RPT-2026G-2C-X4 Series

Hardware User Manual

www.sbjlink.com
sales@sbjlink.com

Disclaimer

Subject Link Inc. provides this manual without warranty of any kind, expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Subject Link Inc. may make improvements and/or changes to the product and/or specifications of the product described in this manual, without prior notice. Subject Link Inc. will not be liable for any technical inaccuracies or typographical errors found in this guide. Changes are periodically made to the information contained herein and will be incorporated into later versions of the manual. The information contained is subject to change without prior notice.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class-A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. It may cause harmful interference to radio communications if the equipment is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

CE Mark Warning

This is a Class-A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This document is the current official release manual. Please check our website (www.sbjlink.com) for any updated manual or contact us by e-mail (sales@sbjlink.com) .

Contents

OVERVIEW

This series is rated IP40 and Rack-Mounting installation. Each unit of this industrial gigabit managed Ethernet switch series has 24*10/100/1000Tx and 2 Gigabit combo ports (2*10/100/1000Tx RJ45 or 2*100/1000 SFP slots), suitable for applications that require high bandwidth and long-distance communication.
In order to prevent unregulated voltage, this series provides high EFT and ESD protection which also allows it to function in harsh environments. The built-in relay warning function alerts users about occurring power failures.
With one model having an operating temperature of -10 to 65°C and another with a wide operating temperature of -40 to 75°C, this series is designed to meet any needs in industrial automation, outdoor application and harsh environments.

Key Features

Interface & Performance

- All copper ports support auto MDI/MDI-X function
- Embedded 24*10/100/1000Tx RJ45 Ethernet Ports and 2*Gigabit Combo Ports (2*10/100/1000Tx Copper Ports or 2*100/1000 SFP Slots)
- Store-and-forward switching architecture
- 8K MAC Address Table
- Supports 9.6Kbytes Jumbo Frame
- 4Mbits memory buffer

Power Input

- 100-240VAC 50-60Hz with C13 power socket
- Max. current 0.6A
- Relay Contact: 24 VDC, 1A resistive

Certification

- CE/FCC

Operating Temperature

- Standard operating temperature model: -10°C ~ 65°C
- Extended operating temperature model (–T): -40°C ~ 75°C

Case/Installation

- IP40 protection
- Rack-mount design

Package Contents

- 1 - FLC-2026G-2C(-T)-X4 - Unit Weight: 2.68kg (5.92 lb), Shipping Weight: 3.56 kg (7.87 lb)
- 2 - Rack-mounting Brackets and Screws
- 1 - Quick Installation Guide
- 1 - RJ45 to DB9 Serial Console Cable
- 1 - C13 AC Power Cord Cable

Physical Dimensions

Figure 2.1, below, shows the physical dimensions of FLC-2026G-2C-X4 series.

