

4-channel digitally encoded video  
+ 2 bi-directional data channels  
+ 1 bi-directional contact closure



## Description

The ComNet™ FVT/FVR412(M)(S)1 Series transmits four (4) channels of video utilizing state of the art digital encoding and decoding for high-quality video transmission, along with two (2) channels of bi-directional data and one (1) bi-directional contact closure over one single mode or multimode optical fiber. This equipment is environmentally hardened and suitable for use in unconditioned roadside or out-of plant installations. The FVT/FVR412 is compatible with NTSC, PAL and SECAM video transmission protocols and supports bi-directional RS232, 422 and 485 (2 & 4 Wire) data. Plug-and-play design ensures ease of installation and no electrical or optical adjustments are required. Bi-Color LED indicators are provided to indicate the status of the system, video and data. Packaged in the exclusive ComNet ComFit housing, these units may be either wall or rack-mounted, or may be DIN-rail mounted by the addition of ComNet model DINBKT1 adaptor plate. No additional parts or power supplies are required.

## Applications

- Multiple CCTV with PTZ

## Features

- Digitally encoded video transmission: transmits 4 real-time color video signals and 2 bi-directional data signals on one optical fiber
- Supports RS232, RS422, and 2- or 4-wire RS485
- One bi-directional contact closure
- Compatible with all NTSC, PAL, or SECAM CCTV camera systems
- Tested and certified by an independent laboratory for full compliance with the environmental requirements (ambient operating temperature, mechanical shock, vibration, humidity with condensation, high-line/low-line voltage conditions and transient voltage protection) of NEMA TS-1/TS-2 and the Caltrans Specification for Traffic Signal Control Equipment.
- Voltage transient protection on all power and signal input/output lines provides unconditional protection from power surges and other voltage transient events.
- Robust design ensures extremely high reliability in unconditioned out-of-plant environments
- Bi-color (Red/Green) LED status indicators provide rapid indication of critical operating parameters
- Hot-swappable rack modules
- Interchangeable between stand-alone or rack mount use
  - ComFit
- Five year warranty

**specifications**

**VIDEO**

Video Input: 1 volt pk-pk (75 ohms)  
 Overload: >1.5V pk-pk  
 # Input/Output Channels: 4  
 Bandwidth (minimum): 10 Hz - 6.5 MHz per channel  
 Differential Gain: <4%  
 Differential Phase: <0.7°  
 Tilt: <1%  
 Signal-to-Noise Ratio (SNR): 57 dB Typical  
 Max. RG-59 COAX Distance: 100m (300ft) Camera to Fiber Optic Module to maintain 6Mhz Bandwidth

**DATA**

Data Channels: 2  
 Data Interface: RS232, RS422 and RS485 (2W/4W)  
 Data Format: NRZ, NRZI, Manchester, Bi-Phase and Sensornet  
 Data Rate: DC-250 Kbps (NRZ)  
 Bit Error Rate: <1 in 10-9 @ Maximum Optical Loss Budget  
 Operating Mode: Simplex or Full-Duplex

**CONTACT**

Contact Interface: Response Time 0.5 msec  
 Input: Dry Contact Closure  
 Output: SPST Relay, 0.5 A Contact Rating – normally open

**WAVELENGTH**

**NUMBER OF FIBERS**

**LED INDICATORS**

- 1 - Video Sync Presence for Each Video Channel
- Received Data - Transmitted Data
- Optical Carrier Detect

**OPTICAL EMITTER CONNECTORS**

Laser Diode

Optical: ST  
 Power: Terminal Block  
 Video: BNC (Gold Plated Center-Pin)  
 Data: Terminal Block

**ELECTRICAL & MECHANICAL**

Power: 8-15 VDC @ 4W  
 Surface Mount: From Rack  
 Rack Mount: 2  
 Number of Rack Slots: Automatic Resettable Solid-State Current Limiters  
 Current Protection: Meets IPC Standard

Circuit Board: 6.1 x 5.3 x 3.3 in., (15.5 x 13.5 x 8.3 cm)  
 Size (in./cm) (LxWxH): <2 lb./0.9 kg  
 Shipping Weight:

**ENVIRONMENTAL**

MTBF: >100,000 hours  
 Operating Temp: -40° C to +75° C  
 Storage Temp: -40° C to +85° C  
 Relative Humidity: 0% to 95% (non-condensing)†

† May be extended to condensation conditions by adding suffix '/C' to model number for conformal coating.



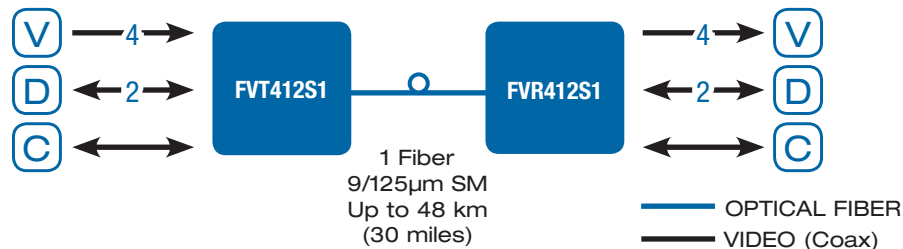
PART NUMBER	DESCRIPTION	FIBERS REQUIRED	FIBER	OPTICAL PWR BUDGET	MAX. DISTANCE**	# RACK SLOTS
FVT412M1	Video Transmitter/Data Transceiver (1310/1550 nm)	1	Multimode 62.5/125µm	16 dB	2 km (1.2 miles)	2
FVR412M1	Video Receiver/Data Transceiver (1550/1310 nm)					
FVT412S1	Video Transmitter/Data Transceiver (1310/1550 nm)	1	Single Mode 9/125µm	23 dB	69 km (43 miles)	2
FVR412S1	Video Receiver/Data Transceiver (1550/1310 nm)					
Accessories	9 Volt DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included)					
Options	Add '/C' for Conformally Coated Circuit Boards (Extra charge, consult factory) DIN-Rail Mounting Adaptor Plate Kit – With mounting hardware (Optional, order model DINBKT1)					

NOTE: This product requires a fiber installation with a minimum 30 dB connector return loss. The use of Super Polish Connectors is recommended.

\*\*Distance may be limited by optical dispersion.

Complies with FDA Performance Standard for Laser Products, Title 21, Code of Federal Regulations, Subchapter J

In a continuing effort to improve and advance technology, product specifications are subject to change without notice.



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