

Fiber Transmission Products (10-Bit) Transmitter/Receiver

Overview

The video and data series fiber transmission products support optical transmission of 10-Bit PCM coded video (up to 8 channels) through one fiber either in multi-mode or single-mode for convenience and flexibility. Adjustment and maintenance free, these modules are universally compatible with major CCTV camera manufacturers and support data interface.

The unit's unique modular design for in field configuration also accommodates installation and system growth and delivers long operating distances of up to 60 Km. Featuring robust construction well suited for harsh environments the unit is available in wall mount configuration. Plug-and-Play design ensures ease of installation requiring no electrical or optical adjustments.

Standard Features

Video

- Non-compressed 10-Bit Digitally Encoded Video Transmission
- Support NTSC P, PAL & SECAM video systems
- No video degradation over max. operating distance

Control

- Supports one bi-directional Contact Closure
- Support dry contact or TTL inputs
- Dry Contact Closure outputs (Normal Open)

LEDs

- Duplicated LED indicators on the front and rear of the unit for the convenience of observation

Network management system for rack communications

- Web browser support
- Systems (video, audio, data and contact closure) performance monitoring
- System devices and components (Transmitters, Receivers, Modules, etc.) status monitoring and operational management
- LAN, Ethernet networking capabilities
- IP addressable
- Alarm activation, execution, message responding and reporting
- Operational level determination and access control
- Network ready for health and connection monitoring

Others

- Adjustment and maintenance free
- Unique modular design for in field configuration to match installation and system growth
- Long distances operation up to 60Km
- No setup just plug-and-play
- Excellent suppression of EMI & RFI and elimination of ground loop
- Transient voltage protection on power supply and all signal inputs & outputs
- Robust design for harsh environment applications

Single-, Two-, Four-, Eight-Channel Video (10-Bit) Transmitter/Receiver and Single-Channel Duplex Control (Contact Closure) Transceiver



Specifications

Video		
Number of Channels	1, 2, 4, 8	
Color Systems	NTSC	PAL
I/O Impedance	75 Ohm	75 Ohm
I/O Composite Video Level	1Vp-p ± 5.5 IRE	700mVp-p ± 40 IRE
Sync Amplitude	40± 2 IRE	300± 20 IRE
Burst Amplitude	40± 2 IRE	300± 20 IRE
Bandwidth	≥4.6MHz	≥5.8MHz
Differential Gain	<2%	<2%
Differential Phase	<1 Degree Typical	<1 Degree Typical
SNR-CCIR weighted	> 60dB	> 60dB
Tilt	<1 %	<1 %
K-factor	1%	1.5%
Signal Indication (Video Presence/ Absence)	Green/Red LED lit	Green/Red LED lit
Input/output Connectors	BNC	BNC

Contact Closures	
Number of Channels	1
Direction	Bi-directional Duplex
Input Type	TTL Logic (positive)/ Dry Contact
Output Type	Default: Logic LOW/ Normal Open
Dry Contact Output Rating	110 VDC/125VAC, 30W/62.5VA max.
Contact Output Response Time	2 msec.
Input/output Indications	LEDs (Green lit/OFF)
Input/output Connectors	5-pin screw terminals

Optical		
Wavelength	1310 and 1550	
Number of Fiber	1	
Tx Output Power:		
Single Mode (40Km) 1V+1CC	1310nm & 1550nm	-9dBm ± 3 dBm
Single Mode (40Km) 2V+1CC, 4V+1CC, 8V+1CC	1310nm & 1550nm	-8dBm ± 3 dBm -6dBm ± 2 dBm
Multi-mode (4Km) 1V+1CC	1310nm & 1550nm	-7dBm ± 3 dBm
Multi-Mode (2Km) 2V+1CC, 4V+1CC, 8V+1CC	1310nm & 1550nm	-7dBm ± 3 dBm
Optical Budget:		
Multi-mode (62.5µm/125µm)	12dB (1V+1CC) 10dB (2V+1CC) 8dB (4V+1CC, 8V+1CC)	
Single-mode (9µm/125µm)	18dB (wavelength in 1310nm) 14dB (wavelength in 1550nm)	
Single-mode (9µm/125µm) - Long Haul	19dB (wavelength in 1550nm)	
Transmission Distance:		
Multi-Mode (Limited by Fiber Bandwidth)	4Km (DFVMMMD1001-T/R) 3Km (DFVMMMD2001-T/R) 2Km (DFVMMMD4001-T/R) 1Km (DFVMMMD8001-T/R)	
Single-Mode (Limited by Fiber Bandwidth)	40Km	
Single-Mode (Long Haul version)	60Km	
Fiber Connector (Standard Supply)	ST	

