

# EDS-4014シリーズ

## 8+4G+2 2.5GbEポートマネージドイーサネットスイッチ



### 機能とメリット

- IEC 62443-4-1、IEC 62443-4-2産業サイバーセキュリティ標準に準拠
- 向上した帯域幅機能があり、光ファイバSFPスロットが最大2.5 Gbpsをサポート
- ネットワーク冗長性のためのTurbo RingとTurbo Chain（リカバリ時間はスイッチ250台で20ミリ秒未満）<sup>1</sup>、および RSTP/STP
- 柔軟な導入のための幅広い電源入力オプション
- 狭いスペースにも収まるコンパクトな筐体設計
- 簡単に視覚化された産業用ネットワーク管理を行うためのMXstudioに対応

### 認証



### 製品紹介

EDS-4014シリーズには、14ポートのマネージド高速イーサネットスイッチで、4つの1 Gbpsと2つの2.5 Gbpsの光ファイバポートのオプションがあります。

Turbo Ring、Turbo Chain、RSTP/STPなどのイーサネット冗長性技術により、システムの信頼性が高まり、ネットワークバックボーンの可用性が向上します。EDS-4014シリーズは、スケーラブルなバックボーンからメリットを得られる、ビデオおよびプロセス監視、ITS、DCSシステムなどの要求の多いアプリケーション向けに特別に設計されています。

EDS-4014シリーズは、製品のセキュリティと安全な開発ライフサイクルの要件を両方網羅するIEC 62443-4-2とIEC 62443-4-1の産業サイバーセキュリティ標準に準拠していて、これにより弊社のお客様が安全な業界ネットワーク設計の要件を満たす支援をしています。

### 仕様

#### Ethernet Interface

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

1. ポートリンク速度が1ギガビット以上の場合、リカバリ時間は50ミリ秒未満。

## Ethernet Software Features

|                      |                                                                                                                                                                                                                              |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter               | GMRP, GVRP, GARP, 802.1Q VLAN, IGMP Snooping v1/v2/v3, IGMP Querier                                                                                                                                                          |
| Management           | IPv4/IPv6, Flow control, Back Pressure Flow Control, DHCP Server/Client, ARP, RARP, LLDP, Port Mirror, Linkup Delay, SMTP, SNMP Trap, SNMP Inform, SNMPv1/v2c/v3, RMON, TFTP, SFTP, HTTP, HTTPS, Telnet, Syslog, Private MIB |
| 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                                                     |
| Redundancy Protocols | STP, RSTP, Turbo Ring v2, Turbo Chain, Ring Coupling, Dual-Homing, Link Aggregation                                                                                                                                          |
| Security             | Broadcast storm protection, Rate Limit, Trust access control, Static Port Lock, MAC Sticky, HTTPS/SSL, SSH, RADIUS, TACACS+, Login and Password Policy                                                                       |
| Time Management      | SNTP, NTP Server/Client, NTP Authentication                                                                                                                                                                                  |
| 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                                                                |

## 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 |
|----------------|------------------------------------------------------|

## Serial Interface

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

## USB Interface

|               |                       |
|---------------|-----------------------|
| USB Connector | USB Type A (Reserved) |
|---------------|-----------------------|

## 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<br>-30 to +3 V for state 0<br>Max. input current: 8 mA |
| Buttons                | Reset button                                                                    |

## DIP Switch Configuration

|              |                                      |
|--------------|--------------------------------------|
| DIP Switches | Turbo Ring, Master, Coupler, Reserve |
|--------------|--------------------------------------|

## Power Parameters

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connection                  | 2 removable 4-contact terminal block(s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Pre-installed Power Module  | -LV/-LV-T models: PWR-100-LV<br>-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:<br/>EDS-4014-4GS-2QGS-T + PWR-100-LV = EDS-4014-4GS-2QGS-LV-T<br/>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<br>-HV/-HV-T models: 110/220 VDC/VAC, Single input                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Operating Voltage           | -LV/-LV-T models: 9.6 to 60 VDC<br>-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<br>-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<br>EDS-4014-4GS-2QGS-HV(-T) models: 14.44 W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Overload Current Protection | Supported                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Reverse Polarity Protection | Supported                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Physical Characteristics

|              |                                                      |
|--------------|------------------------------------------------------|
| 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                                                |

## Environmental Limits

|                       |                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------|
| Operating Temperature | Standard Models: -10 to 60°C (14 to 140°F)<br>Wide Temp. Models: -40 to 75°C (-40 to 167°F) |
|-----------------------|---------------------------------------------------------------------------------------------|

## Standards and Certifications

|                          |                                                                                                                                                                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Industrial Cybersecurity | IEC 62443-4-1<br>IEC 62443-4-2                                                                                                                                                                                                              |
| 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<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m<br>IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV<br>IEC 61000-4-5 Surge: Power: 4 kV; Signal: 4 kV<br>IEC 61000-4-6 CS: 10 V<br>IEC 61000-4-8 PFMF |
| Vibration                | IEC 60068-2-6                                                                                                                                                                                                                               |

|                 |                |
|-----------------|----------------|
| Shock           | IEC 60068-2-27 |
| Freefall        | IEC 60068-2-32 |
| Railway         | EN 50121-4     |
| Traffic Control | NEMA TS2       |

