2".
- Packed with screws and plastic anchors.
- Replaceable soft, resilient gray rubber.



Dimensions

Overall Height: 2-5/8"
 Base Size: 1-1/2" W x 2-3/4" L

Finishes

Ives Number	USC
BHMA	604

430 Floor Door Stop

- Burnished wrought steel.
- For undercut doors up to 1-1/2".
- Packed with screws and plastic anchors.
- Replaceable soft, resilient gray rubber.



Dimensions

Overall Height: 1-5/16"
 Base Diameter: 1-1/4"

Finishes brass

Ives Number	B3	B4	B5	B10B	B15	B26	B26D
BHMA	605	606	609	613	619	625	626

Finishes aluminum

Ives Number	A3*	A5	A14	A92
BHMA	666		669	673

* only available in Slim-Pak of 25

A Hinges & Pivots
 B Pulls & Plates
 C Flush Bolts & Coordinators
 D Latches, Catches & Bolts
E5 Stops
 F Exterior Hardware
 G Miscellaneous Hardware

Rockwood 570 - Dust Proof Strike



Available Finishes:

- US3/605
- US4/606
- US10/612
- US10B/613
- US10BE/613E
- US26/625
- US26D/626

SIZE:

Face Plate: 1 ³/₈" x 2 ⁷/₈"

Barrel: Ø ⁷/₈" x dp. 2"

WEIGHT:

0.4 lbs.

ANSI A156.16:

L04021

Specifications:

MATERIAL:

Brass

FASTENERS:

Adjustment Nut; Spanner Wrench; 2 ea. #8 x 1 Oval Head Sheet Metal Screws, 2 ea. Plastic Anchors;
2 ea. #8-32 x ³/₄" Oval Head Machine Screws, 2 ea. Lead Anchors

FEATURES:

- Works with all Rockwood manual and automatic flush bolts
- Removable face plate for use with thresholds
- Adjustable height for carpeted areas

The global leader in
door opening solutions

Rockwood 555 - Lever Extension Flush Bolt



Specifications:

MATERIAL:

Brass

FASTENERS:

8 ea. #8 x 3/4" Flat Head Combo Screws

FEATURES:

- For Fire Rated Hollow Metal Swinging Doors measuring up to 4'w x 10'h rated up to and including 3 Hours
- Fits ANSI A115 door and frame preparation
- 3/4" bolt throw, 3/4" rod backset
- 12" rod length (center of face to bolt end - retracted)
- 1 1/2" adjustable bolt head

OPTIONS:

- Other size rods available are 18", 24", 36", 48"
- Extra long bolt head - 2 1/2" (or to your specification)
- Use #570 Dust Proof Strike to prevent dirt blocking bottom strike



Available Finishes:

- US3/605
- US4/606
- US10/612
- US10B/613
- US10BE/613E
- US26/625
- US26D/626

SIZE:

Face Plate: 1" x 6 3/4"

Strike: 15/16" x 2 1/4"

Guide: 1" x 2"

WEIGHT:

1.5 lbs./2

ANSI A156.16:

L04251

300 Main Street

Rockwood, Pennsylvania 15557

P: 800.458.2424 • F: 800.922.9212

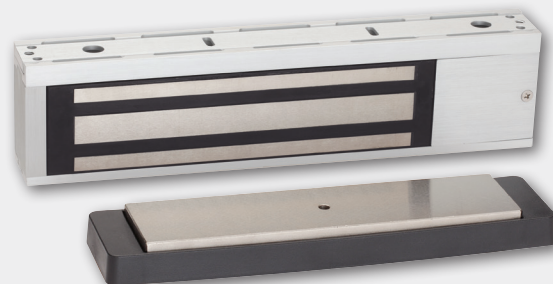
www.rockwoodmfg.com • orders.rockwood@assaabloy.com

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M490/492

Electromagnetic locks



Overview

M400 Series electromagnetic locks from Schlage are designed with the customer in mind to be robust, easy-to-install, and secure. The unique bayonet mounting feature makes installation easier, allowing the installer to have their hands free during the mounting process.

All M400 Series electromagnetic locks are symmetrical with field-selectable handing, allowing optimum placement of the magnet no matter the application. They are designed to provide automatic voltage sensing for 12 and 24 volts along with polarity protection to make wiring less complex. M490 models are tested and certified to meet or exceed UL 1034 and BHMA 1500 lb hold force requirements.

The M490 electromagnetic locks come in four configurations to meet your specific security needs. Single and double door models are offered in standard configurations. Plus versions of these models with “P” designations add intelligent sensing and reporting features needed to integrate with access control systems along with additional available options. Kits are also available for top jamb, double door, and glass door applications.

Features and benefits

- 1500 lb. hold force rating for maximum security applications
- “Plus” models offer magnetic bond sensor (MBS), adjustable relock time delay (RTD) and door position switch (DPS)
- Automatic voltage selection (AVS)
- Symmetrical design with field-selectable handing for optimum placement
- Bayonet mount simplifies installation by eliminating the need to hold lock overhead while securing
- Armature mount pivot feature compensates for slight opening imperfections
- Optional mounting kits available for top jamb mount, double door and Herculite glass doors
- Aluminum housing in 628 satin finish
- ANSI/BHMA 156.23 Grade 1, UL 1034, UL 10C, UL 294, cUL, CFMS certifications
- Limited lifetime warranty on magnetic coil assembly

Additional features

All models

- Automatic Voltage Selection (AVS) senses the voltage applied to the lock and responds accordingly

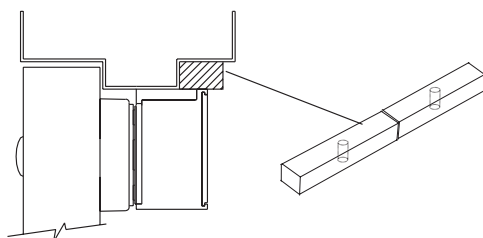
M490P/M492P

- Magnetic Bond Sensor (MBS) monitors the strength of the bond between the lock and armature so you know the door is secure
- Door Position Switch (DPS) monitors whether the door is open or closed
- Relock Time Delay (RTD) provides a relock delay that is adjustable from 0.5 to 30 seconds
- Optional accessories (P models only)
 - ATS/LED Combines anti-tamper switch (ATS) with magnetic bond sensor in one kit.
 - ATS provides an indication that the cover of the magnet is securely fastened to the lock and that the on board circuitry is secure
 - Magnetic bond sensor indicator (LED) provides visual indication of magnetic bond at the lock

