SFP+
SFP28

XFP

QSFP+
QSFP28

FS-BOX-V3
**FIRMWARE UPGRADE TOOL KIT**
Quick Start Guide V3.0

# 1 Introduction

FS Box V3 only works with FS transceivers & DAC/AOC cables. It is designed to solve real-time compatibility needs, wavelength tuning for tunable transceiver and upgrade the transceiver firmware in data center. With its instant online platform fsbox.com and a wide range of configuration choices, FS Box V3 could help engineers configure in a timely and effective way.
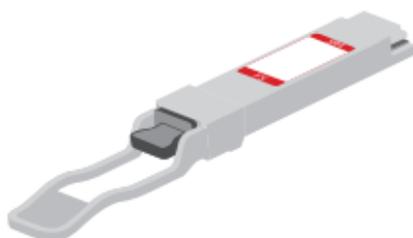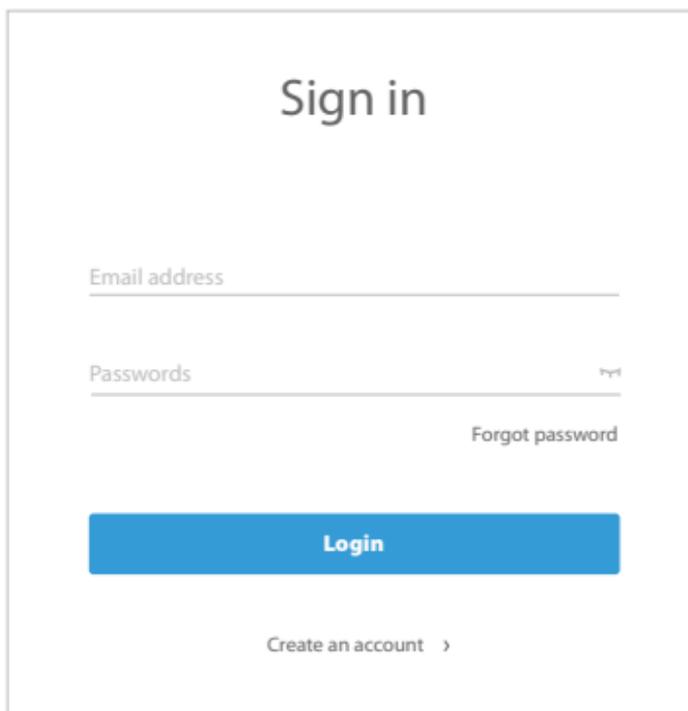


SFP+/SFP28

XFP
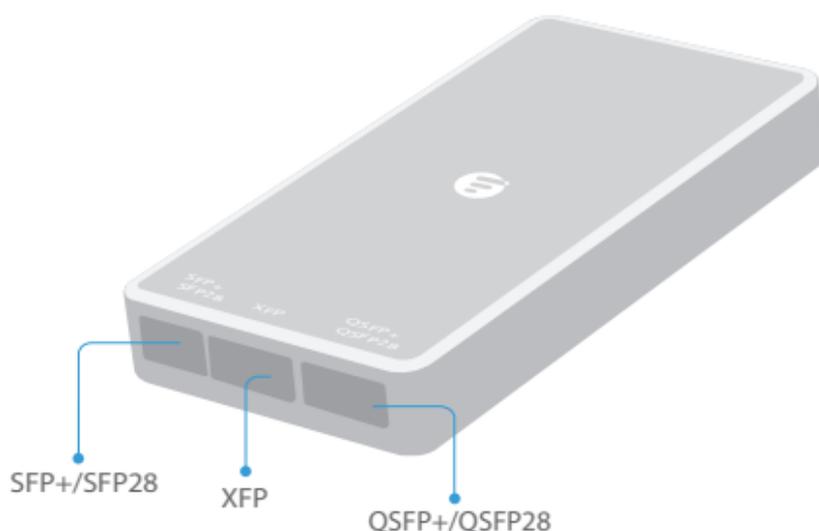
QSFP+/QSFP28

# 2 Supported Transceiver Type
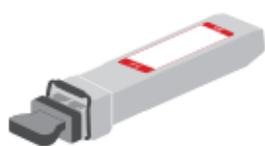


SFP+/SFP28

XFP



QSFP+/QSFP28

# 3 Operation Instructions

## 〈1〉Login Operation

Step 1: Go to fsbox.com.

