

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

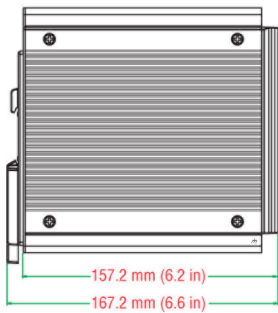
The versatile modular design of the compact EDS-600 series Ethernet switch allows users to combine fiber and copper modules to create switch solutions suitable for any automation network. The EDS-600's modular design lets you install up to 3 Gigabit Ethernet ports and 16 Fast Ethernet ports, and the 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

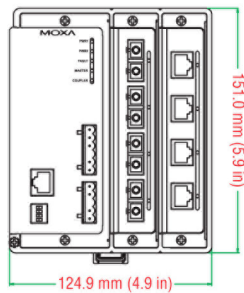
- Hot swap media modules for continuous operation
- Turbo Ring and Turbo Chain (recovery time < 20 ms at full load), and RSTP/STP (IEEE 802.1w/D)
- IPv6 Ready logo awarded (IPv6 Logo Committee certified)
- SNMP Inform for ensuring reliable event management
- LLDP for automated topology discovery
- DHCP 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

Dimensions (unit=mm)

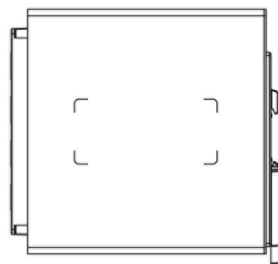
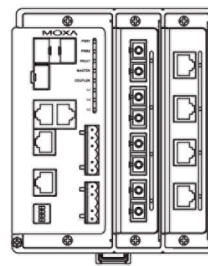
EDS-608/611 Series