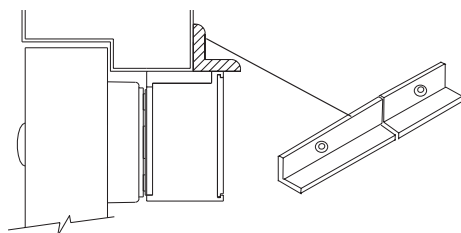
Optional accessories (for all)

- Herculite door bracket kit
- Top jamb (inswinging doors) kit
- Double door connector kit (converts two single magnetic locks to a double)

Filler Plate



Angle Bracket



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M490/M492 electromagnetic lock specifications

Specification	M490/M490P	M492/M492P
Holding force	Meets or exceeds BHMA standard of 1500 lbs	Meets or exceeds BHMA standard of 1500 lbs
Door type	Single	Double
Input voltage (auto selected)	12/24 VDC	12/24 VDC
Current draw	.65A @ 12 VDC .35A @ 24 VDC	1.3A @ 12 VDC .7A @ 24 VDC
Height	3"	3"
Length	12 1/2"	25 1/16"
Depth	1 3/4"	1 3/4"
Weight (approximate)	14 lbs	28 lbs
Certifications	UL 10C, UL 1034, UL 294, ANSI/BHMA A156.23, cUL, CSFM	UL 10C, UL 1034, UL 294, ANSI/BHMA A156.23, cUL, CSFM
Temperature	0° to 49°C (32° to 120° F)	0° to 49°C (32° to 120° F)
Wire gauge	14-22 AWG	14-22 AWG

Filler plates and angle brackets specifications

Length	12 1/2"
--------	---------

Filler plates

Width x Height	Plate no.
1 1/4" x 1/8"	4901F
1 1/4" x 1/4"	4902F
1 1/4" x 3/8"	4903F
1 1/4" x 1/2"	4904F
1 1/4" x 5/8"	4905F
3/4" x 1/2"	4906F
3/4" x 5/8"	4907F
3/4" x 3/4"	4908F

Angle brackets

Width x Height	Bracket no.
1" x 1"	4901A
1 1/2" x 1"	4902A
1 1/2" x 1 1/2"	4903A
1 1/2" x 2"	4904A
1 1/2" x 2 1/2"	4905A

About Allegion

Allegion (NYSE: ALLE) is a global pioneer in safety and security, with leading brands like CISA®, Interflex®, LCN®, Schlage®, SimonsVoss® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion produces a range of solutions for homes, businesses, schools and other institutions. Allegion is a \$2 billion company, with products sold in almost 130 countries. For more, visit www.allegion.com.



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HDB



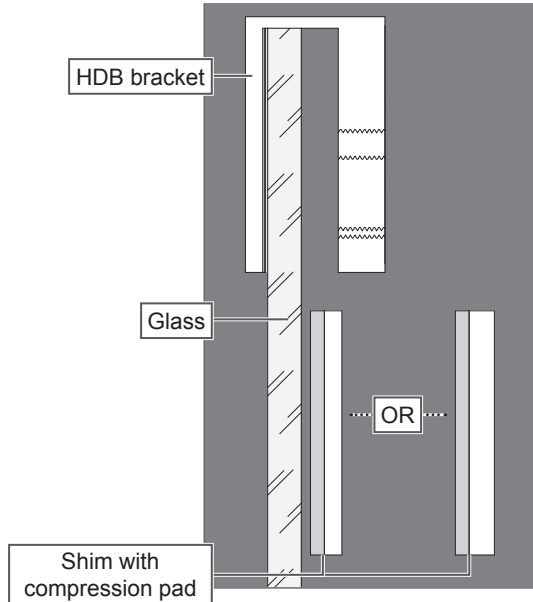
M400 Series Glass Door Kit

Installation Instructions

① **Herculite Door Bracket (HDB) is to be used with 1/2" - 3/4" thick glass doors.**

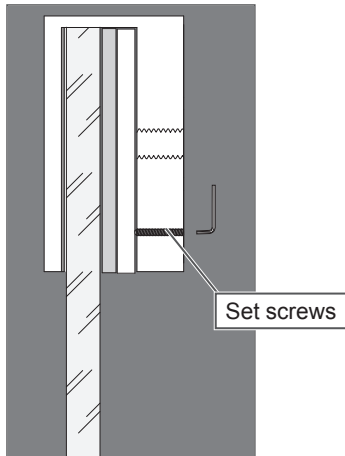
1 Install HDB bracket.

1a Select appropriate shim.



1b Install HDB bracket.

- Install appropriate shim (padded side toward glass).
- Tighten set screws (3/32" hex wrench included).

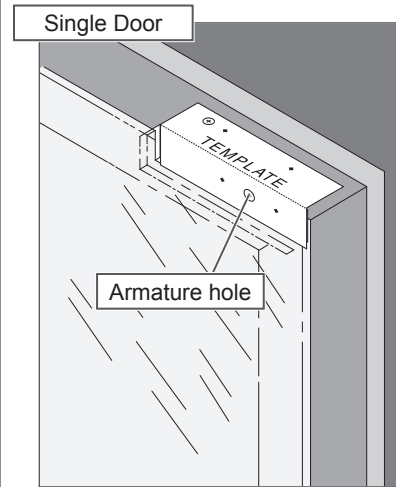


Shim with compression pad to be installed on top of glass opposite the hinge side with the hole for the armature facing toward the "push" side of the opening.

