

4501 On-Board Delayed Egress Exit Device



**PUSH UNTIL ALARM
SOUNDS. DOOR CAN BE
OPENED IN 15 SECONDS.**

When unauthorized egress is initiated by depressing the push pad of the 4501 OBDE, an audible alarm will sound and an irreversible unlock delay period of 15 seconds will begin. Meanwhile, the person exiting must wait to egress, allowing personnel or security time to respond to the alarm. After the delay period has expired, the device unlocks, permitting egress until the device is reset. In a life safety emergency, the device will immediately unlock upon loss of power or when powered by a fire control supervised power supply. The included signage provides clear and comprehensive instructions of the door egress operation for persons without prior knowledge of the exit delay, including the sight and hearing impaired.

4501 OBDE Applications include:

- Restricting the egress of wandering patients for their own safety.
- Restricting the egress of commercial center patrons for security application needs.
- Controlling pedestrian traffic in transportation facilities, including airport jetways and tarmacs
- Reducing shoplifting and employee theft

Standard Features:

Egress Delay

- 15 second exit delay
- 1 or 2 second nuisance delay
- Optional 30 second delay with AHJ approval

Built-In Visual & Audible Annunciation

- Armed mode
- Nuisance mode
- Irreversible egress mode
- Release mode

Trigger Modes

- Egress alarm triggered by Push Bar
- Trigger input from external device (Pair of Doors)
- Door opened in secure mode (Door Forced or Prop)

Code Compliance

- IFC International fire Code
- IBC International Building Code
- NFPA 101 Life Safety Code
- NFPA 1 Uniform Fire Code
- California Building Code with the exception of Sec. 11B-309.4 2013 edition.
- Field selectable automatic or manual power up after emergency release or power loss. Use of manual power up complies with California Building Code (OSHPD) requirements.

Control Inputs

- Field-selectable 1 to 30 second request-to-exit with anti-tailgate and door prop alarm.
- Bypass
- Reset
- Remote trigger (for Pairs of Doors)
- DPS (Required for Door Forced, Prop and Anti-Tailgate)

Monitoring Outputs

- Secure/Unsecure status
- Egress initiation status
- Released/Bypass status

Recommended Accessories

- 4501 DE – Delayed Egress Slave Exit Device (for Pair of Doors)
- 2900 Series regulated & filtered power supply – 2908 (1 Amp) or 2909 (2 Amp)
- Door contact (included) – 2-679-0626 magnetic switch
- Power Transfer Device – ETW/ETM/EPT

SECURITY



FWAX
SPECIAL LOCKING
ARRANGEMENTS

4501 OBDE – Operational Description

The door is normally closed and secured by the 4501 On-Board Delayed Egress Exit Device. The on-board status LED illuminates Green indicating that the unit is secured. The integral Reset/Bypass key switch is in the center position.

Activation/Alarmed Release: Pressing the push pad of the 4501 OBDE device initiates the irreversible 15 second unlock delay cycle. To prevent false alarms, a pre-alarm audible warning tone is activated during the short nuisance delay period. Releasing the push pad during the nuisance delay period will silence the pre-activation warning tone, reset the unlock delay cycle, and keep the door locked.

Once the nuisance delay period has been exceeded, the 4501 OBDE continues its irreversible door release cycle. An audible tone and Yellow status LED inform the person intending to exit of the door release cycle activation. An alarm output is activated to alert personnel of an unauthorized exit. After the delay cycle has expired, the status LED illuminates Red, and power is removed from the locking device, allowing free egress by pressing the push pad. A second output is activated indicating that the door is unsecure.

Reset/Relock (from an Alarm, REX, or Bypass state): The 4501 OBDE can be manually reset by authorized personnel by closing the door and turning the integral key switch to the reset position, or by momentarily activating a N/O switch connected to the remote Reset/REX control input.

Request-to-Exit (from a Secure state): A timed Request-to-Exit (REX) cycle is initiated by authorized personnel by momentarily turning the integral key switch to the reset position, or by momentarily activating a N/O switch connected to the remote Reset/REX control input. The power will be removed from the locking device allowing free egress by pressing the push pad. The on-board status LED will rapidly flash Green (2x / sec) during the REX cycle. After the REX cycle has expired, the 4501 OBDE will automatically re-apply power to the locking device to re-secure the door. If an external door position switch is connected to the DPS input, the door will automatically relock on door closure.

