Model FS-HD4301VP

Features

Single Channel HD Video & Power Transmitter & Receiver (12V/24V DC/AC)

- Real-time transmission over UTP cat5e/6
- NTSC, PAL & SECAM video format compatible
- Compatible with all HD-TVI, HD-CVI & AHD analog camera
- Color video max up to 440m(1443ft) for HD-CVI 720P analog camera
  Color video max up to 240m(787ft) for HD-CVI 1080P analog camera
- Color video max up to 230m(754ft) for HD-TVI 720P analog camera
  Color video max up to 250m(820ft) for HD-TVI 1080P analog camera
- Color video max up to 320m(1050ft) for AHD 720P analog camera
  Color video max up to 330m(1082ft) for AHD 960P analog camera
- Male BNC with extended 5.9inch(150mm)mini-coax pigtail
- RJ45 Jack for UTP cable
- Built-in TVS (Transient Voltage Suppressor) for surge protection
- Wave Filter Design, Anti-Static Design
- Lightning protection design Grade: III
- 60 dB crosstalk and noise immunity
- Exceptional interference rejection
- ABS engineering plastic housing

Overview

The FS-HD4301VP is video & power transmitter and receiver that allows the transmission of real-time CCTV HD video and power signal via cost-effective unshielded Twisted Paired (UTP) cable. Baseband (composite) signals of any type are supported.

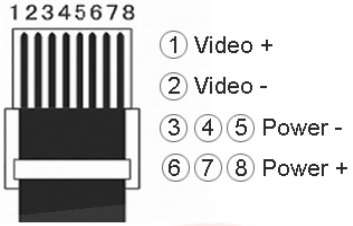
The FS-HD4301VP is compatible with all HD-TVI, HD-CVI and AHD analog camera. Used in pairs, FS-HD4301VP eliminates costly and bulky coaxial cable.

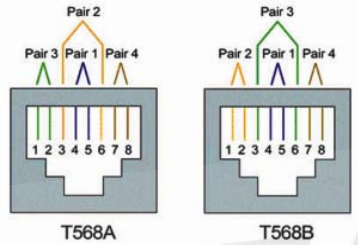
The superior interference rejection and low emissions of the FS-HD4301VP allow video & power signals to coexist in the same wire bundle as telephone, datacom, or low-voltage power circuits. This allows the use of a shared or existing cable plant. The FS-HD4301VPT and FS-4301VPR is built-in surge suppressor to protect video equipment against damaging voltage spikes. Its crosstalk and noise immunity ensure quality video signals.

Wire and Cable Recommendations

The FS-HD4301VP is recommended to use with Unshielded Twisted Paired (UTP) wiring from 24AWG through 22AWG..Individually shielded pairs should be avoided, as they reduce the operating range of the systems drastically. Multi-pair cable (25-pair or more) with an overall shield are acceptable. Video signals can coexist in the same wire bundle as telephone, datacom, or low-voltages power circuits. While video may be routed through telephone punch-down block terminals, any bridge-taps, also called T-taps and any resistive, capacitive or inductive devices MUST BE removed from the pair.

For more specific information regarding wire types, gauges and proper installation techniques, please contact us for technical assistance.





EIA/TIA-568A Wiring Specifications

Wire	Pin #	Configuration
Green White	1	Video (+)
Green	2	Video (-)
Orange White	3	Power (-)
Blue	4	Power (-)
Blue White	5	Power (-)
Orange	6	Power (+)
Brown White	7	Power (+)
Brown	8	Power (+)

EIA/TIA T-568B Wiring Specifications

Wire	Pin #	Configuration
Orange White	1	Video (+)
Orange	2	Video (-)
Green White	3	Power (-)
Blue	4	Power (-)
Blue White	5	Power (-)
Green	6	Power (+)
Brown White	7	Power (+)
Brown	8	Power (+)

Note:

1. **The transmitter and receiver must use the same wiring.**
2. **If you adjust saturation of DVR, video transmission distance could be farther. (HD-CVI 720P: max up to 470m(1542ft))**
3. **If chromatic aberration occurs within 30 meters, please also adjust saturation, the picture will recover perfectly automatically.(only for HD-CVI 1080P)**
4. **The above data is only the result of laboratory test; actual distance will depend on the camera's inrush and operating current, minimum operating voltage, the wire's quality and environmental factors.**

Power Distance Chart (over one UTP cat 5e/6, one pair for video, 3 pairs for power)