Step 2: Log in with your FS accoumt.



Step 3: Download and install the driver.
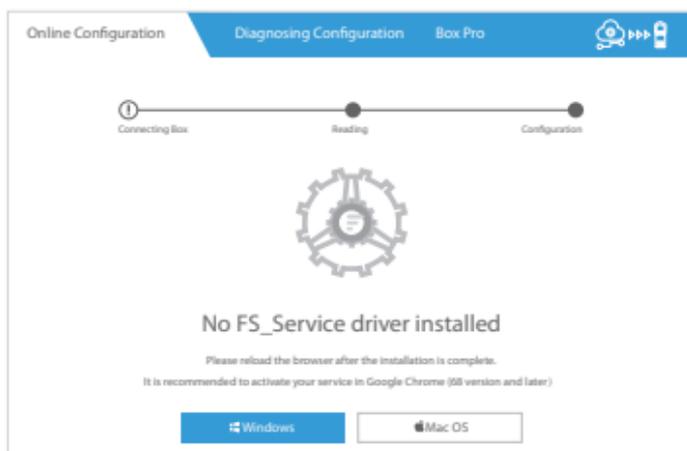


↓ You can download the driver on the home page or after signing in.

⊗ If you don't have an account, click Create an account to create one.

❗ It is recommended to activate your service in Google Chrome
   (68 version and later)

**Install MacOS Driver**

Step 1: After downloading the driver, double-click the driver file FSInstall_ Mac_Beta.dmg.

Step 2: Long click the FS Box and drag to the Application folder.

FS Box                                    Application

Step 3: Find the FS Box application on the Launchpad, then double-click it and a system pop-up prompt will appear, click Open.

Step 4: Status displays in green means that the driver is successfully installed and activated normally.

| ● ● ●          FS Box            |          |
|----------------------------------|----------|
| **⑤FS** \| FS Box               |          |
| Status                           | ●        |
| Driver Version                   | V1.0.0.0 (Beta) |
| Program Version                  | V1.0.0   |
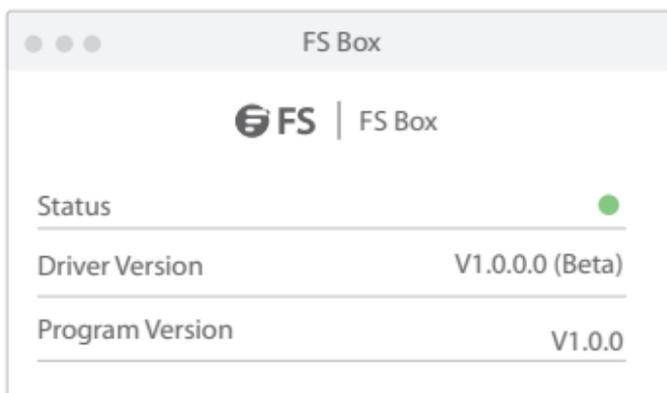
**Install Windows driver**

Step 1: After downloading the driver, double-click the driver file FSInstaller for installation.

Step 2: FS service will be automatically activated when the driver is installed, and you can check the FS logo in the notification bar.

If FS service is not automatically activated, just reload the browser.

## 〈2〉 Online Configuration Service

If you only need to reconfigure the compatibility of optics, please operate as follow.



Step 1: Connect FS Box to your computer and insert your transceiver into corresponding port of FS Box. After successful insertion, the indicator of FS Box will be blinking.

Step 2: Choose the compatible brand and click Start Configuration.

| Brand Juniper | S/N F123456793 | P/N QSFP28-LR4-100G |
| --- | --- | --- |

P/N*

QSFP28-LR4-100G ⌄

Brand*

Please choose ⌃

| Cisco | Juniper | Arista | H3C |
| --- | --- | --- | --- |
| DELL (Force 10) | Brocade | Intel | IBM |
| Huawei | Netgear | Extreme | Alcatel-Lucent |
| Generic | Mellanox | | |

If you need to change more brands for compatibility, please go to 'Box Pro' for custom application

Revise S/N ❓                                        ⦿ Yes  ⭕ No

Serial number

Please filling

Batch Configuration ❓                                            ◯⟶

**Start Configuration**

❗ Some special brands or special transceiver types do not support revise serial number in Online Configuration, and the Yes and No buttons can not be clicked. In this case, you need to apply in Box Pro.

