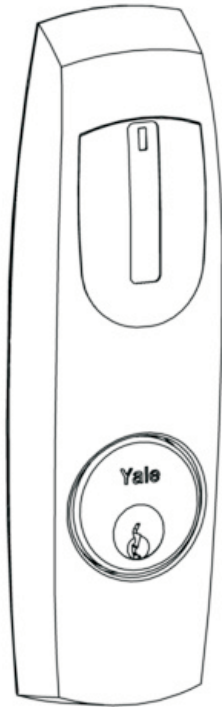
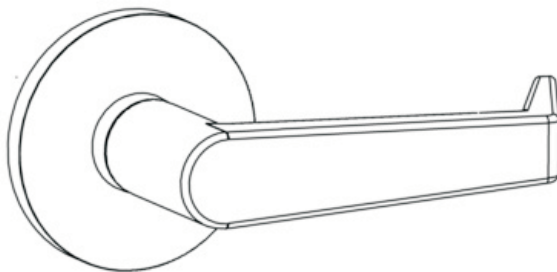




Symphony™ S8800FL & RL Series Mortise Lock Installation Instructions



125 kHz Proximity Reader or
13.56 MHz iCLASS® Proximity Reader



NOTE TO INSTALLER

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™ S8800FL & RL Series mortise lock is designed to interface with existing Wiegand electronic access control (EAC) panels. The 125kHz proximity technology reader provides visual (LED) and audible indication of credential authorization. Symphony™ S8800FL & RL Series technology is designed around Yale® Grade 1 hardware and comes complete with inside REX (Request to Exit) and DPS (Door Position Status) monitoring. Symphony™ is available in 12VDC or 24VDC. Weather seal gaskets are also included for outdoor applications.

SPECIFICATIONS / FEATURES

- Latch – Stainless Steel (Easily field reversible without disassembling lockbody)
- Deadbolt – Stainless Steel
- Auxiliary Latch – Stainless steel, non-handed
- Door Thickness – 1-3/4" Standard to 2-1/4" thick doors available as specified.
- Case – 12 gauge heavy duty wrought steel
- Outside lever controlled by reader or key retracts latch
- Inside Lever produces REX (request to exit) signal and retracts latch and deadbolt
- 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
- 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

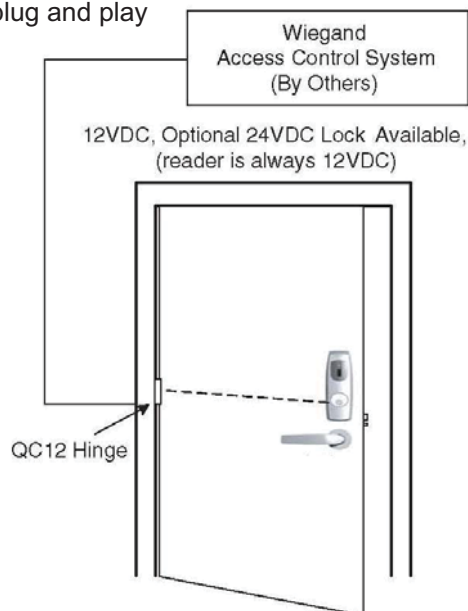
Electrical Specifications:

- 12VDC or 24VDC solenoid operated mortise lock available as Fail Safe or Fail Secure (voltage must be specified).
- 125 kHz Reader (requires 12VDC):
12VDC System with 12VDC Solenoid
150mA Reader draw (maximum)
612 mA 12VDC Solenoid draw
762mA Total system draw
- 12VDC System with 24VDC Solenoid
150mA Reader draw (maximum)
330 mA 24VDC Solenoid draw
480mA Total system draw
- 13.56 MHZ iCLASS® Reader (will operate with either 12VDC or 24VDC):
12VDC System
125mA Reader draw (maximum)
612 mA 12VDC Solenoid draw
737mA Total system draw
- 24VDC System
125mA Reader draw (maximum)
3300 mA 24VDC Solenoid draw
455mA Total system draw

Wire Gauge Chart

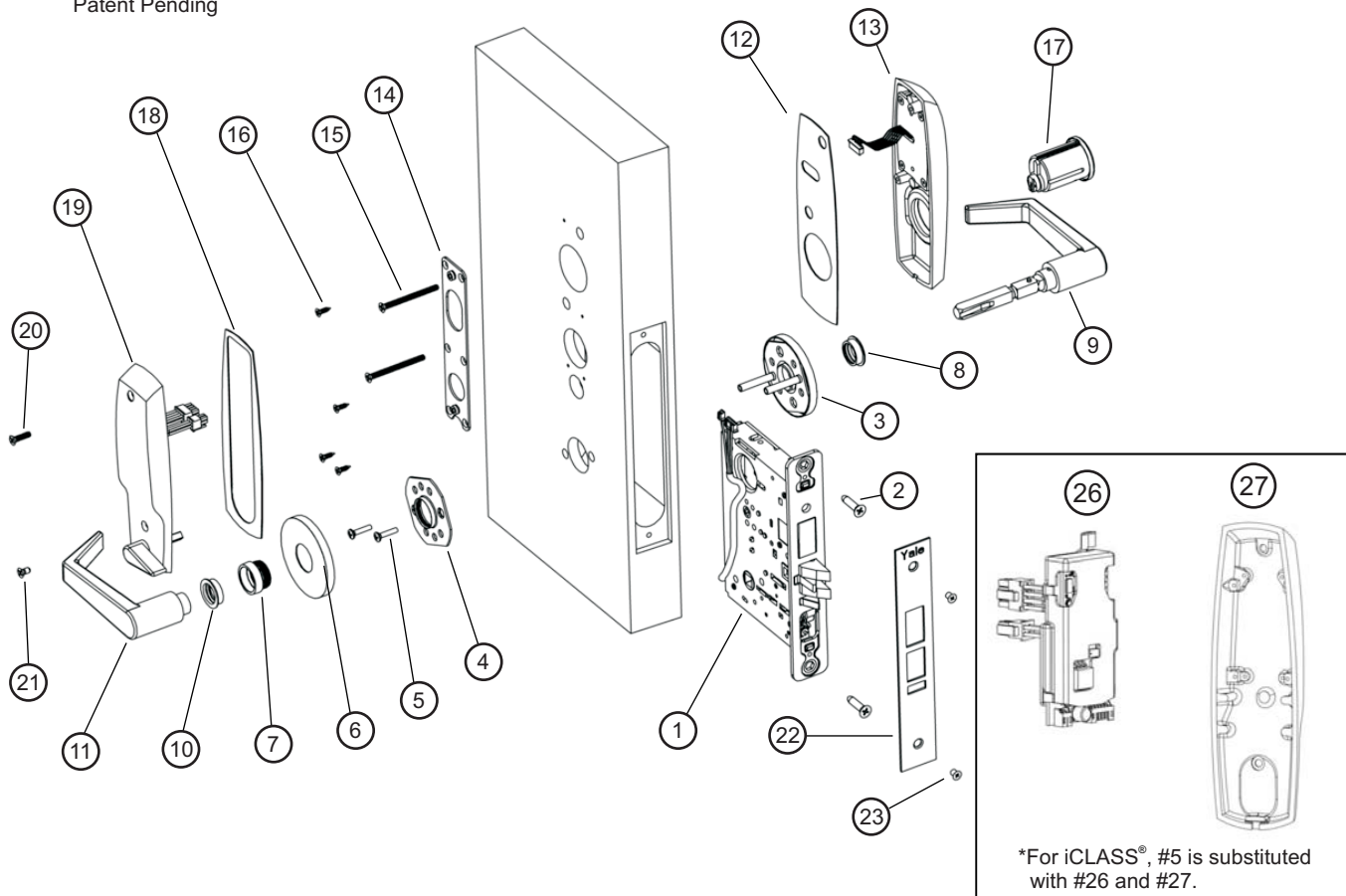
Total One-Way Length of Wire Run (ft.)	Load Current @ 24VDC							
	1/4A	1/2A	3/4A	1A	1-1/4A	1-1/2A	2A	3A
100	24	20	18	18	16	16	14	12
150	22	18	16	16	14	14	12	10
200	20	18	16	14	14	12	12	10
250	18	16	14	14	12	12	12	10
300	18	16	14	12	12	12	10	-
400	18	14	12	12	10	10	-	-
500	16	14	12	10	10	-	-	-
750	14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