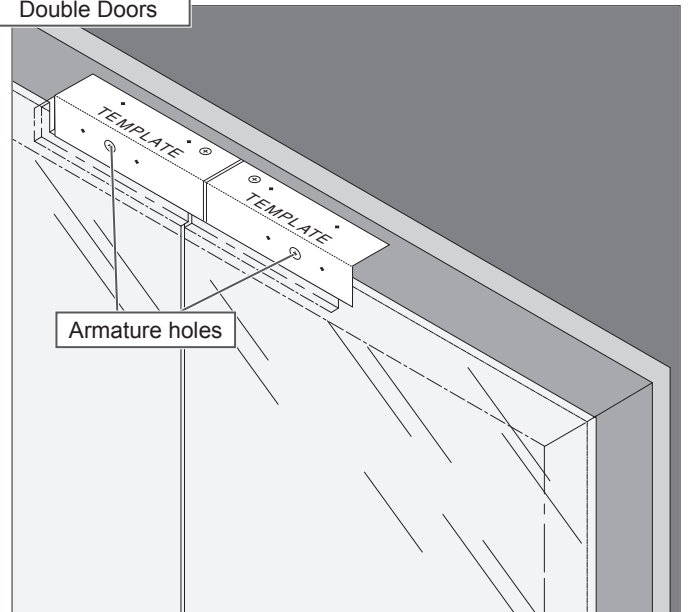
2 Prepare frame.

2a Tape template on HDB bracket and frame.

- Align armature hole on template with armature hole in HDB bracket.
- Prepare frame holes per template.

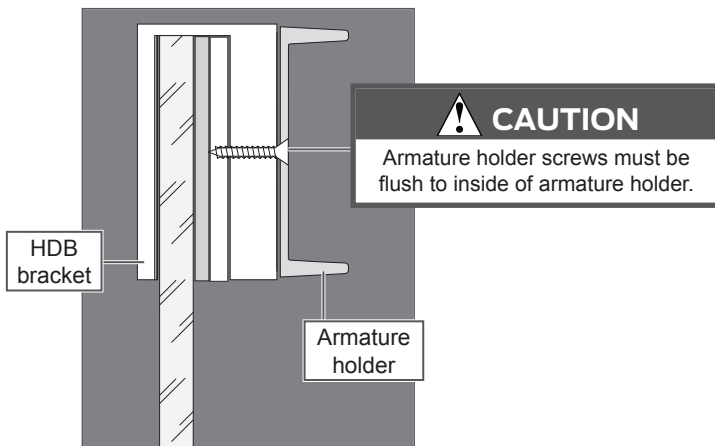
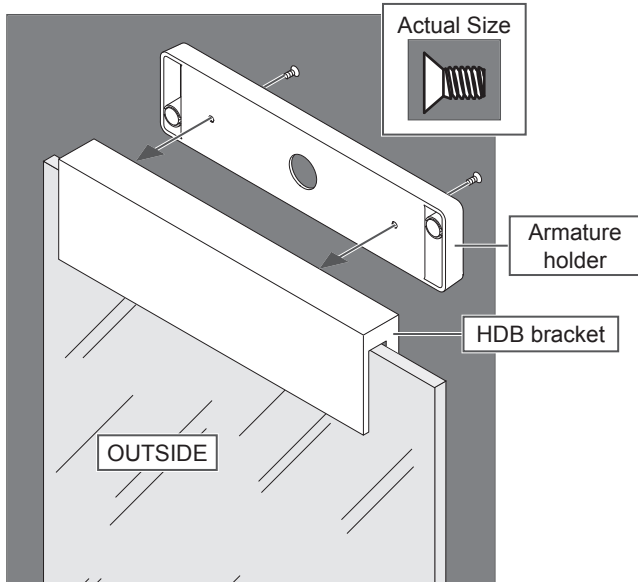


Double Doors

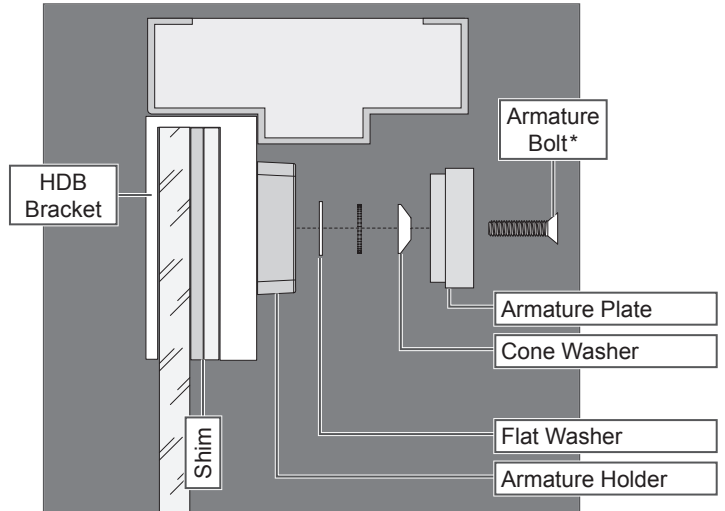


3 Install magnetic lock.

3a Attach armature holder to HDB bracket.



3b Install armature plate.



* Use bolt supplied in HDB kit. M490 armature must be disassembled to replace armature bolt

WARNING

Armature bolt must be tightened to at least 120 in.-lbs.
DO NOT back off bolt after tightening! Backing off the bolt after tightening will loosen the thread-locking patch, which may allow the bolt to loosen over time.

ⓘ **Note: Some warming of electromagnetic locks under routine operation is normal.**

3c Continue installation per Magnetic Lock Installation Instructions.

Customer Service

1-877-671-7011

www.allegion.com/us



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23737901 Rev. 11/15-d

MR5 Magnetic Card Reader

Installation and Specifications

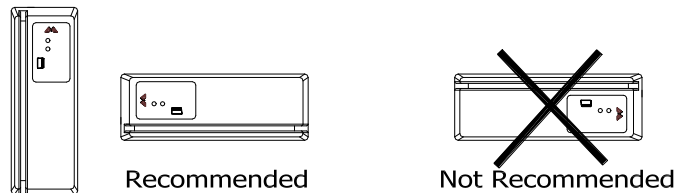
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

1. General:

The MR5 magnetic stripe card reader is designed for reading standard or high-coercivity magnetic stripe cards. The reader has a TTL interface with selectable clock/data and data 1/data 0 signaling. A bi-color LED and a buzzer are standard. The following paragraphs describe instructions for installing and maintaining the card reader.


