level one ®

∞Infinity

IES-0882
4 x 802.3at + 4 FE + 2 GE Combo Managed Switch
-40 to 75C, Desktop

Overview

LevelOne IES-0882 Industry Ethernet Switch provides 4 PoE ports of 10/100Base-TX plus 4 ports of 10/100Base-TX Ethernet plus 2 ports of Gigabit Combo SFP to enable high speed network at mission-critical environment. The compact metal housing is designed for desktop space saving, 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.

Power over Ethernet

This switch is Power Sourcing Equipment (PSE), and it is fully complied with IEEE 802.3at PoE standard at maximum 30W power budget per port. It helps to save infrastructure wiring costs dramatically by eliminating electric wiring and less UPS needed. Also, it is compatible with IEEE802.3af standard PD devices.

Safety

This device has been tested under UL508 standard for Industrial Control Equipment to endurance under test turn on and off 6,000 times while loaded, with no single failure; also with NEMA (National Manufacturers Association) TS2 Environmental certified for the Traffic Control Equipment that withstand extreme temperatures, operating voltage and humidity fluctuation, vibration and shock commonly experienced in severe outdoor environments.

Management

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.
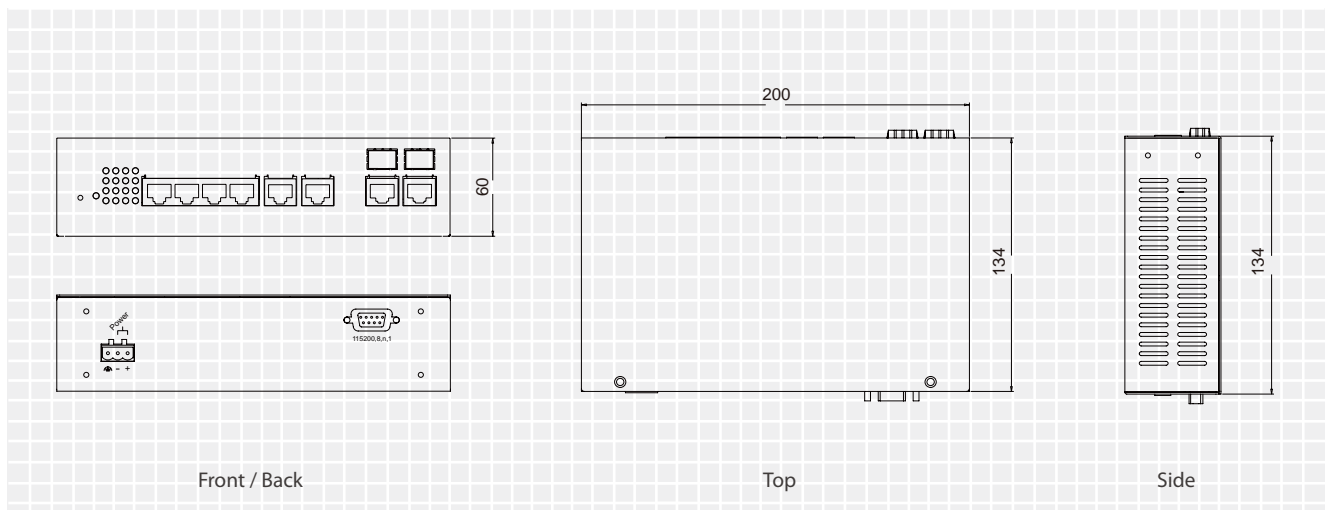
High Reliability

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.

Features

- Port 1 - 4 support IEEE802.3at Power over Ethernet Plus (PoE+) Power Sourcing Equipment (PSE)
- PoE control and Scheduling
- Supports α-ring and RSTP/MSTP/STP for Ethernet redundancy
- IP Multicast Filtering through IGMP Snooping V1, V2 & V3
- Supports port-based VLAN and IEEE802.1Q VLAN Tagging and GVRP
- IEEE802.1p QoS with four priority queues
- MAC-based trunking with automatic link failover
- RS-232 console, Telnet, SNMP V1, V2c & V3, RMON, Web Browser, and TFTP Management
- Supports Command Line Interface in RS-232 Console

- Supports IEEE802.1x Security
- Bandwidth Rate Control
- Per-port programmable MAC address locking
- Up to 24 Static Secure MAC addresses per port
- Port mirroring
- NTP synchronization
- 1000Mbps-Full-duplex, 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- Full wire-speed forwarding rate
- -40°C to 75°C (-40°F to 167°F) operating temperature range, tested for functional operation @ -40°C to 85°C (-40°F to 185°F)

