

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 audio 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 audio 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.

Single-, Two-, Four-, Eight-Channel Video (10-Bit) Transmitter/Receiver and Single- or Dual-Channel Bi-directional Audio Transceiver



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

Audio

- 24-Bit Digitally Encoded Audio Transmission
- Supports one bi-directional Audio transmission
- 20Hz – 20KHz Bandwidth
- Transmit Balanced or Unbalanced Line-level Audio selection via DIP switches

LEDs

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

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



Specifications

Video		
Number of Channels	1, 2, 4, 8	
Color Systems	NTSC	PAL
I/O Impedance	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%	
Differential Phase:	<1 Degree Typical	
SNR-CCIR Weighted	≥ 60dB	
Tilt	<1 %	
K-factor	<1%	<1.5%
Signal Indication (Video Presence/Absence)	Green/Red LED lit	
Input/Output Connectors	BNC	

Audio	
Direction	Bi-directional
Input Type	Balanced or Unbalanced
Output Type	Line-level Audio
Input/Output Impedance	10KΩ/600Ω
Output Level (input 1KHz @ 0dBm)	0 dBm
Bandwidth	20Hz-20KHz
Signal-to-Noise Ratio (SNR)	≥ 66dB
THD (Ref.: 1KHz, 0dBm)	<1 %
Input/Output Indications	LEDs (Green lit/OFF)
Input/Output Connectors	5-pin screw terminals

Optical			
Wavelength	1350 and 1550		
Number of Fiber	1		
Tx Output Power			
Single-Mode (40Km) 1V+1A & 1V+2A	1310nm & 1550nm	-9dBm ± 3 dBm	
Single-Mode (40Km) 2V+1A, 2V+2A, 4V+1A, 4V+2A, 8V+1A & 8V+2A	1310nm & 1550nm	-8dBm ± 3 dBm -6dBm ± 2 dBm	
Multi-Mode (4Km) 1V+1A & 1V+2A	1310nm & 1550nm	-7dBm ± 3 dBm	
Multi-Mode (2Km) 2V+1A, 2V+2A, 4V+1A, 4V+2A, 8V+1A & 8V+2A	1310nm & 1550nm	-7dBm ± 3 dBm	
Optical Budget			
Multi-mode (62.5µm/125µm)	12dB (1V+1A & 1V+2A)	10dB (2V+1A & 2V+2A)	
	8dB (4V+1A, 4V+2A, 8V+1A & 8V+2A)	18dB (wavelength in 1310nm)	
Single-mode (9µm/125µm)	14dB (wavelength in 1550nm)	25dB (wavelength in 1310nm)	
	19dB (wavelength in 1550nm)	19dB (wavelength in 1550nm)	
Transmission Distance			
Multi-Mode (Limited by Fiber Bandwidth)	4Km (DFVMMD11-T/R & DFVMMD12-T/R)	3Km (DFVMMD21-T/R & DFVMMD22-T/R)	
	2Km (DFVMMD41-T/R & DFVMMD42-T/R)	1Km (DFVMMD81-T/R & DFVMMD82-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	25.4 x 158.4 x 231.8 1-Slot 50.8 x 158.4 x 231.8 2-Slot 76.2 x 158.4 x 231.8 3-Slot
Shipping Weight	0.74kg 1-slot 1.07kg 2-slot 1.27kg 3-slot

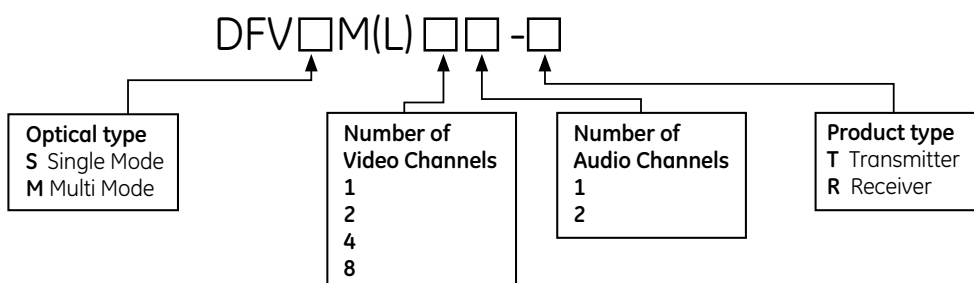
Environmental	
Operating Temp	-40 C to +75 C
Storage Temp	-40 C to +85 C
Relative Humidity	0 to 95% non-condensing

Power Requirement	
Supply Voltage	12VDC 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 connector at rear of the module.
Cord Protection	Poly Fuse (1A)
Current Consumption	Max. 500mA

