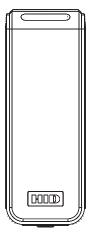
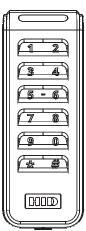
Installation Instructions









Series SN200 Wiegand SN210 OSDP FE6600 Series Multi-Point Lockset

Attention Installer:

Please read these instructions carefully to prevent missing important steps.

Improper installations may result in damage to the lock and void the factory warranty.

The accuracy of the door preparation is critical for proper functioning and security of this lock.

Misalignment can cause premature wear and a lessening of security.

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

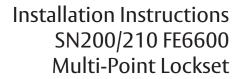




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1) Regulatory Compliance

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

FCC:

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 interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada:
This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. 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.

Cet appareillage numérique de la classe B répond à toutes les exigences de l'interférence canadienne causant des règlements d'équipement. L'opération est sujette aux deux conditions suivantes: (1) ce dispositif peut ne pas causer l'interférence nocive, et (2) ce dispositif doit accepter n'importé quelle interférence reçue, y compris l'interférence qui peut causer l'opération peu désirée.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux radiations de la FCC définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps. Cet émetteur ne doit pas être co-localisé ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

2) Warning



This product can expose you to lead which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information go to: www.P65warnings.ca.gov.

Ce produit peut vous exposer au plomb qui, dans l'état de la Californie, est reconnu pour causer le cancer, des anomalies congénitales ou d'autres problèmes de reproduction.

Pour plus d'informations, visitez: www.P65warnings.ca.gov.



Any retrofit or other field modification to a fire rated opening can potentially impact the fire rating of the opening, and Corbin Russwin makes no representations or warranties concerning what such impact may be in any specific situation. When retrofitting any portion of an existing fire rated opening, or specifying and installing a new fire-rated opening, please consult with a code specialist or local code official (Authority Having Jurisdiction) to ensure compliance with all applicable codes and ratings.



To avoid possible damage from electrostatic discharge (ESD), some basic precautions should be used when handling electronic components:

- Minimize build-up of static by touching and/or maintaining contact with unpainted metal surfaces such as door hinges, latches, and mounting plates especially when mounting electronic components such as readers and controllers onto the door.
- Leave components (reader and controller) protected in their respective anti-static bags until ready for installation
- Do not touch pins, leads or solder connections on the circuit boards

*WARNING: The system shall not be installed in the fail-secure mode unless permitted by the local authority having jurisdiction and shall not interfere with the operation of Listed panic hardware.

3) Specifications

- UL Listed* UL 294 Indoor Use
- CUL Listed S319: Class 1
- ANSI/BHMA A156.25 Listed Grade 1 Compliant

*UL294, S319, & BHMA A156.25 not applicable to SN200 with Non-UL294 Configuration option

UL 294 Access Control Ratings:

Destructive Attack	Level 1
Line Security	Level 1
Endurance	Level 4
Standby Power	Level 1

UL testing was conducted on product powered by UL Listed model 9001GR/AC injector; manufactured by Microsemi Corp.

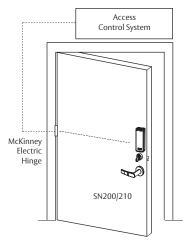
Electrical Specifications 12/24VDC System

	12\	/	24V		
	Average Peak		Average	Peak	
Reader**	75mA	250mA	n/a	n/a	
Actuator	15mA	500mA	15mA	500mA	

^{**}Maximum AVG - RMS current draw during continuous card reads Not evaluated by UL.

Peak - highest instantaneous current draw during RF communication

The reader requires 12VDC for power, while the lock accepts either 12 or 24VDC.



OSDP** and Wiegand Wire Specifications

Total One-Way Length of	Wire Gauge Chart 12VDC Load Current @ 12VDC						12VDC	
Wire Run (ft)	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	1	1	-
400	14	12	10	_	_	1	_	-
500	14	10	10	_	_	-	-	_
750	12	10	_	_	_	_	_	_
1,000	10	_	_	_	_	_	_	_
1,500	10	_	_	_	_	_	_	_

Total One-Way Length of	Wire Gauge Chart 24VDC Load Current @ 24VDC							
Wire Run (ft)	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	_	_	_	_	_	_

[†]Recommended wire specifications for OSDP: Four (4) conductor twisted pair overall shield such as UL approved, Belden 3107A or equivalent is recommended to remain fully TIA-485 compliant at maximum supported baud rates and cable distances. Belden 82842, Liberty Wire & Cable 24-29_P485-WHT, West Penn Wire D254852, and CAT6 cable have been found to be suitable in typical applications and installations, including lower baud rates and cabling distances.

