

# **IEF-G9010-2MGSFP Series Quick Installation Guide**

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**EtherFire Family**

**Version 2.1, February 2021**

**Technical Support Contact Information**  
**[www.moxa.com/support](http://www.moxa.com/support)**

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**P/N: 1802090100012**



## Package Checklist

The IEF-G9010-2MGSFP Series, which is an industrial IPS firewall, is shipped with the items listed below. If any of these items are missing or damaged, please contact your customer service representative for assistance.

- 1 Industrial next-generation Firewall
- 1 USB-C-to-DB9 cable
- Quick installation guide (printed)
- Warranty card

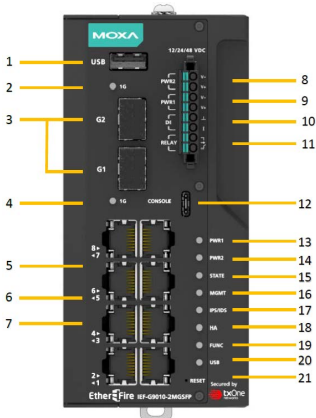
## Features

### Advanced Industrial Networking Capability

- MAC and IP address policy enforcement
- IPS/IDS to monitor and prevent cyberthreats
- Virtual Patch mitigates the manual effort of having to patch devices for vulnerabilities
- Industrial Protocol Whitelisting ensures the safety of industrial equipment
- Efficient industrial device identification and network traffic analysis
- Full NAT capability with 1-to-1, N-to-1, NAT Loopback, and port forwarding
- Support for SIP, H.323, and FTP ALG
- Hardened hardware for -40 to 75°C operating temperature (T model)

# Panel Views of IEF-G9010-2MGSFP Series

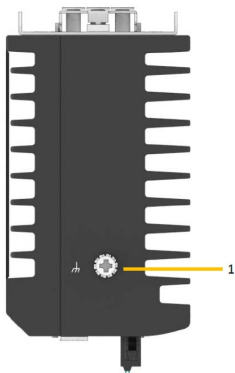
## Front Panel



## Front Panel:

1. USB port for ABC-02-USB
2. 1000 Mbps SFP port speed LED indicator
3. 1000 Mbps SFP ports
4. 1000 Mbps SFP port speed LED indicator
5. 1000 Mbps copper port speed LED indicator
6. 10/100 Mbps copper port speed LED indicator
7. 10/100/1000 Mbps copper port
8. Terminal block with latch for Power 2 input
9. Terminal block with latch for Power 1 input
10. Terminal block with latch for digital input
11. Terminal block with latch for relay output
12. Type-C serial console port
13. Power input PWR1 LED indicator
14. Power input PWR2 LED indicator
15. System status LED indicator
16. SDC Managed state LED indicator
17. IPS/IDS state LED indicator
18. High Available state LED indicator
19. Function state LED indicator
20. USB status LED indicator
21. RESET and REBOOT button

## Top Panel



## Top Panel:

1. Grounding screw

## Rear Panel



## Rear Panel:

1. DIN-rail mounting kit





**STEP 2:** Mounting the IEF-G9010-2MGSFP Series on the wall requires four M3 screws. Use the IEF-G9010-2MGSFP Series with the wall mount plates attached as a guide to mark the correct location of the four screws. The wall-mounting holes are marked **A** in the above diagram.

## Wiring Requirements



### WARNING

Do not disconnect modules or wires unless power has been switched off or the area is known to be non-hazardous. The devices may only be connected to the supply voltage shown on the type plate. The devices are designed for operation with a Safety Extra-Low Voltage. Thus, they may only be connected to the supply voltage connections and to the signal contact with the Safety Extra-Low Voltages (SELV) in compliance with IEC950/EN60950-1/ VDE0805.



### ATTENTION

This unit is a built-in type. When the unit is installed in another piece of equipment, the equipment enclosing the unit must comply with fire enclosure regulation IEC 60950-1/EN60950-1 (or similar regulation).



### ATTENTION

#### **Safety First!**

Be sure to disconnect the power cord before installing and/or wiring your IEF-G9010-2MGSFP Series.

Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size.

