EDS-728 Series

24+4G-port Layer 2 Gigabit modular managed Ethernet switches



Features and Benefits

- 4 Gigabit plus 24 Fast Ethernet ports for copper and fiber
- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches),[1] 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
- Supports MXstudio for easy, visualized industrial network management

Certifications

Introduction

The EDS-728 Series features a versatile modular design that allows different combinations of fiber and copper modules, creating a wide array of connection options ideal for any automation network. The modular design lets you install up to 4 Gigabit ports and 24 Fast Ethernet ports. The EDS-728 Series is specially designed for redundant Gigabit network backbones and uses a modular configuration to provide a high degree of flexibility for network expansion.

Top network performance, security, and reliability are assured through the EDS-728 Series advanced management and security features. The EDS-728 Series also features industrial-grade construction, a console port for automatic configuration backup, and an angled LED troubleshooting panel that can be conveniently viewed from both horizontal and vertical orientations.

Additional Features and Benefits

- Command line interface (CLI) for quickly configuring major managed functions
- Supports advanced VLAN capability with Q-in-Q tagging
- Software-based IEEE 1588 PTPv2 (Precision Time Protocol) for time synchronization of networks
- DHCP Option 82 for IP address assignment with different policies
- Supports 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
- IEEE 802.1Q VLAN and GVRP protocol to ease network planning
- QoS (IEEE 802.1p/1Q and TOS/DiffServ) to increase determinism
- Port Trunking for optimum bandwidth utilization
- SNMPv1/v2c/v3 for different levels of network management
- RMON for proactive and efficient network monitoring
- Bandwidth management to prevent unpredictable network status
- Lock port function for blocking unauthorized access based on MAC address
- Port mirroring for online debugging
- Automatic warning by exception through email and relay output
- Digital inputs for integrating sensors and alarms with IP networks
- Redundant, dual DC power inputs
- Configurable by Web browser, Telnet/serial console, CLI, Windows utility, and ABC-01 automatic backup configurator

Specifications

Input/Output Interface

Alarm Contact Channels	2, Relay output with current carrying capacity of 1 A @ 24 VDC
Digital Input Channels	2
Digital Inputs	+13 to +30 V for state 1 -30 to +3 V for state 0 Max. input current: 8 mA

1. Gigabit Ethernet recovery time < 50 ms

Ethernet Interface

Module	6 slots for any combination of 4-port interface modules, 10/100BaseT(X) or 100BaseFX; 2 slots for any combination of 2-port interface modules, 10/100/1000BaseT(X) or 1000BaseSFP
Pre-installed Modules	EDS-72810G-2GSFP: 1 x IM-2GSFP EDS-72810G-2GTX2GSFP: 1 x IM-2GTX 1 x IM-2GSFP EDS-72810G-4GSFP: 2 x IM-2GSFP EDS-72810G-4GTX: 2 x IM-2GTX
Standards	IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1X for authentication IEEE 802.3 for 10BaseT IEEE 802.3ab for 1000BaseT(X) IEEE 802.3ad for Port Trunk with LACP IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3x for flow control IEEE 802.3z for 1000BaseX

Ethernet Software Features

Filter	GMRP, GVRP, IGMP v1/v2, QinQ VLAN
Industrial Protocols	EtherNet/IP, Modbus TCP
Management	Back Pressure Flow Control, BOOTP, DDM, DHCP Option 66/67/82, DHCP Server/Client, Flow control, IPv4, LLDP, Port Mirror, RARP, RMON, SMTP, SNMP Inform, SNMPv1/v2c/v3, Syslog, Telnet, TFTP
MIB	Bridge MIB, Ethernet-like MIB, MIB-II, P-BRIDGE MIB, Q-BRIDGE MIB, RMON MIB Groups 1, 2, 3, 9, RSTP MIB
Redundancy Protocols	Link Aggregation, MSTP, RSTP, STP, Turbo Chain, Turbo Ring v1/v2
Security	Broadcast storm protection, HTTPS/SSL, Port Lock, RADIUS, SSH, TACACS+
Time Management	NTP Server/Client, SNTP, IEEE 1588v2 PTP (software-based)
Filter	VLAN unaware, 802.1Q VLAN

Switch Properties

IGMP Groups	256
MAC Table Size	16 K
Max. No. of VLANs	64
Packet Buffer Size	32 Mbits
Priority Queues	4
VLAN ID Range	VID 1 to 4094

