911031-00

Wiring and Configuration

DE5300 Delayed Egress System

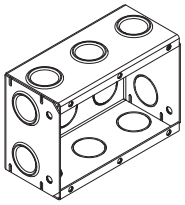
VON DUPRIN

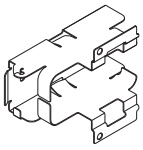
Installation Instructions

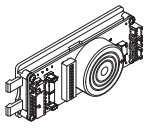
General Information

The Von Duprin DE5300 is designed for controlled egress applications when used in conjunction with a magnetic lock. It meets both life safety and security needs, as well as the requirements of NFPA101 for “Special Locking Arrangement” and IBC “Special Egress-Control Devices”. All control inputs, auxiliary locking, local alarm and remote signaling outputs are self-contained in the DE5300 assembly. Numerous field configurable options allow the device to be customized for the specific code or application requirements. The standard DE5300 sounds an alarm and keeps the door secured for 15 seconds following an exit attempt with immediate release upon fire.

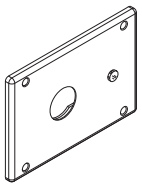
Parts Included


Control Box


Mounting Bracket


Module


Key Switch


Faceplate



Door Sign


Field Wiring Cable


Device Wiring Cable


#6-32 X 3/8” Faceplate Screws (4)


#6-32 X 1/4” Mounting Bracket Screws (2)

Table of Contents

Basic Features 2
Installation Components 3
Electrical Specifications 3
Typical Wiring Diagrams 4
- Single Door 4
- Double Door 5
- Electrical Trim 7

Retrofit Wiring 7
Installation 8
Basic Functional Test 11
Module Setup 11
Onboard Switch Settings Table 12
Advanced Function Test 13
Onboard Indicators 14
Troubleshooting 15

⚠ WARNING ⚠

- **Do not exceed rated specifications.**
- **The DE5300 must be installed in accordance with these instructions by a qualified electrician.**
- **Wiring and applications must be in accordance with all local codes and regulations.**

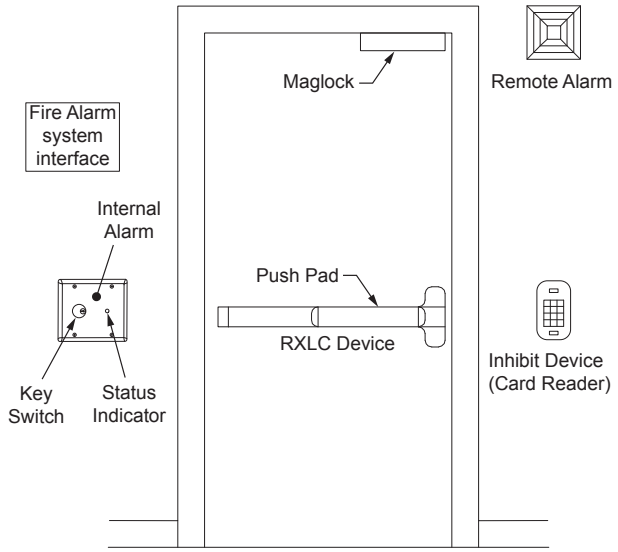
Customer Service

1-877-671-7011 www.allegion.com/us

ALLEGION

© Allegion 2016
Printed in U.S.A.
911031-00 Rev. 07/16-d

1 Basic Features



Inputs & Outputs

Fire Alarm Input
This input releases the door immediately upon a fire alarm, allowing immediate egress. The Internal Alarm can be silenced during a fire input via an onboard switch setting.

Inhibit Input (Access Control)
This optional input is provided to allow authorized egress or entry when the device is Armed using an external card reader, Key Switch, etc. It also allows remote reset of the DE5300 in an alarmed condition. The ability to reset alarms with the inhibit input can be disabled via an onboard switch setting.

Door Position Switch Input
An optional Door Position Switch (DPS) can provide door position status to DE5300 for additional security, ensuring that the door is closed, and can cause alarm when the door is left or forced open. The DPS may be part of the maglock or independent of the lock.

Gang Bus
The Gang bus allows a DE5300 device to signal other DE5300 devices when it enters the Release Delay, allowing multiple doors to release at the same time in an emergency. Up to 8 devices may be connected to the Gang bus.

Alarm Relay Contacts
The Alarm Relay contacts are provided as a means to control a Remote Alarm, such as a horn or lamp, or signal an external monitor. The contacts can be configured with a jumper as Normally Open or Normally Closed, and become active upon entering an alarmed condition.

Secure Relay Contacts
The Secure Relay contacts are provided as a means to signal an external monitor. The contacts can be configured as Normally Open or Normally Closed with a jumper, and become active when the opening is Secure, as indicated by the DPS and MBS. The DPS must show the door is closed. Also, if the maglock is equipped with an MBS (Magnetic Bond Sensor), it can be used to monitor the maglock security. The DE5300 will indicate the door is not properly locked if the maglock is not properly bonding with its armature.

Delays

Release Delay
When the Push Pad is pushed and the Nuisance Delay expires, the DE5300 enters the Release Delay with alarm. During the Release Delay, the Internal Alarm sounds, the Alarm Relay activates, and the DE5300 keeps the maglock locked for 15 seconds (less any time already elapsed during the Nuisance Delay). Once started the Release Delay sequence will not stop and the maglock will unlock.

Nuisance Delay
When a DE5300 is located in a public area, it can be desirable to limit false releases when the Push Pad is accidentally pushed. The Nuisance Delay is the brief time a Push Pad can be accidentally pushed before the Release Delay sequence starts. If the Nuisance Time is set to 0 seconds, the DE5300 will enter Release Delay as soon as the Push Pad is pushed (when armed). Setting the Nuisance Time to 1, 2, or 3 seconds allows the Push Pad to be pressed for 1 to 3 seconds before the DE5300 goes into Release Delay. If the Nuisance Audio and Nuisance Delay are both on, the Internal Alarm will pulse during the Nuisance Delay. The Alarm Relay does not activate during the Nuisance Delay. If the Push Pad is released before the Nuisance Delay expires, the DE5300 will remain armed.

Rearm Delay
The Rearm Delay is the amount of time after the Key Switch or Inhibit Input is deactivated to when the device rearms. It is designed to give someone time to pass through the door before rearming occurs. The Rearm Time can be changed via the onboard switch settings from 0 and 28 seconds in 2 second increments.

If the Rearm Time is set to 30 seconds and a DPS is used, and the door is opened and the Rearm Time expires, there will be no alarm. The DE5300 will rearm after the door is closed. If the door never opens, the DE5300 will rearm after 30 seconds.

If not using a DPS, the DE5300 will always rearm in 30 seconds.

DPS Delay
If the DPS detects that the door closed during the Rearm Delay, the DE5300 ends the Rearm Delay and allows 2 seconds for the latch to clear the strike before rearming.

Interface

Key Switch
The Key Switch provides the means to Arm or Disarm/Reset the DE5300. Turning the Key Switch clockwise initiates the Rearm Delay, and turning the Key Switch counter-clockwise Disarms/Resets the DE5300. The Key Switch allows the key to be removed in either the Arm or the Disarm/Reset position.

Status Indicator
The red Status Indicator displays the status of the DE5300. The Status Indicator flashes slow if the DE5300 is armed, flashes fast in an alarmed mode, is off when inhibited and on solid during Rearm Delay.

Internal Alarm
The Internal Alarm sounds the status of the DE5300. The Internal Alarm sounds continuously during and after a fire alarm or a Release Delay, pulses fast during the Nuisance Delay or a tamper and pulses slow during Disarmed Powerup mode.

Settings

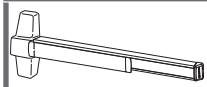
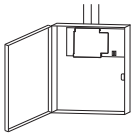
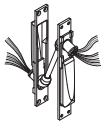
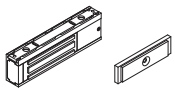
Armed Powerup
When set to OFF, a power disruption and power return will put the DE5300 in a disarmed, unlocked alarm mode.

Trim Fail Safe / Fail Secure (FS/FSE)
The trim input power can be set to FS (Fail Safe; locked when energized, unlocked when deenergized or during power failure) or FSE (Fail Secure; unlocked when energized, locked when deenergized or during power failure).

The trim must be bought or modified to physically function as FS or FSE. This onboard setting only selects the trim input power.

