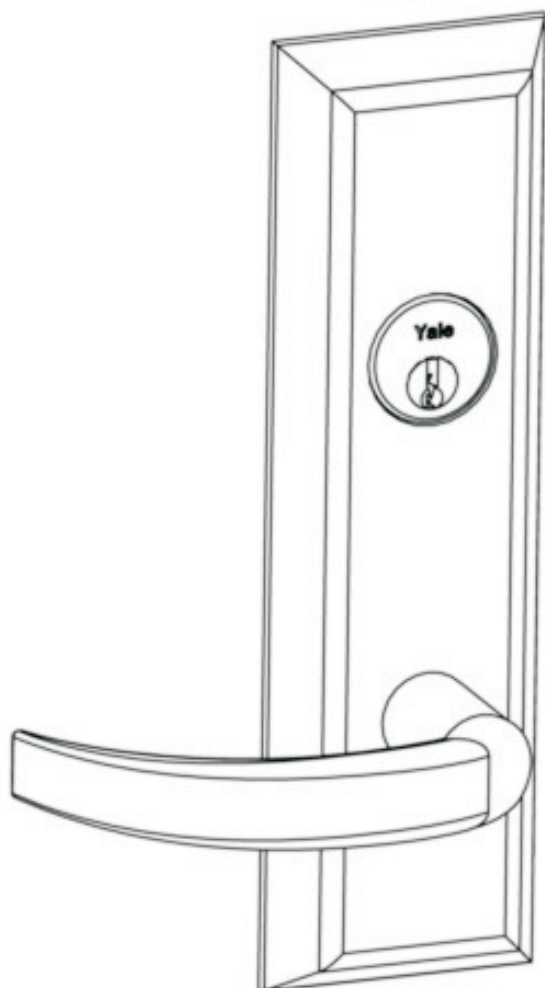




Symphony™ Exits Rim/SVR/CVR/Mortise Installation Instructions Supplement



This document does not
replace but supplements the
following Exit Instructions:

80-8470-0656
80-8470-0690
80-9470-0000
80-9470-0010
80-9470-0020
80-9470-0030
80-9470-0050
80-9470-0060

125 kHz Proximity Reader or
13.56 MHz iCLASS® Proximity Reader

NOTES TO INSTALLER

SYMPHONY™ CONNECTIONS ARE
DIFFERENT FROM THOSE SHOWN ON THE
DEVICE INSTRUCTIONS.

FAILURE TO FOLLOW THESE INSTRUCTIONS
COULD RESULT IN DAMAGE TO THE LOCK
AND VOID THE FACTORY WARRANTY.

For Technical Assistance call Yale at 1-800-810-WIRE (9473)

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WARNINGS

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could avoid the user's authority to operate the equipment.

IMPORTANT: The accuracy of the door preparation is critical for the proper functioning and security of this lever handle lock. Misalignment can cause premature wear and a lessening of security.

Finish Care

This lockset is designed to provide the highest standard of product quality and performance. Care should be taken to insure a long-lasting finish. When cleaning is required use a soft, damp cloth. Using lacquer thinner, caustic soaps, abrasive cleaners or polishes could damage the coating and result in tarnishing.

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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception the user is encouraged to try to correct the interference by one or more of the following measures: 1) Reorient or relocate the receiving antenna, 2) Increase the separation between the equipment and receiver, 3) Connect the equipment into an outlet on a circuit different from that which the receiver is connected and/or 4) consult the dealer or an experienced TV technician.

GENERAL DESCRIPTION

The Symphony™ Exits Series locks are designed to interface with existing Wiegand electronic access control (EAC) panels. The 125kHz or 13.56 MHz proximity technology reader provides visual (LED) and audible indication of credential authorization. Symphony™ Series technology is designed around Yale® Grade 1 hardware and comes complete with inside REX (Request to Exit) monitoring and external DPS (Door Position Status). The Symphony™ Exits Series is available in 24VDC only. Weather seal gaskets are also included for outdoor applications.

SPECIFICATIONS / FEATURES

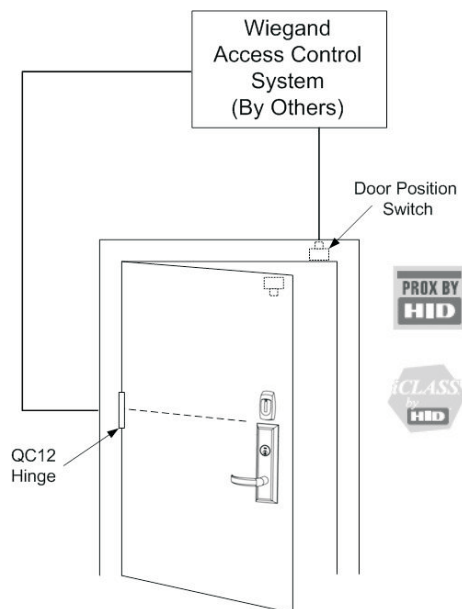
- Deadlocking latch prevents manipulation when door closed
- Outside lever controlled by reader or key retracts latch
- The push bar produces REX (request to exit) signal
- Fail Safe or Fail Secure Operation (must specify)
- UL Listed (3 hr.)
- Wire from EAC Panel to door must be shielded with a drain. Drain terminated at EAC Panel controller
- Complete monitoring of door (External DPS supplied)
- Wires directly to EAC Panels
- Accepts all HID 125 kHz (26-39 bit) or iCLASS® 13.56 MHz (2k-32k) cards.
- QC12 McKinney® Hinge with ElectroLynx® plug and play

Electrical Specifications:

- 24VDC only solenoid operated exit trim available as Fail Safe or Fail Secure
- 125 kHz Reader (requires 12VDC):
12VDC System with 24VDC Solenoid
150mA Reader draw (maximum)
330mA 24VDC Solenoid draw

480mA Total system draw
- 13.56 MHz iCLASS® Reader (will operate with either 12VDC or 24VDC):
24VDC System
125mA Reader draw (maximum)
330mA 24VDC Solenoid draw

