OSDP Adapter Board

Adapter Board Install, OSDP Reader Setups and Wiring

▸ **COMPATIBLE HARDWARE:** Galaxy 635-DRM Board (Dual Reader Module)

▸ **SUPPORTED READERS:**

Farpointe CSR-6.2L/6.4L Rev2 > Reader Wiring
HID SIGNO > Reader Config & Wiring
Invixium > Reader Config & Wiring
Wavelynx Ethos > Reader Config & Wiring

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OVERVIEW OF THE OSDP ADAPTER BOARD

The 700 OSDP Adapter Board is compatible with the 635 DRM (Dual Reader Module).

- When a *700 OSDP Adapter Board* is attached to a DRM Board, then both sections of the DRM Board are designated to support OSDP Readers.
- If your system also has NON-OSDP readers, they must be connected to a separate DRM.

700 OSDP Adapter Board Compatibility and Functionality

- 700 OSDP Adapter Board is pre-flashed from the factory (ready to install; no addressing needed).

- 700 OSDP Adapter Board supports 2 OSDP Readers when attached to a 635-DRM board.

- 700 OSDP Adapter Board is compatible with the 635-DRM Board.

- OSDP Reader data is converted to Wiegand data.

- <u>**System Galaxy Reader Properties**</u>: set the Reader Type to Wiegand.

- <u>**System Galaxy Reader Properties**</u>: configure the LED as desired (high, low, strobe).
  The table below shows which Reader LED Behavior & Color will display at the reader, depending on which setting is chosen in the SG software Reader Properties.

READER PROPERTIES	READER LED BEHAVIOR	
DRM LED LINE	OSDP COMMAND	Color Value sent
Steady Low	Green (solid)	value = 2
Steady High	Red (solid)	value = 1
Strobe (blinking)	Green / Black (off) (blinking green)	value = 2+0

OSDP ADAPTER BOARD – COMPONENT LAYOUT

This section provides a list of the important board components.

BOARD COMPONENTS

J1 – RS-485 / OSDP Reader Connector (4-pin; RS-485 2-wire protocol) for Section-1 reader port.

J2 – RS-485 / OSDP Reader Connector (4-pin; RS-485 2-wire protocol) for Section-2 reader port.

J3/J4 – Factory and Console programming ports, respectively (6-pin; factory use only).

J5/J6 – 5-Pin Reader Connector header pins for connecting/mounting Adapter to the DRM Reader ports.

SW1 – Reset Switch

LED1 (Green) – Indicator for Section-1/Reader-1
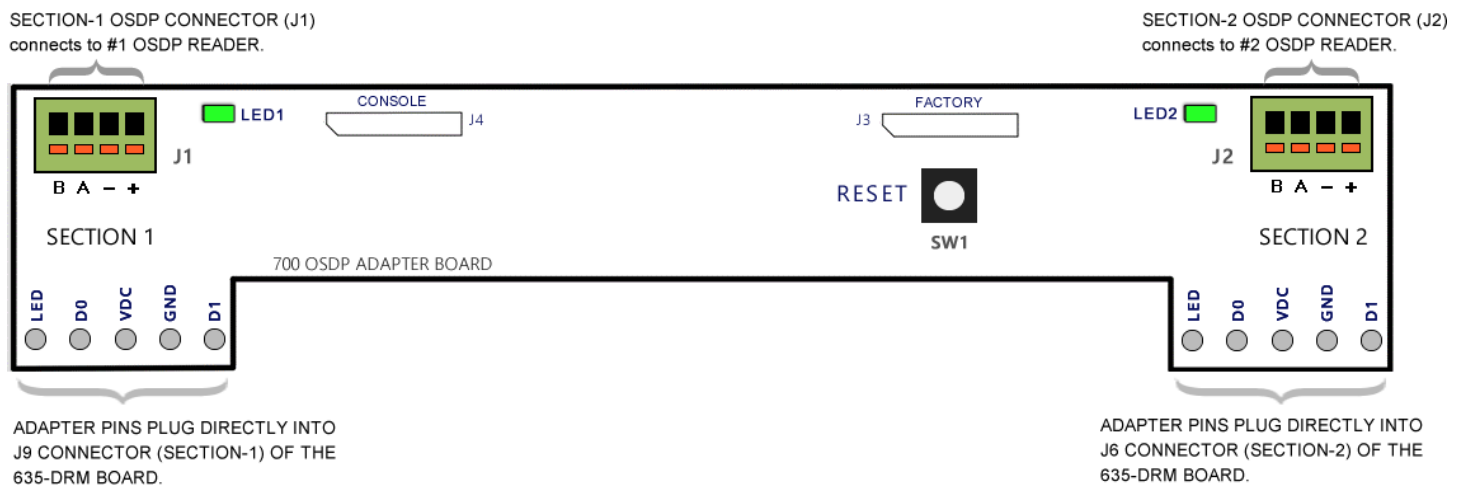
LED2 (Green) – Indicator for Section-2/Reader-2