2. Mounting the Reader:

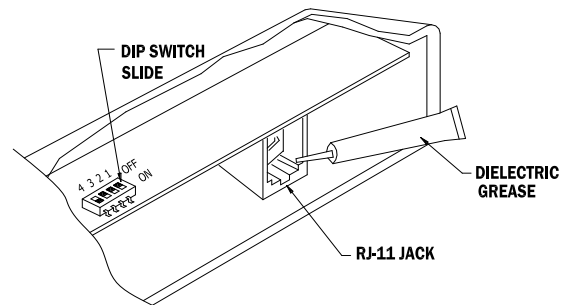
Find a suitable location to anchor the reader mounting bracket. The reader may be mounted vertically or horizontally. See recommended orientation. The mounting of the reader does not require a junction box. However, rigid conduit is required for outdoor application. A single gang junction box may be used to provide transition to rigid conduit. If a single gang junction box is used, a wall plate (optional) is available to cover the junction box. The reader is then secured to the mounting bracket using a UNC6-32 3/8 screw. Refer to figures for reader dimensions and typical junction box usage.



3. Weather Proofing the Reader:

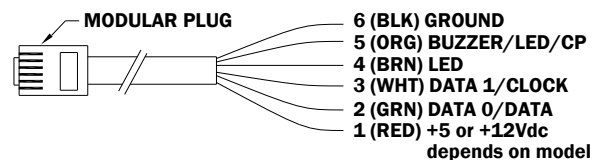
MR5 reader is rated for outdoor use over extended temperature. A tube of dielectric grease is supplied for the installer to coat field connections to seal out moisture. After field connection/configuration is made, the grease is to be applied on the DIP switch slides and the modular jack to seal out moisture. Squeeze some grease into the modular jack before connecting the cable.

 Do not use sealant to seal reader case to wall. Doing so will trap water in the reader and may cause damage to the reader.



4. TTL Interface and Reader Wiring:

The TTL interface has the standard 6-wire interface widely used in the access control application. The reader has a RJ-11 modular jack for easy field connection. A short piece of pre-terminated cable is supplied with each reader for field wiring. Refer to pin number if the pre-terminated cable is not used. Cable with wires of 24 AWG or larger are recommended for field wiring. If a shielded cable is used, connect the cable shield to either earth ground or signal ground at one end only.



CONFIDENTIAL: For installation and maintenance use only. **DO NOT** distribute.

5. Grounding the Reader:

To avoid ESD (electro-static discharge) interfering with the operation of the reader, the reader casing shall be grounded. This can be accomplished by tying the mounting bracket to earth ground locally (e.g. grounded conduit).

6. Reader Configuration:

The DIP switches on the MR5 reader are used to configure the reader. See table below:

SW-4	SW-3	SW-2	SW-1	SELECTION
OFF	X	X	OFF	Clock/Data (MAG stripe) Output
OFF	X	X	ON	Data 1/Data 0 (Wiegand) Output
OFF	X	OFF	X	Single Wire LED Control, HI=Red, Low=Green
OFF	X	ON	X	Two Wire LED Control, No Buzzer Control
OFF	OFF	X	X	Normal LED Drive
OFF	ON	X	X	Inverted LED Drive
OFF	X	X	X	Reserved For Test - set to OFF

X = don't care

7 Reader Verification:



Verify proper connection and correct supply voltage to the reader before applying power!

The reader performs a self-test when power is first applied to the unit. If power-on test is successfully completed. The reader will turn on the LED for approximately 1 second and sound the buzzer for 1 short beep. The reader is ready for normal operation.

8. Maintenance:

The readers are designed to provide continuous service with minimal routine maintenance. However, contaminants (such as magnetic oxides from badges and dirt) tend to accumulate on the read head. Without regular cleaning, these contaminants will shorten the read head life and increase the probability of card read error. A maintenance schedule should be developed base on the card reader environment (dirty or clean) and the usage frequency (light traffic or heavy traffic). Extreme case may require daily cleaning.

Head cleaning may be done by using a disposable, pre-saturated magnetic head cleaning card. These cards are readily obtainable from office supply distributors.

The reader exterior surface is covered with high strength polymer and polyester membrane. It may be cleaned with a soft cloth and mild detergent if required.

9. Specifications:

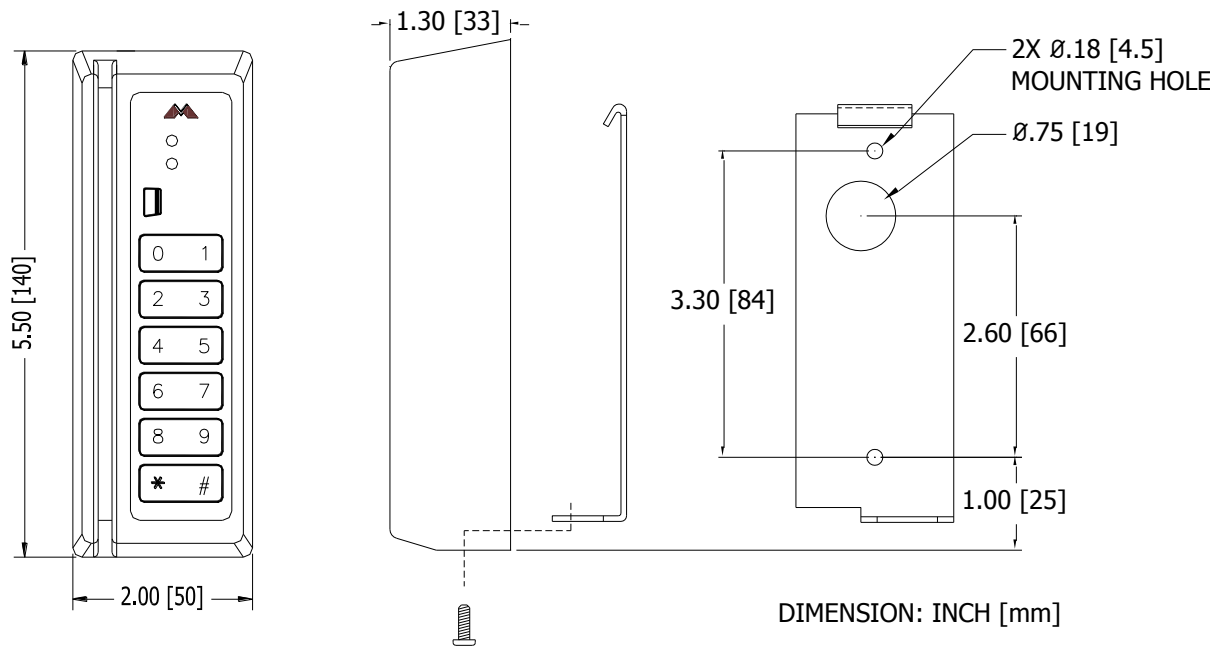
The reader is for use in low voltage, class 2 circuits only.