455mA Total system draw



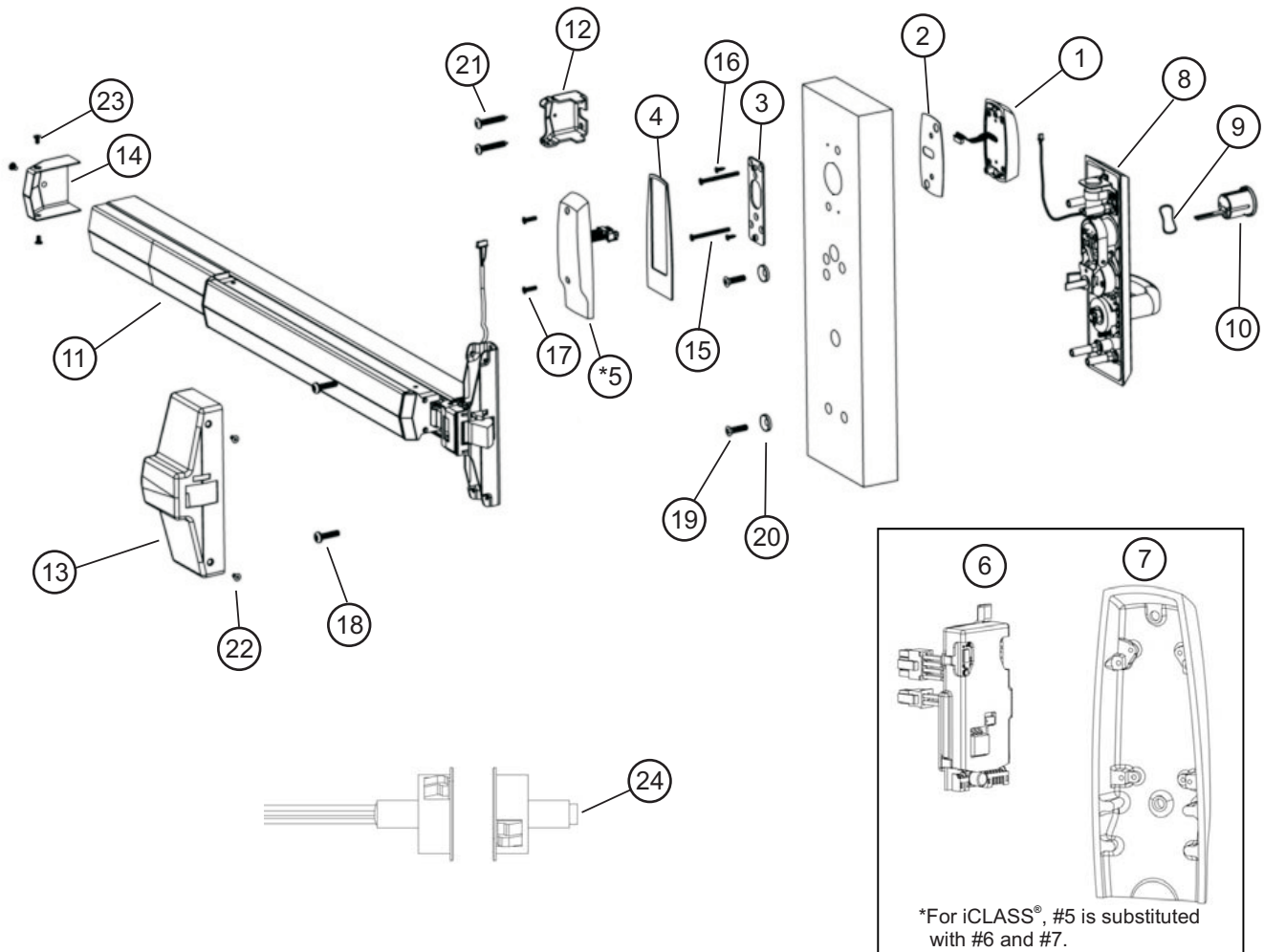
Wire Gauge Chart

Total One-Way Length of Wire Run (ft.)	Load Current @ 24VDC							
	1/4A	1/2A	3/4A	1A	1-1/4A	1-1/2A	2A	3A
100	24	20	18	18	16	16	14	12
150	22	18	16	16	14	14	12	10
200	20	18	16	14	14	12	12	10
250	18	16	14	14	12	12	12	10
300	18	16	14	12	12	12	10	-
400	18	14	12	12	10	10	-	-
500	16	14	12	10	10	-	-	-
750	14	12	10	10	-	-	-	-
1,000	14	10	10	-	-	-	-	-
1,500	12	10	-	-	-	-	-	-

Total One-Way Length of Wire Run (ft.)	Load Current @ 12VDC							
	1/4A	1/2A	3/4A	1A	1-1/4A	1-1/2A	2A	3A
100	20	18	16	14	14	12	12	10
150	18	16	14	12	12	12	10	-
200	16	14	12	12	10	10	-	-
250	16	14	12	10	10	10	-	-
300	16	12	12	10	10	-	-	-
400	14	12	10	-	-	-	-	-
500	14	10	10	-	-	-	-	-
750	12	10	-	-	-	-	-	-
1,000	10	-	-	-	-	-	-	-
1,500	10	-	-	-	-	-	-	-

PRODUCT ILLUSTRATION – RIM DEVICE AND CVR (not shown)

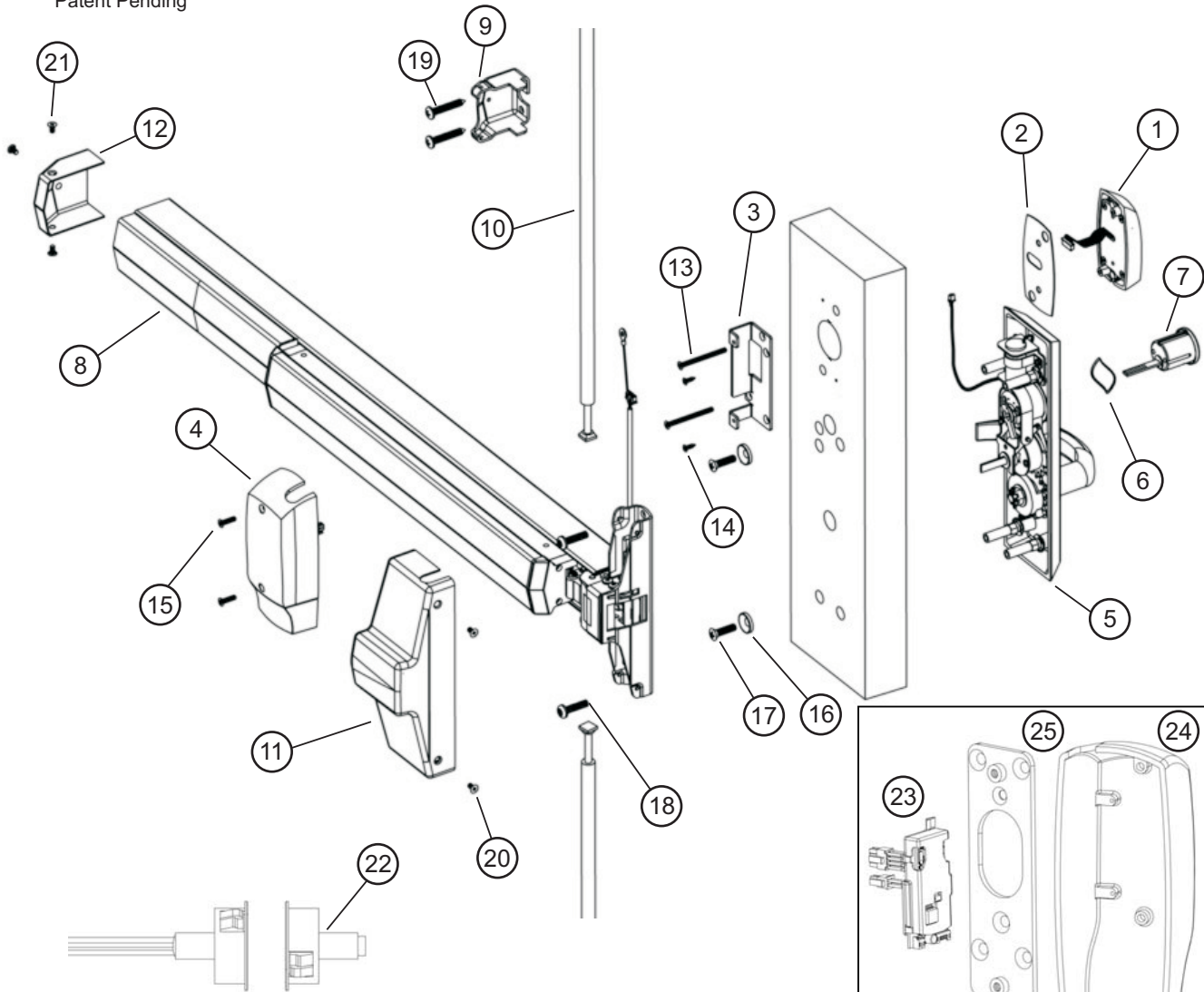
Patent Pending



- | | |
|---|---------------------------------------|
| 1. Reader Assembly (iCLASS® or 125 kHz) | 13. Cover |
| 2. Reader Gasket | 14. End Cap |
| 3. Mounting Bracket | 15. Reader Screw #8-32 x 2" (2) |
| 4. Inside Gasket | 16. Bracket Screw #6-20 x 3/8" (2) |
| 5. Inside Escutcheon Assembly | 17. Escutcheon Screw #8-32 x 5/8" (2) |
| 6. Board Assembly (iCLASS® only) | 18. Bar Screw #1/4-20 x 3/4" (2) |
| 7. Inside Escutcheon (iCLASS® only) | 19. Trim Screw #1/4-20 x 1" (2) |
| 8. Trim Assembly | 20. Trim Washer (2) |
| 9. Wave Washer | 21. End Clamp Screw #1/4-20 x 1" (2) |
| 10. Key Cylinder | 22. Cover Screw #8-32 x 5/16" (2) |
| 11. Bar Assembly | 23. End Cap Screw #8-32 x 5/16" (3) |
| 12. End Clamp | 24. Door Status Switch Kit |

