Fiber Optical Solution

User Manual

Model : HD401F8-5M

8 Channel HD-TVI/AHD/HDCVI/CVBS with RS485

Fiber Extender 20KM

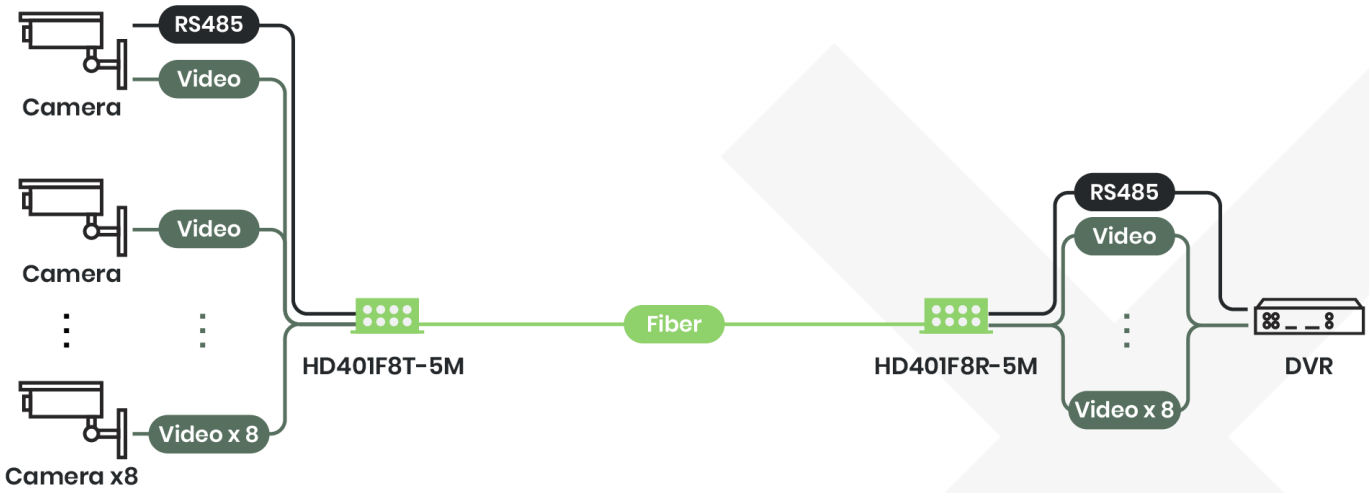
Introduction

HD401F8-5M is a coaxial-to-fiber-optic media converter that can send 8 uncompressed 5MP HD-TVI/ AHD/ HDCVI/ CVBS and RS485 signals for an extra-long distance. The product is a perfect solution for a CCTV security system to send multiple camera videos to a remote DVR for recording..

Features

- Supports HD-TVI, AHD, HDCVI, PAL, NTSC, SECAM video formats.
- Resolution up to 5MP (2560 x 1920).
- Signal extension up to 20KM over a single mode fiber optic cable.
- Supports half-duplex RS485 transmission.
- Built-in 4kV surge protection in terminal blocks.

Installation view



Cable & Transmission Distance

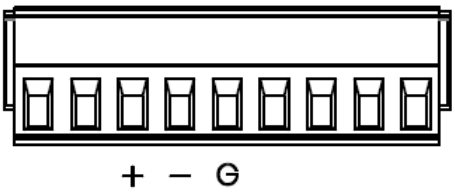
The transmission distance may vary by the quality of connected devices (Cameras, DVRs), connectors, and cables.

Connector	Type	Diameter	Max. Distance
FC	Single Mode	9/125μm	20KM
BNC	RG59/6U	75Ω	100M

Resolution

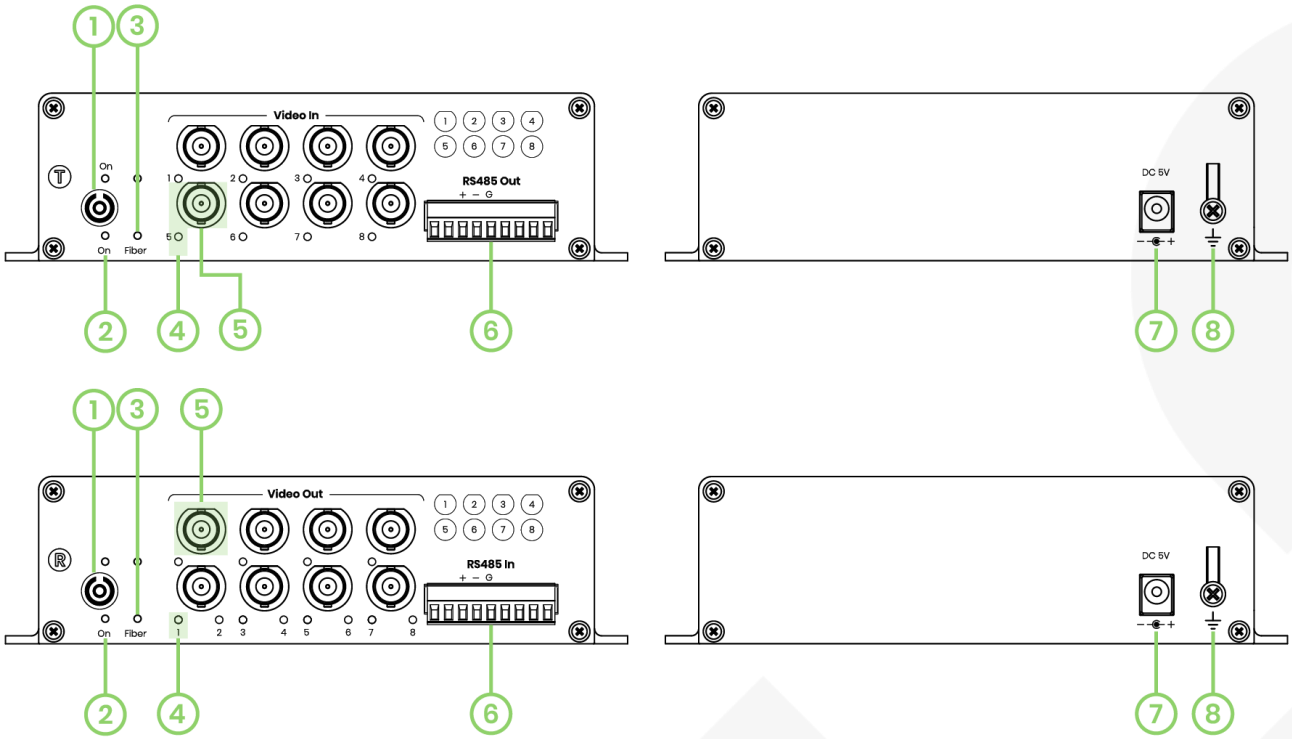
Pixels	Frame Rate
1MP (1280 x 720)	30/50 fps
1.3MP (1280 x 960)	30 fps
2MP (1920 x 1080)	25/ 30 fps
3MP (2408 x 1536)	20 fps
4MP (2560 x 1440)	15 fps
5MP (2560 x 1920)	12.5 fps

