

**Korenix JetLink 1102  
Industrial Modbus RTU/TCP to EtherNet/IP  
Fieldbus Gateway, -10~60°C**

**Korenix JetLink 1302  
Industrial Modbus RTU/TCP to PROFINET  
Fieldbus Gateway, -10~60°C**

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**User Manual**

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Firmware V1.0



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

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User's Manual**

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5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

## Declaration of Conformity

### CE

This product has passed the CE test 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

Note: 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 own expense.

## Technical Support and Assistance

1. Visit the Korenix web site at [www.korenix.com](http://www.korenix.com) where you can find the latest information about the product.

2. Contact your distributor, sales representative, or Korenix's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:

- Product name and serial number
- Description of your peripheral attachments
- Description of your software (operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages

## Warnings, Cautions and Notes

**Warning!** Warnings indicate conditions, which if not observed, can cause personal injury!



**Caution!** Cautions are included to help you avoid damaging hardware or losing data.



e.g.

There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

**Note!** Notes provide optional additional information



## Document Feedback

To assist us in making improvements to this manual, we would welcome comments and constructive criticism. Please send all such - in writing to:

[koreCARE@korenix.com](mailto:koreCARE@korenix.com)

## Packing List

Before setting up the system, check that the items listed below are included and in good condition. If any item does not accord with the table, please contact your dealer immediately.

- 1 x Fieldbus gateway
- 1 x DIN-Rail mounting bracket and screws
- 1 x Wall-mounting bracket

## Safety Instructions

- Read these safety instructions carefully.
- Keep this User Manual for later reference.
- Disconnect this equipment from any DC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
- For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
- The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
- Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- All cautions and warnings on the equipment should be noted.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
- Never pour any liquid into an opening. This may cause fire or electrical shock.
- Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
- If one of the following situations arises, get the equipment checked by service personnel:
  - The power cord or plug is damaged.
  - Liquid has penetrated into the equipment.
  - The equipment has been exposed to moisture.
  - The equipment does not work well, or you cannot get it to work according to the user's manual.
  - The equipment has been dropped and damaged.
  - The equipment has obvious signs of breakage.
- **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO -40°C (-40°F) ~ 85°C (185°F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**

## **Safety Precaution - Static Electricity**

Static electricity can cause bodily harm or damage electronic devices. To avoid damage, keep static-sensitive devices in the static-protective packaging until the installation period. The following guidelines are also recommended:

- Wear a grounded wrist or ankle strap and use gloves to prevent direct contact to the device before servicing the device. Avoid nylon gloves or work clothes, which tend to build up a charge.
- Always disconnect the power from the device before servicing it.

Before plugging a cable into any port, discharge the voltage stored on the cable by touching the electrical contacts to the ground surface.

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# 1 Product Overview

## 1.1 SPECIFICATIONS

Specifications	Description <sup>Ⓢ</sup>	
Interface	JetLink 1102 : 2 x RJ45 + 2 x EtherNet/IP + 2 x RS-232/422/485 <sup>Ⓢ</sup> JetLink 1302 : 2 x RJ45 + 2 x PROFINET + 2 x RS-232/422/485 <sup>Ⓢ</sup>	
	Power Connector	6-pin removable screw terminal (power & relay)
	MicroSD Card	Configuration backup and restore <sup>Ⓢ</sup>
Physical	Enclosure	Metal with solid mounting hardware
	Installation	DIN-rail, wall mount <sup>Ⓢ</sup>
	Dimensions (W x H x D)	42 x 140 x 95mm (1.66" x 5.52" x 3.75") <sup>Ⓢ</sup>
LED Display	System LED	P1, P2, Status <sup>Ⓢ</sup>
	Protocol LED	<ul style="list-style-type: none"> <li>■ JetLink 1102 : EtherNET/IP (EI), Modbus (MS)<sup>Ⓢ</sup></li> <li>■ JetLink 1302: PROFINET (PN), Modbus (MS)<sup>Ⓢ</sup></li> </ul>
	Port LED	<ul style="list-style-type: none"> <li>■ LAN: Speed, Link/Active<sup>Ⓢ</sup></li> <li>■ Serial: Tx, Rx<sup>Ⓢ</sup></li> </ul>
Environment	Operating Temperature <sup>Ⓢ</sup>	-10°C ~ 60°C (14°F ~ 140°F) <sup>Ⓢ</sup>
	Storage Temperature <sup>Ⓢ</sup>	-40°C ~ 85°C (-40°F ~ 185°F) <sup>Ⓢ</sup>
	Ambient Relative Humidity <sup>Ⓢ</sup>	10 ~ 95% (non-condensing)
Power	Power Consumption <sup>Ⓢ</sup>	5.2W <sup>Ⓢ</sup>
	Power Input	12~48 V <sub>DC</sub> , redundant dual power inputs
Certifications	EMC	CE, FCC Part 15 Subpart B (Class A) <sup>Ⓢ</sup>

## 1.2 HARDWARE VIEWS

### 1.2.1 Front View



Figure 1.2 Front View (JETLINK1102)

No.	Item	Description
1	System LED panel	See “LED Indicators” on Page 15 for further details.
2	Default	Press less than 5 seconds to restart device, press over 5 seconds to reset to factory default.
3	Ethernet port	RJ45 port for Modbus/TCP and device configuration.
4	Ethernet port	RJ45 port for EtherNet/IP.
5	Serial port	DB9 pinout, supports 232/422/485.

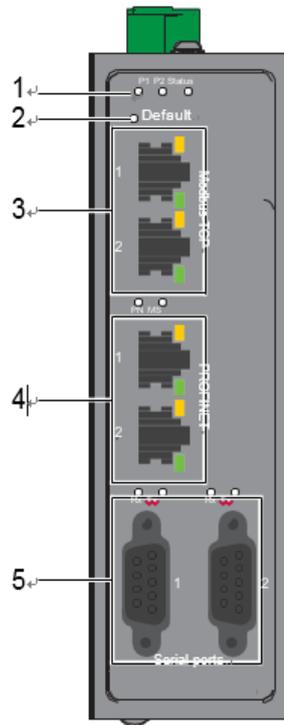


Figure 1.3 Front View (JETLINK1302)

No.	Item	Description
1	System LED panel	See “LED Indicators” on page 15 for further details.
2	Default	Press less than 5 seconds to restart device, press over 5 seconds to reset to factory default.
3	Ethernet port	RJ45 port for Modbus/TCP and device configuration.
4	Ethernet port	RJ45 port for PROFINET.
5	Serial port	DB9 pinout, supports 232/422/485.

1.2.2 Rear View

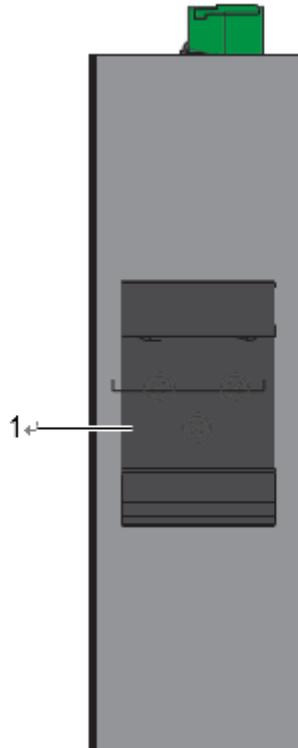


Figure 1.4 Rear View

No.	Item	Description
1	DIN-Rail mounting plate	Mounting plate used for the installation to a standard DIN rail

### 1.2.3 Top View

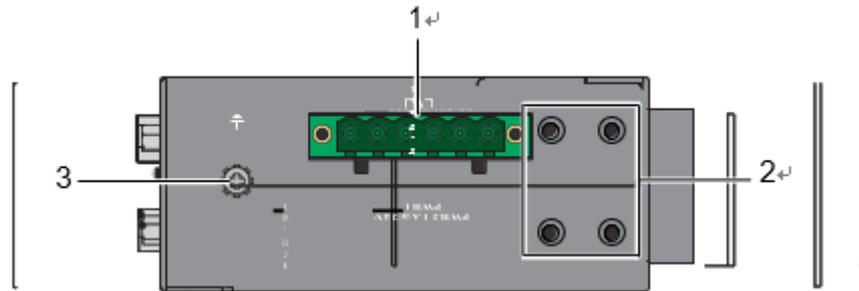


Figure 1.5 Top View

No.	Item	Description
1	Terminal block	Connect cabling for power and alarm wiring
2	Wall mounting holes	Screw holes (x4) used in the installation of a wall mounting plate
3	Ground terminal	Screw terminal used to ground chassis

### 1.2.4 Bottom View

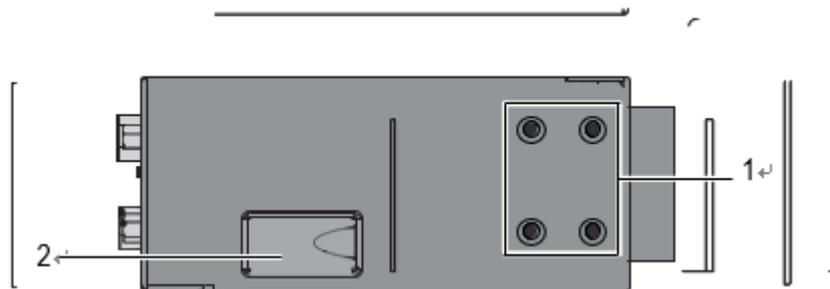


Figure 1.6 Bottom View

No.	Item	Description
1	Wall mounting holes	Screw holes (x4) used in the installation of a wall mounting plate
2	Components Cover	Open to access microSD card port (only supports FAT32 or exFAT file system).