If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

Please read and follow these guidelines:

- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.  
**NOTE:** Do not run signal or communications wiring and power wiring through the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.
- You can use the type of signal transmitted through a wire to determine which wires should be kept separate. The rule of thumb is that wiring sharing similar electrical characteristics can be bundled together.
- You should separate input wiring from output wiring.
- We advise that you label the wiring to all devices in the system.
- This product is intended for installation in Restricted Access Location.



## WARNING

Hot Surface. Do not touch.



## ATTENTION

The SFP module only supports Laser Class 1 optical transceivers.

## Grounding the IEF-G9010-2MGSFP Series

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw (M4 type) to the grounding surface prior to connecting devices.



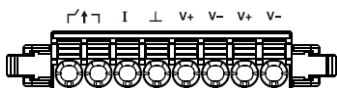
## ATTENTION

This product is intended to be mounted to a well-grounded mounting surface such as a metal panel.

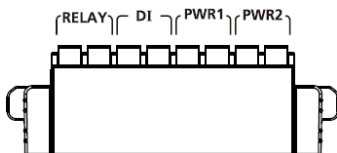
## Wiring the Relay Contact

The IEF-G9010-2MGFFP Series has one set of relay outputs. The relay uses two contacts on the terminal block of the IEF-G9010-2MGFFP Series front panel. Refer to the **Wiring the Redundant Power Inputs** section for instructions on how to connect the wires to the terminal block connector, and how to attach the terminal block connector to the terminal block receptor.

The diagram below indicates the location of the relay contacts on the terminal block.



Top View

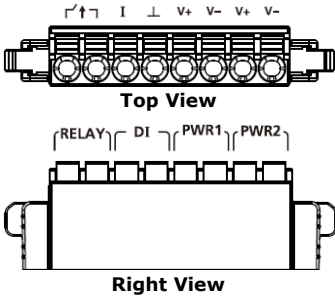


Right View

**Fault:** The two contacts of the 2-pin terminal block connector are used to detect user-configured events. The two wires attached to the fault contacts form an open circuit when a user-configured event is triggered. If a user-configured event does not occur, the fault circuit remains closed.

## Wiring the Redundant Power Inputs

The IEF-G9010-2MGSFP Series has two sets of power inputs—power input 1 and power input 2. The top and side views of the terminal block connector are shown below.



**STEP 1:**

Use a small flat-blade screwdriver to press a wire locker.

**STEP 2:**

Insert a positive/negative DC wire into the V+/V- terminals respectively.

**STEP 3:**

Release the wire locker, and check whether the wire is fixed.

The power cord adapter should be connected to a socket outlet with an earthing connection. The power cord and adapter must comply with Class II construction.

This product is intended to be supplied by a UL Listed Power Adapter or DC power source marked 'L.P.S' or 'Limited Power Source', rated 12 to 48 VDC, 1.265 A (min.), and Tma 75°C (min.). If you require further assistance, please contact your Moxa representative.

**Communication Connections**

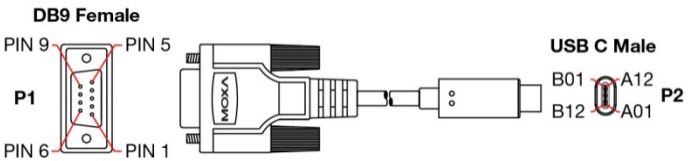
Each IEF-G9010-2MGSFP Series has three types of communication port:

- 1 Type-C console port (RS-232 interface, baudrate: 115200, 8-N-1)
- 8 10/100/1000BaseT(X) Ethernet ports
- 2 1000 Mbps SFP ports

**TYPE-C Console Port Connection**

The IEF-G9010-2MGSFP Series provides one TYBP-C console port located the top on panel. Please connect the Moxa EtherFire to a PC COM port using a Type-C to DB9 connection cable, and then launch a console terminal software, e.g. Moxa PComm Terminal Emulator, to access the IEF-G9010-2MGSFP Series console configuration utility.

