

EDS-608/611/616/619 Series

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



- > Up to 19 optical fiber connections in a small switch (EDS-619)
- > Modular form factor lets you choose from several 4-port copper/fiber combination modules
- > Hot swap media modules for continuous operation
- > Turbo Ring, Turbo Chain, and RSTP/STP for network redundancy
- > IEEE 1588 PTP, Modbus/TCP, LLDP, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SNMPv3, and SSH supported
- > -40 to 75°C operating temperature (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 and RSTP/STP (IEEE 802.1w/D) 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, Modbus/TCP, LLDP, DHCP Option 82, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SSH, SNMPv3, and more, making the Ethernet switches suitable for any harsh industrial environment.

Features and Benefits

- Hot swap media modules for continuous operation (available in Q2, 2010)
- Turbo Ring and Turbo Chain (recovery time < 20 ms at full load), and RSTP/STP (IEEE 802.1w/D)
- 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 (Precision Time Protocol) for precise time synchronization of networks
- Modbus/TCP industrial Ethernet protocol supported
- 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
- 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 100Base FX
- IEEE 802.3ab for 1000BaseT(X)
- IEEE 802.3z for 1000BaseX
- IEEE 802.3x for Flow Control
- IEEE 802.1D for Spanning Tree Protocol
- IEEE 802.1w for Rapid STP
- 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, Modbus/TCP, IEEE 1588 PTP, IPv6

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) or 100/1000BaseSFP 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)

Mode LED Indicators: 10/100M for TP port, 100M for Fiber port

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)

Regulatory Approvals

Safety: UL508 (Pending), EN60950-1 (Pending)

Hazardous Location: UL/cUL Class I, Division 2, Groups A, B, C, and D (Pending); ATEX Zone 2, Ex nC IIC (Pending)

EMI: FCC Part 15, EN61000-6-4

EMS: EN61000-6-2

EN61000-4-2 (ESD), level 3; EN61000-4-3 (RS), level 3;

EN61000-4-4 (EFT), level 3; EN61000-4-5 (Surge), level 3;

EN61000-4-6 (CS), level 3; EN61000-4-8; EN61000-4-29

Maritime: DNV (Pending), GL (Pending), ABS (Pending), LR (Pending), NK (Pending)

Rail Traffic: EN50121-4 (EDS-616 and EDS-619 series only)

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.

