MRX-G4064シリーズ

56 GbE - 8個の10GbEポートレイヤー3フルギガビットモジュール式マネージド・イーサネット・スイッチ

reddot winner 2024

機能と特長

- 10GbEイーサネットポート8個
- 最大56の1 GbEポートまたはSFPスロット
- HAST（高可用性静的トランク）テクノロジーがバックボーンの信頼性をサポート
- 一目でステータス更新を確認できるオンボードLCMディスプレイにより、現場でのメンテナンスと操作が容易になります。
- デュアル電源モジュールと6+2ファン冗長設計により、ノンストップのネットワーク運用を実現
- ネットワークとデバイスを保護するためのリアルタイムのシステム温度監視

認証

EN 50121-4

製品紹介

MRX-G4064シリーズは、産業現場での情報技術の融合が進む中で、産業用ビデオ、音声、データ アプリケーションの高性能、高可用性の要件を満たすように設計されています。

MRX-G4064シリーズのモジュール設計は、8つの10GbEポートを内蔵し、モジュール経由で最大56個の 1GbEポートをサポートし、大規模な産業用ネットワークアプリケーションの構築に最適です。10GbEポートにより、ネットワークスイッチング帯域幅が大幅に増加し、10GbE対応サーバーへの直接接続が可能になり、データの収集と分析をアプリケーションサイトの近くに移動できるようになります。さらに、マルチポート集約のサポートにより、より高い帯域幅のバックボーンが可能になり、将来のネットワーク拡張の余地も残ります。

MRX-G4064シリーズは、より多くのフィールドデバイスを収容できるだけでなく、データ伝送の遅延を低減し、高性能ネットワーク上で大量の映像、音声、データの高速伝送を可能にします。このシリーズには、冗長マルチファン冷却システムと冗長独立電源が搭載されています。産業用高効率ターボリング技術、および ERPS (ITU-T G.8032)やRSTP/STPなどのその他のネットワーク冗長化技術をサポートし、IT/OTコンバージェンスアプリケーションにおけるバックボーンネットワークの信頼性と可用性を向上できます。

その他の機能とメリット

- 効果的な帯域幅管理と最大限の信頼性を実現する柔軟な帯域幅/ポートの組み合わせ
- 迅速な管理のためのコマンドラインインターフェース（CLI）
- インバンドサービスにアクセスできない場合にネットワーク管理の可用性を確保するためのアウトオブバンド管理（OOBM）ポート
- ノンストップ運用のためのシステム温度制御と消費電力管理
- セキュリティ監視と監査をサポートするポートミラーリング（N:M）テクノロジー
- フレーム損失を防ぐために、大規模なビデオ監視の大量バースト伝送に最適化されています
- ネットワーク時間同期のためのIEEE1588v2 PTP (Precision Time Protocol)
- 産業用ネットワークの管理と可視化のためのMXconfigとMXview Oneをサポート

仕様

Ethernet Interface

1000/2500/10000BaseSFP Ports	8
1000BaseSFP Slots	8
Out-of-band Management (OOBM)	1 x 8-pin RJ45 1GbE Ethernet port (MGMT)

Module	There are 3 module slots on the switch. Users can select different types of modules to insert into the switch. The modules that can be selected include 16-port modules with 1000BaseT(X) or 1000BaseSFP interfaces. Refer to Expansion Modules in the Accessories section for a full list of supported interface modules.
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 802.3ab for 1000BaseT(X) IEEE 802.3ad for Port Trunk with LACP IEEE 802.3x for Flow Control IEEE 802.3z for 1000BaseSX/LX/LHX/ZX IEEE 802.3ae for 10 Gigabit Ethernet IEEE 802.3az for Energy-Efficient Ethernet ITU-T G.8032 Ethernet Ring Protection Switching

