

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) with bi-directional data up to two 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 60Km. 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 and SECAM video systems
- No video degradation over max. operating distance

Data

- Supports one or two bi-directional data
- Supports multi-protocol data in RS232, RS422 & RS485 2 or 4-Wire Tri-state formats
- External access for data format selection via DIP switches

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 and RFI and elimination of ground loop
- Transient voltage protection on power supply and all signal inputs and outputs
- Robust design for harsh environment applications

Single-, Two-, Four-, Eight-Channel Video (10-Bit) Transmitter/Receiver

with Single- or Dual-Channel
Bi-directional Data 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

Data

Data Direction	Bi-directional Duplex
Data Interface	RS232, RS422, RS485 2 or 4-wire Tri-state
Selection Method	DIP switch-selectable
Data Rate	0~115,200bps
Data Protocol	Protocol transparency
Line Carrier Detection	RS485 (2/4-wire) Tri-state output
Data Tx & Rx Status	Green/Red LED lit
Input/Output Connectors	7-pin screw terminals

Optical

Wavelength	1310 and 1550
Number of Fiber	1
Tx Output Power:	
Single Mode (40Km) 1V+1D & 1V+2D	1310nm & 1550nm -9dBm ± 3 dBm
Single Mode (40Km) 2V+1D, 2V+2D, 4V+1D, 4V+2D, 8V+1D & 8V+2D	1310nm & 1550nm -8dBm ± 3 dBm, -6dBm ± 2 dBm
Multi-mode (4Km) 1V+1D & 1V+2D	1310nm & 1550nm -7dBm ± 3 dBm
Multi-Mode (2Km) 2V+1D, 2V+2D, 4V+1D, 4V+2D, 8V+1D & 8V+2D	1310nm & 1550nm -7dBm ± 3 dBm
Optical Budget:	
Multi-mode (62.5µm/125µm)	12dB (1V+1D & 1V+2D) 10dB (2V+1D & 2V+2D) 8dB (4V+1D, 4V+2D, 8V+1D & 8V+2D)
Single-mode (9µm/125µm)	18dB (wavelength in 1310nm) 14dB (wavelength in 1550nm)
Single-mode (9µm/125µm) - Long Haul	19dB (wavelength in 1550nm) 25dB (wavelength in 1310nm)
Transmission Distance:	
Multi-Mode (Limited by Fiber Bandwidth)	4Km (DFVMMD101-T/R & DFVMMD102-T/R), 3Km (DFVMMD201-T/R & DFVMMD202-T/R) 2Km (DFVMMD401-T/R & DFVMMD402-T/R), 1Km (DFVMMD801-T/R & DFVMMD802-T/R)
Single-Mode	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) 0.74kg 1-slot (b) 1.07kg 2-slot (c) 1.27kg 3-Slot

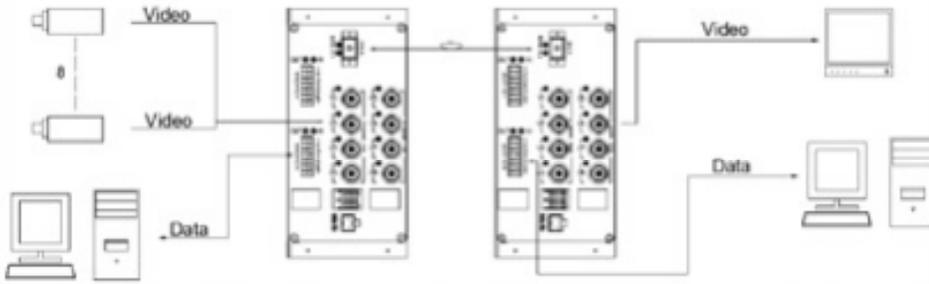
Environmental

Operating Temperature	-40° C to +75° C
Storage Temperature	-40° C to +85° C
Relative Humidity	0 to 95% non-condensing

Power Requirement

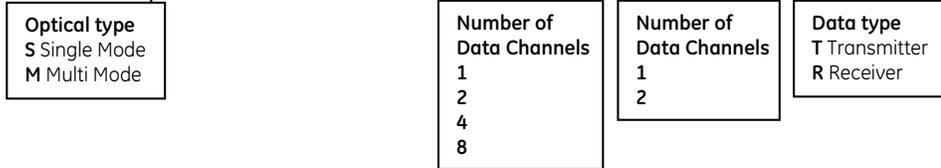
Supply Voltage	12V DC (Standalone: derived from an external adaptor via the 2-pin connector at rear of the module. Rack chassis: derived from the chassis PSU via the 30-pin connector at rear of the module.)
Card Protection	Poly Fuse (1 A)
Current Consumption	Max. 500mA

Application Diagram



Part Number Key

DFV M(L)D 802 —



Model Number Key

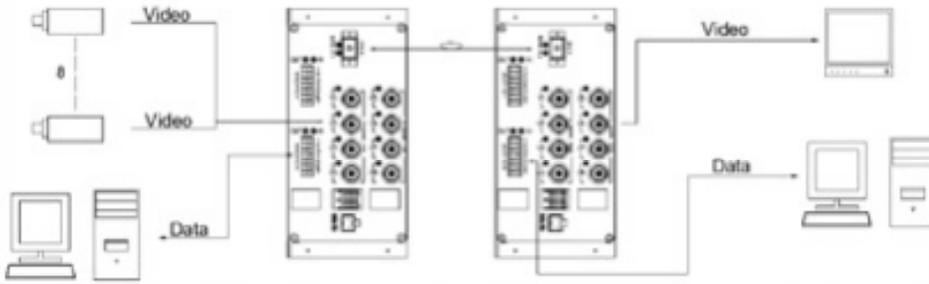
DF	10 bit rack/module	SM	Single mode
F	8 bit rack/module	MM	Multimode
MF	8 bit module only	L	Long distance
V	Video	D	Duplex
D	Data		
A	Audio		
CC	Contact Closure		