PRODUCT ILLUSTRATION – SVR

Patent Pending

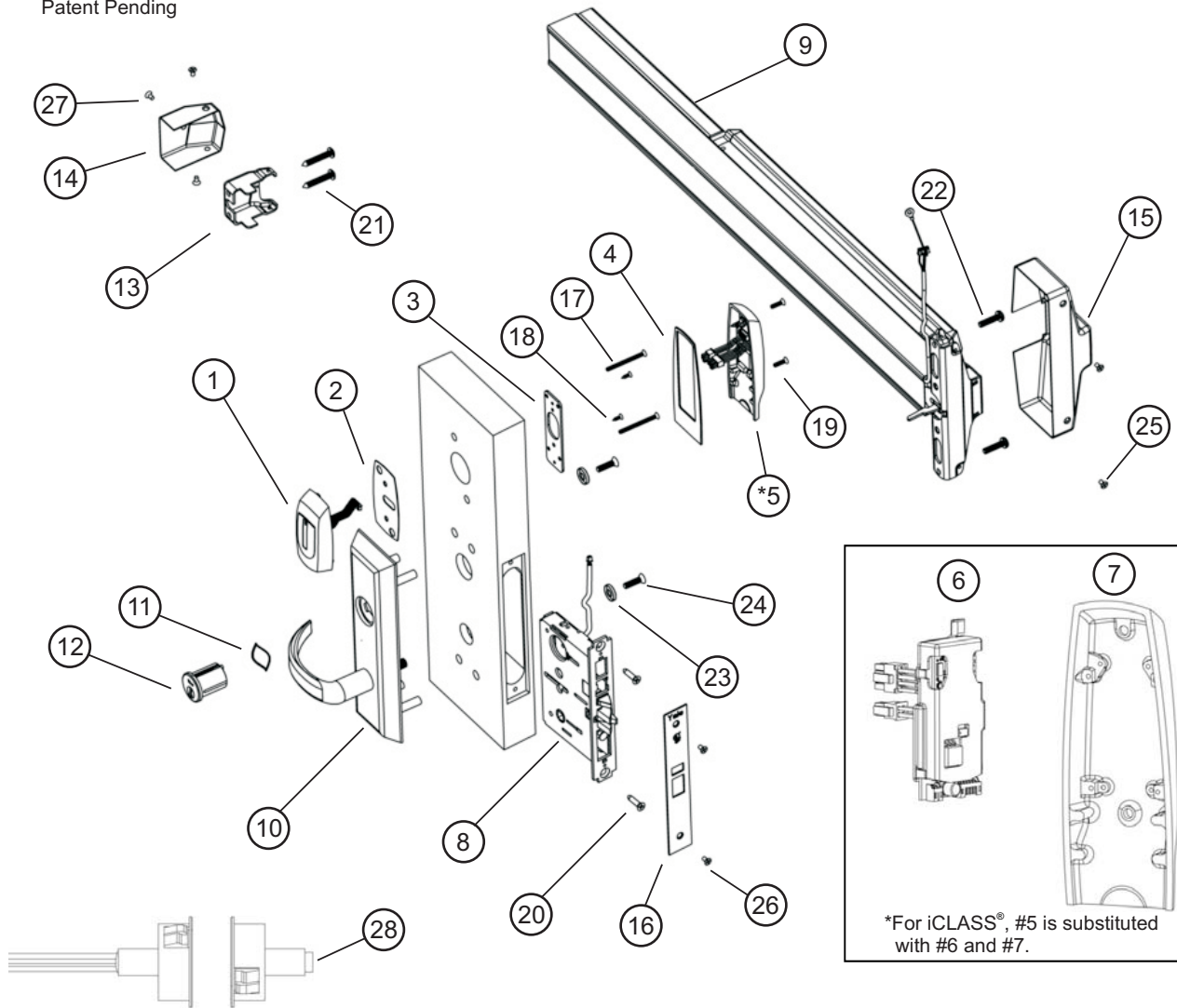


*For iCLASS®, #4 is substituted with #23 and #24. Added is #25.

- | | |
|---------------------------------|---------------------------------------|
| 1. Reader Assembly | 14. Bracket Screw #6-20 x 3/8" (2) |
| 2. Reader Gasket | 15. Escutcheon Screw #8-32 x 5/8" (2) |
| 3. Mounting Bracket | 16. Trim Washer (2) |
| 4. Inside Escutcheon Assembly | 17. Trim Screw #1/4-20 x 1" (2) |
| 5. Trim Assembly | 18. Bar Screw #1/4-20 x 3/4" (2) |
| 6. Wave Washer | 19. End Clamp Screw #1/4-20 x 1" (2) |
| 7. Key Cylinder | 20. Cover Screw #8-32 x 5/16" (2) |
| 8. Bar Assembly | 21. End Cap Screw #8-32 x 5/16" (3) |
| 9. End Clamp | 22. Door Status Switch Kit |
| 10. Rod Assembly (2) | 23. Board Assembly (iCLASS® only) |
| 11. Cover | 24. Inside Escutcheon (iCLASS® only) |
| 12. End Cap | 25. Bracket (iCLASS® only) |
| 13. Reader Screw #8-32 x 2" (2) | |

PRODUCT ILLUSTRATION – EXITS MORTISE

Patent Pending

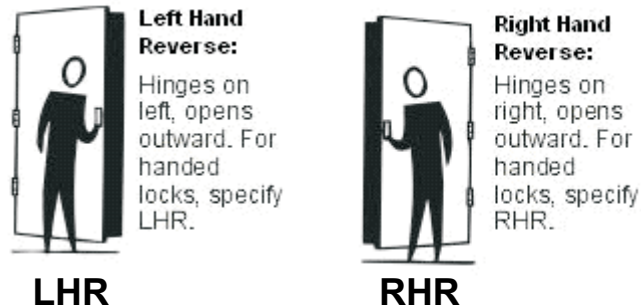


- | | |
|---|--|
| 1. Reader Assembly (iCLASS® or 125 kHz) | 15. Cover |
| 2. Reader Gasket | 16. Armor Front |
| 3. Mounting Bracket | 17. Reader Screw #8-32 x 2" (2) |
| 4. Inside Gasket | 18. Bracket Screw #6-20 x 3/8" (2) |
| 5. Inside Escutcheon Assembly | 19. Escutcheon Screw #8-32 x 5/8" (2) |
| 6. Board Assembly (iCLASS® only) | 20. Lockbody Combo Screw #12-24 x 1" (2) |
| 7. Inside Escutcheon (iCLASS® only) | 21. End Clamp Screw #1/4-20 x 1" (2) |
| 8. Mortise S8800 Series | 22. Bar Screw #1/4-20 x 3/4" (2) |
| 9. Bar Assembly | 23. Trim Washer (2) |
| 10. Trim Assembly | 24. Trim Screw #1/4-20 x 1" (2) |
| 11. Wave Washer | 25. Cover Screw #8-32 x 5/16" (2) |
| 12. Key Cylinder | 26. Armor Front Screws #8-32 x 1/4" (2) |
| 13. End Clamp | 27. End Cap Screw #8-32 x 5/16" (3) |
| 14. End Cap | 28. Door Status Switch Kit |

Installation Instructions

1. What is the hand of the door?

Face the door from the outside to determine its hand.
The outside is the card reader side of the door.



2. Prepare a blank wood door (for existing door go to step 3)

- Select the correct door template based on the hand of your door (included).
- Draw a horizontal centerline for the lock on the edge and on both sides of the door at the desired height above the finished floor. Standard height for centerline is 40-5/16" above finished floor.
- Wrap the template around the door aligning the centerline on the template with the ones drawn on the door (see Figure 1). Mark the center of the holes so they can be seen on the door.

Note: When installing a new door in an existing frame, align centerline of lock prep with the centerline of the strike.

- Drill holes and cuts as specified in the door marker.

Note: To avoid splintering wood doors drill thru holes from both sides of the door.

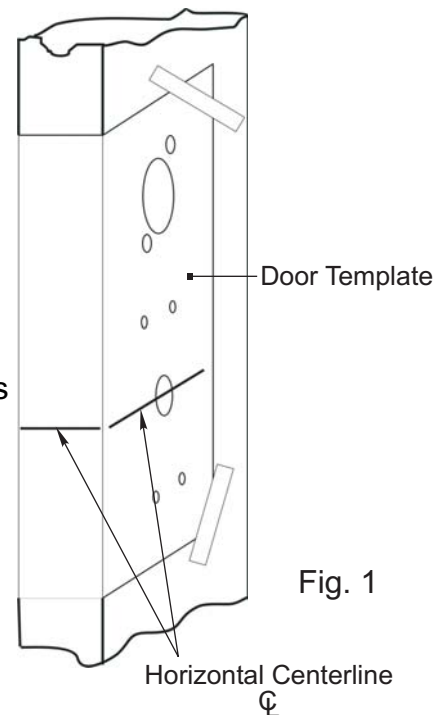


Fig. 1

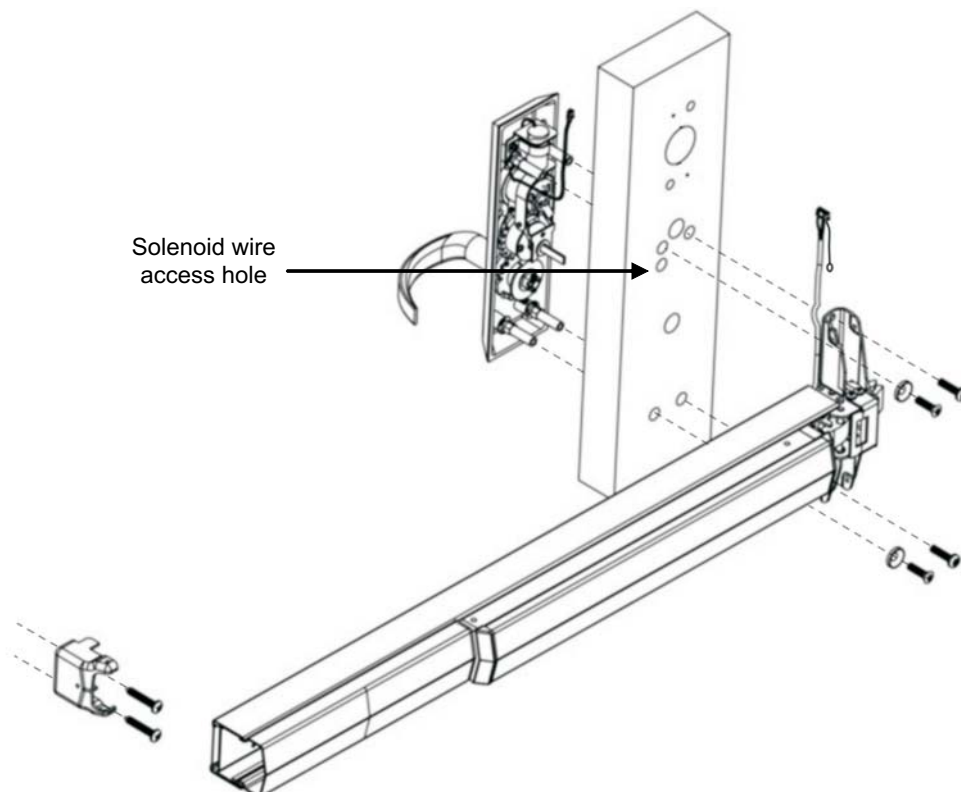
Installation Instructions

3. Prepare an existing wood door
 - a. Select the correct door template based on the hand of your door (included).
 - b. Wrap the template around the door aligning the centerline on the template with the existing lock and latch holes (see Figure 1, Page 7). Mark items on the door as shown on your template.
 - c. Drill holes and cuts for items.