Ethernet Software Features

Management	IPv4 Flow control Back Pressure Flow Control DHCP Client ARP RARP LLDP Linkup Delay SMTP SNMP Trap SNMP Inform SNMPv1/v2c/v3 RMON TFTP SFTP HTTP HTTPS Telnet Syslog Private MIB Port Mirroring (SPAN, RSPAN)
Filter	GMRP GVRP GARP 802.1Q IGMP Snooping v1/v2/v3 IGMP Querier
Redundancy Protocols	STP RSTP Turbo Ring v2 Ring Coupling Multiple Dual-Homing Link Aggregation Network Loop Protection MSTP
Routing Redundancy	VRRP
Security	Broadcast storm protection Rate Limit Access control list Static port lock Sticky MAC HTTPS/SSL SSH RADIUS TACACS+ Login and password policy

	Secure Boot
Time Management	SNTP IEEE 1588v2 PTP (hardware-based) NTP Server/Client NTP Authentication
Protocols	TCP/IP UDP ICMP ARP RARP TFTP DNS NTP Client DHCP Client 802.1X QoS HTTPS HTTP Telnet SMTP SNMPv1/v2c/v3 IPv4 RMON Syslog
Unicast Routing	OSPF Static Route
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	32 K
Max. No. of VLANs	512
IGMP Groups	1500
Jumbo Frame Size	9.6 KB
Packet Buffer Size	6 MB
Priority Queues	8
VLAN ID Range	VID 1 to 4094

USB Interface

Storage Port	USB Type A

MicroSD Interface

Storage Port	microSD card

Serial Interface

Console Port	RS-232 (RJ45)

Input/Output Interface

Alarm Contact Channels	1 relay output with current carrying capacity of 2 A @ 30 VDC

Power Parameters

Input Voltage	100-240 VAC, 50-60 Hz or 230-240 VDC (for each power supply)
Operating Voltage	90-264 VAC, 47-63 Hz or 180-300 VDC (for each power supply)
Overload Current Protection	Supported
Reverse Polarity Protection	Supported
Input Current	Max. 1.236 A @ 110 VAC Max. 0.675 A @ 220 VAC Max. 0.74 A @ 180 VDC Max. 0.439 A @ 300 VDC
Power Consumption (Max.)	Max. 134.2 W @ 110 VAC Max. 132.3 W @ 220 VAC Max. 133.2 W @ 180 VDC Max. 131.8 W @ 300 VDC Note: These are the maximum power consumption ratings for the device with the maximum number of modules installed.
Power Module	2 x slots (2 x PWR-300-HVA-IF power modules included)

Physical Characteristics

IP Rating	IP30
Dimensions	440 x 88 x 420 mm (17.32 x 3.46 x 16.54 in)
Weight	12 kg (26 lb)
Fan Module	8 x slots (8 x XM-4000-FAN-R preinstalled)
Installation	Rack mounting
Interactive Interface	Onboard LCM display Push buttons for configuration

Environmental Limits

Operating Temperature	-10 to 60°C (-14 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

Safety	UL 62368-1 UL 61010-2-201 IEC 62368-1
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: 35 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 IEC 61000-4-11 Voltage Dips & Interruptions
Railway	EN 50121-4
Shock	IEC 60068-2-27