(W x H x D) is **440mm x 44mm x 200mm**

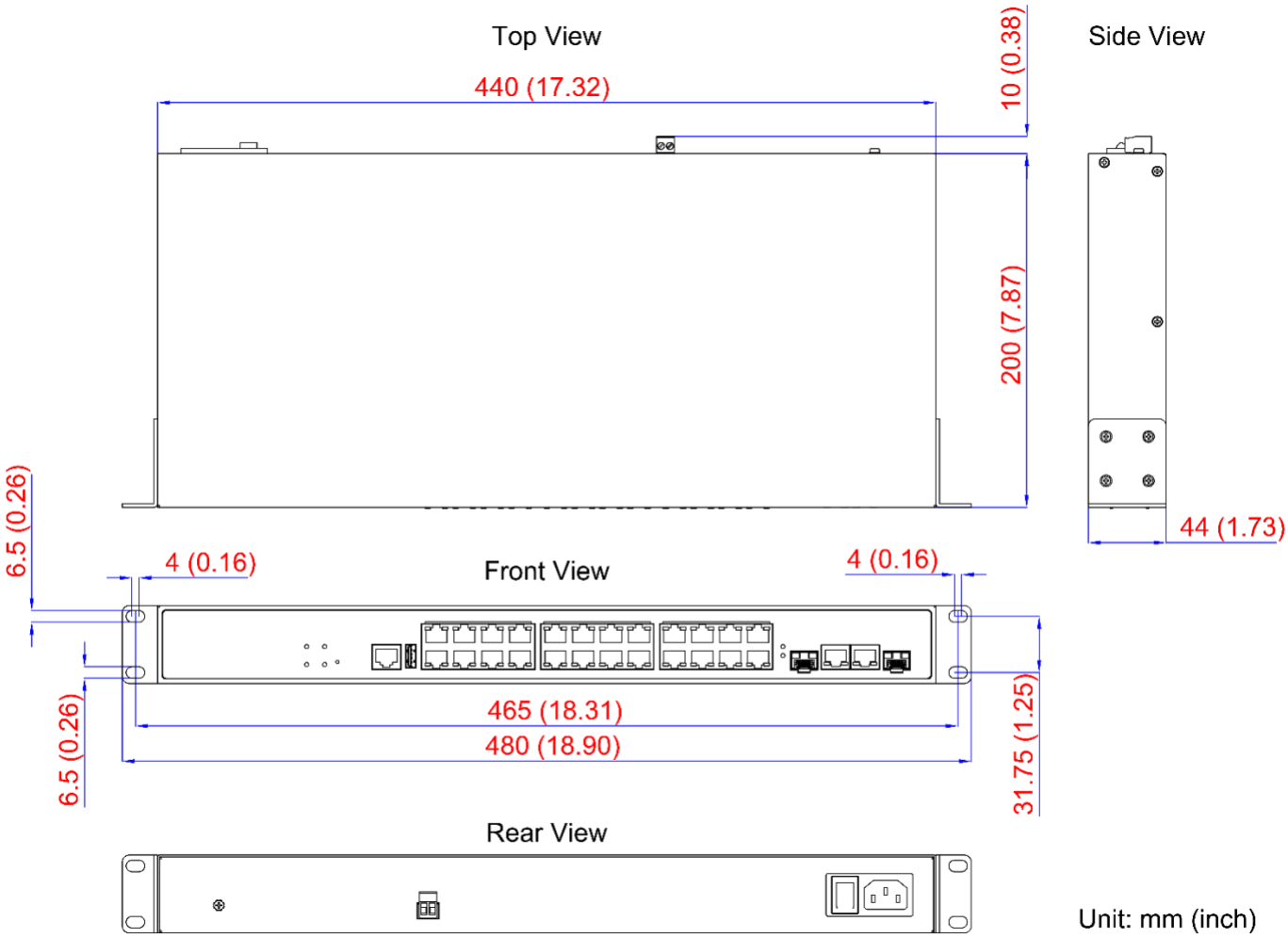


Figure 2.1: Physical Dimensions

Front Panel

The front panel of the FLC-2026G-2C-X4 series industrial gigabit managed ethernet switch is shown below in Figure 2.2.