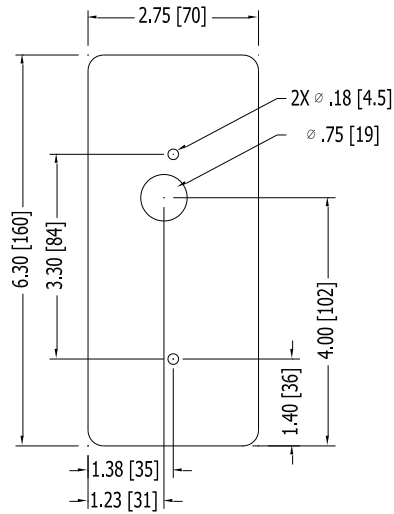
Power:	Voltage:	5 Volt Model: 5.8 Vdc (4.9 to 6.4 Vdc)	
		12 Volt Model: 12 Vdc (10.2 to 13.8 Vdc)	
	Current:	50 mA (20 mA typical)	
Data output:	data 1/data 0 or clock/data, switch selectable		
LED input:	1-wire mode:	input not driven:	LEDs off
		input > 3.5 Vdc:	Red LED on (Inverted, Green LED on)
		input < 0.8 Vdc:	Green LED on (Inverted, Red LED on)
	2-wire mode:	input < 0.8 Vdc:	Red LED on (Inverted, Red LED off)

Specifications (continued):

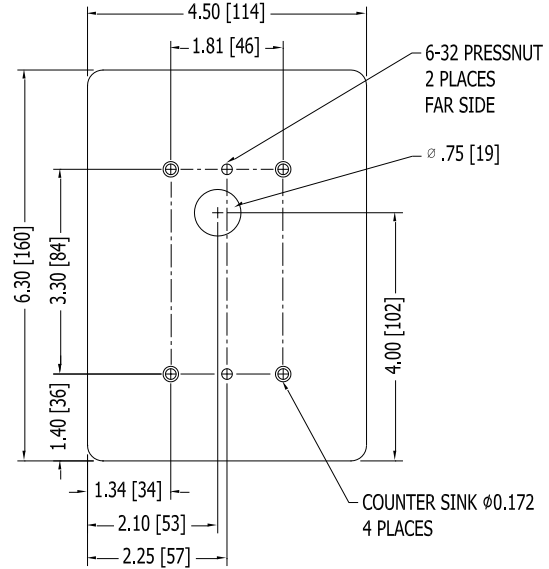
Buzzer/LED/CP:	1-wire mode:	input not driven or > 3.5 Vdc: buzzer off input < 0.8 Vdc: buzzer on
	2-wire mode:	input < 0.8 Vdc: Green LED on (Inverted, Green LED off)
	Card Present optional (CP)	output < 0.8 Vdc while reader is outputting data
Mechanical:	Dimension:	1.95in. (50mm) W x 1.30in. (33mm) H x 5.50in. (140mm) L
	Weight:	10 oz. (284 g) nominal
	Material:	Case: die cast aluminum, gray powder coat standard or black (optional) Mounting bracket: 18 gauge stainless steel Wall plate: 18 gauge CRS, gray powder coat standard or black (optional) Weather shield: 18 gauge stainless steel
Card:		75 bpi, ANSI X4.16, Track 2 standard, Speed 3 to 50 ips
Read Head:		1,000,000 passes typical
Distance:		500 feet (152m) with 18 AWG wires.
Environmental:	Temperature:	-55 to +85 degrees C, storage -40 to +75 degrees C, operating
	Humidity:	0-100 % RHNC, standard

14. Reader Mounting Dimensions:

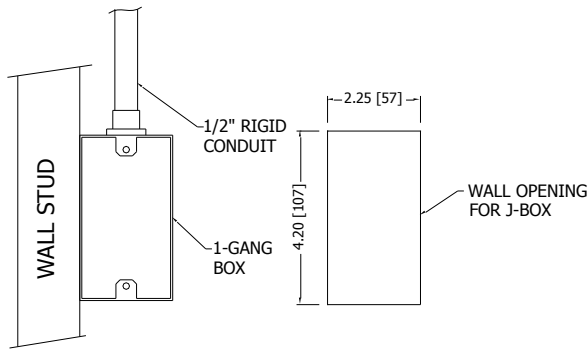




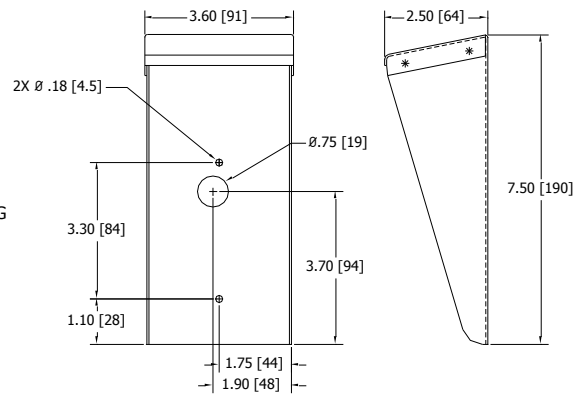
Optional Single Gang Wall Plate - part# WP-10



Optional Double Gang Wall Plate - part# WP-20



Fitting Rigid Conduit to Junction Box



Optional Weather Shield - part# WS-10

Warranty

Mercury Security warrants the product is free from defects in material and workmanship under normal use and service with proper maintenance for two years from the date of factory shipment. Mercury Security assumes no responsibility for products damaged by improper handling or installation. This warranty is limited to the repair or replacement of the defective unit.