This product is not intended for outside wiring as covered by Article 800 in the National Electrical Code, NFPA 70.

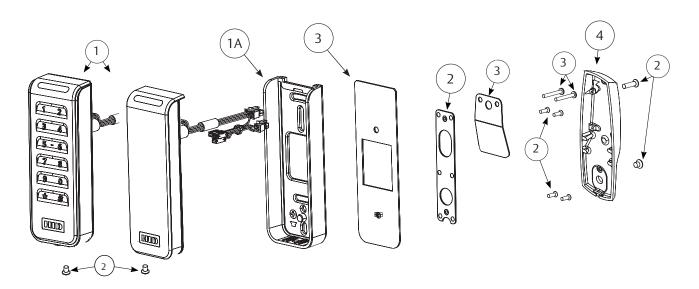
Wiring methods shall be in accordance with the National Electrical Code (ANSI/NFPA70), CSA 22.1, Canadian Electrical Code (CEC), Part I, Safety Standard for Electrical Installations, local codes and the authorities having jurisdiction.

Both reader and actuator current must be taken into account when determining wire length and gauge. OSDP installations may be more limited due to fewer cable options.

For OSDP cable lengths greater than 200 ft (61 m) or EMF interference, install $120\Omega + \frac{1}{2}\Omega$ resistor across RS-485 termination ends.



4) Product Illustrations



ITEM	DESCRIPTION	Req.
1	Reader & Harness Assembly	
1A	Signo Reader Back Plate	1
2	Mounting Packet	1
3	Fire Plate Packet	1
4	Inside Escutcheon	1

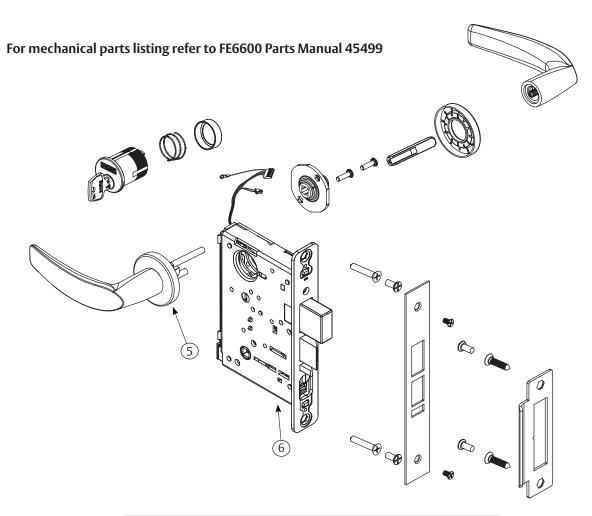
See document FM643 for part numbers



4) Product Illustrations (Continued)

Tools Required:

- #2 Phillips Screwdriver (Standard size)
- Flat Blade Screwdriver (Standard size)
- 1/8" Allen Wrench
- TR10 Torx Security Screwdriver



5	Reference SN200/210 Catalog For Available Lever Styles	1
5	Reference SN200/210 Catalog For Available Rose Styles	1
6	Lock Body	1

See document FM643 for part numbers



5) Wiring Diagrams

Product		8 PIN CONNECTOR						4 PIN CON	NECTOR			
	1-Black	2-Red	3-White	4-Green	5-Orange	6-Blue	7-Brown	8-Yellow	1-Violet	2-Gray	3-Pink	4-Tan
		ACCESS CONTROL DEVICES: SN200/210 Lockset, ElectroLynx wire Color / Function assignments										
SN200 (UL294)			WIEGAND- DATA_1	WIEGAND- DATA_0				TAMPER				
SN200	NEG	POS			NO	СОМ	EGND	GREEN LED	NEG	POS	NC	СОМ
SN210			RS-485B	RS-485A				n/a				

^{*}Diagrams on following pages

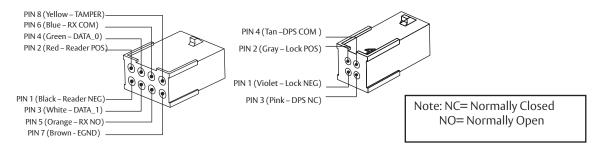
If your lock is configured with End of Line Resistors, reference instruction sheet FM406 for the wiring of RX & DPS outputs.

Wiegand Operation Mode:

- Red LED 'ON' when powered.
- Presenting a compatible credential causes LED to briefly turn green and then return to red state.