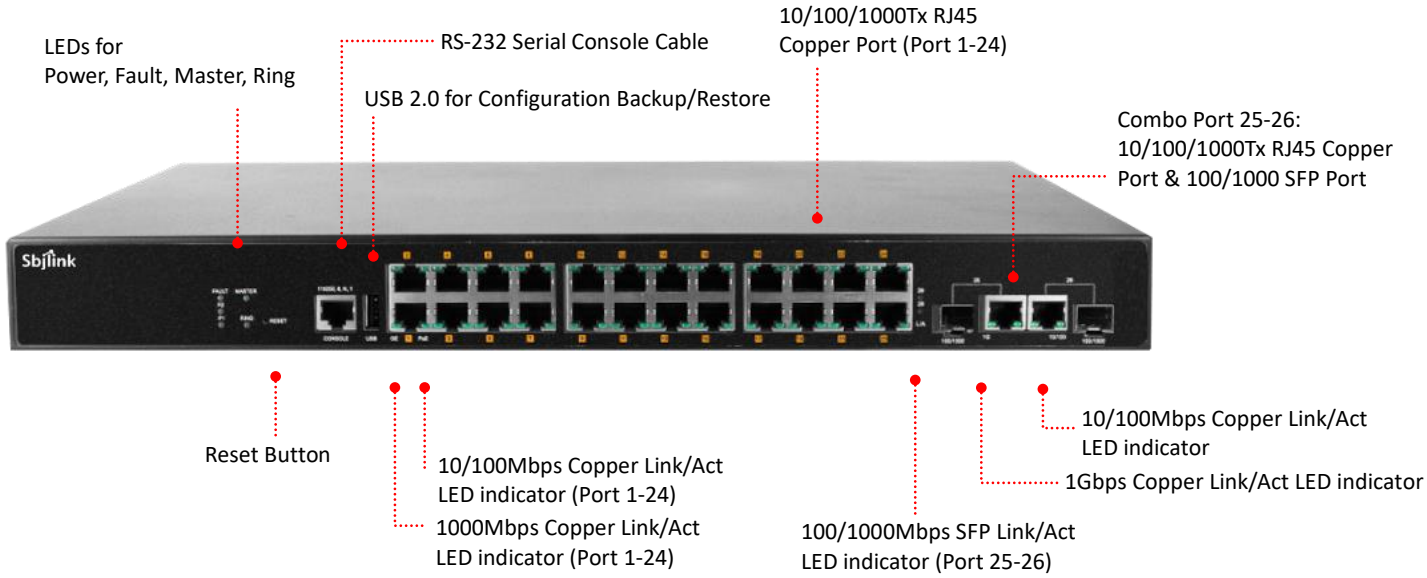


Figure 2.2: The Front Panel of FLC-2026G-2C-X4 Series

Rear Panel

Figure 2.3, below shows the rear panel of the FLC-2026G-2C-X4 series switch that is equipped with one AC power socket (100-240VAC) and a 2-pin terminal block for relay output.

Figure 2.3: The Rear Panel of FLC-2026G-2C-X4 Series

LED Indicators

There are LED light indicators located on the front panel of the industrial switch that display the power status and network status. Each LED indicator has a different color and has its specific meaning, see below in Table 2.1.

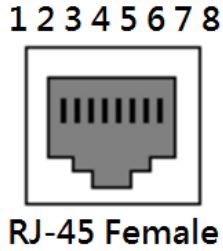
LED	Color	Description	
PWR	Green	On	Power input is active
		Off	Power input is inactive
FAULT	Green	On	No event happened
	Red	On	1. System booting 2. Configured event happens
		Flashing	Firmware upgrading
MASTER	Green	On	ERPS Owner Mode (Ring Master) is ready
		Off	ERPS Owner Mode is not active
RING	Green	On	ERPS Ring Network is active and works well
		Flashing	ERPS Ring works abnormally or misconfigure
		Off	ERPS Ring Network is not active
1G (LAN Port 1-24)	Green 	On	Connected to network, 1000Mbps
		Flashing	Networking is active
		Off	Not connected to network
10/100 (LAN Port 1-24)	Green 	On	Connected to network, 10/100Mbps
		Flashing	Networking is active
		Off	Not connected to network
Combo Port 1G (LAN Port 25-26)		On	Connected to network, 1000Mbps
		Flashing	Networking is active
		Off	Not connected to network
Combo Port 10/100 (LAN Port 25-26)		On	Connected to network, 10/100Mbps
		Flashing	Networking is active
		Off	Not connected to network
Combo Port L/A (SFP Port 25-26)	Green	On	Connected to network, 1000Mbps
		Flashing	Networking is active
		Off	Not connected to network
	Amber	On	Connected to network, 100Mbps
		Flashing	Networking is active
		Off	Not connected to network

Table 2.1: LED Indicators

Ethernet Ports

RJ-45 Ports (Auto MDI/MDIX)

The RJ-45 ports are auto-sensing for 10Base-T, 100Base-TX or 1000Base-T devices connections. Auto MDI/MDIX means that the switch can connect to another switch or workstation without changing the straight-through or crossover cabling. See the figures as below for straight-through and crossover cabling schematics.



