



## IES-1090

8 FE + 2 GE Combo SFP Managed Switch -40 to 75C, DIN-rail, IEC61850

### Quick Installation Guide

#### Default Setting

IP	192.168.10.1
Login	root
Password	[blank]
Console	115200, n, 8, 1

v1.00 - 1206

## Features

- Complies with IEC61850-3 & IEEE1613 environmental requirements for power substation automation systems.
- Complies with EN50121-4 environmental requirements for railway applications.
- Meets EN61000-6-2 & EN61000-6-4 EMC Generic Standard Immunity for industrial environment.
- Manageable via SNMP, Web-based, Telnet, and RS-232 console port.
- Supports Command Line Interface in RS-232 console.
- Supports 802.3/802.3u/802.3ab/802.3z/802.3x. Auto-negotiation: 10/100/1000Mbps, full/half-duplex; Auto MDI/MDIX.
- 100Base-FX: Multi mode SC or ST type, Single mode SC or ST type. 100Base-BX: WDM Single mode SC type.
- 1000Base-SX/LX: Multi mode or Single mode SC type. 1000Base-BX: WDM Single mode SC type.
- Supports 8192 MAC addresses. Provides 2M bits memory buffer.
- Store-and-forward mechanism. Full wire-speed forwarding rate.
- Alarms for power and port link failure by relay output.
- Power Supplies: Redundant DC Terminal Block power inputs and 12VDC DC JACK with 100-240VAC external power supply.
- Operating voltage and Max. current consumption: 1.25A @ 12VDC, 0.625A @ 24VDC, 0.313A @ 48VDC. Power consumption: 15W Max.
- 40°C to 75°C (-40°F to 167°F) operating temperature range. Tested for functional operation @ -40°C to 80°C (-40°F to 175°F).
- Supports Din-Rail or Panel Mounting installation.

## Package Contents

- IES-1090
- Quick Installation Guide
- CD User Manual

## Overview

LevelOne IES-1090 Industry Ethernet Switch provides 8 ports of 10/100Base-TX plus 2 ports of 1000Base Ethernet / SFP Combo to enable high speed network at mission-critical environment. This device is designed to be mounted on an industry standard DIN-rail, plus the clearly visible status LEDs provide simple monitoring of port link activity. Moreover, the SFP slots support pluggable modules that enabling you to choose from a variety of transceivers.

### Resilient Ring Network

Supports Ring topology network providing simple installation and ultra fast network recovery performance, less than 15ms. Unlike much complex resilient topology, such as a redundant star, the Ring simplifies the network design and requires less cabling installation. In addition, fast network recovery time helps minimize system downtime.

### Substation & Railway Applications

This device is complied with IEC 61850-3 / IEEE 1613 for the power substations and EN 50121-4 for the railway applications. IEC 61850-3 is an international standard for electrical substation systems. The standard enables integration of all control, measurement, monitoring and protection functions within a substation.

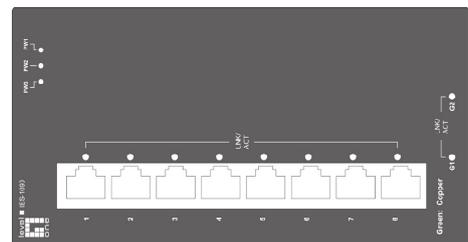
### Management

It supports a variety of management features including: CLI via Console or Telnet; Graphic User Interface via Web Browser or Simple Network Management Protocol via SNMP tools. It provides better visibility and management of those critical assets.

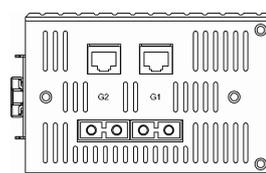
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## LED Status



LED	Status	Description
PW 1,2,3	Steady	Power On
	Off	Power Off
<b>10/100Base-TX, 100Base-FX/BX</b>		
LNK/ACT	Steady	Network connection is established
	Flashing	Transmitting or Receiving data
<b>10/100/1000Base-TX (Green), 1000Base-SX/LX/BX (Orange)</b>		
LNK/ACT	Steady	Network connection is established
	Flashing	Transmitting or Receiving data



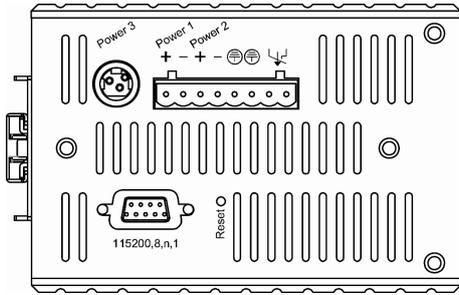
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# Power Input



Terminal Block	Terminal	Voltage
Power1	+	47 to 55VDC
	-	Power Ground
Power2	+	47 to 55VDC
	-	Power Ground
Power3	DC Jack	12VDC
	Earth Ground	
	Relay Output	1A @ 24VDC

\*Warning signal disable for following:

- The relay contact closes if Power1 and Power2 are both failed but Power3 on.
- The relay contact closes if Power3 is failed but Power1 and Power2 are both on.