❗ If you need to reconfigure multiple transceivers to same compatible brand, you can turn on the Batch Configuration button, then follow the the prompts to insert and remove the transceivers one by one. And if you want to stop batch configuration, turn off the button after configuration succeeds.

Step 3: Configuration succeeds, then pull out the transceiver.
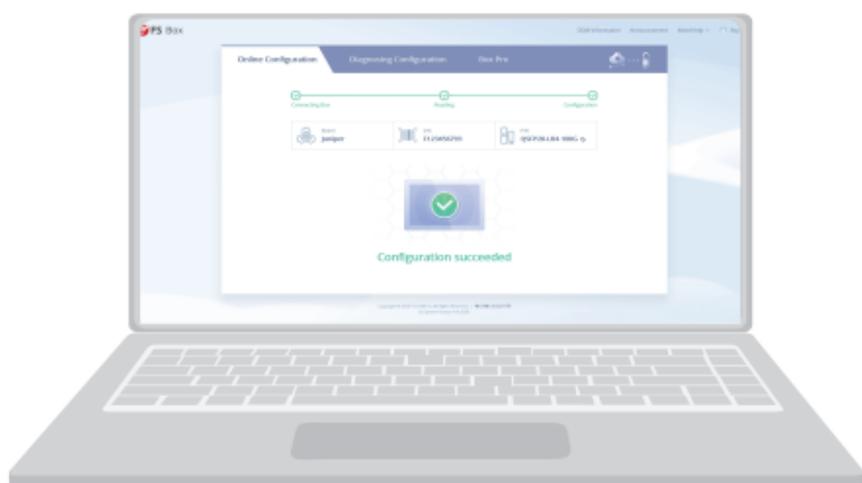


### ⟨3⟩ Wavelength Tuning

If you need to configure channels for tunable transceivers, please operate as follow.

Step 1: Connect FS Box to your computer and insert your tunable transceiver into the corresponding port of FS Box. The platform can quickly identify it. Then choose the P/N of the transceiver, and click the eidt icon under the wavelength.

Step 2: Choose the wavelength and click Apply.

### Changing wavelength

×

Wavelength:

CH21 (1560.61nm)

Tunable wavelength:

CH19.5 (1561.83nm) ⌄

[ Cancel ]  [ Apply ]

Step 3: You can check the updated wavelength and status after configuration succeeds.

### Changing wavelength

×

Wavelength:

CH19.5 (1561.83nm)

Tunable wavelength:

Please choose ⌄

[ ✓ Changed ]  [ Apply ]

### 〈4〉 **Diagnosing Configuration Service**

If you need to solve compatibility issues with your problematic optics after the sale, please operate as follow.
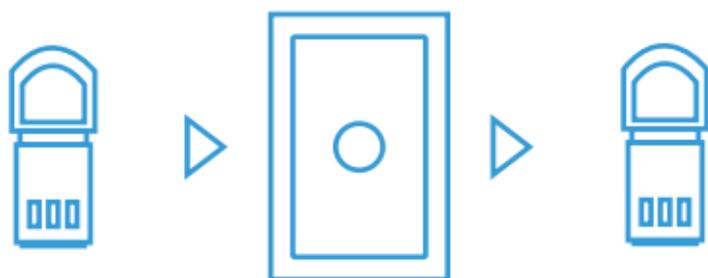


Step 1: Connect FS Box to your computer and insert an identical transceiver that works well into the corresponding port of FS Box.

Step 2: Choose the compatible brand of the identical transceiver, and fill in the device model number which the transceiver will be used, then click Start Diagnosing.

| Brand Juniper | S/N A1930005081 | P/N QSFP-IR4-40G |
|---|---|---|

[Available FS Transceiver Informaion]

