



DESCRIPTION

The IFS D1300 series data transceivers provide point-to-point transmission of half-duplex (2-wire) EIA RS-485 tri-state data signals over one or two optical fibers. The transceivers are transparent to data encoding allowing for broad-range compatibility. When used as a line-terminating device, these modules are also compatible with the IFS D2300 series drop and repeat data transceivers. Models within this series are available for use with multimode or singlemode optical fiber. Plug-and-play design ensures ease of installation requiring no electrical or optical adjustments. Each transceiver incorporates power and transmit/receive data status indicating LED's for monitoring proper system operation. The modules are available in either stand-alone or rack mount versions.

APPLICATION EXAMPLES

- Access Control Systems
- Building Automation and Environmental Control Systems
- Computer/Data Equipment
- Fire & Alarm Systems
- Traffic Signal Control Equipment

FEATURES

- Meets EIA RS-485 Specifications
- Tested and Certified by an Independent Testing Laboratory for Full Compliance with the Environmental Requirements (Ambient Operating Temperature, Mechanical Shock, Vibration, Humidity with Condensation, High-Line/Low-Line Voltage Conditions and Transient Voltage Protection) of NEMA TS-1/TS-2 and the Caltrans Specification for Traffic Signal Control Equipment.
- Automatic Resettable Solid-State Current Limiters
- Power, Transmitter and Receiver Data Status LED Indicators
- No In-field Electrical or Optical Adjustments Required
- Data rates up to 400 kbps NRZ • Data Re-clocking
- Transparent to Data Encoding / Compatible with Major Data Protocols
- Point-to-Point Network Architecture
- 2-Wire (Half-Duplex)
- True Tri-State Output
- Hot-Swappable Rack Modules
- Distances up to 20 Miles (33 km)
- Comprehensive Lifetime Warranty



Available at:
www.ifs.com

- A & E Specifications, (CSI)
- AutoCAD Drawings
- Operation Manuals
- Technical Bulletins

ORDERING INFORMATION

	PART NUMBER	DESCRIPTION	FIBERS REQUIRED	OPTICAL PWR BUDGET	MAX. DISTANCE*
MULTIMODE 62.5/125µm**	D1300	RS-485 Transceiver (850 nm)	2	11 dB	1.9 miles (3 km)
	D1300WDMA	RS-485 Transceiver (850 nm)	1	11 dB	1.9 miles (3 km)
	D1300WDMB	RS-485 Transceiver (1310 nm)	1	11 dB	1.9 miles (3 km)
	D1320	RS-485 Transceiver (1310 nm)	2	10 dB	6 miles (10 km)
SINGLE-MODE 9/125µm	D1325	RS-485 Transceiver (1310 nm)	2	11 dB	20 miles (33 km)
OPTIONS	PS-12VDC 12 Volt DC Plug-in Power Supply (Included) PS-12VDC-230 12 Volt DC Plug-in Power Supply, 230 VAC Input (Included if specified at time of order) Add -24 for 24 VDC Power (Extra charge, consult factory) Add '-R3' to Model Number for R3 Rack Mount (Requires R3 Rack purchased separately) Add '-C' for Conformally Coated Printed Circuit Boards (Extra charge, consult factory) Add '-HS' for High Speed Data Rates up to 400 kbps (Extra charge, consult factory)				

* Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels. Distance can also be limited by fiber bandwidth. ** For 50/125 Fiber, subtract 4 dB from Optical Power Budget.

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 With Offices in Asia Pacific ■ Australia ■ Europe ■ Latin America

SPECIFICATIONS

DATA

Data Interface:	RS-485 (2 wire)
Data Rate:	DC - 150 kbps*
Total Network	
Pulse Distortion:	<1μs

*-HS Option Data Rate: DC - 400 kbps

WAVELENGTH

D1300 and D1300WDMB:	850 nm, Multimode
All Others :	1310 nm, Multimode or Singlemode

NUMBER OF FIBERS 2

CONNECTORS

Optical:	ST
Data and Power:	Terminal Plug with screw clamps

ELECTRICAL & MECHANICAL

Power:	
Surface Mount:	12 VDC @200 mA to 24 VDC @100mA
Rack:	From Rack
Number of Rack Slots:	1
Current Protection:	Automatic Resettable Solid-State Current Limiters
Circuit Board:	Meets IPC Standard
Size (in./ cm.) (LxWxH):	
Surface Mount:	7.0 x 4.9 x 1.0 in., 17.8 x 12.5 x 2.5 cm.
Rack Mount:	7.0 x 4.9 x 1.0 in., 17.8 x 12.5 x 2.5 cm.
Shipping Weight:	< 2 lbs./0.9 kg

ENVIRONMENTAL

MTBF:	>100,000 hours
Operating Temp:	-40° C to +74° C
Storage Temp:	-40° C to +85° C
Relative Humidity:	0% to 95% (non-condensing)†

† May be extended to condensation conditions by adding suffix 'C' to model number for conformal coating.

AGENCY COMPLIANCE

FCC PART 15 COMPLIANT



Federal Supply Schedule
Contract No. GS-07F-0049M

MADE IN THE USA

Complies with FDA Performance Standard for Laser Products,
Title 21, Code of Federal Regulations, Subchapter J

OPTICAL POWER BUDGET

FIBER	WAVELENGTH	TRANSCEIVER			OPTICAL PWR BUDGET	MAX. DISTANCE*
		MODEL	OUTPUT PWR	SENSITIVITY		
Multimode 62.5/125μm**	850 nm	D1300	25 μw (-16 dBm)	1 μw (-30 dBm)	11 dB	1.9 miles (3 km)
	850 nm	D1300WDMA			10 dB	
	1310 nm	D1300WDMB			11 dB	
	1310 nm	D1320	20 μw (-17 dBm)		11 dB	6 miles (10 km)
Singlemode 9/125μm		D1325	25 μw (-16 dBm)			20 miles (33 km)

* Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels.
Distance can also be limited by fiber bandwidth. ** For 50/125 Fiber, subtract 4 dB from Optical Power Budget.

SYSTEM DESIGN