Note: To avoid splintering wood doors drill thru holes from both sides of the door.

4. Referring to the product's manual, install the bar and the trim
 - a. Rim (shown), Surface, and Concealed Vertical devices.

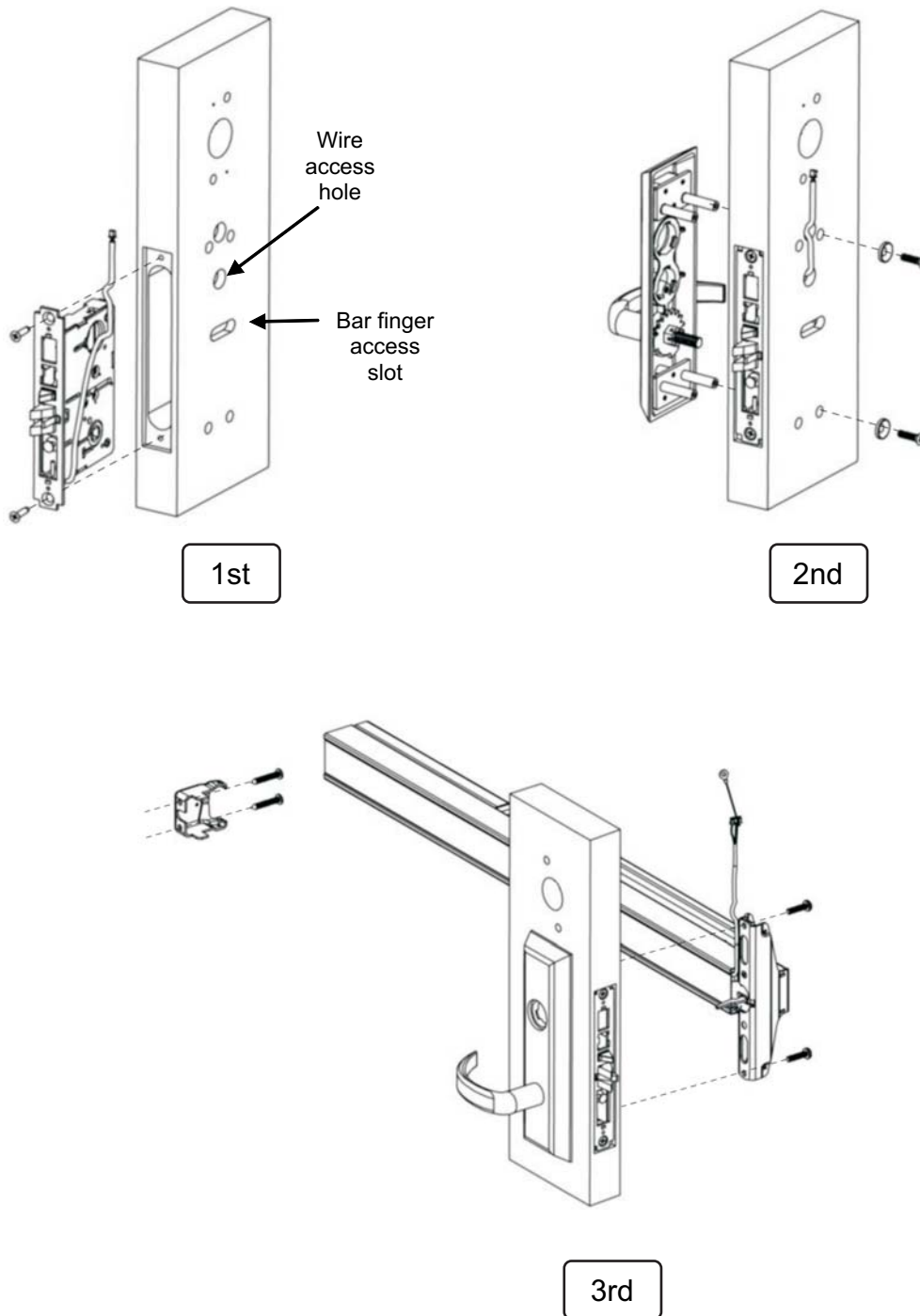
Note: Make sure the cylinder is installed to the trim before securing the trim to the door (Refer to device instructions: 80-8470-0690, 80-9470-000, 80-9470-0050, 80-9470-0010, 80-9470-0020, or 80-9470-0060).



Installation Instructions

b. Mortise devices.

Note: Refer to instructions 80-8470-0656 and 80-9470-0030.



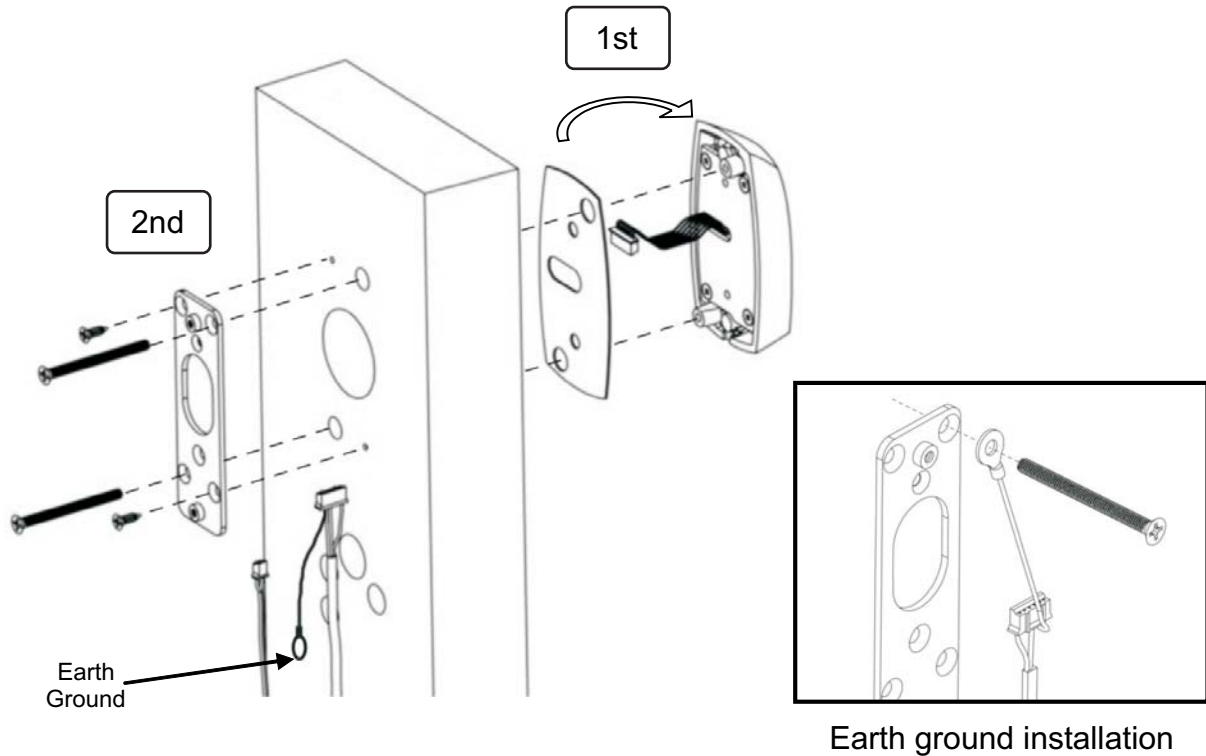
Installation Instructions

5. Install the Reader

a. Rim devices and mortise.

