

## Overview

The IFS D2100 series data transceivers provide drop and repeat transmission of simplex or duplex EIA RS232/RS-422 data signals over one or two optical fibers. The transceivers feature optical "drop & repeat" capability that allows the user to easily configure the network operation. The transceivers are transparent to data protocol. The transceivers are also compatible with the IFS D1010 series 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
- Traffic Signal Control Equipment

# RS-232/422 Drop and Repeat Data Transceivers

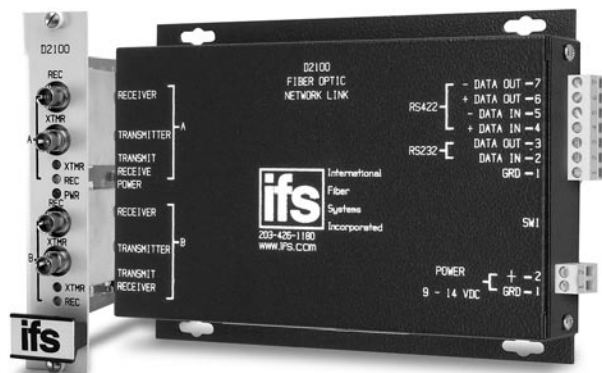
Transmission of simplex or duplex  
EIA RS-232/RS-422 data signals  
over one or two optical fibers.



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## Standard Features

- Meets EIA RS-232/422 Specifications (Simplex or Duplex)
- Drop and Repeat Network Architecture
- Transparent to Data Encoding / Compatible with Major Data Protocols
- Data Rates up to 100 Kbps
- No In-field Electrical or Optical Adjustments Required
- Power, Transmit and Receive Data Status LED Indicators
- NTCIP Compatible
- 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.
- Integrated WDM for Greater Product Reliability
- Automatic Resettable Solid-State Current Limiters
- Hot-Swappable Rack Modules
- Distances up to 26 Miles (42 km)
- Comprehensive Lifetime Warranty



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Specifications subject to  
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## Specifications

|                                    |                                                   |
|------------------------------------|---------------------------------------------------|
| <b>Data</b>                        |                                                   |
| Data Interface:                    | RS-232 (data lines only), or RS-422 (see note)    |
| Data Rate:                         | DC - 100 Kbps                                     |
| Operating Mode:                    | Asynchronous Simplex or Full-Duplex               |
| Bit Error Rate:                    | <1 in 10 <sup>9</sup>                             |
| <b>Wavelength</b>                  |                                                   |
| D2100: 850 nm, MM                  | D2120: 1310 nm, MM                                |
| D2125: 1310 nm, SM                 | D2100WDM: 850/1310 nm, MM                         |
| <b>Number Of Fibers</b>            |                                                   |
| D2100WDM: 1 In/1 Out               | All Others: 2 In/2 Out                            |
| <b>Connectors</b>                  |                                                   |
| Optical:                           | ST                                                |
| Data and Power:                    | Terminal Block with Screw Clamps                  |
| <b>Electrical &amp; Mechanical</b> |                                                   |
| Power:                             | 12 VDC @ 250 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)             | 4.2 x 4.0 x 1.0 in., 10.7 x 8.9 x 2.5 cm          |
| Surface Mount:                     | 7.0 x 5.0 x 1.0 in., 17.8 x 12.7 x 2.5 cm         |
| Rack Mount:                        | < 2 lbs./0.9 kg                                   |
| Shipping Weight:                   |                                                   |
| <b>Environmental</b>               |                                                   |
| 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.

NOTE: The D2100 Series is compatible with some RS-485 (4-wire) systems, consult factory.

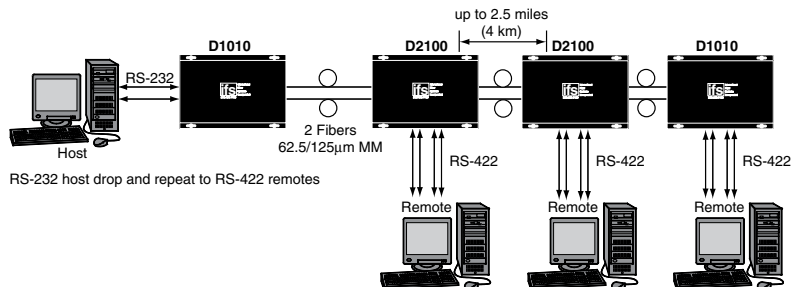
### Agency compliance



### 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<br>62.5/125µm** | D2100                                                                                                                                                                                                                                                   | Repeater (850 nm)      | 2 In/2 Out      | 14 dB            | 2.5 miles (4 km) |
|                           | D2100WDM                                                                                                                                                                                                                                                | Repeater (850/1310 nm) | 1 In/1 Out      | 14 dB            | 2.5 miles (4 km) |
|                           | D2120                                                                                                                                                                                                                                                   | Repeater (1310 nm)     | 2 In/2 Out      | 13 dB            | 8 miles (13 km)  |
| Single Mode<br>9/125µm    | D2125                                                                                                                                                                                                                                                   | Repeater (1310 nm)     | 2 In/2 Out      | 14 dB            | 26 miles (42 km) |
| Accessories♦              | PS-12VDC 12 Volt DC Plug-in Power Supply (Included)<br>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)<br>Add '-R3' to Model Number for R3 Rack Mount - No Charge (Requires R3 Rack purchased separately)<br>Add '-C' for Conformally Coated Printed Circuit Boards (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. †WDM must mate with a WDMB



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