



# IES-0851

## 4 x 802.3af + 3 FE+ 1 MM SC Web Smart Switch

### -40 to 75C, DIN-rail

#### Overview

LevelOne IES-0851 Industry Ethernet Switch provides 4 PoE ports of 10/100Base-TX plus 3 ports of 10/100Base-TX Ethernet plus 1 port 100FX Multimode SC fiber 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.

#### Power over Ethernet

This switch is Power Sourcing Equipment (PSE), and it is fully complied with IEEE 802.3af PoE standard at maximum 15.4W power budget per port. It helps to save infrastructure wiring costs dramatically by eliminating electric wiring and less UPS needed.

#### Redundancy

This redundant power system is designed to meet the challenge of power failure to ensure reliability and constant availability. Single power design works fine in non-critical network applications, but it falls short drastically for network applications in transportation, automate production or banking.

#### Web Management

Web-based GUI management features implementation of Port-based VLAN, IEEE802.1p QoS, Prioritised DSCP, set up Admin Password with ease. Plus, the Power over Ethernet ports can be On / Off and limits the power budget remotely.

#### Safety

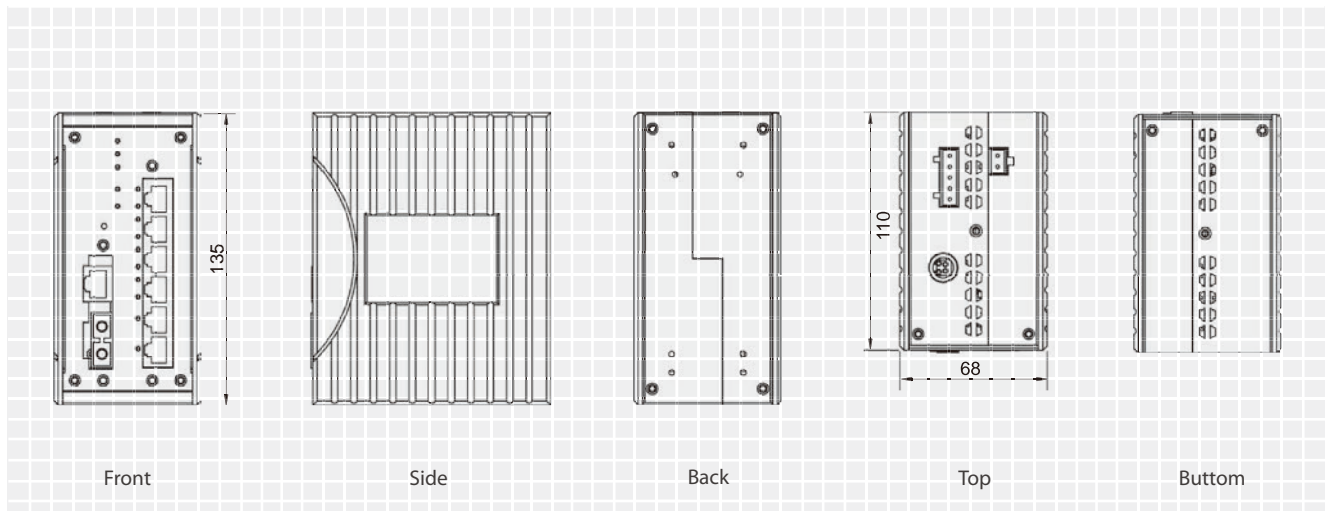
This device has been tested under UL508 standard for Industrial Control Equipment to endurance under test turn on and off 6,000 times while loaded, with no single failure. It's highly reliability and safety measurement to ensure field hardened, especially for the harsh environment.

#### Features

- Provides flexibility of 8 Ethernet ports that configure in combinations of copper and fiber optic interfaces
- -40°C to 75°C (-40°F to 167°F) and is tested for functional operation @ -40°C to 85°C (-40°F to 185°F)
- Port 1 - 4 supports IEEE802.3af Power over Ethernet (PoE) Power Sourcing Equipment (PSE)
- 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- Provides DIN-rail, panel or rack mounting
- System, IP Configuration, Port-based VLAN and QoS Priority setting through the Web browser Interface
- PoE (Power budget Control, PoE status, Port status) through the Web browser Interface
- Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- Complies with NEMA TS2 Environmental requirements for traffic control equipment
- Alarms for power and port link failure by relay output
- Redundant power inputs with Terminal Block and DC Jack

#### Diagrams

Unit: mm



## Specifications

Technology	
Standards	<ul style="list-style-type: none"> <li>IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX/FX, IEEE802.3x, IEEE802.3af</li> </ul>
Forward and Filtering Rate	<ul style="list-style-type: none"> <li>14,880pps for 10Mbps</li> <li>148,810pps for 100Mbps</li> </ul>
Packet Buffer Memory	<ul style="list-style-type: none"> <li>1M bits</li> </ul>
Processing Type	<ul style="list-style-type: none"> <li>Store-and-Forward</li> <li>Half-duplex back-pressure and IEEE802.3x full-duplex flow control</li> </ul>
Address Table Size	<ul style="list-style-type: none"> <li>1024 MAC addresses</li> </ul>