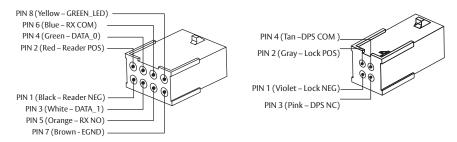
UL294 / TAMPER Configuration:

- Connect Yellow TAMPER wire from ElectroLynx cable to desired EAC panel control line. Reference Diagram #1.
- As appropriate, use the configuration card to activate desired mode on reader.



Non-UL294 Configuration:

• Connect GREEN_LED input to switch controlled by panel. Shorting GREEN_LED to READER_NEG (Black) with panel switch will override reader LED to keep it green.





5) Wiring Diagrams (Continued)

SN200 Wiegand UL294/TAMPER Configuration Application Diagram #1

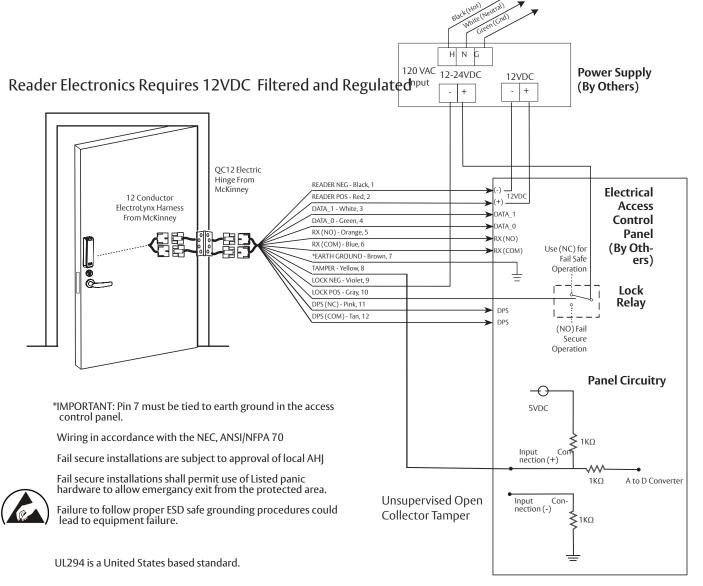
Tamper will trigger when reader is removed from door and tamper wiring is connected at the panel.

12/24VDC System

	12\	/	24V		
	Average	Peak	Average	Peak	
Reader*	75mA	250mA	n/a	n/a	
Actuator	15mA	500mA	15mA	500mA	

^{*}Maximum AVG - RMS current draw during continuous card reads Not evaluated by UL.

Peak - highest instantaneous current draw during RF communication





5) Wiring Diagrams (Continued)

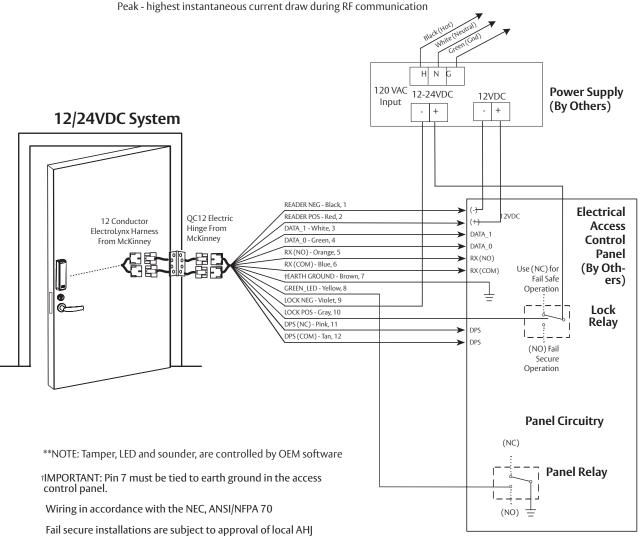
SN200 Wiegand Non-UL294 Configuration Application Diagram #2

Connect GREEN_LED input to switch controlled by panel. Shorting GREEN_LED to READER_NEG (Black) with panel switch will override reader LED to keep it green

12/24VDC System

	12\	/	24V		
	Average	Peak	Average	Peak	
Reader*	75mA	250mA	n/a	n/a	
Actuator	500mA	500mA	250mA	250mA	

^{*}Maximum AVG - RMS current draw during continuous card reads Not evaluated by UL.





Fail secure installations shall permit use of Listed panic hardware to allow emergancy exit from the protected area.