SYSTEM COMPONENTS

Patent Pending



*For iCLASS®, #5 is substituted with #26 and #27.

1. Mortise Lock Body
2. Lock Screw #12-24 x 1 (2)
3. Outside Rose Assy.
4. Inside Mounting Plate
5. Rose Screw #8-32 x 1 (2)
6. Inside Rose
7. Inside Rose Adapter
8. Thimble Insert
9. Outside Lever Assy.
10. see item #8
11. Inside Lever Assy.
12. Reader Gasket
13. Reader Assy. (iCLASS® or 125 kHz)
Cylinder Option shown
14. Reader Bracket
15. Reader Screw #8-32 x 1/2 (2)
16. Bracket Screw #6-20 x 3/8 (4)
17. Key Cylinder
18. Inside Gasket
19. PCB Assy. w/Thumb Turn
PCB Assy. w/o Thumb Turn
20. Escutcheon Screw #8-32 x 5/8 (1)
21. Escutcheon Screw #8-32 x 5/16 (1)
22. Armor Front
23. Armor Front Screw #8-32 x 1/4 (2)
24. Strike*
25. Strike Screw* #12-24 x 1 (2)
26. Board Assembly (iCLASS® only)
27. Inside Escutcheon (iCLASS® only)

TOOLS REQUIRED

- 1-1/8" (28.6mm) hole saw
- 1-1/16" (27mm) boring bit
- 5/16" (8mm) drill bit
- 5/32" (4mm) drill bit
- 3/8" (9.5mm) drill bit
- 3/32" (2.4mm) drill bit
- 1-1/2" (38mm) hole saw
- 3/4" (19mm) hole saw
- 1-1/4" (31.8mm) hole saw
- Chisel & Hammer
- #2 Phillips screw driver

* not shown

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.



LHR



LH



RH



RHR

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.
- 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 the latch with the strike opening.

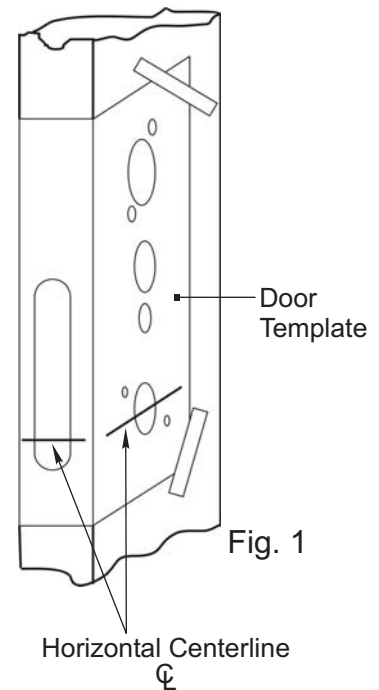


Fig. 1

- Drill holes and cuts as specified in Fig 2 on Page 6.