## 1.2.5 LED Indicators

JetLink 1102

Catalog	LED Name	LED Color	Description	
	PW1	Green	Power 1 is ON	
		Off	Power 1 is off or power error condition exists	
	PW2	Green	Power 2 is ON	
		Off	Power 2 is off or power error condition exists	
	System LED	Status	Orange	Blinking: System is ready
				Steady on:
<ul style="list-style-type: none"> <li>– Restore config from SD card successfully at factory default state during booting</li> <li>– Backup config to SD card successfully during booting</li> <li>– Automatically Backup function is disabled</li> </ul>				
		Off	System is no working	
Protocol LED	EtherNET/IP (EI)	Orange	Reserved	
		Green	Blinking: IO connection do not establish Steady on: IO connection establish	
	Modbus (MS)	Orange	Blinking: One of Modbus transaction query failed	
		Green	Steady on: All Modbus transactions query successfully	
		Off	No Modbus transaction to be created	
Port LED	Serial	Orange	Serial port is receiving data	
		Green	Serial port is transmitting data	
		Off	No data is transmitted or received through the serial port	
	RJ45	Orange/ Green	Off: No link	
			Blinking: Link and activity	
			On: Link without activity	
		Off: no link		
		Solid Orange: Current link speed is 100M		
		Solid Green: Current link speed is 10M		

## 1.2.5.1 JetLink 1302

Catalog	LED Name	LED Color	Description	
System LED	PW1	Green	Power 1 is ON	
		Off	Power 1 is off or power error condition exists	
	PW2	Green	Power 2 is ON	
		Off	Power 2 is off or power error condition exists	
	Status	Orange	Blinking:	System is ready
			Steady on:	<ul style="list-style-type: none"> <li>– Restore config from SD card successfully at factory default state during booting</li> <li>– Backup config to SD card successfully during booting</li> <li>– Automatically Backup function is disabled</li> </ul>
		Off	System is no working	
Protocol LED	PROFINET (PN)	Orange	Blinking: PLC connection do not establish	
		Green	Blinking: Indicated by TIA portal Steady on: IO connection establish	
	Modbus (MS)	Orange	Blinking: One of Modbus transaction query failed	
		Green	Steady on: All Modbus transactions query successfully	
		Off	No Modbus transaction to be created	
Port LED	Serial	Orange	Serial port is receiving data	
		Green	Serial port is transmitting data	
		Off	No data is transmitted or received through the serial port	
	RJ45	Green	Off: No link Blinking: Link and activity On: Link without activity	
		Orange/ Green	Off: no link Solid Orange: Current link speed is 100M Solid Green: Current link speed is 10M	

1.3 DIMENSIONS

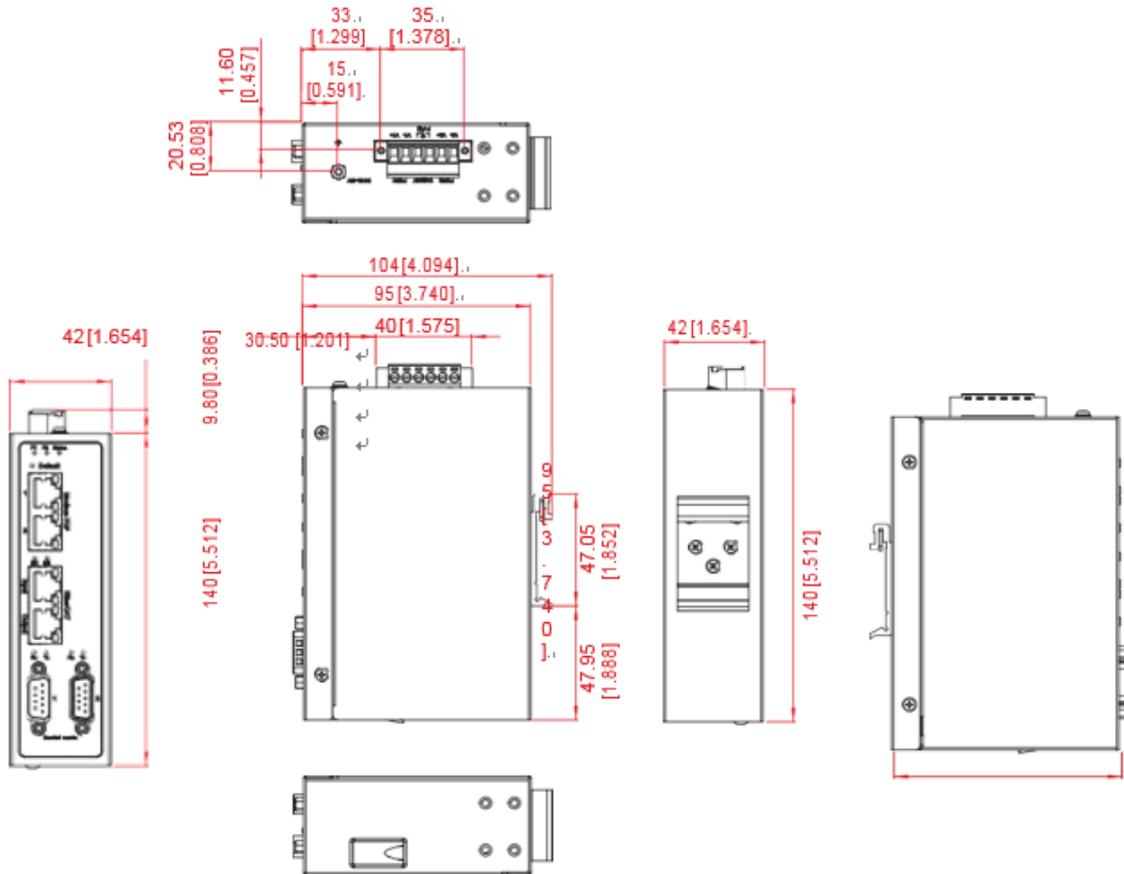


Figure 1.7 Dimensions (JetLink1102/1302)

## **2 Fieldbus Gateway Installation**

### **2.1 INSTALLATION GUIDELINES**

The following guidelines are provided to optimize the device performance. Review the guidelines before installing the device.

- Make sure cabling is away from sources of electrical noise. Radios, power lines, and fluorescent lighting fixtures can interference with the device performance.
- Make sure the cabling is positioned away from equipment that can damage the cables.
- Operating environment is within the ranges listed range, see “Specifications” on page 10.
- Relative humidity around the fieldbus gateway does not exceed 95 percent (noncondensing).
- Altitude at the installation site is not higher than 10,000 feet.
- In 10/100 and 10/100/1000 fixed port devices, the cable length from the fieldbus gateway to connected devices cannot exceed 100 meters (328 feet).
- Make sure airflow around the fieldbus gateway and respective vents is unrestricted. Without proper airflow the fieldbus gateway can overheat. To prevent performance degradation and damage to the fieldbus gateway, make sure there is clearance at the top and bottom and around the exhaust vents.

#### **2.1.1 Connecting Hardware**

In this instruction, it will explain how to find a proper location for your Fieldbus Gateways, and how to connect to the network, hock up the power cable, and connect to the JetLink Seies.

### **2.2 VERIFYING FIELDBUS GATEWAY OPERATION**

Before installing the device in a rack or on a wall, power on the fieldbus gateway to verify that the fieldbus gateway passes the power-on self-test (POST). To connect the cabling to the power source see “Power Supply Installation” on page 28

At startup (POST), the System LED blinks green, while the remaining LEDs are a solidy green. Once the fieldbus gateway passes POST self-test, the System LED turns green. The other LEDs turn off and return to their operating status. If the fieldbus gateway fails POST, the System LED fieldbus gateways to an amber state.

After a successful self-test, power down the fieldbus gateway and disconnect the power cabling.

The fieldbus gateway is now ready for installation on its final location.

## 2.3 INSTALLING THE FIELDBUS GATEWAY

### 2.3.1 DIN Rail Mounting

The DIN rail mount option is the quickest installation option. Additionally, it optimizes the use of rail space.

The metal DIN rail kit is secured to the rear of the fieldbus gateway. The device can be mounted onto a standard 35 mm (1.37") x 7.5 mm (0.3") height DIN rail. The devices can be mounted vertically or horizontally. Refer to the following guidelines for further information.

**Note!** A corrosion-free mounting rail is advisable.



When installing, make sure to allow for enough space to properly install the cabling.

#### 2.3.1.1 Installing the DIN-Rail Mounting Kit

1. Position the rear panel of the fieldbus gateway directly in front of the DIN rail, making sure that the top of the DIN rail clip hooks over the top of the DIN rail, as shown in the following illustration.