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

5) Wiring Diagrams (Continued)

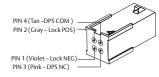
SN210 OSDP Application Diagram #3 (12/24VDC System)

OSDP Operation Mode*:

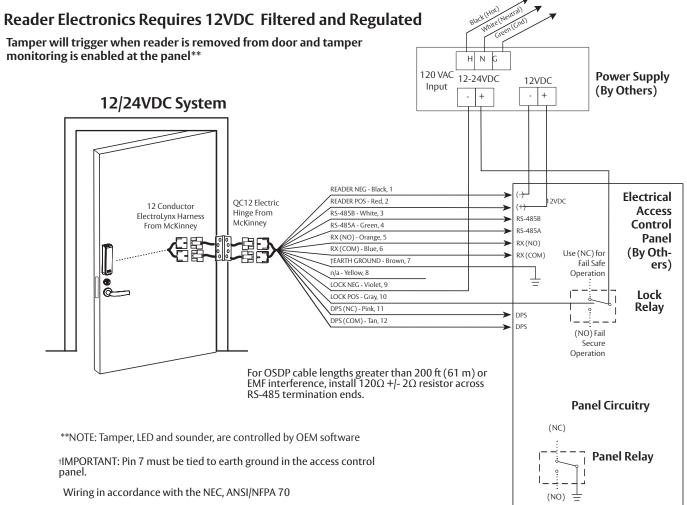
*LED/Sounder control and Tamper status communicated over OSDP serial protocol

	12\	/	24\	1
	Average	Peak	Average	Peak
Reader*	75mA	250mA	n/a	n/a
Actuator	15mA	500mA	15mA	500mA

PIN 8 (Yellow – n/a)
PIN 6 (Blue – RX - COM)
PIN 4 (Creen – RS – 485A)
PIN 2 (Red – Reader POS)
PIN 1 (Black – Reader NEG)
PIN 3 (White – RS – 485B)
PIN 5 (Orange – RX NO)
PIN 7 (Brown - EGND)



Peak - highest instantaneous current draw during RF communication





Fail secure installations shall permit use of Listed panic hardware to allow emergancy exit from the protected area.

Fail secure installations are subject to approval of local AHJ

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

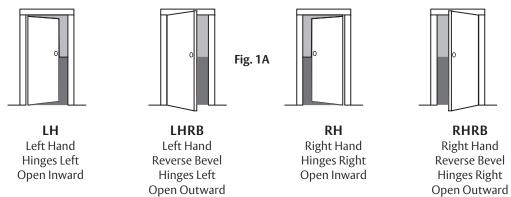
^{**}Maximum AVG - RMS current draw during continuous card reads Not evaluated by UL.



6) Installation Instructions

1A Verify Hand and Bevel of Door

Stand on outside of locked door when determining door hand.



1B Door Preparation

See document FM440 for additional installation details. Prepare door according to appropriate template. If necessary, refer to website: www.intelligentopenings.com

- Prior to installation, make sure all holes are free of burrs, debris and sharp edges.
- If doors are not properly reinforced per ANSI 115.2, commercially available reinforcements should be installed.
- Templates:
 - o Field: FM447 and FM448 (ships with product).
 - o Manufacturer: 4740 metal and wood door.

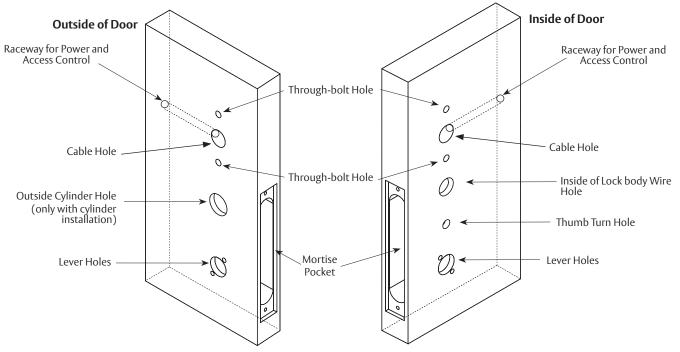


Fig. 1B Wood Door Preparation

2 Prepare Lock Body (if necessary)

A. Reverse Lock Hand

Red surface of locking piece must face the outside/locked side of door. To rotate locking piece (Fig. 2a):

- a. Position lock body with red surface of locking piece visible.
- b. Insert blade type screwdriver into locking piece slot to rotate locking piece toward back of lock body.
- c. Rotate the locking piece 180° until RED surface is on opposite side.

Note: Red indicates locked side (outside).