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

Installation Instructions

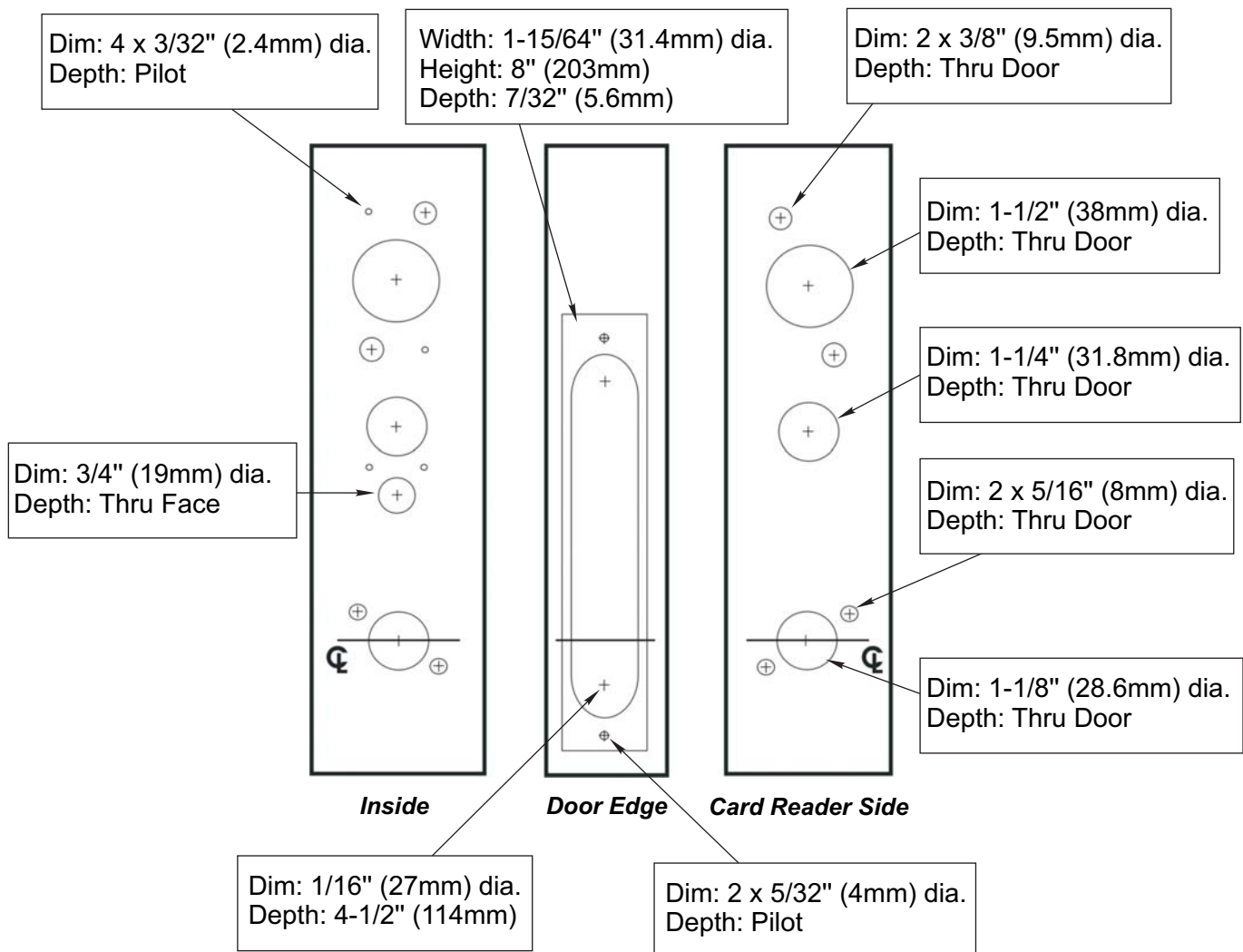


Fig. 2

3. Prepare an existing wood door

- a. Select the correct door template based on the hand of your door.
- b. Wrap the template around the door with centerline at desired height from finished floor (standard is 40-5/16"). See Figure 1, Page 5. Mark items on the door as explained on Figure 2.
- c. Drill holes and cuts for items.

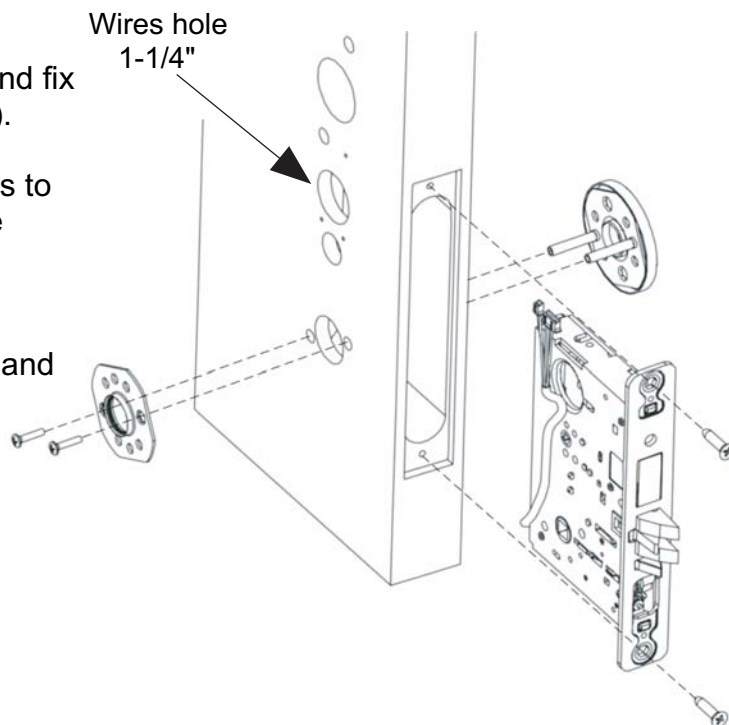
Note: To avoid splintering wood doors drill thru holes from both sides of the door.

Installation Instructions

4. Insert Lock body into cavity and fix with two screws (#12-24 x 1").

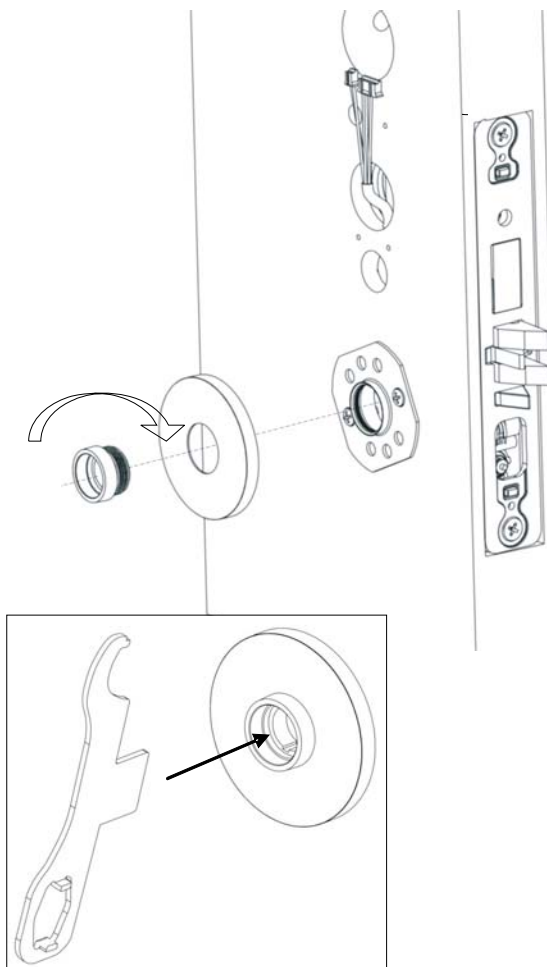
Make sure the connector goes to the inside of the door thru the specified hole.

5. Insert outside rose as shown and fix it with the bracket and two screws (#8-32 x 1").



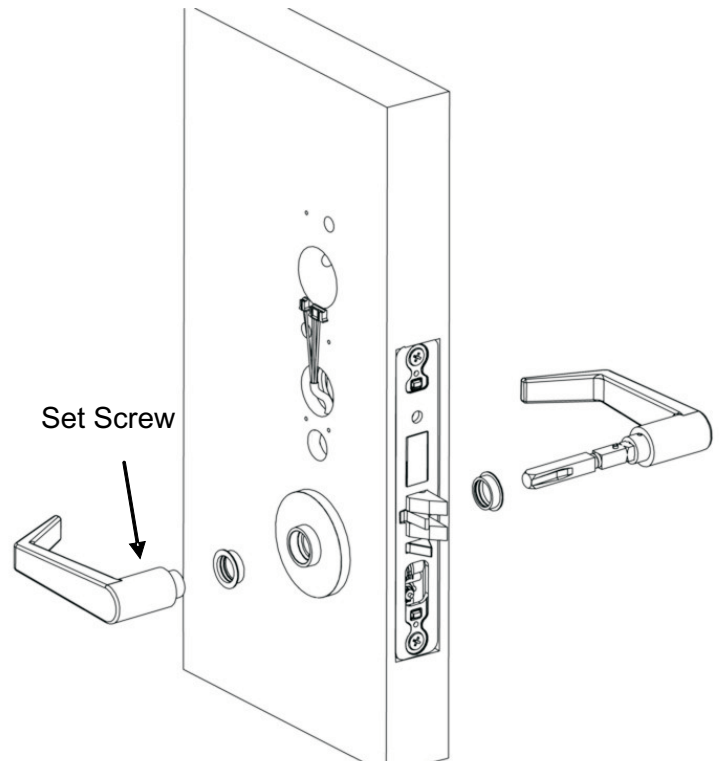
6. Insert Rose and fix it with the rose attachment.

Note: A tool is provided for turning the rose attachment.