LED STATES
Fast Blink = communication is occurring
Slow Blink = no communication, (Adapter Board is Powered ON)

Figure 1 – Component Layout of the 700 OSDP Adapter Board

INSTALLING 700 OSDP ADAPTER BOARD

The 700 OSDP Adapter Board must be attached to a 635-DRM (Dual Reader Module) at the 5-pin connector pins on the Adapter Board. The Galaxy Controller will convert the OSDP Reader data to Wiegand data.

PREREQUISITES

- The 635 Controller must be installed and flashed/programmed, up and running and connected to System Galaxy Event Server.
- The 635-DRM Board must already be installed, addressed, flashed and actively communicating. You should be able to see the DRM Board in the System Galaxy Controller Programming screen.
- The System Galaxy Reader Property for the Reader Type must be configured as Wiegand
- System Galaxy Reader Property for the Reader LED Behavior can be configured = low (solid green), high(solid red) , strobe (blinking green).

NEW INSTALL STEPS

1. If the 635 DRM Board is not already installed, you must set the Board Address Number using the dipswitch to a valid number (1 thru 16 is valid; must be unique with the panel).
2. Install the 635-DRM Board into the Controller Cabinet.
3. (DRM J9 and J6) Unplug both *orange connectors* from the 635-DRM Board Reader Connectors.
4. (DRM J9 and J6) Loosen the *contact screws* on the positions labeled **LED**, **D0**, **VDC**, **GND**, **D1**.
5. Attach both *orange connectors* onto the 5-pins of the OSDP Adapter Board. Make sure you correctly align the contact positions – LED to LED; D0 to D0; VDC to VDC; GND to GND; D1 to D1.
6. Tighten all 5 contact screws for LED, D0, VDC, GND, and D1 on both reader connectors. The Orange Connectors should be securely attached to the 5 metal pins of the Adapter Board
7. Plug in the orange connectors to the DRM Board. This attaches the 700 Adapter Board to the DRM.

    - Adapter Board Section-1 should be plugged into Section-1 of the DRM Board (J9)

    - Adapter Board Section-2 should be plugged into Section-2 of the DRM Board (J6)

    IMPORTANT: Make sure the Adapter Board pins are securely attached to the orange connectors. And make sure the orange connectors are fully seated in the DRM Board.

Figure 2 –700 OSDP Adapter Board as viewed when attached to the 635-DRM Board's orange connectors (edge view)
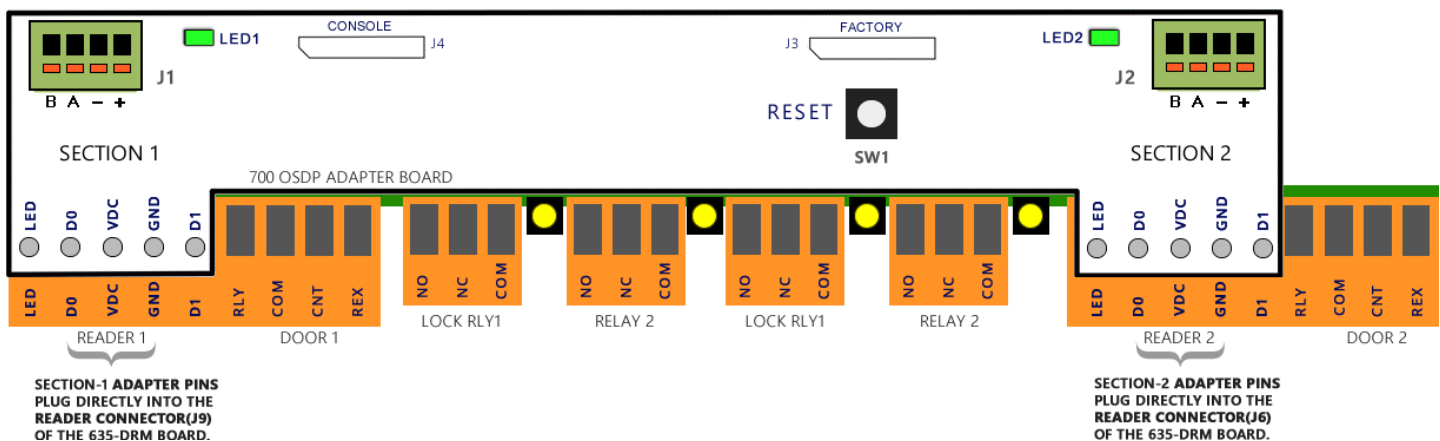
CONFIGURING HID SIGNO READER