Authorized Maintained Bypass (from a Secure state): Unlocking the door for an extended period of time is accomplished by momentarily turning the integral key switch to the Bypass position, or by momentarily activating a N/O switch connected to the remote Bypass control input. The power will be removed from the locking device allowing free egress by pressing the push pad. The on-board status LED will slowly flash Green (1x / sec) during Bypass mode. The 4501 OBDE may be re-secured using the Reset procedure described above.

(NFPA-101)

The 4501 OBDE operation complies with the following building and fire codes: NFPA 101; NFPA 1-UFC; UBC; IBC; IFC; SBC; California Building Code. Listings: UL Listed: Special Locking Arrangements and Auxiliary Locks; California State Fire Marshal (CSFM) Listed.

Option Code	Delay Release Time	Nuisance Time	Reset after Alarm	Lock Status on Power-Up
ND	15 sec Fixed	1 sec or 2 sec Selectable	Manual	Locked or Unlocked Selectable
NH <small>(AHJ Approval)</small>	30 sec Fixed	1 sec or 2 sec Selectable	Manual	Locked or Unlocked Selectable
NC <small>(CBC Compliant)</small>	15 sec Fixed	1 sec or 2 sec Selectable	Manual	Unlocked Fixed

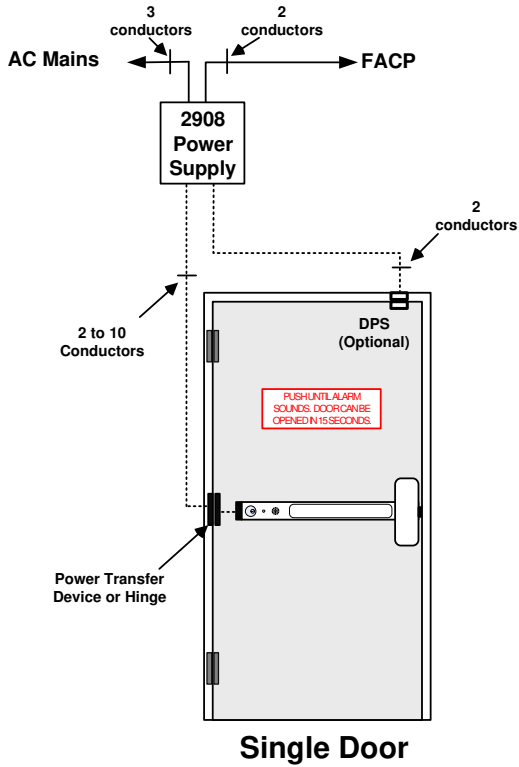
Per BOCA compliance, the 4501 OBDE is manually reset by authorized personnel after an alarm by closing the door and turning the integral key switch to the reset position, or by momentarily closing a contact connected to the remote Reset/Bypass control inputs. In addition, a reset will be automatically be initiated once the door has been opened, then closed, and remains closed for 30 consecutive seconds.

(BOCA/Chicago)

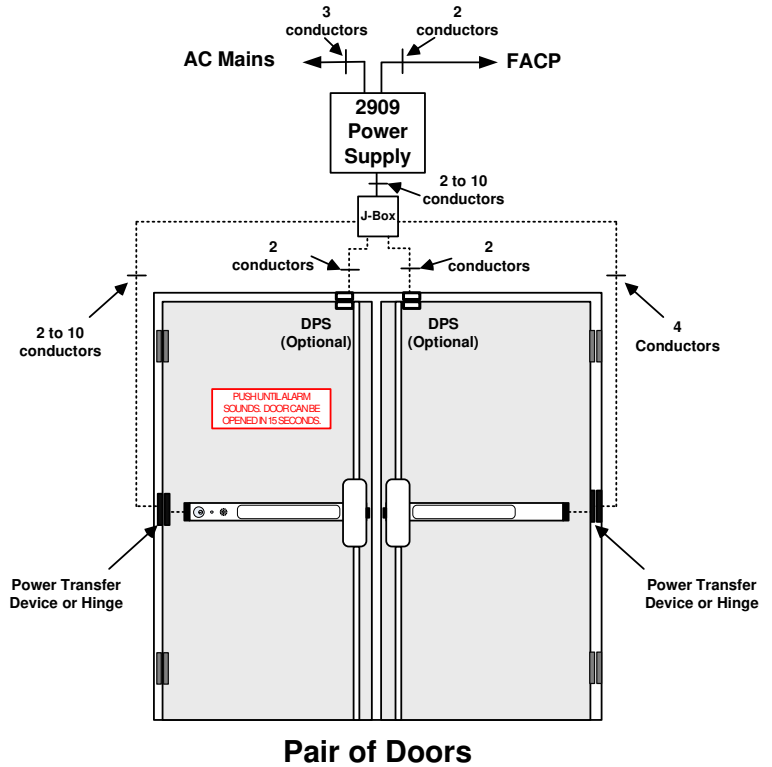
The 4501 OBDE operation complies with BOCA National Building Code and the Chicago Building Code: UL Listed, Special Locking Arrangements and Auxiliary Locks.

