

**Korenix JetNet 3205G series**  
**JetNet 3205GP/3205GP-1F/**  
**JetNet 3205G/JetNet 3205G-1F**  
**Industrial 5-port Ethernet (PoE) Switch**

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**User's Manual**

Version: 1.0

Date: Jan, 2019



**[www.korenix.com](http://www.korenix.com)**

## **Declaration of CE**

This product has passed the CE certification for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

## **Federal Communications Commission (FCC) Statement**

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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his expense.

The user is cautioned that changes and modifications made to the equipment without approval of the manufacturer could void the user's authority to operate this equipment.

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# 1. Introduction

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This document describes the method of how to use the Korenix JetNet series Industrial 5-port Ethernet (PoE) switch, includes installation the specifications that it has. Following this user manual, you can get fully imagination about JetNet 3205G series switch and all information to help you construct the network infrastructure. The following are brief introduction of JetNet 3205G series switch .

## **Industrial Gigabit (PoE) Ethernet Switch**

The JetNet 3205G/JetNet 3205G-1F/JetNet 3205GP/JetNet 3205GP-1F is a 5 port industrial Gigabit Ethernet switch designed with enhanced design specification, including wider operating temperature and power input range to best fit in heavy industrial field applications. It also equipped a rugged metal case with thirty-one grade ingress protection to against damaged solid objects or dust; With the excellent characteristics of heat dissipation, JetNet 3205G series has better survive ability than ordinary Gigabit Ethernet switch which is enclosure by steel metal with various of heat dissipation holes.

## **Flexible Optical adopt ability (JetNet 3205G-1F/JetNet 3205GP-1F)**

As the trend of fiber interface, JetNet 3205G-1F/JetNet 3205GP-1F combines a hot-swappable socket for Small Form-factor Pluggable (SFP) fiber transceiver. To adopt different type of fiber optical cable or enlarge fiber network campus, the JetNet 3205G-1F/JetNet 3205GP-1F just need replace new fiber transceiver to meet the specification of optical fiber cable and achieve best inventory performance.

## **Fault Alarm**

The JetNet 3205G series provides an alarm relay to trigger out a real alarm signal for power event. The alarm mechanism can be trigger an external alarm equipment to inform maintenance I.T. engineers. It makes a result of maintenance time saving.

## 1-1. Features

### JetNet 3205G

- Five 10/100/1000Base-T RJ-45
- IEEE802.3, 802.3u, and 802.3ab Compliance
- Flexible Gigabit Fiber Link Distance
- Power Redundancy with Wide Range Input
- Industrial Slim Size Design
- 9K bytes Jumbo Frame for Large File Transmission
- Rigid IP-31 Grade Metal Case
- -40~75°C Hazardous Operating Temperature

### JetNet 3205G-1F

- Four 10/100/1000Base-T RJ-45 and One 1000 SFP socket
- IEEE802.3, 802.3u, 802.3z and 802.3ab Compliance
- Flexible Gigabit Fiber Link Distance
- Industrial Slim Size Design
- 9K bytes Jumbo Frame for Large File Transmission
- Power Redundancy with Wide Range Input
- Rigid IP-31 Grade Metal Case
- -40~75°C Hazardous Operating Temperature

### JetNet 3205GP

- Four 10/100/1000Base-TX PoE ports and one 1000Base TX port
- IEEE802.3, 802.3u, and 802.3ab Compliance
- Four PoE Ports Compliance with IEEE802.3af/at.
- Industrial Slim Size Design
- 9K bytes Jumbo Frame for Large File transmission
- Power redundancy with Wide Range Input
- Rigid IP-31 Grade Metal Case
- -40~75°C Hazardous Operating Temperature

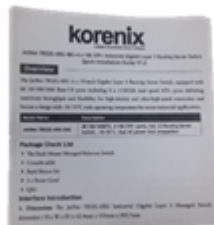
## JetNet 3205GP-1F

- Four 10/100/1000Base-TX PoE ports and One 1000Base FX port
- IEEE802.3, 802.3u, 802.3z and 802.3ab Compliance
- Four PoE ports compliance with IEEE802.3af/at.
- Flexible Gigabit Fiber Link Distance
- Industrial Slim Size Design
- 9K bytes Jumbo Frame for Large File Transmission
- Power Redundancy with Wide Range Input
- Rigid IP-31 Grade Metal Case
- -40~75°C Hazardous Operating Temperature

## 1-2. Package Checklist

JetNet 3205G series package includes the following items:

- JetNet 3205G (or JetNet 3205G-1F or JetNet 3205GP or JetNet 3205GP-1F) x1
- One DIN-Rail clip (already screwed on the back of the product)
- One Quick Installation Guide



JetNet 3205GP

Quick Installation Guide

(or JetNet 3205G/3205G-1F/3205GP-1F)

Contact your sales representative if any item is missing or damaged.