2 Installation Components

Table 1.1 Installation Components

Picture	Component	Function	Optional/Required
	Von Duprin RXLC Exit Device or Falcon RX Exit Device	Provides means for detecting an egress request.	**Required**
	1¼" Mortise Cylinder (with straight cam)	Provides means to use the Key Switch.	**Required**
	Power Supply PS902, PS904, PS906, or PS914	Provides power to DE5300.	**Required**
	Power Transfer (EPT10 shown)	Provides means to transfer electrical power and signals through frame to door.	**Required** EPT2/10 Recommended Door loop or electric hinge can also be used.
	Fire Alarm **(NC contacts)**	Provides fire alarm status to DE5300 so that it can release the maglock in case of fire alarm.	**Required** Multiple Fire Alarms can be used in series.
	Inhibit (Access Control) Device (card reader, Key Switch, etc.) **(NC contacts)**	Provides additional means of signaling an authorized access to DE5300.	**Optional** Multiple Inhibit Devices can be used in series. If not used, connect green wire to red wire.
	Magnetic Lock (M490P shown)	Provides the means for locking the door.	**Required** (DPS and MBS included in 400P series maglock)
	Door Position Switch **(NC contacts)**	Provides door position status to DE5300 for additional security.	**Optional** If not used, connect orange wire to red wire.
	Remote Alarm	Provides an additional alarm that may be louder or located in a remote location.	**Optional** If not used, insulate blue and brown wires separately.
	Electric Mortise Lock (E7500) (FS or FSE)	Provides means for DE5300 to control entry through the door.	**Optional**
	Electric Trim (E996L shown, or E360L-BE) (FS or FSE)	Provides means for DE5300 to control entry through the door.	**Optional**

3 Electrical Specifications

Cable	Wire Color	Signal Description		Signal Type		Voltage Rating	Current Rating	Wire Gauge Minimum	Wire Length Maximum	One-Way Measurement From Power Transfer To
Field Wiring Cable	Red	24 VDC	24VDC	Power	Input	24 VDC	1 A*	18 AWG	200 feet	Power Supply
	Black	Ground	GND			Ground		14 AWG	500 feet	
	Yellow	Fire Alarm	FA	NC	Input	24 VDC	10 mA	22 AWG	1000 feet	Fire Alarm
	Green	Inhibit	INH							Inhibit Device
	Orange	Door Position Switch	DPS							Door Position Switch
	Gray	Gang	GNG	Active Low	Bus					Ganged DE5300 Device
	Blue	Alarm Relay	ALM	COM	Relay Contact Output	24 VDC	1 A	22 AWG	100 feet	Remote Alarm or External Monitor
	Brown			NO or NC						
	White	Secure relay	SEC	COM						External Monitor
	Violet			NO or NC						
Device Wiring Cable	Red	24 VDC	24VDC	Power	Output	24 VDC	1 A	18 AWG	50 feet	Blocking Device (Maglock)
	Gray	Blocking Ground	BGND			Ground		14 AWG	150 feet	
	White	Blocked	BLK	Active Low	Input	24 VDC	10 mA	22 AWG	1000 feet	
	Orange	24 VDC	24VDC	Power	Output	24 VDC	10mA	22 AWG	1000 feet	Power Transfer
	Brown	Request-to-Exit	REX	NC	Input			22 AWG	1000 feet	
	Yellow	24 VDC	24VDC	Power	Output	24 VDC	1 A	18 AWG	50 feet	Power Transfer
	Blue	Locking Ground	LGND			Ground		14 AWG	150 feet	
	Green	Request-to-Enter	REN	NO	Input	24VDC	10 mA	22 AWG	1000 feet	
	Black	Ground	GND	Not Used				Not Used		

*Includes current from DE5300 only (does not include current from optional components such as Inhibit Device, Remote Alarm, or Trim Device)

4 Typical Wiring Diagrams

Single Door

- The DE5300 is used as a controlled egress device with access control.
- The external inhibit device (card reader contacts) provides additional means of signaling an authorized access to DE5300.
- The Remote Alarm is used as an additional alarm in a remote location.
- Using a door position switch, either in the maglock or separate, gives added security in case the door is not closed or is forced open.
- The maglock releases immediately when the Fire Alarm is active.
- If card readers are required on both sides of the door, the normally closed contacts of the readers should be wired in series.

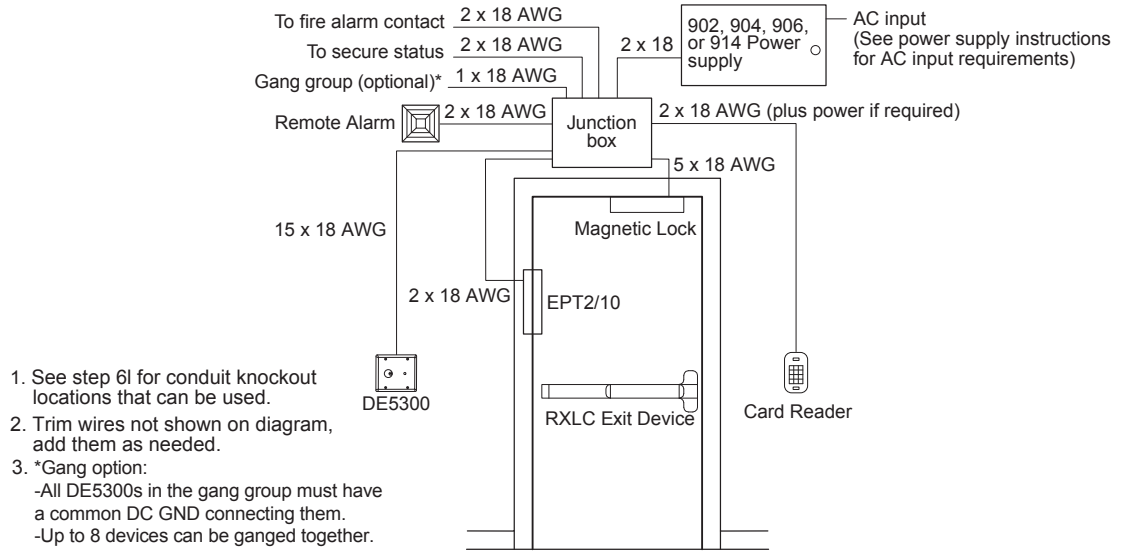


Figure 1. Riser Diagram, Single Door

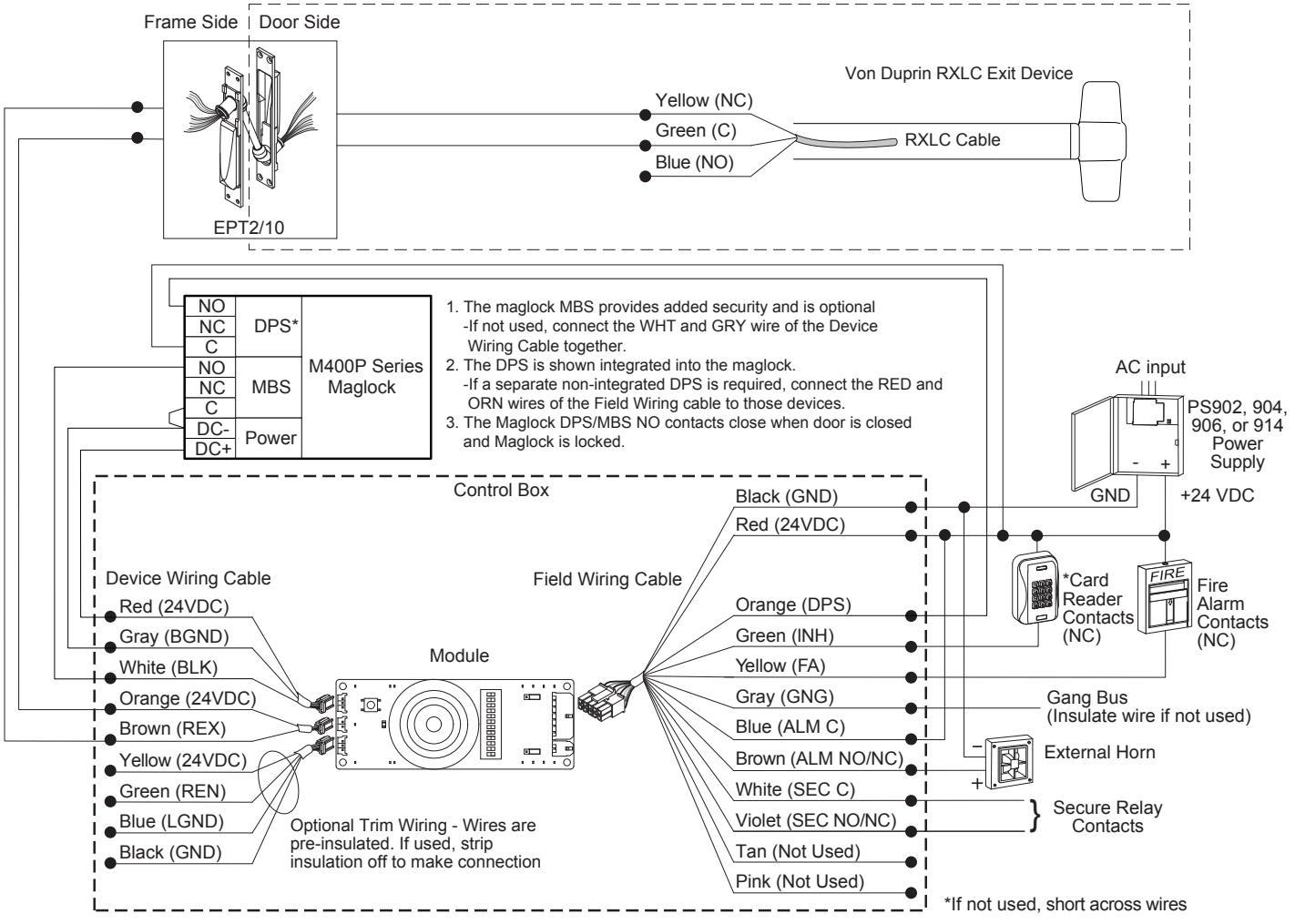
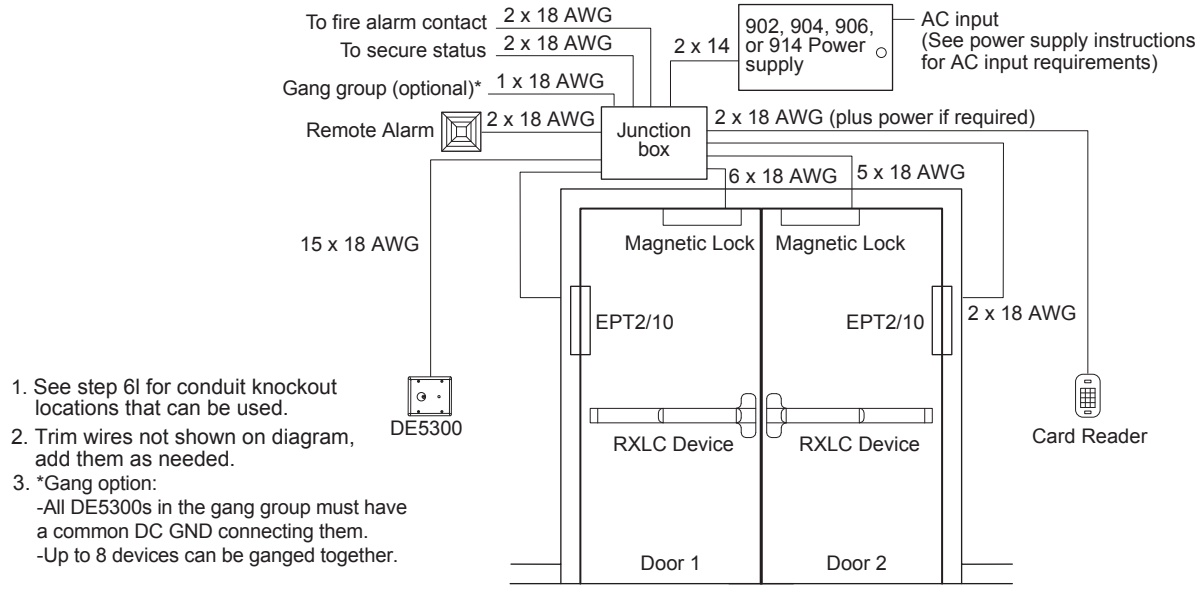