Vibration	IEC 60068-2-6
Package Drop Test	ISTA 1A
Package Vibration Test	ISTA 1A

MTBF

Time	1,337,959 hrs
Standards	Telcordia (Bellcore), GB

Warranty

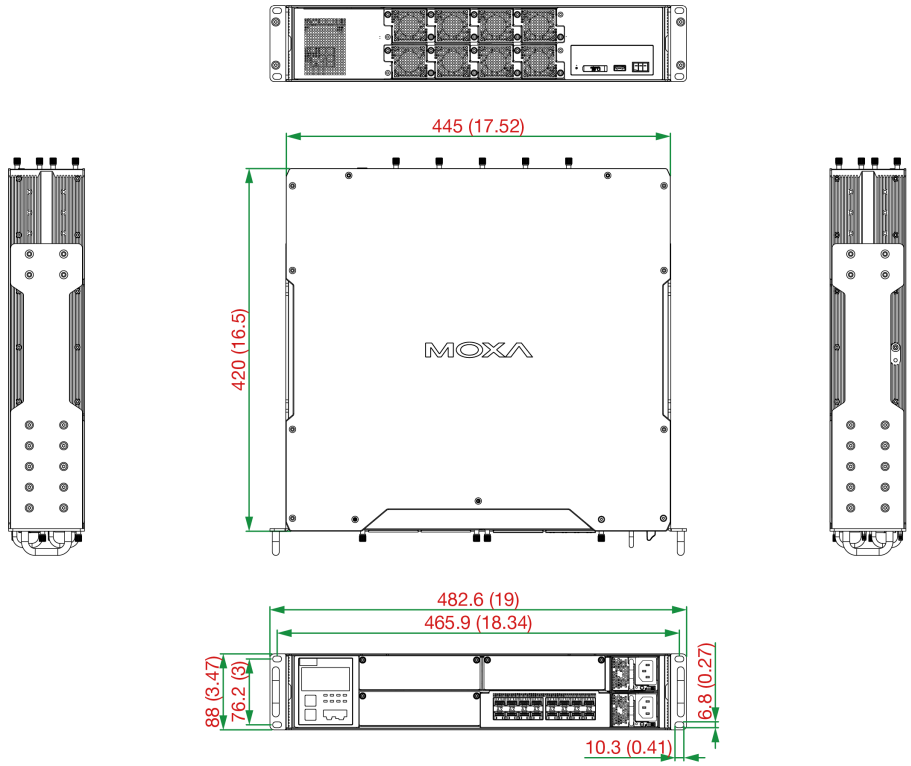
Warranty Period	5 years
Details	See www.moxa.com/jp/warranty

Package Contents

Device	1 x MRX-G4064-L3-8XGS Series switch (eight XM-4000-FAN-R fan modules preinstalled)
Power Supply	2 x PWR-300-HVA-IF power modules
Installation Kit	2 x rack-mounting ear 2 x plastic IP30 dust cover for PWR power modules 8 x round stickers for module screws
Documentation	1 x quick installation guide 1 x warranty card
Note	This product requires additional modules (sold separately) and IEC 60320 C15 power cords to function.

寸法

単位：mm（インチ）



注文情報

Model Name	Max. No. of Ports	10GbE SFP+ Slots	1000Base SFP Slots	1000BaseT(X) Ports (RJ-45)	L3 Functionality	Operating Temp.
MRX-G4064-L3-8XGS	64	8	Up to 56	Up to 48	P	-10 to 60°C

アクセサリー（別売）

Expansion Modules

XM-4000-16GTX	Gigabit Ethernet module with 16 1000BaseT(X) ports
XM-4000-16GSFP	Gigabit Ethernet module with 16 1000BaseSFP ports

Power Modules

PWR-300-HVA-IF	Isolated power supply module (110/220 VAC/VDC) with system power input, AC power inlet, intake fan

Fan Modules

XM-4000-FAN-R	Exhaust fan module for MRX switches

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-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-1GSXLC	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°C operating temperature
SFP-1GLSXLC	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, 0 to 60°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-1GLHLC	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, 0 to 60°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-1GZXLC	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°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-1GSXLC-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature
SFP-1GLSXLC-T	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, -40 to 85°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-1GLHLC-T	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°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-1GZXLC-T	SFP module with 1 1000BaseZX port with LC connector for 80 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
SFP-10GSRLC-T	SFP+ module with 1 10GBase-SR port, LC connector for 33m/82m/300m/400m transmission, -40 to 85°C operating temperature
SFP-10GLRLC-T	SFP+ module with 1 10GBase-LR port, LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-10GERLC-T	SFP+ module with 1 10GBase-ER port, LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-10GZRLC-T	SFP+ module with 1 10GBase-ZR port, LC connector for 80 km transmission, -40 to 85°C operating temperature

Cables

CN20070	10-pin RJ45 to DB9 female serial cable
PWC-C15US-3B-183	C15 power cord with US plug, 1.83 m
PWC-C15CN-3B-183	C15 power cord with CN plug, 1.83 m
PWC-C15EU-3B-183	C15 power cord with EU plug, 1.83 m

Software

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

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

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