P/N*

QSFP-IR4-40G

Compatible Brand*

Juniper

S/N*

A1930005081

More Information ❓

Device Model Number

JU EX4300-48P

Remark

Please filling

Save the information to my Configuration

Start Diagnosing

Step 3: Remove the identical transceiver and insert your problematic FS transceiver after diagnosing succeeds.
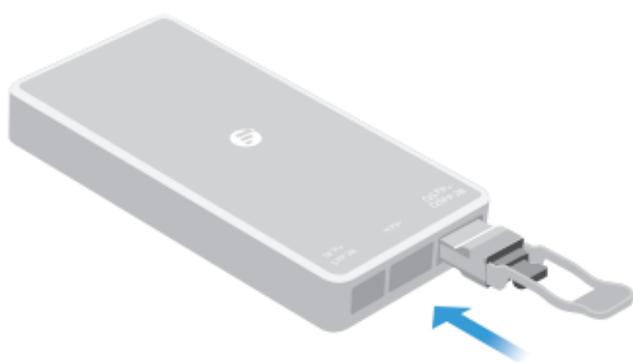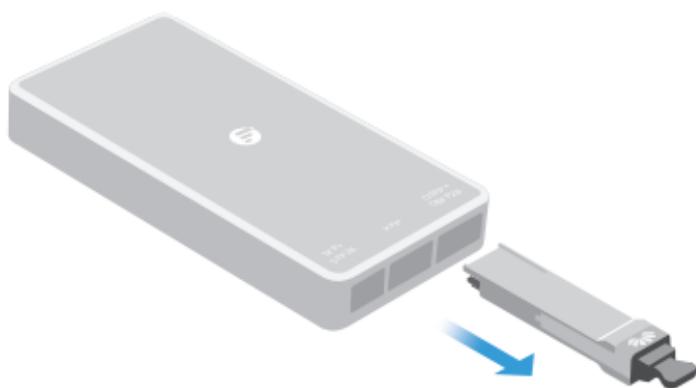
Step 4: Click Start Matching after the transceiver is replaced.

| Brand<br>Juniper | S/N<br>Y203000429 | P/N<br>QSFP-IR4-40G |
|---|---|---|

[ Available FS Transceiver Informaion ] ➕

[ Problematic FS Transceiver Information ]

P/N*

QSFP-IR4-40G

Revise S/N ❓ ⚪ Yes ⚫ No

Batch Matching ❓ ⬜

**Start Matching**

Step 5: Matching succeeds, then pull out the transceiver.
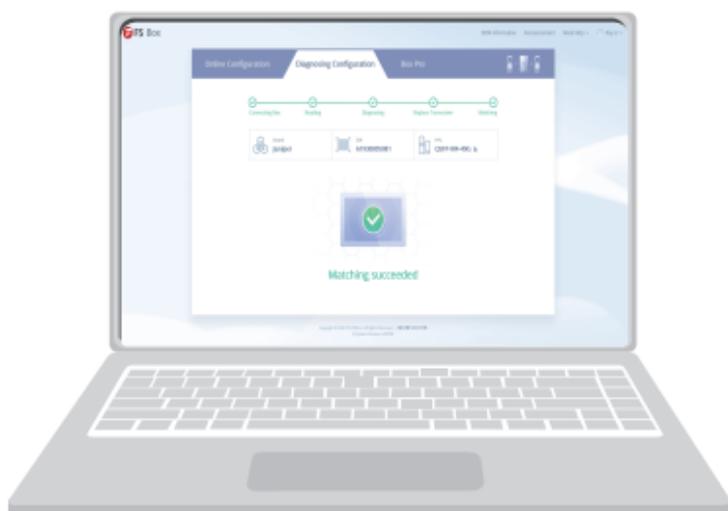
## ⟨5⟩ Box Pro Service

If you need to reconfigure part number of your optics or need to custom compatibility, please operate as follow.



**Application Steps**

Step 1: Enter Box Pro service and click Request Configuration.

Transceiver information ❓                                                    ➕

Available Configuration

| Batch Configuration ❓ | Request Configuration |

S/N ▾  | Please filling 🔍

Step 2: Locate the order in which the optics you need to reconfigure. Then choose the optics and click Apply.

My Orders    My Applications           ◄——— return

| Apply |

Order NO ▾  | Please filling Order NO 🔍

Order No/Date: FS200907001174 / 2020-09-07 00:29:27                    ⌄

| ☐ Product ID | Description | P/N | Qty | Brand | Vendor Name | Action |
|---|---|---|---|---|---|---|
| ☐ 36157 | Cisco QSFP-40G-SR4 Compatible 40GBASE-SR4 QSFP+ 850nm 150m MTP/MPO DOM Transceiver Module | QSFP-SR4-40G | 1 | - - - | | Details |

Order No/Date: FS200906001169 / 2020-09-06 23:34:23                    ⌄

Total 4 items  1  10/page ▾  Go to  Page

Step 3: Fill the configuration details you need to custom and click Submit.