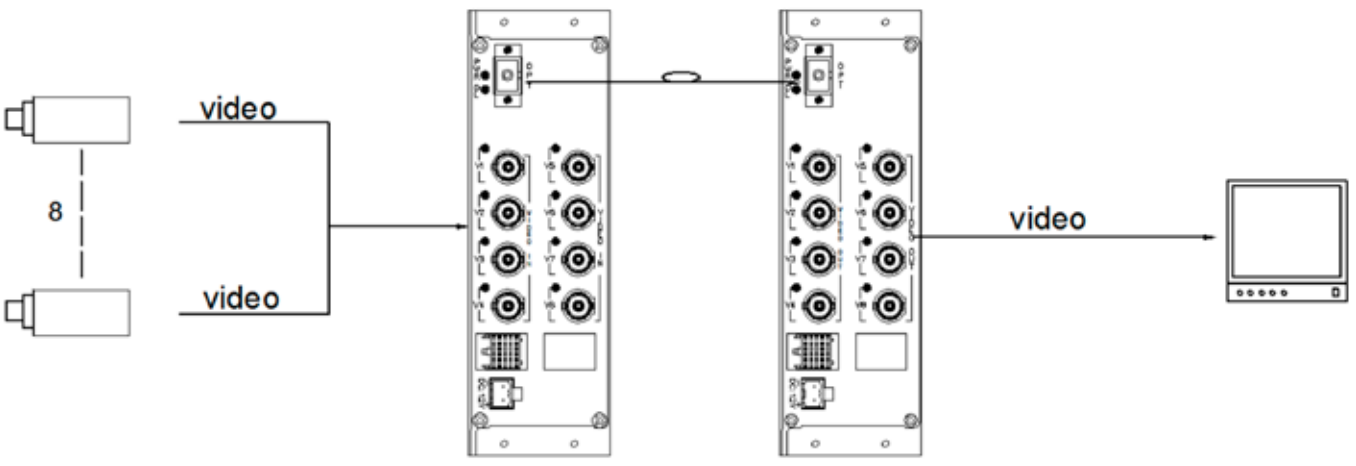
Mechanical	
Dimensions or Module H x W x D in mm	(a) 25.4 x 158.4 x 231.8 1-Slot (b) 50.8 x 158.4 x 231.8 2-Slot (c) 76.2 x 158.4 x 231.8 3-Slot
Shipping weight	(a) 0.55kg 1-slot (b) 0.80kg 2-slot (c) 1.10kg 3-Slot

Specifications (continued)

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

Power Requirement	
Supply Voltage	12V DC <i>(Standalone: derived from an external adaptor via the 2-pin connector at rear of the module. Rack chassis: derived from the chassis PSU via the 30-pin connector at rear of the module.)</i>
Card Protection	Poly Fuse (1 A)
Current Consumption	Max. 500mA