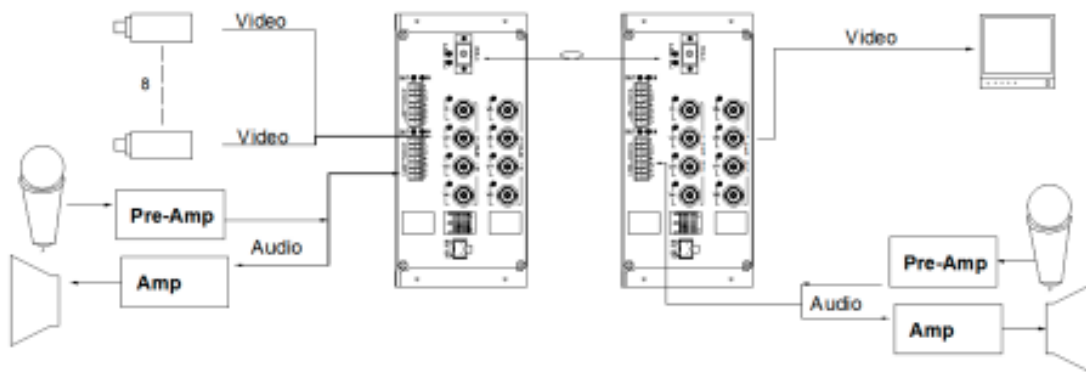
Model Number Key

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

Part Number Key



Application Diagram



Ordering Information

Fiber Type	Part Number	Description	Opt. PWR. Budget dB		Max. Distance (Km)	No. of slots	
			1310nm	1550nm			
(I) Single-mode (9/125µm)	(i)V+A	DFVSMD11-T	1-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	18	14	40	1
		DFVSMD11-R	1-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	18	14	40	1
	(ii)V+2A	DFVSMD12-T	1-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	18	14	40	1
		DFVSMD12-R	1-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	18	14	40	1
	(iii)2V+A	DFVSMD21-T	2-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	18	14	40	1
		DFVSMD21-R	2-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	18	14	40	1
	(iv)2V+2A	DFVSMD22-T	2-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	18	14	40	2
		DFVSMD22-R	2-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	18	14	40	2
	(v)4V+A	DFVSMD41-T	4-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	18	14	40	2
		DFVSMD41-R	4-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	18	14	40	2
	(vi)4V+2A	DFVSMD42-T	4-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	18	14	40	2
		DFVSMD42-R	4-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	18	14	40	2
	(vii)8V+A	DFVSMD81-T	8-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	18	14	40	2
		DFVSMD81-R	8-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	18	14	40	2
	(viii)8V+2A	DFVSMD82-T	8-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	18	14	40	3
		DFVSMD82-R	8-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	18	14	40	3
(II) Single-mode (9/125µm) For Long Distance	(i)V+A	DFVSMLD11-T	1-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	25	19	60	1
		DFVSMLD11-R	1-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	25	19	60	1
	(ii)V+2A	DFVSMLD12-T	1-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	25	19	60	1
		DFVSMLD12-R	1-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	25	19	60	1
	(iii)2V+A	DFVSMLD21-T	2-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	25	19	60	1
		DFVSMLD21-R	2-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	25	19	60	1
	(iv)2V+2A	DFVSMLD22-T	2-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	25	19	60	2
		DFVSMLD22-R	2-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	25	19	60	2
	(v)4V+A	DFVSMLD41-T	4-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	25	19	60	2
		DFVSMLD41-R	4-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	25	19	60	2
	(vi)4V+2A	DFVSMLD42-T	4-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	25	19	60	2
		DFVSMLD42-R	4-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	25	19	60	2
	(vii)8V+A	DFVSMLD81-T	8-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	25	19	60	2
		DFVSMLD81-R	8-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	25	19	60	2
	(viii)8V+2A	DFVSMLD82-T	8-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	25	19	60	3
		DFVSMLD82-R	8-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	25	19	60	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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Fiber Type	Part Number	Description	Opt. PWR. Budget dB		Max. Distance (Km)	No. of slots	
			1310nm	1550nm			
(III) Multi-mode (62.5/125µm)	(i)V+A	DFVMMD11-T	1-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	12	12	4	1
		DFVMMD11-R	1-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	12	12	4	1
	(ii)V+2A	DFVMMD12-T	1-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	12	12	4	1
		DFVMMD12-R	1-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	12	12	4	1
	(iii)2V+A	DFVMMD21-T	2-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	10	10	3	1
		DFVMMD21-R	2-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	10	10	3	1
	(iv)2V+2A	DFVMMD22-T	2-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	10	10	3	2
		DFVMMD22-R	2-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	10	10	3	2
	(v)4V+A	DFVMMD41-T	4-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	8	8	2	2
		DFVMMD41-R	4-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	8	8	2	2
	(vi)4V+2A	DFVMMD42-T	4-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	8	8	2	2
		DFVMMD42-R	4-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	8	8	2	2
	(vii)8V+A	DFVMMD81-T	8-Ch. Video Transmitter and 1-Ch. Bi-directional Audio Transceiver	8	8	1	2
		DFVMMD81-R	8-Ch. Video Receiver and 1-Ch. Bi-directional Audio Transceiver	8	8	1	2
	(viii)8V+2A	DFVMMD82-T	8-Ch. Video Transmitter and 2-Ch. Bi-directional Audio Transceiver	8	8	1	3
		DFVMMD82-R	8-Ch. Video Receiver and 2-Ch. Bi-directional Audio Transceiver	8	8	1	3

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