RJ-45 Female

10/100BASE-T(X) RJ-45 Pin Assignments (Table 2.2)

Crossover Cable		Straight Through Cable	
Pin Number / Signal	Pin Number / Signal	Pin Number / Signal	Pin Number / Signal
1 / RX+	3 / TX+	1 / RX+	1 / TX+
2 / RX-	6 / TX-	2 / RX-	2 / TX-
3 / TX+	1 / RX+	3 / TX+	3 / RX+
6 / TX-	2 / RX-	6 / TX-	6 / RX-

Table 2.2

1000BASE-T RJ-45 Pin Assignments (Table 2.3)

Crossover Cable		Straight Through Cable	
Pin Number / Signal	Pin Number / Signal	Pin Number / Signal	Pin Number / Signal
1 / TP0+	3 / TP1+	1 / TP0+	1 / TP1+
2 / TP0-	6 / TP1-	2 / TP0-	2 / TP1-
3 / TP1+	1 / TP0+	3 / TP1+	3 / TP0+
4 / TP2+	7 / TP3+	4 / TP2+	4 / TP3+
5 / TP2-	8 / TP3-	5 / TP2-	5 / TP3-
6 / TP1-	2 / TP0-	6 / TP1-	6 / TP0-
7 / TP3+	4 / TP2+	7 / TP3+	7 / TP2+
8 / TP3-	5 / TP2-	8 / TP3-	8 / TP2-

Table 2.3

Note: “+” and “-” signs represent the polarity of the wires that make up each wire pair.

Cabling

Use the four twisted-pair, category 5e, or the above cabling for RJ-45 port connections. The cable between the switch and the link partner (switch, hub, workstation, etc.) must be less than 100 meters (328 ft.) long.

The small form-factor pluggable (SFP) is a compact optical transceiver used in optical communications for both telecommunication and data communication applications.

Caution: Please employ optional optical transceiver (SFP/Fixed Fiber) that complies with IEC 60825-1 and classified as Class 1 laser product.

Attention: Veuillez utiliser un émetteur-récepteur optique (SFP) conforme à la norme IEC 60825-1 et classé comme produit laser de classe 1.

To connect the transceiver and LC cable, please follow below steps:

Step 1 Insert the SFP transceiver module into the SFP slot as shown below in **Error! Reference source not found.**4. Notice that the triangle mark is at the bottom of the SFP slot. **Error! Reference source not found.**5 shows SFP transceiver module was inserted.

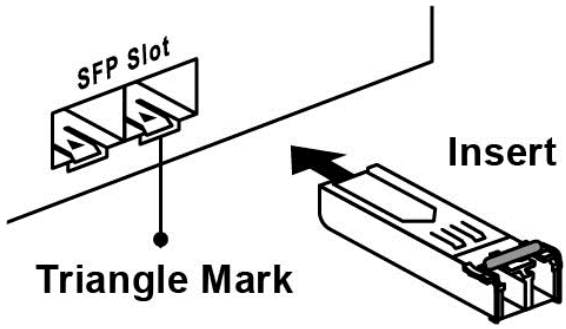


Figure 2.4: Transceiver to the SFP Module

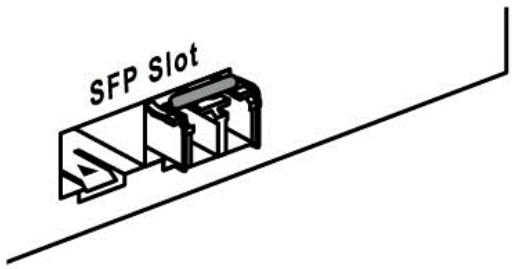


Figure 2.5: Transceiver Inserted

Step 2 Insert the fiber cable of the LC connector into the transceiver as shown below in **Error! Reference source not found.**6.