**TYPE-C to DB9 Cable Wiring**



P1		P2	
2	—————	A5	BROWN
	—————	B5	GREEN
3	—————	A6	RED
	—————	B6	BLUE
5	—————	A7	ORANGE
	—————	B7	PURPLE



## PIN Definition

Description	P1	P2
TXD	2	A5, B5
RXD	3	A6, B6
GND	5	A7, B7

## 10/100/1000BaseT(X) Ethernet Port Connection

The 10/100/1000BaseT(X) ports located on the IEF-G9010-2MGSFP Series front panel are used to connect to Ethernet-enabled devices. Most users will choose to configure these ports for Auto MDI/MDI-X mode, in which case the port's pinouts are adjusted automatically depending on the type of Ethernet cable used (straight-through or cross-over), and the type of device (NIC-type or HUB/Switch-type) connected to the port. No matter which case you are connecting, we share pinouts for both MDI (NIC-type) ports and MDI-X (HUB/Switch-type) ports.

### 10/100Base T(x) RJ45 Pinouts

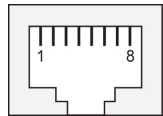
#### MDI Port Pinouts

Pin	Signal
1	Tx+
2	Tx-
3	Rx+
6	Rx-

#### MDI-X Port Pinouts

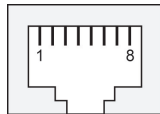
Pin	Signal
1	Rx+
2	Rx-
3	Tx+
6	Tx-

#### 8-pin RJ45



### 1000BaseT RJ45 Pinouts

Pin	MDI	MDI-X
1	BI_DA+	BI_DB+
2	BI_DA-	BI_DB-
3	BI_DB+	BI_DA+
4	BI_DC+	BI_DD+
5	BI_DC-	BI_DD-
6	BI_DB-	BI_DA-
7	BI_DD+	BI_DC+
8	BI_DD-	BI_DC-



## The Reset Button

The reset button has two features:

1. Reboot system: Press and hold the reset button for between 2 and 10 seconds. The MGMT LED will begin to blink every second, which means the system is rebooting.
2. Reset to factory default: Press and hold the reset button for more than 10 seconds. The MGMT LED will begin to blink every half-second, which means the system is resetting itself to factory default.

**NOTE** DO NOT power off the device when loading default settings.

## LED Indicators

The front panel of the IEF-G9010-2MGSFP Series has several LED indicators. The function of each LED is described in the following table:

LED	Color	State	Description
<b>PWR1</b>	Amber	On	Power is being supplied to power input P1 on the main module.
		Off	Power is <b>NOT</b> being supplied to power input P1 on the main module.
<b>PWR2</b>	Amber	On	Power is being supplied to power input P2 on the main module.
		Off	Power is <b>NOT</b> being supplied to power input P2 on the main module.
<b>STATE</b>	Green	On	The system is running normally.
		Off	The device is powered off.
	Red	On	Hardware or system fault.
<b>MGMT</b>	Green	On	The IEF-G9010-2MGSFP Series is managed by Security Dashboard Console.
		Off	The IEF-G9010-2MGSFP Series is <b>NOT</b> managed by Security Dashboard Console.
		Blinking	<ol style="list-style-type: none"> <li>When the MGMT LED is blinking every 1 second, the IEF-G9010-2MGSFP Series is rebooting the system.</li> <li>When the MGMT LED is blinking every 0.5 second, the IEF-G9010-2MGSFP Series is resetting to factory defaults.</li> </ol>
<b>IPS/IDS</b>	Green	On	Intrusion Detection and Prevention System is enabled.
		Off	Intrusion Detection and Prevention System is disabled.
<b>HA</b>	Green	On	High Availability is active.
		Off	High Availability is inactive.
<b>FUNC</b>	Green	On	Reserved for future features.
		Off	Reserved for future features.
<b>USB</b>	Green	On	An ABC-02-USB has been detected.
		Blinking	USB data is being transmitted.
<b>1000M</b>	Green	On	Ethernet link up.
		Off	Ethernet link down.
		Blinking	Data is being transmitted.
<b>10/100M</b>	Green	On	Ethernet link up.
		Off	Ethernet link down.
		Blinking	Data is being transmitted.

## Specifications

Input Current	1.265 A @ 12 V 0.605 A @ 24 V 0.308 A @ 48 V
Input Voltage	12/24/48 VDC, dual power input
Power Consumption	15.18 W (max.)
Operating Temperature	-10 to 60°C (14 to 140°F), standard models -40 to 75°C (-40 to 185°F), wide-temp. models
Storage Temperature	-40 to 85°C