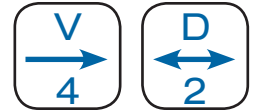


## 4-channel digitally-encoded video + 2 bi-directional data channels transmitter and receiver



### Description

The ComNet™ FVT412M1 and FVR412M1 transmit 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 over one 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 RS485 (2 & 4 Wire) data. Plug-and-play design ensures ease of installation and no electrical or optical adjustments are required.

Bi-Color (RED/GREEN) 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

- High-Performance CCTV (Fixed Video)

### 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
- 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
- Lifetime 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 <sup>9</sup> @ Maximum Optical Loss Budget
Operating Mode:	Simplex or Full-Duplex

### WAVELENGTH

1310/1550 nm, Multimode

### NUMBER OF FIBERS

1

### LED INDICATORS

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

### OPTICAL EMITTER

Laser Diode

### CONNECTORS

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 × 5.3 × 3.3 in., (15.5 × 13.5 × 8.3 cm)
Size (in./cm) (L×W×H):	<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) <sup>†</sup>

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

#### AGENCY COMPLIANCE



MADE IN THE  
**USA**

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	3 km (2 miles)	2
FVR412M1	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.

