

Full Duplex RS-422,  
Manchester, Bi-Phase



#### **FEATURES:**

- Surface Mount Technology (SMT) for High Reliability and Repeatability
- Hot Swappable Cards
- Laser Based Back-Biased Photo Detection Circuitry for Stable Optical Output Over Full Temperature Range (Singlemode)
- ST™, FC Optical Connector
- Data Rates to 300 Kb/s
- Meets EIA RS-422A
- Frequency Modulated (FM) Transmission
- SpectraSmart™ Compatible
- Meets NEMA TS1/TS2 and Caltrans Specifications
- Utilizes Internal Switching Power Supplies
- Automatically Resettable Solid-State Current Limiters on All Power Lines: Provides Equipment Protection
- Wide Optical Dynamic Range: Optical Attenuators are Never Required
- 3 Pin Terminal Block Data Connectors

#### **DESCRIPTION:**

The Series 1400 and 1400i are RS-422 fiber optic data modems that operate for distances of 6.0Km (multimode) and 100Km (singlemode) on one or two fibers. These units support full duplex operation at data rates of up to 300 Kb/s. The Series 1400's capabilities are enhanced by its compatibility with Meridian's PC based SpectraSmart™ Network Management and Diagnostic software system. SpectraSmart™ supervises the operating parameters of the transmission system(s) such as status on FM carrier detect, voltage, temperature, optical levels, etc., and external equipment which are attached to the Meridian equipment. See the SpectraSmart™ brochure for more details.

#### **CONFIGURATIONS:**

The 1400 product family is available as rack mount cards that can be installed in all of Meridian's card chassis, desk chassis and 19" rack-mounting frames. This system can be configured in either star (module to rack) or trunking (rack to rack) configurations. This product requires no user adjustments & features superior quality and performance.

#### **APPLICATIONS:**

Security and Surveillance  
Intelligent Transportation Systems (ITS)  
Data Communications  
Access Control  
Industrial Process Control  
SCADA

SPECIFICATIONS:

Data

Formats. . . . . RS-422A,Manchester,  
Biphase  
Rate. . . . . DC to 300 Kb/s  
Bit Error Rate. . . . . 10<sup>-9</sup> \*

Connectors

Data. . . . . 3 pin Terminal Block  
Optical . . . . . ST™, FC  
Power . . . . . 2 Pin Terminal Block

Power \*\*

Card . . . . . 2.5 W  
Module . . . . . 100 mA @ 24 VAC  
Adapter for SR-500/S. . . . . Model WP-24

Indicators (LEDs)

Red . . . . . Power On

Physical

Dimensions:  
Module (w/SR-500). . . . . 181 mm (7.15") L, 24 mm (.95") W  
132 mm (5.20") H  
Card . . . . . 160 mm (6.3") L, 20 mm (0.8") W  
100 mm (4") H  
Weight:  
Module (w/SR-500) . . . . . 900 g (32 oz.)  
Card . . . . . 450 g (16 oz.)  
Number of Rack Slots . . . . . One

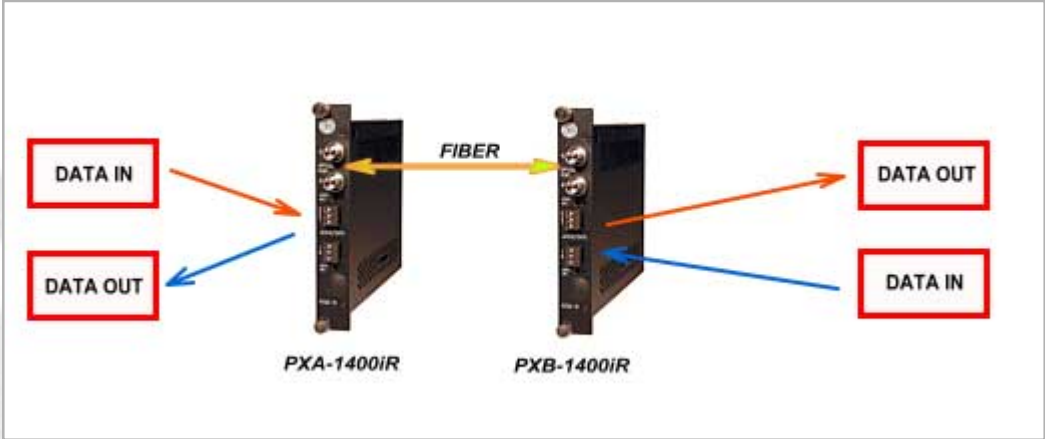
Enviromental

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

Quality

MTBF. . . . . >220,000 hours @ Ground Fix  
35°C per MIL217F

\* Measured @ 1Km (multimode), @ 10Km (singlemode)  
\*\* Due to variations of drivers and diagnostic options, power shown at maximum measurements



OPTICAL:

Fiber Type/Size (um)	Optical Output (dBm)	Reciever Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical Connector	Optical Dynamic Range (dB)
Multimode* (SLED)						
62.5/125	-13	-34	21**	850	ST	39
62.5/125	-16	-34	18**	1300	ST	39
62.5/125	-15/-18	-33/-33	15**	850/1300	ST	39
Singlemode (Laser)						
9/125	-7***	-36	29	1310	ST, FC	41
9/125	-10***	-36	26	1550	ST, FC	41
9/125	-10/-10	-34	24	1310/1550	ST, FC	41

\* Distance is limited to fiber loss, splices and fiber bandwidth  
\*\* For 50/125um fiber, subtract 3dB  
\*\*\* Higher output lasers available