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)

**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

**Code Compliance**
- IFC International fire Code
- IBC International Building 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.
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.

<table>
<thead>
<tr>
<th>Option Code</th>
<th>Delay Release Time</th>
<th>Nuisance Time</th>
<th>Reset after Alarm</th>
<th>Lock Status on Power-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>ND</td>
<td>15 sec Fixed</td>
<td>1 sec or 2 secSelectable</td>
<td>Manual</td>
<td>Locked or Unlocked Selectable</td>
</tr>
<tr>
<td>NH (AHU Approval)</td>
<td>30 sec Fixed</td>
<td>1 sec or 2 sec Selectable</td>
<td>Manual</td>
<td>Locked or Unlocked Selectable</td>
</tr>
<tr>
<td>NC (CBC Compliant)</td>
<td>15 sec Fixed</td>
<td>1 sec or 2 sec Selectable</td>
<td>Manual</td>
<td>Unlocked Fixed</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Option Code</th>
<th>Delay Release Time</th>
<th>Nuisance Time</th>
<th>Reset after Alarm</th>
<th>Lock Status on Power-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD</td>
<td>15 sec Fixed</td>
<td>1 sec or 2 sec Selectable</td>
<td>Auto/Manual</td>
<td>Locked or Unlocked Selectable</td>
</tr>
<tr>
<td>BH (AHU Approval)</td>
<td>30 sec Fixed</td>
<td>1 sec or 2 sec Selectable</td>
<td>Auto/Manual</td>
<td>Locked or Unlocked Selectable</td>
</tr>
<tr>
<td>BC</td>
<td>15 sec Fixed</td>
<td>0 sec Fixed</td>
<td>Auto/Manual</td>
<td>Locked or Unlocked Selectable</td>
</tr>
</tbody>
</table>
4501 On-Board Delayed Egress Installation Instructions

4501 OBDE RIM DEVICE

AC Mains → 2908 Power Supply → FACP

2 to 10 Conductors

DPS (Optional)

2 Left Pins = N/O
2 Right Pins = N/C

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

4501 OBDE SURFACE VERTICAL ROD DEVICE

AC Mains → 2909 Power Supply → FACP

2 to 10 Conductors

DPS (Optional)

2 Conductors

2 to 10 Conductors

4 Conductors

Power Transfer Device or Hinge

MONITOR RELAY JUMPER SETTINGS*

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

DIP SWITCH SETTINGS

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

[OFF] [ON]

1

2

3

4

PWR UP STATE

UNLOCKED

LOCKED

NUISANCE DELAY

1s

2s

15s

20s

30s

REX PERIOD

1s

Rev 1, Rev Date: 9/28/19

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HAGER COMPANIES 139 Victor Street, St. Louis, MO 63104 • (800) 325-9995
Device Wiring Pigtail

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

**Environmental:**
- **Max Operating Temperature:** 0°C to 70°C
- **Tested to 85% RH @30°C**
TYPICAL WIRING FOR SINGLE OR DOUBLE DOOR INSTALLATION

**NOTE:** Red & Blk pigtail wires are the minimum required connections.

---

**KEY CYLINDER INSTALLATION & OPERATION**

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.

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HAGER COMPANIES 139 Victor Street, St. Louis, MO 63104 • (800) 325-9995
**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

**NOTE**: 24VDC VOLTAGE CONFIGURATION

### STATUS LED INDICATIONS

<table>
<thead>
<tr>
<th>Status</th>
<th>Device Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>No Power</td>
</tr>
<tr>
<td>GREEN (Solid)</td>
<td>Secure</td>
</tr>
<tr>
<td>YELLOW</td>
<td>Irreversible Delay in Progress</td>
</tr>
<tr>
<td>RED (Solid)</td>
<td>Alarmed &amp; Unlocked</td>
</tr>
<tr>
<td>GREEN (Slow Flash)</td>
<td>Bypassed</td>
</tr>
<tr>
<td>GREEN (Fast Flash)</td>
<td>Authorized Unlock (REX)</td>
</tr>
<tr>
<td>RED (Fast Flash)</td>
<td>Alarmed, Unlocked, &amp; Door Opened</td>
</tr>
</tbody>
</table>

**Installation Note**: Cap any unused leads.

**24vdc @ .33 AMP**

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