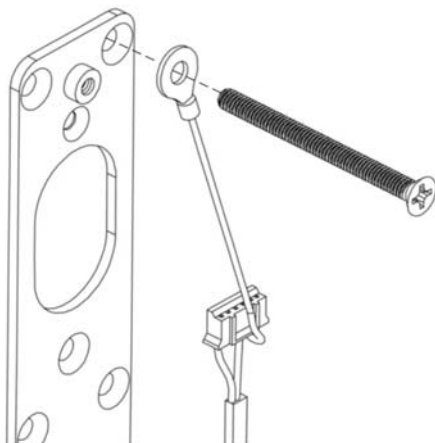
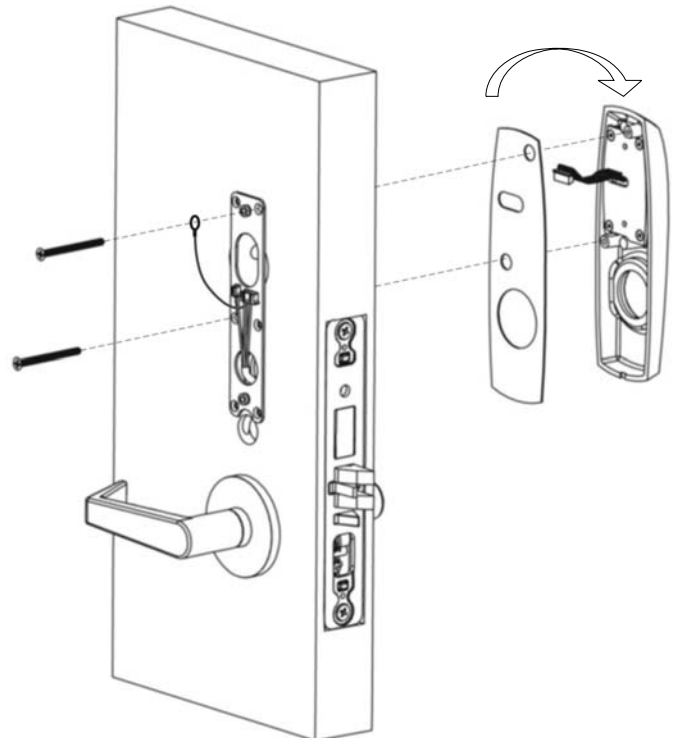


Installation Instructions

7. Assemble the Thimble Inserts into each rose, then attach the levers as shown.
8. Turn the set screw in the inside lever to secure the assembly in place.

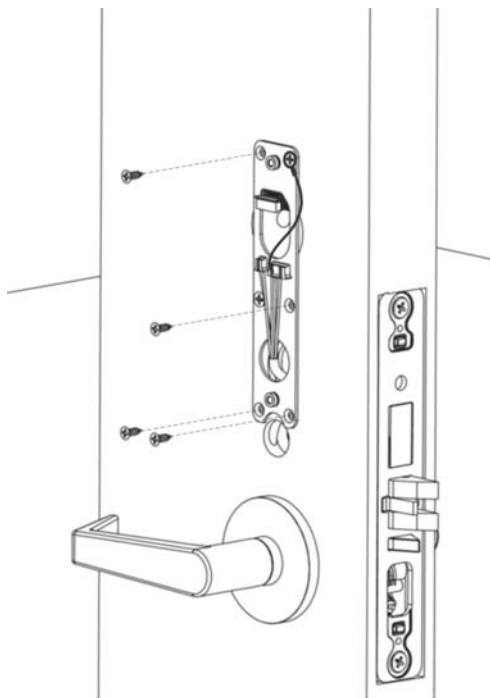


9. Attach the gasket to the escutcheon. Make sure the reader cable goes properly through the slot.
10. Using the #8-32 X 2" screws assemble the escutcheon and the bracket. Make sure the lock wires go thru the circular hole on the bracket and the ground wire is attached as shown.



