

**Model FS-HDP4002**

## Features

### Single Channel HD Passive Video Balun

- Real-time transmission over UTP cat5e/6
- No power required
- NTSC, PAL & SECAM video format compatible
- Compatible with all HD-TVI, HD-CVI, AHD & CVBS analog cameras
- Color video max up to 440m(1443ft) for HD-CVI 720P camera  
If you adjust saturation of DVR, max up to 480m(1574ft)
- Color video max up to 220m(721ft) for HD-CVI 1080P camera
- Color video max up to 190m(623ft) for Hikvision TVI 720P camera  
Color video max up to 190m(623ft) for Hikvision TVI 1080P camera
- Color video max up to 210m(688ft) for TVT HD-TVI 720P camera  
Color video max up to 230m(754ft) for TVT HD-TVI 1080P camera
- Color video max up to 300m(984ft) for AHD 720P camera  
Color video max up to 240m(787ft) for AHD 960P camera  
Color video max up to 220m(721ft) for AHD 1080P camera
- Male BNC connector
- Reliable push-pin terminal connection 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-HDP4002 video balun is a passive (non-amplified) device that allows the transmission of real-time CCTV HD video signal via cost-effective Unshielded Twisted Paired (UTP) cable. Baseband (composite) signals of any type are supported.

The FS-HDP4002 is compatible with all HD-TVI, HD-CVI and AHD analog camera.

Male BNC of the FS-HDP4002 allows connection directly to the camera and DVR. Screw-less terminal block allows tool-less connection of UTP cable output. Used in pairs, the FS-HDP4002 eliminates costly and bulky coaxial cable.

The superior interference rejection and low emissions of the FS-HDP4002 allows video 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-HDP4002 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-HDP4002 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-voltage 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.



## Technical Specifications

Model		FS-HDP4002			
Product Name		Single Channel HD Passive Video Balun			
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: 190m	HD-CVI    720P: 440m		AHD    720P: 300m
		HD-TVI    1080P: 190m	HD-CVI    1080P: 220m		AHD    960P: 240m AHD    1080P: 220m
	Common-mode/Differential-mode rejection	15KHz to 42MHz    60 dB typ			
	Impedance	Coax, Male BNC		75Ω unbalanced	
		UTP, push-pin terminal block		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		No external power required			
Connector	Video input/output	Male BNC connector			
	Video input/output	Tool-less    push-pin terminal block			
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)	35.1*16.7*18.7mm (BNC connector excluded)			
	Net Weight	40g			
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

## Note:

1. Please make sure to install transmitter at camera side and receiver at DVR side to achieve best quality
2. If you adjust saturation of DVR, video transmission distance could be farther. (HD-CVI 720P: max up to 480m(1574ft))
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 device is not waterproof and not to be used at outdoors.

## Application Diagram

