EX33000 Series

Unmanaged Industrial 16-port 10/100BASE Ethernet Switch

Value

- Flexible configuration for 16-port 10/100BASE Ethernet ports
- Redundant 12 - 48VDC power inputs
- Versatile mounting options

Fanless

Features

- Provides 14 10/100BASE-TX ports plus 2 100BASE-FX ports
- 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
- -10°C to 60°C (-14°F to 140°F) and is tested for functional operation @ -20°C to 70°C (-4°F to 158°F)
- Provides DIN-rail, Panel or Rack mounting
- Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment

Ordering Information

EX33160-00Z	16-port 10/100BASE-TX Industrial Unmanaged Ethernet Switch
EX33151-X0Z	15-port 10/100BASE-TX + 1-port 100BASE-FX Industrial Unmanaged Ethernet Switch
EX33142-X0Z	14-port 10/100BASE-TX + 2-port 100BASE-FX Industrial Unmanaged Ethernet Switch

100FX Fiber Options :

(X) = 1 : Multi Mode (SC) - 2Km
2 : Multi Mode (ST) - 2Km
A : Single Mode (SC) - 20Km
B : Single Mode (SC) - 40Km
H : Single Mode (ST) - 20Km
6 : Multi Mode (SC) WDM-TX:1310nm/RX:1550nm - 2Km
7 : Multi Mode (SC) WDM-TX:1550nm/RX:1310nm - 2Km
8 : Multi Mode (SC) WDM-TX:1310nm/RX:1550nm - 5Km
9 : Multi Mode (SC) WDM-TX:1550nm/RX:1310nm - 5Km
P : Single Mode (SC) WDM-TX:1310nm/RX:1550nm - 20Km
Q : Single Mode (SC) WDM-TX:1550nm/RX:1310nm - 20Km
R : Single Mode (SC) WDM-TX:1310nm/RX:1550nm - 40Km
S : Single Mode (SC) WDM-TX:1550nm/RX:1310nm - 40Km

*More 100FX Fiber options also available upon request.

Power Input Interface :

(Z) = B : Terminal Block & DC Jack

Power Supply : (Optional)

*The Terminal Block type external power supply are not included. Please order the following part numbers, as required: DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

**The external power adapter and power cord are not included. Please order the following part numbers, as required: 41-136044-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

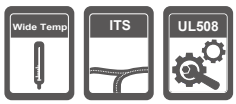
Installation Type : DIN Rail (mounting kit is included)

Optional Panel mount kit, part number: KP-AA96-480

Optional Rack mount kit, part number: KR-BK43-400

EX95000 Series

Unmanaged Hardened 16-port 10/100BASE Ethernet Switch



Value

- Flexible configuration using 16-port 10/100BASE Ethernet
- Redundant 12 - 48VDC power inputs
- Versatile mounting options
- Wide operation temperature

Fanless

Features

- Provides 14 10/100BASE-TX ports plus 2 100BASE-FX ports
- 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

Ordering Information

EX95160-00Z	16-port 10/100BASE-TX Hardened Unmanaged Ethernet Switch
EX95151-X0Z	15-port 10/100BASE-TX + 1-port 100BASE-FX Hardened Unmanaged Ethernet Switch
EX95142-X0Z	14-port 10/100BASE-TX + 2-port 100BASE-FX Hardened Unmanaged Ethernet Switch

100FX Fiber Options :

(X) = 1 : Multi Mode (SC) - 2Km
2 : Multi Mode (ST) - 2Km
6 : Multi Mode (SC) WDM-TX:1310nm/RX: 1550nm - 2Km
7 : Multi Mode (SC) WDM-TX:1550nm/RX: 1310nm - 2Km
8 : Multi Mode (SC) WDM-TX:1310nm/RX: 1550nm - 5Km
9 : Multi Mode (SC) WDM-TX:1550nm/RX: 1310nm - 5Km
A : Single Mode (SC) - 20Km
B : Single Mode (SC) - 40Km
H : Single Mode (ST) - 20Km
P : Single Mode (SC) WDM-TX:1310nm/RX: 1550nm - 20Km
Q : Single Mode (SC) WDM-TX:1550nm/RX: 1310nm - 20Km
R : Single Mode (SC) WDM-TX:1310nm/RX: 1550nm - 40Km
S : Single Mode (SC) WDM-TX:1550nm/RX: 1310nm - 40Km

*More 100FX Fiber options also available upon request.

