IEC-G102-BP Series
Quick Installation Guide

Version 2.1, January 2021

Technical Support Contact Information
www.moxa.com/support

Package Checklist

The IEC-G102-BP Series, which is an industrial next-generation IPS, 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 IPS
- 1 USB-C to DB9 cable
- Quick installation guide (printed)
- Warranty card

Features

Advanced Industrial Networking Capability

- MAC and IP addresses 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
- Hardened hardware for -40 to 75°C operating temperature (T model)

Panel Views of IEC-G102-BP Series
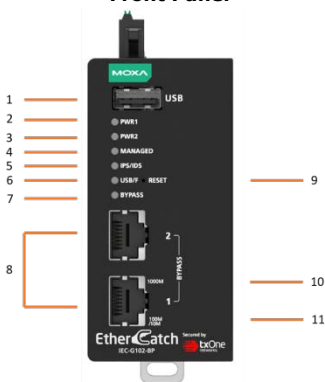
Front Panel

Front Panel:

1. USB port for ABC-02-USB
2. Power input PWR1 LED indicator
3. Power input PWR2 LED indicator
4. MANAGED status LED indicator
5. IPS/IDS state LED indicator
6. USB mount status and FAULT LED indicator
7. BYPASS status LED indicator
8. 10/100/1000Mbps copper port
9. RESET and REBOOT button
10. 1000Mbps copper port speed LED indicator
11. 10/100Mbps copper port speed LED indicator

Top Panel
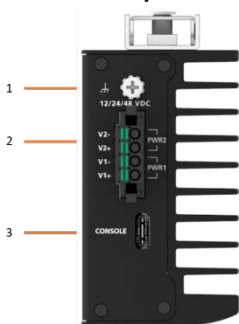
Top Panel:

1. Grounding screw
2. 4-pin terminal block with latch for two power inputs
3. Type-C serial console port
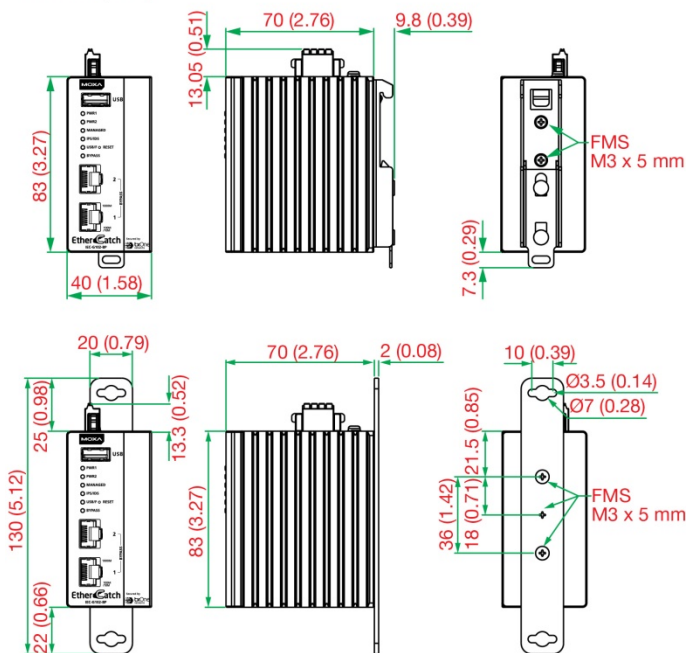
Rear Panel

Rear Panel:

1. DIN-rail mounting kit

Mounting Dimensions

Unit: mm (inch)

DIN-rail Mounting

In the package, the metal DIN-rail mounting kit is fixed to the back panel of the IEC-G102-BP Series. Mount the IEC-G102-BP Series on the corrosion-free mounting rail that adheres to the EN 60715 standard.
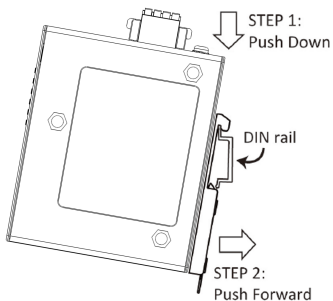
Suggested Installation Method

STEP 1:
Insert the upper lip of the DIN-rail kit into the mounting rail.

STEP 2:
Press the IEC-G102-BP Series towards the mounting rail until it snaps into place.
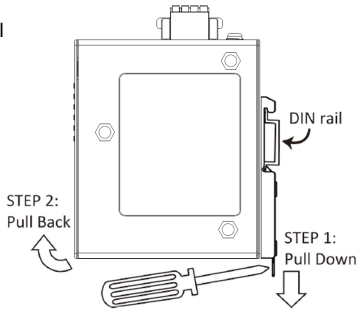
Suggested Removal Method

STEP 1:
Pull down the latch on the DIN-rail kit with a screwdriver.
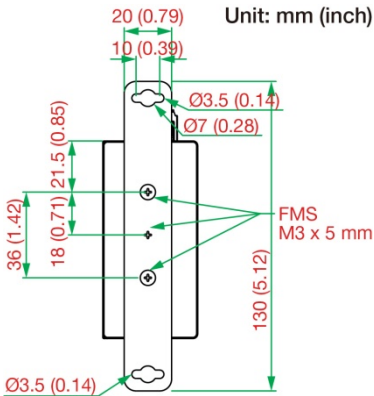
STEP 2:
Slightly pull the IEC-G102-BP Series forward and lift up to remove it from the mounting rail.

Wall Mounting

For some applications, you will find it convenient to mount the IEC-G102-BP Series on the wall, as shown in the following illustrations.