Serial Interface

Console Port	RS-232 (TxD, RxD, GND), 8-pin RJ45 (115200, n, 8, 1)

Power Parameters

Connection	2 removable 6-contact terminal block(s)
Input Current	0.82 A @ 24 VDC
Input Voltage	24 VDC, Redundant dual inputs

Operating Voltage	12 to 45 VDC
Overload Current Protection	Supported
Reverse Polarity Protection	Supported

Physical Characteristics

IP Rating	IP30
Dimensions	362.4 x 142.5 x 128 mm (14.27 x 5.61 x 5.04 in)
Weight	1950 g (4.30 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)

Environmental Limits

Operating Temperature	0 to 60°C (32 to 140°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

Freefall	IEC 60068-2-32
EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Maritime	ABS, DNV-GL, LR, NK
Safety	EN 60950-1, UL 508, UL 60950-1, CSA C22.2 No. 60950-1
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

MTBF

Time	191,203 hrs
Standards	Telcordia SR332

Warranty

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

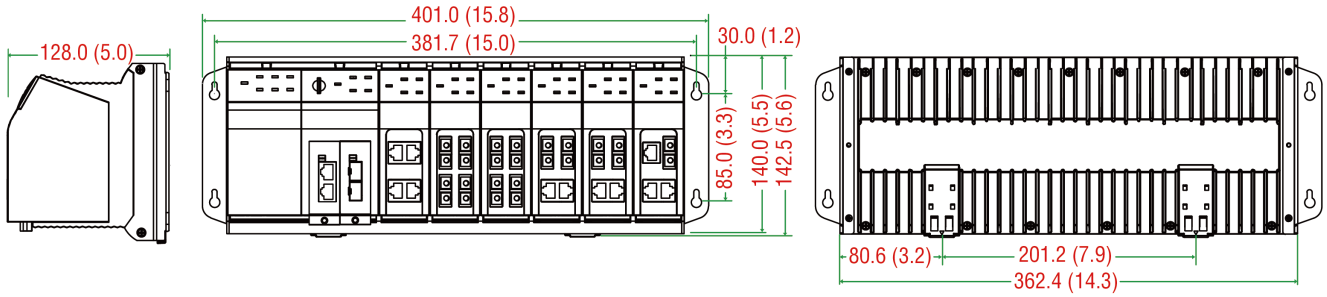
Package Contents

Device	1 x EDS-728 Series switch
Cable	1 x RJ45-to-DB9 console cable

Documentation	1 x document and software CD 1 x product certificates of quality inspection, Simplified Chinese 1 x product notice, Simplified Chinese 1 x quick installation guide 1 x warranty card
Note	SFP modules and/or modules from the IM Module Series need to be purchased separately for use with this product.

Dimensions

Unit: mm (inch)



Side View | Front View | Rear View

Ordering Information

Model Name	Layer	Total No. of Ports	IM-2G Series Module 10/100/1000BaseT(X) or 1000BaseSFP	IM Series Module 10/100BaseT(X) and/or 100BaseFX	Operating Temp.
EDS-72810G	2	28	2 slots for up to 4 10/100/1000BaseT(X) or 1000BaseSFP ports	6 slots for up to 24 10/100BaseT(X) and/or 100BaseFX ports	0 to 60°C
EDS-72810G-4GTX	2	28	2 IM-2GTX preinstalled; 2 slots for up to 4 10/100/1000BaseT(X) or 1000BaseSFP ports	6 slots for up to 24 10/100BaseT(X) and/or 100BaseFX ports	0 to 60°C
EDS-72810G-2GSFP	2	28	1 IM-2GSFP preinstalled; 2 slots for up to 4 10/100/1000BaseT(X) or 1000-BaseSFP ports	6 slots for up to 24 10/100BaseT(X) and/or 100BaseFX ports	0 to 60°C
EDS-72810G-4GSFP	2	28	2 IM-2GSFP preinstalled; 2 slots for up to 4 10/100/1000BaseT(X) or 1000-BaseSFP ports	6 slots for up to 24 10/100BaseT(X) and/or 100BaseFX ports	0 to 60°C
EDS-72810G-2GTX2GSFP	2	28	1 IM-2GTX and 1 IM-2-GSFP preinstalled; 2 slots for up to 4 10/100/1000BaseT(X) or 1000-BaseSFP ports	6 slots for up to 24 10/100BaseT(X) and/or 100BaseFX ports	0 to 60°C

