



The ComNet™ FVT412M1 and FVR412M1 transmit four channels of video utilizing state of the art digital encoding and decoding for high-quality video transmission, along with two 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, RS422 and RS485 (2 & 4 Wire) data. Plug-and-play design ensures ease of installation and no electrical or optical adjustments are required.

## 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
- › Designed to meet 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 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
- › May be DIN-rail mounted with the ComNet model DINBKT4 adaptor (sold separately)
- › Lifetime Warranty

## APPLICATIONS

- › High-Performance CCTV (Fixed Video)

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

Contact

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

Wavelength

1310/1550 nm, Multimode and Single Mode

Number Of Fibers

1

Indicating LEDs

- 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
Contact	Terminal Block

Power

Operating Voltage Range	8 to 15 VDC
Power Consumption	4W

Electrical & Mechanical

Number of Rack Slots:	2
Current Protection:	Automatic Resettable Solid-State Current Limiters
Circuit Board:	Meets IPC Standard
Size	6.1 × 5.3 × 3.3 in (15.5 × 13.5 × 8.3 cm)
Shipping Weight	<2 lb./0.9 kg

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>1</sup>

AGENCY COMPLIANCE



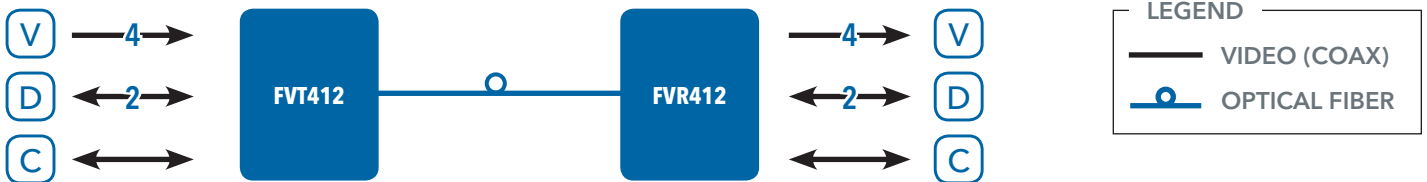
INCLUDED IN KIT

Part Number	Description	Fiber	Optical Pwr Budget	Max. Distance <sup>2</sup>
FVT412M1	Video Transmitter/Data, Contact Transceiver (1310/1550 nm)	Multimode 62.5/125µm	16 dB	2 km (1.2 mi)
FVR412M1	Video Receiver/Data, Contact Transceiver (1550/1310 nm)	Multimode 62.5/125µm	16 dB	2 km (1.2 mi)
Accessories	2 × DC Power Supply (included)			
Options	[1] Add suffix 'C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory)			

[2] Distance may be limited by optical dispersion.

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

TYPICAL APPLICATION



Low Power Consumption