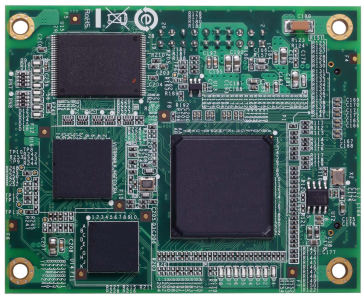
EOM-G103 Series

IEC 62439-3 3-port full Gigabit embedded managed redundancy modules



Features and Benefits

- IEC 62439-3 Clause 4 (PRP) and Clause 5 (HSR) compliant
- 3 SGMII pinouts reserved for PRP/HSR (LAN A/LAN B/Inter Link) and an extra 1 SGMII reserved for Ethernet console connection

Certifications

Introduction

The EOM-G103 Series is designed for device manufacturers that want to embed and integrate the advanced IEC 62439-3 supported modules with minimum effort into their products to enhance performance and reliability in certain mission-critical applications.

IEC 62439-3 Clause 4 (PRP) and IEC 62439-3 Clause 5 (HSR) are the standardized redundancy protocols for industrial automation networks where zero recovery time is needed. PRP and HSR are suitable for electrical substation automation and other mission-critical applications that cannot tolerate any system downtime.

The EOM-G103 Series is compliant with the IEC 62439-3 standard and provides an easy and cost-effective integrated solution for adding a redundancy module to a non-IEC 62439-3 compliant product. The modules support two IEC 62439-3 Ethernet ports for constructing PRP or HSR networks: SGMII (MAC mode)/SerDes (1000BaseX). It also includes one standard Ethernet port SGMII (MAC mode)/SerDes (1000BaseX) for connecting with standard IEEE 802.3 Ethernet devices. Additionally, the EOM-G103-PHR-PTP Series provides an extra SGMII (MAC mode)/SerDes (1000BaseX) for building up a local access Ethernet console port to easily maintain, control, and manage devices at the local site.

Additional Features and Benefits

- PRP (Parallel Redundancy Protocol): Transmit or receive two independent active paths to/from different LANs simultaneously in a network that needs zero recovery time
- HSR (High-availability Seamless Redundancy): Every frame is duplicated and then transmitted in both directions of the HSR ring to deliver zero switchover time
- Hardware-based IEEE 1588v2 PTP (Precision Time Protocol) end-to-end one-step transparent clock for precise time synchronization of networks
- Configurable via CLI

Specifications

Ethernet Interface	
Standards	IEEE 802.3 for 10BaseT IEEE 802.3ab for 1000BaseT(X) IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3z for 1000BaseSX/LX/LHX/ZX

Ethernet Software Features	
Redundancy Protocols	HSR, PRP

Ethernet Interface	
Ethernet Interface	3, SGMII (MAC mode) / SerDes (1000BaseX) (PRP/HSR LAN A/LAN B/INTERLINK)
Connector	1 connector with 2 x 40 pins, and 1 connector with 2 x 10 pins

Serial Interface

Console Port	Ethernet console (SGMII (MAC mode) / SerDes (1000BaseX))

Ethernet Interface

GPIO	3 x Programmable I/O pins

Power Parameters

Input Current	0.49 A @ 3.3 VDC

Physical Characteristics

Dimensions	80 x 1.6 x 65 mm (3.15 x 0.06 x 2.56 in)
Weight	28.6 g (0.06 lb)

Environmental Limits

Operating Temperature	-40 to 60°C (-40 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

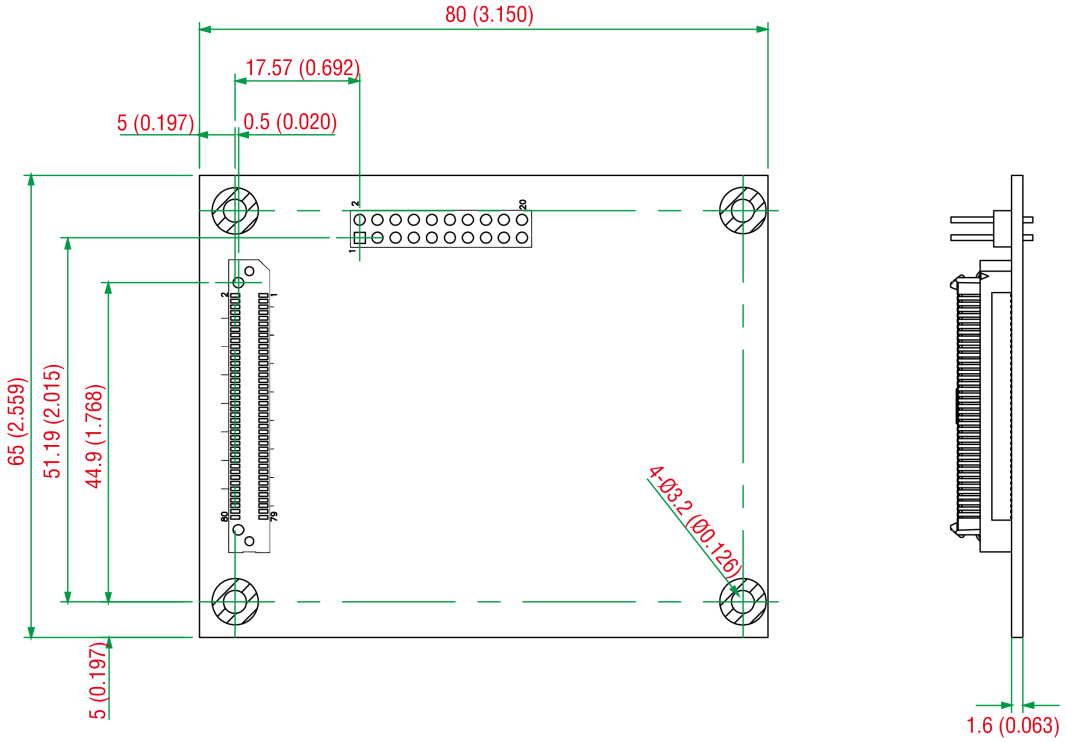
EMC	EN 55032 Class A
EMI	CISPR 32, FCC Part 15B Class A

Package Contents

Device	1 x EOM-G103-PHR-PTP module
Power Supply	1 universal power adapter and 2 power cords (EOM-G103-PHR-PTP-ST)
Cable	EOM-G103-PHR-PTP-ST: 1 x USB type A male to USB type B male
Documentation	1 x developer's guide 1 x product certificates of quality inspection, Simplified Chinese 1 x product notice, Simplified Chinese 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Operating Temp.	Input Voltage	EOM-G103-PHR-PTP managed redundancy module	Evaluation board for testing and application development
EOM-G103-PHR-PTP	-40 to 60°C	3.3 V	1	–
EOM-G103-PHR-PTP-ST	-40 to 60°C	3.3 V	1	1