Description
The ComNet FVT/FVR8014(M)(S)1 Series transmits eight (8) channels of 10-Bit Digital Video along with four (4) channels of bi-directional data over one single mode or multimode optical fiber. The video quality exceeds RS-250C for medium-haul video transmission. This equipment is environmentally hardened and suitable for use in unconditioned roadside or out-of-plant installations. The FVT/FVR8014 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 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.

Features
- 10-bit digital video transmission: transmits 8 real-time color video signals and 4 bi-directional data signals on one optical fiber
- Supports RS232, RS422, and 2 or 4-wire RS485
- Exceeds all requirements for EIA RS-250C medium-haul transmission
- 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

Applications
- High-Performance CCTV (Fixed Video)
8-channel 10-bit digital medium-haul video + 4 bi-directional data channels

**VIDEO**
- Video Input: 1 volt pk-pk (75 ohms)
- Overload: >1.5V pk-pk
- # Input/Output Channels: 8
- Bandwidth (minimum): 10 Hz - 6.5 MHz per channel
- Differential Gain: <2%
- Differential Phase: <0.7˚
- Tilt: <1%
- Signal-to-Noise Ratio (SNR): 67 dB Typical
- Max. RG-59 COAX Distance: 100m (300ft) Camera to Fiber Optic Module to maintain 6Mhz Bandwidth

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

**WAVELENGTH**
- 1310/1550 nm, Multimode and Single Mode

**NUMBER OF FIBERS**
- 1
  - 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: RJ45 (5 pcs. Included)

**ELECTRICAL & MECHANICAL**
- Surface Mount: 8-15 VDC @ 4W
- Rack Mount: From Rack
- Number of Rack Slots: 3
- Current Protection: Automatic Resettable Solid-State Current Limiters
- Circuit Board: Meets IPC Standard
- Size: (in./cm) (L×W×H): 6.1 x 5.3 x 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)*

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

**PART NUMBER**
- **FIBERS REQUIRED**
- **FIBER**
- **OPTICAL PWR BUDGET**
- **MAX. DISTANCE†**
- **# RACK SLOTS**

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<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>FIBERS REQUIRED</th>
<th>FIBER</th>
<th>OPTICAL PWR BUDGET</th>
<th>MAX. DISTANCE†</th>
<th># RACK SLOTS</th>
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<tbody>
<tr>
<td>FVT8014M1</td>
<td>Video Transmitter/Data Transceiver (1310/1550 nm)</td>
<td>1</td>
<td>Multimode 62.5/125µm</td>
<td>16 dB</td>
<td>2 km (1.2 miles)</td>
<td>3</td>
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<tr>
<td>FVR8014M1</td>
<td>Video Receiver/Data Transceiver (1550/1310 nm)</td>
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<tr>
<td>FVT8014S1</td>
<td>Video Transmitter/Data Transceiver (1310/1550 nm)</td>
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<td>Single Mode 9/125µm</td>
<td>16 dB†</td>
<td>48 km (30 miles)</td>
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<td>FVR8014S1</td>
<td>Video Receiver/Data Transceiver (1550/1310 nm)</td>
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**Accessories**
- 9 Volt DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included)
- (5) RJ45 - RJ45 Breakout Wiring Kit (Includes cable and terminal block)

**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. High bandwidth 50/125µm fiber is required to achieve maximum multimode distance. Contact ComNet tech support before using these units for distances greater than 2 km.

‡ Add "HP" for 23dB

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.