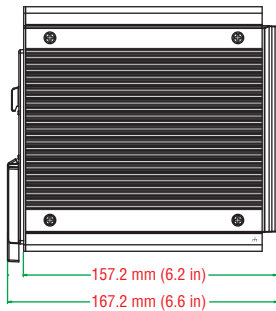
Warranty

Warranty Period: 5 years

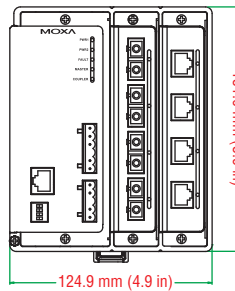
Details: See www.moxa.com/warranty

Dimensions

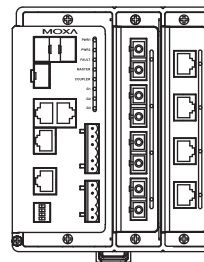
EDS-608/611 Series



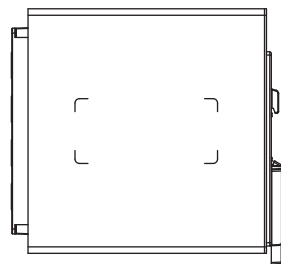
Side View



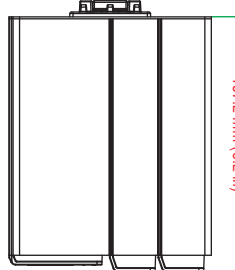
Front View



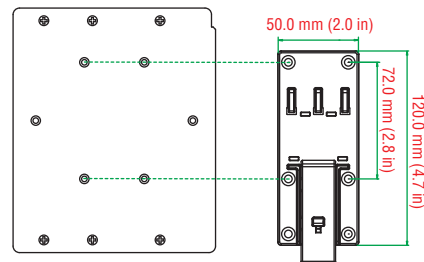
Rear View



Side View



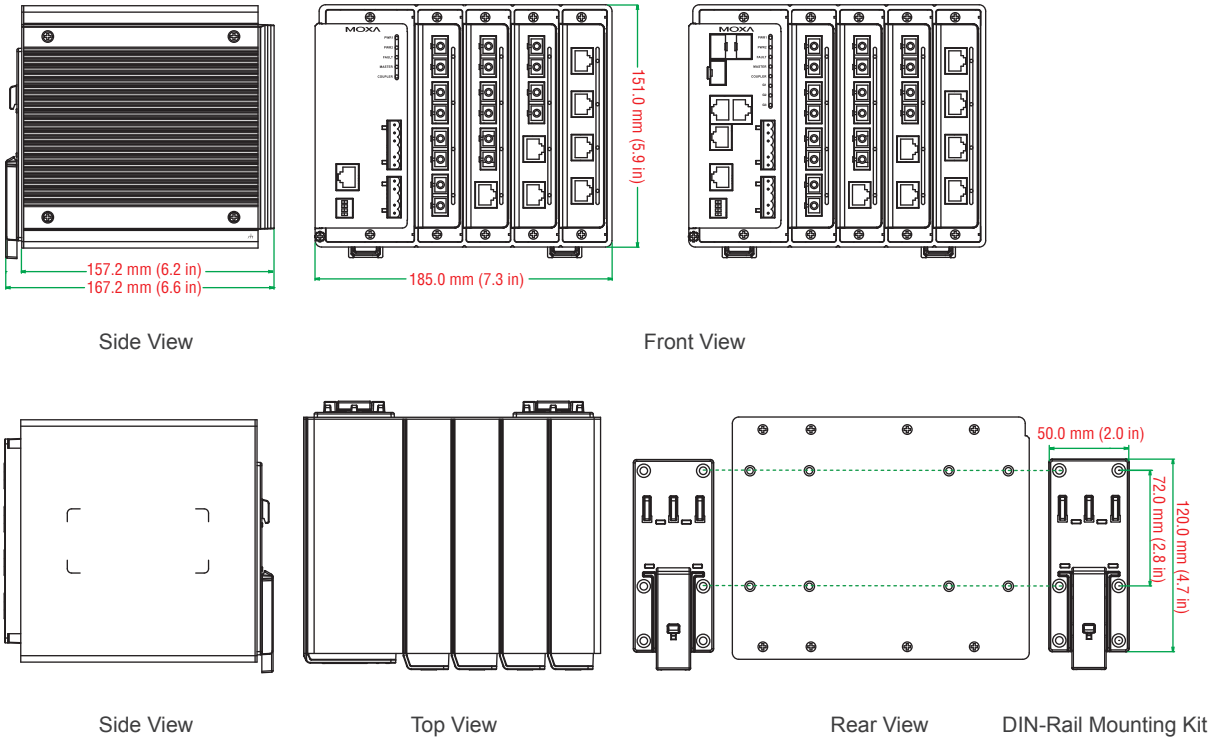
Top View



DIN-Rail Mounting Kit

Dimensions

EDS-616/619 Series



: Ordering Information

Step 1: Select Ethernet switch system

EDS-608/611/616/619



Step 2: Select interface modules

CM Series

Note: The EDS-600 switch system is delivered without interface modules. Please see page 1-26 for product information related to the CM series fast Ethernet interface modules.

Available Models		Total No. of Ports	Port Interface		
Standard Temperature (0 to 60°C)	Wide Temperature (-40 to 75°C)		Gigabit Ethernet 10/100/1000BaseT(X) or 100/1000BaseSFP*	Slots	Fast Ethernet 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-600 series supports 3 100/1000BaseSFP slots. See pages 1-69 and 1-71 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, or 500 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