There are no expressed warranties other than set forth herein. Mercury Security does not make, nor intends, nor does it authorize any agent or representative to make any other warranties, or implied warranties, and expressly excludes and disclaims all implied warranties of merchantability or fitness for a particular purpose.

Returns must be accompanied by a Return Material Authorization (RMA) number obtained from customer service, and prepaid postage and insurance.

Liability

The Interface should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Mercury Security is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Mercury Security's liability does not extend beyond the purchase price of the product.



Model TS-21RPN

Pneumatic

Specifications

- One normally-open contact and one normally-closed contact rated 10A at 35 VDC
- Pneumatic time delay range 2 to 60 seconds

Features

- Switch mounted on single gang 430 stainless steel wall plate
- Pneumatic time delay with 1-1/2" mushroom button

Models

TS-21RPN

Pneumatic Time Delay, 1 N/O and 1 N/C Continuous, 2-1/2" Red Push Button, "PUSH TO EXIT, Single Gang Stainless Steel Plate

ALARM CONTROLS



ASSA ABLOY

ASSA ABLOY, the global leader
in door opening solutions

DS160 Series High Performance Request-to-exit Detectors

www.boschsecurity.com



BOSCH
Invented for life



- ▶ Door monitor with sounder alert
- ▶ Sequential Logic Input (SLI)
- ▶ Internal vertical pointability
- ▶ Wrap-around coverage pattern with precise pattern control
- ▶ Up to 64 second adjustable latch time

The DS160 Series consists of the DS160 Detector (light gray) and the DS161 Detector (black) specifically designed for Request-to-exit (REX) applications. With features such as timers, door monitor with sounder alert, and pointable coverage, the DS160 and DS161 have the flexibility to meet the most stringent REX requirements. The exclusive Sequential Logic Input (SLI) provides added security that is not offered in any other REX device.

Functions

Sequential Logic Input (SLI)

The SLI terminal allows connection of a second device to require sequential detection. This eliminates the possibility that an object that is slid through the door or underneath the door will activate the detector. This input can also be used to lock the sensor if motion is present outside the premises.

Door Monitor

The sensor can monitor a door contact to allow special control of the internal relay. For example, if the door is opened within the relay time period, the sensor can be programmed to halt the timer. If the door is not opened within a specific time period, the relay can be programmed to deactivate.

Sounder Alert

An integrated sounder can be programmed to activate if the door is left open too long. The sounder volume is fully adjustable to 85 dB.

Keycard Input

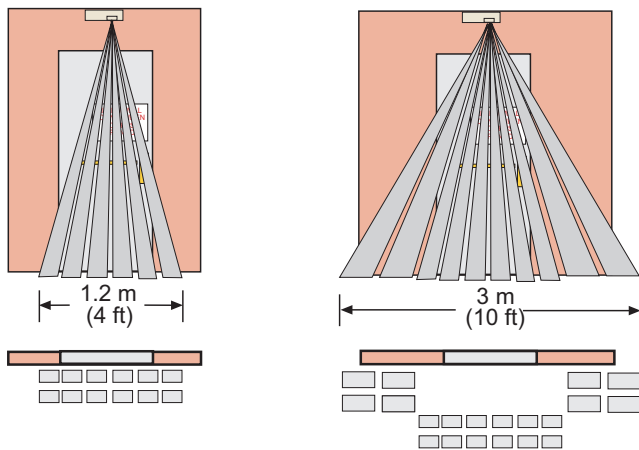
The keycard input allows the sensor relay to be controlled from an external source, such as an access control system or card reader.

Certifications and approvals

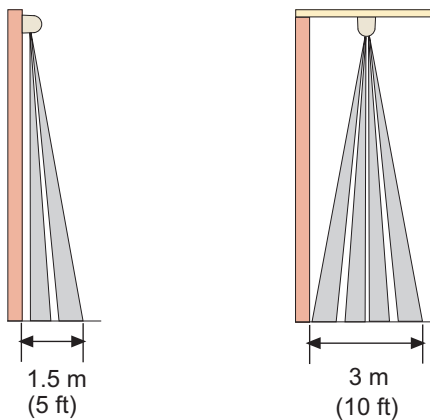
Europe Complies with EN50131-1 Grade 2

Region	Certification	
Australia	RCM	[DS160]
Europe	CE	2004/108/EC EMC Directive; 2006/95/EC Low-Voltage Directive; 2011/65/EU Restriction of the use of certain hazardous substances in electrical and electronic equipment
USA	UL	ALVY: Access Control Systems Units (UL294)

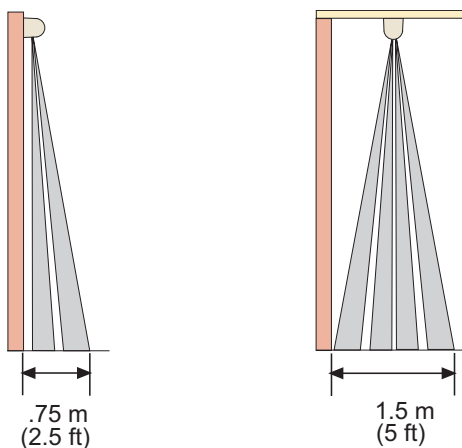
Installation/configuration notes



Front View
 Mounted on wall above door and mounted on ceiling .
 75 m (2.5 ft) in front of the door.



Side View
 The higher that you mount the unit, the larger the coverage area. Do not mount the DS160/DS161 more than 4.6 m (15 ft) above the floor.
 Side view of coverage pattern with the unit mounted at 4.6 m (15 ft) above the floor with the lens pointed straight down.



Side View

The higher that you mount the unit, the larger the coverage area. Do not mount the DS160/DS161 more than 4.6 m (15 ft) above the floor.
 Side view of coverage pattern with the unit mounted at 4.6 m (15 ft) above the floor with the lens pointed straight down.