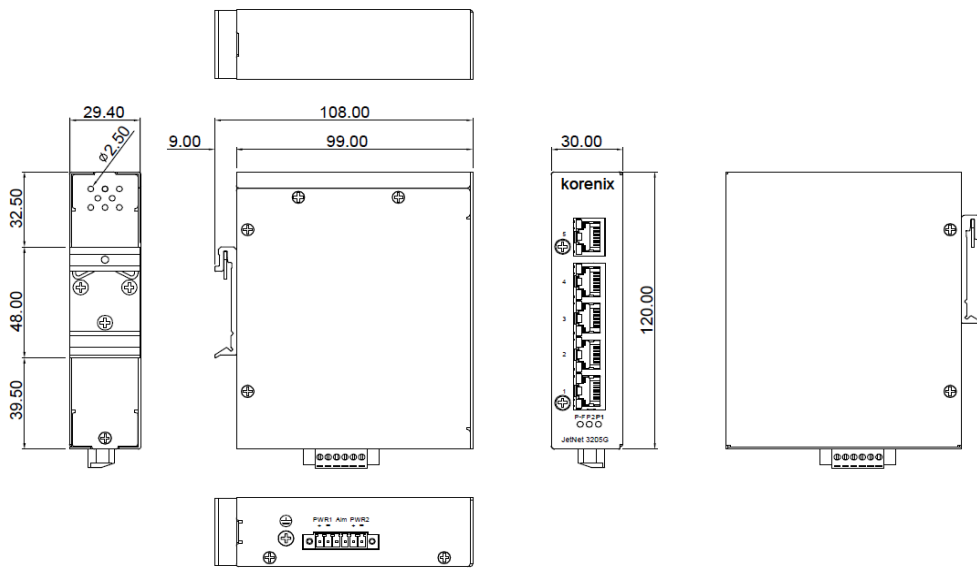
# 2. Hardware Description

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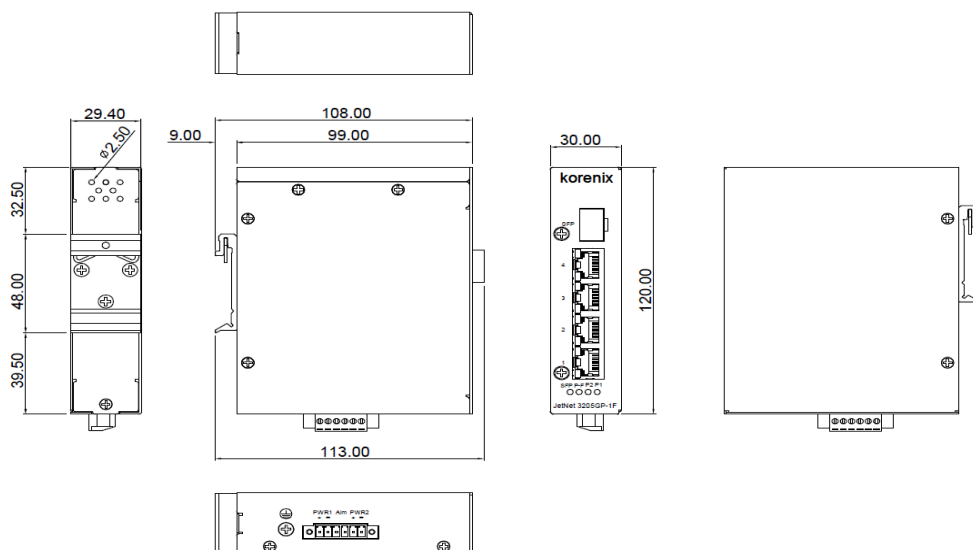
## 2-1. Dimensions

The dimension of JetNet 3205G series is **120 mm(H) x 30 mm (W) x99 mm (D) ( without DIN rail clip)**