Option Code	Delay Release Time	Nuisance Time	Reset after Alarm	Lock Status on Power-Up
BD	15 sec Fixed	1 sec or 2 sec Selectable	Auto/Manual	Locked or Unlocked Selectable
BH <small>(AHJ Approval)</small>	30 sec Fixed	1 sec or 2 sec Selectable	Auto/Manual	Locked or Unlocked Selectable
BC	15 sec Fixed	0 sec Fixed	Auto/Manual	Locked or Unlocked Selectable

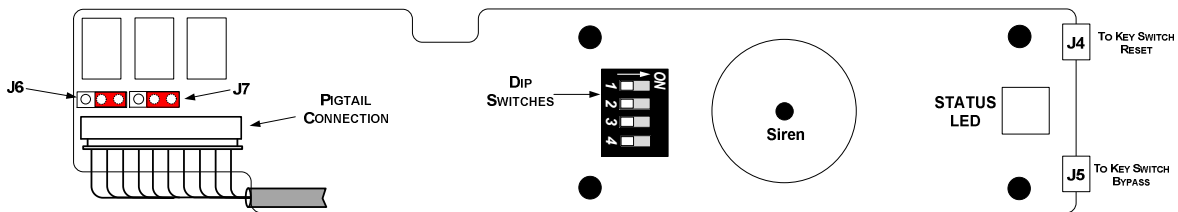
4501 OBDE RIM DEVICE



4501 OBDE SURFACE VERTICAL ROD DEVICE



4501 OBDE Board Layout (LR Device shown)



MONITOR RELAY JUMPER SETTINGS*

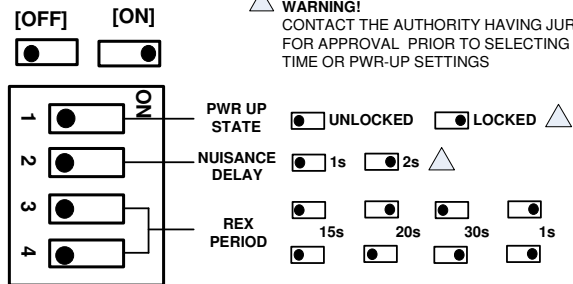
*Individually sets the polarity of the GRN & RED relays when the relay is in an ACTIVE state.



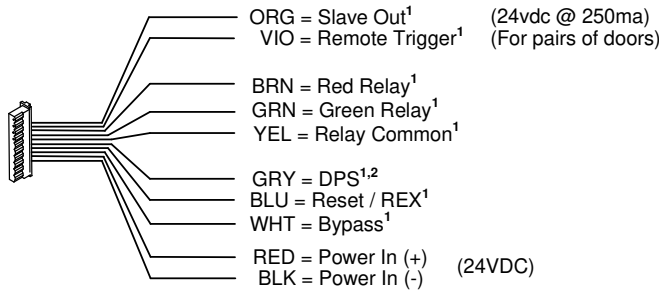
J6 = GRN RELAY (Active when device is secure)
 J7 = RED RELAY (Active upon alarm initiation)

DIP SWITCH SETTINGS

WARNING!
 CONTACT THE AUTHORITY HAVING JURISDICTION FOR APPROVAL PRIOR TO SELECTING NUISANCE TIME OR PWR-UP SETTINGS



Device Wiring Pigtail



1 THESE WIRES SHALL BE CONNECTED TO AN ACCESSORY IN THE PROTECTED AREA.
UNUSED WIRES SHOULD BE CAPPED OFF.

2 A DOOR CONTACT IS REQUIRED FOR ANTI-TAILGATE AND DOOR PROP FUNCTIONS.

Electrical Specifications:

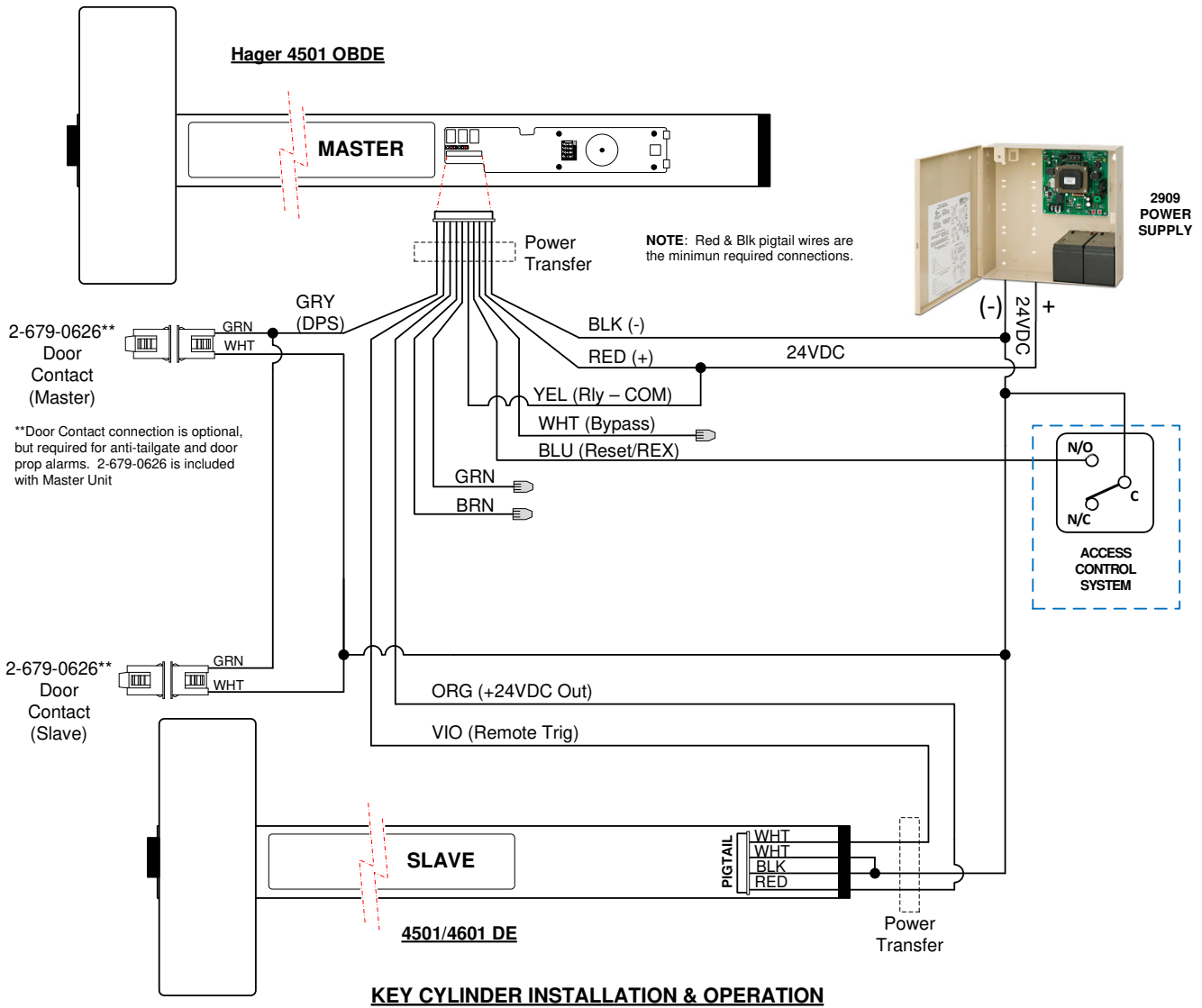
Input Voltage : 24VDC +/- 10%
Input Current : 540ma Max
Monitor Relays: 1 Amp contacts @12/24vdc
Slave Output : 24VDC @250ma

Enviromental:

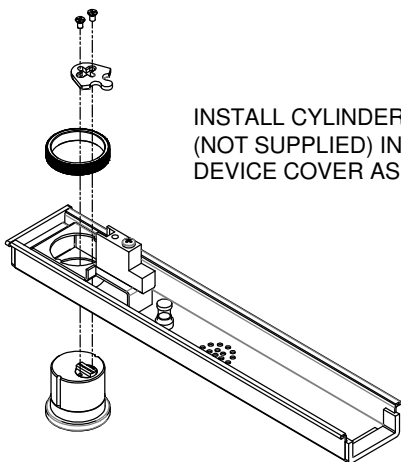
Max Operating Temperature: 0°C to 70°C
Tested to 85% RH @30°C

Wire Color	Wire Designation	Description
Orange	Slave Out	Used for a pair of doors (master & slave). This is a voltage output (24VDC @250mA). Connect this wire to +24VDC (Red wire) of the slave bar. See "Typical Wiring for Double Door Installation".
Violet	Remote Trigger	Used for a pair of doors (master & slave). This is a dry input. Connect this wire to one leg of the Slave Trigger output. The other leg of the Slave Trigger output is connected to ground (-VDC). Closing the switch shorts this wire to ground and initiates the alarm sequence. See "Typical Wiring for Double Door Installation". The two white wires on the slave bar are the Normally Open trigger switch.
Brown	Red Relay	This is the Alarm Relay Output (Dry, 1A@12/24VDC). It is normally INACTIVE when the door is secure. It changes state when the bar is pressed beyond the nuisance delay and placed into an Alarm state. It may be configured as Normally Open OR Normally Closed using Jumper J7. The YELLOW wire is the relay common.
Green	Green Relay	This is the Door Secure Relay Output (Dry, 1A@12/24VDC). It is normally ACTIVE when the door is secure. It changes state when the bar unlocks after (a) the delayed egress countdown expires, (b) an authorized Request-to-Exit(REX) signal, or (c) the bar is Bypassed. It may be configured as Normally Open OR Normally Closed using Jumper J6. The YELLOW wire is the relay common.
Yellow	Relay Common	This is the shared relay common for both the Red & Green Relay.
Grey	Door Position Switch (DPS)	This is a dry input. Connect this wire to one leg of a Door Contact switch. The other leg of the Door Contact switch is connected to ground (-VDC). The Door Contact polarity must be OPEN when the door is closed. A door contact is required for anti-tailgate and door prop alarm functions.
Blue	Reset/REX	This is a momentary, dry input. Connect this wire to one leg of a Normally Open switch. The other leg of the Normally Open switch is connected to ground (-VDC). When the bar is in a secure state, shorting this input will result in an authorized unlock (REX). The REX period is configured by the dip switch settings. When the bar is in an alarm, authorized unlock state, or in a bypassed state, shorting this input will reset (secure) the bar.
White	Bypass	This is a momentary, dry input. Connect this wire to one leg of a Normally Open switch. The other leg of the Normally Open switch is connected to ground (-VDC). When the bar is in a secure state, shorting this input will unlock the device indefinitely, until the bar is Reset.
Red	Power IN (+) 24VDC	Input Voltage: 24VDC +/- 10%; Input Current: 540mA (max). The Red & Black wires are the minimum required connections.
Black	Power IN (-) 24VDC	

TYPICAL WIRING FOR SINGLE OR DOUBLE DOOR INSTALLATION



KEY CYLINDER INSTALLATION & OPERATION



INSTALL CYLINDER LOCK (NOT SUPPLIED) INTO DEVICE COVER AS SHOWN

Key cylinder is in the normal, center position. LED is solid green when the device is secure.

To bypass the device for an extended period of time, momentarily turn the key cylinder towards "Bypass" and return to the center position. LED will flash slowly.

When the device is in a secure state, momentarily turning the key cylinder towards "Reset" will result in a timed authorized unlock (REX).

