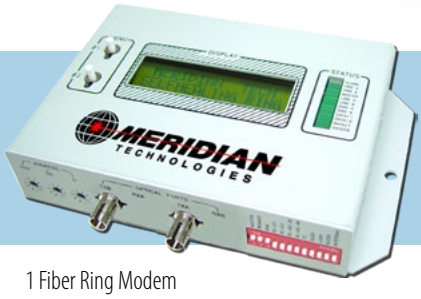
MERIDIAN TECHNOLOGIES

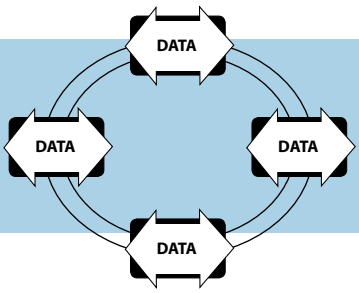
Series PX-2300M and PX-2300iM

Data Multidrop Self-Healing Optical Ring Modem

2 Fiber Ring Modem



1 Fiber Ring Modem



FEATURES:

- Network Diagnostics - Local and Remote Access
- Fault Tolerant Self-Healing Ring or Linear Bus Topology
- Multiple-Master Capability
- 2x16 Character LCD Display on each Modem
- Asynchronous Data Rates up to 125 Kbps NRZ
- Uses Digital FPGA Technology
- Data Protocol Independent
- RS-232D, RS-422, RS-485 (2 and 4 wire) and TTL
- True Tri-State Sensing (no time outs needed)
- Single Handshake – RS-232D (RTS & CTS) or 2 Channel 125 Kbps Data Multiplexer
- Full Handshaking Available for RS-232 Data
- Data Re-clocked & Regenerated at each Modem
- 99 Node Capability
- Individually Addressable Modems
- Anti-streaming (on/off or variable time)
- Local and Remote Loop Back Test
- Local Dry Contact Alarm (N.O.)
- Built In Dual Input Power Redundancy
- Alarmed Battery Backup
- Dual Input: 12 VDC - 35 VDC, 9 VAC - 24 VAC
- Hot Swappable Input Power
- Fully Compatible with SpectraSmart™ PC Based Network Management
- Build In BER Tester w/GUI
- ESD Input Protection
- Exceeds NEMA TS-1/TS-2 and Caltrans Specifications

MARKETS:

√ Card Access Control
√ Security Telemetry Systems
√ SCADA System
√ Computer Networks
√ Process Control Systems
√ ITS

DESCRIPTION:

The 2300M is a state of the art self healing, counter rotating Multi-drop Data Modem designed to provide the user with trouble free data transmission in both Ring and String configurations.
In addition to being equipped with all of the expected features, local and remote diagnostic capabilities are included in each modem.
The user-friendly diagnostics menu can be accessed through the front panel of the unit. The status of any other modem can be viewed on the SpectraSmart™ System. Field technicians can perform local and remote diagnostics without the aid of a PC. Parameters viewable on the LCD display are: internal modem temperature, power supply voltages, optical ring status, location of fiber breaks, unit failures and many other critical parameters. If a parameter is at fault, a flashing light and audible alarm are activated at all modems. Both primary and secondary rings are monitored simultaneously by the network diagnostics. If the primary ring is broken, the LCD will display the address of the modems on each side of the breakage, providing quick trouble free identification. In the event of a fault, customer data will automatically be transferred to the secondary ring.
SpectraSmart™ PC, a Windows® based GUI driven Network Management System can be connected to the Master Primary and Master secondary modems via an RS-232 or RS-485 cable.
When the PC diagnostics are used, the user can monitor the entire Network. The SpectraSmart™ software works in conjunction with the LCD display located on the individual modems. When operating normally the Primary Master modem monitors quantity and numerical sequence of slave modems on the ring and each modem stores the last five alarms, which can be displayed on the local LCD display. The 2300M family combines sophisticated self-healing ring topology and computer based local and remote diagnostics to provide your network with round-the-clock monitoring. The self-healing ring immediately detects faults and reroutes communications to keep your network operational while the built in diagnostics reduces the time required by technicians to analyze, locate and repair the faults.

CONFIGURATIONS:

The modems can be installed as a string or counter rotating fault tolerant rings. The switch selectable feature allows each modem to be set as a Master Primary, Master Secondary or a Slave. The Master Primary and Master Secondary modems are connected to the PC by an RS-232 or RS-485 cable to provide redundancy if one of the Masters mulfunctions or the optical ring is broken.

