

# EDS-4014 Series

## 8+4G+2 2.5GbE-port managed Ethernet switches



### Features and Benefits

- Increased bandwidth capabilities with fiber SFP slots supporting up to 2.5 Gbps
- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches)<sup>1</sup>, and RSTP/STP for network redundancy
- Wide range of power input options for flexible deployment
- Compact and flexible housing design to fit into confined spaces
- Supports MXstudio for easy, visualized industrial network management
- IEC 62443-4-2 Security Level 2 certified
- Marine cybersecurity certified (IACS UR E27 Rev.1, IEC 61162-460 Ed. 3.0 for switch role)

### Certifications



## Introduction

The EDS-4014 Series is a range of 14-port managed Fast Ethernet switches with four 1 Gbps and two 2.5 Gbps fiber-optic ports.

Redundant Ethernet technologies such as Turbo Ring, Turbo Chain, and RSTP/STP increase the reliability of your system and improve the availability of your network backbone. The EDS-4014 Series is designed specifically for demanding applications such as video and process monitoring, ITS, and DCS systems, all of which can benefit from a scalable backbone.

### IEC 62443-4-2 Security Level 2 Certified

EDS-(G)4000 Series models are IEC 62443-4-2 Security Level 2 certified (<https://certificates.iecee.org/#/deliverables/CERT/1605016/view>), helping our customers meet the requirements of a secure industrial network.

## Specifications

### Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	8 Auto MDI/MDI-X connection Auto negotiation speed Full/Half duplex mode
100/1000BaseSFP Slots	4
1000/2500BaseSFP Ports	2
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 802.3bz for 2.5GBaseX IEEE 802.3x for flow control IEEE 802.3ad for Port Trunk with LACP IEEE 802.1Q for VLAN Tagging IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1p for Class of Service IEEE 802.1X for authentication

1. If the port link speed is 1 Gigabit or higher, the recovery time is < 50 ms.

## Ethernet Software Features

Industrial Protocols	<p>EtherNet/IP  Modbus TCP  PROFINET IO Device</p>
Management	<p>IPv4/IPv6  Flow control  Back Pressure Flow Control  DHCP Server/Client  ARP  RARP  LLDP  Fiber check  Port Mirroring (SPAN, RSPAN)  Linkup Delay  SMTP  SNMP Trap  SNMP Inform  SNMPv1/v2c/v3  RMON  TFTP  SFTP  HTTP  HTTPS  Telnet  Syslog  Private MIB</p>
Filter	<p>GMRP  GVRP  GARP  802.1Q VLAN  IGMP Snooping v1/v2/v3  IGMP Querier</p>
Redundancy Protocols	<p>STP  RSTP  Turbo Ring v2  Turbo Chain  Ring Coupling  Dual-Homing  Link Aggregation  MRP  MSTP</p>
Security	<p>Broadcast storm protection  Rate Limit  Trust access control  Static Port Lock  MAC Sticky  HTTPS/SSL  SSH  RADIUS  TACACS+  Access control list  Login and Password Policy  DHCP Snooping</p>
Time Management	<p>SNTP  NTP Server/Client  NTP Authentication  IEEE 1588v2 PTP (hardware-based)  Supported power profiles: IEEE 1588 Default 2008, IEC 61850-9-3-2016, IEEE C37.238-2017</p>

Protocols	IPv4/IPv6 TCP/IP UDP ICMP ARP RARP TFTP DNS NTP Client DHCP Server DHCP Client 802.1X QoS HTTPS HTTP Telnet SMTP SNMPv1/v2c/v3 RMON Syslog
MIB	P-BRIDGE MIB Q-BRIDGE-MIB IEEE8021-SPANNING-TREE-MIB IEEE8021-PAE-MIB IEEE8023-LAG-MIB LLDP-EXT-DOT1-MIB LLDP-EXT-DOT3-MIB SNMPv2-MIB RMON MIB Groups 1, 2, 3, 9

#### Switch Properties

MAC Table Size	16 K
Jumbo Frame Size	9.216 KB
Max. No. of VLANs	256
VLAN ID Range	VID 1 to 4094
IGMP Groups	512
Priority Queues	4
Packet Buffer Size	1 MB

#### LED Interface

LED Indicators	PWR1, PWR2, STATE, FAULT, MSTR/HEAD, CPLR/TAIL, SYNC
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#### Serial Interface

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

USB Connector	USB Type A (Reserved)
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#### Input/Output Interface