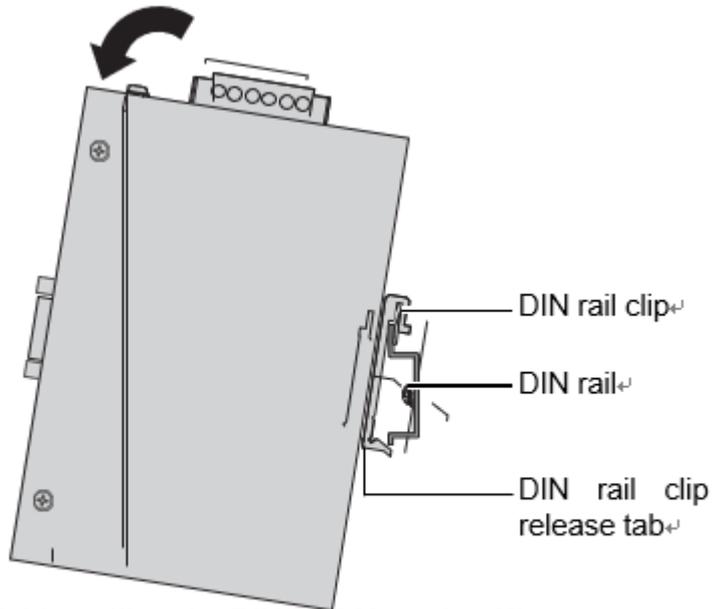


**Warning!** Do not install the DIN rail under or in front of the spring mechanism on the DIN rail clip to prevent damage to the DIN rail clip or the DIN rail.

Make sure the DIN rail is inserted behind the spring mechanism.

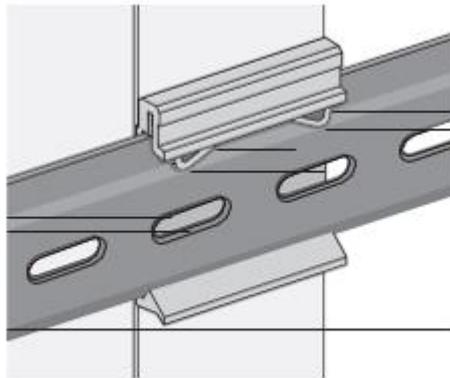
2. Once the DIN rail is seated correctly in the DIN rail clip, press the front of the fieldbus gateway to rotate the fieldbus gateway down and into the release tab on the DIN rail clip

If seated correctly, the bottom of the DIN rail should be fully inserted in the release tab.



**Figure 2.1 Installing the DIN-Rail Mounting Kit**

See the following figure for an illustration of a completed DIN installation procedure.

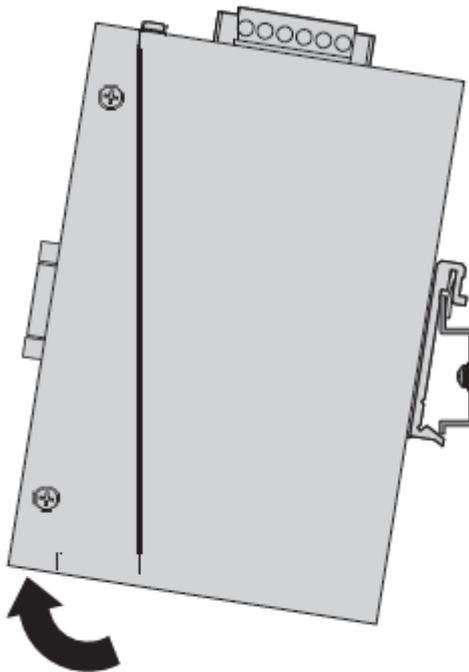


**Figure 2.2 Correctly Installed DIN Rail Kit**

3. Grasp the bottom of the fieldbus gateway and slightly rotate it upwards. If there is resistance, the fieldbus gateway is correctly installed. Otherwise, re-attempt the installation process from the beginning.

### 2.3.1.2 Removing the DIN-Rail Mounting Kit

1. Ensure that power is removed from the fieldbus gateway, and disconnect all cables and connectors from the front panel of the fieldbus gateway.
2. Push down on the top of the DIN rail clip release tab with your finger. As the clip releases, lift the bottom of the fieldbus gateway, as shown in the following illustration.



**Figure 2.3 Removing the DIN-Rail**

### 2.3.2 Wall-Mounting

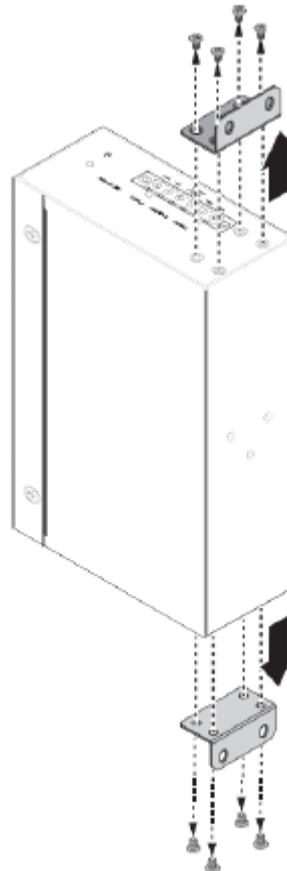
The wall mounting option provides better shock and vibration resistance than the DIN rail vertical mount.

**Note!** When installing, make sure to allow for enough space to properly install the cabling



Before the device can be mounted on a wall, you will need to remove the DIN rail plate.

1. Rotate the device to the rear side and locate the DIN mounting plate.
2. Remove the screws securing the DIN mounting plate to the rear panel of the fieldbus gateway.
3. Remove the DIN mounting plate. Store the DIN mounting plate and provided screws for later use.
4. Align the wall mounting plates on the rear side. The screw holes on the device and the mounting plates must be aligned, see the following illustration.
5. Secure the wall mount plates with M3 screws, see the following figure.



**Figure 2.4 Installing Wall Mount Plates**

Once the wall mounting plates are secure on the device, you will need to attach the wall screws (x4).

6. Locate the installation site and place the fieldbus gateway against the wall, making sure it is the final installation location.
7. Use the wall mount plates as a guide to mark the locations of the screw holes.
8. Drill four holes over the four marked locations on the wall, keeping in mind that the holes must accommodate wall sinks in addition to the screws.
9. Insert the wall sinks into the walls.
10. Insert the screws into the wall sinks. Leave a 2 mm gap between the wall and the screw head to allow for wall mount plate insertion.



**Figure 2.5 Securing Wall Mounting Screws**

### Note!



- Make sure the screws dimensions are suitable for use with the wall mounting plate.
- Do not completely tighten the screws into the wall. A final adjustment may be needed before fully securing the wall mounting plates on the wall.

11. Align the wall mount plate over the screws on the wall.
12. Install the wall mount plate on the screws and slide it forward to lock in place, see the following figure.
13. Once the device is installed on the wall, tighten the screws to secure the device.

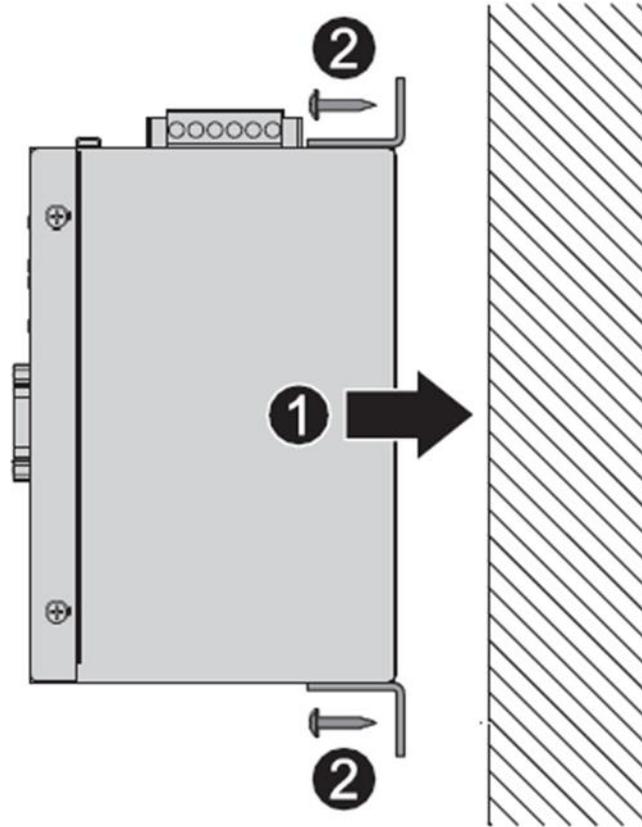


Figure 2.6 Wall Mount Installation

## 2.4 CONNECTING THE FIELDBUS GATEWAY TO ETHERNET PORTS

### 2.4.1 RJ45 Ethernet Cable Wiring

For RJ45 connectors, data-quality, twisted pair cabling (rated CAT5 or better) is recommended. The connector bodies on the RJ45 Ethernet ports are metallic and connected to the GND terminal. For best performance, use shielded cabling. Shielded cabling may be used to provide further protection.