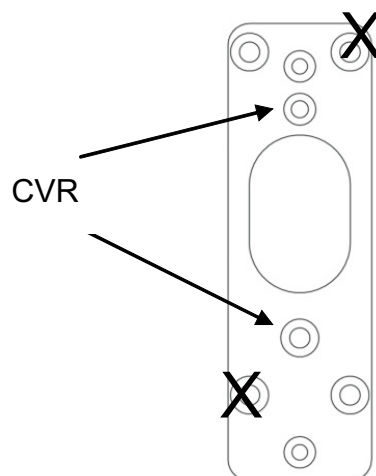
Use two #8-32 x 2" and two #6-20 x 3/8" screws provided.

CAUTION: Failure to attach the earth ground as shown may result in system damage.



b. Concealed Vertical Rod (CVR)

To avoid interference with the rod on CVR units, use the center holes to attach the reader. Make sure the door has the CVR holes in place.

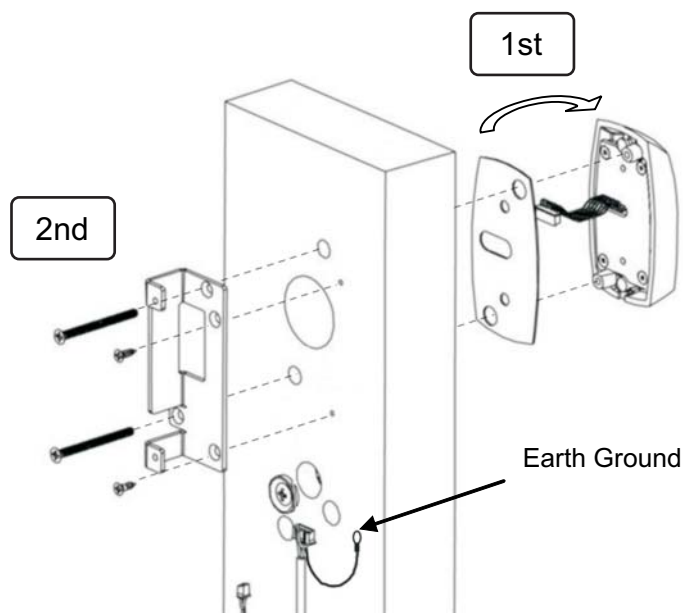


Installation Instructions

c. Surface Vertical Rod (SVR)

Use two #8-32 x 2" and two #6-20 x 3/8" screws provided.

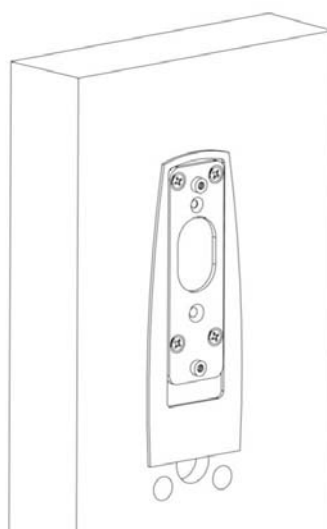
Note: Refer to the previous page for earth ground installation.



6. Inside escutcheon installation

a. Rim, CVR, and mortise.

1. Install the gasket to the door as shown below.
2. Connect the wires as shown in the next page.
3. Attach the escutcheon to the bracket as shown on page 13.



Installation Instructions

Electronic Components Connections

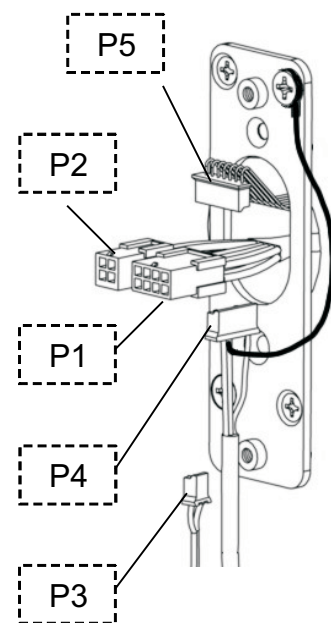
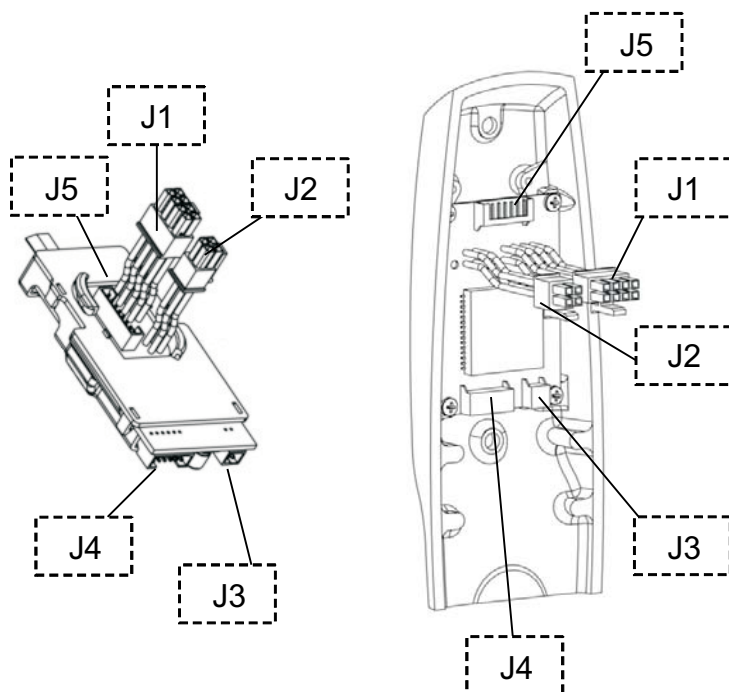
- Connect ElectroLynx® harness P1 & P2 (8 Pin & 4 Pin) from the door to the interior circuit board ElectroLynx® harness J1 & J2 (see Fig. 13).
- Connect P5 (7 Pin) from reader to J5 on interior circuit board.
- Connect P4 (6 Pin) from lock to J4 on interior circuit board.
- Connect P3 (2 Pin) from lock to J3 on interior circuit board.
- Carefully place extra wire inside of the door.

Note: Connectors go only one way. Do not offset connector and make sure they are completely seated.

13.56 MHz
(iCLASS®)

125 kHz
System

Door Wires

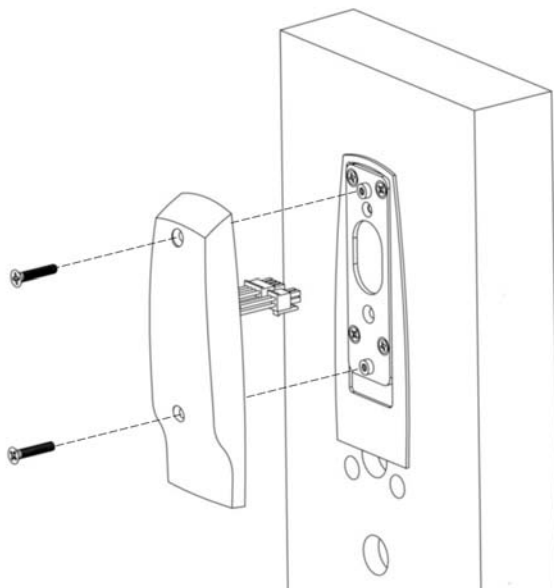


Installation Instructions

Attach the escutcheon using #8-32 x 5/8" screws provided.

NOTE: DO NOT over tighten (wires not shown).

Caution: Pinched wires may cause system malfunction or damage.

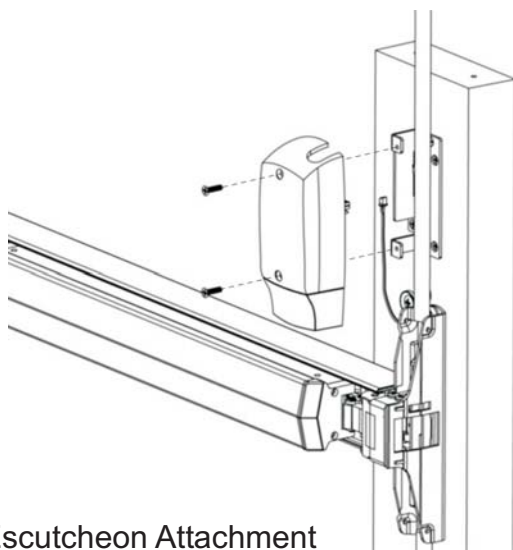


b. Surface Vertical Rod (SVR)

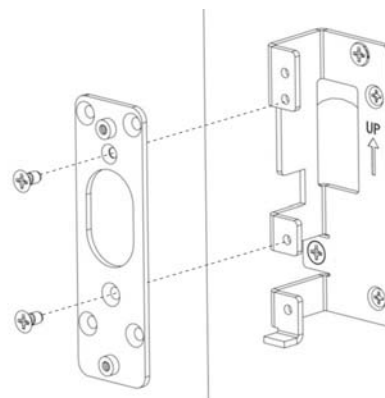
1. Connect all wires following the map on page 12.