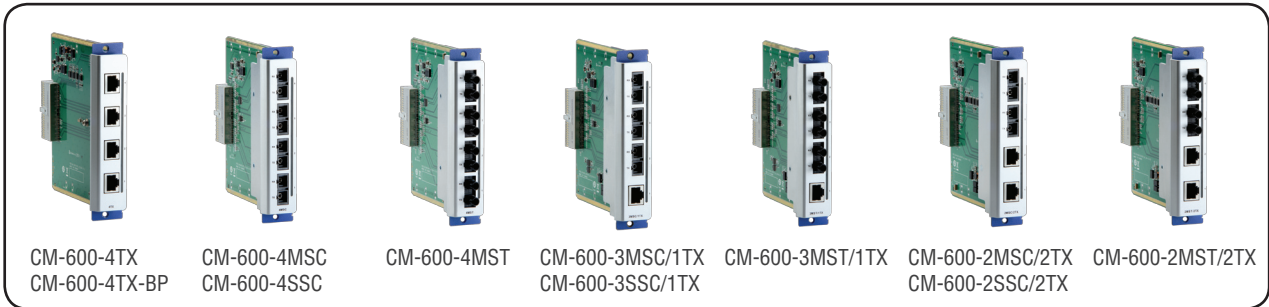
AVK-17: Anti-vibration wiring Kit

CM-600 Series

4-port fast Ethernet interface modules for EDS-600 series Ethernet switches

Specifications

Fast Ethernet Interface Modules, CM-600 Series



CM-600-4TX
CM-600-4TX-BP CM-600-4MSC
CM-600-4SSC CM-600-4MST CM-600-3MSC/1TX
CM-600-3SSC/1TX CM-600-3MST/1TX CM-600-2MSC/2TX
CM-600-2SSC/2TX CM-600-2MST/2TX

Interface

Fiber Ports: 100BaseFX ports (SC/ST connector)
RJ45 Ports: 10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
LED Indicators: 10/100 for TP port, 100M for fiber port

Optical Fiber

	100BaseFX	
	Multi-mode	Single-mode
Wavelength	1300 nm	1310 nm
Max. TX	-10 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km ^a 4 km ^b	40 km ^c
Saturation	-6 dBm	-3 dBm

- a. 50/125 μm, 800 MHz*km fiber optic cable
- b. 62.5/125 μm, 500 MHz*km fiber optic cable
- c. 9/125 μm single-mode fiber optic cable

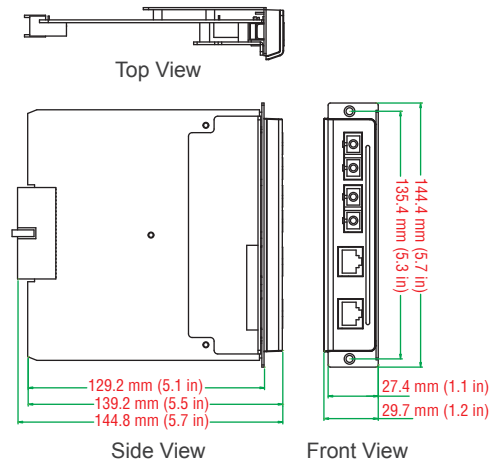
Power Requirements

Power Consumption:
 CM-600-4TX: 0.72 W
 CM-600-4MSC, -4MST, -4SSC: 2.64 W
 CM-600-3MSC/1TX, -3MST/1TX, -3SSC/1TX: 2.16 W
 CM-600-2MSC/2TX, -2MST/2TX, -2SSC/2TX: 1.68 W

Physical Characteristics

Housing: IP30 protection
Dimensions: 29.7 x 144.4 x 144.8 mm (1.17 x 5.69 x 5.7 in)
Weight:
 CM-600-4TX: 190 g
 CM-600-4MSC, -4MST, -4SSC: 240 g
 CM-600-3MSC/1TX, -3MST/1TX, -3SSC/1TX: 230 g
 CM-600-2MSC/2TX, -2MST/2TX, -2SSC/2TX: 230 g

Dimensions



Ordering Information

Available Models (-40 to 75°C)	Port Interface			
	10/100BaseT(X)	100BaseFX		
		Multi-mode, SC Connector	Multi-mode, ST Connector	Single-mode, SC Connector
CM-600-4TX	4	-	-	-
CM-600-4TX-BP*	4	-	-	-
CM-600-4MSC	-	4	-	-
CM-600-4MST	-	-	4	-
CM-600-4SSC	-	-	-	4
CM-600-3MSC/1TX	1	3	-	-
CM-600-3MST/1TX	1	-	3	-
CM-600-3SSC/1TX	1	-	-	3
CM-600-2MSC/2TX	2	2	-	-
CM-600-2MST/2TX	2	-	2	-
CM-600-2SSC/2TX	2	-	-	2

* The CM-600-4TX-BP supports bypass relay function on each port.