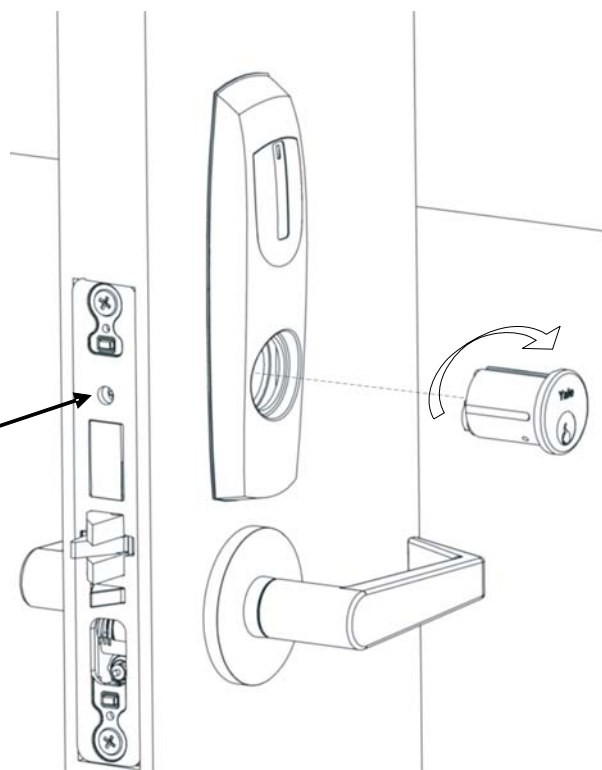
Installation Instructions

11. Secure the bracket using four screws (#6-20 x 3/8"). Make sure the reader wires go through the oval hole.



12. Screw the key cylinder until it is flush with the escutcheon.
13. Secure the cylinder with the cylinder clamp screw.

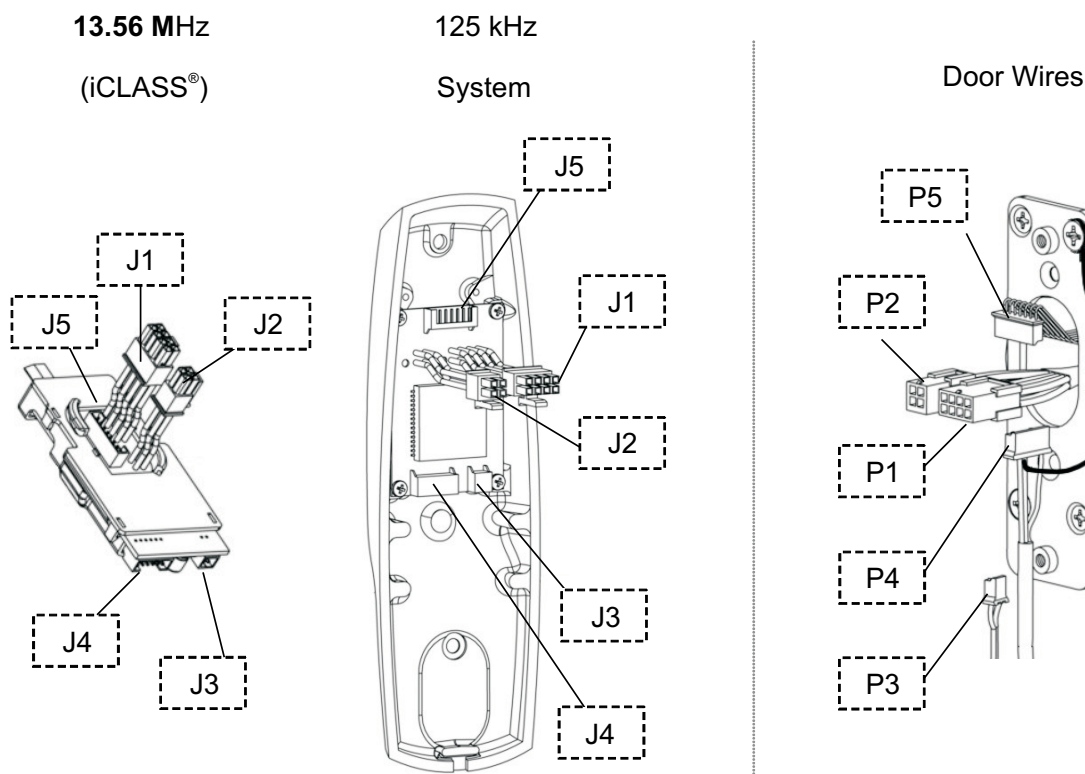
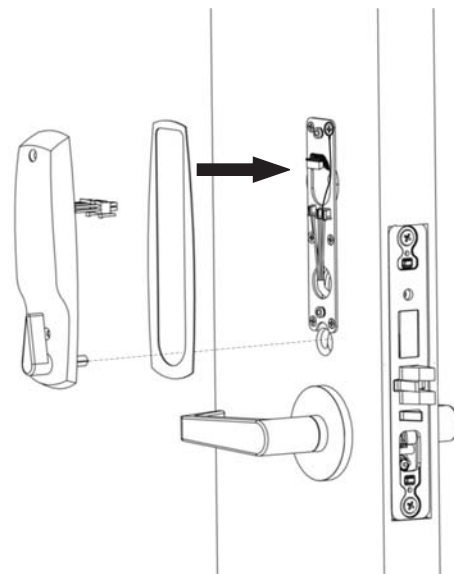
Cylinder
Clamp



Installation Instructions

14. Attach gasket.
 - a. Peel the gasket and attach it to the door around the bracket.
15. Make all the electronic connections as shown on the following diagram.

NOTE: For iCLASS®, the escutcheon does not contain the electronics.



Electronic Connections Diagram

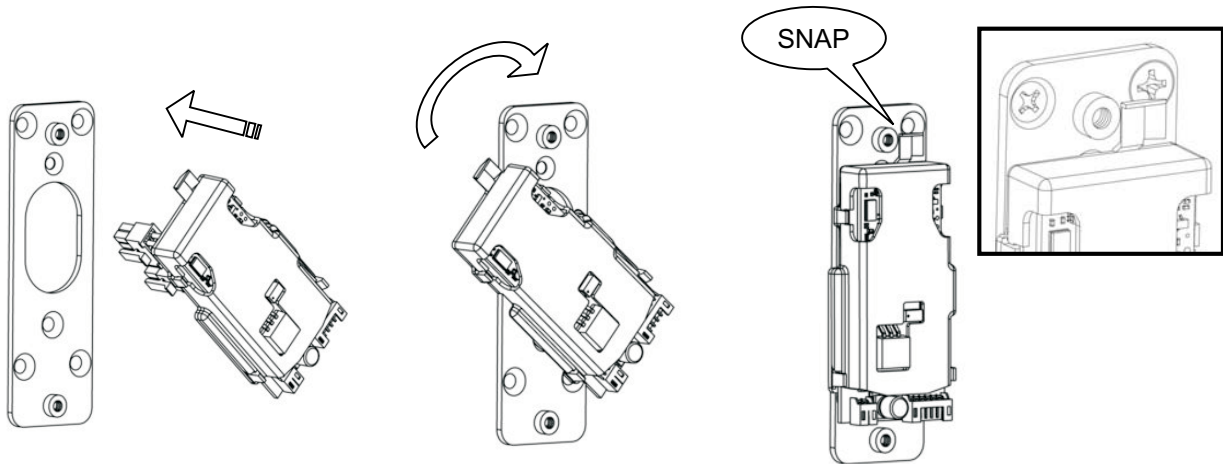
- a. Connect ElectroLynx® harness P1 & P2 (8 Pin & 4 Pin) from the door to the interior circuit board ElectroLynx® harness J1 & J2.
- b. Connect P5 (7 Pin) from reader to J5 on interior circuit board.
- c. Connect P4 (6 Pin) from lock to J4 on interior circuit board.
- d. Connect P3 (2 Pin) from lock to J3 on interior circuit board.
- e. 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.

Installation Instructions

16. 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.

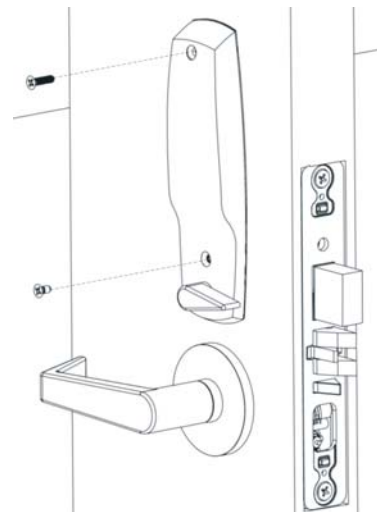


17. Locate the escutcheon over the bracket making sure no wires are being pinched under the escutcheon.

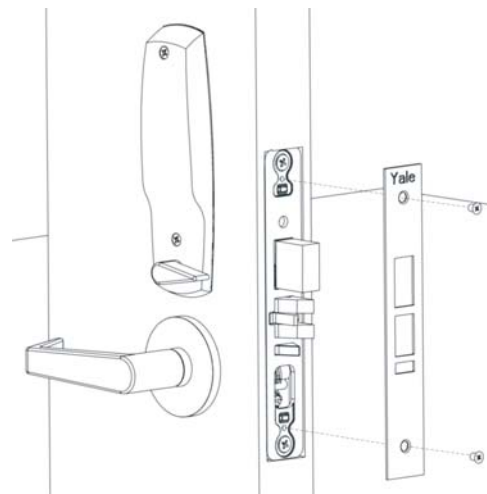
Note: The thumb turn should be vertical at the moment of insertion.

18. Throw the deadbolt to reveal the bottom screw hole and attach the escutcheon to the bracket using two screws (#8-32 x 5/8" and #8/32 x 5/16").

Note: The short screw goes at the bottom.



