

# 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

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

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) &gt; dispersion penalty (dB) + total link loss (dB).</p>				

### Power Parameters

Power Consumption (Max.)	RM-G4000-8TX: 4.22 W RM-G4000-8GTX: 4.22 W RM-G4000-8PoE: 4.75 W RM-G4000-8GPoE: 4.75 W RM-G4000-8SFP: 6.91 W RM-G4000-8GSFP: 6.91 W RM-G4000-6MSC: 4.61 W RM-G4000-6MST: 4.61 W RM-G4000-6SSC: 5.47 W RM-G4000-2MSC4TX: 2.88 W RM-G4000-2MST4TX: 2.88 W RM-G4000-2SSC4TX: 3.17 W RM-G4000-4MSC2TX: 3.74 W RM-G4000-4MST2TX: 3.74 W RM-G4000-4SSC2TX: 4.03 W
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### Physical Characteristics

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

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

## Warranty

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

## 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
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 1000BaseEZXC port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXC-120	SFP module with 1 1000BaseEZXC 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-1GSXLC-T	SFP module with 1 1000BaseSX port with LC connector for 300/550 m 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

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