EDS-608/611/616/619 Series

Award-winning Product
reddot design award winner 2009

8, 8+3G, 16, 16+3G-port compact modular managed Ethernet switches

- Up to 19 optical fiber connections in a compact switch (EDS-619)
- Modular design with 4-port copper/fiber combinations
- Hot swap media modules for continuous operation
- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), RSTP/STP, and MSTP for network redundancy
- TACACS+, SNMPv3, IEEE 802.1X, HTTPS, and SSH to enhance network security
- Easy network management by web browser, CLI, Telnet/serial console, Windows utility, and ABC-01
- -40 to 75°C operating temperature range (T models)

Introduction

The versatile modular design of the compact EDS-600 series Ethernet switch allows users to combine fiber and copper modules to create switch solutions suitable for any automation network. The EDS-600's modular design lets you install up to 3 Gigabit Ethernet ports and 16 Fast Ethernet ports, and the advanced Turbo Ring and Turbo Chain (recovery time < 20 ms) technology, RSTP/STP, and MSTP helps increase the reliability and availability of your industrial Ethernet network. Models with an extended operating temperature range of -40 to 75°C are also available. The EDS-600 series supports several reliable and intelligent functions, including IEEE 1588 PTP V2, EtherNet/IP, Modbus/TCP, LLDP, DHCP Option 82, SNMP Inform, QoS, IGMP snooping, VLAN, TACACS+, IEEE 802.1X, HTTPS, SSH, SNMPv3, and more, making the Ethernet switches suitable for any harsh industrial environment.

Features and Benefits

- Command Line Interface (CLI) for quickly configuring major managed functions
- Hot swap media modules for continuous operation
- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), RSTP/STP, and MSTP for network redundancy
- IPv6 Ready logo awarded (IPv6 Logo Committee certified)
- SNMP Inform for ensuring reliable event management
- LLDP for automated topology discovery
- DHCP Option 82 for IP address assignment with different policies
- IEEE 1588 PTP V2 (Precision Time Protocol) for precise time synchronization of networks
- Support EtherNet/IP and Modbus/TCP protocols for device management and monitoring
- Compatible with PROFINET protocol for transparent data transmission
- IGMP snooping and GMRP for filtering multicast traffic
- Port-based VLAN, IEEE 802.1Q VLAN, and GVRP to ease network planning
- QoS (IEEE 802.1p/1Q) and TOS/DiffServ to increase determinism
- Port Trunking for optimum bandwidth utilization
- TACACS+, SNMPv3, IEEE 802.1X, HTTPS, and SSH to enhance network security
- SNMPv1/v2c/v3 for different levels of network management
- RMON for efficient network monitoring and proactive capability
- Bandwidth management prevents unpredictable network status
- Lock port function for blocking unauthorized access based on MAC address
- Port mirroring for online debugging
- Automatic warning by exception through e-mail, relay output
- Digital inputs to integrate sensors and alarms with IP networks

Specifications

Technology

Standards:
IEEE 802.3 for 10BaseT
IEEE 802.3u for 100BaseT(X) and 100BaseFX
IEEE 802.3ab for 1000BaseT(X)
IEEE 802.3z for 1000BaseX
IEEE 802.3x for Flow Control
IEEE 802.1D-2004 for Spanning Tree Protocol
IEEE 802.1w for Rapid STP
IEEE 802.1s for Multiple Spanning Tree Protocol
IEEE 802.1Q for VLAN Tagging
IEEE 802.1p for Class of Service
IEEE 802.1X for Authentication
IEEE 802.3ad for Port Trunk with LACP
Protocols: IGMPv1/v2, GMRP, GVRP, SNMPv1/v2c/v3, DHCP Server/Client, DHCP Option 66/67/82, BootP, TFTP, SNTP, SMTP, RARP, RMON, HTTP, HTTPS, Telnet, SSH, Syslog, LLDP, EtherNet/IP, Modbus/TCP, IEEE 1588 PTP V2, IPv6, NTP Server/Client
MIB: MIB-II, Ethernet-Like MIB, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON MIB Group 1, 2, 3, 9
Flow Control: IEEE 802.3x flow control, back pressure flow control

Switch Properties

Priority Queues: 4
Max. Number of Available VLANs: 64
VLAN ID Range: VID 1 to 4094
IGMP Groups: 256
MAC Table Size: 8 K
Packet Buffer Size: 1 Mbit