# Console Configuration

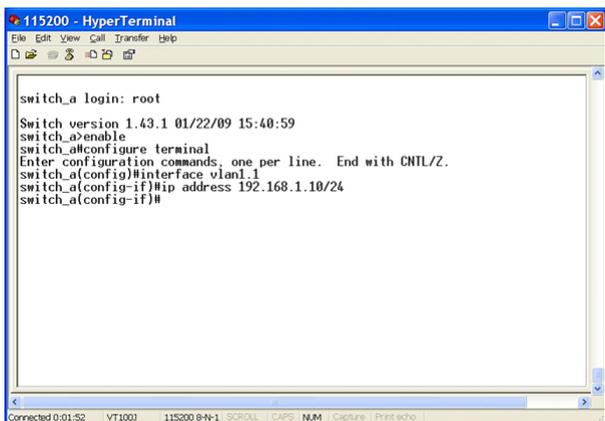
1. Connect to the switch console:
2. Connect the DB9 straight cable to the RS-232 serial port of the device and the RS-232 serial port of the terminal or computer running the terminal emulation application. Direct access to the administration console is achieved by directly connecting a terminal or a PC equipped with a terminal-emulation program (such as HyperTerminal) to the switch console port.
3. Configuration settings of the terminal-emulation program:
4. Baud rate: 115,200bps, Data bits: 8, Parity: none, Stop bit: 1, Flow control: none.
5. Press the "Enter" key. The Command Line Interface (CLI) screen should appear as below:
6. Logon to Exec Mode (View Mode):
7. At the "switch\_a login:" prompt just type in "root" and press <Enter> to logon to Exec Mode (or View Mode). And the "switch\_a>" prompt will show on the screen.



8. Logon to Privileged Exec Mode (Enable Mode):
9. At the "switch\_a>" prompt just type in "enable" and press <Enter> to logon to Privileged Exec Mode (or Enable Mode). And the "switch\_a#" prompt will show on the screen.
10. Logon to Configure Mode (Configure Terminal Mode):
11. At the "switch\_a#" prompt just type in "configure terminal" and press <Enter> to logon to Configure Mode (or Configure

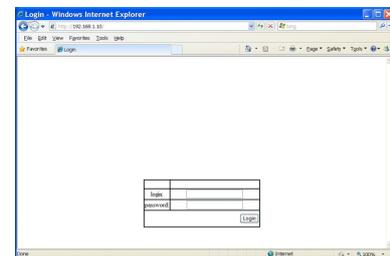
Terminal Mode). And the "switch\_a(config)#" prompt will show on the screen.

12. Set new IP address and subnet mask for Switch:
13. At the "switch\_a(config)#" prompt just type in "interface vlan 1.1" and press <Enter> to logon to vlan 1 (vlan 1.1 means vlan 1). And the "switch\_a(config-if)#" prompt will show on the screen.
14. Command Syntax: "ip address A.B.C.D/M". "A.B.C.D" specifies IP address. "M" specifies IP subnet mask. "M"= 8: 255.0.0.0, 16:255.255.0.0, or 24: 255.255.255.0.
15. For example, At the "switch\_a(config-if)#" prompt just type in "ip address 192.168.1.10/24" and press <Enter> to set new IP address (192.168.1.10) and new IP subnet mask (255.255.255.0) for Switch

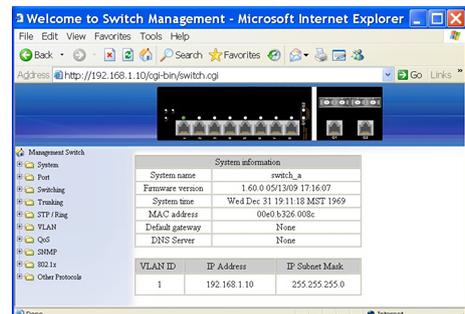


# Web Configuration

1. Login the switch:
2. Specify the default IP address (192.168.1.10) of the switch in the web browser. A login window will be shown as below:



3. Enter the factory default login ID: root.
4. Enter the factory default password (no password).
5. Then click on the "Login" button to log on to the switch.



**Note:** Please refer to User Manual for more detailed information