

Fiber Transmission Products

Single-Channel Video (8-Bit) Transmitter/Receiver

Overview

The video, data, audio and contact closure series fiber transmission products support optical transmission of 8-Bit PCM coded video, bi-directional data, bi-directional audio and bi-directional contact closure through one fiber either in multi-mode or single-mode. Adjustment and maintenance free, these modules are universally compatible with major CCTV camera manufacturers and support data, audio and control interface.

A cost-effective single unit design, this product is well-suited for in field configuration and also accommodates installation and system growth while delivering long operating distances of up to 60 Km. Featuring robust construction well suited for harsh environments the unit is available in both rack mount and wall mount configuration. Plug-and-Play design ensures ease of installation requiring no electrical or optical adjustments.

Standard Features

Video

- Non-compressed 8-Bit Digitally Encoded Video Transmission
- Support NTSC & PAL 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

Control

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

Audio

- Supports one bi-directional Audio transmission
- 20 Hz – 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

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

Other

- 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-Channel

Video (8-Bit) Transmitter/Receiver

with Bi-directional Data, Bi-directional Contact Closure
and Bi-directional Audio Transceiver



Specifications

Video		
Number of Channels	1	
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	
Number of Channels	1
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

Contact Closures	
Number of Channels	1
Direction	Bi-directional
Input Type	TTL Logic (positive)/ Dry Contract
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

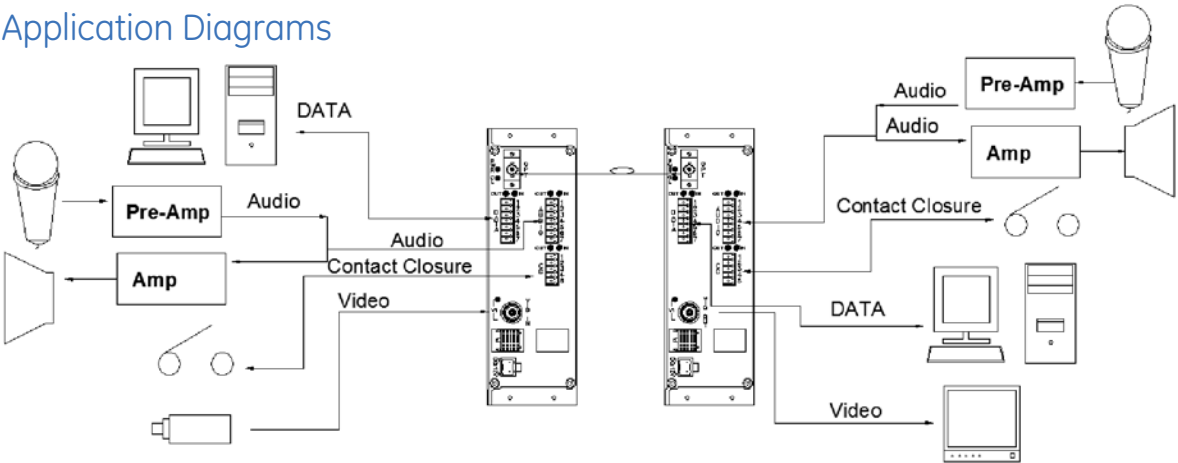
Audio	
Number of Channels	1
Direction	Bi-directional
Input Type	Balanced or Unbalanced Line-level Audio
Output Type	
Input/Output Impedance	10KΩ/600Ω
Output Level (input 1KHz @ 0dBm)	0 dBm
Bandwidth	20Hz-20KHz
Signal-to-Noise Ration (SNR)	≥ 66dB
THD (Ref.: 1KHz, 0dBm)	<1 %
Input/Output Indications	LEDs (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)	1310nm & 1550nm	-9dBm± 3 dBm
Multi-mode (4Km)	1310nm & 1550nm	-7dBm ± 3 dBm
Optical Budget:		
Multi-mode (62.5µm/125µm)	12dB	
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 1550nm)	
Transmission Distance:		
Multi-Mode (Limited by Fiber Bandwidth)	4Km	
Single-Mode	40Km	
Single-Mode (Long Haul Version)	60Km	
Fiber Connector (Standard Supply)	ST	

Specifications (continued)

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

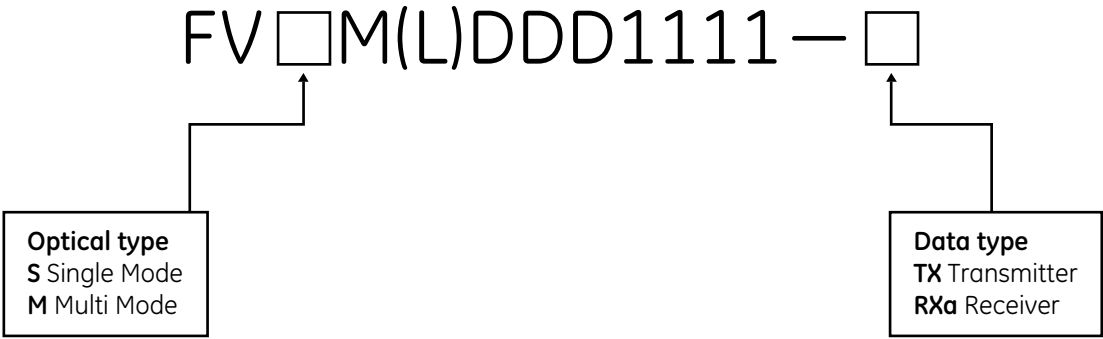
Application Diagrams



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	MF	8 bit module only	Third digit	Number of data channels
V	Video	L	Long distance	Forth digit	Number of contact closures
D	Data	D	Duplex	T	Transmitter
A	Audio	F	Forward	R	Receiver
CC	Contact Closure	F	Forward		
			8 CH CC only		

Part Number Key



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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Ordering Information

Fiber Type	Part Number	Description	Opt. PWR. Budget dB		Max. Distance (Km)	No. of slots
			1310nm	1550nm		
(I) Single-mode (9/125µm)	FVSMDDD1111-TX	1-Ch. Video Transmitter with Bi-directional Data, Audio and Contact Closure Transceiver	18	14	40	1
	FVSMDDD1111-RX	1-Ch. Video Receiver with Bi-directional Data, Audio and Contact Closure Transceiver	18	14	40	1
(II) Single-mode (9/125µm For Long Distance Transmission)	FVSMLEDD1111-TX	1-Ch. Video Transmitter with Bi-directional Data, Audio and Contact Closure Transceiver	25	19	60	1
	FVSMLEDD1111-RX	1-Ch. Video Receiver with Bi-directional Data, Audio and Contact Closure Transceiver	25	19	60	1
(III) Multi-mode (62.5/125µm)	FVMMDDD1111-TX	1-Ch. Video Transmitter with Bi-directional Data, Audio and Contact Closure Transceiver	12	12	4	1
	FVMMDDD1111-RX	1-Ch. Video Receiver with Bi-directional Data, Audio and Contact Closure Transceiver	12	12	4	1

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