Interface

Fast Ethernet: 2 or 4 slots for any combination of 4-port interface modules, 10/100BaseT(X) or 100BaseFX
Gigabit Ethernet: 3 10/100/1000BaseT(X) with 100/1000BaseSFP combo slots (EDS-611 and EDS-619 only)
Console Port: RS-232 (RJ45 connector)
DIP Switches: Turbo Ring, Master, Coupler, Reserve
System LED Indicators: PWR1, PWR2, FAULT, MSTR/HEAD, CPLR/TAIL, G1/G2/G3 (EDS-611 and EDS-619 only)
Alarm Contact: 1 relay output with current carrying capacity of 1 A @ 24 VDC
Digital Inputs: 1 input with the same ground, but electrically isolated from the electronics.
- +13 to +30V for state "1"
- -30 to +3V for state "0"
- Max. input current: 8 mA

Power Requirements

Input Voltage: 12/24/48 VDC, redundant dual inputs
Input Current:
EDS-608: 0.16A @ 24 V
EDS-611: 0.31A @ 24 V
EDS-616: 0.25A @ 24 V
EDS-619: 0.31A @ 24 V
Overload Current Protection: Present
Connection: 1 removable 5-contact and 1 removable 6-contact terminal block
Reverse Polarity Protection: Present

Physical Characteristics

Housing: IP30 protection
Dimensions:
EDS-608/611 Series: 124.9 x 151 x 157.2 mm (4.92 x 5.95 x 6.19 in)
EDS-616/619 Series: 185 x 151 x 157.2 mm (7.28 x 5.95 x 6.19 in)
Weight:
EDS-608: 2080 g
EDS-611: 2260 g
EDS-616: 2780 g
EDS-619: 2950 g
Installation: DIN-Rail mounting, wall mounting (with optional kit)

Environmental Limits

Operating Temperature:
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Standards and Certifications

Safety: UL 508, UL 60950-1, EN 60950-1
Hazardous Location: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2 Ex nCnAnL IIC T4
EMI: FCC Part 15 Subpart B Class A, EN 55022 Class A, EN 61000-6-4
EMS: EN 61000-6-2
EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3,
EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 3, EN 61000-4-8, EN 61000-4-29
Marine: DNV, GL, LR, ABS, NK
Traffic Control: NEMA TS2
Rail Traffic: EN 50121-4
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6
Note: Please check Moxa's website for the most up-to-date certification status.

MTBF (mean time between failures)

Time:
EDS-608: 506,219 hrs
EDS-611: 483,344 hrs
EDS-616: 546,937 hrs
EDS-619: 475,816 hrs
Database: Telcordia (Bellcore), GB

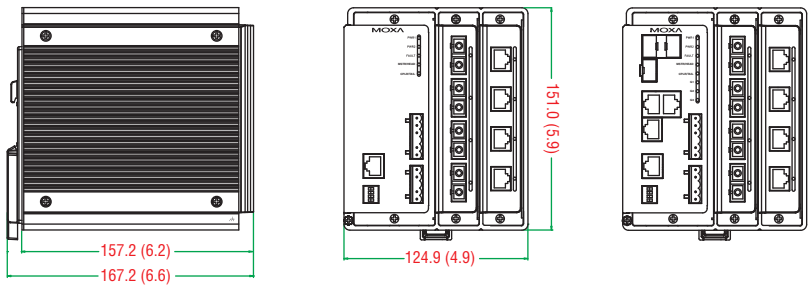
Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

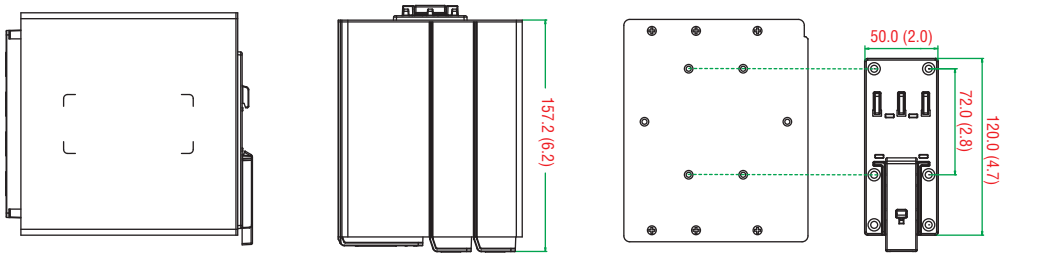
Dimensions

Unit: mm (inch)