Configuring the HID OSDP Reader is done using the HID Reader Manager app.

REQUIREMENTS:

- You must download the HID Reader Manager App (Mobile App) from Apple Store or Google Play.
- Create your user login credentials, as required.
- It is recommended that you preconfigure the HID OSPD Reader before you install it.

STEPS:

1. Launch the HID Reader Manager App and sign in as required.

2. Choose the [Scan for Readers] option.
   RESULT: A list of mobile-enabled/mobile-ready readers will appear on the app screen.

3. Select the correct reader from the reader list.

4. Choose the [Inspect] option.

5. Choose the [Detailed Configuration] option.
   NOTE: The mobile app may prompt you to power cycle your Reader. Follow the instructions displayed.

6. Configure the reader type/protocol …

   Figure 3 – HID Mobile App: Reader Configuration screens

   a. Select [**Communication Protocol**]

   b. Enable (turn on) the OSDP option.

   c. Set Compliance to "V2"

   d. Set the Address = "00"

   e. Set the Mode to "Install"

   f. Set Baud Rate = "9600"
      Parity = None
      Stop Bit = One

   g. Tap [**Add to Template**] button

   h. Tap the *Back Arrow* (top of screen).

   i. Tap [**Apply Selected Items**] button.
      (Do not click the *Save to a Template* button.)
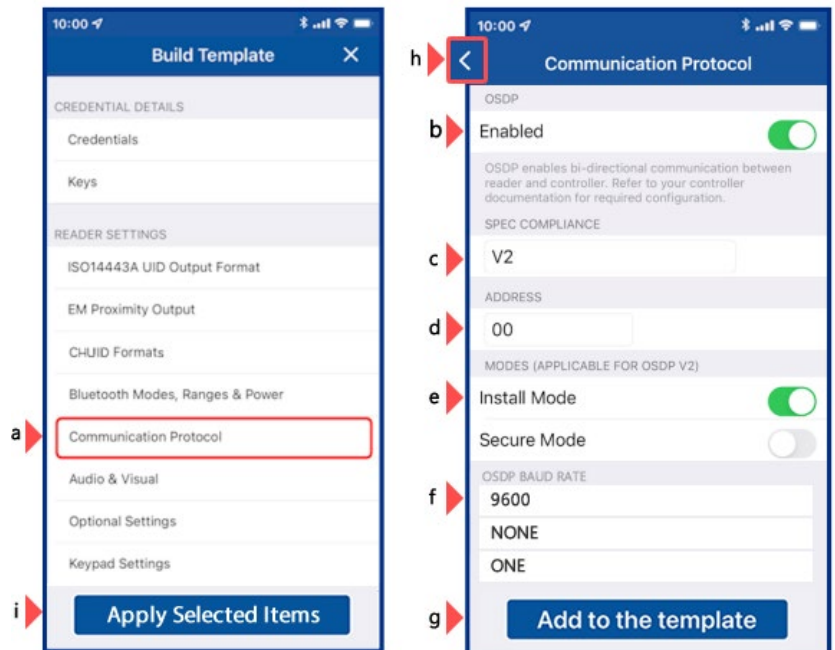
CONFIGURING WAVELYNX ETHOS READER

The **Wavelynx ETHOS Reader** should come factory defaulted to the "**OSDP Auto-Detect mode**", which means the reader can detect and negotiate the OSDP connection during its initial startup sequence.