Figure 2. Point-to-Point, Single Door

4 Typical Wiring Diagrams, continued

Double Door Application - Rim/Vertical

- Both doors open in the same direction and each is equipped with an RX exit device.
- Either RX device will trigger the Release Delay (activated by the Push Pad) and both doors will unlock after the Release Delay.
- A fire alarm unlocks both doors immediately.
- An inhibit device (card reader contacts) also unlocks both doors at the same time.
- After an inhibit signal from the card reader, the door that was used rearms both doors 2 seconds after closing.



1. See step 6l for conduit knockout locations that can be used.
2. Trim wires not shown on diagram, add them as needed.
3. *Gang option:
   -All DE5300s in the gang group must have a common DC GND connecting them.
   -Up to 8 devices can be ganged together.

Figure 3. Riser Diagram, Double Door

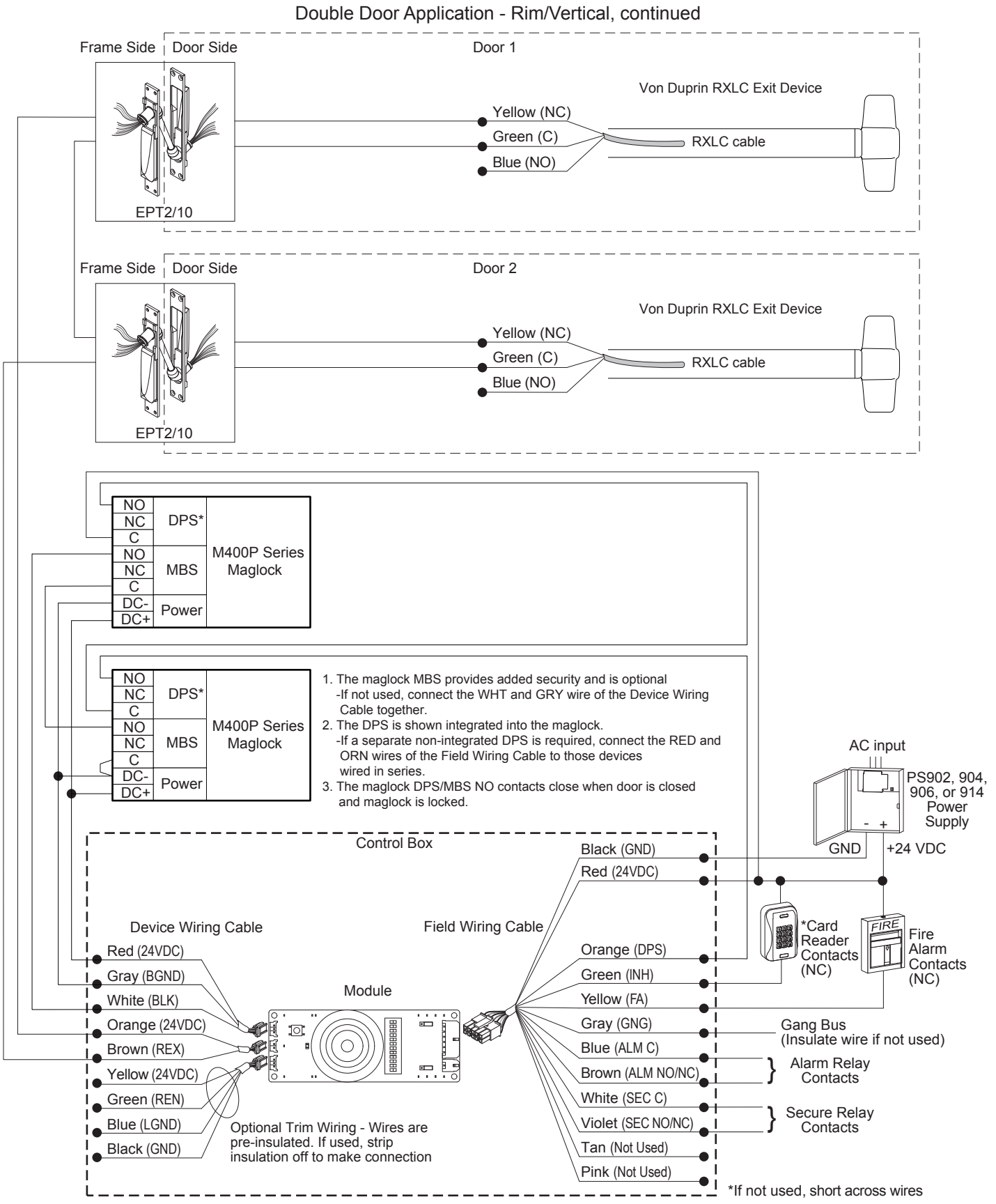
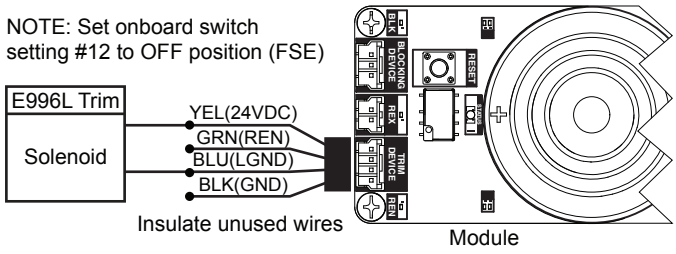


Figure 4. Point-to-Point, Double Door

5 Typical Wiring Diagram for Electric Trim Function

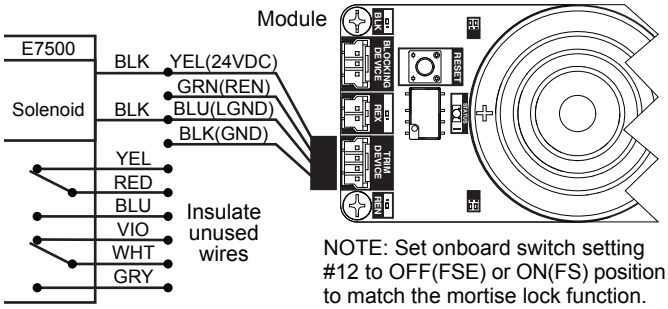
This section describes the option of adding an electrical trim function to the DE5300 installation.

5a Controlled entry application (E996L Trim – FSE shown)



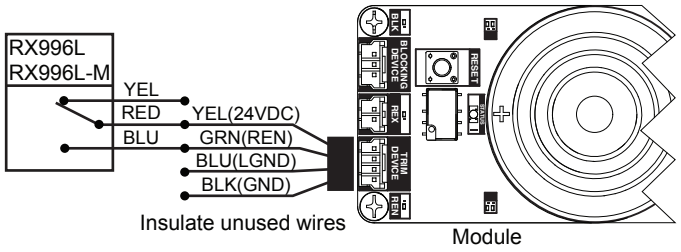
Access control to the DE5300 (not shown) inhibits the DE5300 and unlocks the outside FSE (Fail Secure) trim to allow entry. For access control wiring, see previous wiring diagrams.

