



## IES-1621

### 15 FE + 1 MM SC Unmanaged Switch -40 to 75, DIN-rail

#### Overview

LevelOne IES-1621 Industry Ethernet Switch provides 15 ports of 10/100Base-TX Ethernet plus 1 port 100FX MM 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.

#### Traffic Control Application

This device is certified by NEMA (National Manufacturers Association) TS2 Environmental requirements for the Traffic Control Equipment that withstand extreme temperatures, operating voltage and humidity fluctuation, vibration and shock commonly experienced in severe outdoor environments.

#### 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.

#### Plug & Play

This unmanaged Industrial Ethernet Switch is designed for the demanding industrial environments at businesses in need of instant connectivity with no setup or configure required, truly plug and play.

#### 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.

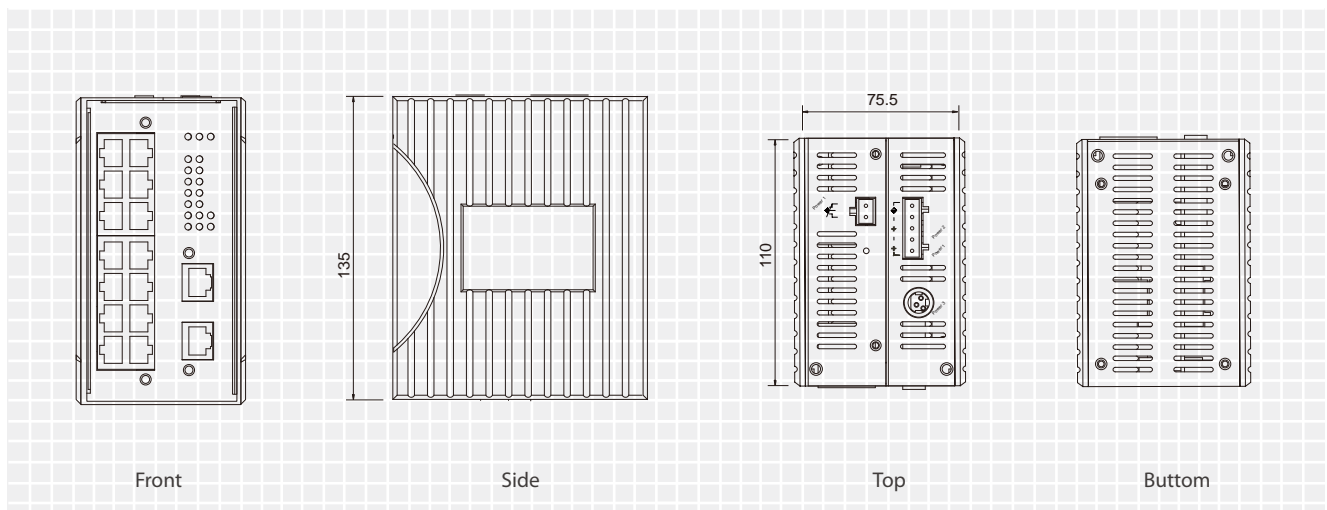
#### Features

- Provides flexibility of 15 10/100BASE-TX ports and 1 100BASE-FX port
- Supports 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- Redundant power inputs (12 - 48VDC) with Terminal Block and DC Jack (12VDC)
- Alarms for power failure by relay output

- -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).
- Provides DIN-rail, panel or rack mounting
- Complies with NEMA TS2 Environmental requirements for Traffic control equipment
- Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment

#### Diagrams

Unit: mm



## Specifications

Technology	
Standards	<ul style="list-style-type: none"> <li>IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX/100BASE-FX, IEEE802.3x</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>1.625M 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>4096 MAC addresses</li> </ul>
Latency	<ul style="list-style-type: none"> <li>Less than 10µs</li> </ul>

Power	
Input	<ul style="list-style-type: none"> <li>Input Voltage: 12 to 48VDC (Terminal Block) 12VDC (DC Jack)</li> </ul>
Power Consumption	<ul style="list-style-type: none"> <li>7.4W Max. 0.6A @ 12VDC, 0.3A @ 24VDC, 0.15A @ 48VDC</li> </ul>
Overload Current Protection	<ul style="list-style-type: none"> <li>Present</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>75.5mm (W) x 110mm (D) x 135mm (H) (2.98" (W) x 4.33" (D) x 5.31" (H))</li> </ul>
Weight	<ul style="list-style-type: none"> <li>0.87Kg (1.92lbs.)</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: 16, 15 or 14 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</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)</li> <li>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>
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>59.96 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</li> </ul>
EMI	<ul style="list-style-type: none"> <li>FCC Part 15, Class A, VCCI</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: + / - 6KV; Criteria B Air: + / - 8KV; Criteria B</li> <li>EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 1000MHz; 80% AM Criteria A 3V/m, 1400 to 2000MHz; 80% AM Criteria A 1V/m, 2000 to 2700MHz; 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 - 150KHz, 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-1621

Quick Installation Guide