TERMS

TERMINOLOGY	DEFINITION
AV Behavior	*AV Behavior* means the **'audio/visual signals'** that happen during *start-up* or *operation* – basically it is the sequence of beeps & LED blinks that the reader makes when it powers-up or when it reads an access card or credential. (Note: the LED blinks in different colors to signal specific states or configuration).
Standard Behavior	*Standard Behavior* means the 'operating behavior' at **(a)** *startup sequence* (beeps & LED blinks signal configuration/capabilities); and **(b)** *response to access credential scans* (beeps & LED response).
Startup sequence	*Startup Sequence* refers to the **AV Behavior** (pattern of beeps & blinks).when the reader is powered on. NOTICE: the *startup sequence* at the *initial startup* is different than the *startup sequence* at a **normal startup.** *When you are installing, you need to pay attention to the startup sequence beeps/blinks when the reader powers-up – because this signals which <u>operating mode</u> the reader is set for.*
Initial Startup	*Initial Startup* (first-time power-up) occurs when power is applied to the reader for the first time. During *initial startup* the reader will display a specific sequence of Beeps and LED Blinks that signal the *compatible card technologies* and the *default output mode*. The default factory *output mode* should be Auto-Detect mode as long as data lines have not been connected.
Normal Startup	*Normal Startup* is any power-up that occurs after the initial startup negotiation has happened.

REQUIREMENTS (factory default)

- Ethos Readers should be in **OSDP Auto-Detect Mode** so they auto-negotiate the OSDP Connection.
- Ethos Keypad Reader should be configured for **8-bit burst** .
- Wavelynx Ethos Reader Guide explains the AV Behaviors (beeps/blinks + colors) on their webpage - https://support.wavelynx.com/en_US/how-tos/technical-guide-on-ethos-readers

INITIAL STARUP PROCESS (Confirm the Reader is in Auto-Detect Mode)

Best practice: Precheck that the reader is in auto_detect.mode **BEFORE** you connect data lines. If the reader is not in auto-detect mode, you may need to reconfigure the reader.

1. (test-bench precheck) <u>Do not connect data lines.</u> **Only connect power** (Red = +12vdc; Black = ground).

2. **POWER-ON the reader and watch the AV Behavior** during the initial startup sequence.

> **EXPECTED BEHAVIOR: the LED signals will identify (A) *supported technologies* and (B) *output mode*.**
> **(A)** <u>Supported Technology</u>: reader will make 1 Beep/1 Blink for each technology type supported …
> - **BLUE** ✴ = 4.0 Hardware Only
> - **RED** ✴ = Mobile credential   ← **Expected Reader AV Behavior = all types**
> - **GREEN** ✴ = 13.56 MHz Smart Cards (HF)   (if reader was purchased from Galaxy)
> - **AMBER** ✴ = 125 kHz Prox (LF)
>
> **(B)** <u>Output Mode</u>: reader should signal Auto-Detect Mode (factory default) …
> - **1 BEEP/1 RED** ✴ = Wiegand Only Mode (reader needs to be re-flashed)
> - **2 BEEPS/2 GREEN** ✴✴ = OSDP Only Mode (may need re-flashing if card cannot be read).
> - **4 BEEPS/4 GREEN** ✴✴✴✴ = OSDP AUTO-DETECT MODE ← **Expected AV Behavior**
>
> ↻   Continue to the *next page* to see the next steps, based on actual results …

3. **IF ETHOS Reader is in 'OSDP Auto-Detect' Mode:** you can install and connect power & data lines to 700 OSDP Adapter Board as shown below.

Wavelynx ETHOS OSDP
VDC - Red
GND - Black
A - Green
B - White
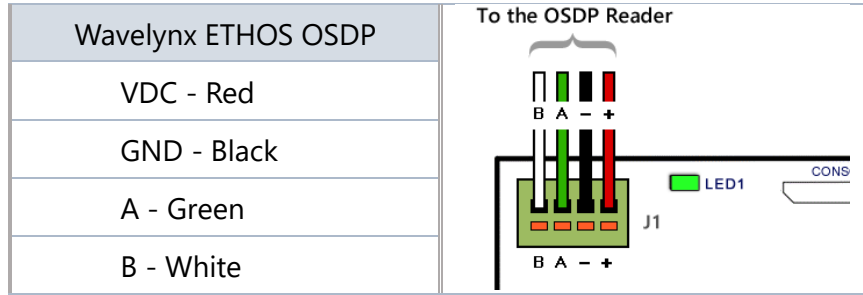
4. **The ETHOS Reader will negotiate the OSDP handshake.**
   RESULT: the reader should read the test card and get a *Valid Access* or *Not In System*.

