

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 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 |

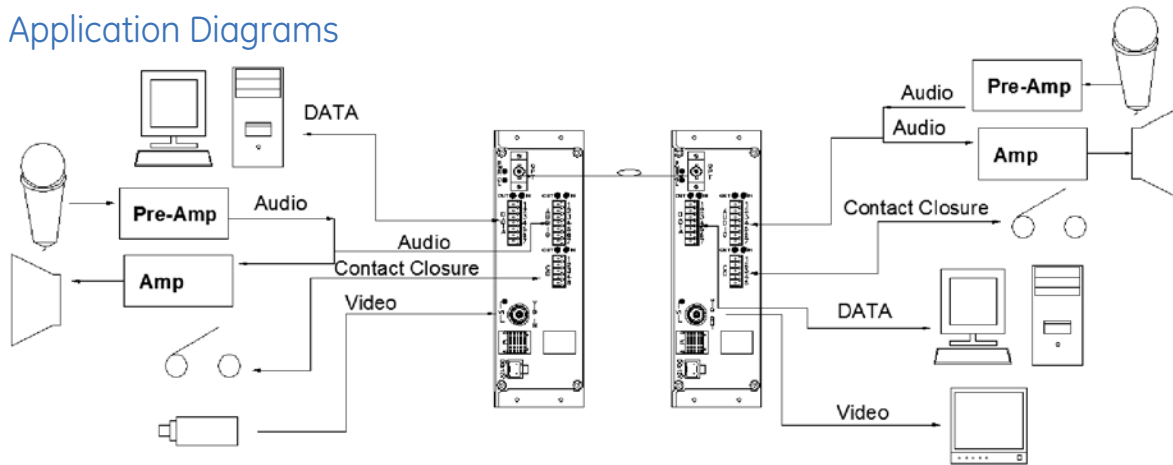
| Audio | |
|----------------------------------|---|
| Number of Channels | 1 |
| Direction | Bi-directional |
| Input Type | Balanced or Unbalanced Line-level Audio |
| Output Type | |
| Input/Output Impedance | 10KΩ/600Ω |
| Output Level (input 1KHz @ 0dBm) | 0 dBm |
| Bandwidth | 20Hz-20KHz |
| Signal-to-Noise 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 |

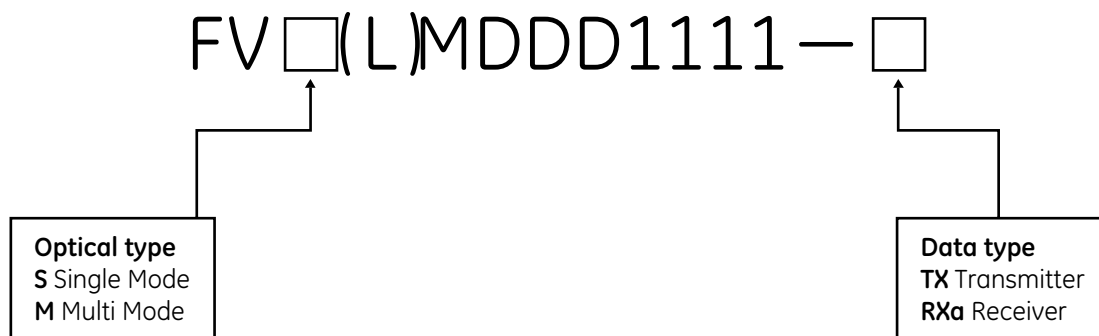
Application Diagrams



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 8 CH CC only | R | Receiver |
| CC | Contact Closure | | | | |

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