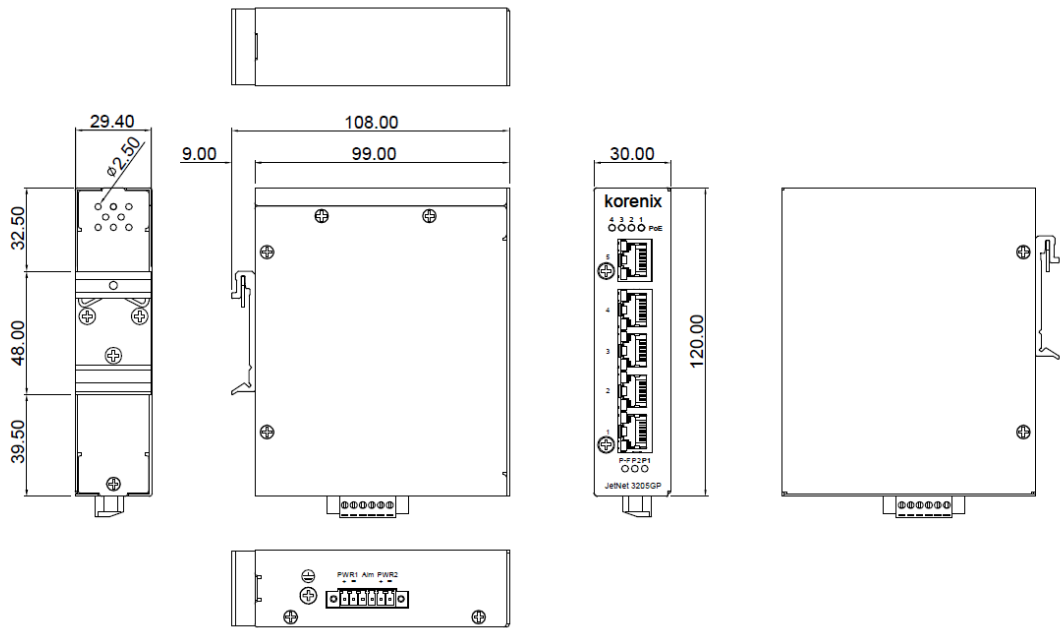
JetNet 3205G



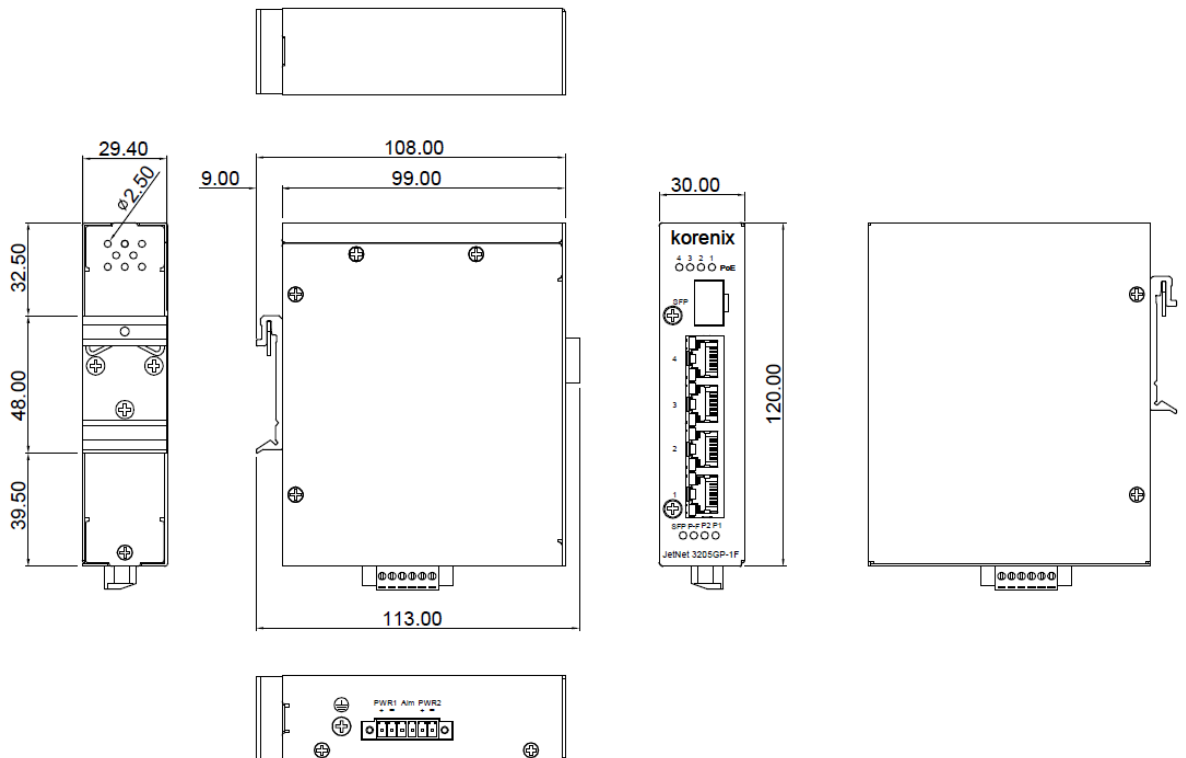
JetNet 3205G-1F



# JetNet 3205GP



# JetNet 3205GP-1F

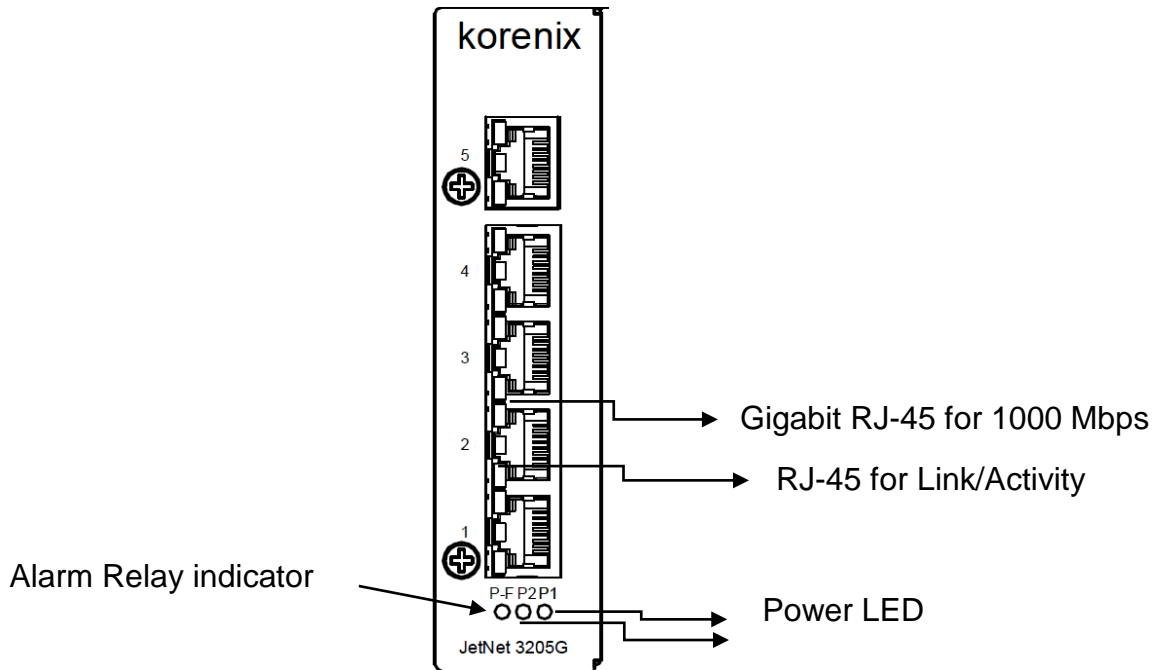




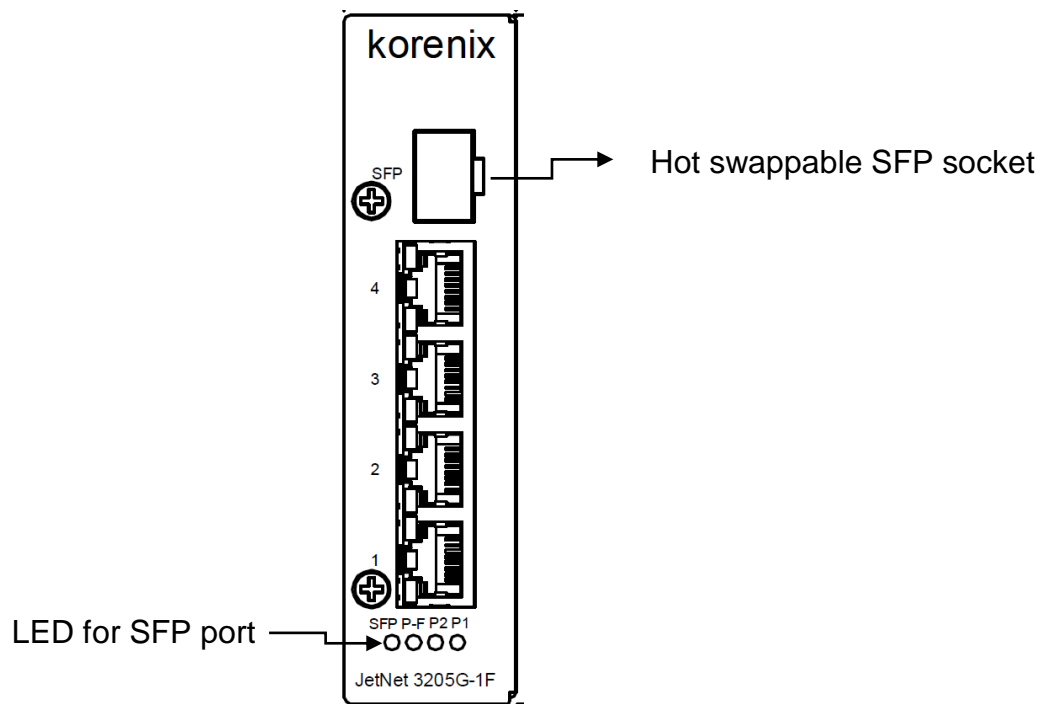
## 2-2. Front Panel

The Front Panel of the JetCon 3205G series is shown in below