\*Maximum cable length: 100 meters for 10/100BaseT.

Straight-thru Cable Wiring		Cross-over Cable Wiring	
Pin 1	Pin 1	Pin 1	Pin 3
Pin 2	Pin 2	Pin 2	Pin 6
Pin 3	Pin 3	Pin 3	Pin 1
Pin 6	Pin 6	Pin 6	Pin 2

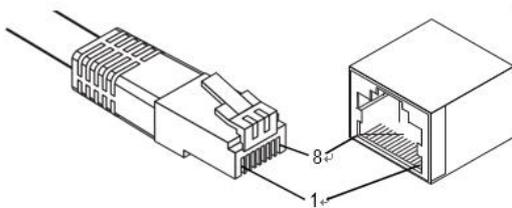


Figure 2.7 Ethernet Plug & Connector Pin Position

## 2.5 SERIAL CONNECTION

JetLink Series provides eight ports DB9 (male) connectors. RS-232/422/485 pin assignments as below:

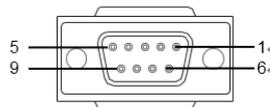


Figure 2.8 DB 9 Pin Position

Pin	1	2	3	4	5	6	7	8	9
RS-232	DCD	RX	TX	DTR	GND	DSR	RTS	CTS	RI
RS-422	TX-			TX+	GND		RX+		RX-
RS-485	DATA-			DATA+	GND				

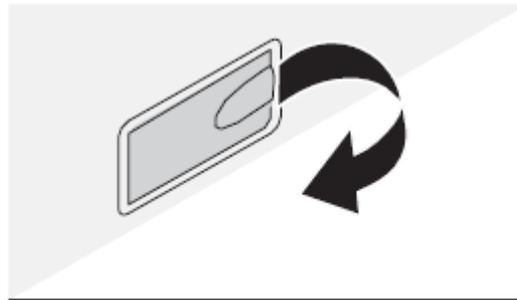
## 2.6 MICROSD CARD INSTALLATION

The JetLink Series provides user with an easy way to backup, restore, and deploy configuration settings. The fieldbus gateway provides a microSD card slot to support simple means to manage system configuration settings.

Only microSD cards with the FAT32 or exFAT file systems are supported.

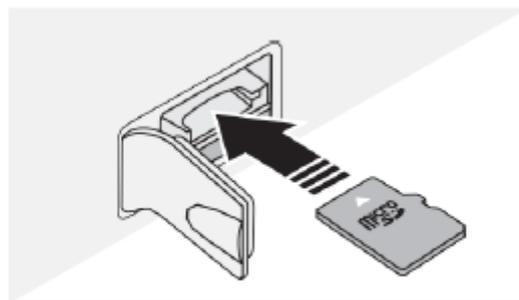
### 2.6.1 Installing a microSD Card

1. Before continuing, make sure the file system on the microSD card is set to FAT32 or exFAT. If necessary, format the microSD card and then continue with the procedure.
2. Open the component cover.



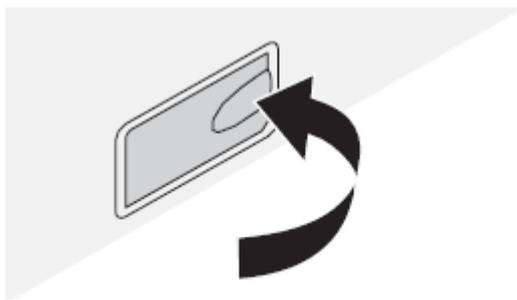
**Figure 2.9 Opening the Component Cover**

3. The microSD card has a beveled edge. Align the microSD card with the slot making sure the card is aligned with the groove. If there is any resistance, remove the card and re-align it to the slot.
4. Insert the microSD card and press it in until an audible click sounds.



**Figure 2.10 Installing the microSD Card**

5. Close the component cover.



**Figure 2.11 Closing the Component Cover**

## 2.6.2 Utilizing a MicroSD Card

1. The device includes a microSD port to provide easy functionality to backup and deployment operations. The following information describes the supported uses when a microSD card (FAT32 or exFAT) is installed in the device.

Further information see “Backup Manager” on page 49 and “Upgrade Manager” on page 50

2. The following functions are available:

- Deployment management:

- Reset configuration to factory default and power off.
- Insert a microSD card with an valid configuration file.
- Power on the device.
- The device will use the valid configuration settings in the microSD card.

- Backup management:

- Device setting is not factory default.
- Enable Automatically Backup, see “Backup Manager” on page 49.
- Power off the device and insert a microSD card.
- Power on the device. The device’s current configuration settings will saves to the microSD card.

### 2.6.2.1 MicroSD Support

In the event of possible function errors, see the following information:

1. Check that the microSD card file system is FAT32 or exFAT.
2. Check that the microSD card has at least 20 Mbytes of free space.
3. Check that the microSD card is not write-protected.

4. Check that the file system is not corrupted.
5. Check that the microSD card is not damage.

If any of the events occur, the fieldbus gateway halts operation and the status LED begins flashing.

## 2.7 POWER SUPPLY INSTALLATION

### 2.7.1 Overview



**Warning!** Power down and disconnect the power cord before servicing or wiring the fieldbus gateway.



**Caution!** Do not disconnect modules or cabling unless the power is first switched off.

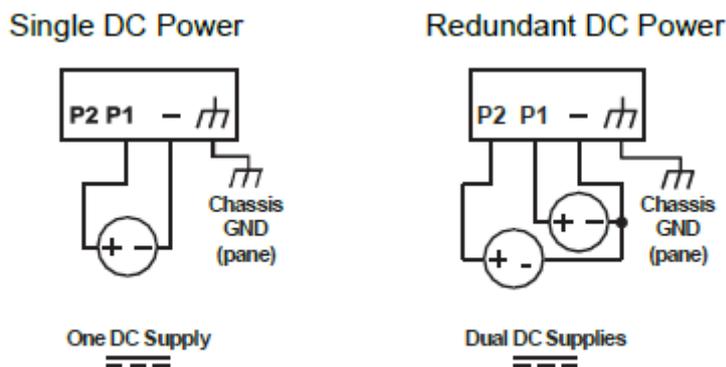
The device only supports the voltage outlined in the type plate. Do not use any other power components except those specifically designated for the fieldbus gateway device.



**Caution!** Disconnect the power cord before installation or cable wiring.

The fieldbus gateways can be powered by using the same DC source used to power other devices. A DC voltage range of 12 to 48 VDC must be applied between the V1+ terminal and the V1- terminal (PW1), see the following illustrations. The chassis ground screw terminal should be tied to the panel or chassis ground. A redundant power configuration is supported through a secondary power supply unit to reduce network down time as a result of power loss.

JetLink Seies support 12 to 48 VDC. Dual power inputs are supported and allow you to connect a backup power source.



**Figure 2.12 Power Wiring for JetLink Seies**

## 2.7.2 Considerations

Take into consideration the following guidelines before wiring the device:

- The Terminal Block (CN1) is suitable for 12-24 AWG (3.31 - 0.205 mm<sup>2</sup>). Torque value 7 lb-in.
- The cross sectional area of the earthing conductors shall be at least 3.31 mm<sup>2</sup>.
- Calculate the maximum possible current for each power and common wire. Make sure the power draw is within limits of local electrical code regulations.
- For best practices, route wiring for power and devices on separate paths.
- Do not bundle together wiring with similar electrical characteristics.
- Make sure to separate input and output wiring.
- Label all wiring and cabling to the various devices for more effective management and servicing.

### Note!



Routing communications and power wiring through the same conduit may cause signal interference. To avoid interference and signal degradation, route power and communications wires through separate conduits.

## 2.7.3 Grounding the Device



**Caution!** Do not disconnect modules or cabling unless the power is first switched off.

The device only supports the voltage outlined in the type plate. Do not use any other power components except those specifically designated for the fieldbus gateway device.

**Caution!** Before connecting the device properly ground the device. Lack of a proper grounding setup may result in a safety risk and could be hazardous.



**Caution!** Do not service equipment or cables during periods of lightning activity.

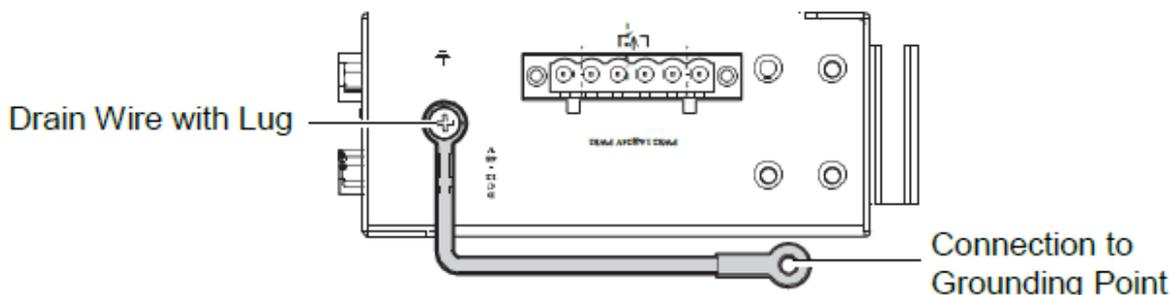


**Caution!** Do not service any components unless qualified and authorized to do so.



**Caution!** Do not block air ventilation holes.

Electromagnetic Interference (EMI) affects the transmission performance of a device. By properly grounding the device to earth ground through a drain wire, you can setup the best possible noise immunity and emissions.