19. Attach the armor front using two machine screws as shown (#8-32 x 1/4").



WIRING DIAGRAMS

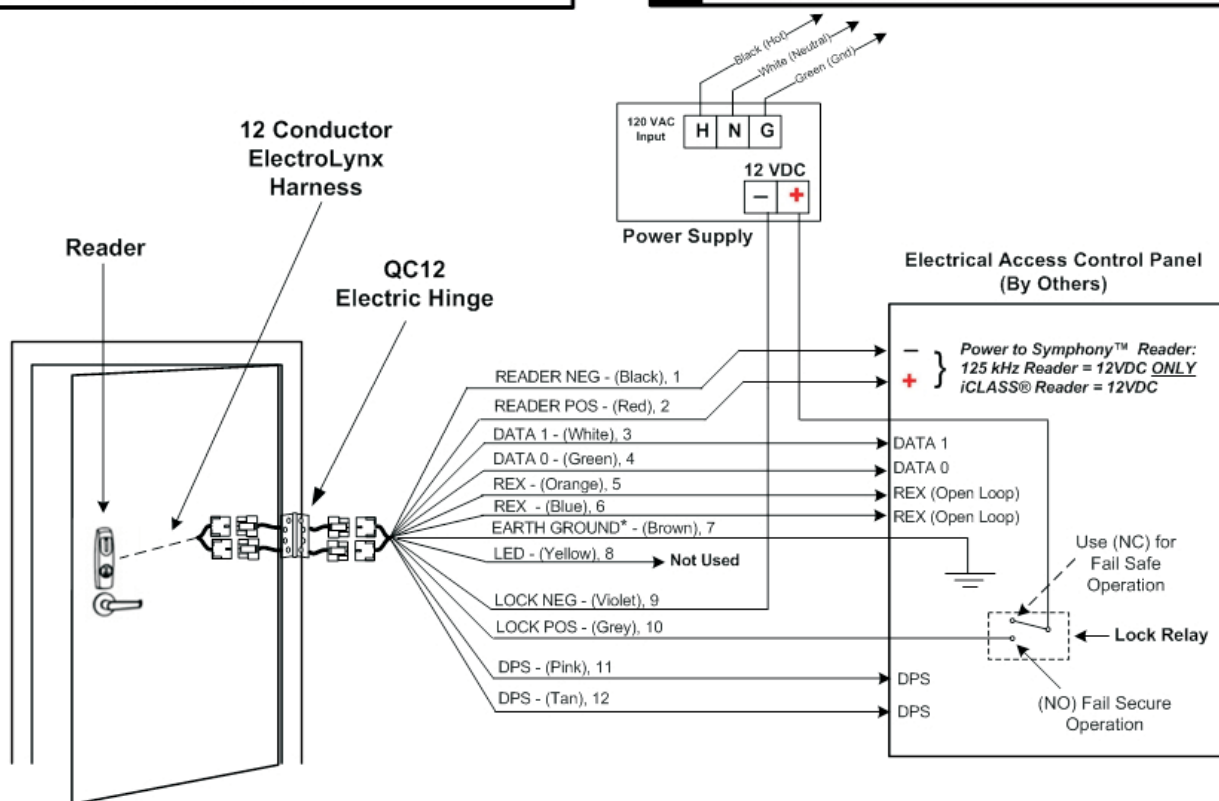
DIAGRAM #1 Typical S8800FL & RL x SYM Series Lock Application 12 VDC Lock

125 kHz

12VDC SYSTEM
 Reader Draw = 40mA (normal state) & 150mA (peak)
 12VDC Solenoid Draw = 612mA (normal state)
Total System Draw = 762mA

iCLASS®

12VDC SYSTEM
 Reader Draw = 125mA (peak)
 12VDC Solenoid Draw = 612mA (normal state)
Total System Draw = 737mA



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

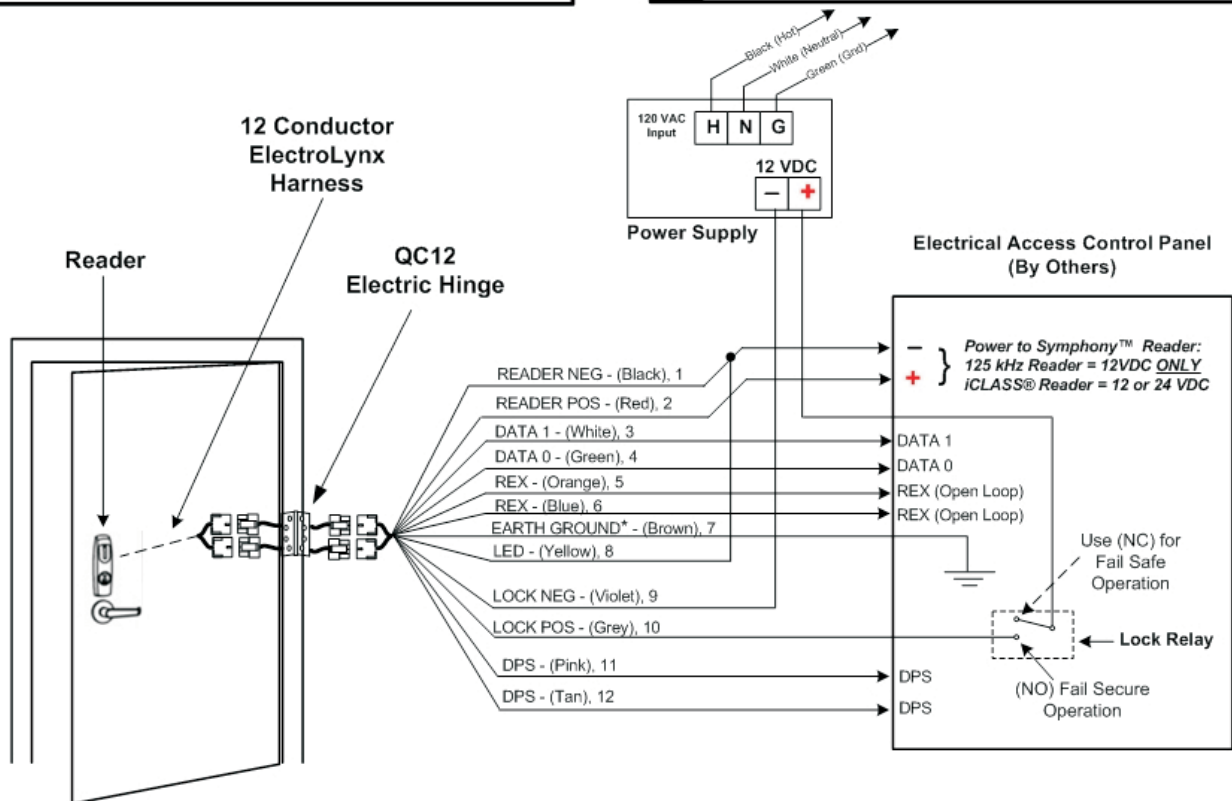
DIAGRAM #2 Typical S8800FL & RL x SYM Series Lock Application 12 VDC Lock

125 kHz

12VDC SYSTEM
 Reader Draw = 40mA (normal state) & 150mA (peak)
 12VDC Solenoid Draw = 612mA (normal state)
Total System Draw = 762mA

iCLASS®

12VDC SYSTEM
 Reader Draw = 125mA (peak)
 12VDC Solenoid Draw = 612mA (normal state)
Total System Draw = 737mA