JetNet 3205G

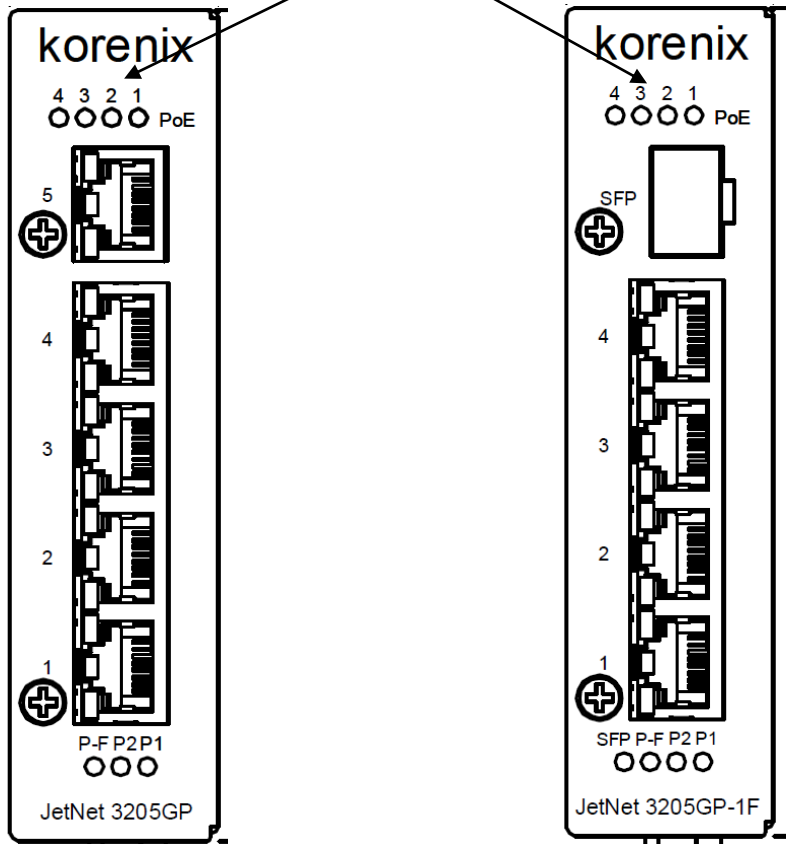


JetNet 3205G-1F



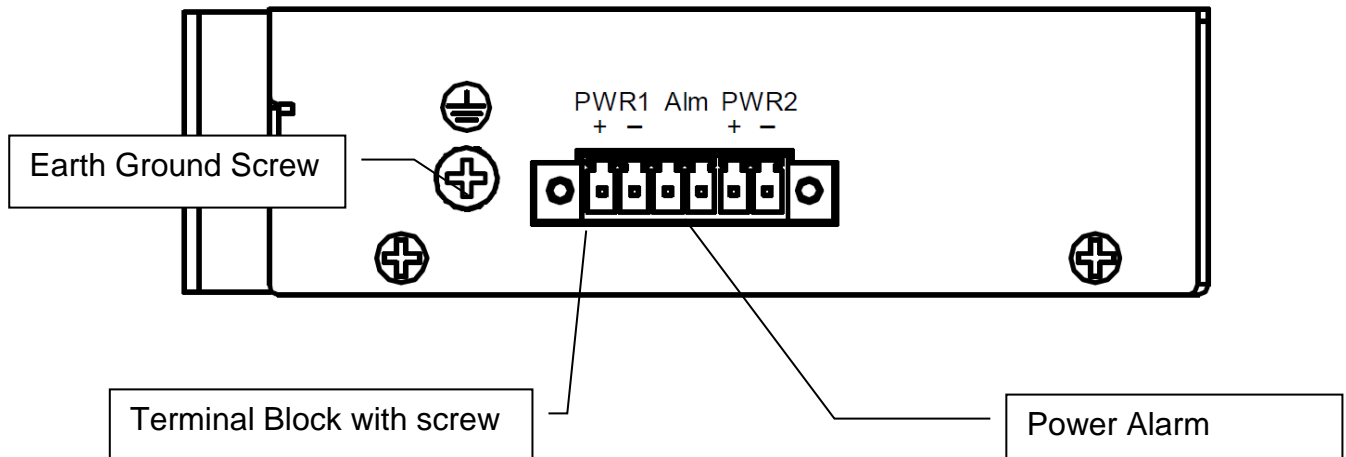
# JetNet 3205GP

LED for PoE ports



## 2-3. Bottom View

The bottom side of the JetNet 3205G series includes one 6-pin removable terminal block connector