5. **Reset the Reader power and observe the startup sequence to confirm the output mode**
   RESULT: Reader *startup sequence* should indicate = '**OSDP Only' mode 2 BEEPS/GREEN** ✶✶

6. The ETHOS Reader should operate correctly (read cards correctly) and permanently stay in OSDP Mode.

OTHER INDICATIONS …

7. **IF the reader *does not* read cards correctly** or **indicates the wrong output mode**, it must be re-flashed using the Wavelynx Configure App:
   (A) **Download Mobile App**: search for "**Configure by Wavelynx**" (Apple Store/Google Play)
       NOTE: the *Configure App* product-info page = https://wavelynx.com/products/configure
   (B) **Download/print instructions** for setting up the *Configure App* is on > Configure Experience
       https://cdn.prod.website-files.com/636bab7113f591561b9fe799/678570f7a52f074ae55446d1_Configure Experience (2).pdf
   (C) **Contact authorized tech support** for the *correct key code*.

8. **For WAVELYNX KEYPAD READERS,** the configuration must be set up for **8-bit Burst**.
   a. Power-up the reader (it should beep/blink twice to indicate OSDP Mode)
   b. within 1 minute of power-up, **enter *88889999** (the keypad config code)
   c. the reader will signal **3 BEEPS/3 GREEN LED FLASHES** ✶✶✶
   d. within 2 seconds of entering the keypad code, **enter *8** (for 8-bit burst)
   e. the reader will signal **3 BEEPS/3 GREEN LED FLASHES** ✶✶✶ (mode is set)

   KEYPAD OPERATION:
   - The keypad accepts PIN numbers that are up to 5-digits (not to exceed 65535).
   - Press **#** to send the PIN number.

CONFIGURING FARPOINTE OSDP READER (CSR-6.2L / 6.4L Rev2)

Galaxy supports Farpointe OSDP CSR 6.2L and CSR 6.4L models which include a keypad.

Go to the following *Install section* for the complete wiring and install information for this Farpointe ODSP Reader.

The reader should work from the factory defaults ...

Farpointe CSR-6.2L Rev2
VDC - Red
GND - Black
A - Green
B - White
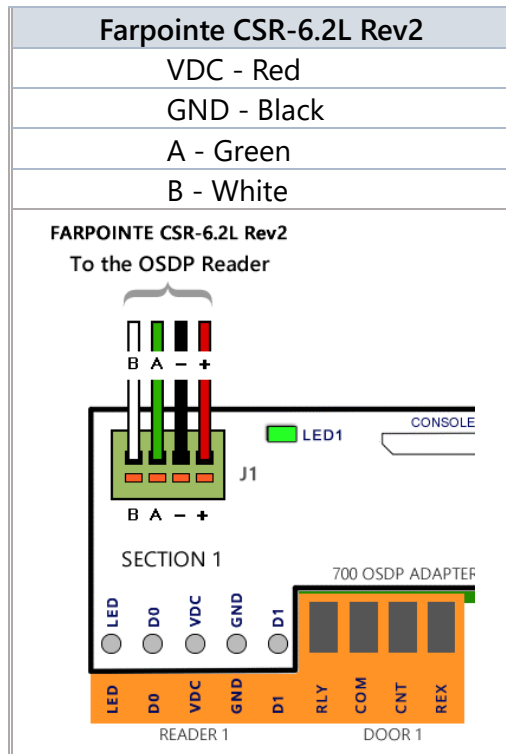
Invixium Reader with Galaxy OSDP Adapter

Requirements

- Reader Power Supply Ground can be bonded to Controller Power Supply Ground
- If using Poe for Power check with Reader manufacture documentation.

Invixium Reader Wiring

Using the *bottom connector* on the Invixium Reader, land reader wiring to the contacts on the OSDP Adapter as shown in table below...

Invixium (Bottom Connector)	OSDP Adapter Board
Red (+12VDC)	*use a separate power supply*
Black (- Ground)	*use a separate power supply*
Blue RS485 +	A
Blue/Black RS485 -	B

Invixium Communication and LED Configuration

1. Select the **OSDP option** on the Access Control tab of Invixium Devices page.
2. **Comm Settings** = Baud Rate9600; Parity None; Stop Bit1; Timeout 3000 msec.
3. **Security Key Type** = AES128
4. **OSDP Events** = Configure LED Behavior as follows ...

