

# Video over Fiber Media Converter Kit



## Long Distance Analog Surveillance Transmission System

The analog cameras and DVRs are still applied mostly in traditional surveillance systems while the main stream turns to IP-based surveillance gradually. To help the analog camera deployment in long distances to provide high video transmission quality and reliable signal, PLANET develops the Video over Fiber media converter which successfully integrates the video signal and fiber optic transmission into a compact size mini box. The Video over Fiber media converter enables the videos to be delivered in high quality up to 20km long distance by the intelligent encoding / decoding technology. It is ideal for extending the distance and signal conversion by transmitting the video and data over the fiber-optic cable.

## Fiber Optic Communication for Video and Serial Data

This Video over Fiber Converter kit consists of a Video Transmitter and a Video Receiver:

- **VF-10x-T:** 1-channel Video over Fiber **Transmitter**
- **VF-10x-R:** 1-channel Video over Fiber **Receiver**

It is a digital **fiber-optic transmission system** which brings customer a cost-effective solution for transmission of 1 channel uncompressed digital video and 1 reverse **RS-485** a sync-data over one single fiber cable. It is an adjustable free device providing high quality and real-time video transmission. The system can be widely used in Intelligent Transportation Systems (ITS), traffic surveillance, security monitoring, automation control, intelligent residential districts and so on.

## Easy Installation

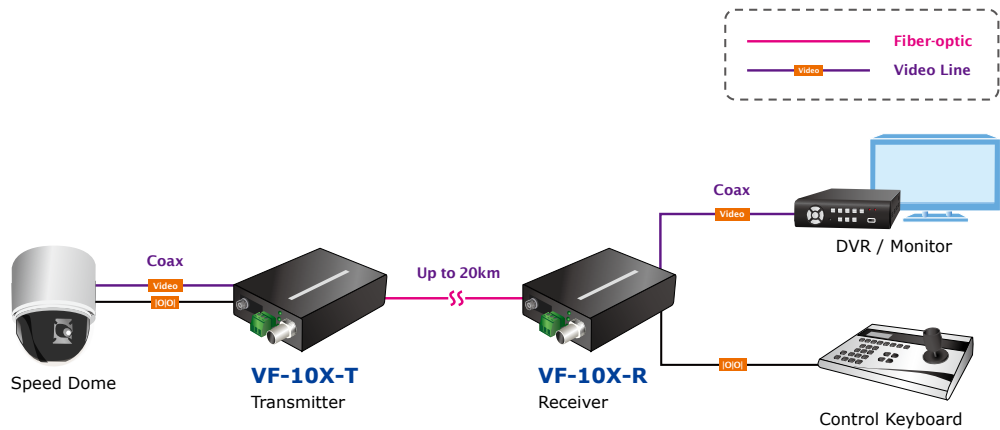
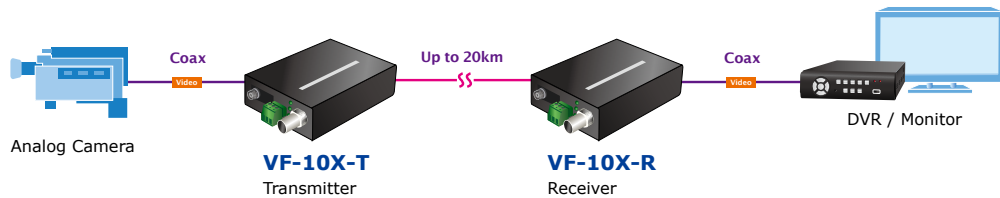
The VF-10x-KIT media conversion installation is quite easy by simply plug and play. They can be used as a stand-alone unit or as a slide-in module to the PLANET Media Converter Chassis (MC-700, MC-1500 and MC-1500R). When working with the media converter chassis, the media converter chassis provides DC power to VF-10x-T or VF-10x-R to maintain the video over fiber-optic transmission system at the central location.