Coverage Information

The coverage (detection area) varies depending on the mounting height above the floor, angle of the lens, and whether the unit is mounted on a wall above the door or on the ceiling. The coverage is 2.4 m x 3 m (8 ft x 10 ft) The coverage patterns for the detector at a height of 2.3 m (7.5 ft) are shown. The coverage pattern increases or decreases with height and detector alignment.

i Notice

When you mount the unit on the wall and the lens points straight down, some detection zones point toward the wall and do not detect movement.

The diagrams depict views of the coverage pattern with the detector mounted at 2.3 m (7.5 ft) above the floor with the lens pointed straight down. Zones that are pointed toward the wall are not shown.

Technical specifications

Environmental

Operating Temperature:	-29°C to +49°C (-20°F to +120°F) For UL Certificated installations, 0°C to +49°C (+32°F to +120°F)
Radio Frequency Interference (RFI) Immunity:	No alarm or setup on critical frequencies in the range from 26 MHz to 1000 MHz at 50 V/m

Complies with Environmental Class II (EN50130-5)

Mechanical

Dimensions:	4.5 cm x 17.1cm x 4.4 cm (1.80 in. x 6.75 in. x 1.75 in.)
Material:	High impact ABS plastic enclosure

Modes

Power Loss Default:	Programmable fail-safe or fail-secure modes.
Timer:	Programmable reset accumulative or non-reset counting mode.

Electrical

Current Draw:	8 mA nominal standby current, 39 mA at 12 VDC in alarm
Voltage:	12 VAC or VDC to 30 VAC or VDC
Alarm Output:	Two Form C relay contacts each rated 1 A at 30 VAC or VDC for resistive loads

Indicators:	1 activation LED
Relay Latch Time:	Adjustable from 0.5 sec to 64 sec.

Ordering information

DS160 Request-to-exit Detector

For use in request-to-exit (REX) applications. Provides PIR 2.4 m x 3 m (8 ft x 10 ft) coverage, timers, door monitor with sounder alert, and pointable coverage.
Order number **DS160**

DS161 Request-to-exit Detector

Black enclosure. For use in Request-to-EXit (REX) applications. Provides PIR, 2.4 m x 3 m (8 ft x 10 ft) coverage, timers, door monitor with sounder alert, and pointable coverage.
Order number **DS161**

Accessories

TP160 Trim Plate

A light gray trim plate used when mounting the detector over a standard single-gang box.
Order number **TP160**

TP161 Trim Plate

A black trim plate used when mounting the sensor over a standard single-gang box.
Order number **TP161**

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Fax: +1 585 223 9180
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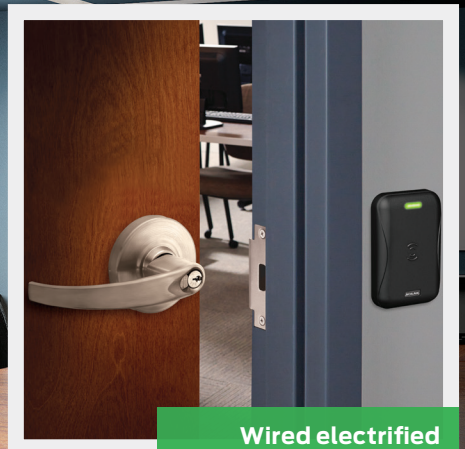
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Fax: +55 19 2103 2862
latam.boschsecurity@bosch.com
www.boschsecurity.com



ND Series

Grade 1 cylindrical locks

Mechanical
Wired electrified
Wireless electronic



Cylindrical lock comparison

ND mechanical



Applications

The Schlage ND is extremely versatile and is regularly used in healthcare, education, government, office, retail and other commercial applications.

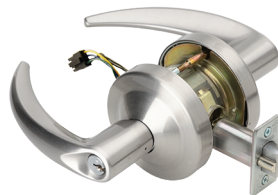
With 31 mechanical functions, the ND's range spans from the simple (non-locking passage) to complex (double-cylinder security) to specialized (school time-out lock).

Because the ND uses an ANSI 161 door prep, commonly used across cylindrical locks, it is ideal for both new construction and retrofit applications.

Key features

- Significantly exceeds ANSI/BHMA A156.2 requirements for Grade 1 cylindrical locks
- 31 mechanical functions (see adjacent columns for wired electrified and electronic options)
- Nine lever designs, two rose designs
- 10 available finishes
- Supports standard, SFIC and FSIC cylinder formats
- Multiple key systems available – open, patented, restricted, geographic exclusive, UL437
- Support for 10 non-Schlage cores (see cylinder section)

ND wired electrified



Applications

Wired electrified locks complement the mechanical offering and are typically incorporated into a wired access control system or used independently with a remote access switch (e.g. switch behind a receptionist desk).

The electrified ND is ideally used in:

- high traffic areas, where line power ensures continuous operation
- new construction, where electrified door prep, hinges and wiring can easily be incorporated into the building

Key features

All mechanical features plus:

- auto-detecting 12-24VDC input
- selectable EL/EU operation
- low 0.23 amp max current draw that allows multiple locks on a single power supply
- low 0.010 amp holding current that eliminates “hot levers” in electrically locked applications
- modular Request to Exit (RX) that can be added at any time
- inventory friendly—one lock supports 12-24V, EL or EU, with or without RX
- six electrified functions for application flexibility

NDE wireless electronic



Applications

Wireless electronic locks complete the offering by delivering all of the access control system hardware components required at the door in a single integrated design.