SPECIFICATIONS:

Data

Formats	RS-232D, RS-422A, RS-485 2w/4w, TTL, Single Handshake - RS-232
Rate	DC to 125 Kb/s (Async.)
Bit Error Rate	10-9 [1]
PWD (Pulse Width Distortion)	<10% @ max. Data Rate

Connectors

Optical	ST, FC, SC
Power	Dual 2 Pin Terminal Blocks
I/O Data	DB25 Female

Indicators (LEDs)

LCD Display	2x16 Character Display
LED Display (12)	Alarm, Power A, Power B, Master, Link A, Link B, Diagnostic A, Diagnostic B, Data TX, Data RX, Handshake TX, Handshake RX

Power [3]

Operating Power	500mA @ 12 VDC
	300 mA @ 24 VAC
Inputs	Dual

Optical

Fiber Data Rate	20 Mb/s

Physical

Dimensions [2]	152 (W) x 47 (H) x 97(D) mm
	(6 x 1.8 x 3.8 inch)
Weight	370 gms (0.82 lb.)

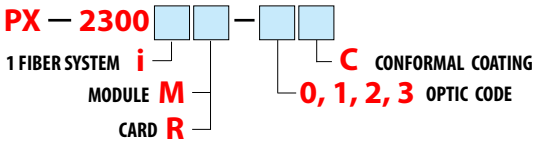
Environmental

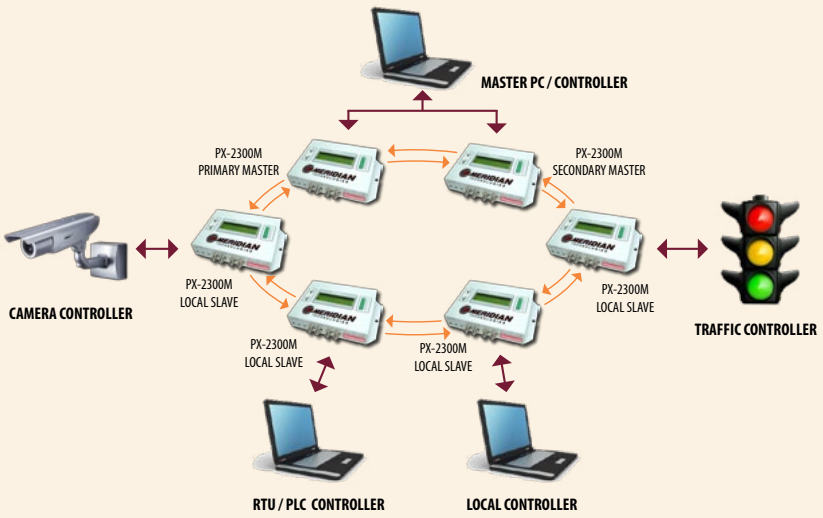
Operating Temperature	-40°C to +74°C
Storage Temperature	-55°C to +85°C
Relative Humidity	0 to 95% Non-condensing

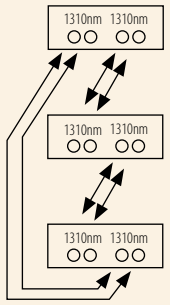
Quality

MTBF	>260,000 hours @ Ground Fix
	35°C per MIL217F

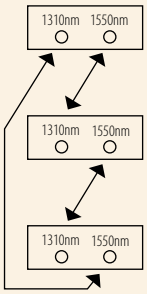
Part Numbers:







Two Fiber Ring Diagram



One Fiber Ring Diagram

OPTICAL:

FOR TWO FIBER SYSTEMS								
Meridian Optical Code	Fiber Type/Size (um)	Optical Output (dBm)	Receiver Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical Connector	Optical Dynamic Range (dB)	Max Distance (Km)
0	Multimode (Laser) 62.5 / 125	-15	-30	15	850	ST, SC	30	5
1	Multimode (Laser) 62.5 / 125	-16	-30	14	1300	ST, SC	30	4.5
2	Single-mode (FP Laser) 9 / 125	-3	-33	30	1310	ST, FC, SC	33	85
3	Single-mode (FP Laser) 9 / 125	-3	-33	30	1550	ST, FC, SC	33	100

FOR ONE FIBER SYSTEMS								
Meridian Optical Code	Fiber Type/Size (um)	Optical Output (dBm)	Receiver Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical Connector	Optical Dynamic Range (dB)	Max Distance (Km)
0	Multimode (Laser) 62.5 / 125	-18	-30	12	1310/1550	ST, SC	30	4
1	Single-mode (FP Laser) 9 / 125	-5	-33	28	1310/1550	ST, FC, SC	33	80

Distance is limited to fiber loss and splices. Higher output lasers available

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