Camera Type	HD-CVI 720P			
Power Supply Voltage	12V DC	15V DC	18V DC	24V DC
Voltage at the Camera	5.7V DC	5.5V DC	5.5V DC	5.5V DC
100mA camera	500m	>450m	>475m	>450m
200mA camera	450m	>450m	>475m	>450m
300mA camera	315m	450m	>475m	>450m
400mA camera	230m	350m	475m	>450m
500mA camera	180m	270m	370m	>450m
600mA camera	140m	215m	295m	450m
800mA camera	110m	160m	215m	345m
1000mA camera	85m	125m	170m	265m

Camera Type	AHD 720P / 960P			
Power Supply Voltage	12V DC	15V DC	18V DC	24V DC
Voltage at the Camera	10.2V DC	10.2V DC	10.2V DC	10.2V DC
50mA camera	350m	>350m	>360m	>350m
100mA camera	250m	>350m	>360m	>350m
200mA camera	120m	350m	>360m	>350m
300mA camera	80m	200m	360m	>350m
400mA camera	50m	160m	250m	>350m
500mA camera	40m	130m	200m	>350m
600mA camera	30m	100m	160m	350m
800mA camera	<30m	80m	125m	240m
1000mA camera	<30m	55m	100m	195m

Camera Type	HD-CVI 1080P			
Power Supply Voltage	12V DC	15V DC	18V DC	24V DC
Voltage at the Camera	8.8V DC	8.8V DC	8.8V DC	8.8V DC
100mA camera	>180m	>250m	>250m	>250m
200mA camera	>180m	>250m	>250m	>250m
300mA camera	150m	250m	>250m	>250m
400mA camera	115m	220m	>250m	>250m
500mA camera	90m	170m	250m	>250m
600mA camera	60m	140m	210m	>250m
800mA camera	40m	110m	160m	>250m
1000mA camera	30m	85m	130m	220m

Camera Type	HD-TVI 720P / 1080P			
Power Supply Voltage	12V DC	15V DC	18V DC	24V DC
Voltage at the Camera	9.8V DC	9.8V DC	9.8V DC	9.8V DC
100mA camera	>270m	>270m	>270m	>270m
200mA camera	150m	270m	>270m	>270m
300mA camera	100m	220m	>270m	>270m
400mA camera	75m	180m	>270m	>270m
500mA camera	50m	130m	240m	>270m
600mA camera	40m	120m	200m	>270m
800mA camera	30m	90m	150m	260m
1000mA camera	20m	60m	128m	220m

Technical Specifications

Model		FS-HD4301VP		
Product Name		Single Channel HD Video & Power Transmitter & Receiver		
Applied Devices		CCTV cameras, monitors, DVR, switchers, IP encoders, and other CCTV equipment		
Video	Video Format	PAL, NTSC, SECAM		
	Operating Frequency	DC to 42MHz		
	Max Distance	HD-TVI 720P: 230m,	HD-CVI 720P: 440m,	AHD 720P: 320m,
		HD-TVI 1080P: 200m	HD-CVI 1080P: 240m	AHD 960P: 330m
	Common-mode/Differential-mode rejection	15KHz to 42MHz 60 dB typ		
	Impedance	Coax, Male BNC 75Ω unbalanced UTP, RJ45 100Ω balanced		
	Attenuation	1.5 dB typ Max		
Wire Type	Network Wiring	One Unshielded Twisted Pair (for each video signal) 24-16 AWG (0.5-1.31mm)		
	Category Type	2 or better		
	Impedance	100 ± 20 ohms		
	DC Loop Resistance	52 ohms per 1,000ft (18 ohms per 100m)		
	Differential Capacitance	19 pF/ft max (62 pF/m max)		
Power	Power Input	No external power required		
	Power transmission	12V/24V,DC/AC, via UTP cat5e/6. please refer to power distance chart above		
Connector	Video input/output	Male BNC connector		
	Video input/output	RJ45 Jack		
Protection	Surge Protection	renewable solid state surge protection		
	Video Input	2KV(common mode), 10/700us IEC6100-4-5/1955(GB/T 1726, 5-1999)		
	Video Output	2KV(different mode), 10/700us IEC6100-4-5/1955(GB/T 1726, 5-1999)		
Mechanical	Housing	ABS engineering plastic		
	Body Color	Black		
	Dimensions(L*W*H)	60.4*29*20.4mm (BNC connector & cable excluded)		
	Net Weight	60g		
Environmental	Operating Temperature	-20º ~ 70º C		
	Relative Humidity	0~95% (non-condensing)		
	Storage Temperature	-40º ~ 150º C		

Applications

- Security Monitoring System
- Multimedia Network Teaching System
- Medical Monitoring Display System
- Industrial Automation Control System
- Banking, securities, financial information display system
- Remote Network Server Monitoring
- Department Store Security
- Casino Security
- Hospitals, Airports and banks
- School Campuses

Application Diagram