### MTBF

|      |                                                                                    |
|------|------------------------------------------------------------------------------------|
| Time | EDS-4014-4GS-2QGS-LV/LV-T: 1,003,814 hrs<br>EDS-4014-4GS-2QGS-HV/HV-T: 489,769 hrs |
|------|------------------------------------------------------------------------------------|

### Warranty

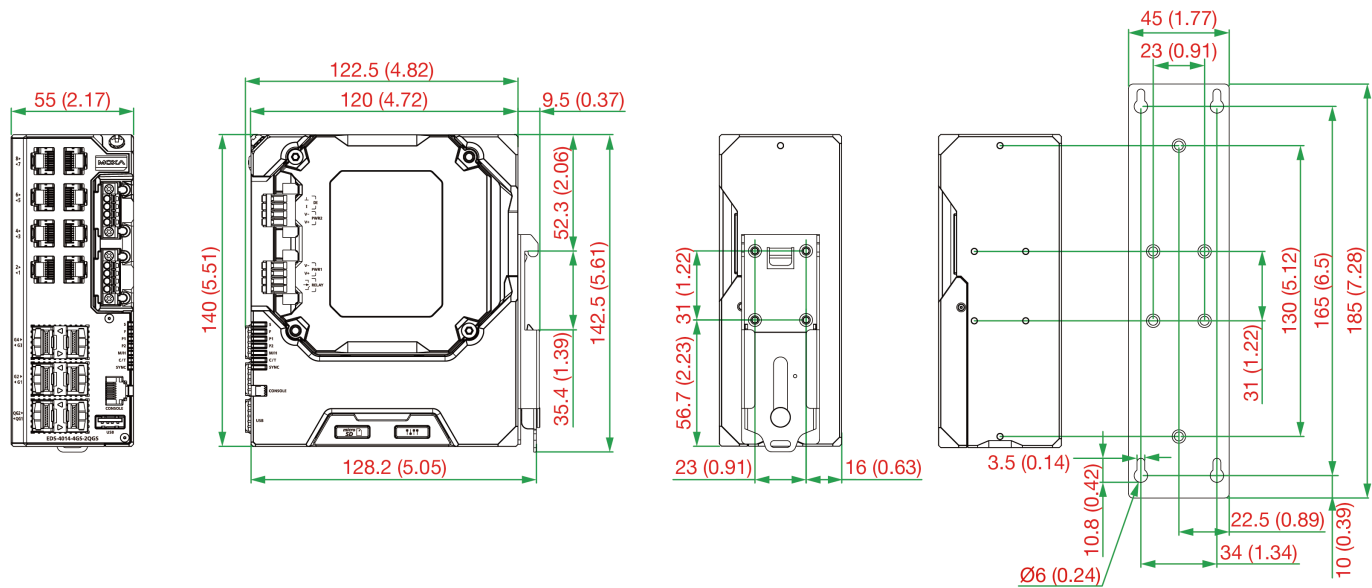
|                 |                                                                            |
|-----------------|----------------------------------------------------------------------------|
| Warranty Period | 5 years                                                                    |
| Details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

### Package Contents

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

## 寸法

単位：mm（インチ）



## 注文情報

| Model Name             | 10/100BaseT(X)<br>Ports (RJ45<br>Connector) | 100/1000BaseSFP<br>Ports | 1000/<br>2500BaseSFP<br>Ports | Operating Voltage               | Pre-installed<br>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<br>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<br>to 264 VAC | PWR-105-HV-I                  | -40 to 75°C     |

## アクセサリ（別売）

### SFP Modules

|                 |                                                                                                                                                        |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| SFP-1GEZXLC     | SFP module with 1 1000BaseEZ port with LC connector for 110 km transmission, 0 to 60°C operating temperature                                           |
| SFP-1GEZXLC-120 | SFP module with 1 1000BaseEZ 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      | SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, 0 to 60°C operating temperature                                            |
| SFP-1GLHXL      | SFP module with 1 1000BaseLH port with LC connector for 40 km transmission, 0 to 60°C operating temperature                                            |
| SFP-1GLSXL      | SFP module with 1 1000BaseLS port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature                                          |
| SFP-1GLXL       | SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature                                            |
| SFP-1GSXL       | SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°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-1GLHLC-T    | SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°C operating temperature                                          |
| SFP-1GLHXL-T    | SFP module with 1 1000BaseLH port with LC connector for 40 km transmission, -40 to 85°C operating temperature                                          |
| SFP-1GLSXL-T    | SFP module with 1 1000BaseLS port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature                                        |
| SFP-1GLXL-T     | SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature                                          |
| SFP-1GSXL-T     | SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°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                                          |
| 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-1FELLC-T    | SFP module with 1 100Base single-mode with LC connector for 80 km transmission, -40 to 85°C operating temperature                          |
| SFP-1FEMLC-T    | SFP module with 1 100Base multi-mode, LC connector for 2/4 km transmission, -40 to 85°C operating temperature                              |
| SFP-1FESLC-T    | SFP module with 1 100Base single-mode with LC connector for 40 km transmission, -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               |

## 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                |

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