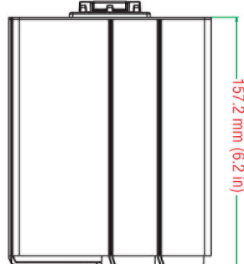
Side View



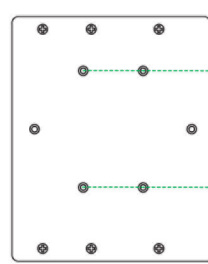
Front View



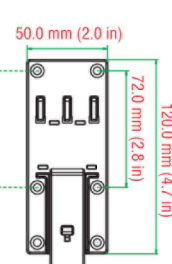
Side View



Top View

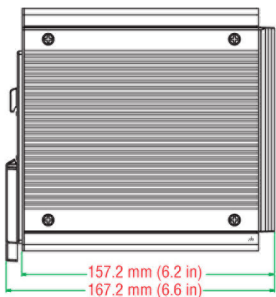


Rear View

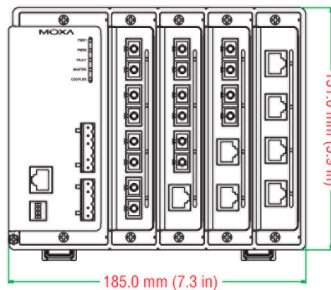


DIN-Rail Mounting Kit

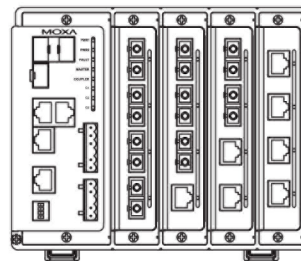
EDS-616/619 Series



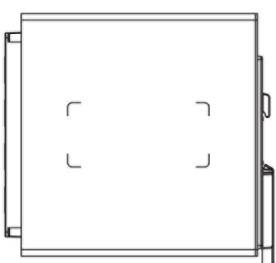
Side View



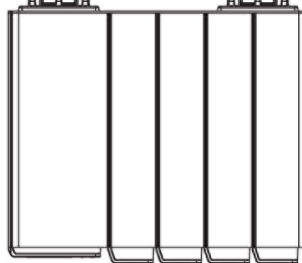
Front View



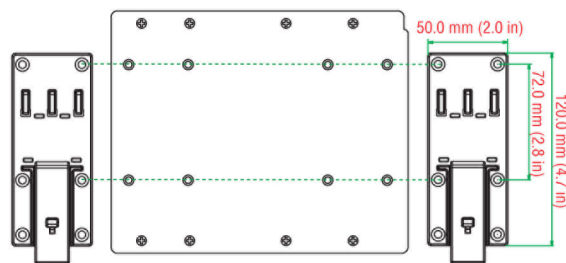
Rear View



Side View



Top View



DIN-Rail Mounting Kit

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 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, SNMP, SMTP, RARP, RMON, HTTP, HTTPS, Telnet, SSH, Syslog, LLDP, Modbus/ TCP, IEEE1588 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
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

Warranty

Warranty	5 years
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Ordering Information

Part Numbers		Total No. of Ports	Port Interface		
Standard Temperature (0 to 60°C)	Extended Temperature (-40 to 75°C)		Gigabit Ethernet		Fast Ethernet
			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-616-T	19	3	4	up to 16

Note: Select Ethernet switch system (EDS-608/611/616/619) and then Interface modules (CM Series)

*The EDS-611/619 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

Part Numbers	Description
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

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



CM-600-4TX


 CM-600-4MSC
CM-600-4SSC


CM-600-4MST


 CM-600-2MSC/2TX
CM-600-2SSC/2TX


CM-600-2MST/2TX


 CM-600-3MSC/1TX
CM-600-3SSC/1TX


CM-600-3MST/1TX

Specifications

Interface

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

Optical Fibre

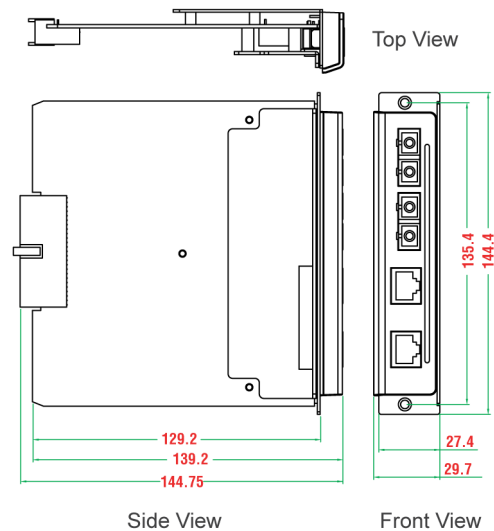
	100BaseFX		
	Multi Mode	Single Mode	Single Mode 80 km
Wavelength	1300 nm	1310 nm	1550 nm
Max. TX	-10 dBm	0 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm	-34 dBm
Link Budget	12 dB	29 dB	29 dB
Typical Distance	5 km ^a 4 km ^b	40 km ^c	80 km ^d
Saturation	-6 dBm	-3 dBm	-3 dBm

a. 50/125 μ m, 800 MHz*km Fibre optic cable
 b. 62.5/125 μ m, 500 MHz*km Fibre optic cable
 c. 9/125 μ m single-mode Fibre optic cable
 d. 9/125 μ m single-mode Fibre optic cable (80 km)

Physical Characteristics

Housing	IP30 protection
Dimensions	29.7 x 144.4 x 144.75 mm (1.17 x 5.69 x 5.7 in)

Dimensions (unit=mm)



Ordering Information

Part Numbers

Port Interface

Part Number	10/100BaseT(X)	100BaseFX		
		Multi-mode, SC Connector	Multi-mode, ST Connector	Single-mode, SC Connector
CM-600-4TX	4	-	-	-
CM-600-4MSC	-	4	-	-
CM-600-4MST	-	-	4	-
CM-600-4SSC	-	-	-	4
CM-600-2MSC/2TX	2	2	-	-
CM-600-2MST/2TX	2	-	2	-
CM-600-2SSC/2TX	2	-	-	2
CM-600-3MSC/1TX	1	3	-	-
CM-600-3MST/1TX	1	-	3	-
CM-600-3SSC/1TX	1	-	-	3