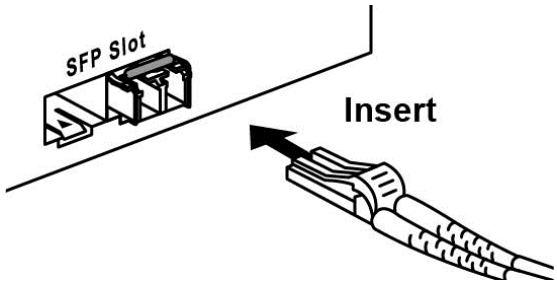


Figure 2.6: LC Connector to the Transceiver

To remove the LC connector from the transceiver, please follow the steps shown below:

Step 1 Press the upper side of the LC connector from the transceiver and pull it out to release as shown below in **Error! Reference source not found.**7

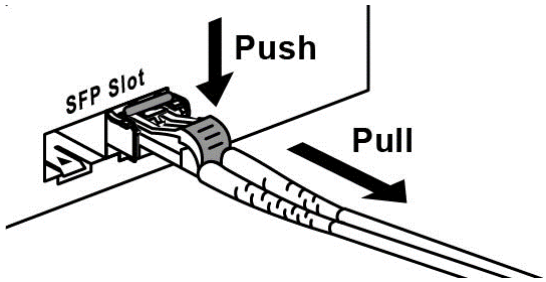


Figure 2.7: Remove LC Connector

Step 2 Push down the metal clasp and pull the transceiver out by the plastic part as shown below in **Error! Reference source not found.**8

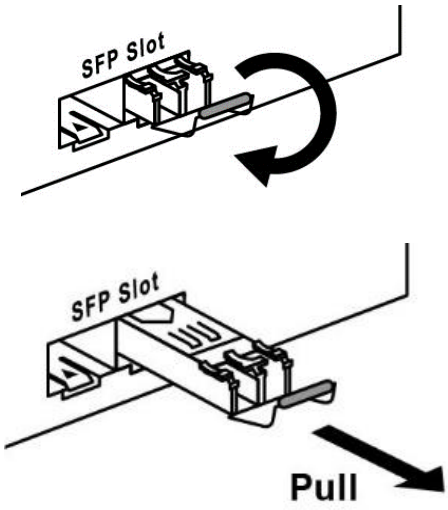


Figure 2.8: Pull Out from the SFP Module

Wiring the Power Inputs

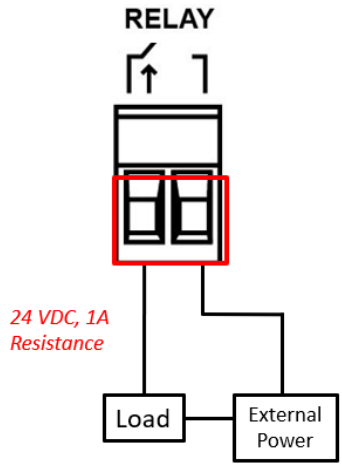
Step 1 Insert the AC power cable into the universal AC socket as shown below in **Error! Reference source not found.**.

Figure 2.9: AC Power Socket

Step 2 Switch the power switch for power on.

Wiring the Fault Alarm Contact

The fault alarm contact is on the 2-pin terminal block connector as the picture shows below in **Error! Reference source not found.**10. By inserting the wires, it will detect the fault status including power failure or port link failure and form a normally open circuit. An application example for the fault alarm contact is shown below in **Error! Reference source not found.**10.



Insert the wires into fault alarm contact

Figure 2.10: Wiring the Fault Alarm Contact

Caution: The wire gauge for the terminal block should range between 12 ~ 24 AWG.

Attention: Le calibre des fils du bornier doit être compris entre 12 et 24 AWG.