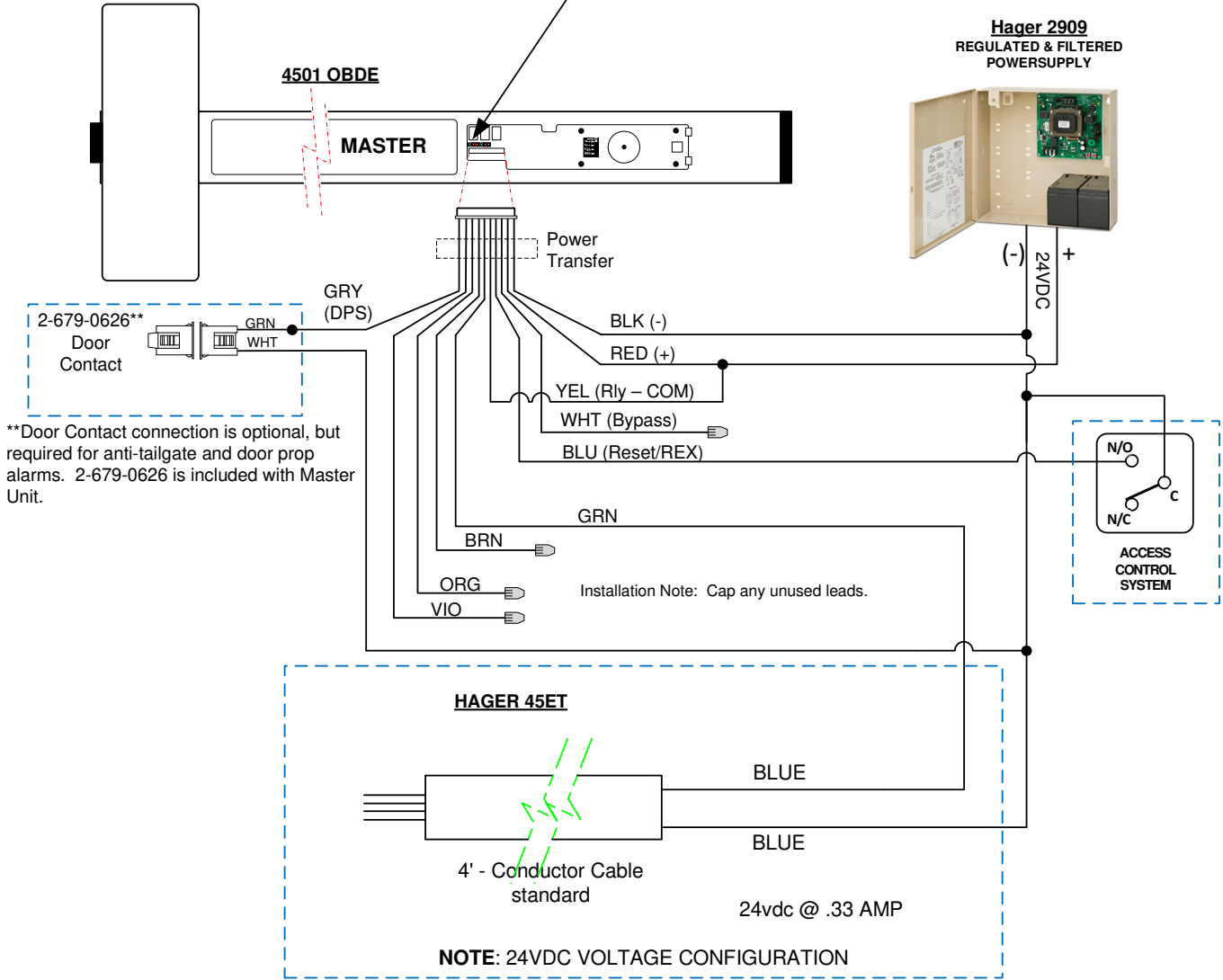
When the device is in an alarm, authorized unlock, or bypassed state, momentarily turning the key cylinder towards "Reset" will re-secure the device.



TYPICAL WIRING FOR SINGLE DOOR WITH HAGER ELECTRIC TRIM

J6 = GRN RELAY (Active when device is secure)

- 2 Left Pins = Set for Fail-Secure Electric Trim
- 2 Right Pins = Set for Fail-Safe Electric Trim



2-679-0626**
 Door Contact

GRN
 WHT

GRY (DPS)

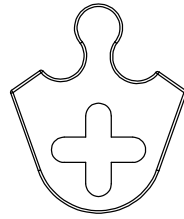
**Door Contact connection is optional, but required for anti-tailgate and door prop alarms. 2-679-0626 is included with Master Unit.

Installation Note: Cap any unused leads.