EVENTS	ON COLOR	OFF COLOR	ON TIME	OFF TIME	DISPLAY
Access Granted	RED	RED	100 msec	100 msec	☑
Access Denied	GREEN	GREEN	100 msec	100 msec	☑
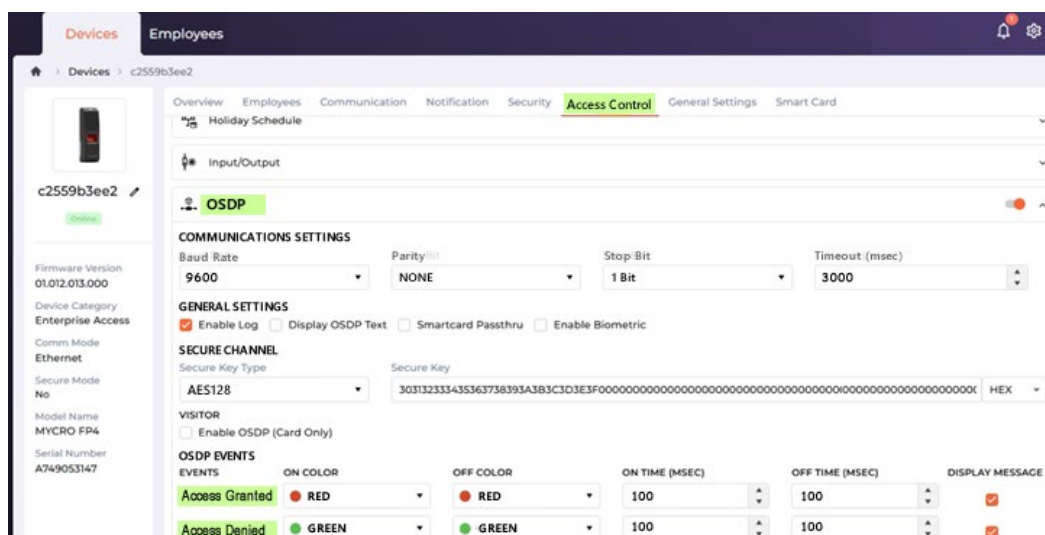
Invixium Software: Device Page/Access Control Settings tab

Continue to next page ...

Galaxy Recommendation for LED Settings for Invixium

The Door Lock state (lock/unlock) drives the LED behavior, which is configurable in the Galaxy *Cluster Properties screen*, LED Options tab.

- The LED Settings apply to all readers on the same Cluster.
- When the Door Lock changes state, the Reader LED will follow the assigned behavior.

NOTICE: Be aware that the 'Strobe' setting will cause the Invixium reader to activate its piezoelectric buzzer. And the reader will continue resounding the piezoelectric buzzer until the lock state changes.

1. From the SG Menu: **Configure > Hardware > 600/635 Hardware**
2. Click the **Edit button** and pick the **Cluster Name** that the Invixium Readers belong to
3. On the **LED Options** tab set the *LED Behaviors* using table below ...
4. Click the **Apply button** to save LED Settings.

"When Door is Locked"	"When Door is Unlocked"
Steady Low	Steady High (recommended)

System Galaxy: Cluster Properties/LED Settings

FIELD INSTALLATION: WIRING OSDP READERS

The *700 OSDP Adapter Board* supports 2 OSDP Readers connected to the RS485 Connectors at J1 and J2.

REQUIREMENTS:

- The OSDP Adapter Board is compatible with the 635-DRM Dual Reader Module
- It is recommended that you preconfigure the OSPD Reader before you install it. See the previous sections for configuration instructions.
- Other readers should come in auto-detect or already configured to OSDP ONLY mode.

STEPS:

1. Wire the **OSDP Reader** to the 700-Adapter Board at the RS485 Connector (J1 or J2).

   Notice the wire colors are different depending on which brand of reader you are installing.