**Figure 2.13 Grounding Connection**

By connecting the ground terminal by drain wire to earth ground the fieldbus gateway and chassis can be ground.

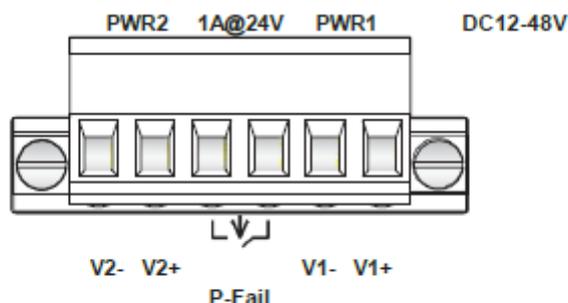
**Note!**



Before applying power to the grounded fieldbus gateway, it is advisable to use a volt meter to ensure there is no voltage difference between the power supply's negative output terminal and the grounding point on the fieldbus gateway.

**2.7.4 Wiring a Relay Contact**

The following section details the wiring of the relay output. The terminal block on the JetLink Seies is wired and then installed onto the terminal receptor located on the JetLink Seies.



**Figure 2.14 Terminal Receptor: Relay Contact**

The terminal receptor includes a total of six pins: two for PWR1, two for PWR2 and two for a fault circuit.

### 2.7.5 Wiring the Power Inputs



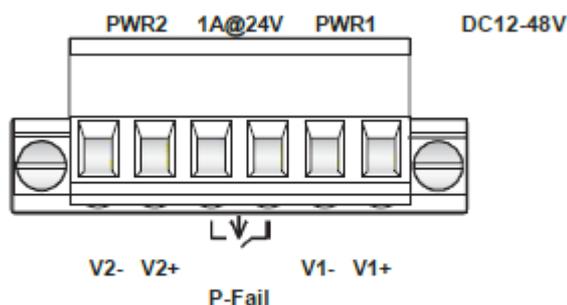
**Caution!** Do not disconnect modules or cabling unless the power is first switched off.

The device only supports the voltage outlined in the type plate. Do not use any other power components except those specifically designated for the fieldbus gateway device.



**Warning!** Power down and disconnect the power cord before servicing or wiring the fieldbus gateway.

There are two power inputs for normal and redundant power configurations. The power input 2 is used for wiring a redundant power configuration. See the following for terminal block connector views.



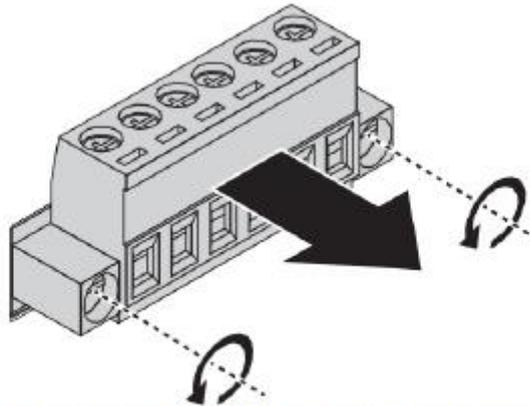
**Figure 2.15 Terminal Receptor: Power Input Contacts**

To wire the power inputs:

Make sure the power is not connected to the fieldbus gateway or the power converter before proceeding.

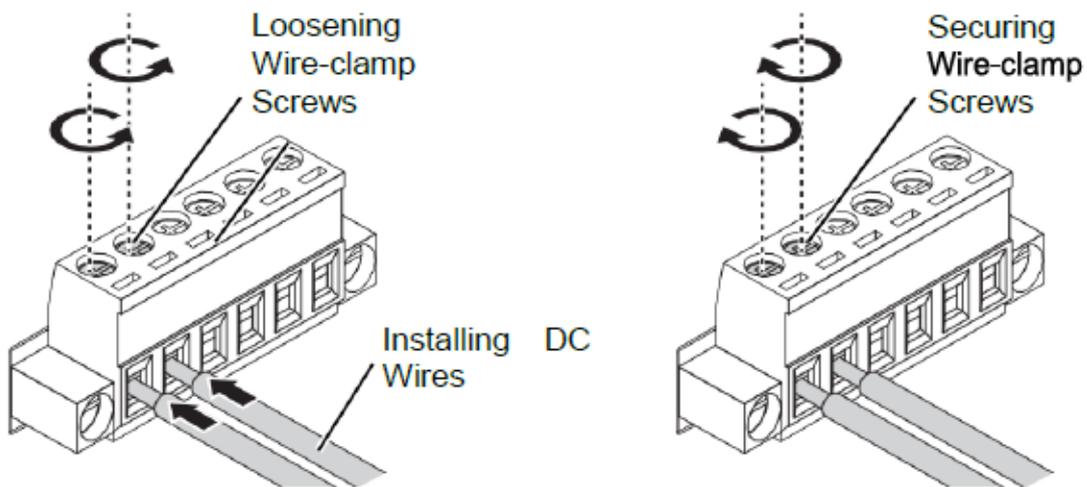
1. Loosen the screws securing terminal block to the terminal block receptor.

2. Remove the terminal block from the fieldbus gateway.



**Figure 2.16 Removing a Terminal Block**

3. Insert a small flat-bladed screwdriver in the V1+/V1- wire-clamp screws, and loosen the screws.
4. Insert the negative/positive DC wires into the V+/V- terminals of PW1. If setting up power redundancy, connect PW2 in the same manner.
5. Tighten the wire-clamp screws to secure the DC wires in place.

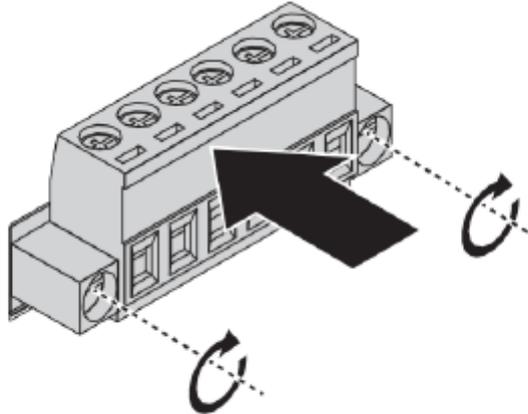


**Figure 2.17 Installing DC Wires in a Terminal Block**

6. Align the terminal block over the terminal block receptor on the fieldbus gateway.
7. Insert the terminal block and press it in until it is flush with the terminal block receptor.

8. Tighten the screws on the terminal block to secure it to the terminal block receptor.

If there is no gap between the terminal block and the terminal receptor, the terminal block is seated correctly.



**Figure 2.18 Securing a Terminal Block to a Receptor**

## 2.8 RESET BUTTON

Reset configuration to factory default:

- Press and hold Reset button for 5 seconds.

System reboot:

- Press and hold Reset button for 2 seconds.



**Note!** Do NOT power off the fieldbus gateway when loading default settings.

## 3 Managing Fieldbus Gateway

### 3.1 LOG IN

To access the login window, connect the device to the network, see “Connecting the Fieldbus Gateway to Ethernet Ports” on page 25. Once the fieldbus gateway is installed and connected, power on the fieldbus gateway see the following procedures to log into your fieldbus gateway.

When the fieldbus gateway is first installed, the default network configuration is set to DHCP enabled. You will need to make sure your network environment supports the fieldbus gateway setup before connecting it to the network.

1. Launch your web browser on a computer.
2. In the browser’s address bar type in the fieldbus gateway’s default IP address (192.168.10.1). The login screen displays.
3. Enter the default user name and password (admin/admin) to log into the management interface. You can change the default password after you have successfully logged in.
4. Click Login to enter the management interface.

The image shows a web-based login interface. It features a light yellow background with a blue border. At the top, the label "Username" is positioned above a white text input field. Below this, the label "Password" is positioned above another white text input field. At the bottom center of the form, there is a blue rectangular button with the word "Login" written in white text.

**Figure 3.1 Login Screen**

#### 3.1.1 Changing Default Password

In keeping with good management and security practices, it is recommended that you change the default password as soon as the device is functioning and setup correctly. The following details the necessary steps to change the default password.

To change the password:

1. Navigate to **System Management > Change Password**.
2. In the **Password** field, type in the new password. Re-type the same password in the **Confirmation** field.
3. Click **Apply** to change the current settings.



**Figure 3.2 Changing a Default Password**

After saving all the desired settings, perform a system save (System Management > **Apply Configuration**). The changes are saved.

## 3.2 OVERVIEW

### 3.2.1 Device Information

The Device Information menu lists information, such as: Model, Firmware version, MAC Address, and more, pertaining to the system. The information is for review only. To modify the device information, see the respective item within the user interface.

The following figures represent multiple supported devices. Some interface screens may represent specific device models.

To access this page, click **Overview > Device Information > System**

The following table describes the items in the previous figure.

