Dymec Serial Links

SubStation Hardened RS232 Serial Copper to Fiber Link/Repeaters

Features

- Single Channel RS232 or TTL Logic
- Powered from Station Battery Bus
- Operates reliably at temperatures of –40°C to 85°C
- Extended distances of 5km over Multi-mode fiber and 30km over Single-mode fiber.
- Multiple Mounting choices with built-in mounting brackets and optional mounting shelf
- Packaged in rugged, industrial-quality Galva Neal and powder coated shells
- 4 Diagnostic LEDs for easier debug of installation
- Conformal coated PC boards
- Compatible with all earlier 5843/5844 versions of Dymec Link/Repeaters
- Certified to IEEE 1613 and Class 1 Div 2

Dymec models 5843 and 5844 are hardened fiber optic Link/Repeaters that convert RS232 or TTL level copper to amplitude based fiber output. Supports data rates from dc to 250k bps, DCE or DTE port configuration and a diagnostic/test mode that allows testing of the copper and fiber connections before the connected IED is active in the network.

By simply setting a few switches, the Dymec 5843 and 5844 Link/Repeaters can be configured for point-to-point, star, optical bus, or loop networks, and permit quick, easy connection of devices. For example, an extensive multi-drop network—where two or more intelligent electrical devices are connected and communicating—can be constructed simply by connecting the devices through Link/Repeaters.

Dymec 5843 and 5844 Link/Repeaters may optically connect devices of different formats, eliminating the need for format converters. For example, an RS232 IED may be connected to a model 5844 which is optically connected to a model 5846, which, in turn, can communicate electrically to its IED in EIA 485.

Optical Parameters @ Max Temp	Multimode	Single-Mode
Optical Budget Typical	19.5dB	19dB
Output Power Typical	-10.5 dBm peak	-14.5 dBm peak
Receiver Sensitivity Typical	-30 dBm peak	-33.4 dBm peak
	(62.5µ/125 Multimode)	(9µ/125 Single-mode)
Wavelength	850nm	1310nm
Connector Type	ST	
Compatible Fiber Type	Multimode (50-200µm)	Single-Mode (9-13µm)
Configuration (Switches)	DTE/DCE	
	AC/DC Coupled	
	Link/Repeat	
	Pin 8 Drive Current	
	Pin 6 +5 Vdc (DSR or CTS pull up)	
	Diagnostic Mode	
Data Rate	DC to 250kbps	
Data Transmission	Asynchronous, simplex	
	Or Full Duplex	
Transmission Distance	Up to 5000 meters	Up to 30K meters
	(62.5µ/125 Cable@3dB/km)	(9µ/125 Cable@.5dB/km)
Bit Error Rate	10-E9 Max.	
Point to Point Latency	4µS	
Repeat Latency	400 nsec Max	
Electrical Parameters		
Inputs		
I/O Data Format	EIA RS232; CCITT v.24	
Data Connector	9 pin D-Type Female	
Input Impedance	>3000Ohms	
Input voltage	+/-30 Volts Max	
Outputs		
Output Impedance	>300Ohms	
Driver Output	+/-5Volts into 3000Ohms	
Pin 8 Output	0 to 5V	
	67 or 207 Ohm Source Impedance	
Ambient Temperature		
Operating Temperature	-40 to +85 C	-40 to +70 C
Storage Temperature	-40 to 85 C	
Power Required		
5844	4.0 Watts	5.5 Watts
	35 mA @ 90-250 V	50 mA @ 90-250 V
	250 mA @ 18-60 V	340 mA @ 18-60 V
5943	3.0 Watts	4.1 Watts
	250mA @ 12Vdc	340mA @ 12Vdc
Power Dissipation BTU/H		
5844	10.9 BTU/hr	12.3 BTU/hr
5843	8.2 BTU/hr	10.2 BTU/hr
Physical Parameters		
Weight		
5844	17 oz.	
5843	9 oz.	
Dimensions Inches		
5844	4.1W x 5.1L X 1.3H	
5843	2.0W x 5.1L X 1.3H	
Indicators	Power	
	Transmit Fiber	
	Transmit Electrical	
	Receive Fiber	
	Receive Electrical	

Ordering Information			
Model	Input	Fiber Type	Input Power Rating
5843HRT	RS-232/TTL	Multi-Mode	9-15 Vdc
5844HRT-H	RS-232/TTL	Multi-Mode	90-250Vdc/90-250Vac
5844HRT-L	RS-232/TTL	Multi-Mode	24-48 Vdc
5843SHRT	RS-232/TTL	Single-Mode	9-15 Vdc
5844SHRT-H	RS-232/TTL	Single-Mode	90-250Vdc/90-250Vac
5844SHRT-L	RS-232/TTL	Single-Mode	24-48 Vdc
ACC-LCS	Link Cantilever Mounting Bracket		
ACC-CBL1	DB9 Male/Tinned Lead 10 Foot Cable/Pigtail		