

# EDS-G509シリーズ

## 9Gポートフルギガビットマネージドイーサネットスイッチ



### 機能とメリット

- 10/100/1000BaseT(X)ポート x 4、コンボ (10/100/1000BaseT(X)または100/1000BaseSFPスロット) ギガビットポート x 5
- シリアル、LAN、電源に対するサージ保護を強化
- TACACS+、SNMPv3、IEEE 802.1x、HTTPS、およびSSHで、ネットワークセキュリティを強化
- Webブラウザ、CLI、Telnet/シリアルコンソール、Windowsユーティリティ、ABC-01による簡単なネットワーク管理
- 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-G509シリーズは、9個のギガビットイーサネットポートと最大5つの光ファイバポートを備えており、既存のネットワークをギガビット速度にアップグレードしたり、新しいフルギガビットバックボーンを構築するのに最適です。ギガビット伝送は、帯域幅を増やしてパフォーマンスを向上させ、大容量のビデオ、音声、およびデータをネットワーク全体に迅速に転送できます。

イーサネット冗長性技術であるTurbo Ring、Turbo Chain、RSTP/STP、およびMSTPにより、システムの信頼性とネットワークバックボーンの可用性が向上します。EDS-G509シリーズは、スケーラブルなバックボーン構築からメリットを得られる、ビデオおよびプロセス監視、造船、ITS、DCSシステムなどの要求の多い通信アプリケーション向けに特別に設計されています。

### その他の機能とメリット

- 主なマネージド機能をすばやく設定するためのコマンドラインインターフェース (CLI)
- 各ポリシーに応じてIPアドレスを割り当てるDHCP Option 82
- Ethernet/IPおよびModbus TCPプロトコルをサポートし、デバイス管理と監視を実現
- トランスペアレントデータ伝送のためのPROFINETプロトコルとの互換性
- マルチキャストトラフィックをフィルタリングするIGMPスヌーピングおよびGMRP
- ABC-01 (自動バックアップコンフィギュレータ) に対応、システム設定のバックアップを実現
- ポートベースのVLAN、IEEE 802.1Q VLAN、GVRPでネットワークプランニングを簡素化
- QoS (IEEE 802.1p/1Q and TOS/DiffServ)
- 最適な帯域幅利用のためのポートトランキン
- 異なるレベルのネットワーク管理を実現するSNMPv1/v2c/v3
- プロアクティブで効率の高いネットワーク監視のためのRMON
- 想定外のネットワーク状況を防ぐ帯域幅管理
- MACアドレスに基づいて不正アクセスをブロックするロックポート機能
- オンラインデバッグ用のポートミラーリング
- メールとリレー出力を通じた例外検出による自動警告

### 仕様

#### Input/Output Interface

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

## Ethernet Interface

|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10/100/1000BaseT(X) Ports (RJ45 connector)            | 4<br>Auto negotiation speed<br>Full/Half duplex mode<br>Auto MDI/MDI-X connection                                                                                                                                                                                                                                                                                                                                                                    |
| Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP+) | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Standards                                             | IEEE 802.1D-2004 for Spanning Tree Protocol<br>IEEE 802.1p for Class of Service<br>IEEE 802.1Q for VLAN Tagging<br>IEEE 802.1s for Multiple Spanning Tree Protocol<br>IEEE 802.1w for Rapid Spanning Tree Protocol<br>IEEE 802.1X for authentication<br>IEEE 802.3 for 10BaseT<br>IEEE 802.3ab for 1000BaseT(X)<br>IEEE 802.3ad for Port Trunk with LACP<br>IEEE 802.3u for 100BaseT(X)<br>IEEE 802.3x for flow control<br>IEEE 802.3z for 1000BaseX |