EDS-608/611 Series



Side View
Front Views

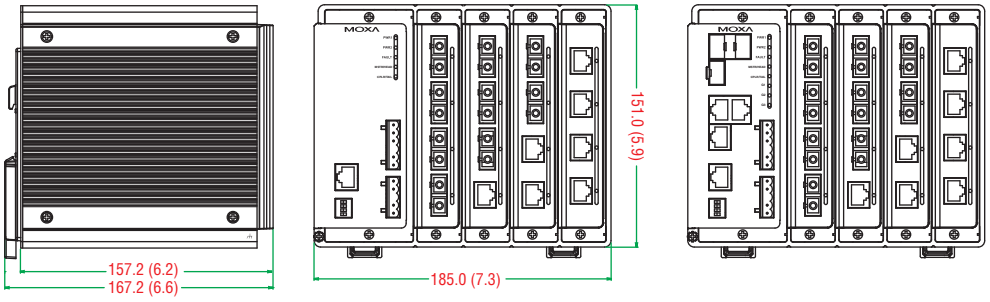


Side View
Top View
Rear View
DIN-Rail Mounting Kit

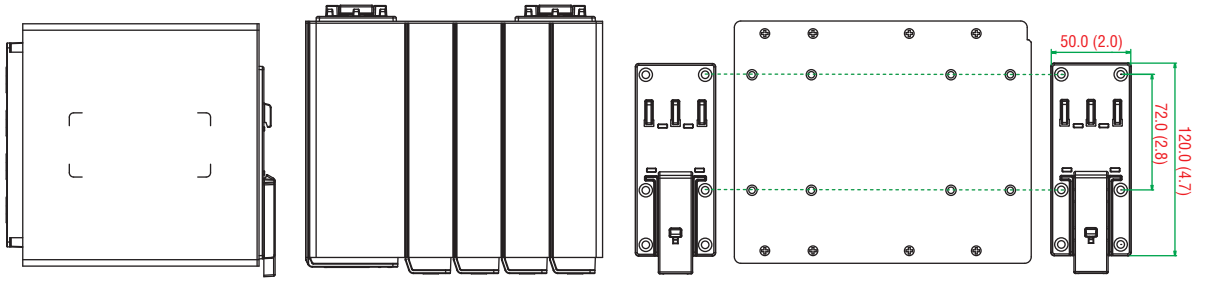
Dimensions

Unit: mm (inch)

EDS-616/619 Series



Side View | Front Views



Side View | Top View | Rear View | DIN-Rail Mounting Kit

Ordering Information

Step 1: Select Ethernet switch system

EDS-608/611/616/619

Step 2: Select interface modules

CM-600 Series (Fast Ethernet)

Note: The EDS-600 switch system is delivered without interface modules. Please see page 4 for product information related to the CM-600 series Fast Ethernet interface modules.

Available Models		Total No. of Ports	Port Interface		
			Gigabit Ethernet	Fast Ethernet	
Standard Temperature (0 to 60°C)	Wide Temperature (-40 to 75°C)		10/100/1000BaseT(X) or 100/1000BaseSFP*	Slots	10/100BaseT(X) and/or 100BaseFX
EDS-608	EDS-608-T	8	–	2	up to 8
EDS-611	EDS-611-T	11	3	2	up to 8
EDS-616	EDS-616-T	16	–	4	up to 16
EDS-619	EDS-619-T	19	3	4	up to 16

*The EDS-611/619 series supports 3 100/1000BaseSFP slots. See pages 5 and 7 for SFP-1G/1FE series Gigabit/Fast Ethernet SFP module product information.

Optional Accessories (can be purchased separately)

MXview: Moxa industrial network management software with 50, 100, 250, 500,1000, or 2000 nodes
EDS-SNMP OPC Server Pro: OPC server software that works with all SNMP devices
ABC-01: Configuration backup and restoration tool for managed Ethernet switches, 0 to 60°C operating temperature
DR-4524/75-24/120-24: 45/75/120 W DIN-Rail 24 VDC power supplies
MDR-40-24/60-24: 40/60 W DIN-Rail 24 VDC power supplies, -20 to 70°C operating temperature
WK-75: Wall mounting kit
AVK-17: Anti-vibration wiring Kit

Package Checklist

- EDS-608 or EDS-611 or EDS-616 or EDS-619 switch
- RJ45 to DB9 console port cable
- Documentation and software CD
- Hardware installation guide (printed)
- Warranty card