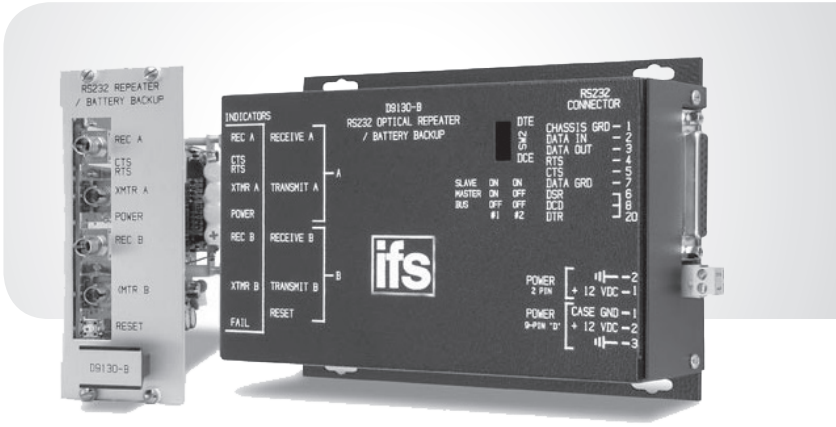
D9100 Series

IFS RS-232/422 Drop and Repeat Data Transceivers



OVERVIEW

The IFS D9100 Series consists of fully-digital transceiver units designed for implementing simplex or full-duplex RS-232 drop-and-repeat poll-and-respond traffic signalization/communications data networks utilizing two optical fibers. These environmentally-hardened units are ideal for use in unconditioned out-of-plant or roadside installations and the master-configured transceiver unit may be located anywhere within the network, making this equipment ideal for applications involving on-street master controllers with upstream and downstream communications requirements. The D9100 Series may be used in a conventional single-master/multiple local network architecture, or in a dual-master/bus multiple local configuration for higher levels of communications reliability. Manually resettable anti-streaming is included for unparalleled network protection. Optional battery back-up capability provides the highest level of network reliability in the event of a loss of local prime operating power, and maintains continuous communications channel operation. Plug-and-play design ensures ease of installation and no electrical or optical adjustments are ever required. LED indicators are provided for rapidly ascertaining equipment operating status, and these units are available in either stand-alone or rack-mount configurations.

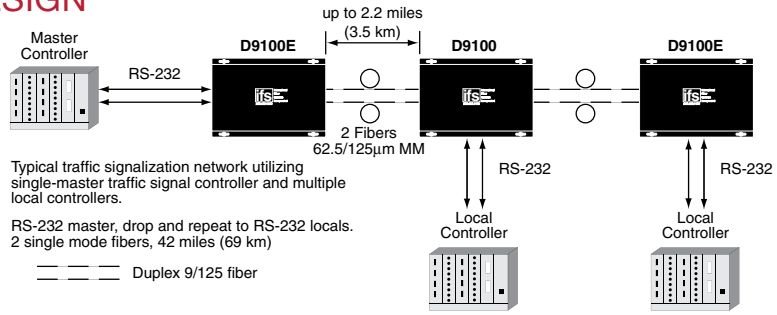
APPLICATION EXAMPLES

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

STANDARD FEATURES

- Meets EIA RS-232 C/D Specifications (Simplex or Duplex)
- 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.
- Robust Design Assures Extremely High Reliability In Unconditioned Roadside Environments
- User-Selectable Local, Master or Bus operation and DTE or DCE Interface Ensured Ease of Installation and Maximum Versatility
- Supports Request to Send (RTS) and Clear to Send (CTS) Signals
- RJ-45 expansion port provides network branching capability by electrically linking colocated transceiver units
- Solid-State Current Limiters on all Power Lines Provide Equipment Protection
- Optional Internal Battery Back-up Provides additional Operating Time in the Event of Loss of Prime Operating Power, and Maintains Continuous Channel Communications.
- Supports Single and Dual-Master/Bus Traffic Signal Controller Communication System Architectures
- Wide Optical Dynamic Range: Optical Attenuators are Never Required
- User-Configurable Optical & Electrical Anti-Streaming Provides Network Protection Against Faulty Streaming Controller Operation.
- Comprehensive Lifetime Warranty

SYSTEM DESIGN



Typical traffic signalization network utilizing single-master traffic signal controller and multiple local controllers.

RS-232 master, drop and repeat to RS-232 locals. 2 single mode fibers, 42 miles (69 km)

Duplex 9/125 fiber

D9100 Series

IFS RS-232/422 Drop and Repeat Data Transceivers

North America
T 855-286-8889

Latin America
T 561-998-6114

Ordering Information

	Part Number	Description	Fibers Required	Optical Pwr. Budget	Max. Distance*
Multimode 62.5/125µm**	D9100	Repeater (850 nm, LED)	2 In/2 Out	14 dB	2.5 miles (4 km)
Single Mode 9/125µm	D9130	Repeater (1310 nm, Laser)	2 In/ 2 Out	23 dB	43 miles (69 km)
Accessories ♦	PS12VDC1.5A-U	12VDC, 1.5A Plug-in Power supply (110/220VAC) with Universal power plug adapter kit (Included)			
Options	Add '-R3' to Model Number for R3 Rack Mount - No Charge (Requires R3 Rack purchased separately)				
	Add '-B' Suffix for NIMH Battery Back-Up Option				

*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.

Specifications

Data	
Data Interface:	RS-232 C/D, RS-422
Data Rate:	DC - 100 Kbps
Operating Mode:	Asynchronous Simplex or Full-Duplex
Bit Error Rate:	<1 in 10° @ Maximum Optical Loss Budget
Anti-Streaming Time-out:	4, 8, 16, 32, 64 Seconds, or Infinity (disabled)
Wavelength	
	850 nm or 1310 nm, Multimode: LED
	1310 nm, Single Mode: laser diode
Number Of Fibers	
	2 In/2 Out
Connectors	
Power:	Terminal Block with Screw Clamps
Optical:	ST
Data:	Type DB-25S
Electrical & Mechanical	
Power:	
Surface Mount:	12VDC @ 250mA
Rack:	From Rack
Number of Rack Slots:	1 (2 slots required for units with '-B' battery back-up option)
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 5.0 x 1.0 in., 17.8 x 12.7 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)
Battery Back-up Option ❒	
	Internal, Rechargeable Nickel Metal Hydride battery

❒ Add Suffix '-B' to model number for battery back up

Agency Compliance

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

FCC PART 15 COMPLIANT CE cULus

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Specifications subject to change without notice.