

RM-G4000 Module Series

Fast Ethernet and Gigabit modules for RKS-G4028 Series rackmount Ethernet switches

Features and Benefits

- -40 to 75°C operating temperature range
- IEC 61850-3 and IEEE 1613 compliant



Certifications



Introduction

The RM-G4000 Module Series includes Gigabit and Fast Ethernet modules for the RKS-G4000 Series rack-mount Ethernet switches. Each RM-G4000 Series module supports up to 8 ports with a variety of interface types including TX, MSC, SSC, and MST media types. Additionally, the RM-G4000-8GPoE and RM-G4000-8PoE modules provide the RKS-G4000 Series PoE models with high-capacity PoE functionality. IEEE 1588 interface modules provide hardware-based PTP functions for precise time synchronization across the network.

Specifications

Ethernet Interface

| | |
|---|---|
| 10/100/1000BaseT(X) Ports (RJ45 connector) | RM-G4000-8GTX: 8 |
| 10/100BaseT(X) Ports (RJ45 connector) | RM-G4000-8TX: 8 RM-G4000-4MSC2TX: 2 RM-G4000-2MSC4TX: 4 RM-G4000-4MST2TX: 2 RM-G4000-2MST4TX: 4 RM-G4000-4SSC2TX: 2 RM-G4000-2SSC4TX: 4 |
| 100/1000BaseSFP Slots | RM-G4000-8GSFP: 8 |
| 100BaseSFP Slots | RM-G4000-8SFP: 8 |
| 100BaseFX Ports (multi-mode SC connector) | RM-G4000-6MSC: 6 RM-G4000-4MSC2TX: 4 RM-G4000-2MSC4TX: 2 |
| 100BaseFX Ports (multi-mode ST connector) | RM-G4000-6MST: 6 RM-G4000-4MST2TX: 4 RM-G4000-2MST4TX: 2 |
| 100BaseFX Ports (single-mode ST connector) | RM-G4000-6SSC: 6 RM-G4000-4SSC2TX: 4 RM-G4000-2SSC4TX: 2 |
| PoE Ports (10/100/1000BaseT(X), RJ45 connector) | RM-G4000-8GPoE: 8 |

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|--|---|-------------------------|--------------|-------------|--------------|
| PoE Ports (10/100BaseT(X), RJ45 connector) | RM-G4000-8PoE: 8 | | | | |
| Optical Fiber | | | 100BaseFX | | |
| | | | Multi-Mode | Single-Mode | |
| | Fiber Cable Type | OM1 | 50/125 μm | G.652 | |
| | | | 800 MHz x km | | |
| | Typical Distance | | 4 km | 5 km | 40 km |
| | Wavelength | Typical (nm) | 1300 | | 1310 |
| | | TX Range (nm) | 1260 to 1360 | | 1280 to 1340 |
| | | RX Range (nm) | 1100 to 1600 | | 1100 to 1600 |
| | Optical Power | TX Range (dBm) | -10 to -20 | | 0 to -5 |
| | | RX Range (dBm) | -3 to -32 | | -3 to -34 |
| | | Link Budget (dB) | 12 | | 29 |
| | | Dispersion Penalty (dB) | 3 | | 1 |
| | <p>Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.</p> <p>Note: Compute the “typical distance” of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).</p> | | | | |

Physical Characteristics

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|--------|---|
| Weight | RM-G4000-2SSC4TX: 400 g (0.88 lb) RM-G4000-6MST: 400 g (0.88 lb) RM-G4000-8TX: 300 g (0.66 lb) RM-G4000-8SFP: 400 g (0.88 lb) RM-G4000-8GTX: 300 g (0.66 lb) RM-G4000-2MSC4TX: 400 g (0.88 lb) RM-G4000-4SSC2TX: 400 g (0.88 lb) RM-G4000-4MST2TX: 400 g (0.88 lb) RM-G4000-2MST4TX: 400 g (0.88 lb) RM-G4000-4MSC2TX: 400 g (0.88 lb) RM-G4000-8GSFP: 400 g (0.88 lb) RM-G4000-6MSC: 400 g (0.88 lb) RM-G4000-6SSC: 400 g (0.88 lb) RM-G4000-8PoE: 500 g (1.10 lb) RM-G4000-8GPoE: 500 g (1.10 lb) |
|--------|---|