ⓘ You will receive the auditing result of your application in 1 to 3 business days.

<div align="center">Apply</div>

← return

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Application Information

| Description: Cisco QSFP-40G-SR4 Compatible 40GBASE-SR4 QSFP+ 850nm 150m MTP/MPO DOM Transceiver Module | | | ⌄ |
|---|---|---|---|
| Product ID: #36157 | P/N: QSFP-SR4-40G | Qty: 1 | |
| Wavelength: | Max Cable Distance: | Interface: | |

Configuration Details                                                                 ➕ Add

| Compatible brands* | Vendor Name* | P/N* | S/N* | Qty* | Switch Information ( P/N, OS, Version ) | Action |
|---|---|---|---|---|---|---|
| Juniper | FS ❯ | QSFP-SR4-40G | S20200914001 | 1 | Please filling | 🗑 |

Application Note

| Please Input |
|---|

**Submit**

ⓘ If you need more than one configuration brand for your optics, you could add more but less than three at a time.

Step 4: Check application status and configuration details in My Applications.

Please filling Order No 🔍

| # | Order No | Application No | Application Note | Application/Audit Date | Status | Action |
|---|----------|---------------|------------------|------------------------|--------|--------|
| 1 | FS200907001174 | W1597223550548 | no note | 【Application Date】2020-09-07 12:32:43 | Unaudited | Details Cancel |

**Configuration Steps**

Step 1: Connect FS Box to your computer and insert corresponding transceiver into corresponding port.

Step 2: Locate the application which is approved and click Configuration.

Available Configuration

Batch Configuration ?    Request Configuration    S/N ∨  Please filling 🔍

Application No/Date: W1597223550548 / 2020-09-07 12:32:43    Order No: FS200907001174    ∧

| | Product ID | P/N | Brand | Vendor Name | Attribute | New S/N | Application Note | Action |
|---|-----------|-----|-------|-------------|-----------|---------|------------------|--------|
| ☑ | #36157 | QSFP-SR4-40G | Juniper | FS | 850nm | PO001234567890 | this is application note | Configuration |

Step 3: After configuration succeeds, you can check the updated information in the reading column. Then pull out the transceiver.

**Batch Configuration Steps**

a. If you need to configure the same type configurations in large amounts, please operate as follow.

Step 1: Connect FS Box to your computer and insert corresponding transceiver into corresponding port.

Step 2: Select the application which is approved and click Batch Configuration.

## Transcceiver information ?

Available Configuration

**Batch Configuration ?**   Request Configuration

S/N ▾ | Please filling 🔍

| Application No/Date: W1600398462915 / 2020-09-18 03:08:47 | | | | | Order No: FS190813415903 | ⌃ |
|---|---|---|---|---|---|---|
| ☑ Product ID  P/N | Brand | Vendor Name | Attribute | New S/N | Application Note | Action |
| ☑ #1155Z   SFP-10GSR-85 | Cisco | FS | 850nm | PO001234567891 | this is application note | Configuration |

Step 3: Click Start Configuration, then insert and remove your transceivers
one by one.

Transceiver information                                            ×

◯————————————◯————————————◯
Connecting Box                    Reading                    Configuration

| 🔗 Brand | ▥ S/N  PO001234567891 | 🔲 P/N  SFP-10GSR-85 |

| No | P/N | Brand | New S/N | Status |
|---|---|---|---|---|
| 1/1 | SFP-10GSR-85 | Cisco | PO001234567891 | Waiting |

**Start Batch Configuration**

⚠ If you want to stop the batch configuration, just click Stop Batch
Configuration after configuration succeeds.

b. If you need to configure multiple types of configurations, please operate
as follow.

Step 1: Connect FS Box to your computer and insert corresponding transceiver into corresponding port.

Step 2: Select the applications which are approved and click Batch Configuration.

