

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

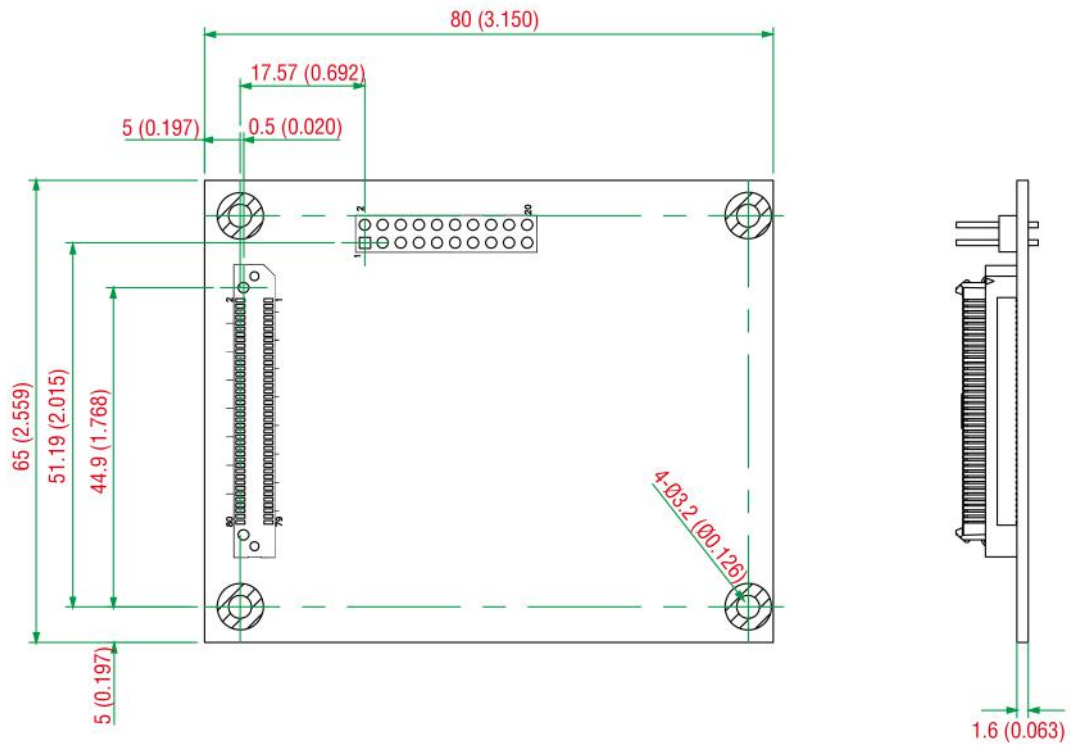
Ethernet Interface

| | |
|----------------------------|--|
| 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 |

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