Power Input Interface :

(Z) = B : Terminal Block & DC Jack

Power Supply : (Optional)

*Option A - The Terminal Block type external power supply are not included. Please order the following part numbers, as required: DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

**Option B - The external power adapter and power cord are not included. Please order the following part numbers, as required: 41-136044-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

Installation Type : DIN Rail (mounting kit is included)

Specifications

Technology	
Standards	• IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX/100BASE-FX, IEEE802.3x
Forward and Filtering Rate	• 14,880pps for 10Mbps • 148,810pps for 100Mbps
Packet Buffer Memory	• 1.625M bits
Processing Type	• Store-and-Forward • Half-duplex back-pressure and IEEE802.3x full-duplex flow control
Address Table Size	• 4096 MAC addresses
Latency	• Less than 10μs

Power	
Input	• Input Voltage: 12 to 48VDC (Terminal Block) 12VDC (DC Jack)
Power Consumption	• 7.4W Max. 0.6A @ 12VDC, 0.3A @ 24VDC, 0.15A @ 48VDC
Overload Current Protection	• Present

Mechanical	
Casing	• Aluminum case • IP30
Dimensions	• 75.5mm (W) x 110mm (D) x 135mm (H) (2.98" (W) x 4.33" (D) x 5.31" (H))
Weight	• 0.87Kg (1.92lbs.)
Installation	• DIN-Rail (Top hat type 35mm), Panel, Rack Mounting

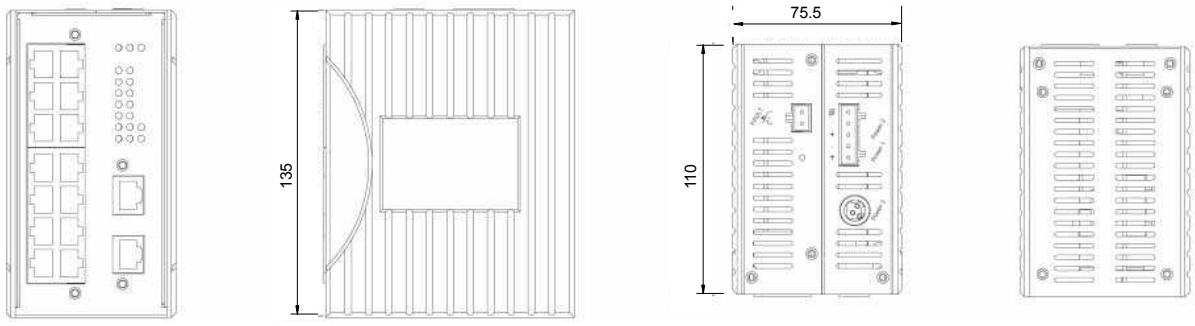
Interface	
Ethernet Port	• 10/100BASE-TX: 16, 15 or 14 ports • 100BASE-FX: 0, 1 or 2 ports
LED Indicators	• Per Unit: Power Status (Power 1, Power 2, Power 3) • Per Port: 10/100TX, 100FX: Link/Activity
Alarm Contact	• One relay output with current 1A @ 24VDC

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)

Regulatory Approvals	
ISO	• Manufactured in an ISO9001 facility
Safety	• UL508
EMI	• FCC Part 15, Class A, VCCI • EN61000-6-4 - EN55022 - EN61000-3-2 - EN61000-3-3
EMS	• EN61000-6-2 - EN61000-4-2 (ESD Standards) Contact: + / - 6KV Air: + / - 8KV - EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 1000MHz; 80% AM 3V/m, 1400 to 2000MHz; 80% AM 1V/m, 2000 to 2700MHz; 80% AM - EN61000-4-4 (Burst Standards) Signal Ports: + / - 4KV D.C. Power Ports: + / - 4KV - EN61000-4-5 (Surge Standards) Signal Ports: + / - 1KV; Line-to-Line D.C. Power Ports: + / - 0.5KV; Line-to-Earth - EN61000-4-6 (Induced RFI Standards) Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM - EN61000-4-8 (Magnetic Field Standards) 30A/m @ 50, 60Hz
Environmental Test Compliance	• IEC60068-2-6 Fc (Vibration Resistance) 5g @ 10 - 150KHz, 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) • FED STD 101C Method 5007.1 (Free fall w/ package) -Tested with Cross Weight and Drop High standard table