The power range of JetNet 3205G/JetNet 3205G-1F is from DC 10~60V with redundancy and polarity reverse function.

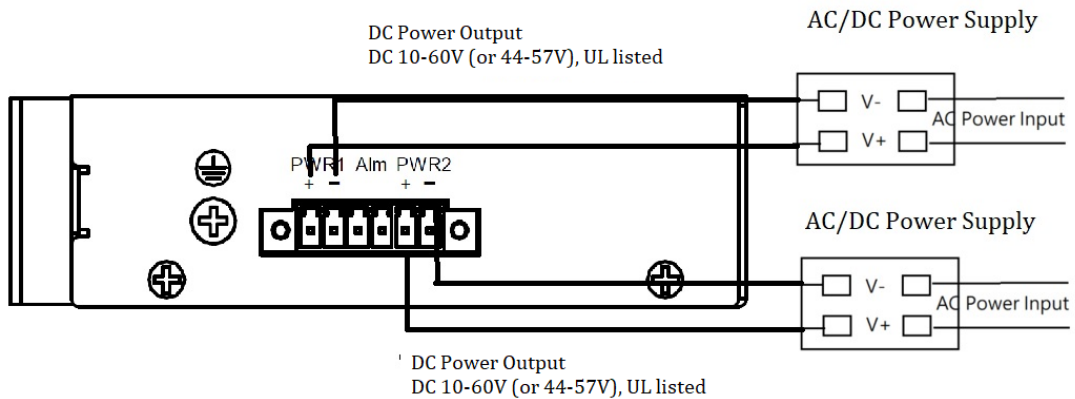
The power range of JetNet 3205GP/JetNet 3205GP-1F is from DC 44~57V (>50V for IEEE 802.3 at mode) with redundancy and polarity reverse function.

To prevent interference and get better performance, it is strongly suggest make a well earth grounding by the “Earth Ground Screw”.

## 2-4. Wiring the DC Power Inputs

Follow the steps below to wire JetNet 3205G series redundant DC power inputs.

**[Note] The suitable electric wire ranges from 12 to 23 AWG.**

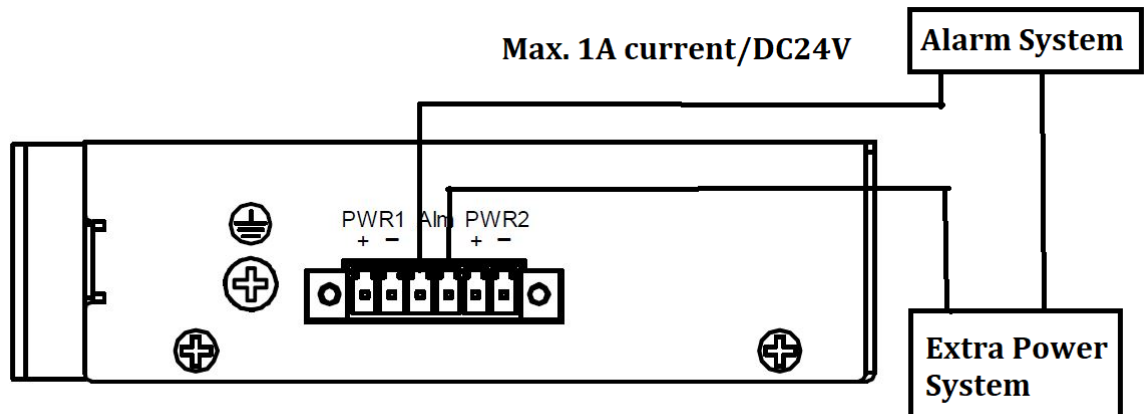


1. Insert the positive and negative wires into the V+ and V- contacts respectively of the terminal block connector
2. Tighten the wire-clamp screws to prevent the DC wires from being loosened.
3. The Power 1 and Power 2 support power redundancy and polarity reverse protection functions.

## 2-5. Connect the Dry Relay Output

JetNet 3205G series provides one dry relay output for fault power event.

The relay conductor ability is 24W when it connects with a DC 24V power source and maximum current is 1A. In the following diagram shows how to make an alarm circuit.



## 2-6. LED Indicators

Following table gives descriptions of the function for each LED indicator.

LED	Status	Description
P1	Green On	DC-IN Power
	Off	No power in DC-IN
P2	Green On	DC-IN Power.
	Off	No power in DC-IN.
P-F	Red on	Power1 or (and) Power 2 Disconnect.
	Off	Power Connection
SFP (JetNet 3205G-1F, JetNet 3205GP-1F only)	Green on	Link
	Blinking	Activity with speed 1000Mbps
RJ-45 port	Green On	Link
	Bilking	Activity

	Amber On	Link with Speed 1000Mbps
	Amber Off	Link with Speed 10/100Mbps
<b>PoE 1, 2, 3, 4</b> <b>(JetNet 3205GP, JetNet 3205GP-1F only)</b>	Green on	The port is delivering PoE power
	Green Off	No PD attached

## 2-7. Ports

The JetNet 3205G series supports IEEE 802.3 10Base-T, IEEE 802.3u 100Base-T, IEEE 802.3ab 1000Base-T and JetNet 3205G-1F/JetNet 3205GP-1F also support IEEE 802.3z for Gigabit Fiber. This section will introduce how to wiring, install the Ethernet Cable for RJ-45 connector and Gigabit SFP transceiver.