Diagrams

Unit: mm

Front / Back

Top

Side

Specifications

Technology

Standards	▪ IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX/100BASE-FX, IEEE802.3ab 1000BASE-T, IEEE802.3z 1000BASE-SX/1000BASE-LX, IEEE802.3x, IEEE802.1p, IEEE802.1Q, IEEE802.1w, IEEE802.1x, IEEE802.3af
Forward and Filtering Rate	▪ 14,880pps for 10Mbps ▪ 148,810pps for 100Mbps ▪ 1,488,100pps for 1000Mbps
Packet Buffer Memory	▪ 2M bits
Processing Type	▪ Store-and-Forward ▪ Half-duplex back-pressure and IEEE802.3x full-duplex flow control
Address Table Size	▪ 8192 MAC addresses

Power

Input	▪ 15.4W 802.3af in 48VDC (47 to 55VDC) (Terminal Block) ▪ 30W 802.3at High power in 55VDC (47 - 57VDC) (Terminal Block)
Power Consumption	▪ Device: 15W Max. ▪ IEEE802.3af: Full load with 4 ports PoE (15.4W for each PoE port): 61.6W ▪ IEEE802.3at high power: Full load with 4 ports PoE (30W for PoE port): 120W
Overload Current Protection	▪ Present
Reverse Polarity Protection	▪ Present

Mechanical

Casing	▪ Metal case ▪ IP30
Dimensions	▪ 200mm (W) x 134mm (D) x 50mm (H) (7.87" (W) x 5.2" (D) x 1.97" (H))
Weight	▪ 1.5Kg (7.7lbs.)
Installation	▪ Panel Mount, Rack Mount

Interface

Ethernet Port	▪ 10/100BASE-TX: 6 ports ▪ Gigabit SFP (DDM): 2 ports
Console Port	▪ Port: One DB9 RS-232 port
LED Indicators	▪ Per Unit: Power Status (Power 1) ▪ Per Port: PoE (Amber) for 10/100TX, 10/100TX, 100FX: Link/Activity (Green), Gigabit: Link/Activity (Green), SFP operation (Green)

Environment

Operating Temperature	▪ -40°C to 75°C (-40°F to 167°F) Tested @ -40°C to 85°C (-40°F to 185°F)
Storage Temperature	▪ -40°C to 85°C (-40°F to 185°F)
Ambient Relative Humidity	▪ 5% to 95% (non-condensing)
MTBF	▪ 27.06 years

Regulatory Approvals

ISO	▪ Manufactured in an ISO9001 facility
Safety	▪ UL508

EMI	▪ FCC Part 15, Class A
	▪ EN61000-6-4
	  - EN55022
	  - EN61000-3-2
	  - EN61000-3-3

EMS	▪ EN61000-6-2
	  - EN61000-4-2 (ESD Standards)
	    Contact: + / - 6KV; Criteria B
	    Air: + / - 8KV; Criteria B
	  - EN61000-4-3 (Radiated RFI Standards)
	    10V/m, 80 to 1000MHz; 80% AM Criteria A
	  - EN61000-4-4 (Burst Standards)
	    Signal Ports: + / - 4KV; Criteria B
	    D.C. Power Ports: + / - 4KV; Criteria B
	  - EN61000-4-5 (Surge Standards)
	    Signal Ports: + / - 1KV; Line-to-Line; Criteria B
	    D.C. Power Ports: + / - 0.5KV; Line-to-Earth; Criteria B
	  - EN61000-4-6 (Induced RFI Standards)
	    Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM Criteria A
	    D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM Criteria A
	  - EN61000-4-8 (Magnetic Field Standards)
	    30A/m @ 50, 60Hz; Criteria A

Environmental Test Compliance	▪ IEC60068-2-6 Fc (Vibration Resistance) 5g @ 10 - 150Hz, Amplitude 0.35mm (Operation/Storage/Transport) ▪ IEC60068-2-27 Ea (Shock) 25g @ 11ms (Half-Sine Shock Pulse; Operation) 50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport) ▪ IEC60068-2-32 Ed (Free Fall) 1M (3.281ft.)

Order Information

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Package Contents
IES-0882
CD Manual / Utility
Quick Installation Guide