88Q2221M 1000BASE-T1 with TC10 & MACsec SFP Module

Intrepid Controls has developed an Automotive Ethernet Small Form Pluggable (SFP) module based on the Marvell 88Q2221M single-pair Ethernet physical layer transceiver (PHY) that is designed to work with both 100/1000BASE-T1 speeds. The 88Q2221M SFP is designed to meet the requirements of the OPEN Alliance TC17 MACsec Automotive Profile. This technology is seeing rapid adoption by new Automotive Ethernet architectures for its ability to provide the lowest level protection against network intrusions like man-in-the-middle and replay attacks, as well as optionally encrypt sensitive data. Our 88Q2221M SFP is also compliant with the OPEN Alliance TC10 requirements, the Automotive Ethernet sleep/wake-up features that are integral to the PHY allowing partial networking and other strategies needed to balance optimal battery conservation with all customer use cases.

Application

- Works with Intrepid Controls SFP capable hardware

- Works with Marvell EVB boards and many test tools and commercial ethernet devices

- Well suited for conformance and performance applications

- Register level access and control for real-time monitoring, diagnostics and reconfiguration

Features

- Supports IEEE 802.3bw and IEEE 802.3bp standards

- Compliant with OPEN Alliance's TC10 Automotive Ethernet Sleep/Wake-up requirements.

- Designed for use with the MACsec Automotive Profile of OPEN Alliance's TC17

- User selectable link modes: master, slave, and auto negotiate modes, default is auto negotiate

- LEDs indicating link status, activity, and speed

- Metal lock and latch system for reliable connection

- Fully metallic enclosure and stainless steel connector shielding for Low EMI

- H-MTD Automotive Ethernet connection system (USCAR 777-U-002-1-Z01 compliant)

- Built-in ESD protection

- Overall dimensions: 76.5 mm length x 13.5 mm width x 20.5 mm height

- Industrial Temperature Range: -40 to 85°C

- Weight: approximately 30 g

Ordering Information

Part Number	Description
SFP-MV2112-A2	1000BASE-T1 with TC10 and MACsec SFP Module

* Specifications subject to change. Please contact Intrepid for the latest information.

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