- Video and Data over fiber transmission
- 8 bit Video Signal digital sampling
- PAL, NTSC, SECAM compatible
- 20km max. transmission distance
- Data Type: RS-485
- High-speed synchronous digital transmission technology
- Safe transmission guaranteed under poor electromagnetic environment
- Standalone or work with PLANET MC-700/1500/1500R media converter chassis
- Compact size, wall-mount design, easy installation



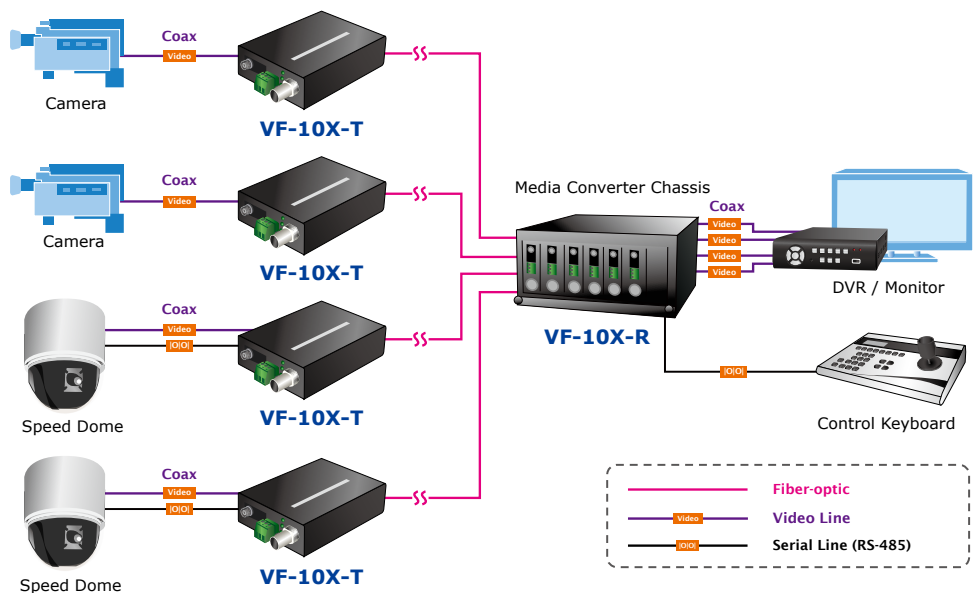
## Applications

The VF-10x-KIT consists of 1 channel video over fiber optical transceiver and receiver to transmit **video** and **RS-485** signal through a reliable single mode / single fiber link. It is an ideal, cost-effective solution for surveillance system that requires high display quality and high performance signal transmission over long distances. The VF-10x-KIT can be installed easily by **plug and play**, meaning the operator does not need to configure the pair of the video over fiber transmission in advance.



The transmitter and receiver can work stand-alone or slotted into a rack-mountable media converter chassis. The flexible and maintenance-free design fits in with different installation environments. Up to 20km distance of video camera deployment with one VF-10x-KIT ideally suits the following applications:

- Intelligent Transportation Systems (ITS)
- Toll Collection
- Traffic Surveillance
- Air Traffic Management (ATM)
- Rail Signaling
- Perimeter Alarms and Area Monitors
- Telemedicine and Teleconference
- Industrial Surveillance
- Intelligent Building