2. Attach the escutcheon as shown below left (no gasket necessary).

NOTE: For iCLASS®, install the mounting plate as shown below right and install the PCB as shown on page 14.



Escutcheon Attachment

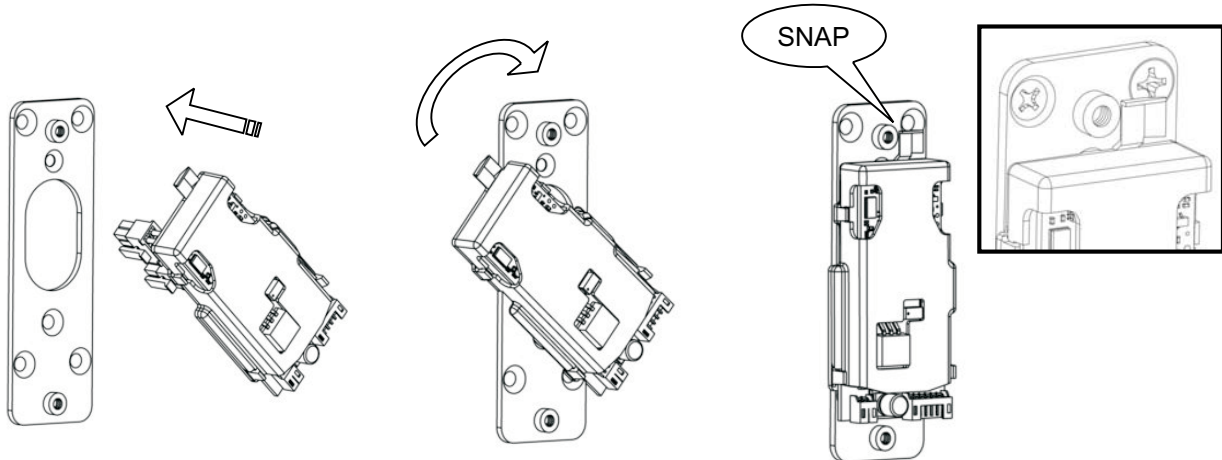


iCLASS® Mounting Plate Installation

Installation Instructions

c. iCLASS® board installation

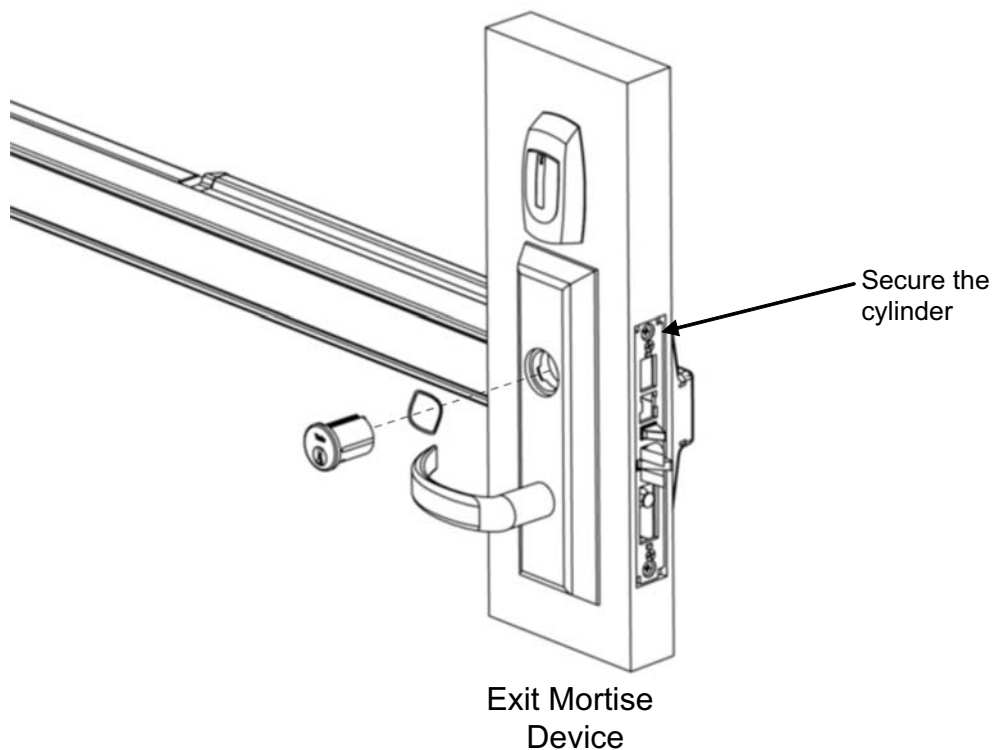
Once all the wires are connected snap the board to the bracket as shown. After the board is in place attach the escutcheon as instructed on the previous page.



7. Install Mortise Key Cylinder

Refer to the device's manual 80-8470-0656 and 80-9470-0030.

NOTE: For SVR, CVR, and Rim devices the cylinder is installed before securing the trim to the door as noted in step 4.

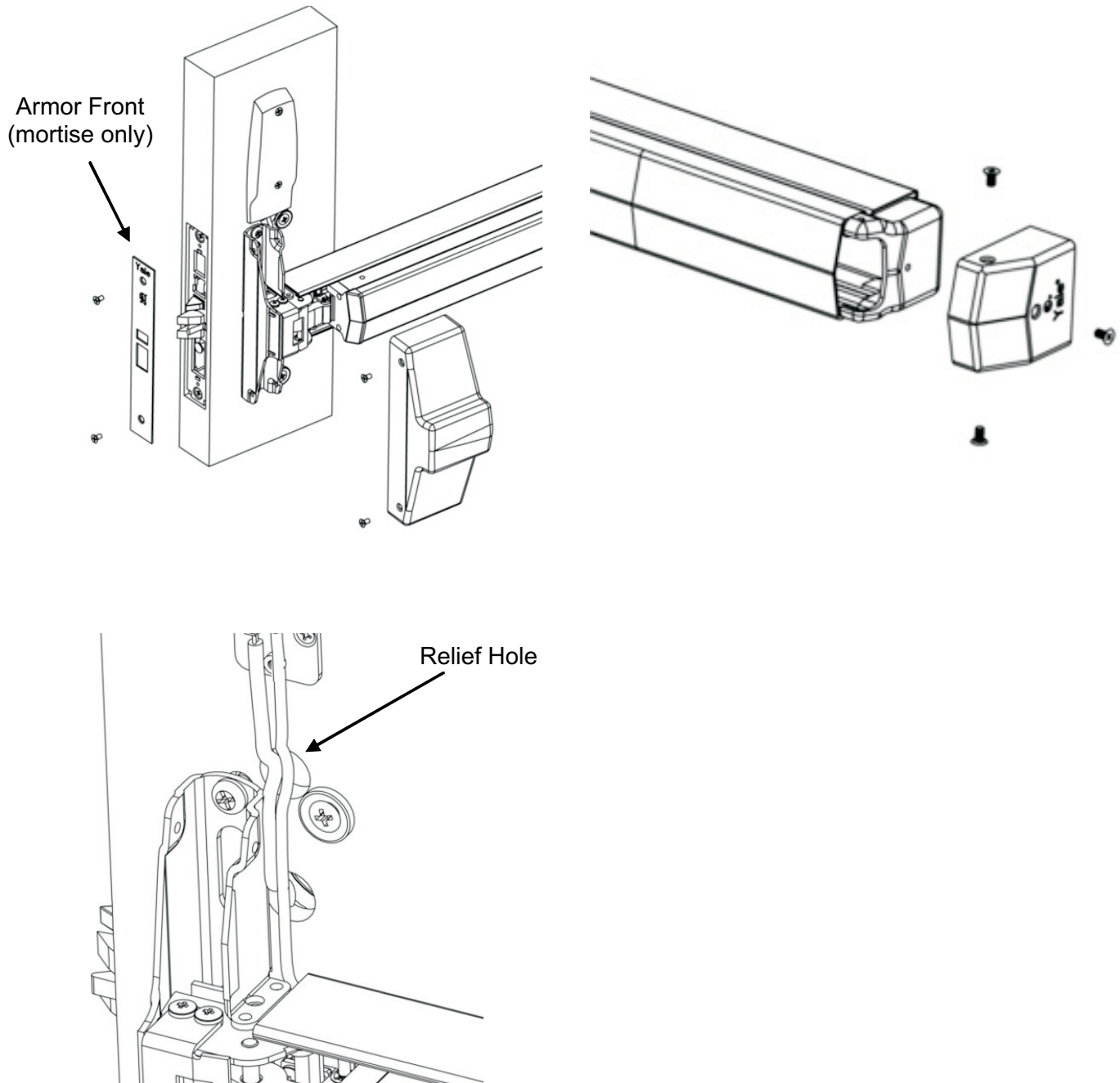


Installation Instructions

8. Install All Covers.

Make sure the strike, latches and rods (if applicable) are installed as directed in the device's manuals (80-9470-0000, 80-9470-0010, 80-9470-0020, 80-9470-0030, 80-9470-0050, or 80-9470-0060) before installing the covers.