RS485 Pin Assignment



Pin No.	Designation
+	RS485+
-	RS485-
G	GND

Panel View



No.	Interface/ Indication	Description
1	Fiber FC connector	To connect a single mode fiber cable
2	On	To indicate the status of power
3	Fiber	To Indicate the connecting status of fiber port
4	1~8	To indicate the connecting status of BNC port
5	Video In/Out	To connect a RG59/ 6U coaxial cable
6	RS485 In/ Out	To connect a RS485 controllable device
7	DC 5V	To connect a DC5V 3A power adapter
8	Grounding	To connect a wire to the earth ground

Installation Guide

The video transmission systems series are preset for use with the data protocol RS-485. Simply connect the signal, power supply and fiber optic cables between the two units. There are indicator LEDs on the units for monitoring the real-time status of power and data. The following instructions describe the typical installation procedure and the function of the LED indicators located on each unit.

1. Connect the video source (camera) to the video input BNC connector on the transmitter unit using coaxial cable.
2. Connect the video output BNC connector on receiver unit to the video monitor using coaxial cable.
3. Connect the fiber optic cable between the transmitter and receiver.
4. Apply the power supply to both transmitter and receiver.
5. When the power is applied, the POWER LED will light, indicating the presence of operating power. The VIDEO and the DATA LEDs will give an indication as stated in the following section.
6. The system should now be operational.

LED Indication

LED Name	LED Color	Description
On	Green ON	Power On
Fiber	Green ON	Fiber optic cable linked
Video	Green ON	Video source detected
Data	Green ON	RS485 signal transferring

Caution

The transmitter unit contains a light-emitting diode located in the optical connector. This device emits invisible infrared electromagnetic radiation that can be harmful to human eyes. The radiation from this optical connector, if viewed closely without a fiber optic cable connected to the optical connector, may cause instantaneous damage to the retina of the eye. Direct viewing of this LED should be avoided at all times.

- This product is designed for indoor applications. If it is desired for outdoor use, please install additional equipment for waterproof protection and surge protectors to prevent damages caused by lightening.
- Both transmitter and receiver have to be powered with the appropriate power adaptor.
- DO NOT put anything on the power and system cables; place them where they cannot be stepped on. Please be sure there is nothing resting on any cables.
- Avoid using this product close to water places, or near high temperature devices such as radiators, stoves, etc.
- Using certified coaxial cables to transfer high-resolution video is recommended
- Using standard and certified optical fiber cables to transfer high-resolution video is recommended.

- Shut down the power supply and unplugged all equipment immediately if:
  - water or any kind of liquid has been spilled into the product
  - the product has been damaged by external forces
  - the product does not operate normally as this manual indicates
  - Please contact us for further repair if above conditions happen.

What's included in the package

No.	Item	Qty
1	HD401F8T-5M (Tx)	1
2	HD401F8R-5M (Rx)	1
3	DC 5V 3A Power Adapter	2
4	Screw	8
5	Screw Plug	8
6	Rubber Pads	8

Specification

ITEM NO.	HD401F8T-5M	HD401F8R-5M
Support		
Video Format	HD-TVI/ AHD/ HDCVI/ CVBS	
Max. Video Resolution	5MP (2560 x 1920) @12.5fps	
Video Bandwidth	50Mhz	
Max. Distance	20Km	
Baud Rate	0-200Kbps, Half-duplex (From Rx to Tx)	
Input/ Output Wavelength	TX1310, RX1550nm	TX1550, RX1310nm
Input/ Output Level	> 500mVP-P	1Vp-p
Return Loss	> 15dB	
Up/ Down Time		< 0.8ns
Max. Jitter		< 0.2UI
Ports & Interfaces		
Video Input	8 x BNC (75Ω)	1 x FC, Single/ Multi-mode
Video Output	1 x FC, Single/ Multi-mode	8 x BNC (75Ω)
RS485 Interface	1 x 9-pin Terminal Block	1 x 9-pin Terminal Block
Power		
Power Supply	DC5V 3A	
Power Consumption	≤10W	
Ambient Temperature		
Operation	-15°C ~60°C	
Storage	-40°C ~85°C	
Humidity	Up to 95% (Non-condensing)	
Physical Characteristics		
Dimensions	173.3 x 167.5 x 45 mm	173.3 x 167.5 x 45 mm
Weight	759g	641g