level one®

∞Infinity

IES-1880

16 FE + 2 GE Managed Switch -40 to 75C, DIN-rail

Quick Installation Guide

Default Setting

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

v1.00 - 1206

Overview

LevelOne IES-1880 Industry Ethernet Switch provides 16 ports of 10/100Base-TX plus 2 ports of 1000Base Gigabit Ethernet 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.

High Reliability

All components are built to withstand harsh environment applications without compromise where humidity, temperature variation and even shock vibration are concerns, including Electric & Utility, Critical Infrastructure, Transportation and Surveillance Security. This device operates under -40 to 75 Celsius (-40 to 167 Fahrenheit) temperature.

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.

Oil & Gas Hazardous Application

Comply with Class 1, Division 2 certified, UL 1604 standard (UL ISA12.12.01) is a higher level certification to assure that products can be safely operated where specific potentially flammable or explosive materials may be present.
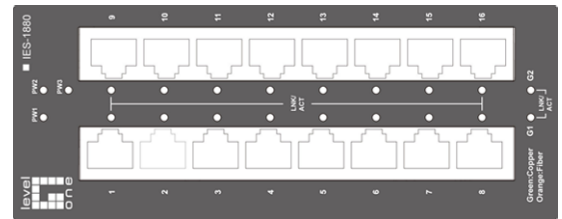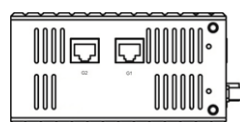
Features

- Meets NEMA TS1/TS2 Environmental requirements such as temperature, shock, and vibration for traffic control equipment.
- 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.
- Support 802.3/802.3u/802.3ab/802.3z/802.3x. Auto-negotiation: 10/100/1000Mbps, full/half-duplex; Auto MDI/MDIX.
- 100Base-FX: Multi/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.
- Support 8192 MAC addresses. Provides 2M bits memory buffer.
- Alarms for power and port link failure by relay output.
- Power Supply: Redundant DC Terminal Block power inputs or 12VDC DC JACK with 100-240VAC external power supply.
- Field Wiring Terminal: Use Copper Conductors Only, 60/75℃, 12-24 AWG torque value 7 lb-in.
- Operating voltage and Max. current consumption: 1.25A @ 12VDC, 0.625A @ 24VDC, 0.313A @ 48VDC. Power consumption: 15W Max.
- -40℃ to 75℃ (-40°F to 167°F) operating temperature range. Tested for functional operation @ -40℃ to 85℃ (-40°F to 185°F). UL508 Industrial Control Equipment certified Maximum Surrounding Air Temperature @ 75℃ (167°F).
- For use in Pollution Degree 2 Environment.
- Supports Din-Rail or Panel Mounting installation.
- Suitable for use in Class I, Division 2, Groups A, B, C and D hazardous locations, or non-hazardous locations only.
- Sealed Relay Device information: Sealed Device: Relay Type V23079-A2008-B301, manufactured by Tyco Electronics Logistics Ag.
  - Relay Cover: Manufacture of Plastic Material – Ticona. Designation of Plastic Material – Vectra A130.
  - Relay Epoxy: Manufacture of Material – Guangzhou Wells Chemical Co. Ltd. Designation of Material – Type 6060RP. Generic Name of Plastic Material – Epoxy Resin.

Package Contents

- IES-1880
- Quick Installation Guide
- CD User Manual

LED Status

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

Power Input
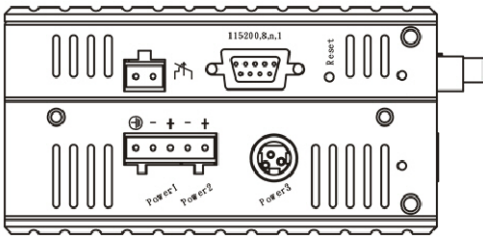
| Terminal Block | Power1 | + | 12 to 48VDC |
		–	Power Ground
	Power2	+	12 to 48VDC
		–	Power Ground
	⏚	Earth Ground	
	⎍	Relay Output	1A @ 24VDC

