

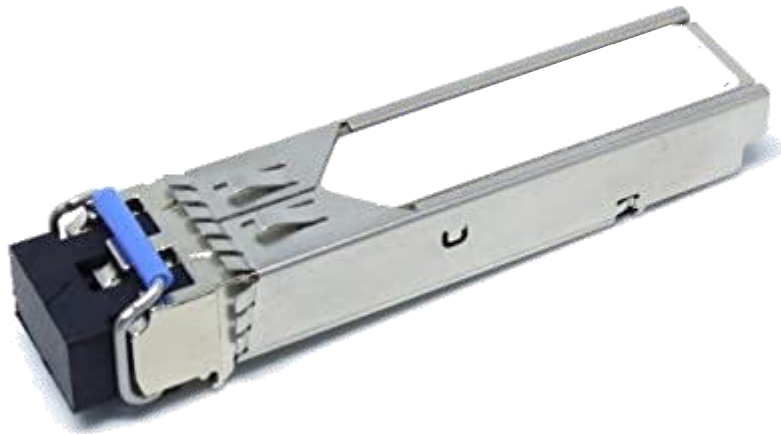


Power Meter Monitor

**Business and Mission-
Critical Solutions Provider**

FIBER OPTICS MODULE-SM20KM

Data Sheet



Model: PMM1221

Document: Data Sheet

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DECLARATION OF CONFORMITY

This restriction is subject to protect the operational process of the system in the business environment, which will produce, use, and transmit radiofrequency energy. Harmful interference to radio communication could result if instructions to the correct installation and usage were not applied. The interference prevention cannot be guaranteed even with proper installation according to the manual. If the device causes a bad effect on the radio / TV signal. The user could preclude that by turning the device on/off.

When this device produces some harmful interference, the user can use the following measure to solve the interference problem:

1-Setting the receiving antenna's direction or location to increase the distance between this device and receiver.

2-Plug in the device's power connector into different circuits of the power outlet with the receiver.

3-If any technical support is needed, the dealer or experienced radio/TV technical personnel must be informed.

TECHNICAL SUPPORT AND SERVICE

Visit Pmm-usa.us to browse FAQs and get further details.

User should collect the following information before submitting technical support and service requests:

- Product name, model and serial number.
- Installed software (operating system, OS version, installed applications and so on).
- Full description of the problem
- Detailed information about every error.

SAFETY INSTRUCTIONS

- Only trained and qualified personnel can install, operate, or maintain the device.
- Before starting the installation, all safety precautions must be read, and warning labels affixed to the device must be observed. Doing so protects the device from damage and ensures your safety.
- Safety precautions provided in this document may not cover all safety aspects, note to always remain mindful of safety.
- PMM is not liable for any consequence that results from violation of regulations pertaining to safe operations or safety codes pertaining to design, production, and equipment usage.
- DO NOT use liquids or decontamination spray to clean the device surface and assure that it is totally disconnected while cleaning.
- Take all measures to prevent device drop before or during installation.
- Prior to connecting the device to power source, ensure the source and device voltage and power are 100% matched.
- Keep the cables in a suitable covered place.
- If the device is not used for a long time, shut off the power to avoid the damages by transient overvoltage.
- DO NOT allow any liquid flow into the device; to avoid fire or short circuit.
- The recommended storage temperature range should NOT be less than 30°C OR higher than 85°C.



Warning:

- Read the power source and device inlet carefully.
- Handle device with both hands.
- Clean and maintain the device using recommended, safe and suitable methods.



Caution:

If any unauthorized changes of settings or repairs are done without PMM approval; then user's rights of controlling this device will be canceled.

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KEY FEATURES

- Up to 1.25Gb/s dual data links
- Hot-pluggable SFP footprint
- 1310nm FP laser transmitter
- Duplex LC connector
- Up to 20km on 9/125µm SMF
- Metal enclosure for lower EMI
- Single +3.3V power supply
- Low power dissipation <700mW
- Commercial operating temperature range: 0°C to +70°C

DESCRIPTION

PMM Small Form Factor Pluggable (SFP) transceivers are compatible with the Small Form Factor Pluggable Multi-Sourcing Agreement (MSA).

PMM1221 simultaneously complies with Gigabit Ethernet as specified in IEEE STD 802.3 and 1x Fiber Channel as defined in FC-PI-2 Rev. 10.0. PMM1221 is RoHS compliant and lead-free.

APPLICATIONS

- 1.25Gb/s 1000Base-LX Ethernet
- 1.06 Gb/s Fiber Channel

TECHNICAL SPECIFICATIONS

Electrical Characteristics

Supply Voltage	3 to 3.6 V
Supply Current	300mA

1. Transmitter

Input differential impedance	100 Ω
Single ended data input swing	200 to 250 mV
Transmit Disable Voltage	Vcc to 1.3 to Vcc V
Transmit Enable Voltage	Vee to Vee+0.8 V
Transmit Disable Assert Time	10 us

2. Receiver

Single ended data output swing	300-400 mV
Data output	300 per second
Data output fall time	300 per second
LOS Fault	Vcc to 0.5 VccHOST V
LOS Normal	Vee to Vee+0.5 V
Deterministic Jitter Contribution	80 per second
Total Jitter	122.4 per second

Optical Characteristics

1. Transmitter

Output Opt. Power	-9 to -3 dBm
Optical Wavelength	1275, 1310, 1350 nm
Spectral Width	3 nm
Optical Rise/Fall Time	260 per second
Deterministic Jitter Contribution	0.07 UI
Total Jitter Contribution	0.007 UI

2. Receiver

Average Rx Sensitivity	-24 dBm
Optical Center Wavelength	1270 to 1600 nm
LOS De-Assert	-25 dBm
LOS Assert	-35 dBm
LOS Hysteresis	0.5 dB

General Characteristics

Data Rate	1250 Mb/sec
Bit Error Rate	10 ⁻¹²
Max. Supported Link Length on 9/125µm SMF @ Gigabit Ethernet	20 Km
Certificates	CE, FCC and Rohs

Environmental Characteristics

Case Operating Temperature	+70 °C
Storage Temperature	-40 to 100 °C
Relative Humidity	85%