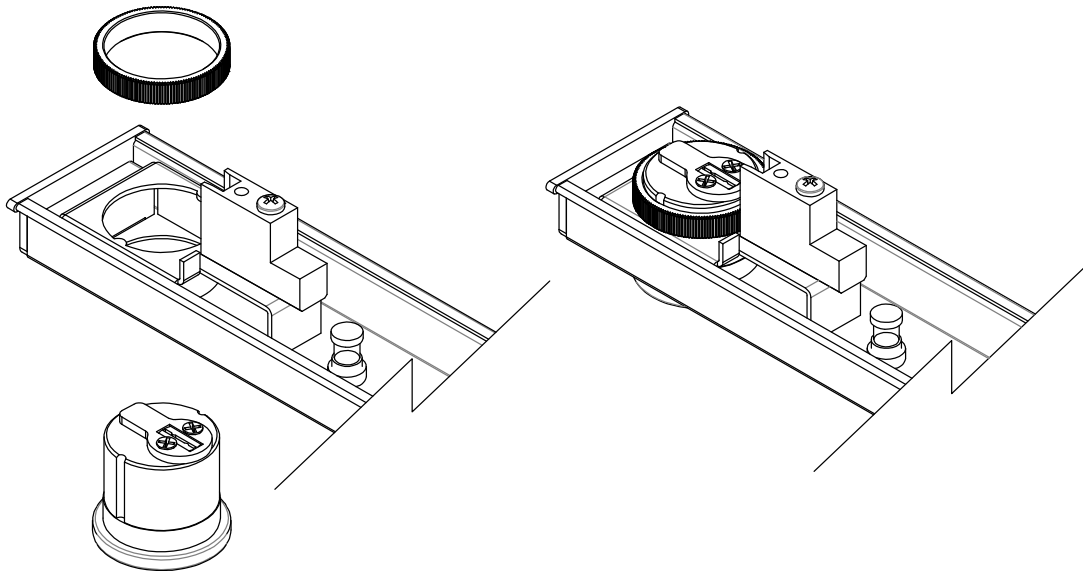
STATUS LED INDICATIONS

Status	Device Mode
OFF	No Power
GREEN (Solid)	Secure
YELLOW	Irreversible Delay in Progress
RED (Solid)	Alarmed & Unlocked
GREEN (Slow Flash)	Bypassed
GREEN (Fast Flash)	Authorized Unlock (REX)
RED (Fast Flash)	Alarmed, Unlocked, & Door Opened

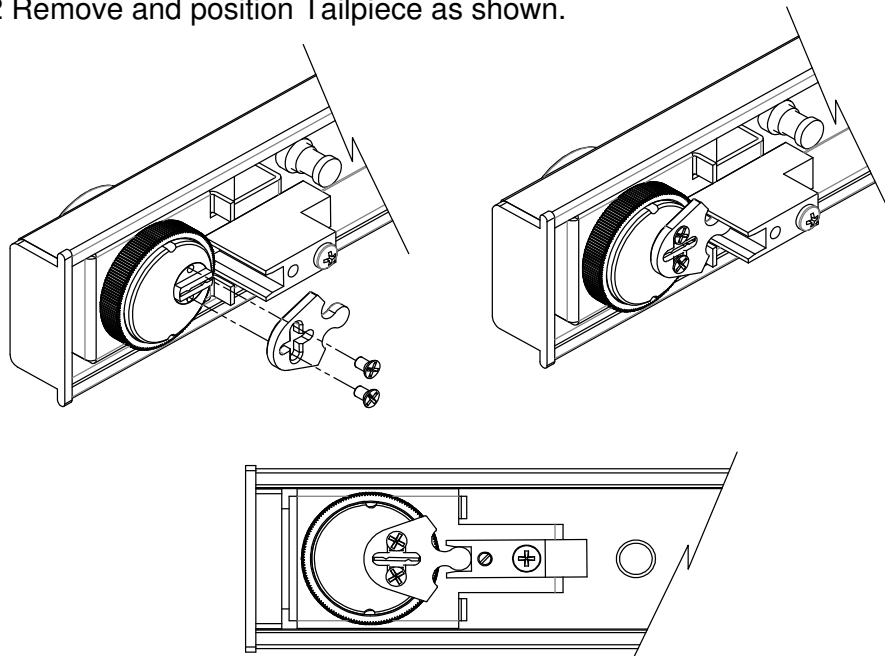
Use Hager 3978 Clover Tailpiece or equivalent.



1 Install Key Cylinder as shown and secure with locking nut provided.



2 Remove and position Tailpiece as shown.



3 Insert Key and check for proper operation.