Item	Description
Model	Displays the model name of the device.
Firmware Version	Displays the current firmware version of the device.
Uptime	Displays the accumulated time for continuous operation.

The following table describes the items in the previous figure.

Information Name	Information Value
MAC Address	74:FE:48:26:CF:88
Mode	Static
IP Address	192.168.1.167
Subnet Mask	255.255.255.0
Gateway	192.168.10.1

Figure 3.4 Overview > Device Information > Modbus/TCP

Item	Description
MAC Address	Displays the MAC address of the device.
Mode	Displays the IP address setting mode of the device
IP Address	Displays the assigned IP address of the device.
Subnet Mask	Displays the assigned subnet mask of the device.
Gateway	Displays the assigned gateway of the device.

The following figure displays the menu as found in the JetLink1102.

Information Name	Information Value
MAC Address	7C:38:56:33:39:37
Mode	Static
IP Address	192.168.1.165
Subnet Mask	255.255.255.0
Gateway	192.168.10.1

Figure 3.5 Overview > Device Information > EtherNet/IP

Item	Description
MAC Address	Displays the MAC address of the device.
Mode	Displays the IP address setting mode of the device
IP Address	Displays the assigned IP address of the device.
Subnet Mask	Displays the assigned subnet mask of the device.
Gateway	Displays the assigned gateway of the device.

The following figure displays the menu as found in the JetLink1302

PROFINET	
Information Name	Information Value
MAG Address	98:5D:AD:5C:BC:4F
Mode	Static
IP Address	0.0.0.0
Subnet Mask	0.0.0.0
Gateway	0.0.0.0

Figure 3.6 Overview > Device Information > PROFINET

Item	Description
MAC Address	Displays the MAC address of the device.
Mode	Displays the IP address setting mode of the device
IP Address	Displays the assigned IP address of the device.
Subnet Mask	Displays the assigned subnet mask of the device.
Gateway	Displays the assigned gateway of the device.

### 3.2.2 Diagnose

The following tables are only available for JetLink 1102.

- The ensuing table for **EtherNet/IP Instance** table settings are informational only: AA, O->T Instance (Exclusive Owner), Exclusive Owner Data Size, O->T Instance(Input Only), Input Only Data Size, T->O Instance and T->O Instance Data Size.
- The ensuing table for **EtherNet/IP Overview** table settings are informational only: Class3 connections, Class1 connections, Total TCP Transmit Packets, Total TCP Receive Packets, Total UDP Transmit Packets and Total UDP Receive Packets.
- The ensuing table for **I/O Connection** table settings are informational only: UP Time, Originator, Receive Address, O->T Packets, T->O Packets, O->T Connection ID, O->T RPI (ms), T->O Connection ID and T->O RPI (ms).

The following tables are only available for JetLink 1302.

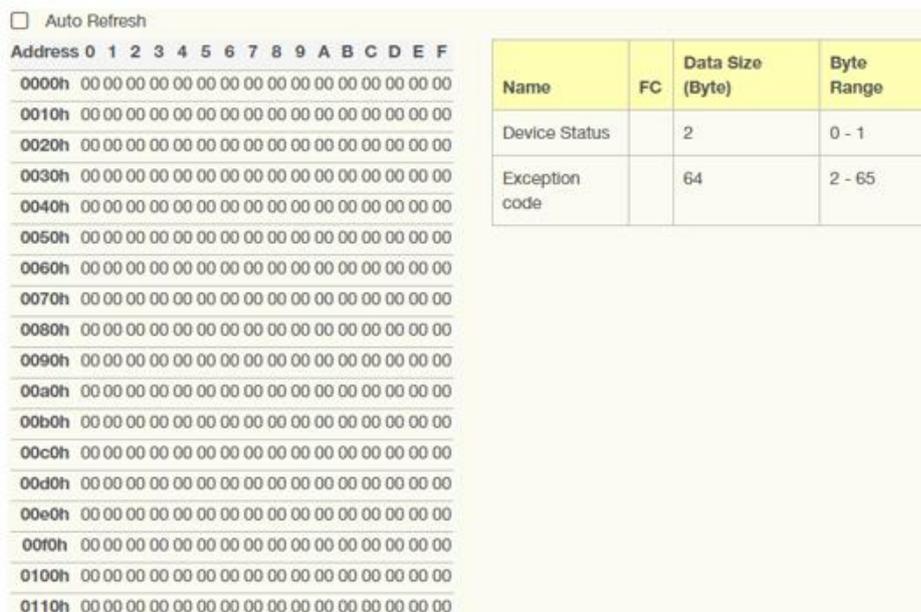
- The ensuing table for **PROFINET** table settings are informational only: Connect Status, Connect Counter, Connected PLC MAC Address, Connected PLC IP Address, PLC Operation Mode, Device Name and Send Clock (ms).
- The ensuing table for **Modbus** table settings are informational only: Transaction Name, Connect Status, Read Counter, Write Counter, Connect Error Counter, Connect Error Counter and Write Error Counter.

### 3.2.3 Data View

I/O Data View function allows for the display of exchanged data for all I/O modules. Select data flow directions to obtain the correct data of EtherNet/IP data for JeyLink1102, and Profinet slot data for JetLink1302.

To access this page, click **Overview > Data View**.

The following figure displays the menu as found in the JetLink1102.



**Figure 3.8 Overview > Data View (JetLink 1102)**

The following table describes the items in the previous figure.

Item	Description
Auto Refresh	Check the option to automatically have the table refresh the information.



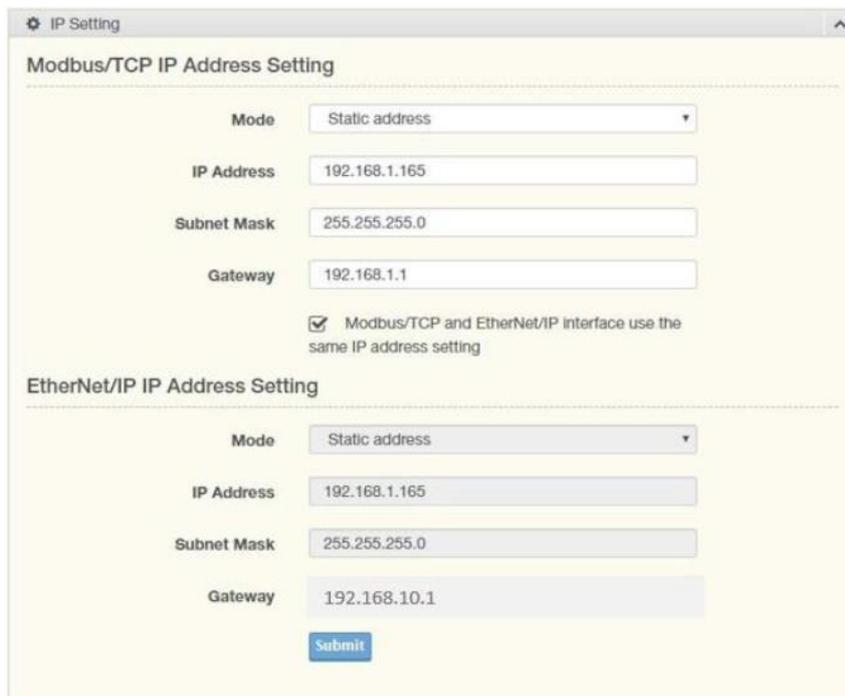


Figure 3.11 Network Setting > IP Setting

The following table describes the items in the previous figure.

Item	Description
Modbus/TCP and EtherNet/IP interface use the same IP address setting	
Mode	Click the drop-down menu to select the IP address setting mode: Static address, or DHCP client.
IP Address	Enter a value to specify the IP address of the interface. The default is 192.168.10.1.
Subnet Mask	Enter a value to specify the IP subnet mask for the interface. The default is 255.255.255.0.
Gateway	Enter a value to specify the default gateway for the interface. The default is 192.168.1.254.
Modbus/TCP and EtherNet/IP interface use the same IP address setting	<p>Check the option to use same IP address setting on Modbus/TCP and EtherNet/IP interface. In this mode, the Ethernet ports of Modbus/TCP and EtherNet/IP are bridged, so the traffic can be forwarded between these interfaces.</p> <p>Unchecked the option to use two different IP subnet on Modbus/TCP and EtherNet/IP interface. In this mode, the Ethernet ports of Modbus/ TCP and EtherNet/IP are not bridged, so the traffic can't be forwarded between these interfaces.</p>
EtherNet/IP IP Address Setting	
Mode	Click the drop-down menu to select the IP Address Setting mode: Static address, or DHCP client.
IP Address	Enter a value to specify the IP address of the interface. The default is 192.168.10.1.
Subnet Mask	Enter a value to specify the IP subnet mask for the interface. The default is 255.255.255.0.
Gateway	Enter a value to specify the default gateway for the interface. The default is 192.168.1.254.

The following figure displays the menu as found in the JetLink1302



Figure 3.12 Network Setting > IP Setting

The following table describes the items in the previous figure.