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

## DIP Switch Configuration

DIP Switches	Turbo Ring, Master, Coupler, Reserve
<b>Power Parameters</b>	
Connection	2 removable 4-contact terminal block(s)
Pre-installed Power Module	-LV/-LV-T models: PWR-100-LV -HV/-HV-T models: PWR-105-HV-I
Note	<p>The EDS-4014 Series supports modular power supplies. The model names and power parameters are determined by the installed power module.</p> <p>For example: EDS-4014-4GS-2QGS-T + PWR-100-LV = EDS-4014-4GS-2QGS-LV-T EDS-4014-4GS-2QGS-T + PWR-105-HV-I = EDS-4014-4GS-2QGS-HV-T</p> <p>If you install a different power module, refer to the specifications of the corresponding model. For example, if you replace the power module of the EDS-4014-4GS-2QGS-LV-T with the PWR-105-HV-I, refer to the specifications of the EDS-4014-4GS-2QGS-HV-T.</p>
Input Voltage	-LV/-LV-T models: 12/24/48 VDC, Redundant dual inputs -HV/-HV-T models: 110/220 VDC/VAC, Single input
Operating Voltage	-LV/-LV-T models: 9.6 to 60 VDC -HV/-HV-T models: 88 to 300 VDC, 85 to 264 VAC
Input Current	-LV/-LV-T models: 12-48 VDC, 1.50-0.40 A or 24 VDC, 0.70 A -HV/-HV-T models: 110-220 VAC, 50-60 Hz, 0.30-0.20 A or 110-220 VDC, 0.30-0.20 A
Power Consumption (Max.)	EDS-4014-4GS-2QGS-LV(-T) models: 12.15 W EDS-4014-4GS-2QGS-HV(-T) models: 14.44 W
Overload Current Protection	Supported
Reverse Polarity Protection	Supported
<b>Physical Characteristics</b>	
IP Rating	IP40
Dimensions	55 x 140 x 122.5 mm (2.17 x 5.51 x 4.82 in)
Weight	846 g (1.87 lb)
Installation	DIN-rail mounting Wall mounting (with optional kit)
Housing	Metal
<b>Environmental Limits</b>	
Operating Temperature	Standard Models: -10 to 60°C (14 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
<b>Standards and Certifications</b>	
Cybersecurity	IEC 62443-4-2 Security Level 2 IEC 61162-460 (switch role)
Safety	UL 61010-2-201 EN 62368-1 (LVD)
EMC	EN 55032/35 EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m

	IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV IEC 61000-4-5 Surge: Power: 4 kV; Signal: 4 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Maritime	-LV/-LV-T models: DNV, ABS, NK, LR
Vibration	IEC 60068-2-6
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Railway	EN 50121-4
Traffic Control	NEMA TS2
Power Substation	IEC 61850-3 IEEE 1613 Class 1
Hazardous Locations	-LV/-LV-T models: ATEX IECEX Class I Division 2

## MTBF

Time	EDS-4014-4GS-2QGS-LV/LV-T: 1,003,814 hrs EDS-4014-4GS-2QGS-HV/HV-T: 489,769 hrs
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## Warranty

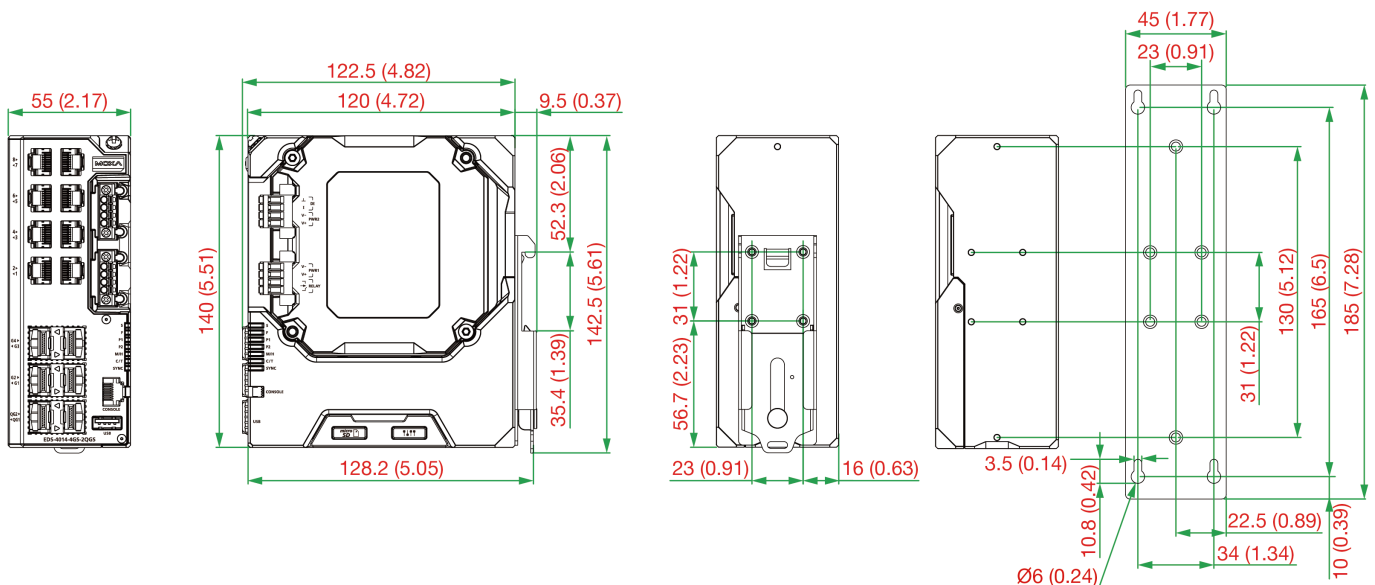
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