B. Reverse Latch Hand

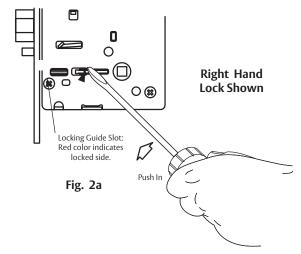
Beveled surface of latch must face strike (Fig. 2B). The deadlatch is self adjusting.

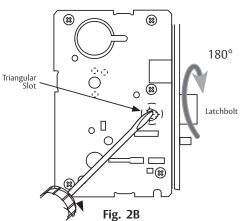
To change hand of latchbolt:

- a. Insert screwdriver into the spade-shaped slot.
- b. Rotate screwdriver 90° to push latch out until back of latch clears lock front; then rotate latch 180°.

Latch will then re-enter lock body.

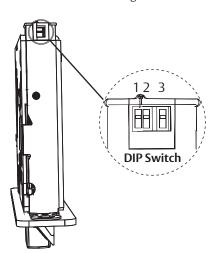
Note: Latch cannot be unscrewed.

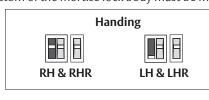




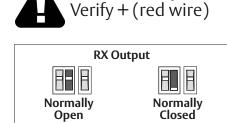
Configure the DIP Switch Settings

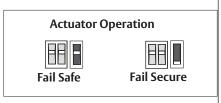
IMPORTANT: This product is built and factory tested to the configuration specified. Any change to the 3-position DIP-switch settings located at the bottom of the mortise lock body must be made prior to lock installation.





Check Polarity:



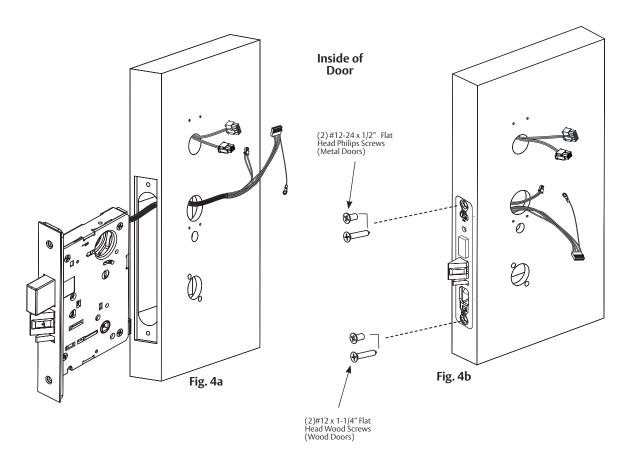




4 Install Lock Body

Note: Do not pull the lock into the pocket using the harness alone. Ensure that the wire harness is not pinched between the lock and the mortise pocket.

- a. Feed the wire harness into the mortise pocket and through inside preparation hole as depicted in Figure 4a.
- b. Carefully push the lock body into the pocket while lightly applying tension to the wire harness.
- c. Insert (2) #12-24 screws into the lock body (Fig. 4b) and tighten* with a screwdriver.



*Do not fully tighten until cylinder and levers are installed and properly aligned.



5 Install Inside Mounting Plate

NOTE: Feed mortise connectors and door harness through the corresponding hole on the mounting plate.

- a. Attach the mounting plate using two (2) #8 x 1/2" lower screws (Fig. 5). Feed bottom left screw through green/yellow ground wire ring terminal. Install screw.
 Ensure that green/yellow wire points toward top of door in order to avoid interference with escutcheon.
- b. If fire kit is not being used, install (2) #8 x 1/2" screws in upper mounting plate holes.

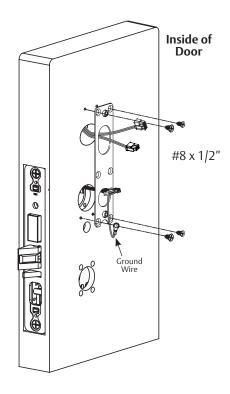
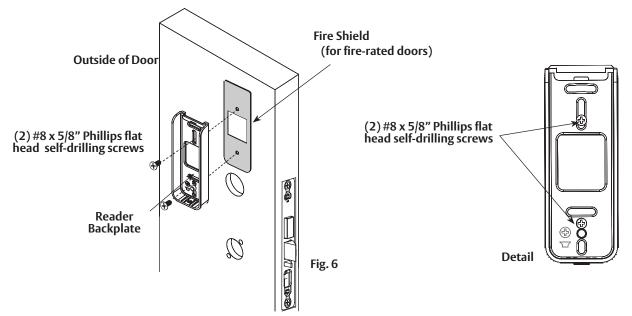


Fig. 5

Install Reader Backplate and (Optional*) Fire Shield or Gasket

- a. For fire-rated doors only, install reader backplate and fire shield to door using two (2) #8-18 x 5/8" Phillips flat head self-drilling screws (Fig. 6).
- b. For exterior doors, install reader backplate and gasket using two (2) #8-18 x 5/8" Phillips flat head self-drilling screws.
- c. For non-fire rated interior doors, no fire shield or gasket is required; simply install backplate using two (2) #8-18 x 5/8" Phillips flat head self-drilling screws.