Power	
Power Input	<ul style="list-style-type: none"> <li>Redundant power inputs: Terminal Block: 47 - 55VDC DC Jack: 47 - 55VDC</li> </ul>
Power Consumption	<ul style="list-style-type: none"> <li>Device: Max. 10W (without PoE)</li> <li>PoE power budget (depends on power input): 61.6W Max.</li> </ul>
PoE Power Output	<ul style="list-style-type: none"> <li>Port 1 to 4</li> <li>IEEE802.3af: up to 15.4W/port, 47 - 55VDC, 350mA Max</li> </ul>
<ul style="list-style-type: none"> <li>Supports overload current protection</li> <li>Supports reverse polarity protection</li> </ul>	

Mechanical	
Casing	<ul style="list-style-type: none"> <li>Aluminum case</li> <li>IP30</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>68mm (W) x 110mm (D) x 135mm (H) (2.68" (W) x 4.33" (D) x 5.31" (H))</li> </ul>
Weight	<ul style="list-style-type: none"> <li>1Kg (2.2lbs.)</li> </ul>
Installation	<ul style="list-style-type: none"> <li>DIN-Rail (Top hat type 35mm), Panel, Rack Mounting</li> </ul>

Interface	
Ethernet Port	<ul style="list-style-type: none"> <li>10/100BASE-TX: 8, 7 or 6 ports</li> <li>100BASE-FX: 0, 1 or 2 ports</li> </ul>
LED Indicators	<ul style="list-style-type: none"> <li>Per Unit: Power Status (Power 1, Power 2, Power 3)</li> <li>Per Port: 10/100TX, 100FX: Link/Activity (Green) PoE: Link (Amber)</li> </ul>
Alarm Contact	<ul style="list-style-type: none"> <li>One relay output with current 1A @ 24VDC</li> </ul>

Environment	
Operating Temperature	<ul style="list-style-type: none"> <li>-40°C to 75°C (-40°F to 167°F) Tested @ -40°C to 85°C (-40°F to 185°F)</li> </ul>
Storage Temperature	<ul style="list-style-type: none"> <li>-40°C to 85°C (-40°F to 185°F)</li> </ul>
Web-Smart Function Operating Temperature	<ul style="list-style-type: none"> <li>-20°C to 75°C (-4°F to 167°F)</li> </ul>
Ambient Relative Humidity	<ul style="list-style-type: none"> <li>5% to 95% (non-condensing)</li> </ul>
MTBF	<ul style="list-style-type: none"> <li>25.02 years</li> </ul>

Regulatory Approvals	
ISO	<ul style="list-style-type: none"> <li>Manufactured in an ISO9001 facility</li> </ul>
Safety	<ul style="list-style-type: none"> <li>UL508 (Pending)</li> </ul>
EMI	<ul style="list-style-type: none"> <li>FCC Part 15, Class A</li> <li>EN61000-6-4 <ul style="list-style-type: none"> <li>EN55022</li> <li>EN61000-3-2</li> <li>EN61000-3-3</li> </ul> </li> </ul>
EMS	<ul style="list-style-type: none"> <li>EN61000-6-2 <ul style="list-style-type: none"> <li>EN61000-4-2 (ESD Standards) Contact: + / - 4KV; Criteria B Air: + / - 8KV; Criteria B</li> <li>EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 1000MHz; 80% AM Criteria A</li> <li>EN61000-4-4 (Burst Standards) Signal Ports: + / - 4KV; Criteria B D.C. Power Ports: + / - 4KV; Criteria B</li> <li>EN61000-4-5 (Surge Standards) Signal Ports: + / - 1KV; Line-to-Line; Criteria B D.C. Power Ports: + / - 0.5KV; Line-to-Earth; Criteria B</li> <li>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</li> <li>EN61000-4-8 (Magnetic Field Standards) 30A/m @ 50, 60Hz; Criteria A</li> </ul> </li> </ul>
Environmental Test Compliance	<ul style="list-style-type: none"> <li>IEC60068-2-6 Fc (Vibration Resistance) 5g @ 10 - 150Hz, Amplitude 0.35mm (Operation/Storage/Transport)</li> <li>IEC60068-2-27 Ea (Shock) 25g @ 11ms (Half-Sine Shock Pulse; Operation) 50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)</li> <li>IEC60068-2-32 Ed (Free Fall) 1M (3.281ft.)</li> </ul>

## Order Information

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## Package Contents

IES-0851  
CD Manual / Utility  
Quick Installation Guide