Caution: Pinched wires under the escutcheon and covers may cause a failure. Make sure wires are inside the relief hole.



WIRING DIAGRAMS

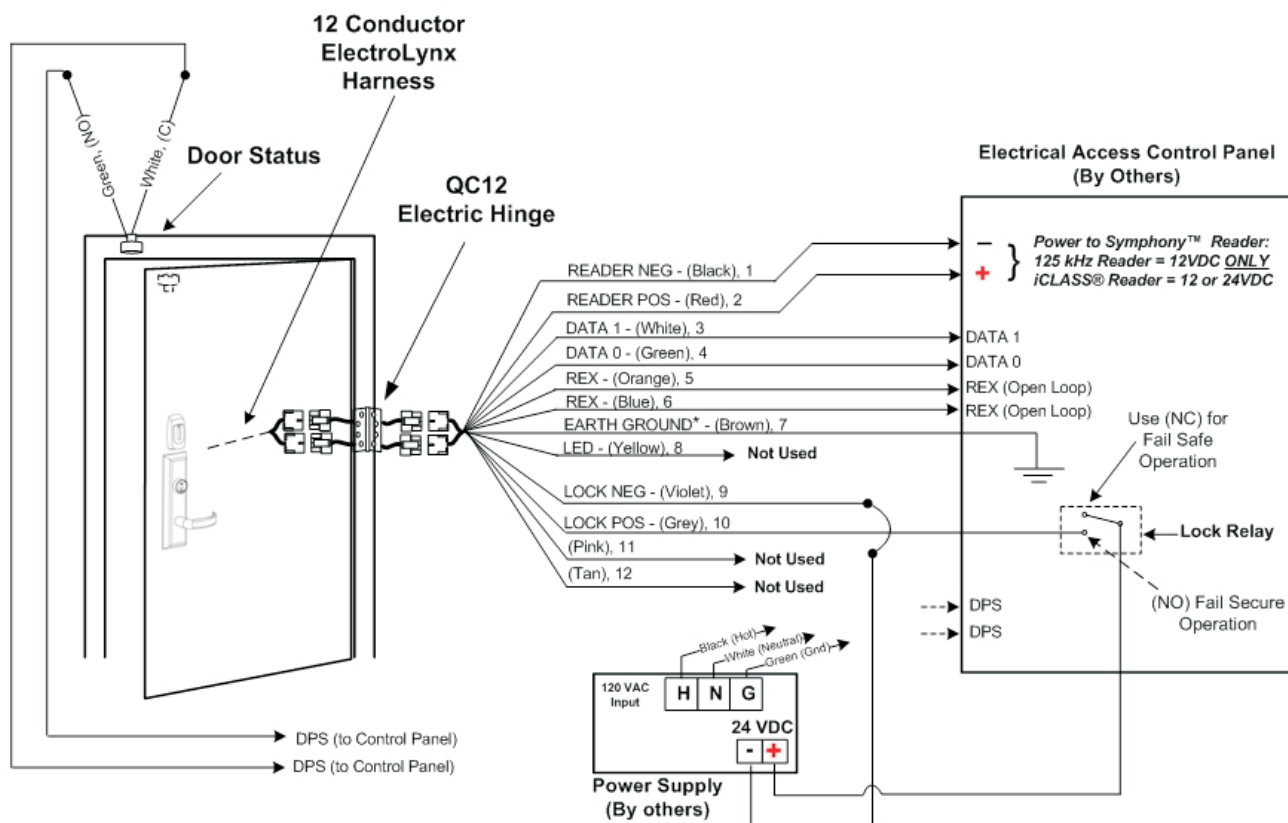
DIAGRAM #1 Typical Symphony™ Exit Device Application Diagram (24 VDC Lock)

125 kHz

12VDC SYSTEM
 Reader Draw = 40mA (normal state) & 150mA (peak)
 24VDC Solenoid Draw = 330mA (normal state)
Total System Draw = 480mA

iCLASS®

24VDC SYSTEM
 Reader Draw = 125mA (peak)
 24VDC Solenoid Draw = 330mA (normal state)
Total System Draw = 455mA



MODE 1: LED WIRE NOT USED = RED LED 'ON' WHEN POWERED



*IMPORTANT: Pin 7 must be tied to ground in the access control panel.

Failure to follow proper ESD safe grounding procedures could lead to equipment failure.

WIRING DIAGRAMS

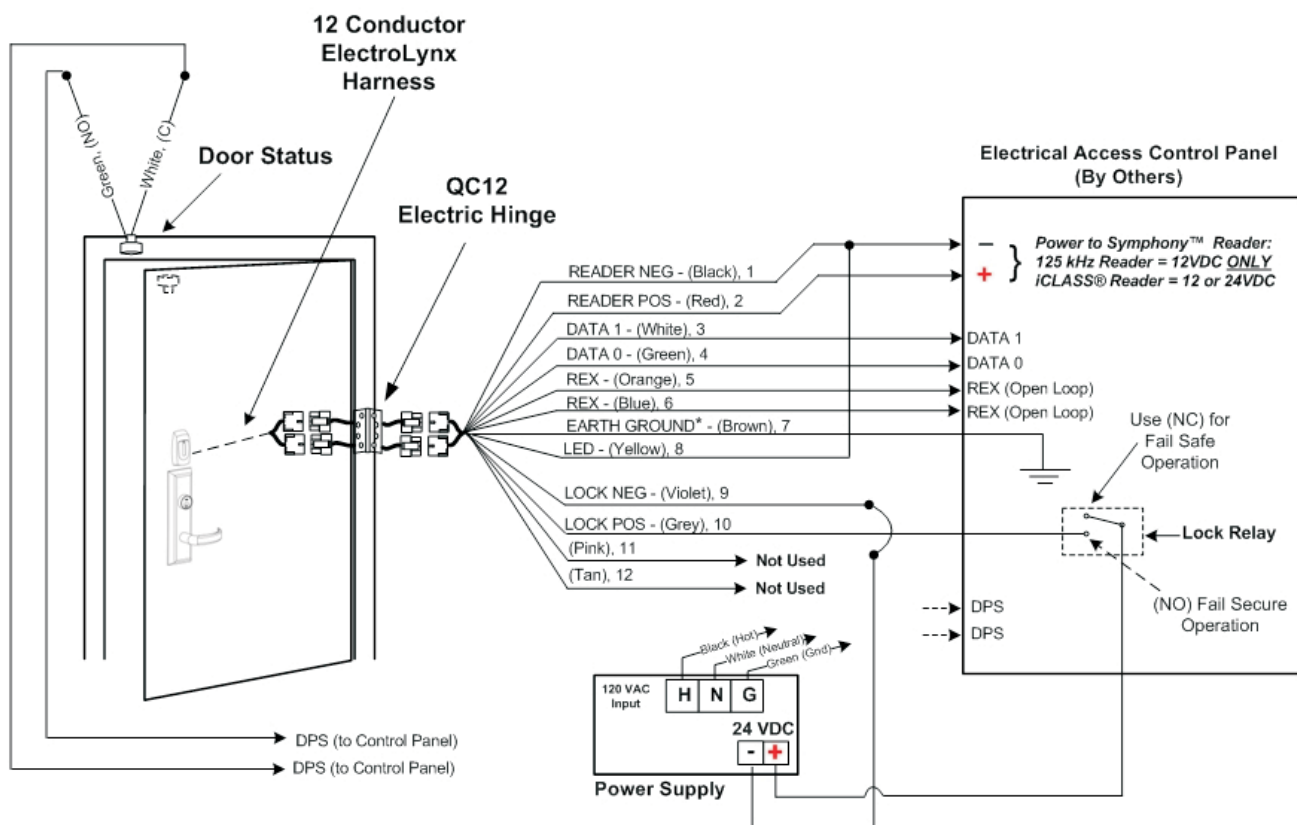
DIAGRAM #2 Typical Symphony™ Exit Device Application Diagram (24 VDC Lock)

125 kHz

12VDC SYSTEM
 Reader Draw = 40mA (normal state) & 150mA (peak)
 24VDC Solenoid Draw = 330mA (normal state)
Total System Draw = 480mA

iCLASS®

24VDC SYSTEM
 Reader Draw = 125mA (peak)
 24VDC Solenoid Draw = 330mA (normal state)
Total System Draw = 455mA



MODE 2: LED WIRE TIED TO GROUND = GREEN LED 'ON' WHEN POWERED



***IMPORTANT:** Pin 7 must be tied to ground in the access control panel.

Failure to follow proper ESD safe grounding procedures could lead to equipment failure.