Grounding Note

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting devices. The grounding screw symbol is shown blow in Figure 2.11.

Figure 2.11: Grounding Screw Symbol

Caution: Using a shielded cable achieves better electromagnetic compatibility.

Attention: L'utilisation d'un câble blindé permet une meilleure compatibilité électromagnétique.

Rack Mounting

This switch can be mounted in a standard 19-inch rack with rack-mount kits. Please follow the instruction shown below in Figure 3.1 to install rack-mounting switch. Locate one plate to align with the holes on one side of the switch and secure it with the plate screws and then attach the remaining plate to the other side of the switch.

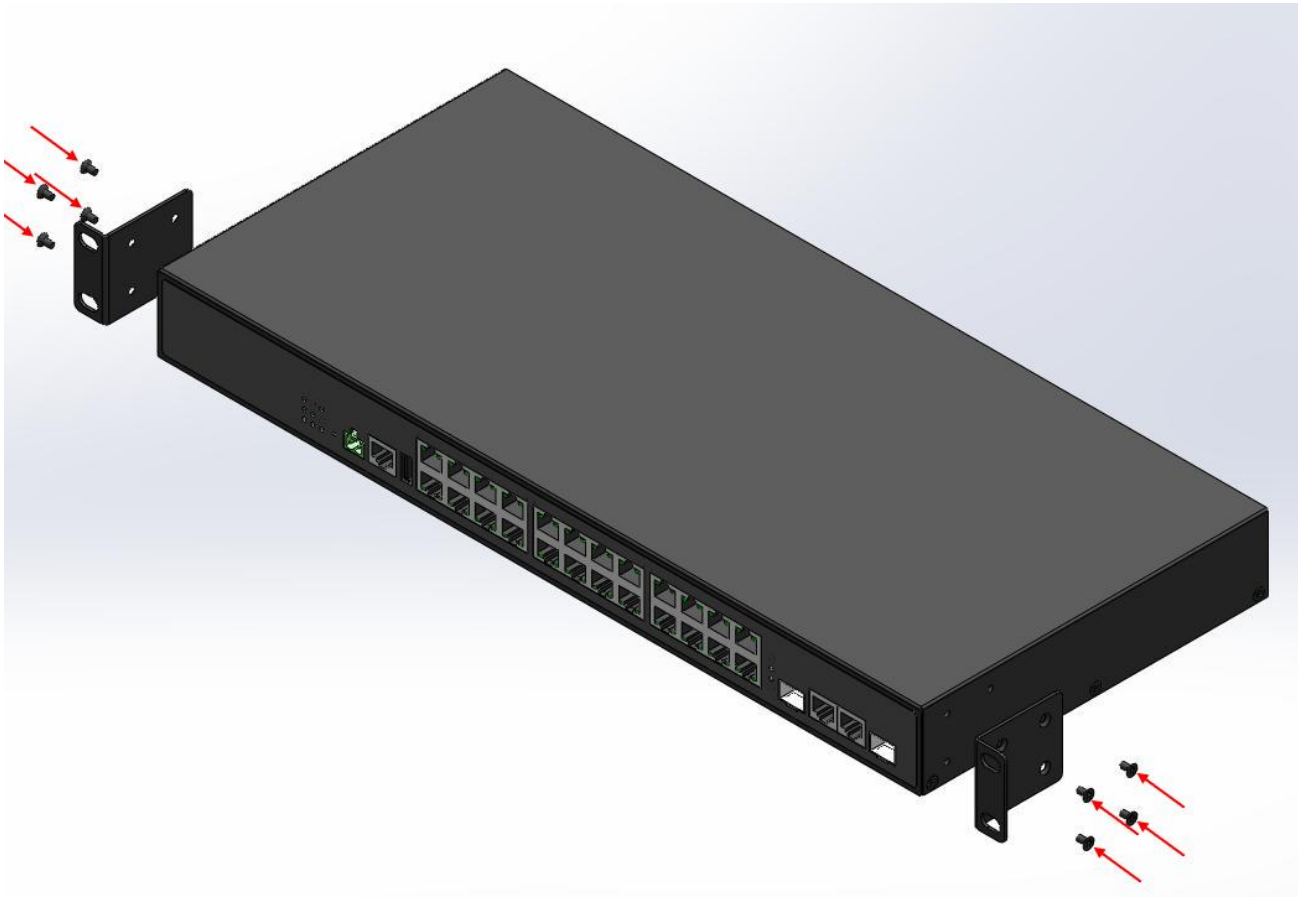


Figure 3.1: The Top View of the Switch and Rack Mounting Bracket

Installation Steps

This section will explain how to install FLC-2026G-2C-X4 series.

Installation Steps

Step 1. Unpack the industrial switch from the original packing box.

Step 2. If the rack-mount bracket is not screwed on the industrial switch, please refer to the **Rack Mounting** section for installation.

Step 3. Power on the industrial switch and then the power LED light will turn on.

- If you need help on how to wire power, please refer to the **Wiring the Power Inputs** section.
- Please refer to the **LED Indicators** section for LED light indication.

Step 4. Prepare the twisted-pair, straight-through category 5 cable for Ethernet connection.

Step 5. Insert one side of the RJ-45 cable into switch's Ethernet port and on the other side into the networking device's Ethernet port, e.g. switch PC or server. The Ethernet port's (RJ-45) LED on the industrial switch will turn on when the cable is connected to the networking device.

- Please refer to the **LED Indicators** section for LED light indication.

Step 6. Insert one side of the SFP cable into switch's SFP port and on the other side into the networking device's SFP port, e.g. switch or server. The SFP port's LED on the industrial switch will turn on when the cable is connected to the networking device.

- Please refer to the **LED Indicators** section for LED light indication.

Step 7. When all connections are set and the LED lights all show normal, the installation is complete.