Item	Description
Modbus/TCP and EtherNet/IP interface use the same IP address setting	
Mode	Click the drop-down menu to select the IP address setting mode: Static address, or DHCP client.
IP Address	Enter a value to specify the IP address of the interface. The default is 192.168.10.1.
Subnet Mask	Enter a value to specify the IP subnet mask for the interface. The default is 255.255.255.0.
Gateway	Enter a value to specify the default gateway for the interface. The default is 192.168.1.254.
Modbus/TCP and EtherNet/IP interface use the same IP address setting	<p>Check the option to use same IP address setting on Modbus/TCP and EtherNet/IP interface. In this mode, the Ethernet ports of Modbus/TCP and EtherNet/IP are bridged, so the traffic can be forwarded between these interfaces.</p> <p>Unchecked the option to use two different IP subnet on Modbus/TCP and EtherNet/IP interface. In this mode, the Ethernet ports of Modbus/ TCP and EtherNet/IP are not bridged, so the traffic can't be forwarded between these interfaces.</p>
PROFINET Setting	
Mode	Displays the IP address setting mode of the device.
IP Address	Enter a value to specify the IP address of the interface. The default is 0.0.0.0.
Subnet Mask	Enter a value to specify the IP subnet mask for the interface. The default is 0.0.0.0.
Gateway	Enter a value to specify the default gateway for the interface. The default is 0.0.0.0.

### 3.4 SERIAL SETTINGS

#### 3.4.1 Port

To access this page, click **Serial Settings > Port 1/Port 2**.

The screenshot shows a configuration window titled 'Port 1'. It contains several dropdown menus for serial communication settings:
 

- Type: RS232
- Baud Rate: 9600
- Parity: None
- Data Bits: 8
- Stop Bits: 1
- Flow Control: None

 A blue 'Submit' button is located at the bottom center of the form.

The following table describes the items in the previous figure.

Item	Description
Type	Click the drop-down menu to select a serial interface: RS232, RS422 or RS485.
Baud Rate	Enter a value to specify the baud rate. The value should conform to the current transmission speeds of connected devices when setting the baud rate.
Parity	Click the drop-down menu to select the parity: None, Odd, Even, Mark or Space.
Data Bits	Click the drop-down menu to select the data bits: 5, 6, 7, or 8. Stop Bits
Stop Bits	Click the drop-down menu to select the stop bits: 1, 1.5 or 2. Flow Control
Flow Control	Click the drop-down menu to select the flow control mode: None, XOn/XOff or RTS/CTS.
Submit	Click Submit to save the values and update the screen.

### 3.5 PROTOCOL SETTING

#### 3.5.1 EtherNet/IP Setting

On the EtherNet/IP network, the gateway transmits mapped data to scanner through I/O data. The first two I/O mapped bytes in either direction can be dedicated for status/control information, and another 64 bytes of data coming from the Modbus/TCP network can feature the Modbus exception codes.

The EtherNet/IP Setting page is only available for JETLINK1102. To access this page, click **Protocol Setting > EtherNet/IP Setting**.

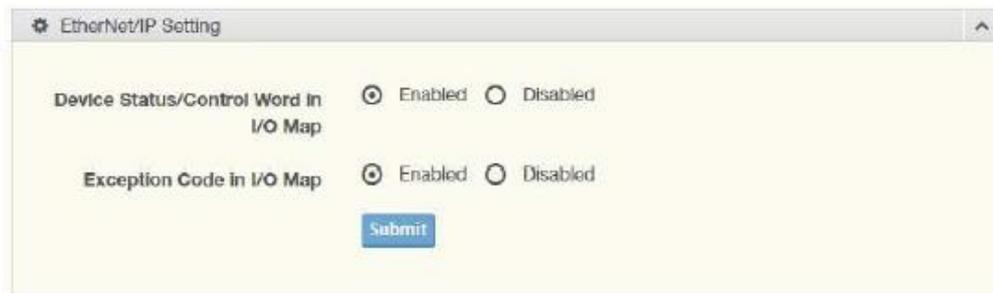


Figure 3.15 Protocol Setting > EtherNet/IP Setting

The following table describes the items in the previous figure.

Item	Description
Device Status/ Control Word in I/O Map	Select <b>Enabled</b> to dedicate the first two I/O mapped bytes for status/ control information (default: <b>Enabled</b> ).
Exception Code in I/ O Map	Select <b>Enabled</b> to dedicate the last 64 bytes of data from the EtherNet/IP network stream (default: <b>Enabled</b> ).
Submit	Click <b>Submit</b> to save the values and update the screen.

### 3.5.2 PROFINET Setting

On the PROFINET network, the gateway transmits mapped data to PROFINET I/O Slot. There are two types of slot mappings as defined in the following figure. The PROFINET Setting page is only available for JETLINK1302. To access this page, click **Protocol Setting > PROFINET Setting**.

**Figure 3.16 Protocol Setting > PROFINET Setting**

The following table describes the items in the previous figure

Item	Description
Device Status/ Control Word in Slot	When enabled, Device Status/Control Word should be in PROFINET slot 1. The Modbus exception codes should be in PROFINET I/O slot 2. When disabled, the Modbus exception codes should be in PROFINET I/O slot 1. Default value is <b>Disabled</b> .
Exception Code in Slot	Enable to use the Modbus exception code setting, see Device Status/ Control Word in Slot in previous definition.
Read Only Community	Enter the value for the SNMP Read Only Community string (default: public).
Read / Write Community	Enter the value for the SNMP Read/Write Community string (default: private).
Submit	Click <b>Submit</b> to save the values and update the screen.

### 3.5.3 Modbus Setting

To communicate with remote Modbus/TCP slave devices, specify the Modbus command for each slave device. Each slave device may need more than one command for communication, so it is necessary to add all the commands manually.

To access this page, click **Protocol Setting > Modbus Setting**.



**Figure 3.17 Protocol Setting > Modbus Setting**

The following table describes the items in the previous figure.

Item	Description
The following table describes the items in the previous figure.	
Start-up Mode	Click the drop-down menu to select the slave device's mode at start-up: Running or Idle (default: Running).
When Modbus/TCP error	Click the drop-down menu to select the command to initiate in the event of an error: Freeze Data or Clear Data. <ul style="list-style-type: none"> <li>■ Select <b>Freeze Data</b> to continue delivering the data most recently received from the Modbus-TCP network to the EtherNet/IP scanner.</li> <li>■ Select <b>Clear Data</b> to clear any input entered into the data area and transmit only zeros to the EtherNet/IP scanner.</li> </ul>
Submit	Click <b>Submit</b> to save the values and update the screen.

The ensuing table for Modbus Commands table settings are informational only: Allocated input size, output size, Index, Name, Mode, Slave ID, FC, Address/ Quantity, Trigger, Scan Interval, Data Swap, Response Timeout, I/O Disconnect, Safe Value, **Add** (click to add a new transaction), **Edit** (click to modify existing transactions), **Delete** (click to delete existing transactions), **Copy** (click to copy an existing transaction) and FlowCtrl Status.

To add a new transaction:

**Figure 3.18 Protocol Setting > Modbus Setting > Add**

The following table describes the items in the previous figure.

Item	Description
Name	Enter the name to identify the transaction, max length: 32 characters.
Mode	Click the drop-down menu to select Modbus protocol mode: TCP or RTU. <ul style="list-style-type: none"> <li>■ TCP: Modbus TCP communication over TCP/IP networking.</li> <li>■ RTU: Modbus RTU communication via serial port.</li> </ul>
Slave IP Address	Enter the IP address of the Modbus/TCP server on Modbus/TCP mode.
Port	Enter the TCP port number of remote slave device (default Modbus-TCP port is 502), value range: 0 - 65535.
Serial Port	Select the serial interface where the remote Modbus/RTU device is located.
Slave ID	Enter the Modbus/TCP server slave ID.

Item	Description <sup>↵</sup>
Function Code	The master device delivers packets to the slave device containing instructions as defined in the function code fields. The following is a list of the supported function codes. <sup>↵</sup> <ul style="list-style-type: none"> <li>■ 01: Read coils<sup>↵</sup></li> <li>■ 02: Read discrete inputs<sup>↵</sup></li> <li>■ 03: Read holding registers<sup>↵</sup></li> <li>■ 04: Read input register<sup>↵</sup></li> <li>■ 05: Write single coil<sup>↵</sup></li> <li>■ 06: Write single register<sup>↵</sup></li> <li>■ 15: Write multiple coils<sup>↵</sup></li> <li>■ 16: Write multiple registers<sup>↵</sup></li> <li>■ 23: Read/Write multiple registers<sup>↵</sup></li> </ul>
Trigger	Click the drop-down menu to select the trigger setting. <sup>↵</sup> <ul style="list-style-type: none"> <li>■ Cyclic: The trigger function is set to read/write in a cyclical instance once the specified interval is reached, see Poll Interval field.<sup>↵</sup></li> <li>■ Data change: Checks for any data changes at the specified interval as defined the Poll Interval field. When a given change in the data area is noted, a write command is delivered.<sup>↵</sup></li> </ul>
Poll Interval	The Poll Interval value defines the frequency with which the Modbus command is re-issued. <sup>↵</sup>
Data Swap	The Data Swap field determines the order in which the particular bytes of the received/transmitted data are delivered. <sup>↵</sup> <ul style="list-style-type: none"> <li>■ None: Do not swap<sup>↵</sup></li> <li>■ Word: 0x01, 0x02 becomes 0x02, 0x01<sup>↵</sup></li> <li>■ Double Word: 0x01, 0x02, 0x03, 0x04 becomes 0x04, 0x03, 0x02, 0x01<sup>↵</sup></li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>■ When function code is set to 1, 2, 5, or 15, the available options is None.</li> <li>■ When function code is set to 6, the available options are None and Word.</li> <li>■ When function code is set to 3, 4, 16, or 23, the quantity must be designated as an even integer.</li> </ul>
Read Starting Address	Designate the read from/write to starting address for the Modbus registry.
Read Quantity	Designate the number of read cycles.
Response Timeout	Define the span of time, in milliseconds, within which the server is required to produce a response to the exchange. In I/O mapped write transaction, when EtherNet/IP does not exchange I/O: <ul style="list-style-type: none"> <li>■ Clear data to Modbus server: Transmits only zeros.</li> <li>■ Freeze data to Modbus server: Repeat the last stored data.</li> <li>■ Write safe value: The value to transmit for each element.</li> <li>■ Stop: The transmission of any and all data to the Modbus server is halted.</li> </ul>
Submit	Click <b>Submit</b> to save the values and update the screen.
Back	Click <b>Back</b> to return the previous page.