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

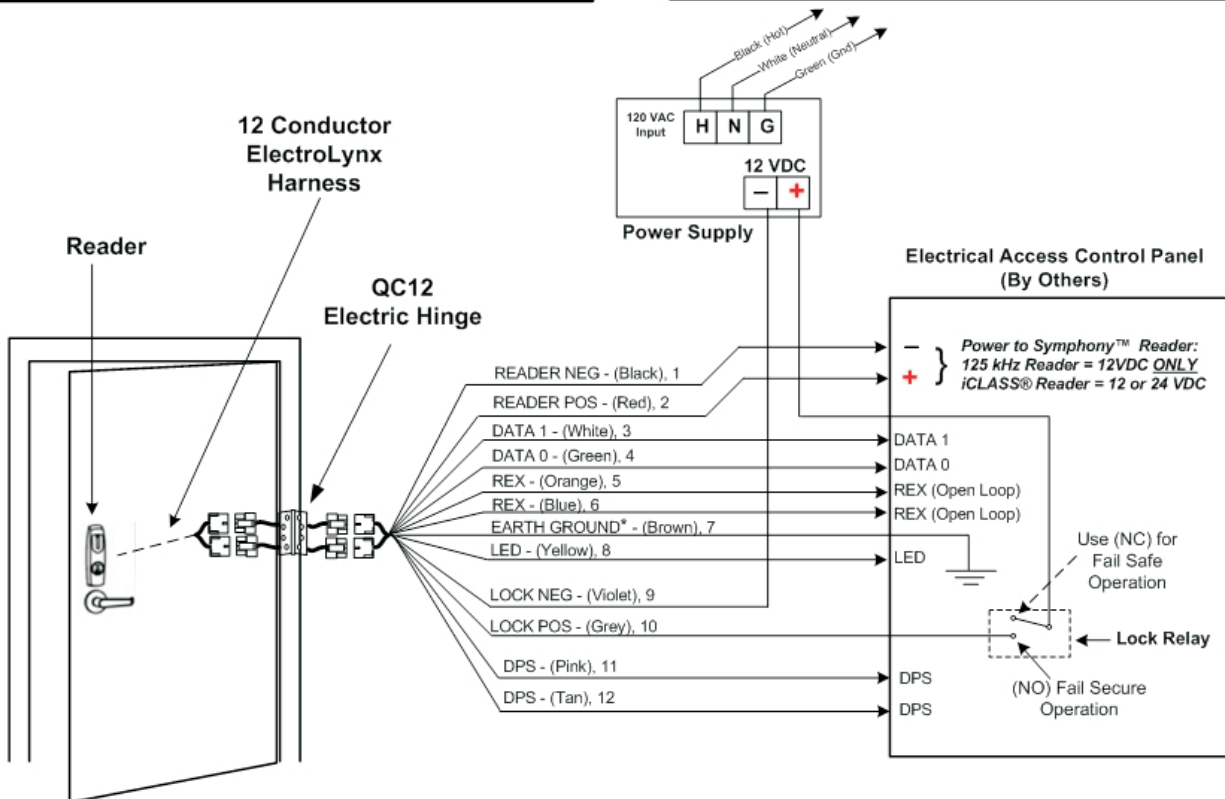
DIAGRAM #3 Typical S8800FL & RL x SYM Series Lock Application 12 VDC Lock

125 kHz

12VDC SYSTEM
 Reader Draw = 40mA (normal state) & 150mA (peak)
 12VDC Solenoid Draw = 612mA (normal state)
Total System Draw = 762mA

iCLASS®

12VDC SYSTEM
 Reader Draw = 125mA (peak)
 12VDC Solenoid Draw = 612mA (normal state)
Total System Draw = 737mA



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.