Caution: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Attention: Si l'équipement est utilisé d'une manière non spécifiée par le fabricant, la protection fournie par l'équipement peut être altérée.

Caution: The installation that the safety to any system incorporating the equipment is the responsibility of the assembler of the system.

Attention: L'installation que la sécurité de tout système intégrant l'équipement est de la responsabilité de l'assembleur du système.

Caution: This is an OPEN TYPE module and should be installed in a final safety enclosure characteristic.

Attention: Il s'agit d'un module de TYPE OUVERT et doit être installé dans une caractéristique finale d'enceinte de sécurité.

Caution: This device is intended for use indoor and at altitudes up to 2000 meters.

Attention: Cet appareil est destiné à être utilisé en intérieur et à des altitudes allant jusqu'à 2000 mètres.

Caution: Ambient Relative Humidity should be within the range of 5 and 95% (non-condensing).

Attention: L'humidité relative ambiante doit être comprise entre 5 et 95% (sans condensation).

TROUBLE SHOOTING

- Verify you have the right power cord or adapter. Never use a power supply or adapter with a non-compliant DC output voltage or it will burn the equipment.

- Select the proper UTP or STP cable in order to construct the network. Use an unshielded twisted-pair (UTP) or shield twisted-pair (STP) cable for RJ-45 connections: 100Ω Category 5e for 10M/100/1000Mbps. Also be sure that the length of any twisted-pair connection does not exceed 100 meters (328 feet).

- Diagnosing LED Indicators: To assist in identifying problems, the switch can be easily monitored with the LED indicators which help to identity if any problems exist.
  - Please refer to the LED Indicators section for LED light indication.

- If the power indicator LED does not turn on when the power cord is plugged in, the user may have a problem with the power cord. Check for loose power connections, power losses or surges at the power outlet.
  - Please contact Sbjlink for technical support service, if the problem still cannot be resolved.

- If the industrial switch LED indicators are normal and the connected cables are correct but the packets still cannot transmit, please check the system's Ethernet devices' configuration or status.