Transceiver information ❓ ➕

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Available Configuration

**Batch Configuration** ❓   Request Configuration     S/N ⌄ | Please filling 🔍

| | Application No/Date: W1600159540653 / 2020-09-15 08:49:58 | | | | Order No: FS200906001169 | | ⌃ |
|---|---|---|---|---|---|---|---|
| | Product ID | P/N | Brand | Vendor Name | Attribute | New S/N | Application Note | Action |
| ☑ | #31238 | SFP-10GSR-85 | Cisco | FS | 850nm | PO001234567892 | this is application note | Configuration |
| ☑ | #31287 | SFP-10GSR-85 | Juniper | FS | 850nm | PO001234567893 | this is application note | Configuration |

Step 3: Click Start Configuration, and the system will continue to configure according to the selected order. You just need to insert and remove your transceivers.



Transceiver information    ✕

◯──────────────◯──────────────①
Connecting Box    Reading    Configuration

| 🔵 Brand | ▯▯▯▯ S/N PO001234567892 | P/N SFP-10GSR-85 |

| No | P/N | Brand | New S/N | Status |
|---|---|---|---|---|
| 1/2 | SFP-10GSR-85 | Cisco | PO001234567892 | Waiting |
| 2/2 | SFP-10GSR-85 | Juniper | PO001234567893 | Waiting |

**Start Batch Configuration**

### ⟨6⟩ DDM Information

Connect FS Box and insert your transceiver, and then you can click "DDM Information" in the top right corner of the page to check the status of the transceiver.

It will show voltage, temperature and bias-current values in combination with time based continuous chart for transmit and receive levels.

| | DDM Information | ⟵ Return |
|---|---|---|

✴ TX Normal    ✴ RX Normal       Frequency 3s ⌄   Testing ⬤▭   ⤓



Temperature
32.28°C

Transmit power
-2.50dBm

Voltage
3.12v

Receive power
-2.50dBm -8.19dBm
-2.50dBm -10.08dBm

Bias current
45.01mA
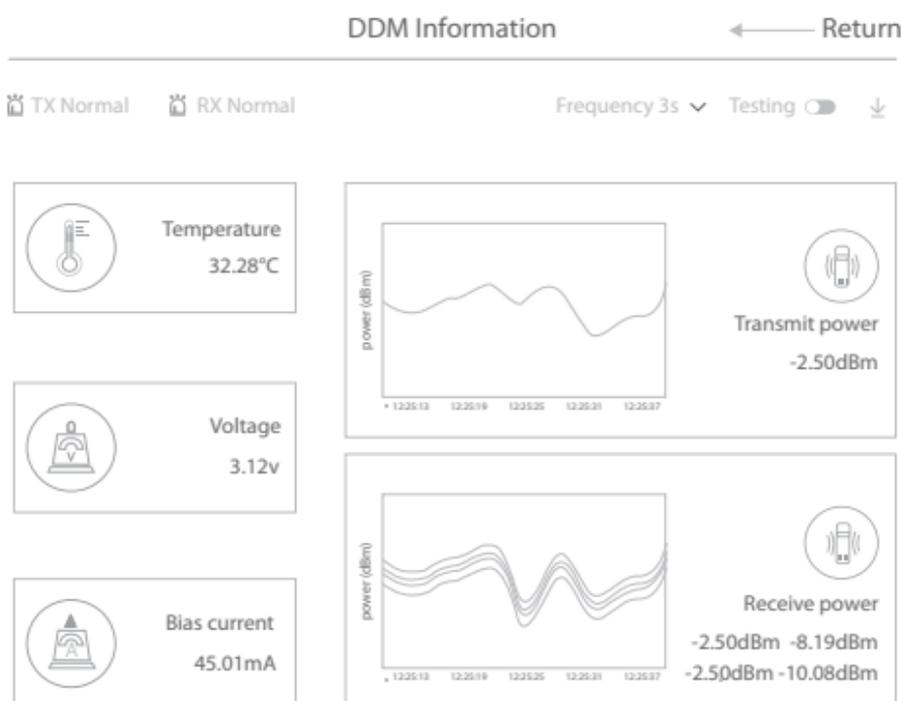
## 4️⃣ Indicator Light Status

| Indication | Status |
|---|---|
| FS Box Connected to PC | Breathing White Light |
| Reading Succeed | White Light Blinking |
| Reading Failed | Red Light On |
| Configuration Succeed | Blue Light Blinking |
| Configuration Failed | Red Light On |