WIRING DIAGRAMS

DIAGRAM #4 Typical S8800FL & RL x SYM Series Lock Application 24 VDC Lock

125 kHz

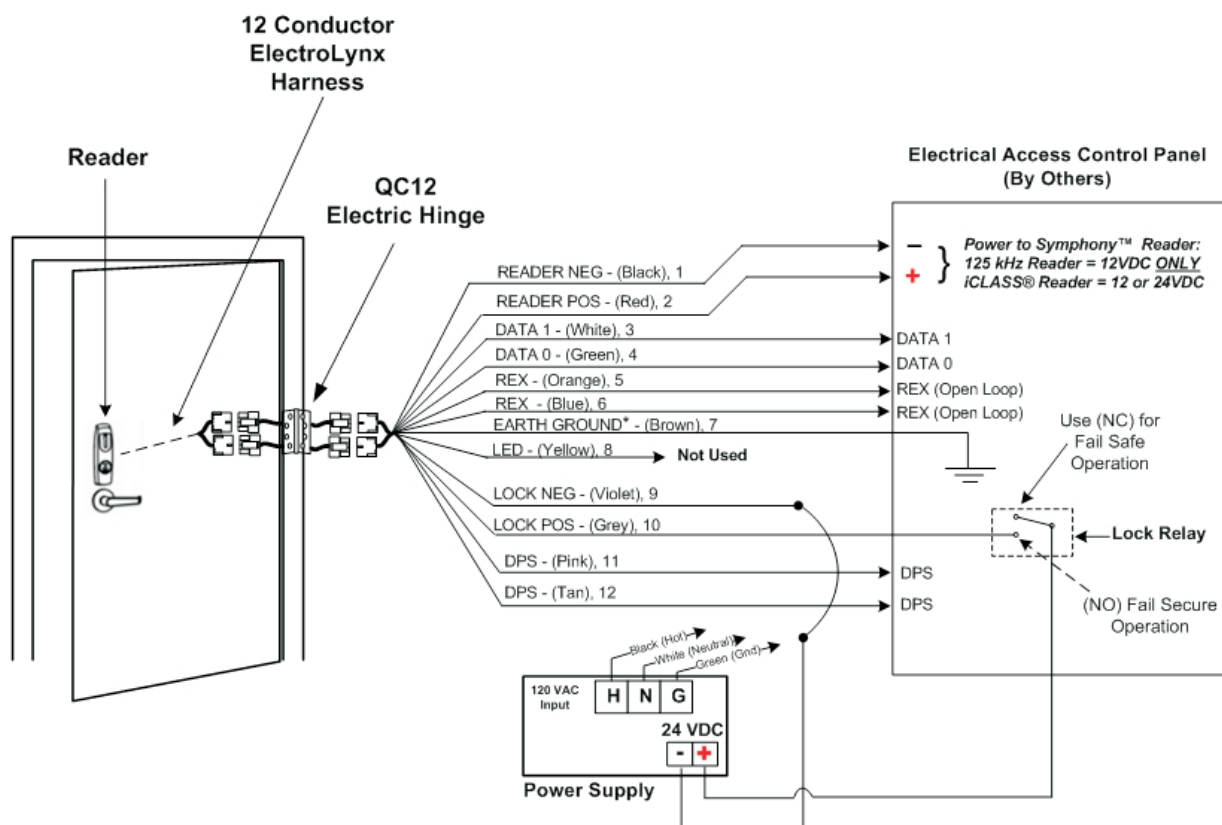
12VDC SYSTEM

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

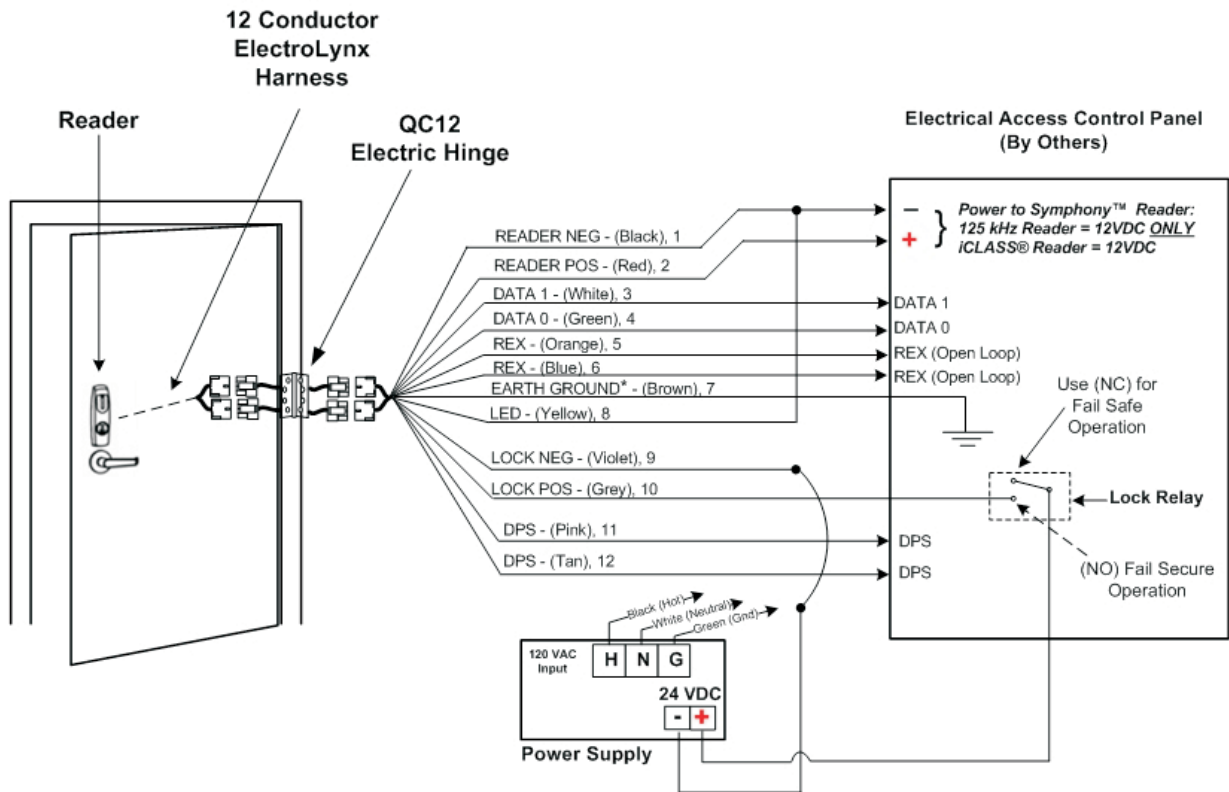
DIAGRAM #5 Typical S8800FL & RL x SYM Series Lock Application 24 VDC Lock

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

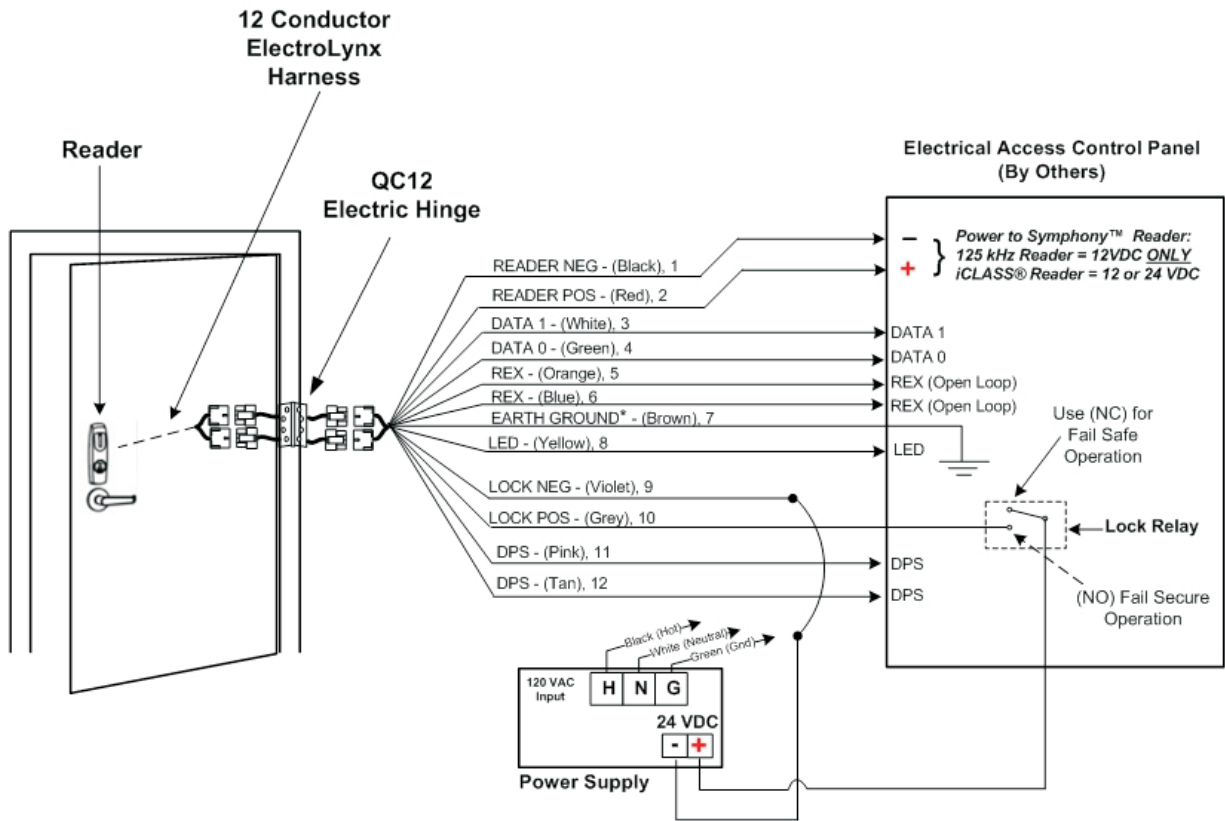
DIAGRAM #6 Typical S8800FL & RL x SYM Series Lock Application 24 VDC Lock

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

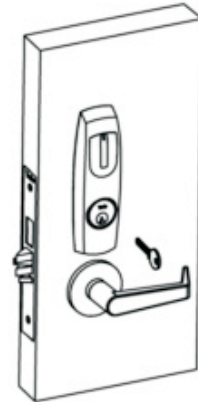


***IMPORTANT:** Pin 7 must be tied to ground in the access control panel.

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

OPERATION CHECK

1. Before closing door test for cylinder function of lock cylinder and inside lever (if cylinder is equipped).
 - a. Insert key into cylinder and rotate.
 - b. The key will retract the latch while rotating freely.
 - c. Check that the inside lever retracts the latch.
 - d. Close door, ensure latch fully extends into strike and does not bind.



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 (12VDC / 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.

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ONLINE LITERATURE AND TEMPLATES

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