### Gigabit TX ( RJ-45 connector)

All of RJ-45 ports will auto detect 10Base-T and 100Base-TX or 1000Base-T connections. Auto MDI/MDIX allows users to connect another switch or workstation without changing straight through or crossover cabling. See Figure A, B, C and D for the schematic diagram of straight through and crossover cabling.

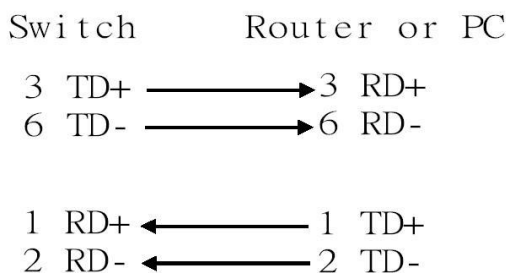


Fig A. Straight through Cabling Schematic for 10/100Mbps

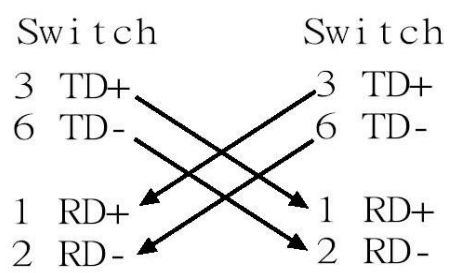


Fig B. Cross Over Cabling Schematic for 10/100Mbps

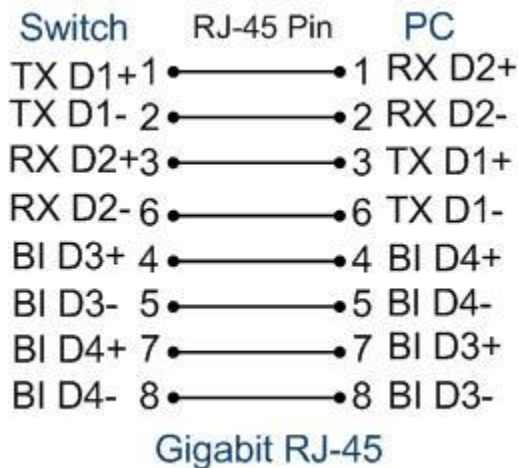


Fig. C Straight through cable schematic for 1000Mbps

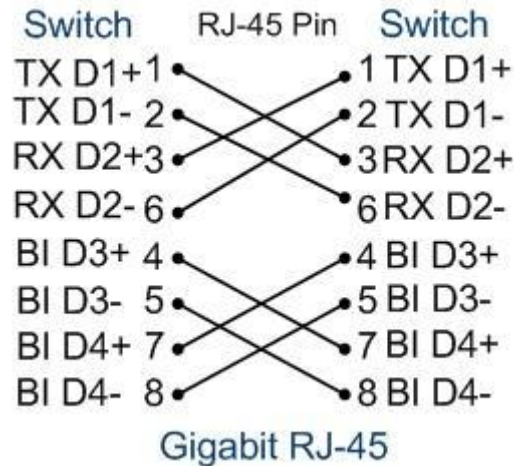


Fig. D Cross over cable schematic for 1000Mbps

The RJ-45 ports of JetNet 3205G series supports auto-MDI/MDI-X function without any cable change when you use an Ethernet cable to connect other devices, such as computers, switches or hubs.

**Gigabit SFP port (JetNet 3205G-1F/JetNet 3205GP-1F)**

The SFP port supports hot swappable function and user can change SFP fiber transceiver without system power off. This feature is useful for field site install if the fiber signal can not attach the other end device, just change the different SFP transceiver type which with large power launch power budget.

Korenix provides various type of SFP transceivers for your application. Please refer the order information.