WIRING DIAGRAMS

DIAGRAM #3 Typical Symphony™ Exit Device Application Diagram (24 VDC Lock)

125 kHz

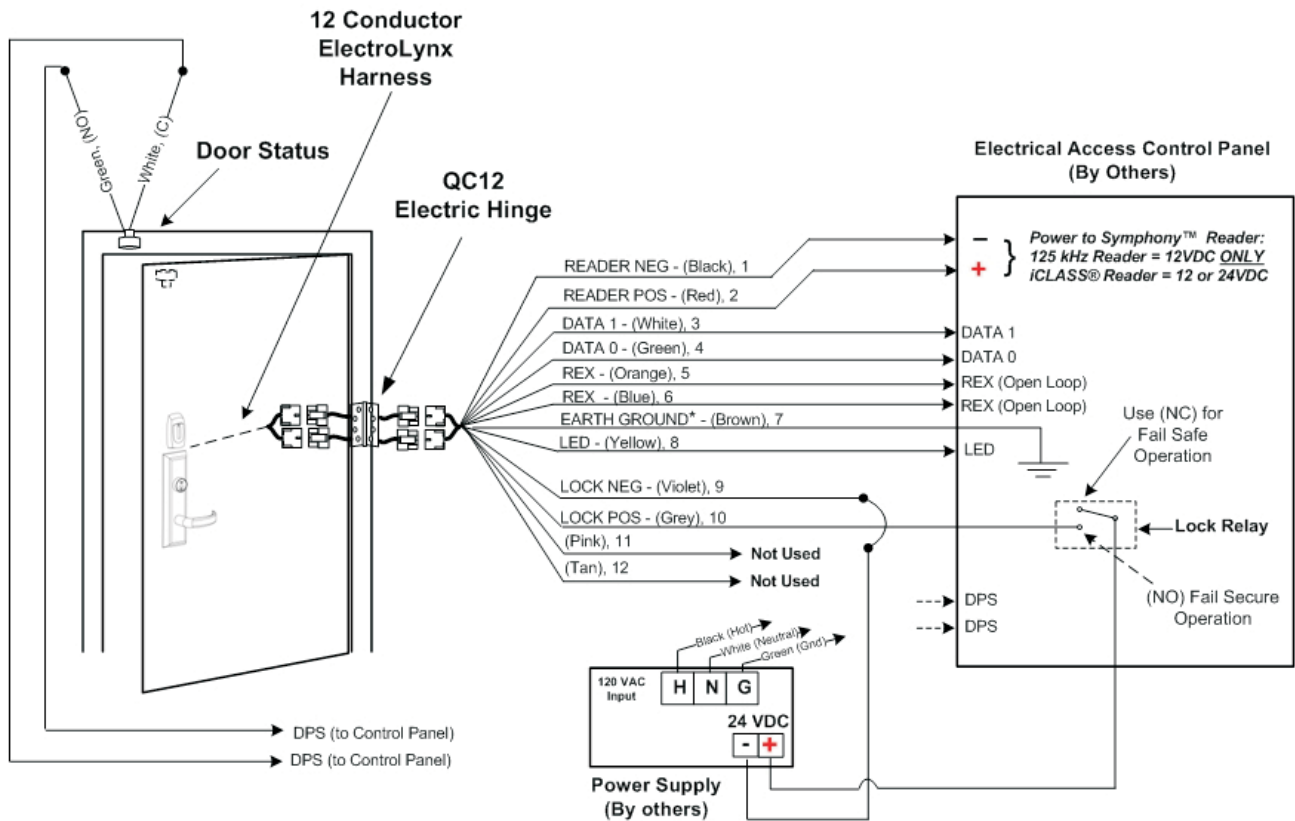
12VDC SYSTEM

Reader Draw = 40mA (normal state) & 150mA (peak)
 24VDC Solenoid Draw = 330mA (normal state)
Total System Draw = 480mA

iCLASS®

24VDC SYSTEM

Reader Draw = 125mA (peak)
 24VDC Solenoid Draw = 330mA (normal state)
Total System Draw = 455mA



MODE 3: LED WIRE TIED TO EAC PANEL = EAC PANEL CONFIGURABLE

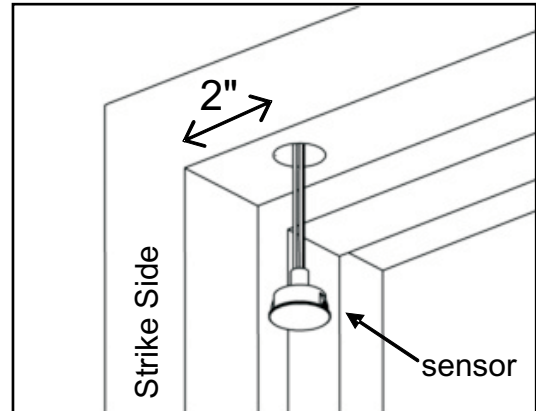


***IMPORTANT:** Pin 7 must be tied to ground in the access control panel.

Failure to follow proper ESD safe grounding procedures could lead to equipment failure.

DOOR STATUS SWITCH INSTALLATION

1. Install Door Status Switch supplied with product.
 - a. Drill a 1" diameter hole at 2" as shown.
 - b. Snap the sensor in place in the frame.
 - c. Repeat step (a) on the door. Make sure the hole is aligned with the sensor when the door is closed.
 - d. Snap the magnet in place in the door.
2. Wire to ElectroLynx® frame harness as shown in wiring diagrams on previous section.



OPERATION CHECK

1. Before closing door, test for cylinder function of lock cylinder and the bar.
 - a. Insert key into cylinder and rotate.
 - b. The key will retract the latch(es) while rotating freely.
 - c. Check that the bar retracts the latch when depressed.
 - d. Close door, ensure latch(es) fully extend into strike(s) and there is no binding.
2. Once electrical wiring has been completed follow these steps:
 - a. Turn power "ON" at EAC panel.
 - b. Verify reader LED is "ON" (red or green, depending on reader configuration see reader LED configuration on the Wiring Diagram).
 - c. Present proximity credential and verify LED and sounder activity.
 - d. Verify valid card read at EAC Panel.
 - e. Verify system operation (Present credential to reader and door unlocks).

TROUBLESHOOTING

1) PROBLEM: Credentials do not appear at EAC.

DESCRIPTION: Upon presentation of credentials, the Access Control system does NOT report that it has received such credentials.

SOLUTIONS:

- a. Use 24/7 Un-restricted credentials to confirm problem is not in the programming controls LED.
- b. Check LED wiring mode disconnect LED wire (Yellow, wire #8) such that Symphony™ system controls LED.
- c. Check to be sure that correct power is at the reader (12 VDC) and cycle the power to the reader. It should initialize with (2) quick beeps followed by a singular third beep, the LED should also cycle from Red to Green back to Red.
- d. Present credential and look for indication that reader has read the card Green Flash of LED and single beep. If not present, replace Inside Escutcheon PCB.
- e. Remove reader escutcheon and look for pinched wires from reader to inside PCB also check ElectroLynx® connections and wires for any evidence of chaffing or other damage.
- f. Check the position of the door some EACs will not allow presentation of credentials unless door is in closed position.
- g. If possible, try a known working inside PCB. If successful read, "replace Inside PCB."
- h. If not, integration error likely.

TROUBLESHOOTING

- 2) **PROBLEM:** Lock does NOT unlock upon presentation of credentials.

DESCRIPTION: Upon presentation of credentials, the door lock does not unlock allowing access.

SOLUTIONS:

- a. Use 24/7 Unrestricted credential to confirm problem is not the programming.
- b. Check to make sure Wiegand data is received by EAC system.
- c. Check wiring in and around door preparation (Solenoid -> Inside PCB, ElectroLynx® -> Inside PCB, Lockbody -> Inside PCB, etc.)
- d. Check for adequate lock voltage (24VDC).
- e. Inspect integration of EAC Lock Relay (N/O Fail Secure and N/C Fail Safe) and check for proper operation as well as presence of lock voltage.
- f. Disconnect solenoid and test to see that the proper voltage is applied to lockbody.
- g. If possible try to test system with a working Inside PCB. If found to work, replace inside PCB.

ONLINE LITERATURE AND TEMPLATES

For the latest information on Yale® products visit our website at www.yalecommercial.com. Click on the “Literature” button to find the most up-to-date catalogs, parts manuals, templates, specifications and installation instructions.

Yale® customers can also check the status of orders, account receivable statements and warehouse stock items with an ebusiness account. Look for the  symbol and click on it to register for an ebusiness account.

www.yalecommercial.com

Yale Commercial Locks and Hardware

Address: 100 Yale Avenue, Lenoir City, TN 37771-3226 USA
Tel: 1-800-438-1951 • Fax: 1-800-338-0965 • www.yalecommercial.com

ASSA ABLOY Door Security Solutions - Canada

Address: 160 Four Valley Drive, Vaughan, Ontario L4K 4T9 Canada
Tel: 1-800-461-3007 • Fax: 1-905-738-2478 • www.assaabloy.ca

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www.aanai.com

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ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.