MTBF

| | |
|-----------|---|
| Time | RM-G4000-8TX: 12,132,675 hrs RM-G4000-8SFP: 3,005,803 hrs RM-G4000-8GTX: 12,132,675 hrs RM-G4000-8GSFP: 3,005,803 hrs RM-G4000-6MSC: 2,183,161 hrs RM-G4000-6MST: 2,183,161 hrs RM-G4000-6SSC: 2,183,161 hrs RM-G4000-4MSC2TX: 2,469,891 hrs RM-G4000-4MST2TX: 2,469,891 hrs RM-G4000-4SSC2TX: 2,469,891 hrs RM-G4000-2MSC4TX: 2,891,502 hrs RM-G4000-2MST4TX: 2,891,502 hrs RM-G4000-2SSC4TX: 2,891,502 hrs RM-G4000-8PoE: 2,063,404 hrs RM-G4000-8GPoE: 2,063,404 hrs |
| Standards | Telcordia (Bellcore), GB |

Warranty

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

Package Contents

| | |
|---------------|----------------------------|
| Device | 1 x RM-G4000 Series module |
| Documentation | 1 x warranty card |

Ordering Information

| Model Name | 10/100/1000BaseT(X) Ports | 10/100BaseT(X) Ports | 100/1000BaseSFP Ports | 100BaseSFP Ports | 100BaseFX Ports Multi-mode, SC Connector | 100BaseFX Port Multi-mode, ST Connector | 100BaseFX Port Single-mode, SC Connector |
|------------------|---------------------------|----------------------|-----------------------|------------------|--|---|--|
| RM-G4000-8GTX | 8 | - | - | - | - | - | - |
| RM-G4000-8TX | - | 8 | - | - | - | - | - |
| RM-G4000-8GSFP | - | - | 8 | - | - | - | - |
| RM-G4000-8SFP | - | - | - | 8 | - | - | - |
| RM-G4000-6MSC | - | - | - | - | 6 | - | - |
| RM-G4000-6MST | - | - | - | - | - | 6 | - |
| RM-G4000-6SSC | - | - | - | - | - | - | 6 |
| RM-G4000-4MSC2TX | - | 2 | - | - | 4 | - | - |
| RM-G4000-4MST2TX | - | 2 | - | - | - | 4 | - |
| RM-G4000-4SSC2TX | - | 2 | - | - | - | - | 4 |
| RM-G4000-2MSC4TX | - | 4 | - | - | 2 | - | - |
| RM-G4000-2MST4TX | - | 4 | - | - | - | 2 | - |
| RM-G4000-2SSC4TX | - | 4 | - | - | - | - | 2 |
| RM-G4000-8GPoE | 8 (IEEE 802.3bt PoE) | - | - | - | - | - | - |
| RM-G4000-8PoE | - | 8 (IEEE 802.3bt PoE) | - | - | - | - | - |

Accessories (sold separately)

SFP Modules

| | |
|---------------|--|
| 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 with LC connector for 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 |

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| 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-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-1GLHLC-T | SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°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-1GLHXC-T | SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature |
| SFP-1GLSXC | SFP module with 1 1000BaseLSX port with LC connector for 500 m transmission, 0 to 60°C operating temperature |
| SFP-1GLSXC-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-1GSXC | SFP module with 1 1000BaseSX port with LC connector for 300/550 m transmission, 0 to 60°C operating temperature |
| SFP-1GSXC-T | SFP module with 1 1000BaseSX port with LC connector for 300/550 m transmission, -40 to 85°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-1GZXC-T | SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature |

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