14

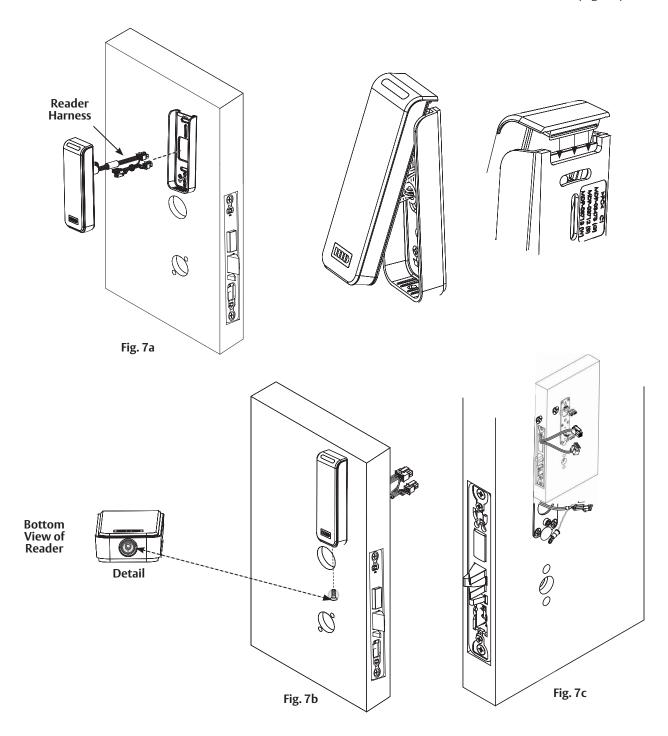
6



7

Installation of SN200/210 Reader

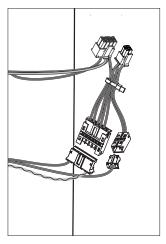
- 1. Feed reader harness through door (Fig. 7a, c)
- 2. Hook the top of the reader on the top of the mounting plate.
- 3. Align the bottom of the reader with the bottom of the mounting plate.
- 4. Secure the reader to the mounting plate using the supplied 6-32 x 3/8" T10 security machine screw (Fig. 7b).



8 Wire Connections

Do not offset connectors and ensure that they are completely seated.

- a. Connect 6-pin connector from lock body to 6-pin connector on reader harness (Fig. 8a).
- b. Connect 2-pin connector from lock body to 2-pin connector on reader harness (Fig. 8a).



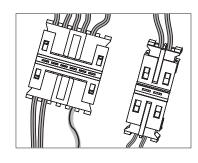


Fig. 8a

- c. Carefully tuck connected harnesses into one-inch hole in door (Fig. 8c).
- d. Connect ElectroLynx 4- and 8-pin connectors from the door harness to (black) 4- and 8-pin connectors of the SN200/210 harness (Fig. 8b).

NOTE: Neatly fold excess wires into remaining space to prevent pinching wires when mounting inside escutcheon (Fig. 8c).

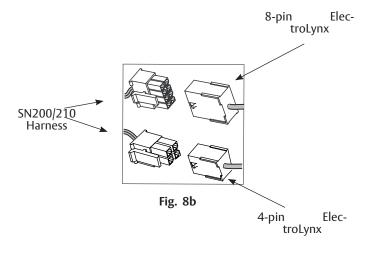




Fig. 8c



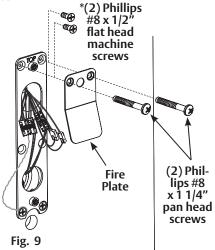
9

(Optional) Fire Plate Installation

- a. Install the fire plate to the mounting plate (Fig 9), being careful not to trap or pinch wires between fire plate and mounting plate. Fasten plate with two (2) $\#8 \times 1 \ 1/4$ " Phillips pan head self-drilling screws.
- b. Ensure wires from reader are properly routed under flap of fire plate. Complete securing mounting plate by fully tightening all four (4) mounting plate screws.