5b Controlled entry application (E7500 Mortise Lock)



Access control to the DE5300 (not shown) inhibits the DE5300 and unlocks the E7500 mortise lock to allow entry. The E7500 can be either FS (Fail Safe) or FSE (Fail Secure). For access control wiring, see previous wiring diagrams.

5c Free entry application (RX996L and RX996L-M)



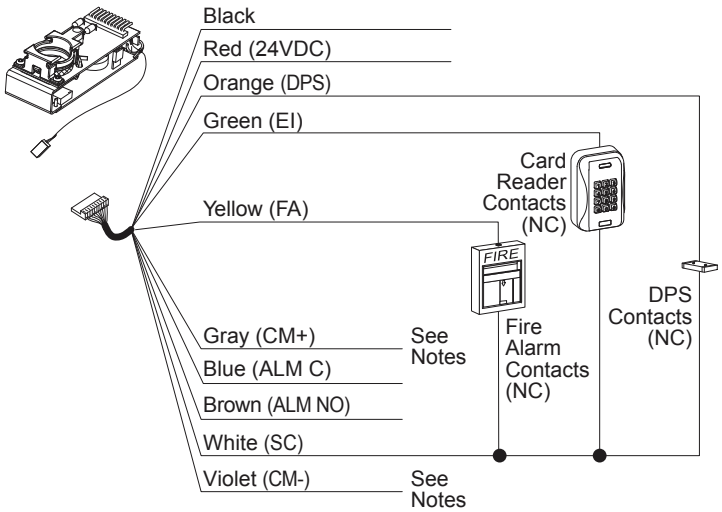
RX trim uses the REN feature to allow entry. It inhibits the DE5300 and unlocks the maglock when the lever is turned.

6 Retrofit Wiring

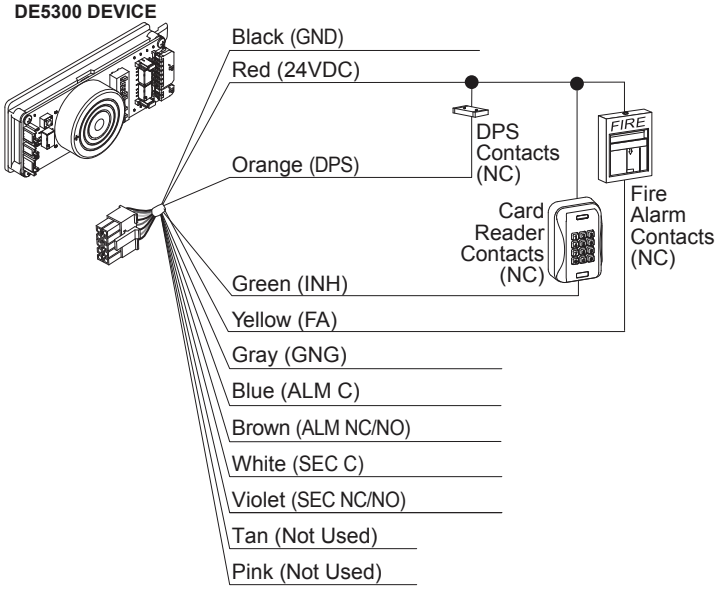
On the discontinued DE5101 device, the Door Position Switch, Card reader and Fire Alarm contacts were tied to the white SC wire. On the new DE5300 device, these contacts are wired to the red 24VDC wire (see wiring diagrams below).

ⓘ **Caution: Do not connect the gray and violet wires of the discontinued DE5101 device to the gray and violet wires of the new DE5300 device. The discontinued and new DE5300 devices can not be ganged together.**

DISCONTINUED DE5101 DEVICE



NEW DE5300 DEVICE

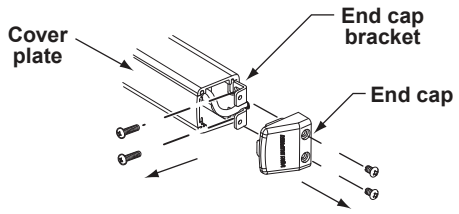


7 Installation

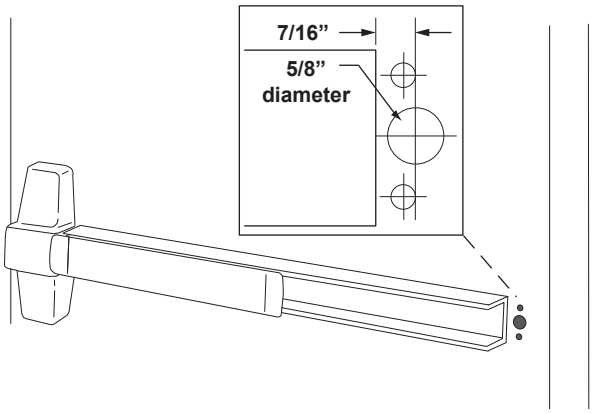
7a ⚠ Disconnect Power ⚠

To avoid risk of shock, disconnect AC power from power supply before proceeding with this installation. If using battery backup option, unplug all four wires from battery terminals.

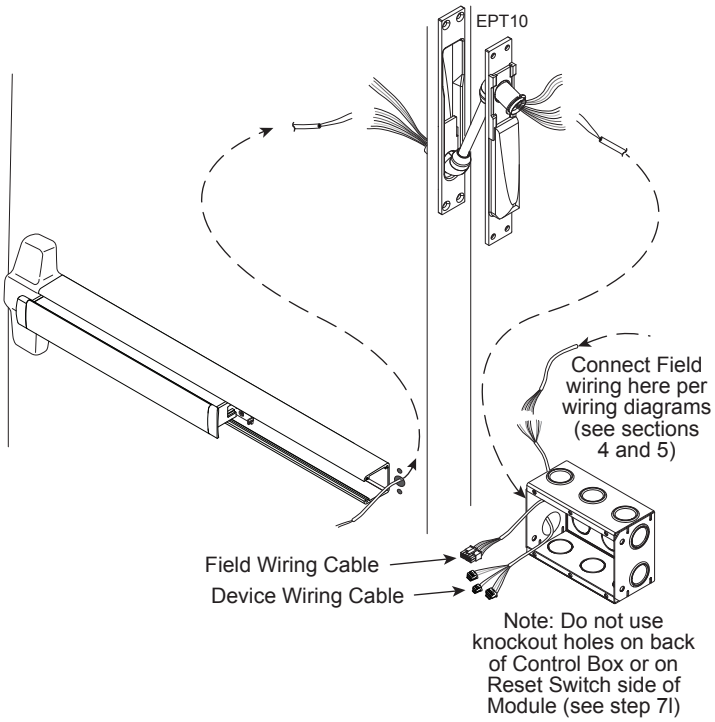
7b If installed, remove end cap, cover plate and end cap bracket.



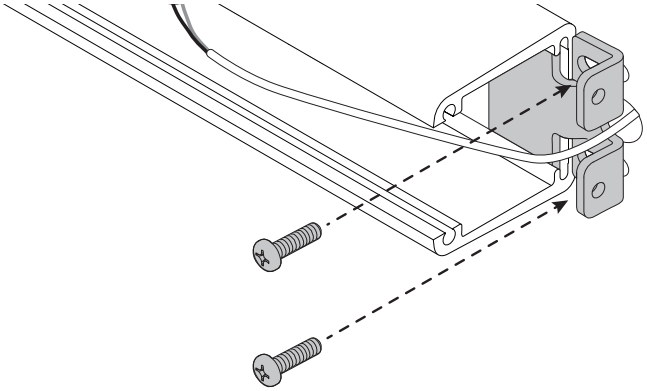
7c Drill 5/8” diameter wire access hole in surface of door.



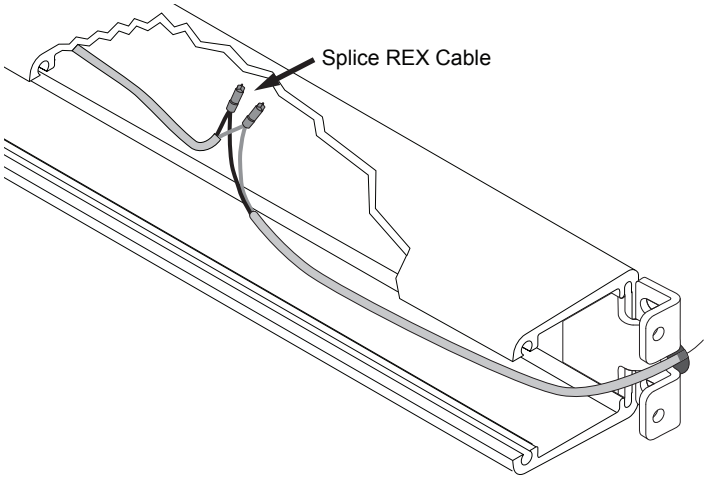
7d Route wires through door to EPT and from EPT to the device wiring cable. Install control box in wall if not already done.