## Package Contents

Device	1 x EDS-4014 Series switch
Documentation	1 x quick installation guide 1 x product notice, Simplified Chinese 1 x product certificates of quality inspection, Simplified Chinese 1 x warranty card

## Dimensions

Unit: mm (inch)



## Ordering Information

Model Name	10/100BaseT(X) Ports (RJ45 Connector)	100/1000BaseSFP Ports	1000/ 2500BaseSFP Ports	Operating Voltage	Pre-installed Power Module	Operating Temp.
EDS-4014-4GS-2QGS-LV	8	4	2	9.6 to 60 VDC	PWR-100-LV	-10 to 60°C
EDS-4014-4GS-2QGS-LV-T	8	4	2	9.6 to 60 VDC	PWR-100-LV	-40 to 75°C
EDS-4014-4GS-2QGS-HV	8	4	2	88 to 300 VDC, 85 to 264 VAC	PWR-105-HV-I	-10 to 60°C
EDS-4014-4GS-2QGS-HV- T	8	4	2	88 to 300 VDC, 85 to 264 VAC	PWR-105-HV-I	-40 to 75°C

## Accessories (sold separately)

### Storage Kits

ABC-02-USB	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, 0 to 60°C operating temperature
ABC-02-USB-T	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, -40 to 75°C operating temperature
ABC-03-microSD-T	MicroSD-based configuration backup and restoration tool, firmware upgrades, and log file storage tool for managed Ethernet switches and WLAN products, -40 to 85°C operating temperature

### SFP Modules

SFP-1GEZXC	SFP module with 1 1000BaseEZC port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXC-120	SFP module with 1 1000BaseEZC 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-1GLHXC	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLSXC	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature
SFP-1GLXC	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GSXC	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°C operating temperature
SFP-1GZXC	SFP module with 1 1000BaseZX port with LC connector for 80 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-1GLHXC-T	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLSXC-T	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature
SFP-1GLXC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXC-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature
SFP-1GZXC-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature
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-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-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-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-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-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-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-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-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-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-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-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-2.5GSLC-T	SFP module with 1 2.5GBaseFX port with LC connector, single-mode, for 5 km transmission, -40 to 85 °C operating temperature
SFP-2.5GLSLC-T	SFP module with 1 2.5GBaseFX port with LC connector, single-mode, for 20 km transmission, -40 to 85 °C operating temperature
SFP-2.5GMLC-T	SFP module with 1 2.5GBaseFX port with LC connector, multi-mode, for 170, 200, 550, 600 m transmission, -40 to 85 °C operating temperature
SFP-2.5GSLHLC-T	SFP module with 1 2.5GBaseFX port with LC connector, single-mode, for 45 km transmission, -40 to 85 °C operating temperature
SFP-1GTXRJ45-T	SFP module with 1 1000BaseT port with RJ45 connector for 100 m transmission, -40 to 75°C operating temperature

## Power Supplies

HDR-60-24	60 W/2.5 A DIN-rail 24 VDC power supply, universal 85 to 264 VAC or 120 to 370 VDC input voltage, -30 to 70°C operating temperature
NDR-120-24	120 W/5.0 A DIN-rail 24 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°C operating temperature
NDR-120-48	120 W/2.5 A DIN-rail 48 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°C operating temperature
NDR-240-48	240 W/5.0 A DIN-rail 48 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°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

## Software

LIC-MXviewOne-NEW-XN-SR	MXview One node license with customizable node quantity (minimum 1 node)
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