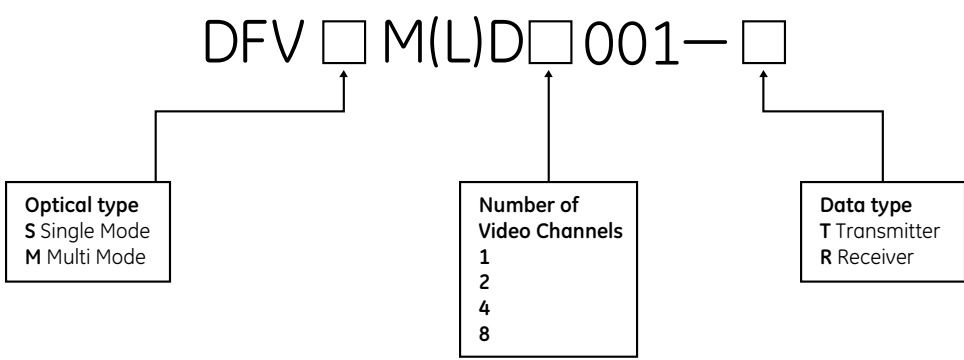
Application Diagram



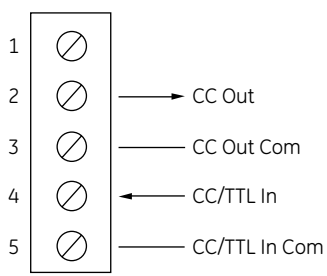
Model Number Key

DF	10 bit rack/module	SM	Single mode	First digit	Number of video channels
F	8 bit rack/module	MM	Multimode	Second digit	Number of audio channels
MF	8 bit module only	L	Long distance	Third digit	Number of data channels
V	Video	D	Duplex	Fourth digit	Number of contact closures
D	Data	F	Forward data Only 8 channel CC	T	Transmitter
A	Audio			R	Receiver
CC	Contact Closure				

Part Number Key



Pin Connections



Ordering Information

North America
T 888-GE-SECURITY
888-437-3287
F 503-691-7566

Asia
T 852-2907-8108
F 852-2142-5063

Australia and New Zealand
T 613-9239-1200
F 613-9239-1299

Europe
T 32-2-719-98-47
F 32-2-719-98-46

Latin America
T 305-593-4301
F 305-593-4300

Specifications subject to
change without notice.

© 2010 General Electric Company
All Rights Reserved

Product Type	Model	Description	Opt. PWR. Budget dB		Max. Distance Km	No. of Slots	
			1310nm	1550nm			
(I) Single-mode	(i) 1V+CC	(a) DFVSMD1001-T	1-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	18	14	40	1
		(b) DFVSMD1001-R	1-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	18	14	40	1
	(ii) 2V+CC	(a) DFVSMD2001-T	2-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	25	14	40	1
		(b) DFVSMD2001-R	2-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	25	14	40	1
	(iii) 4V+CC	(a) DFVSMD4001-T	4-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	12	14	40	2
		(b) DFVSMD4001-R	4-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	12	14	40	2
	(iv) 8V+CC	(a) DFVSMD8001-T	8-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	18	14	40	2
		(b) DFVSMD8001-R	8-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	18	14	40	2
(II) Single-mode (For Long Distance Transmission)	(i) 1V+CC	(a) DFVSMLD1001-T	1-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	25	19	60	1
		(b) DFVSMLD1001-R	1-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	25	19	60	1
	(ii) 2V+CC	(a) DFVSMLD2001-T	2-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	25	19	60	1
		(b) DFVSMLD2001-R	2-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	25	19	60	1
	(iii) 4V+CC	(a) DFVSMLD4001-T	4-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	25	19	60	2
		(b) DFVSMLD4001-R	4-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	25	19	60	2
	(iv) 8V+CC	(a) DFVSMLD8001-T	8-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	25	19	60	2
		(b) DFVSMLD8001-R	8-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	25	19	60	2
(III) Multi-mode (62.5/125µm)	(i) 1V+CC	(a) DFVMMD1001-T	1-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	12	12	4	1
		(b) DFVMMD1001-R	1-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	12	12	4	1
	(ii) 2V+CC	(a) DFVMMD2001-T	2-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	10	10	3	1
		(b) DFVMMD2001-R	2-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	10	10	3	1
	(iii) 4V+CC	(a) DFVMMD4001-T	4-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	8	8	2	2
		(b) DFVMMD4001-R	4-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	8	8	2	2
	(iv) 8V+CC	(a) DFVMMD8001-T	8-Ch. Video Transmitter and 1-Ch. Bi-Directional Control Transceiver	8	8	1	2
		(b) DFVMMD8001-R	8-Ch. Video Receiver and 1-Ch. Bi-Directional Control Transceiver	8	8	1	2

Accessories DFR. 19' Rack mount chassis (purchased separately) for housing modules

Options ST type connector is standard

Notes: Transmission distance will suffer if additional losses are introduced by the optical connectors, fusions, splices and the fibers within the network. Operating distance of multimode is limited by the characteristics of the fiber bandwidth