Accessories (sold separately)

IM Module Series

IM-1LSC/3TX	Fast Ethernet interface AC module with 3 10/100BaseT(X) ports and 1 100BaseFX single-mode port (SC connector for 80 km transmission), 0 to 60°C operating temperature
IM-2GSFP	Gigabit Ethernet interface module with 2 1000BaseSFP slots (see the SFP-1G series ordering information for available Gigabit Ethernet SFP modules), 0 to 60°C operating temperature
IM-2GTX	Gigabit Ethernet interface module with 2 10/100/1000BaseT(X) ports, 0 to 60°C operating temperature
IM-2MSC/2TX	Fast Ethernet interface module with 2 10/100BaseT(X) ports and 2 100BaseFX multi-mode ports (SC connectors), 0 to 60°C operating temperature

IM-2MST/2TX	Fast Ethernet interface module with 2 10/100BaseT(X) ports and 2 100BaseFX multi-mode ports (ST connectors), 0 to 60°C operating temperature
IM-2SSC/2TX	Fast Ethernet interface module with 2 10/100BaseT(X) ports and 2 100BaseFX single-mode ports (SC connectors), 0 to 60°C operating temperature
IM-4MSC	Fast Ethernet interface module with 4 100BaseFX multi-mode ports (SC connectors), 0 to 60°C operating temperature
IM-4MST	Fast Ethernet interface module with 4 100BaseFX multi-mode ports (ST connectors), 0 to 60°C operating temperature
IM-4SSC	Fast Ethernet interface module with 4 100BaseFX single-mode ports (SC connectors), 0 to 60°C operating temperature
IM-4TX	Fast Ethernet interface module with 4 10/100BaseT(X) ports, 0 to 60°C operating temperature

Storage Kits

ABC-01	Configuration backup and restoration tool for managed Ethernet switches and AWK Series wireless APs/bridges/clients, 0 to 60°C operating temperature

SFP Modules

SFP-1G10ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G10ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G10BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G10BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G20ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G20ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G20BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G20BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G40ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G40ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G40BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G40BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1GEZXLC	SFP module with 1 1000BaseEZX port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXLC-120	SFP module with 1 1000BaseEZX port with LC connector for 120 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC-T	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°C operating temperature
SFP-1GLHXLC	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLHXLC-T	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLSXLC	SFP module with 1 1000BaseLSX port with LC connector for 500 m transmission, 0 to 60°C operating temperature

SFP-1GLSXLC-T	SFP module with 1 1000BaseLSX port with LC connector for 500 m transmission, -40 to 85°C operating temperature
SFP-1GLXLC	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GLXLC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXLC	SFP module with 1 1000BaseSX port with LC connector for 300/550 m transmission, 0 to 60°C operating temperature
SFP-1GSXLC-T	SFP module with 1 1000BaseSX port with LC connector for 300/550 m transmission, -40 to 85°C operating temperature
SFP-1GZXLC	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°C operating temperature
SFP-1GZXLC-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature

Power Supplies

DR-120-24	120W/2.5A DIN-rail 24 VDC power supply with universal 88 to 132 VAC or 176 to 264 VAC input by switch, or 248 to 370 VDC input, -10 to 60°C operating temperature
DR-4524	45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50° C operating temperature
DR-75-24	75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 60°C operating temperature
MDR-40-24	DIN-rail 24 VDC power supply with 40W/1.7A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature
MDR-60-24	DIN-rail 24 VDC power supply with 60W/2.5A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature

Wall-Mounting Kits

WK-32	Wall-mounting kit, 2 plates, 6 screws, 30.3 x 140 x 12.3 mm

Rack-Mounting Kits

RK-4U	19-inch rack-mounting kit

Software

MXview-50	Industrial network management software with a license for 50 nodes (by IP address)
MXview-100	Industrial network management software with a license for 100 nodes (by IP address)
MXview-250	Industrial network management software with a license for 250 nodes (by IP address)
MXview-500	Industrial network management software with a license for 500 nodes (by IP address)
MXview-1000	Industrial network management software with a license for 1000 nodes (by IP address)
MXview-2000	Industrial network management software with a license for 2000 nodes (by IP address)
MXview Upgrade-50	License expansion of MXview industrial network management software by 50 nodes (by IP address)

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