NDE wireless lock applications include:

- retrofit applications where electronic credentials can be used for improved visibility and control
- new construction to expand the scope of access control to interior openings
- low to medium traffic areas, where battery power delivers long life

Key features

All mechanical features¹ plus:

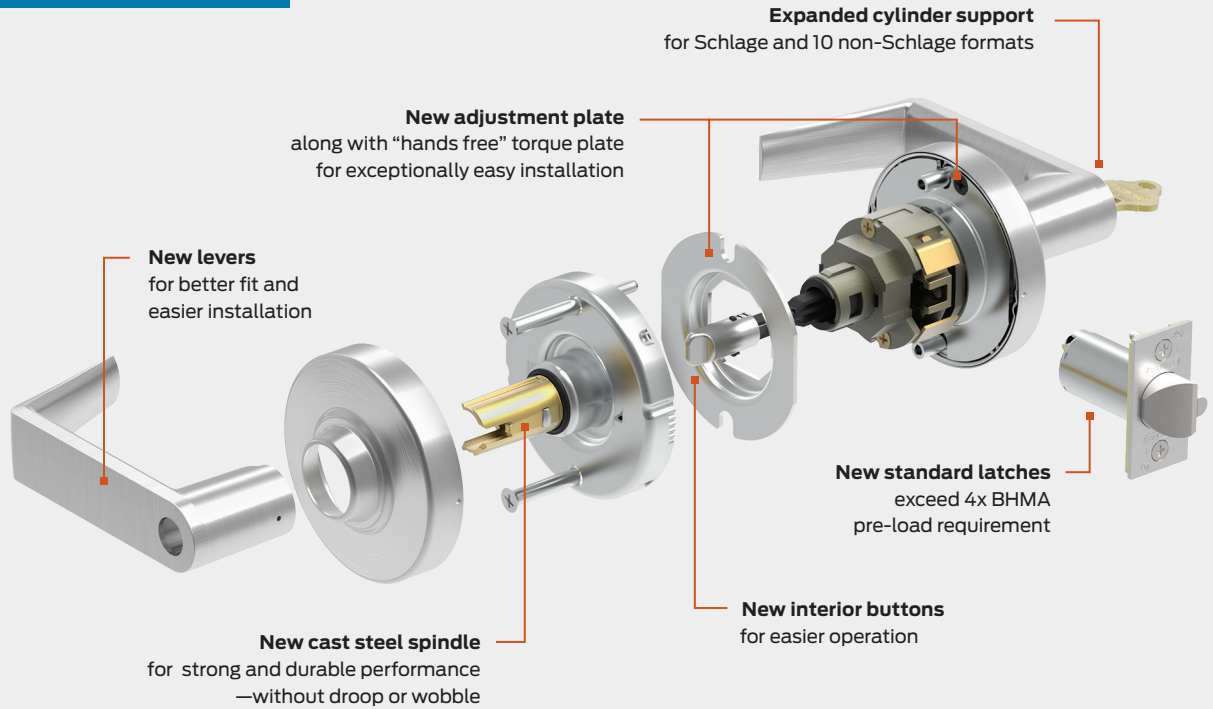
- Fits standard ANSI 161L mechanical door prep
- Installs in minutes with only a Phillips screwdriver
- Integrated card reader, door position sensor and Request to Exit (RX) switch
- Built-in Bluetooth® enables wireless configuration from smart phones and tablets
- Built-in Wi-Fi enables automatic updates to access rights
- Capable of networked real-time communication²
- Up to 2 years of battery life (4 AA)

¹ NDE wireless electronic lock available in seven lever designs, one rose design, and nine finishes only.

² Requires ENGAGE™ Gateway and alliance access control software.

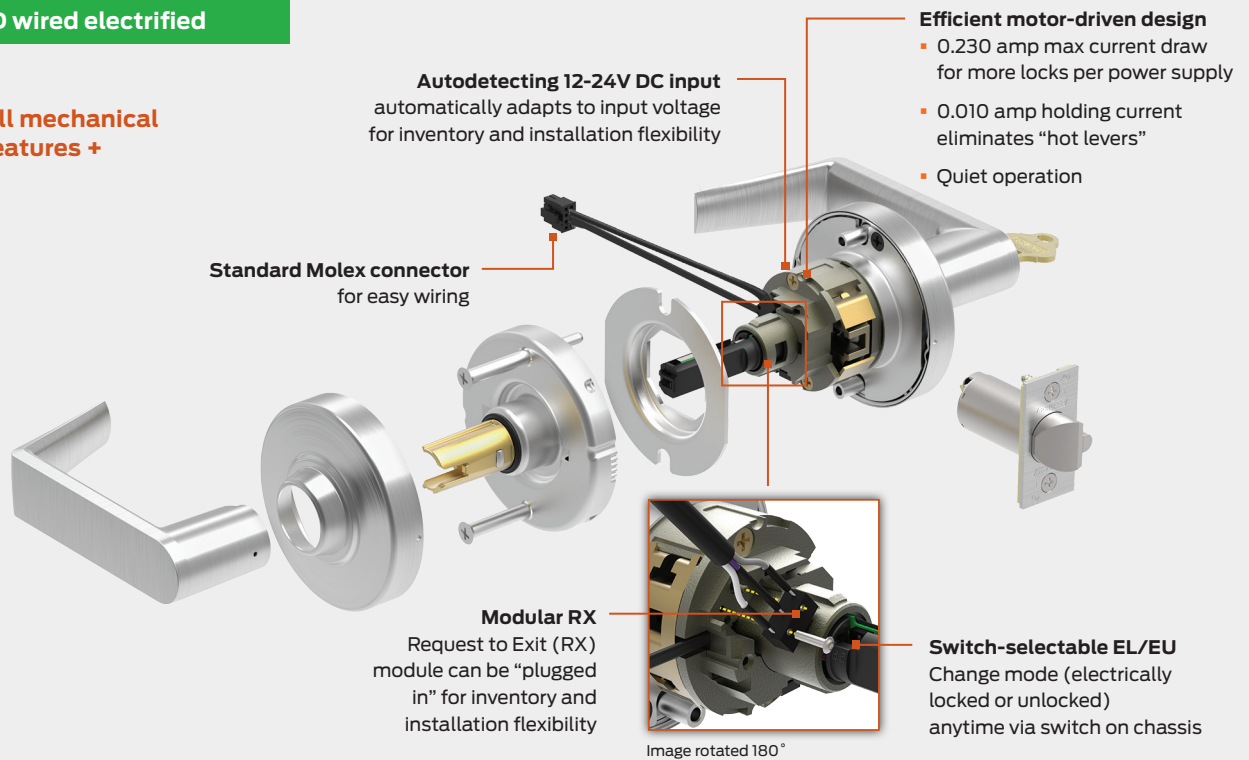
A detailed look...

ND mechanical



ND wired electrified

All mechanical features +



NDE wireless electronic

All mechanical features +