### 3.5.4 Mapping Overview

The Mapping Overview function allows the viewing of data between Modbus RTU/ TCP to PROFINET Slot, EtherNet/IP I/O.

To access this page, click **Protocol Setting > Mapping Overview**.

The following tables are only available for JetLink1102.

- The ensuing table for **Input Mapping Overview** table settings are informational only: Input Data Byte buffer view, Master Name, Master Function Code, Master Size (Byte) and Master Byte range.
- The ensuing table for **Output Mapping Overview** table settings are informational only: Output Data Byte buffer view, Adapter Name, Adapter Function Code, Adapter Size (Byte) and Adapter Byte range.
- The ensuing table for **Transaction** table settings are informational only: Name, Quantity, Class, Instance, Attribute and Access.

The following tables are only available for JetLink1302.

- The ensuing table for **PROFINET I/O** table settings are informational only: Slot, Transaction Name, In Slot Range(bytes), Input Word and Output Word.
- The ensuing table for **Modbus Client** table settings are informational only: Name, FC, Data Swap, Scan Time, Response Timeout, UID, Read/Write Start- ing Address, Quantity and When PROFINET doesn't exchange I/O.



## 3.6 SYSTEM MANAGEMENT

### 3.6.1 Change Password

The Change Password function allows you to easily update your current password from a single menu.

To access this page, click **System Management > Change Password**.



**Figure 3.19 System Management > Change Password**

The following table describes the items in the previous figure.

Item	Description↵
Password	Enter the character set to define password.↵
Confirmation	Retype the password entry to confirm the profile password.
Submit	Click <b>Submit</b> to save the values and update the screen.↵

If you want to disable the password protection, change the password to the default option None (leave the password column blank). Be sure apply and reboot the system (**System Management > Apply Configuration**) to save the updates.

### 3.6.2 Backup Manager

The Backup Manager page allows you to backup configuration from the device or restore configuration file to the device.

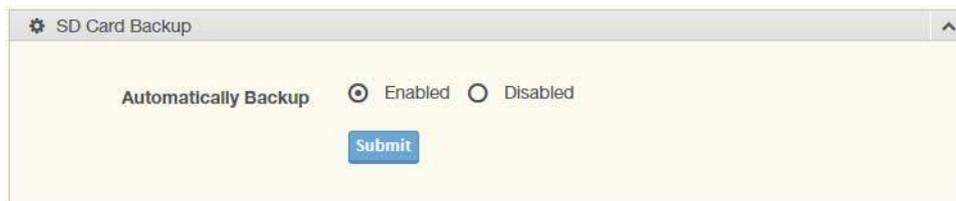
To access this page, click **System Management > Backup Manager**.



**Figure 3.20 System Management > Backup Manager > Backup Manager**

The following table describes the items in the previous figure.

Item	Description↵
Backup	Click <b>Backup</b> to backup configuration from the device.↵
To	Click the radio-button to select the backup file saved destination.
Restore Backup	Click <b>Browse</b> to select the configuration file.↵
Upload Archive	Click <b>Upload Archive</b> to restore configuration to the device.
From	Click the radio-button to select upload file source.↵



**Figure 3.21 System Management > Backup Manager > SD Card Backup**

The following table describes the items in the previous figure.

Item	Description
Automatically Backup	Click the radio-button to enable or disable the SD card automatically backup function.
Submit	Click <b>Submit</b> to save the values and update the screen.

### 3.6.3 Upgrade Manager

The Upgrade Manager page allows you to upgrade firmware.

To access this page, click **System Management > Upgrade Manager**.



**Figure 3.22 System Management > Upgrade Manager**

The following table describes the items in the previous figure.

Item	Description
Browse File	Click <b>Browse</b> to select the firmware file.
Upload Archive	Click <b>Upload Archive</b> to upgrade the firmware.

### 3.6.4 Reset System

To access this page, click **System Management > Reset System**.

Click **Reset** to have all configuration parameters reset to their factory default values. All changes that have been made will be lost, even if you have issued a save.

Reset settings take effect after a system reboot.



**Figure 3.23 System Management > Reset System**

### 3.6.5 Reboot Device

To access this page, click **System Management > Reboot Device**.

Click **Reboot** to reboot the fieldbus gateway. Any configuration changes you have made since the last time you issued a save will be lost.



**Figure 3.24 System Management > Reboot Device**

### 3.6.6 Apply Configuration

To access this page, click **System Management > Apply Configuration**.

Click **Apply and Reboot** to have configuration changes you have made to be saved across a system reboot. All changes submitted since the previous save or system reboot will be retained by the device.

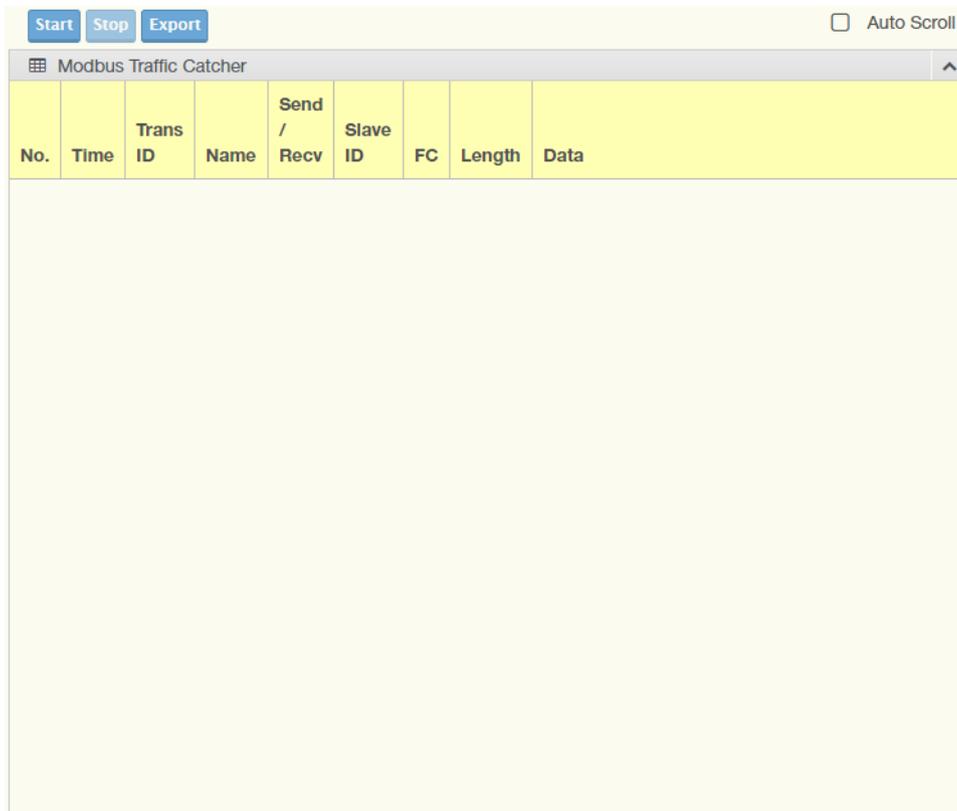


**Figure 3.25 System Management > Apply Configuration**

## 3.7 TOOLS

### 3.7.1 Modbus Traffic Catcher

The Modbus Traffic Catcher page shows only data sent and received by Modbus. To access this page, click **Tools > Modbus Traffic Catcher**.



**Figure 3.26 Tools > Modbus Traffic Catcher**

The following table describes the items in the previous figure.

Item	Description↵
Start	Click <b>Start</b> to start capturing the data.↵
Stop	Click <b>Stop</b> to stop capturing the data.↵
Export	Click <b>Export</b> to export and download the captured data.↵
Auto Scroll	Check the option to cycle through all of the data screens automatically while start capturing data.↵