# 3. Mounting Installation

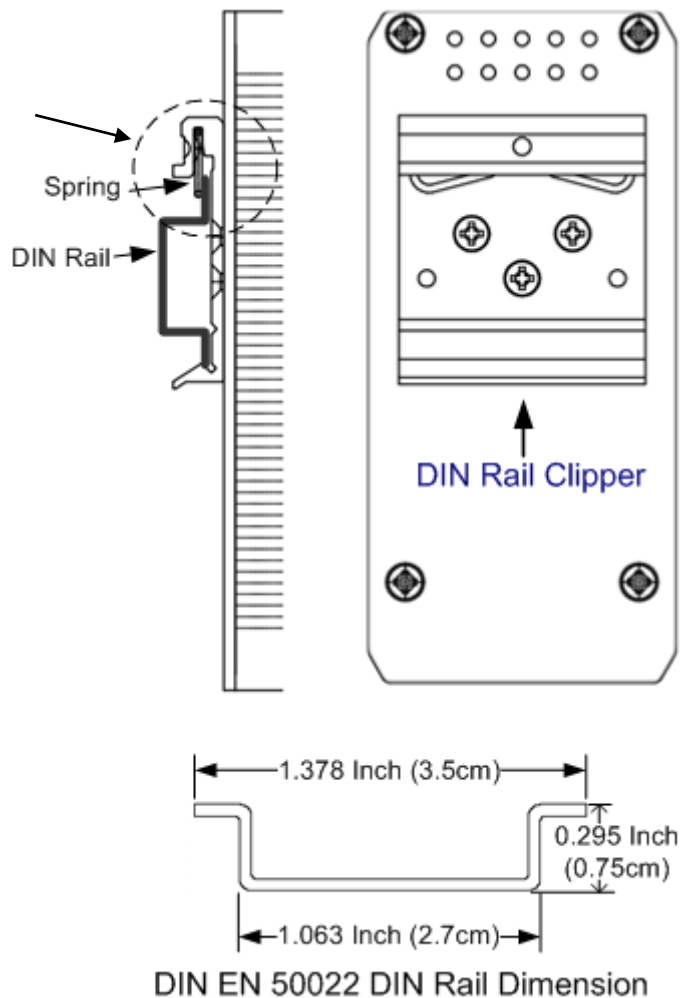
## 3-1. DIN-Rail Mounting

The DIN-Rail clip is already attached on the rear side of JetNet 3205G series. JetNet 3205G series supports EN 50022 standard DIN Rail, in the following diagram includes the dimension of EN 50022 DIN Rail for your reference

**The DIN rail should behind the spring when install the JetNet 3205G series onto the standard DIN Rail.**

Follow the steps below to mount the JetNet 3205G series to the DIN-Rail track.

1. Insert the upper end of the DIN-Rail clip into the back of the DIN-Rail track from its upper side
2. Lightly push the bottom of the DIN-Rail clip into the track.
3. Check if the DIN-Rail clip is tightly attached to the track.
1. To remove the JetNet 3205G series from the track, reverse the steps above.





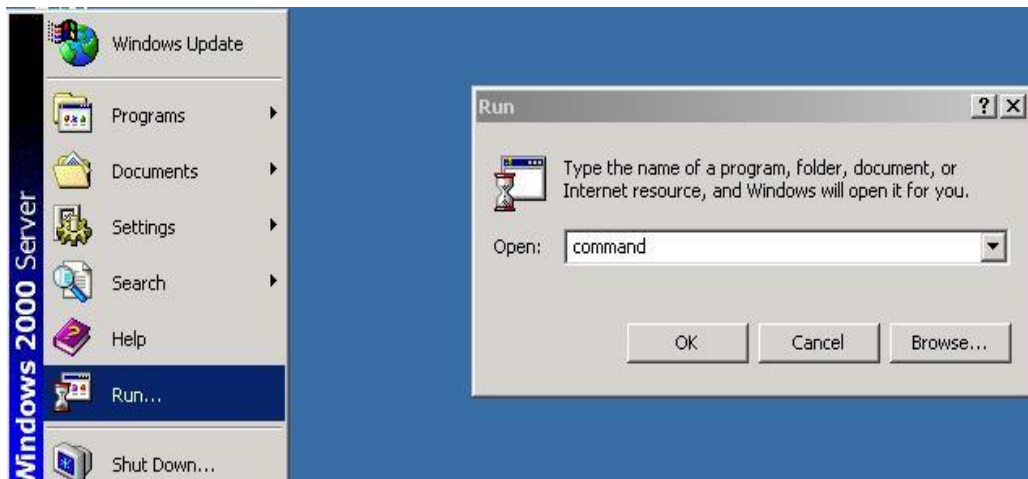
# 4. System Installation

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## 4-1. Installation and Testing

1. Take out your JetNet 3205G series Industrial Gigabit Ethernet switch from the package box.
2. Check if the DIN-Rail clip is attached to the JetNet 3205G series product . If the DIN-Rail clip is not attached to the product , refer to **DIN-Rail Mounting** section for DIN-Rail installation.
3. To place the JetNet 3205G series product on the DIN-Rail track or wall, refer to the **Mounting Installation** section.
4. Pull the terminal blocks off the JetNet 3205G series product and wire the power lines. Refer to 2-4 the **Wiring the DC Power Inputs** section for how to wire the power inputs.
5. PWR1 and PWR2 dual power inputs can be connected to power sources simultaneously. When the primary power source fails (the default setting is PWR1), the system will automatically switch to the secondary power source (PWR2), preventing any power interruption.  
Both of Power 1 and Power 2 support positive electricity and negative electricity power system. Please notice the power system for power 1 and power 2 only accept either positive or negative electricity power system at one time
6. Check the LEDs of PWR1 and PWR2 to make sure that JetNet 3205G series product is operating normally.
7. Use Category 5e or Category 6 straight through Ethernet cables with RJ-45 connectors to connect network devices.
8. Connect one side of an Ethernet cable with a RJ-45 connector to the JetNet 3205G series product's Ethernet port (RJ-45 port), and the other side of the Ethernet cable to the network device's Gigabit Ethernet port.

9. If you want to connect with Gigabit Fiber, please install appropriate SFP fiber transceiver and fiber cable. To ensure the connection is working, please notice the type of fiber transceiver of JetNet 3205G-1F or JetNet 3205GP-1F and the other end of device.
10. Check the LED indicator of port status (blinking green) on the JetNet 3205G series product to see if the network connection is successfully established.
11. Power on the PC host, activate the Command Line mode, and ping the connected Ethernet device to see if it responds.
  - 11.1 To enable the “Command Line mode”, click **Run** in the Start menu, type **Command**, and click **OK** to continue.



- 11.2 Type ping 192.168.1.1 command to check the connection. Here we use IP address 192.168.1.1 as an example. Before the testing, be sure your PC host and target device are in the same subnet.

```
C:\WINNT\System32\command.com
C:\>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time<10ms TTL=255
Reply from 192.168.1.1: bytes=32 time<10ms TTL=255
Reply from 192.168.1.1: bytes=32 time<10ms TTL=255
Reply from 192.168.1.1: bytes=32 time<10ms TTL=255
Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

12. Repeat step 10 to make sure that the connection of each device connected to the JetNet 3205G series product is successfully established.
13. Power on the host, activate the Command Line mode, and ping the connected Ethernet device by typing “ping –t 192.168.1.1” command to see if it will respond.
14. The parameter-”t” allow you to continue to ping the network device, as shown in the figure below.