First digit	Number of video channels
Second digit	Number of audio channels
Third digit	Number of data channels
Forth digit	Number of contact closures
T	Transmitter
R	Receiver

Ordering Information

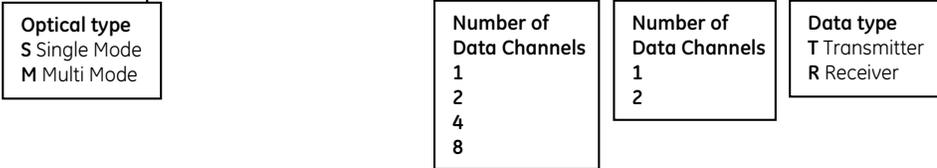
Product Type	Model	Description	Opt. PWR. Budget dB		Max. Distance Km	No. of Slots	
			1310nm	1550nm			
(I) Single-mode (9/125µm)	(i) V+D	DFVSMD101-T	1-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	18	14	40	1
		DFVSMD101-R	1-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	18	14	40	1
	(ii) V+2D	DFVSMD102-T	1-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	18	14	40	1
		DFVSMD102-R	1-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	18	14	40	1
	(iii) 2V+D	DFVSMD201-T	2-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	18	14	40	1
		DFVSMD201-R	2-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	18	14	40	1
	(iv) 2V+2D	DFVSMD202-T	2-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	18	14	40	2
		DFVSMD202-R	2-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	18	14	40	2
	(v) 4V+D	DFVSMD401-T	4-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	18	14	40	2
		DFVSMD401-R	4-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	18	14	40	2
	(vi) 4V+2D	DFVSMD402-T	4-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	18	14	40	2
		DFVSMD402-R	4-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	18	14	40	2
	(vii) 8V+D	DFVSMD801-T	8-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	18	14	40	2
		DFVSMD801-R	8-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	18	14	40	2
	(viii) 8V+2D	DFVSMD802-T	8-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	18	14	40	3
		DFVSMD802-R	8-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	18	14	40	3

Application Diagram



Part Number Key

DFV M(L)D 802 —



Model Number Key

DF	10 bit rack/module	SM	Single mode
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MF	8 bit module only	L	Long distance
V	Video	D	Duplex
D	Data		
A	Audio		
CC	Contact Closure		

First digit	Number of video channels
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T	Transmitter
R	Receiver

Ordering Information

Product Type	Model	Description	Opt. PWR. Budget dB	Max. Distance Km	No. of Slots	
			1310nm			
(III) Multi-mode (62.5/125µm)	(i) V+D	DFVMMD101-T	1-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	12	4	1
		DFVMMD101-R	1-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	12	4	1
	(ii) V+2D	DFVMMD102-T	1-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	12	4	1
		DFVMMD102-R	1-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	12	4	1
	(iii) 2V+D	DFVMMD201-T	2-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	10	2	1
		DFVMMD201-R	2-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	10	2	1
	(iv) 2V+2D	DFVMMD202-T	2-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	10	2	2
		DFVMMD202-R	2-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	10	2	2
	(v) 4V+D	DFVMMD401-T	4-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	10	2	2
		DFVMMD401-R	4-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	10	2	2
	(vi) 4V+2D	DFVMMD402-T	4-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	10	2	2
		DFVMMD402-R	4-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	10	2	2
	(vii) 8V+D	DFVMMD801-T	8-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	8	2	2
		DFVMMD801-R	8-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	8	2	2
	(viii) 8V+2D	DFVMMD802-T	8-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	8	2	3
		DFVMMD802-R	8-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	8	2	3

Ordering Information (continued)

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.

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Product Type	Model	Description	Opt. PWR. Budget dB		Max. Distance Km	No. of Slots	
			1310nm	1550nm			
(iii) Single-mode (9/125µm) For Long Distance	(i) V+D	DFVSMLD101-T	1-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	25	19	60	1
		DFVSMLD101-R	1-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	25	19	60	1
	(ii) V+2D	DFVSMLD102-T	1-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	25	19	60	1
		DFVSMLD102-R	1-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	25	19	60	1
	(iii) 2V+D	DFVSMLD201-T	2-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	25	19	60	1
		DFVSMLD201-R	2-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	25	19	60	1
	(iv) 2V+2D	DFVSMLD202-T	2-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	25	19	60	2
		DFVSMLD202-R	2-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	25	19	60	2
	(v) 4V+D	DFVSMLD401-T	4-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	25	19	60	2
		DFVSMLD401-R	4-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	25	19	60	2
	(vi) 4V+2D	DFVSMLD402-T	4-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	25	19	60	2
		DFVSMLD402-R	4-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	25	19	60	2
	(vii) 8V+D	DFVSMLD801-T	8-Ch. Video Transmitter and 1-Ch. Bi-Directional Data Transceiver	25	19	60	2
		DFVSMLD801-R	8-Ch. Video Receiver and 1-Ch. Bi-Directional Data Transceiver	25	19	60	2
	(viii) 8V+2D	DFVSMLD802-T	8-Ch. Video Transmitter and 2-Ch. Bi-Directional Data Transceiver	25	19	60	3
		DFVSMLD802-R	8-Ch. Video Receiver and 2-Ch. Bi-Directional Data Transceiver	25	19	60	3