STEP 1: Remove the aluminum DIN-rail attachment plate from the rear panel of the IEC-G102-BP Series, and then attach the wall mount plates with M3 screws, as shown in the below figure.

STEP 2: Mounting the IEC-G102-BP Series on the wall requires two screws. Use the IEC-G102-BP Series with wall mount plates attached, as a guide to mark the correct locations of the 2 screws. The heads of the screws should be less than 6.0 mm in diameter, and the shafts should be less than 3.5 mm in diameter, as shown in the figure on the right.
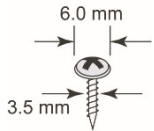
Wiring Requirements

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 IEC-G102-BP 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.

Grounding the IEC-G102-BP Series

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw (M3 type) to the grounding surface prior to connecting devices.
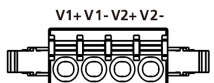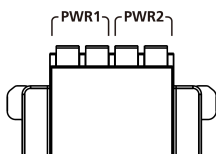
> ⚠️ **ATTENTION**
>
> This product is intended to be mounted to a well-grounded mounting surface such as a metal panel.

Wiring the Redundant Power Inputs

The IEC-G102-BP 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.

V1+ V1- V2+ V2-

Top View

PWR1 PWR2

Side View

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, 0.605 A (min.), and Tma 75°C (min.). If you require further assistance, please contact your Moxa representative.

Communication Connections

Each IEC-G102-BP Series has two types of communication port:

- 1 TYPE-C console port (RS-232 interface, baudrate: 115200)
- 2 10/100/1000BaseT(X) Ethernet ports

TYPE-C Console Port Connection

The IEC-G102-BP Series provides one TYBP-C console port located the top on panel. Please connect the Moxa EtherCatch 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 IEC-G102-BP Series console configuration utility.

TYPE-C to DB9 Cable Wiring

DB9 Female

PIN 9 — PIN 5

P1

PIN 6 — PIN 1

USB C Male

B01 — A12
B12 — A01 **P2**

P1		P2	
2		A5	BROWN
		B5	GREEN
3		A6	RED
		B6	BLUE
5		A7	ORANGE
		B7	PURPLE
7		A8	YELLOW
		B8	GREY
8		A3	BLACK
		B3	WHITE
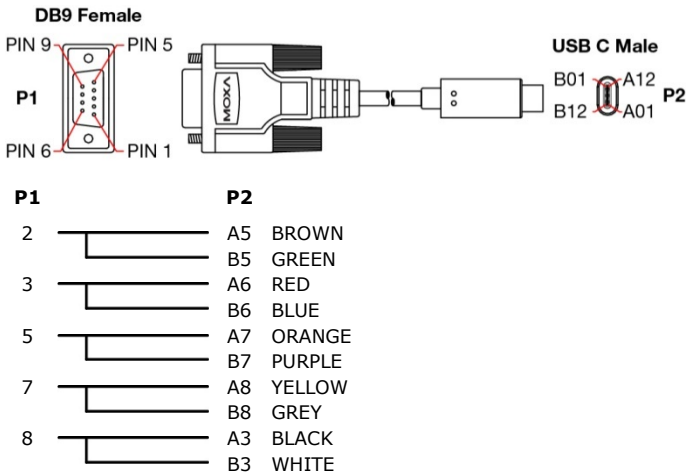
PIN Definition

Description	P1	P2
TXD	2	A5, B5
RXD	3	A6, B6
GND	5	A7, B7
CTS	7	A8, B8
RTS	8	A3, B3

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

The 10/100/1000BaseT(X) ports located on the IEC-G102-BP 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.

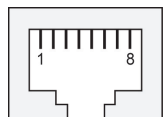**10/100Base T(x) RJ45 Pinouts**

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-
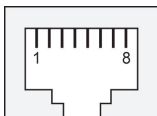
The Reset Button

The reset button has two features:

1. Reboot system: Press and hold the reset button for between 2 and 10 seconds. The MANAGED 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 MANAGED 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 IEC-G102-BP Series has several LED indicators. The function of each LED is described in the following table:

LED	Color	State	Description
PWR1	Amber	On	Power is being supplied to power input P1 on the main module.
		Off	Power is **NOT** being supplied to power input P1 on the main module.
PWR2	Amber	On	Power is being supplied to power input P2 on the main module.
		Off	Power is **NOT** being supplied to power input P2 on the main module.
MANAGED	Green	On	The IEC-G102-BP Series is managed by Security Dashboard Console.
		Off	The IEC-G102-BP Series is **NOT** managed by Security Dashboard Console.
		Blinking	1. When MANAGED LED is blinking every 1 second, the IEC-G102-BP Series is rebooting the system. 2. When the MANAGED LED is blinking every 0.5 second, the IEC-G102-BP Series is resetting to factory defaults.
IPS/IDS	Green	On	Intrusion Detection and Prevention System is enabled.
		Off	Intrusion Detection and Prevention System is disabled.

LED	Color	State	Description
USB/F	Green	On	An ABC-02-USB has been detected.
		Blinking	USB data transmitting.
	RED	On	Hardware or system fault.
BYPASS	Amber	On	Hardware BYPASS is enabled.
		Off	Hardware BYPASS is **NOT** enabled.
1000M	Green	On	Ethernet link up.
		Off	Ethernet link down.
		Blinking	Data is being transmitted.
10/100M	Green	On	Ethernet link up.
		Off	Ethernet link down.
		Blinking	Data is being transmitted.

Specifications

Input Current	0.605 A @ 12 V
	0.297 A @ 24 V
	0.143 A @ 48 V
Input Voltage	12/24/48 VDC, dual power input
Power Consumption	7.26 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