



Fiber Transmission 10-bit Digital Video & Data Transmitters & Receivers

Overview

GE's VD Series is now IFS. For use in industrial security and Intelligent Transportation Systems (ITS) applications, the IFS VD Series video and data fiber transmitters and receivers feature a robust design well suited for harsh environments. The IFS VD Series supports 10-bit PCM digital video transmission that provides no video degradation versus optical path loss, as well as, RS 232/422/485 serial data. All modules are laser-based and optimized for the highest optical performance on either one multi-mode or single mode fiber.

The plug-and-play design provides broad-range compatibility with major video surveillance manufacturers. 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.

VD100, VD200, VD400 Series 10-bit Digital Video & Data Transmitters and Receivers

Standard Features

Video

- Compatible with NTSC or PAL video standards
- 10-bit digitally encoded (non-compressed) video transmission
- No video degradation over the entire operating distance

Data

- 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 256Kbps

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 through via Smart Rack IP Network Module

Warranty

- Comprehensive Lifetime Warranty



Specifications

Video	
Video I/O	1 volt pk-pk (75 ohms)
Bandwidth	6 Mhz
Differential Gain	<2%
Differential Phase	<1° Typical
Tilt	0.01
SNR-CCIR Weighted	> 60dB

Data	
Data Interface	RS-232, RS-422, RS-485 (2- or 4-wire) w/Tri-state
Data Format	DIP switch-selectable
Data Rate	0~256Kbps
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

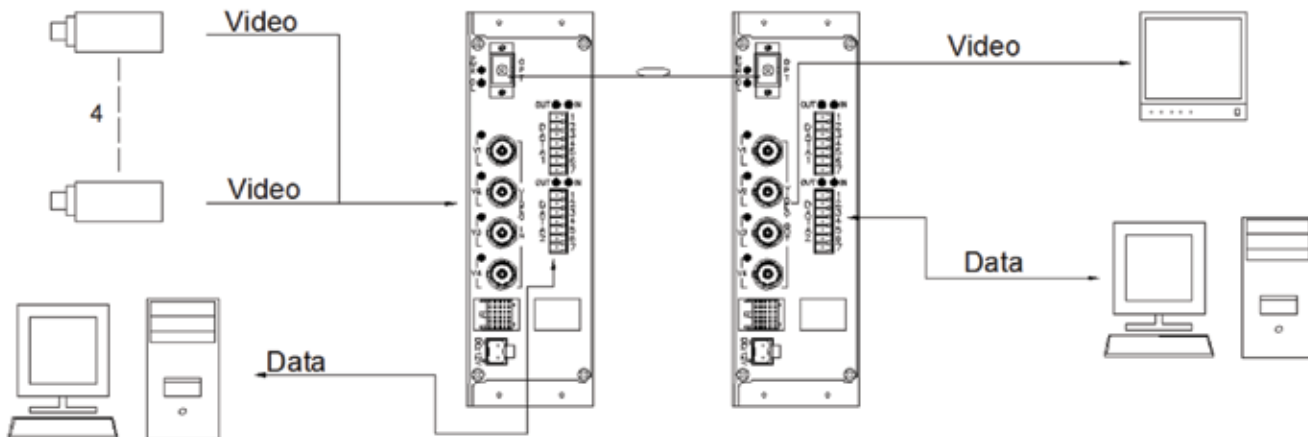
LED Indicators	
Video Presence	Green/Present; Red/Absent
Data Status	Green/Present; Red/Absent
Power	Green/On

Connectors	
Video	BNC
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.)	(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, SE, C-Tick, FDA

