

## Serial Digital Fiber Optic Modem

- **RS422/485/232 and TTL compatible**
- **DC-10Mbps operation for RS422/485**
- **DC-460kbps operation for RS232/TTL**
- **No special signal coding requirements**
- **Transmission distances up to 20km**
- **Applications include SCADA, data communication and clock signal distribution**
- **Suitable for use in military tactical networks, Cellular and TETRA base stations**
- **SNMP Network Control Module Compatible**

### Digital RF-Over-Fiber

The *ViaLite* Serial Digital Fiber Optic Modem provides highly reliable, full duplex transmission of RS422, RS485, RS232 and TTL signals over two single mode optical fibers for distances of up to 20km.

The modem is suitable for use with the digital signalling of unbalanced ones and zeros and any duty cycle ratios. Data rate options are DC-115kbps, DC-500kbps and DC-10Mbps.

The *ViaLite* Serial Digital Fiber Optic Modem is used in a wide variety of applications. For example it can provide the link to remote base stations in cellular and TETRA networks for software upload and system feedback to central control locations. The digital fiber optic link also provides a method for control and monitoring in satellite communication ground stations and for time server / clock signal distribution in a wide variety of networks.



*The ViaLite system comprises rack mounted modules that plug into 19" 3U chassis/power supply. Alternatively up to 3 modules can be fitted into a 1U 19" chassis, or standalone modules are available. A wide range of additional modules and accessories that might be required in any typical installation are also available in the ViaLite range, including several types of outdoor enclosures.*

*The most recent addition to the ViaLite range is the small form factor OEM module that allows System Integrators and Original Equipment Manufacturers an easy route to build RF/optical interfaces into their own design.*



## Data Performance Characteristics

Rack Module Serial Digital Modem	
Data Rate	Asynchronous NRZ, DC to 10Mbps for RS422/485 and DC-460kbps for RS232/TTL
Data Format	RS422, RS485, RS232 and TTL. TTL input logic threshold high $V_{INH}=2.4V$ min
Maximum "Low" Pulse Width	$\infty$
Maximum "High" Pulse Width	$\infty$
Data Electrical Input Impedance	120 $\Omega$ for RS422/485, $\geq 3k\Omega$ for RS232, 50 $\Omega$ or 1k $\Omega$ for TTL
Duty Cycle Distortion	<5% at 115Kbps
Bit Error Rate	<1 in $10^8$
Jitter	<10mUI(RMS) and 100mUI(p-p)
Output Rise/Fall Time 10/90%	<25ns at 10Mbps
Delay	<5 $\mu$ s for Tx + Rx with 1m fiber Approximately 5ns/metre delay due to optical fiber

## Optical Performance Characteristics

Rack Module Serial Digital Modem	
Laser Type	Digital laser (CWDM options)
Optical Wavelength	1310 nm $\pm$ 20 nm (1550nm/CWDM options)
Optical Power Output	-7 dBm (nominal)
Optical Connector	FC/APC (E2000/APC and SC/APC options)
Optical Power Budget	10dB

## User Access Interface Connector Pin Outs

### Rack Module D15 Connector

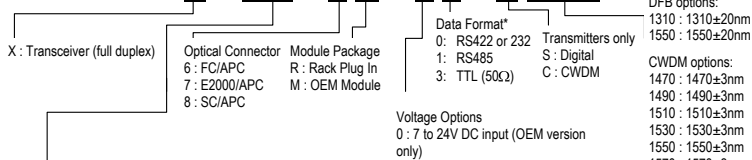
Pin	Function
1	RS422/485 OUT+
2	RS422/485 OUT-
3	RS232/TTL OUT
4	Rx Optical Detect
5	Backplane Alarm
6	Power Supply
7	Not Connected
8	Ground
9	RS422/485 IN+
10	RS422/485 IN-
11	RS232/TTL IN
12	Tx Optical Detect
13	Backplane Alarm
14	Not Connected
15	Ground

### OEM Module 14 Pin Header Connector

Pin	Function
1	RS422/485 IN+
2	RS422/485 OUT+
3	RS422/485 IN-
4	RS422/485 OUT-
5	Alarm
6	RTS RS485
7	Power Supply
8	Ground
9	RS232/TTL OUT
10	RS232/TTL IN
11	Ground
12	Tx Optical Detect
13	Not Connected
14	Rx Optical Detect

## Part Numbers and Options

**L S X - K 2 - 6 R - 0 0 - S 1310**



K2: Asynchronous, DC-115kbps (RS422/485), DC-460kbps (RS232/TTL), Full Duplex, 1Tx/1Rx Channel, 2 Fibres  
L2: Asynchronous, DC-500kbps (RS422/485), DC-460kbps (RS232/TTL), Full Duplex, 1Tx/1Rx Channel, 2 Fibres  
M2: Asynchronous, DC-10Mbps (RS422/485), DC-460kbps (RS232/TTL), Full Duplex, 1Tx/1Rx Channel, 2 Fibres

\*Please note that data format must be selected when ordering this module.

## Accessories

LRK2S	3U 8 Module Chassis + 2 PSU's
LPS-M	Main Power Supply Module
LPS-R	Reserve Power Supply Module
75003	Single Module Sleeve
75004	1U 3 Slot Chassis
LRD-x	RF Splitter Module
LRS-xx	1:1 Redundancy Switch
LRT-xx-xx	RF to Fiber Tx Modules
LRR-xx-xx	RF to Fiber Rx Modules
LRC-1	SNMP Network Control Module
75010-xxx	IP rated Outdoor Enclosures

## Mechanical Dimensions