Note:

For non-fire rated doors, omit fire plate.



10 Outside Cylinder Installation

- a. Verify orientation of cylinder so that Corbin Russwin logo is right-side up (Fig. 10A).
- b. Withdraw the key about 25% out of the cylinder before inserting into the escutcheon (Fig. 10B).
- c. Use the key to rotate the cylinder clockwise until it is flush at the bottom and the Corbin Russwin logo is right-side up.

Outside of Door

Do not attempt to tighten all the way.

- d. Tighten the cylinder clamp set screw to prevent unscrewing of the cylinder (Fig. 10C).
- e. Test cylinder:
 - Key retracts latch
 - Ensure smooth operation of latchbolt and deadbolt

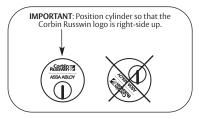
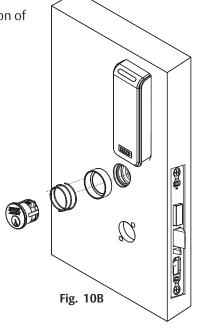
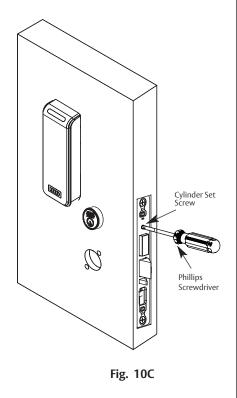


Fig. 10A

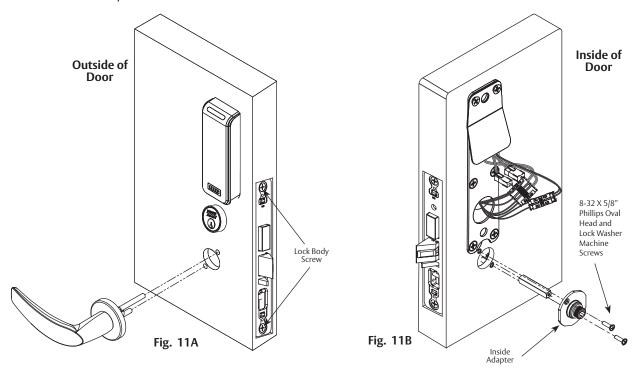




Experience a safer and more open world

11 Inside Outside Lever & Inside Adapter Plate Assembly

- a. With outside lever horizontal, insert mounting posts through outside of door and lock body. Make certain the lever spindle is properly engaged inside the lock body (Fig 11A).
- b. On the inside of the door, insert spindle into square hole of mortise lock (Fig 11B).
- c. Slide inside adapter and plate assembly over spindle and secure with (2) 8-32 X 5/8" Phillips oval head and lock washer machine screws.



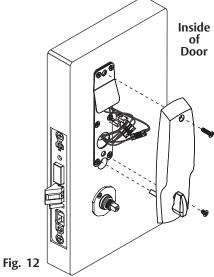
NOTE: For Museo lever styles, ensure that position of set screw hole on inside adapter is oriented to match location of hole in inside lever handle.

Also, ensure that slot in spindle is facing away from door (Fig. 11B), and is oriented to match location of hole in inside lever handle.

12 Install Inside Escutcheon Assembly

- a. Carefully and neatly fold back lock body wires.
- b. For locks equipped with deadbolts, align the inside escutcheon turn lever with slot in lock body. Adjust wires as necessary to ensure that they are clear of inside escutcheon. Seat inside escutcheon against door.
- c. Tighten the inside escutcheon securely to the mounting plate with the Phillips flat head machine screws provided.

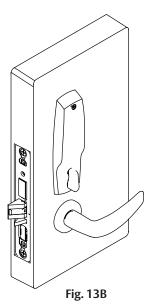
 Use 8-32 x 5/8" for the top of the escutcheon and the 8-32 x 1/4" screws for the bottom of the escutcheon located under the turn lever.
- d. Be sure turn assembly and deadbolt function properly.





13 Install Inside Rose and Inside Lever Assembly

- a. Rotate the inside rose first counter clockwise to seat the threads, then clockwise to securely tighten.
- b. Slide lever handle onto spindle until fully seated. Be sure handle is horizontal and facing the hinge side of the door. Push lever onto spindle so minimum gap is visible.
- c. Tighten the set screw securely with a 1/8" hex wrench.
- d. Before closing the door, test that lever is functional and ensure smooth operation of the latchbolt and deadbolt.