Typical Application



Ordering Information

Fiber	Part Number	Description	Wavelength	Optical Pwr Budget*	Max. Distance**	Rack Slots
VD101 Series 10-bit Digital Video/Data Transceiver						
Multi-mode 62.5/125µm	DFVMMD101-T	Digital Video TX/Data TCVR, 1 MM Fiber	1310/1550 nm	12 dB	2.5 miles (4km)	1
	DFVMMD101-R	Digital Video RX/Data TCVR, 1 MM Fiber				
Single mode 9/125µm	DFVSMD101-T	Digital Video TX/Data TCVR, 1 SM Fiber	1310/1550 nm	14 dB	25 miles (40km)	1
	DFVSMD101-R	Digital Video RX/Data TCVR, 1 SM Fiber				
	DFVSMLD101-T	Digital Video TX/Data TCVR, 1 SM Fiber, LD	1310/1550 nm	19 dB	37 miles (60km)	1
DFVSMLD101-R	Digital Video RX/Data TCVR, 1 SM Fiber, LD					
VD102 Series 10-bit Digital Video/2-Ch Data Transceiver						
Multi-mode 62.5/125µm	DFVMMD102-T	Digital Video TX/2-Ch Data TCVR, 1 MM Fiber	1310/1550 nm	12 dB	2.5 miles (4km)	1
	DFVMMD102-R	Digital Video RX/2-Ch Data TCVR, 1 MM Fiber				
Single mode 9/125µm	DFVSMD102-T	Digital Video TX/2-Ch Data TCVR, 1 SM Fiber	1310/1550 nm	14 dB	25 miles (40km)	1
	DFVSMD102-R	Digital Video RX/2-Ch Data TCVR, 1 SM Fiber				
	DFVSMLD102-T	Digital Video TX/2-Ch Data TCVR, 1 SM Fiber, LD	1310/1550 nm	19 dB	37 miles (60km)	1
DFVSMLD102-R	Digital Video RX/2-Ch Data TCVR, 1 SM Fiber, LD					
VD201 Series 2-Ch Video Mux/Data Transceiver						
Multi-mode 62.5/125µm	DFVMMD201-T	2-Ch Digital Video Mux TX/Data TCVR, 1 MM Fiber	1310/1550 nm	10 dB	2 miles (3km)	1
	DFVMMD201-R	2-Ch Digital Video Mux RX/Data TCVR, 1 MM Fiber				
Single mode 9/125µm	DFVSMD201-T	2-Ch Digital Video Mux TX/Data TCVR, 1 SM Fiber	1310/1550 nm	14 dB	25 miles (40km)	1
	DFVSMD201-R	2-Ch Digital Video Mux RX/Data TCVR, 1 SM Fiber				
	DFVSMLD201-T	2-Ch Digital Video Mux TX/Data TCVR, 1 SM Fiber, LD	1310/1550 nm	19 dB	37 miles (60km)	1
DFVSMLD201-R	2-Ch Digital Video Mux RX/Data TCVR, 1 SM Fiber, LD					
VD202 Series 2-Ch Video Mux/2-Ch Data Transceiver						
Multi-mode 62.5/125µm	DFVMMD202-T	2-Ch Digital Video Mux TX/2-Ch Data TCVR, 1 MM Fiber	1310/1550 nm	10 dB	2 miles (3km)	2
	DFVMMD202-R	2-Ch Digital Video Mux RX/2-Ch Data TCVR, 1 MM Fiber				
Single mode 9/125µm	DFVSMD202-T	2-Ch Digital Video Mux TX/2-Ch Data TCVR, 1 SM Fiber	1310/1550 nm	14 dB	25 miles (40km)	2
	DFVSMD202-R	2-Ch Digital Video Mux RX/2-Ch Data TCVR, 1 SM Fiber				
	DFVSMLD202-T	2-Ch Digital Video Mux TX/2-Ch Data TCVR, 1 SM Fiber, LD	1310/1550 nm	19 dB	37 miles (60km)	2
DFVSMLD202-R	2-Ch Digital Video Mux RX/2-Ch Data TCVR, 1 SM Fiber, LD					
VD401 Series 4-Ch Video Mux/Data Transceiver						
Multi-mode 62.5/125µm	DFVMMD401-T	4-Ch Digital Video Mux TX/Data TCVR, 1 MM Fiber	1310/1550 nm	8 dB	1.2 miles (2km)	2
	DFVMMD401-R	4-Ch Digital Video Mux RX/Data TCVR, 1 MM Fiber				
Single mode 9/125µm	DFVSMD401-T	4-Ch Digital Video Mux TX/Data TCVR, 1 SM Fiber	1310/1550 nm	14 dB	25 miles (40km)	2
	DFVSMD401-R	4-Ch Digital Video Mux RX/Data TCVR, 1 SM Fiber				
	DFVSMLD401-T	4-Ch Digital Video Mux TX/Data TCVR, 1 SM Fiber, LD	1310/1550 nm	19 dB	37 miles (60km)	2
DFVSMLD401-R	4-Ch Digital Video Mux RX/Data TCVR, 1 SM Fiber, LD					
VD402 Series 4-Ch Video Mux/2-Ch Data Transceiver						
Multi-mode 62.5/125µm	DFVMMD402-T	4-Ch Digital Video Mux TX/2-Ch Data TCVR, 1 MM Fiber	1310/1550 nm	8 dB	1.2 miles (2km)	2
	DFVMMD402-R	4-Ch Digital Video Mux RX/2-Ch Data TCVR, 1 MM Fiber				
Single mode 9/125µm	DFVSMD402-T	4-Ch Digital Video Mux TX/2-Ch Data TCVR, 1 SM Fiber	1310/1550 nm	14 dB	25 miles (40km)	2
	DFVSMD402-R	4-Ch Digital Video Mux RX/2-Ch Data TCVR, 1 SM Fiber				
	DFVSMLD402-T	4-Ch Digital Video Mux TX/2-Ch Data TCVR, 1 SM Fiber, LD	1310/1550 nm	19 dB	37 miles (60km)	2
DFVSMLD402-R	4-Ch Digital Video Mux RX/2-Ch Data TCVR, 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.

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

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