



Overview

GE's D Series is now IFS. For use in industrial security and Intelligent Transportation Systems (ITS) applications, the IFS D Series data fiber transceivers feature a robust design well suited for harsh environments. The IFS D Series transmits up to 4-channels of bi-directional serial data. These modules support EIA RS-232, 422 and (2- or 4-wire) RS-485 with tri-state, data interfaces and are transparent to data protocol.

The IFS D Series can also be configured to receive an input from one type of data interface (e.g., RS-232) and output to a different type of data interface (e.g., RS-422) at the module at the other end of the transmission. All modules are laser-based and optimized for highest optical performance on either one multi-mode or single mode fiber.

The plug-and-play design provides broad-range compatibility with other EIA compliant serial interface equipment. The unique unified modular design can easily be deployed in either stand alone or rack-mount applications. In-field configuration flexibility includes a diverse range of optics and connector choices to meet specific system and connectivity requirements. In addition, remote health and status monitoring can be implemented via the IFS Smart Rack IP Network Module.

Standard Features

Video

- Meets EIA RS-232/422/485 specifications
- Full RS-485 Tri-state support
- Simplex or full-duplex operation
- Transparent to data encoding
- Data rates up to 115.2Kbps

Optical

- One fiber design
- High performance laser-based optics
- Multi-mode or single mode versions
- Distances up to 60Km

Robust Design

- Plug-and-play design, no in-field adjustments required
- Unified modular design for stand alone or rack-mount installation
- Hot-swappable design with solid-state current limiters
- Wide operating temperature range of -40° C to +75° C
- Designed for use in harsh environments

Local & Remote Diagnostics

- Service-friendly LED status indicators on both front and rear of the module provide for local monitoring
- Remote health and status monitoring via Smart Rack IP Network Module

Warranty

- Comprehensive Lifetime Warranty

D001, D004 Series RS-232/422/485 Serial Data Transceivers & Multiplexers



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Specifications

Data	
Data Interface	RS-232, RS-422, RS-485 (2- or 4-wire) w/Tri-state
Data Format	DIP switch-selectable
Data Rate	0~115.2Kbps
Operating Mode	Simplex or Full Duplex
Data Protocol	Protocol transparent
Line Carrier Detection	RS-485 (2/4-wire) Tri-state output
Optical	
Emitter Type	Laser diode
Wavelength	1310/1550nm
Number of Fibers	1
LED Indicators	
Data Status	Green/Present; Red/Absent
Power	Green/On
Connectors	
Data	7-pin screw terminal
Optical	ST (Standard); optional SC or FC connector kits available*
Power (surface-mount)	2-pin screw terminal block
Power (rack-mount)	10-pin smart bus connector
Electrical & Mechanical	
Operating Voltage	12VDC
Current Draw	500mA Max.
Current Protection	Automatic resettable fuse
Dimensions (in./cm.) (HwWxD)	(1-slot) 1.0 x 6.2 x 9.1 in. (2.54 x 15.84 x 23.18 cm) (2-slot) 2.0 x 6.2 x 9.1 in. (5.08 x 15.84 x 23.18 cm)
Shipping Weight	(1-slot) 1.6 lbs. / 0.74kg (2-slot) 2.4 lbs. / 1.07kg
Environmental	
MTBF	>100,000 hours
Operating Temperature	-40° C to +75° C
Storage Temperature	-40° C to +85° C
Relative Humidity	0 to 95% non-condensing
Regulatory Compliance	FCC, UL, CE, C-Tick, FDA

Ordering Information

Fiber	Part Number	Description	Wavelength	Optical Pwr Budget*	Max. Distance**	Rack Slots
D001 Series Data Transceiver						
Multi-mode 62.5/125µm	DFDMM001-TX	Data TCVR, 1 MM Fiber	1310 nm/1550 nm	12 dB	2.5 miles (4km)	1
	DFDMM001-RX	Data TCVR, 1 MM Fiber				
Single mode 9/125µm	DFDSM001-TX	Data TCVR, 1 SM Fiber	1310 nm/1550 nm	14 dB	25 miles (40km)	1
	DFDSM001-RX	Data TCVR, 1 SM Fiber				
	DFDSML001-TX	Data TCVR, 1 SM Fiber, LD				
DFDSML001-RX	Data TCVR, 1 SM Fiber, LD	19 dB	37 miles (60km)	1		
D004 Series 4-Ch Duplex Data Mux						
Multi-mode 62.5/125µm	DFDMM004-TX	4-Ch Data Mux, 1 MM Fiber	1310 nm/1550 nm	12 dB	2.5 miles (4km)	2
	DFDMM004-RX	4-Ch Data Mux, 1 MM Fiber				
Single mode 9/125µm	DFDSM004-TX	4-Ch Data Mux, 1 SM Fiber	1310 nm/1550 nm	14 dB	25 miles (40km)	2
	DFDSM004-RX	4-Ch Data Mux, 1 SM Fiber				
	DFDSML004-TX	4-Ch Data Mux, 1 SM Fiber, LD				
DFDSML004-RX	4-Ch Data Mux, 1 SM Fiber, LD					

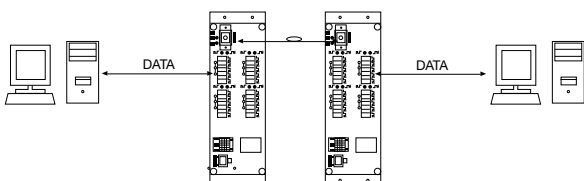
* For 50/125 fiber, subtract 4dB from optical power budget

** Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels.

Operating distance for multi-mode is limited by fiber bandwidth due to the inherent characteristic of modal dispersion within MM fiber.

Note: Power supply must be ordered separately.

Typical Application



Accessories

Connector Kits	
SC/FC-OA	SC to FC Optical Adaptor
SC/SC-OA	SC to SC Optical Adaptor
SC/ST-OA	SC to ST Optical Adaptor
Cable Kits	
SC/LC-MM-FPC	SC to LC MM Fiber Patch Cord
SC/LC-SM-FPC	SC to SC Optical Adaptor
Smart Rack Chassis	
DFR	Smart Rack –Chassis Only

Security Products by GE are now part of the UTC Fire & Security family



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