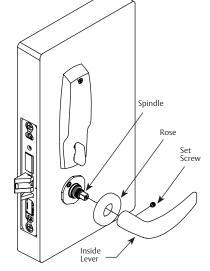
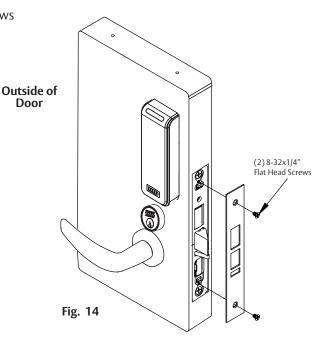


Fig. 13A

14 Attach Front Plate

Attach front plate with (2) 8-32x1/4" flat head screws and tighten securely.



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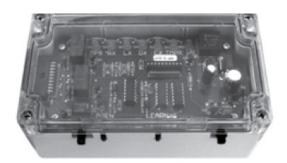


7) Operational Check

The ASSA ABLOY Wiegand Test Unit verifies your installation in the field*. The test unit checks for:

- proper wiring
- card reader data integrity
- lock functionality including lock/unlock, door position status, and request-to-exit (REX) status

In addition, this tool provides demonstration abilities to highlight the product's features and capabilities**.



Wiegand Test Unit - WT1



Wiegand Test Unit - WT2

Feature WT1 WT2 12 or 24VDC solenoid lock Χ Χ voltage adjustable Operates as Fail Safe or Fail Χ Χ Secure "Learn" mode allows testing of specific cards without programming at panel level Card reader data integrity is Χ Χ validated at test unit Displays detailed Wiegand data, including hexadecimal string Χ and total bits received Displays measured end-of-line Χ resistor values (if applicable) Displays key-press data from Χ keypad readers†

*For directions on use, see operating instructions provided with unit.

The SNT1 is an adapter harness assembly that connects and converts OSDP lock signaling to work with a Wiegand Test Box (WTB).

If using the OSDP adapter, the WT1 will unlock on credential read or any key press, regardless of what credential is learned (OSDP reader only).

When connected to a Wiegand reader or using OSDP adapter: the WT2 will unlock on credential read and display credential value. Credentials can be learned, as usual. Individual key press will be displayed for any key press, but they cannot be learned.



(SNT1) WTB OSDP adapter wiring harness

^{**}SN200/210 keypad version works only with WT2

[†] WT2 unit with 1.03 firmware or later is required



7) Operational Check (Continued)

For mortise locks with cylinders:

- a. Insert key into cylinder and rotate: There should be no friction against lock case, wire harness or any other obstructions.
- b. The key will retract the latch: Key should rotate freely.
- c. When the deadbolt is thrown: Ensure that the key retracts both the deadbolt and the latch.
- d. Inside lever: When used, ensure it retracts both the latch and deadbolt (if provided).
- e. Close door: Ensure latch and deadbolt fully extend and do not bind.



Note: Once electrical wiring has been successfully completed according to proper application, perform the following:

- a. Turn power ON.
- b. Verify LED located on reader is ON (Red or Green) depending on reader configuration
- c. Present valid credential and verify LED and sounder activity.
- d. Verify valid card read at EAC Panel.
- e. Verify system operation functions; i.e., when valid credential is presented to reader the door unlocks.

NOTE: Ensure LED operates as configured:

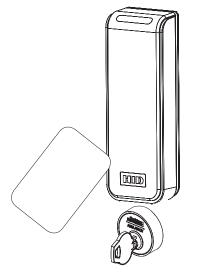
 LED remains green when panel asserts GREEN_LED signal or issues OSDP command

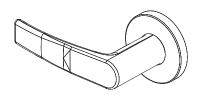
If the lock fails to operate when DC voltage is applied:

- a. Remove power.
- b. Confirm the polarity of the supply (i.e., '+' is positive).

If the lock is functioning opposite to the desired fail-safe or fail-secure operation:

- a. Remove power and check the "Fail" condition by attempting to rotate the outside lever (e.g. if fail-secure, the outside lever should be rigid with power removed).
- b. If the function is incorrect, remove the lock and repeat section 6, step 3 (DIP Switch configuration).









The ASSA ABLOY Group is the global leader in access solutions. Every day, we help billions of people experience a more open world.

ASSA ABLOY Opening Solutions leads the development within door openings and products for access solutions in homes, businesses and institutions. Our offering includes doors, frames, door and window hardware, mechanical and smart locks, access control and service.



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