```
C:\WINDOWS\system32\cmd.exe
C:\>ping -t 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
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Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
```

Before you continue, make sure that both PWR1 and PWR2 are successfully connected to power sources. When PWR1 fails, the LED for PWR1 will go out. At that moment, if the ping command is still replying, then it proves that redundant power input function works normally.

15. Exit the Command Line mode, and connect PWR1 power input. At this stage, your JetNet 3205G series product has been tested and the installation is completed.

## 5. Troubles shooting

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- Make sure you are using the correct DC power supplier (DC10~60V for JetNet 3205G/3205G-1F, DC44~57V for JetNet 3205GP/JetNet 3205GP-1F. >50V for PoE at mode).
- Select Ethernet cables with specifications suitable for your applications to set up your systems. Ethernet cables are categorized into unshielded twisted-pair (UTP) and shielded twisted-pair (STP) cables. Category 3, 4, 5 Ethernet cables are suitable for systems with 10 Mbps transmission speed. For systems with 100/1000 Mbps transmission speed, Category 5 Ethernet cables are the only suitable specifications for this environment. Also make sure that the distance between each node cannot be longer than 100 meters (328 feet).
- If the power LEDs goes off as the power cord plugged in, a power failure might occur. Check the power output connection to see if there is any error at the power source. If you still cannot solve the problem, contact your local dealer for assistance

## 6. Technical Specifications

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### Technology

<b>Standard</b>	IEEE802.3 10Base-T IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T IEEE802.3z Gigabit Ethernet Fiber (JetNet 3205G-1F/JetNet 3205GP-1F) IEEE802.3x flow control and back-pressure IEEE802.1p Class of Service IEEE802.1Q Quality of Service
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### Performance

<b>Forwarding Technology</b>	Store and Forward technology
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<b>Packet buffer</b>	1 Mbits
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<b>Alarm contact</b>	1 relay output with current carrying capacity of 1A@24VDC
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### Interface

<b>Number of Ports</b>	5 (or 4) x 10/100/1000 Base-TX with Auto MDI/MDI-X function, Auto-Negotiation 1 (or 0) x SFP socket with hot-swappable function for Gigabit Ethernet SFP Transceiver.
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<b>Connectors</b>	10/100/1000 Base-TX: RJ-45 SFP socket: support 3.3V Gigabit 1.25 Gbps fiber transceiver and 155Mbps fiber transceiver
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Terminal block: 4-Pin for redundant power input; 2-Pin for alarm relay output

<b>Cables</b>	RJ-45 Connector: 4 pairs of Cat-5e, Cat-6 UTP/STP cable for 1000Base-T Maximum link distance is 100 meters.
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<b>Diagnostic LED</b>	<b>System:</b> Power (Green) x2 , Alarm (Red) x1 <b>RJ-45 port:</b> - Link/Activity (Green): On (Link), Blinking (Activity) Speed (Amber): On (Speed 1000M), Off (Speed 10/100M) <b>PoE port: JetNet 3205GP/JetNet 3205GP-1F</b> - Delivering Power (Green) <b>SFP port: JetNet 3205G-1F/JetNet 3205GP-1F</b> - Link/Activity (Green): On (Link), Blinking (Activity)
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### Power Requirements

<b>System Power</b>	DC 10~60V for JetNet 3205G/JetNet 3205G-1F with polarity reverse correction and over current protection. DC 44~57V (>50V for PoE at mode) for JetNet 3205GP/JetNet 3205GP-1F with polarity reverse correction and over current protection.
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<b>Power Consumption</b>	Max.3Watts for JetNet 3205G/JetNet 3205GP Max.3.6Watts for JetNet 3205GP/JetNet 3205GP-1F
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### Mechanical

<b>Installation</b>	DIN-Rail mount
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<b>Case</b>	Metal case with grade 31 of ingress protection.
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<b>Dimension</b>	120mm(H) x 30mm (W) x 99 mm (D) ( with DIN rail clip)
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<b>Weight</b>	900g with package 600g without package
<b>Environmental</b>	
<b>Operating Temperature</b>	-40°C ~75°C
<b>Operating Humidity</b>	0% ~ 95% non-condensing
<b>Storage Temperature</b>	-40°C ~ 80 °C
<b>Storage Humidity</b>	0%~ 95% non-condensing
<b>Regulatory Approvals</b>	
<b>EMI</b>	FCC Class A, CE/EN55032
<b>EMS</b>	EN61000-4-2,EN61000-4-3,EN61000-4-4,EN61000-4-5,EN61000-4-6, EN61000-4-8, EN61000-4-11, EN55024, EN50121-4
<b>Shock</b>	IEC 60068-2-27 (compliance)
<b>Vibration</b>	IEC 60068-2-6 (compliance)
<b>Free Fall</b>	IEC 60068-2-32 (compliance)
<b>MTBF</b>	380,000 hours

## **7. SFP Fiber Transceiver**

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### **Order Information**

Part Number	Description
SFPGSX	Gigabit SX SFP Transceiver, 850nm, multi-mode/LC, 550m
SFPGSX-w	Gigabit SX SFP Transceiver, 850nm, multi-mode/LC,550m, -40~85°C Wide Temp.
SFPGSX2	Gigabit SX SFP Transceiver, 850nm, multi-mode/LC, 2km
SFPGSX2-w	Gigabit SX SFP Transceiver, 850nm, multi-mode/LC, 2km, -40~85°C Wide Temp.



## Revision History

<b>Edition</b>	<b>Date</b>	<b>Modifications</b>
V1.0	30-Jan,2019	New edition