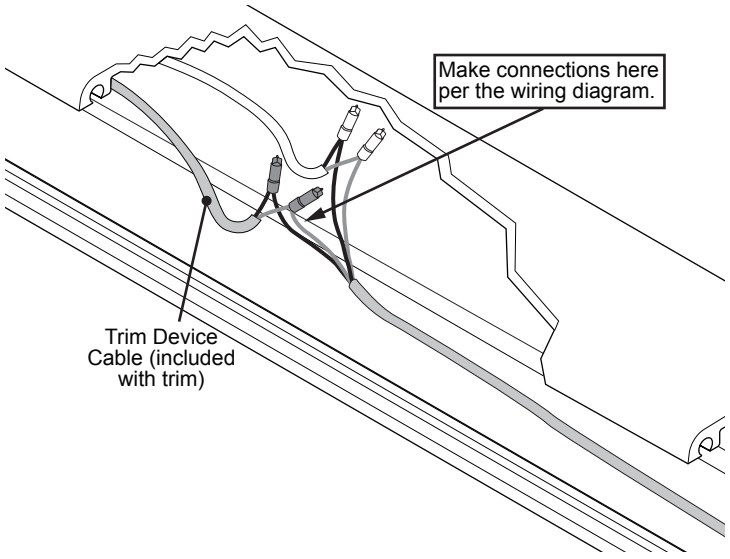
7e Install end cap bracket.



7f Connect the REX cable to the EPT2/10 and device wiring cable per wiring diagrams.

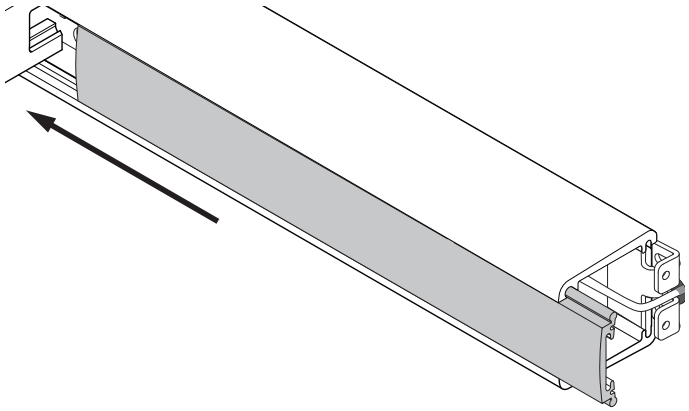


ⓘ **If using electric trim (E996L/E360L-BE). Install electric trim per instructions included with the trim. Route trim wires through the exit device as shown.**

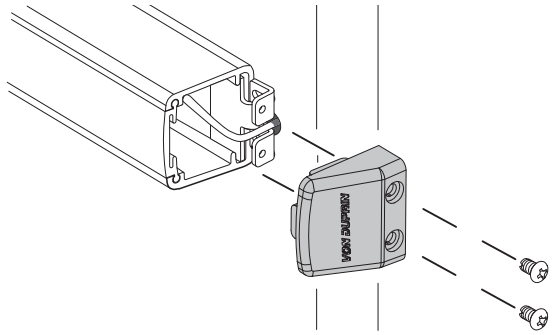


7 Installation, continued

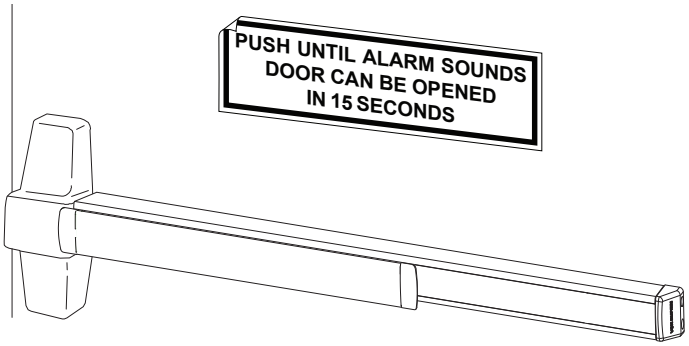
7g Slide cover plate fully into place.



7h Install end cap.



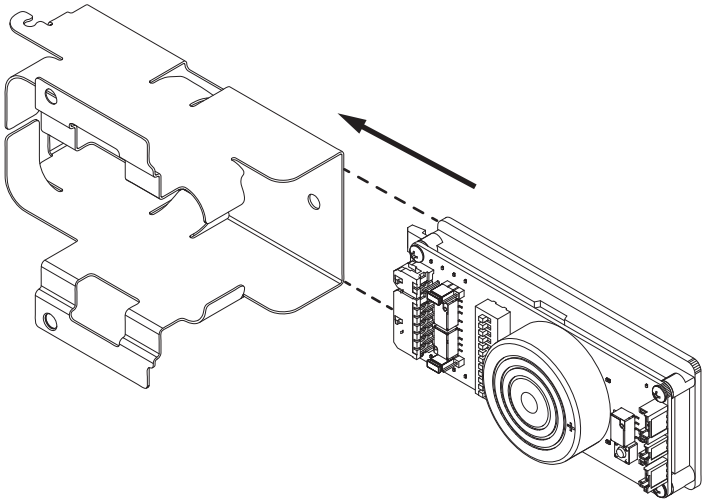
7i Remove backing from door sign and apply above exit device (door sign is in cardboard tube).



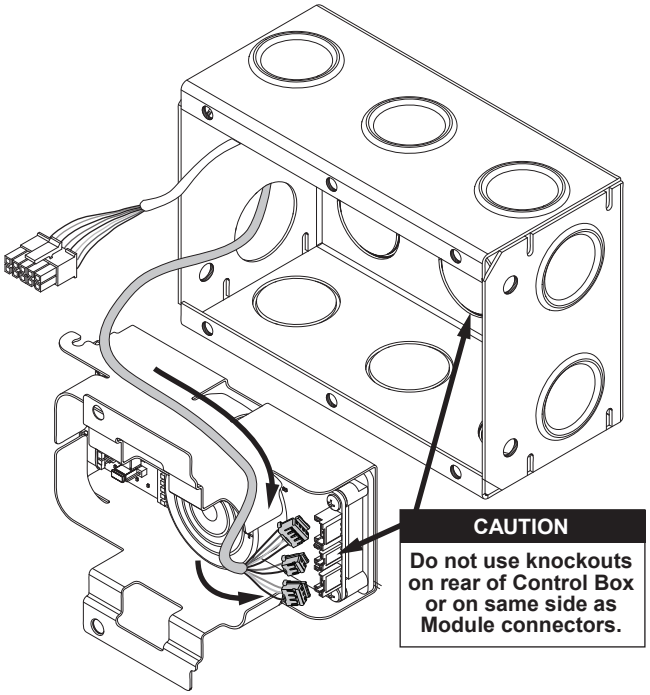
ⓘ **Locate sign per local code.**

7j Complete field wiring per wiring diagrams in Section 4.

7k Slide module into mounting bracket as shown until module snaps into place.

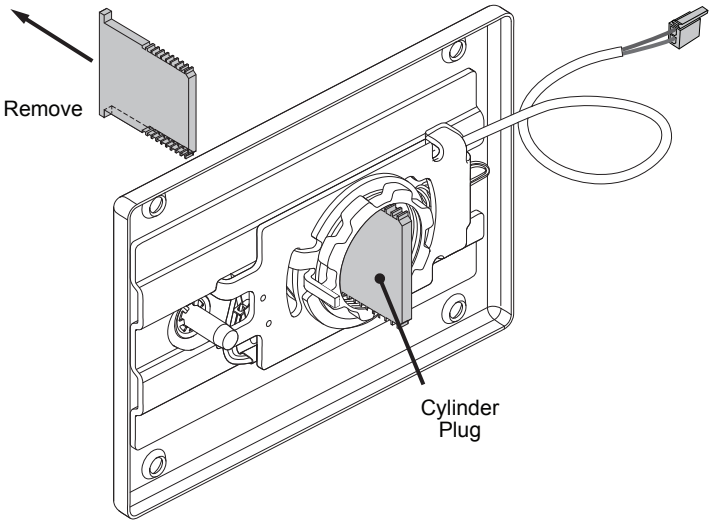


7l Route device wiring cable over mounting bracket and make connections on module per wiring diagrams in Section 4.

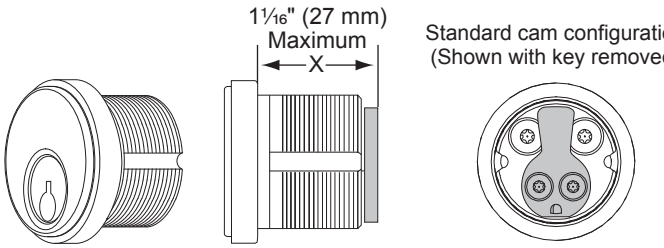


7 Installation, continued

7m Remove and discard cylinder plug from key switch assembly in faceplate.



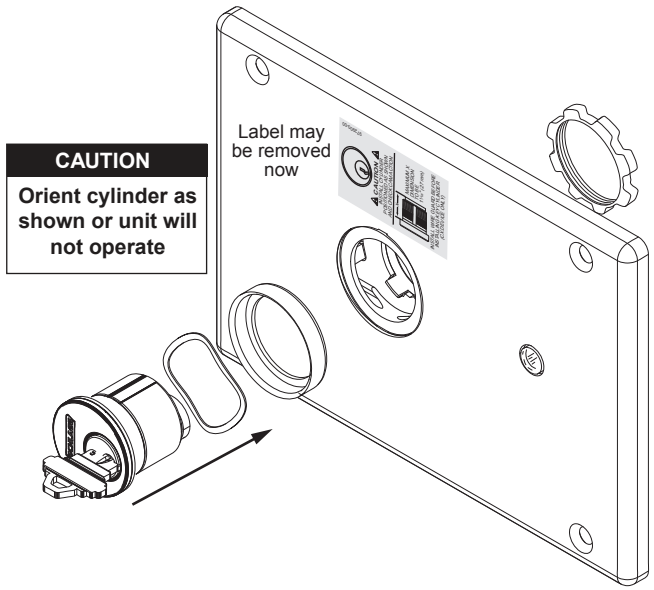
7n Use 1¼" mortise cylinder with compression ring K510-406 with straight cam and orient cam as shown. Schlage cylinder 20-001-114 recommended.