## Ethernet Software Features

|                      |                                                                                                                                                                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter               | 802.1Q VLAN<br>GMRP<br>GVRP<br>IGMP v1/v2<br>Port-based VLAN                                                                                                                                                                     |
| Industrial Protocols | EtherNet/IP<br>Modbus TCP                                                                                                                                                                                                        |
| Management           | Back Pressure Flow Control<br>BOOTP<br>DDM<br>DHCP Option 66/67/82<br>DHCP Server/Client<br>Flow control<br>IPv4/IPv6<br>LLDP<br>Port Mirror<br>RARP<br>RMON<br>SMTP<br>SNMP Inform<br>SNMPv1/v2c/v3<br>Syslog<br>Telnet<br>TFTP |
| MIB                  | Bridge MIB<br>Ethernet-like MIB<br>MIB-II<br>P-BRIDGE MIB<br>Q-BRIDGE MIB<br>RMON MIB Groups 1, 2, 3, 9<br>RSTP MIB                                                                                                              |
| Redundancy Protocols | Link Aggregation<br>MSTP<br>RSTP<br>STP<br>Turbo Chain<br>Turbo Ring v1/v2                                                                                                                                                       |

|                 |                                                                                            |
|-----------------|--------------------------------------------------------------------------------------------|
| Security        | Broadcast storm protection<br>HTTPS/SSL<br>Port Lock<br>RADIUS<br>SSH<br>TACACS+<br>SNMPv3 |
| Time Management | NTP Server/Client<br>SNTP                                                                  |

### Switch Properties

|                    |               |
|--------------------|---------------|
| IGMP Groups        | 256           |
| MAC Table Size     | 8 K           |
| Max. No. of VLANs  | 64            |
| Packet Buffer Size | 1 Mbits       |
| Priority Queues    | 4             |
| VLAN ID Range      | VID 1 to 4094 |

### LED Interface

|                |                                                                                       |
|----------------|---------------------------------------------------------------------------------------|
| LED Indicators | PWR1, PWR2, FAULT, 10/100/1000M (TP port), 100/1000M (SFP port), MSTR/HEAD, CPLR/TAIL |
|----------------|---------------------------------------------------------------------------------------|

### Serial Interface

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

### DIP Switch Configuration

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

### Power Parameters

|                             |                                         |
|-----------------------------|-----------------------------------------|
| Power Connector             | 2 removable 6-contact terminal block(s) |
| Input Current               | 0.69 A @ 24 VDC                         |
| Input Voltage               | 12/24/48 VDC<br>Redundant dual inputs   |
| Operating Voltage           | 9.6 to 60 VDC                           |
| Overload Current Protection | Supported                               |
| Reverse Polarity Protection | Supported                               |

### Physical Characteristics

|              |                                                        |
|--------------|--------------------------------------------------------|
| Housing      | Metal                                                  |
| IP Rating    | IP30                                                   |
| Dimensions   | 87.1 x 135 x 107 mm (3.43 x 5.31 x 4.21 in)            |
| Weight       | 1510 g (3.33 lb)                                       |
| Installation | DIN-rail mounting<br>Wall mounting (with optional kit) |

## Environmental Limits

|                                        |                                                                             |
|----------------------------------------|-----------------------------------------------------------------------------|
| Operating Temperature                  | EDS-G509: 0 to 60°C (32 to 140°F)<br>EDS-G509-T: -40 to 75°C (-40 to 167°F) |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F)                                                  |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)                                                   |

## Standards and Certifications

|           |                                                                                                                                                                                                                                            |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety    | EN 62368-1<br>UL 508                                                                                                                                                                                                                       |
| EMC       | EN 55032/35                                                                                                                                                                                                                                |
| EMI       | CISPR 32, FCC Part 15B Class A                                                                                                                                                                                                             |
| EMS       | IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m<br>IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV<br>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV<br>IEC 61000-4-6 CS: 10 V<br>IEC 61000-4-8 PFMF |
| Railway   | EN 50121-4                                                                                                                                                                                                                                 |
| Vibration | IEC 60068-2-6                                                                                                                                                                                                                              |
| Shock     | IEC 60068-2-27                                                                                                                                                                                                                             |
| Freefall  | IEC 60068-2-32                                                                                                                                                                                                                             |
| Maritime  | ABS<br>DNV<br>LR<br>NK                                                                                                                                                                                                                     |

## MTBF

|           |                          |
|-----------|--------------------------|
| Time      | 598,659 hrs              |
| Standards | Telcordia (Bellcore), GB |