## Specifications

Model	VF-10x-KIT Series
<b>Video Characteristic</b>	
Video Channel	1 channel Bi-direction
Signal Mode	NTSC / PAL / SECAM
Video Connector	BNC
Video Input/Output Impedance	75ohm / unbalanced interface
Video Input/Output Voltage	1.0 Vpp / Typical peak-peak value
Video Bandwidth	6.5MHz
Video Digital Bit Width	8/10 bit
Differential Gain(DG)	<1.3% (Typical Value)
Differential Phase(DP)	<1.3° (Typical Value)
SNR Weighted	63dB (Typical Value)
<b>Data Interface</b>	
Data Channel	1 channel
Physical Protocol	RS-485
Operation Mode	Simplex
Data Connector	3 pin terminal block with screw clamps
Data Rate	DC-115.2Kbps
Data Distance	RS-485: 0-1200m
Bit Error Rate (BER)	< 10ns
<b>Optical Interface</b>	
Optical Connector	VF-101-KIT:ST VF-102-KIT:FC VF-102SC-KIT:SC VF-102S15-KIT:SC VF-106-KIT: WDM
Distance	VF-101-KIT:2km for multi-mode VF-102-KIT:20km for single mode VF-102SC-KIT:2km for multi-mode VF-102S15-KIT:15km for single mode VF-106-KIT:20km for single mode
Optical Wavelength	<b>VF-101-KIT</b> VF-101-T:TX & RX: 1310nm VF-101-R:TX & RX: 1310nm <b>VF-102-KIT</b> VF-102-T:TX: 1310nm, RX: 1550nm VF-102-R:TX: 1550nm, RX: 1330nm <b>VF-102SC-KIT</b> VF-102SC-T:TX & RX: 1310nm VF-102SC-R:TX & RX: 1310nm <b>VF-102S15-KIT</b> VF-102S15-T:TX & RX: 1310nm VF-102S15-R:TX & RX: 1310nm <b>VF-106-KIT</b> VF-106-T:TX: 1310nm, RX: 1550nm VF-106-R:TX: 1550nm, RX: 1330nm
Launch Power (dBm)	<b>VF-101-KIT</b> Max. : -14, Min. : -19 <b>VF-102-KIT</b> Max. : -7, Min. : -14 <b>VF-102SC-KIT</b> Max. : -14, Min. : -19 <b>VF-102S15-KIT</b> Max. : -7, Min. : -20 <b>VF-106-KIT</b> Max. : -8, Min. : -14
Receive Sensitivity (dBm)	VF-101-KIT:-34.5 VF-102-KIT:-32 VF-102SC-KIT:-34.5 VF-102S15-KIT:-28 VF-106-KIT:-31

Max. Input Power (dBm)	VF-101-KIT:-14 VF-102-KIT:0 VF-102SC-KIT:-14 VF-102S15-KIT:-8 VF-106-KIT:0
Cable	50/125µm or 62.5/125µm multi-mode cable 9/125µm single mode cable
<b>Hardware Specifications</b>	
LED Indicators	<ul style="list-style-type: none"> <li>• One Power</li> <li>• One for Video               <ul style="list-style-type: none"> <li>- Green, Link</li> </ul> </li> <li>• One for Fiber Optic               <ul style="list-style-type: none"> <li>- Green, Link</li> </ul> </li> </ul>
Dimensions (W x D x H)	94 x 70 x 26 mm
Weight	215g
Power Requirements	5V / 2A
Power Consumption	4.8 watts (maximum)
Mechanical	Metal
Installation	Wall-mountable, DIN-rail (with optional kit), chassis installation
Compatible Converter Chassis	MC-700 / MC-1500 / MC-1500R
<b>Standards Conformance</b>	
Regulation Compliance	FCC Part 15 Class A, CE
<b>Environment</b>	
Operating	Temperature: -10 ~ 60 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -10 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

## Ordering Information

VF-101-KIT	1-Channel Video over Fiber Bundled Kit (VF-101-T + VF-101-R / ST / MM / 2km)
VF-102-KIT	1-Channel Video over Fiber Bundled Kit (VF-102-T + VF-102-R / FC / SM / 20km)
VF-102SC-KIT	1-Channel Video over Fiber Bundled Kit (VF-102S15-T + VF-102S15-R / SC / SM / 15km)
VF-102S15-KIT	1-Channel Video over Fiber Bundled Kit (VF-102SC-T + VF-102SC-R / SC / MM / 2km)
VF-106-KIT	1-Channel Video over Fiber Bundled Kit (VF-106-T + VF-106-R / WDM / SM / 20km)

## Accessories

RKE-DIN	DIN-Rail Mounting Kit
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## Related Products

MC-1500	15-Slot Media Converter Chassis
MC-1500R	15-Slot Media Converter Chassis (AC Power)
MC-1500R48	15-Slot Media Converter Chassis (DC Power)
MC-700	7-Slot Media Converter Chassis