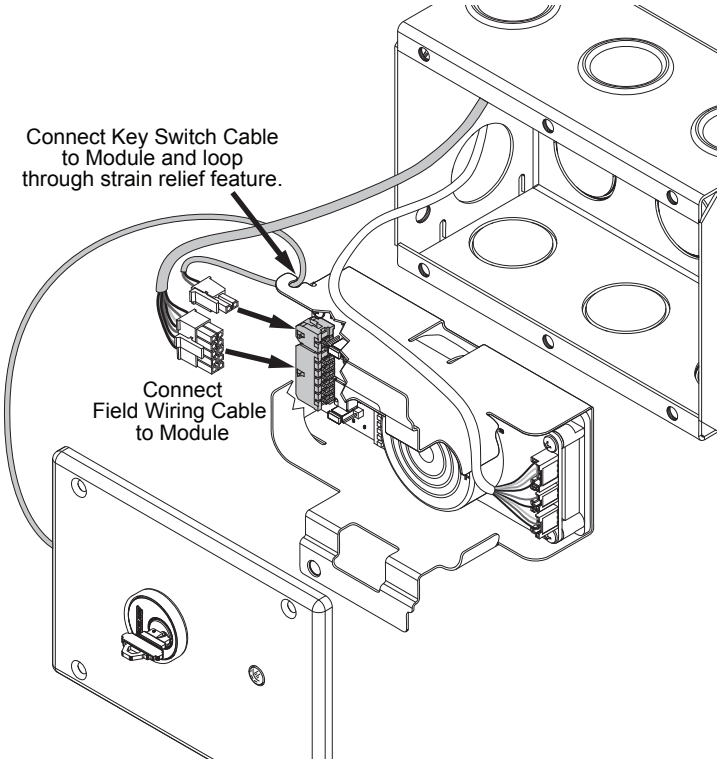
⚠ CAUTION ⚠

Dimension X as shown above must be no more than 1 1/16" or damage to product may occur.

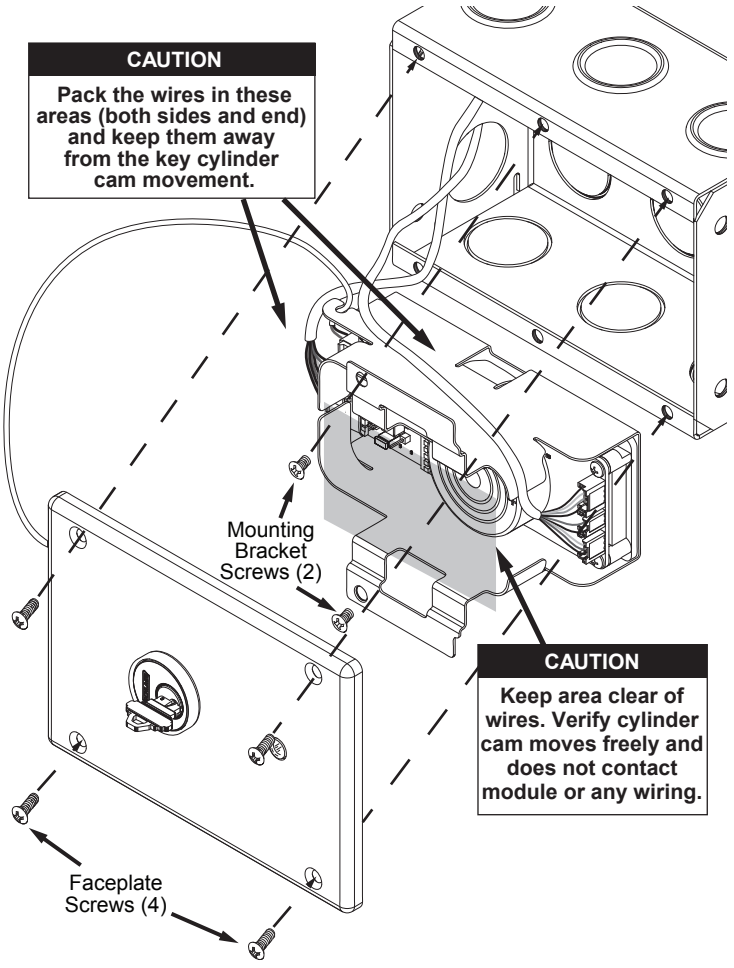
7o Install mortise cylinder onto faceplate. Verify cylinder cam operates key switch properly.



7p Connect key switch cable and field wiring cable to module.



7q Insert mounting bracket with module into control box and screw into place. Screw faceplate into place.



8 Basic Functional Test

This test is to be performed with DE5300 switches in default settings and with door closed. Follow the instructions below and verify that the DE5300 performs as described.

Note: If at any time the Internal Alarm sounds and you wish to silence it, turn the Key Switch counter-clockwise.

Test Powerup

1. Turn the Key Switch clockwise. Then turn the power supply ON which causes the DE5300 to enter **Armed Mode** (Status Indicator is flashing slow).
2. Turn the Key Switch counter-clockwise to put the DE5300 into **Disarmed/Reset Mode** (Status Indicator is OFF).
3. Turn the Key Switch clockwise which causes the DE5300 to enter **Rearm Delay Mode** (Status Indicator is ON for 10 seconds - this time is adjustable).
4. After **Rearm Delay Mode** expires, the DE5300 will enter **Armed Mode** (Status Indicator is flashing slow).

Test Delayed Egress

5. Confirm that the DE5300 is in **Armed Mode** per step 4.
6. Push the Push Pad and verify that the maglock is locking the door.
   DE5300 will immediately begin sounding the Internal Alarm and enter **Release Delay Mode** for 15 second (Status Indicator is flashing fast and Internal Alarm is ON).
7. After the **Release Delay Mode** expires, the DE5300 will enter **Released Mode** (Status Indicator is flashing fast and the Internal Alarm is ON).
   The maglock will be unlocked (you can now push the Push Pad and open the door).

Mode	Maglock	Electric Trim	Status Indicator	Internal Alarm	Secure Relay	Alarm Relay
Armed	Locked	Locked	Slow Flash (2)	Off	On	Off
Rearm Delay	Unlocked	Unlocked	On	Off	Off	Off
Release Delay	Locked	Locked	Fast Flash (2)	On	On	On
Released	Unlocked	Off (1)	Fast Flash (2)	On	Off	On
Disarmed/Reset	Unlocked	Locked	Off	Off	Off	Off

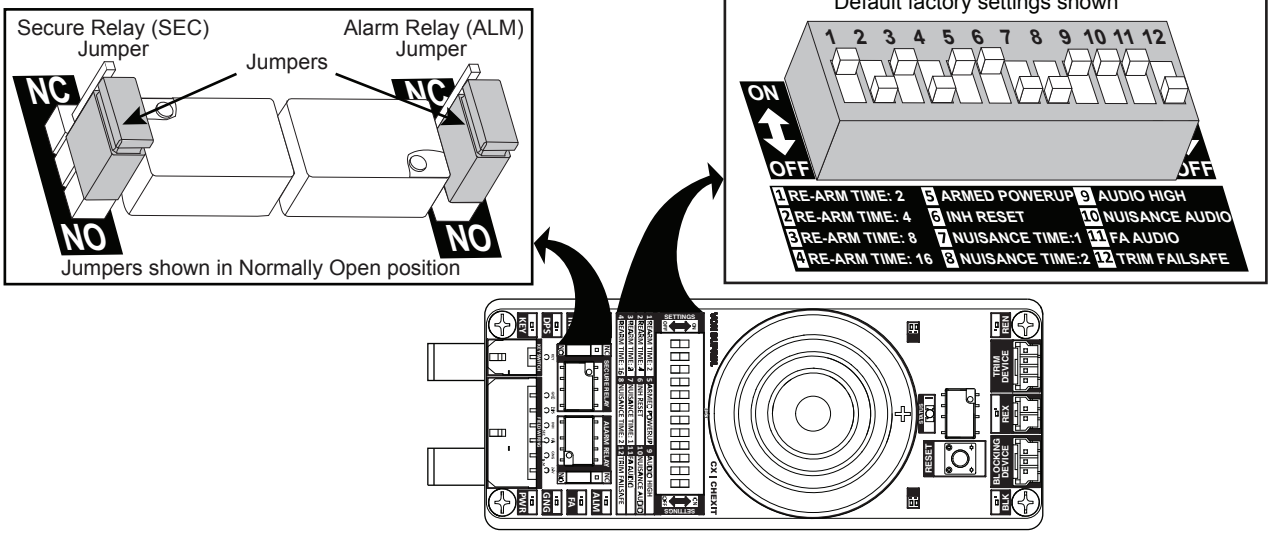
(1) Trim will be Locked or Unlocked depending on if the Trim is Fail Secure or Fail Safe (and if the Trim Fail Safe onboard switch setting is set to OFF or ON)
(2) SLOW FLASH = 1 per second, FAST FLASH = 4 per second

9 Module Setup

9a Remove Faceplate for access to Module as needed.