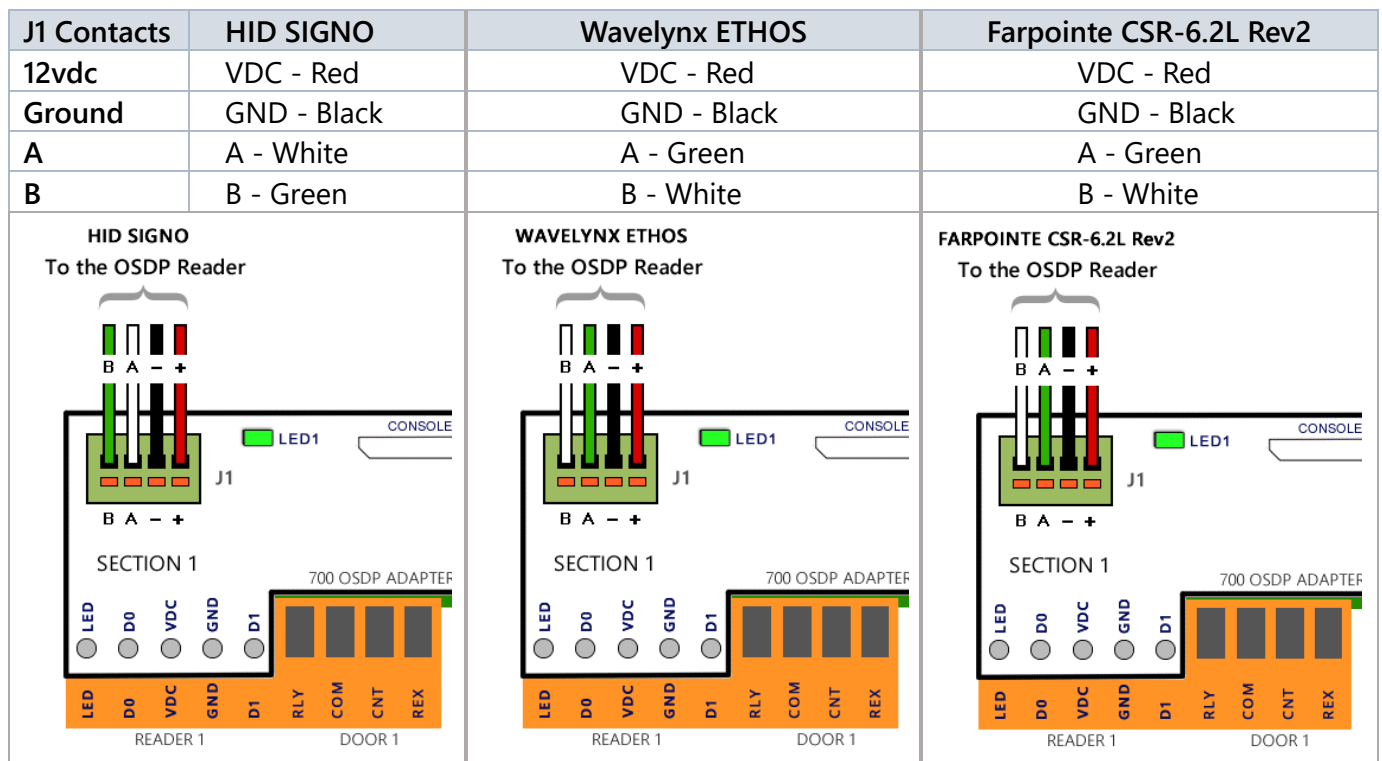| J1 Contacts	HID SIGNO	Wavelynx ETHOS	Farpointe CSR-6.2L Rev2
12vdc	VDC - Red	VDC - Red	VDC - Red
Ground	GND - Black	GND - Black	GND - Black
A	A - White	A - Green	A - Green
B	B - Green	B - White	B - White

Diagram (above) shows *Reader Wiring Pinout* to the OSDP Adapter Board, RS485 Connector (J1/Section1). The Section-1 contact pins of the Adapter Board are plugged into the Reader-1 Orange Connector on 635-DRM.

2. On the 700 Adapter Board, the **Green LED** should be blinking when the reader is connected and has been correctly programmed. The Green LED is located beside the RS485 Connector (J1 or J2).
   NOTE: If the LED is solid/ON, the board has power, but RS-485 communication is not happening.

3. You can present a **Valid Test Card** to the OSDP Reader to verify that the board is reading the card, and that the access event is logged to the Event Screen, and that the door unlocks, if appropriate.
   NOTE: The door will unlock based on *access privileges* assigned to the test card during enrollment.