Diagrams

Unit: mm



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Specifications

Technology	
Standards	• IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX/100BASE-FX, IEEE802.3x
Forward and Filtering Rate	• 14,880pps for 10Mbps • 148,810pps for 100Mbps
Packet Buffer Memory	• 1.625M bits
Processing Type	• Store-and-Forward • Half-duplex back-pressure and IEEE802.3x full-duplex flow control
Address Table Size	• 4096 MAC addresses
Latency	• Less than 10μs

Power	
Input	• Input Voltage: 12 to 48VDC (Terminal Block); 12VDC (DC Jack)
Power Consumption	• 7.4W Max. 0.6A @ 12VDC, 0.3A @ 24VDC, 0.15A @ 48VDC
Overload Current Protection	• Present
Reverse Polarity Protection	• Present

Mechanical	
Casing	• Metal case • IP30
Dimensions	• 69mm (W) x 110mm (D) x 135mm (H) (2.72" (W) x 4.33" (D) x 5.31" (H))
Weight	• 0.87Kg (1.92lbs.)
Installation	• DIN-Rail (Top hat type 35mm), Panel, Rack Mounting

Interface	
Ethernet Port	• 10/100BASE-TX: 16, 15 or 14 ports • 100BASE-FX: 0, 1 or 2 ports
LED Indicators	• Per Unit: Power Status (Power 1, Power 2, Power 3) • Per Port: 10/100TX, 100FX: Link/Activity
Alarm Contact	• One relay output with current 1A @ 24VDC

Environment	
Operating Temperature	• -10°C to 60°C (14°F to 140°F) Tested @ -20°C to 70°C (-4°F to 158°F)
Storage Temperature	• -40°C to 85°C (-40°F to 185°F)
Ambient Relative Humidity	• 5% to 95% (non-condensing)

Regulatory Approvals	
ISO	• Manufactured in an ISO9001 facility
Safety	• UL508
EMI	• FCC Part 15, Class A, VCCI • EN61000-6-4 - EN55022 - EN61000-3-2 - EN61000-3-3
EMS	• EN61000-6-2 - EN61000-4-2 (ESD Standards) Contact: + / - 6KV Air: + / - 8KV - EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 1000MHz; 80% AM 3V/m, 1400 to 2000MHz; 80% AM 1V/m, 2000 to 2700MHz; 80% AM - EN61000-4-4 (Burst Standards) Signal Ports: + / - 4KV D.C. Power Ports: + / - 4KV - EN61000-4-5 (Surge Standards) Signal Ports: + / - 1KV; Line-to-Line D.C. Power Ports: + / - 0.5KV; Line-to-Earth - EN61000-4-6 (Induced RFI Standards) Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM - EN61000-4-8 (Magnetic Field Standards) 30A/m @ 50, 60Hz
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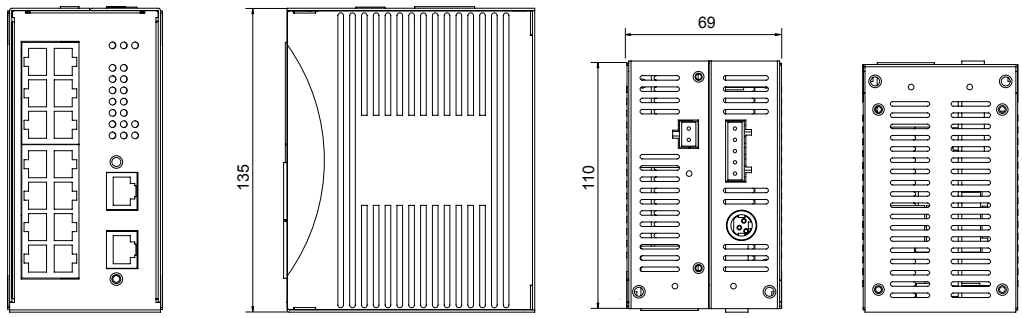

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