1. The relay contact closes if Power1 or Power2 are both failed
2. The relay contact closes if Power3 is failed but both Power1 and Power2 are On

Power3: DC Jack type with 12VDC Input

- WARNING – EXPLOSION HAZARD – Do not disconnect equipment while the circuit is live or unless the area is known to be free of ignitable concentrations.
- WARNING – EXPLOSION HAZARD – Substitution of any component may impair suitability for Class I, Division 2.
- WARNING – Exposure to some chemicals may degrade the sealing properties of materials used in the Sealed Relay Device.
- RECOMMENDATION - It is recommended to inspect the sealed relay device periodically and to check for any degradation of the materials and to replace the complete product, not the sealed device, if any degradation is found.

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.
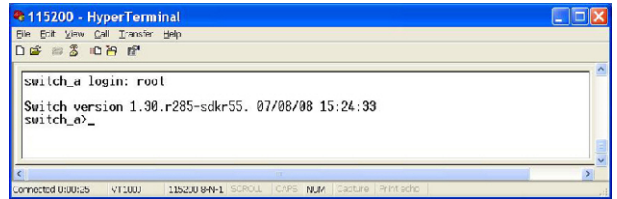
8. Logon to Privileged Exec Mode (Enable Mode):
9. At the "switch_a>" prompt just type in "enable" and press <Enter> to logon to Privileged Exec Mode (or Enable Mode). And the "switch_a#" prompt will show on the screen.
10. Logon to Configure Mode (Configure Terminal Mode):
11. At the "switch_a#" prompt 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 vlan1.1" and press <Enter> to logon to vlan 1 (vlan1.1 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
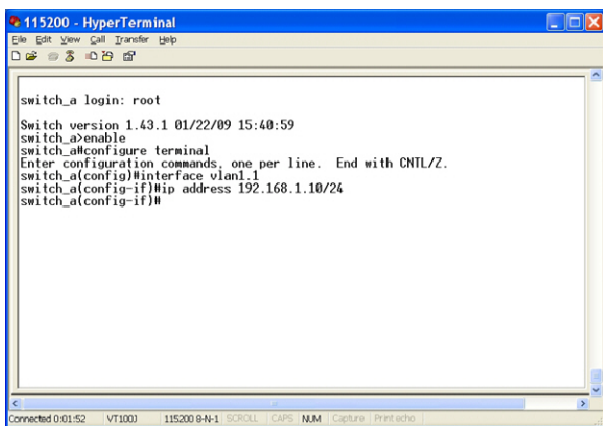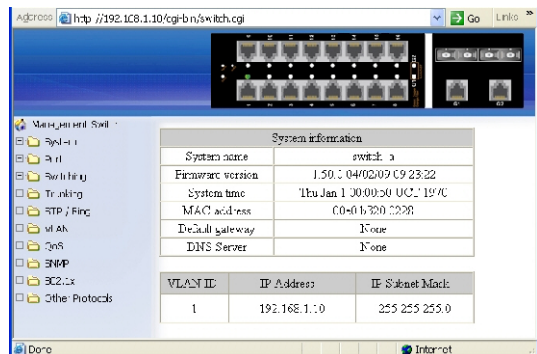
Web Configuration

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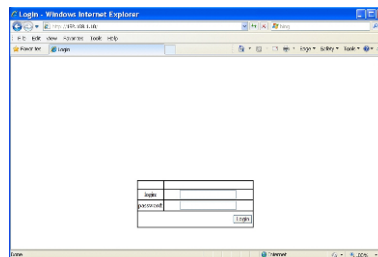
3. Enter the factory default login ID: root.
4. Enter the factory default password (no password).
5. Then click on the "Login" button to log on to the switch.

Note: Please refer to User Manual for more detailed information