

## Overview

The IFS D1315 series data transceivers provide point-to-point transmission of full-duplex (4-wire) EIA RS-485 tri-state data signals over 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 D2315 series drop and repeat data transceivers. Models within this series are available for use with multimode or single mode 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
- ITS Traffic Signalization Networks

# RS-485 (4-wire) Point-to-Point Data Transceivers

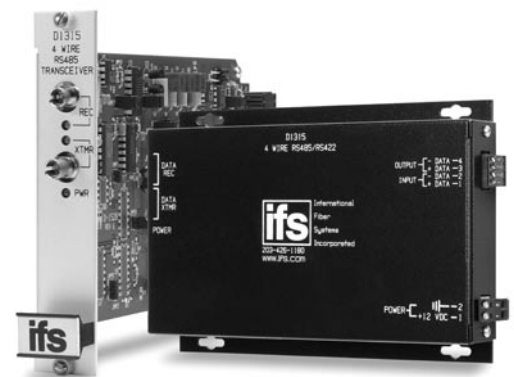
For implementing point-to-point transmission of full-duplex (4-wire) EIA RS-485 tri-state data signals over two optical fibers.



imagination at work

## Standard 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, Transmit and Receive Data Status LED Indicators
- No In-field Electrical or Optical Adjustments Required
- Data rates up to 200 kbps NRZ (400 kbps for -HS option)
- 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 25 Miles (40 km)
- Comprehensive Lifetime Warranty



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gesecurity.com/ifs

Specifications subject to  
change without notice

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## Specifications

### Data

Data Interface: RS-485 (4-wire)  
Data Rate: DC - 200 Kbps\*  
Total Network Pulse Distortion: <1µs  
\*-HS Option Data Rate: DC - 400 Kbps

### Wavelength

D1315: 850 nm, Multimode  
All others: 1310 nm, Multimode or Single Mode

### Number Of Fibers

1 or 2

### Connectors

Data and Power: Terminal Block with Screw Clamps  
Optical: ST

### Electrical & Mechanical

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

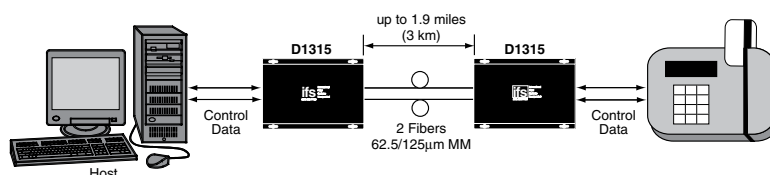
### Agency compliance



### Made in the USA

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

## System Design



## Ordering Information

	Part Number	Description	Fibers Required	Opt. Pwr. Budget	Max. Distance*
Multimode 62.5/125µm**	D1315	RS-485 Data Transceiver (850 nm)	2	11 dB	1.9 miles (3 km)
	D1315	RS-485 Data Transceiver (1310 nm)	2	10 dB	6 miles (10 km)
	D1315WDMA	RS-485 Data Transceiver (850 nm)	1	11 dB	1.9 miles (3 km)
	D1315WDMB	RS-485 Data Transceiver (1310 nm)	1	11 dB	1.9 miles (3 km)
Single Mode 9/125µm	D1315-SM	Data Transceiver (1310 nm)	2	11 dB	25 miles (40 km)
Accessories♦	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)				
Options	Add '-24' for 24 VDC Power (Extra charge, consult factory) Add '-R3' to Model Number for R3 Rack Mount - No Charge (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. ♦All accessories are third party manufactured.