9b Set the Relay Jumpers and Onboard Switch Settings for desired device functionality.

- Position the Alarm Relay Jumper and Secure Relay Jumper to NO or NC.
- Position each Onboard Switch Setting to ON or OFF.
  - Refer to Onboard Switch Settings Table on next page for detailed description of each setting.



10 Onboard Switch Settings Table

Switch Numbers	Switch Position				Onboard Settings Specifications		Description
	1	2	3	4			
1-4 Rearm Time	OFF	OFF	OFF	OFF	0	Rearm Time (seconds)	The delay time initiated after the INH or KEY goes inactive (back to normal position) before the DE5300 rearms, allowing a person to exit or enter without an alarm through an unlocked door.
	ON	OFF	OFF	OFF	2		
	OFF	ON	OFF	OFF	4		
	ON	ON	OFF	OFF	6		
	OFF	OFF	ON	OFF	8		
	ON*	**OFF***	**ON***	**OFF***	10		
	OFF	ON	ON	OFF	12		
	ON	ON	ON	OFF	14		
	OFF	OFF	OFF	ON	16		
	ON	OFF	OFF	ON	18		
	OFF	ON	OFF	ON	20		
	ON	ON	OFF	ON	22		
	OFF	OFF	ON	ON	24		
	ON	OFF	ON	ON	26		
	OFF	ON	ON	ON	28		
	ON	ON	ON	ON	30 (Infinite)		
5 Armed Powerup	OFF				DE5300 powers up into Disarmed Powerup Mode (unlocked with alarm sounding).		If the DE5300 is Armed and there is a power outage, then upon power restoration, the DE5300 will either power up into Armed Mode or Disarmed Powerup Mode with alarm sounding.
	ON*				DE5300 powers up into Armed Powerup Mode (locked).		
6 INH (Access Control) Reset	OFF				All alarms reset by KEY only (meaning user must be at the door to manually reset).		Selects what action is allowed to reset an alarm condition.
	ON*				All alarms reset by KEY OR INH (INH allows any access control user to reset the alarm at the door or remotely).		
7-8 Nuisance Time	7	8					The delay time the Push Pad can be pushed without starting the release sequence. It is used to prevent accidental bumps from triggering the alarm.
	OFF*	**OFF***			0	Nuisance Time (seconds)	
	ON	OFF			1		
	OFF	ON			2		
	ON	ON			3		
9 Audio High	OFF				Sets Internal Alarm to Low.		Selects between High and Low audio levels during alarm.
	ON*				Sets Internal Alarm to High.		
10 Nuisance Audio	OFF				Internal Alarm OFF during Nuisance Delay (if Nuisance Delay is enabled).		Selects whether Internal Alarm is ON or OFF during the Nuisance Delay (if Nuisance Delay is enabled).
	ON*				Internal Alarm ON during Nuisance Delay (If Nuisance Delay is enabled).		
11 FA Audio	OFF				Internal Alarm OFF during Fire Alarm.		Selects whether the Internal Alarm ON or OFF during a Fire Alarm.
	ON*				Internal Alarm ON during Fire Alarm.		
12 Trim Fail Safe	**OFF***				Trim is selected to be Fail Secure (FSE).		Matches FSE or FS trim to DE5300 trim device output.
	ON				Trim is selected to be Fail Safe (FS).		

***Default settings**

⚠ Consult AHJ or local building codes for onboard switch settings.

11 Advanced Function Test

Chart below shows the various Modes of the DE5300. Follow the steps below the chart to check each Mode.

Mode	Maglock	Electric Trim	Status Indicator	Internal Alarm	Secure Relay	Alarm Relay
Armed	Locked	Locked	Slow Flash (3)	Off	On	Off
Disarmed Powerup	Unlocked	Locked	Slow Flash (3)	Slow Pulse (4)	Off	Off
Inhibited	Unlocked	Unlocked	Off	Off	Off	Off
Rearm Delay	Unlocked	Unlocked	On	Off	Off	Off
DPS Delay	Unlocked	Locked	On	Off	Off	Off
Nuisance Delay	Locked	Locked	Slow Flash (3)	Fast Pulse (2) (4)	On	Off
Release Delay	Locked	Locked	Fast Flash (3)	On	On	On
Released	Unlocked	Off (1)	Fast Flash (3)	On	Off	On
Tamper	Unlocked	Locked	Fast Flash (3)	Fast Pulse (4)	Off	On
Disarmed/Reset	Unlocked	Locked	Off	Off	Off	Off

(1) Electric Trim will be Locked or Unlocked based on whether the Trim Fail Safe onboard setting is set to OFF or ON
(2) Audio may be turned OFF through Nuisance Audio onboard switch setting
(3) SLOW FLASH = 1 per second, FAST FLASH = 4 per second
(4) SLOW PULSE = 1 per second, FAST PULSE = 4 per second

Test Powerup

1. Ensure that the Key Switch is turned clockwise. Turn the Power Supply ON.
   -If the Armed Powerup onboard switch setting is ON (default), the DE5300 will enter **Armed Mode**.
   -Note: If the Armed Powerup onboard switch setting is OFF, the DE5300 will enter **Disarmed Powerup Mode**.
2. Turn the Key Switch counter-clockwise to put the DE5300 into **Disarmed/Reset Mode**.
3. Turn the Key Switch clockwise to arm the DE5300.
   -If the Rearm Time onboard switch setting is ON (default = 10 seconds), the DE5300 will enter **Rearm Delay Mode**.
   After **Rearm Delay Mode** expires, the DE5300 will enter **Armed Mode**.
   -If the Rearm Time onboard switch setting is OFF, the DE5300 will enter **Armed Mode** without a delay.

Test Delayed Egress

4. Confirm that the DE5300 is in **Armed Mode**.
5. Push and hold the Push Pad.
   -If the Nuisance Time onboard switch setting is OFF, the DE5300 will immediately enter **Release Delay Mode**.
   -The DE5300 will release in 15 seconds.
   -If the Nuisance Time onboard switch setting is ON, the DE5300 will enter **Nuisance Delay Mode**.
   -If the Nuisance Audio onboard switch setting is ON, the Internal Alarm will pulse fast.
   -If the Nuisance Audio onboard switch setting is OFF, the Internal Alarm will not sound.
   -If the Push Pad is released before the Nuisance Delay expires, the DE5300 will go back to **Armed Mode**.
   -If the Push Pad is held until the Nuisance Time expires, the DE5300 will enter **Release Delay Mode**.
   After the Release Time expires, the DE5300 will enter **Released Mode**.
   The DE5300 will release in 15 seconds, less the Nuisance Time already elapsed.
6. Repeat Step 2 and Step 3 to make the DE5300 return to **Armed Mode**.

