RLH Industries, Inc.

DATA SHEET

The leader in rugged fiber optic technology.

RS-232 Fiber Link Card System
INDUSTRIAL, RUGGED, & COMPACT

This RS-232 Fiber Link Card system transports a full 9-Pin RS-232 copper signal over fiber optic cable. This is an ideal solution for extending serial data communications over long distances or near large electrical equipment. Fiber optics provide long distance communication up to 74 mi. (120km) and immunity to EMI/RFI and potential transient surges which can cause noise or damage equipment.

The system supports asynchronous serial data rates from 50 bps to 1Mbit/s and has an auto-sensing feature that eliminates the need to manually set serial data rates. A comprehensive set of LEDs on the front panel indicate power status, fiber status, and serial data activity. The card supports 24-48VDC powering and RLH card housings have optional power supplies which support a wide range of power sources. This rugged system is designed to operate over a wide operating temperature -40 to +70°C and compatible with all RLH card housings. This rugged system is manufactured in the U.S.A, and covered by our **Limited Lifetime Warranty**.

RS-232 Fiber Link Card

Key Features

Environment

Hardened to operate in -40°C to +70°C environment
Critical, high voltage, remote or un-manned locations operating 24/7/365

Power

24-48VDC Input Range

Application

Available with ST or SC connectors for singlemode or multimode fiber
Selectable DTC/DCE switch for easy installation
DC power, fiber break, and/or system failure alarm relay
Optional Breakout Cable for 3 channels of serial data
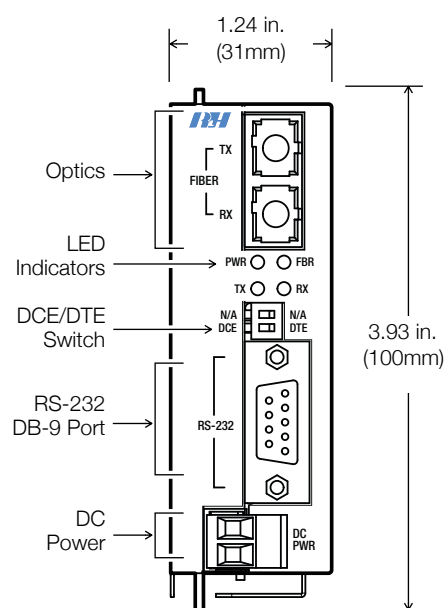
Compatibility

Supports baud rates of 50 bps to 1Mbit/s

Quality

Made in the USA and covered by our Limited Lifetime Warranty

1.24 in. (31mm)

Optics

TX
FIBER
RX

LED Indicators

PWR FBR
TX RX

DCE/DTE Switch

N/A DCE   N/A DTE

RS-232 DB-9 Port

RS-232

3.93 in. (100mm)

DC Power

DC PWR

Feature & Dimensional Information

General Specifications

Power Input	24~48VDC		
Power Consumption	150mA @ 24VDC or 3.6 Watt		
DC Input Isolation (In/Out)	1.5KV		
Voltage Reversal Protection	Will operate with V+ or V- in either power terminal		
Over Current Protection	1.0A (Automatic Recovery)		
LED	POWER	DC Power OK	
	FIBER	Fiber Connection OK	
	TX	RS-232 Copper Transmit	
	RX	RS-232 Copper Receive	
Temperature	Storage	-40°C to +85°C (-40°F to +185°F)	
	Operating -40°C to +70°C (-40°F to +158°F)		
Dimensions/ Mounting	H 3.93" x W 1.24" x D 6.94" (Standard Card Form Factor)		
Warranty	Limited Lifetime		

Transmission Method	Frequency modulated light via two optical fibers	
	Multimode	1310nm
	Single-Mode	1310/1550nm
Maximum Fiber Attenuation / Distance*	Single Fiber	Single-mode (8~9/125µm) up to 37mi. / 60km
	Dual Fiber	Multimode (50/62.5/125µm) up to 1.25mi. / 2km
		Single-mode (8~9/125µm) up to 74mi. / 120km
	Note: Distances equated using industry standard fiber and connector attenuation. Fiber condition, splices and connectors may affect actual range.	
Connector Type	ST or SC Multimode or Single-mode	
Power Margin	11dB (2Km, M/M), 12dB ~ 35dB (20 ~ 120Km, S/M)	
Protocols	RS-232	
DB-9 Port (Female)	RS-232	DCD, RXD, TXD, DTR, GND, DSR, RTS, CTS, RI
Signal Isolation	Optical Isolation 3000 Vrms	
Dip Switches	Specifies DCE or DTE of the DB-9's operation mode	
Baud Rates	50bps-1Mbit/s Automatic Detection	
Dip Switches	Specifies DCE or DTE DB-9 operation	

Ordering Information

Optics	Side	Distance	Wavelength	Fiber	Part Number
Dual Fiber Multimode ST	-	2 km/1.2 mi	1310nm	50/62.5 µm	**SE4-04-2**
Single Fiber Single-mode SC	A	20km/12.4mi.	Tx 1310nm Rx 1550nm	8~9 µm	**SE4-10-2**
	B	20km/12.4mi.	Tx 1550nm Rx 1310nm	8~9 µm	**SE4-11-2**
	A	60km / 37mi.	Tx 1310nm Rx 1550nm	8~9 µm	**SE4-14-2**
	B	60km / 37mi.	Tx 1550nm Rx 1310nm	8~9 µm	**SE4-15-2**
Dual Fiber Single-mode SC	-	20km/12.4mi.	1310nm	8~9 µm	**SE4-40-2**
	-	60km / 37mi.	1310nm	8~9 µm	**SE4-41-2**
	-	120km / 74 mi.	1550nm	8~9 µm	**SE4-45-2**
Dual Fiber Single-mode ST	-	20km/12.4mi.	1310nm	8~9 µm	**SE4-50-2**
	-	60km / 37mi.	1310nm	8~9 µm	**SE4-51-2**
	-	120km / 74 mi.	1550nm	8~9 µm	**SE4-55-2**

▶ Bidirectional single fiber models require an **A Side** and **B Side** unit for a complete system.

▶ DB-9 cables are available. Contact your sales representative or review the User Guide for more information.

▶ Please contact your RLH sales representative for pricing and delivery information.