## Warranty

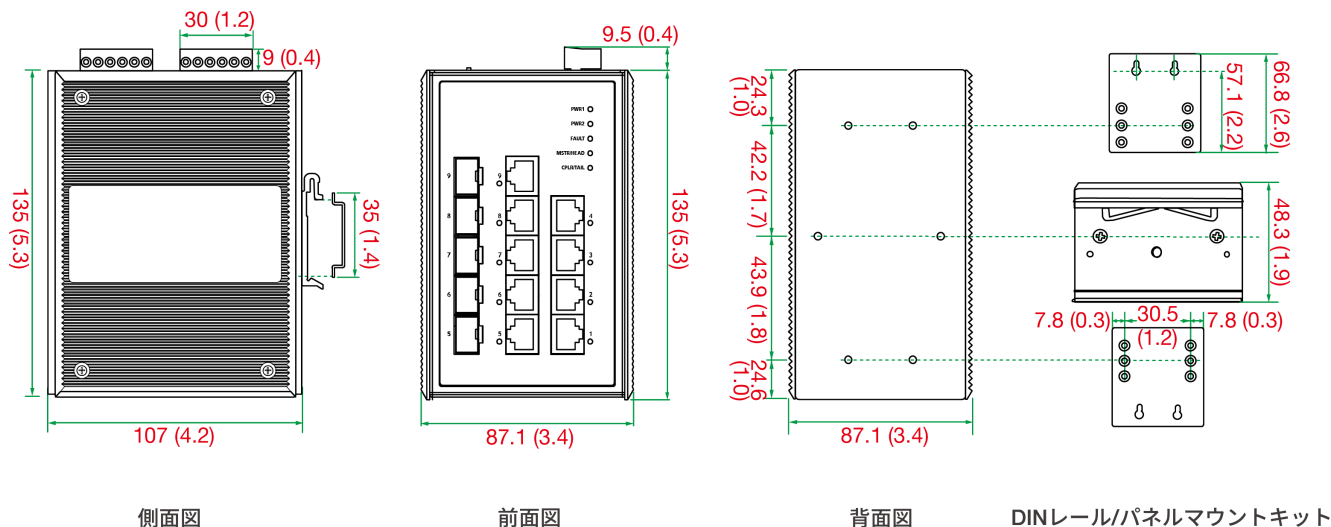
|                 |                                                                            |
|-----------------|----------------------------------------------------------------------------|
| Warranty Period | 5 years                                                                    |
| Details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

## Package Contents

|                  |                                                                                                                                                                   |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device           | 1 x EDS-G509 Series switch                                                                                                                                        |
| Cable            | 1 x RJ45-to-DB9 console cable                                                                                                                                     |
| Installation Kit | 4 x cap, plastic, for RJ45 port<br>5 x cap, plastic, for SFP port                                                                                                 |
| Documentation    | 1 x product certificates of quality inspection, Simplified Chinese<br>1 x product notice, Simplified Chinese<br>1 x quick installation guide<br>1 x warranty card |
| Note             | SFP modules need to be purchased separately for use with this product.                                                                                            |

## 寸法

単位：mm（インチ）



## 注文情報

| Model Name | Layer | Total No. of Ports | 10/100/1000BaseT(X)<br>Ports<br>RJ45 Connector | Combo Ports<br>10/100/1000BaseT(X)<br>or 100/1000BaseSFP | Operating Temp. |
|------------|-------|--------------------|------------------------------------------------|----------------------------------------------------------|-----------------|
| EDS-G509   | 2     | 9                  | 4                                              | 5                                                        | 0 to 60°C       |
| EDS-G509-T | 2     | 9                  | 4                                              | 5                                                        | -40 to 75°C     |

## アクセサリ（別売）

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

### 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                |

### SFP Modules

|              |                                                                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| SFP-1FELLCT  | 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-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-1GLHXL      | SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature                                           |
| SFP-1GLHXL-T    | SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature                                         |
| SFP-1GLSXL      | SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature                                         |
| SFP-1GLSXL-T    | SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, -40 to 85°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-1GLXL-T     | SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°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-1GSXL-T     | SFP module with 1 1000BaseSX port with LC connector for 300m/550m 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                                          |

## Software

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

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