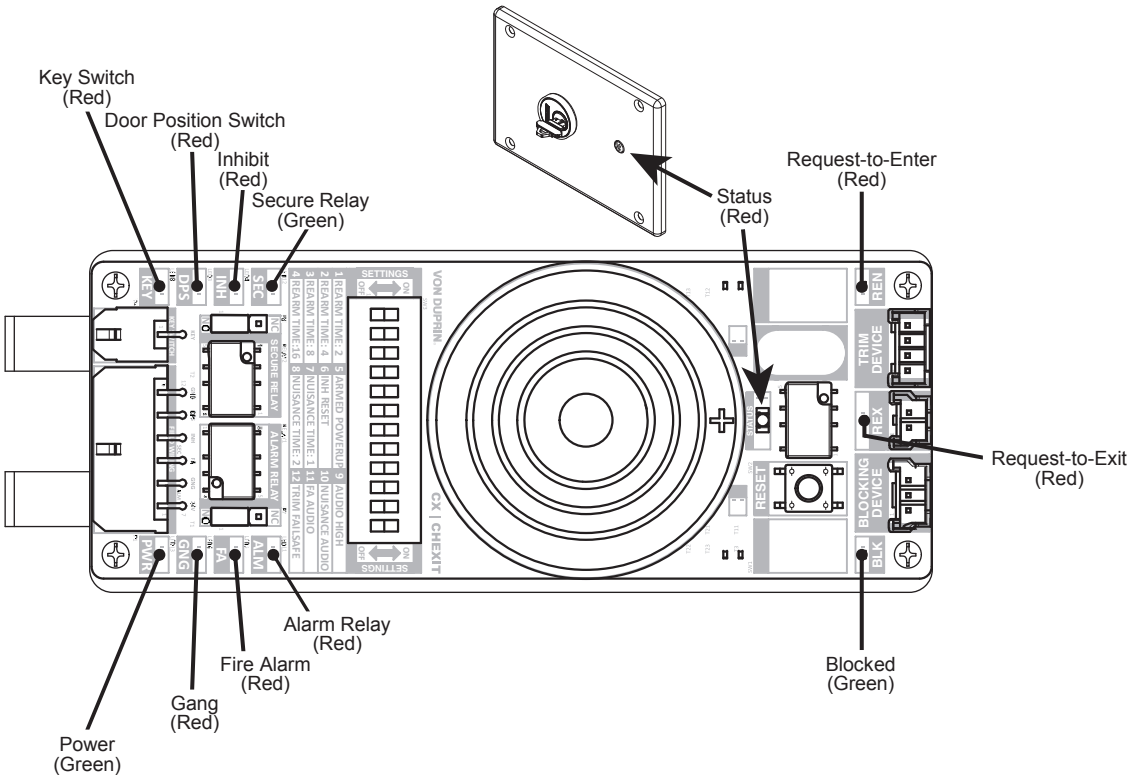
Test Access Control

7. Confirm that the DE5300 is in **Armed Mode**.
8. Activate the Inhibit (INH) Input to make the DE5300 enter **Inhibited Mode**.
9. Release the Inhibit (INH) Input.
   -If the Rearm Time onboard switch setting is ON (default = 10 seconds), the DE5300 will enter **Rearm Delay Mode**.
   -If the door is opened and closed before the Rearm Time expires, the DE5300 will enter **DPS Delay Mode.**
   The DE5300 will enter **Armed Mode** in 2 seconds.
   -If the door is left open and the Rearm Time expires, the DE5300 will enter **Released Mode**.
   -If the Rearm Time onboard switch setting is OFF.
   -If the door is closed, the DE5300 will go back to **Armed Mode**.
   -If the door is left open the DE5300 will enter **Tamper Mode**.

Test Fire Alarm

10. Confirm that the DE5300 is in **Armed Mode**.
11. Activate the FA input to make the DE5300 enter **Released Mode**.
    -If the FA Audio onboard switch setting is ON, the Internal Alarm will sound.
    -If the FA Audio onboard switch setting is OFF, the Internal Alarm will not sound.
12. Repeat Step 2 and Step 3 to make the DE5300 return to **Armed Mode**.

12 Onboard Indicators



Signal	Indication	Description
PWR	OFF	Power is OFF
	ON	Power is ON
KEY	OFF	Key Switch turned clockwise (Arm)
	ON	Key Switch turned counter-clockwise (Disarm/Reset)
GNG	OFF	No Gang signal (Inactive)
	ON	Gang signal (Active)
FA	OFF	Fire Alarm contacts closed (Inactive)
	ON	Fire Alarm contacts open (Active)
DPS	OFF	Door Position Switch closed (Door Closed)
	ON	Door Position Switch open (Door Open)
INH	OFF	Inhibit contacts closed (Inactive)
	ON	Inhibit contacts open (Active)
SEC	OFF	DE5300 not secure (Relay contact state depends on Secure Relay NO/NC jumper setting)
	ON	DE5300 secure
ALM	OFF	DE5300 not in alarm (Relay contact state depends on Alarm Relay NO/NC jumper setting)
	ON	DE5300 in alarm condition
BLK	OFF	Maglock is unlocked
	ON	Maglock is locked
REX	OFF	Push Pad is not pushed (Inactive)
	ON	Push Pad is pushed (Active)
REN	OFF	Request-to-Enter contacts open (Inactive)
	ON	Request-to-Enter contacts closed (Active)
STATUS	OFF	DE5300 is in Disarmed/Reset Mode or in Inhibited Mode
	SLOW FLASH	DE5300 is in Armed Mode or in Disarmed Powerup Mode
	FAST FLASH	DE5300 is in Release Delay Mode or Released Mode
	ON	DE5300 is in Rearm Delay Mode or DPS Delay Mode

13 Troubleshooting

Normal DE5300 operation:

-After turning the Key Switch clockwise to Arm, the DE5300 will wait the selected Rearm Time (red Status Indicator is ON).
-At the end of this delay, the DE5300 will lock the maglock (red Status Indicator is flashing slow) indicating the DE5300 is Armed.
-To trigger delayed egress, push the Push Pad in. The DE5300 will sound an Internal Alarm (red Status Indicator is flashing fast).
-At the end of the Release Delay, the maglock will unlock allowing exit. The Internal Alarm will continue until the DE5300 is reset with the Key Switch or Inhibit Input (if INH Reset onboard switch setting is ON).

Most wiring issues can be diagnosed by observing the Module's onboard LED indicators (see section 12, Onboard Indicators).

An Armed DE5300's LED's should appear as:

Status LED - flashing slow
PWR, SEC and BLK - ON (PWR LED is on when power is applied to the Module and is independent of any switch positions)
All other LED's - OFF

Status Indicator flashing fast or **Internal Alarm pulsing fast** is 4 times per second. **Status Indicator flashing slow** or **Internal Alarm pulsing slow** is 1 time per second. **Status Indicator ON** or **Internal Alarm ON** means on continuously.

With 24VDC applied to the DE5300, turn the Key Switch clockwise to Arm and note the possible symptoms below.

Symptoms		Possible Cause	Solution
Maglock is NOT locked. Internal Alarm is NOT sounding.	Module PWR (Power) LED is OFF.	Power supply is not supplying any voltage.	Check power supply output voltage at the supply and at the DE5300.
		Power supply voltage is too low.	Check power supply output voltage is 24VDC.
		Field wiring connection is broken.	Verify the power wiring has continuity from power supply to the Module.
		Power supply is reverse polarity.	Verify proper color code is used to supply power to DE5300 (see section 4, point-to-point diagrams).
	Module Status Indicator is ON.	Rearm Delay is active.	Verify proper rearm delay setting (see section 9 and 10, switches 1-4). If set to 30 see section 1, "Rearm Delay".
	Module Status Indicator flashes once.	INH (access control) wiring/ connection is open.	Verify the INH wiring continuity.
		INH (access control) is active (contacts open).	Verify the access control device is using normally closed contacts (see section 4, point-to-point diagrams).
Maglock is NOT locked. Internal Alarm is ON.	Module Status Indicator is flashing fast. Module FA (Fire Alarm) LED is ON. Module ALM (Alarm) LED is ON.	FA wiring/connection is open.	Verify the FA wiring has continuity from FA contacts to Module.
		FA is active (contacts open).	Verify the FA contacts are closed when there is no fire alarm.
	Module Status Indicator is flashing fast. Module GNG (Gang) LED is ON. Module ALM (Alarm) LED is ON.	GNG wire is shorted to the power supply ground.	Find and remove short. Insulate any unused GNG wire.

13 Troubleshooting, continued

Symptoms		Possible Cause	Solution
When Arming, Release Delay starts immediately. Maglock is first Locked and then releases after 15 seconds. Internal Alarm is ON.	Module Status Indicator is flashing fast. Module REX (Req. to EXIT) LED is ON. Module ALM (Alarm) LED is ON.	Push Pad is not returning to the full extended position.	Pull Push Pad out fully and verify this corrected the problem. Check for dirt and rubbing around the Push Pad area. Check for full latch bolt extension (see section 12, REX LED indication).
		Device Wiring Cable (2 position plug) is disconnected.	Plug in the Device Wiring Cable 2 position plug (see section 7, step 7l).
		REX wiring/connector is defective.	Check for broken wiring from the Device Wiring Cable 2 position plug to the REX switch under the Push Pad.
		REX switch is defective.	Check the REX switch is closed when the Push Pad is fully extended. If still open, replace switch.
When Arming, maglock remains unlocked. Internal Alarm is pulsing fast	Module Status Indicator is flashing fast. Module DPS (Door Pos. Switch) LED is ON. Module ALM (Alarm) LED is ON.	DPS switch contact is open.	Close the door, if open. Verify the DPS contacts are closed when the door is closed.
		DPS wiring/connection is open.	With door closed, verify the DPS wiring has continuity from DPS contacts to Module.
When Arming, maglock remains unlocked. Internal Alarm is pulsing fast after 2 seconds.	Module Status Indicator is flashing fast after 2 seconds. Module BLK (Blocking) LED is OFF. Module ALM (Alarm) LED is ON.	Device Wiring Cable (3 position plug) is disconnected.	Plug in the Device Wiring Cable 3 position plug (see section 7, step 7l).
		Maglock wiring/connection is open or not wired correctly.	Check for broken wiring from the Device Wiring Cable 3 position plug to the maglock. Verify the correct connection (see section 4, Point-to-Point diagrams for wiring and configuration: Note 1 on MBS connection). Verify the maglock is measuring 24VDC on its input.
		Maglock MBS sensor or maglock is defective.	Separately test the basic functions of the maglock to verify correct operation.
After a power outage and power is restored, maglock remains unlocked (Key Switch is in Armed position - clockwise). Internal Alarm is pulsing slow.	Module Status Indicator is flashing slow. Module ALM (Alarm) LED is ON.	The DE5300 is not self arming after a power outage. DE5300 onboard switch #5 (Armed Power Up) is set to OFF.	Some jurisdictions require the DE5300 to be disarmed and alarming to be manually reset only after a power loss. For those jurisdictions, the Module switch #5 is set to OFF (see section 9 and 10, switch 5).
Trim is locked when it should be unlocked. OR Trim is unlocked when it should be locked.		Trim switch setting is incorrect. Incorrect trim type. Verify if FS (Fail Safe) or FSE (Fail Secure) is being used.	Select the correct trim switch setting to match the trim being used (see section 9 and 10, switch 12). Install the correct trim type.