

ENFORCER®

EB-P101-20PHQ

4-in-1 HD Passive Video and Power Balun Manual



Features:

- 4-in-1 TVI / CVI / AHD / Analog video up to 5MP
- NTSC / PAL / SECAM compatible
- Transmits video up to 1,476ft (450m) depending on format, resolution, and cable used
- Transmits power for 12/24 VAC/VDC cameras
- Built-in TVS surge protection
- Anti-static and wave filters
- Lightning Protection — Grade III
- 60dB Crosstalk and noise immunity
- Exceptional interference rejection
- Passive operation — no external power required
- Real-time transmission over low-cost Cat5e/6 cable instead of costly coaxial cable
- RJ45 Jack and pigtails for easy installation
- Includes one transmitter and one receiver

ENFORCER 4-in-1 HD Passive Video and Power Balun

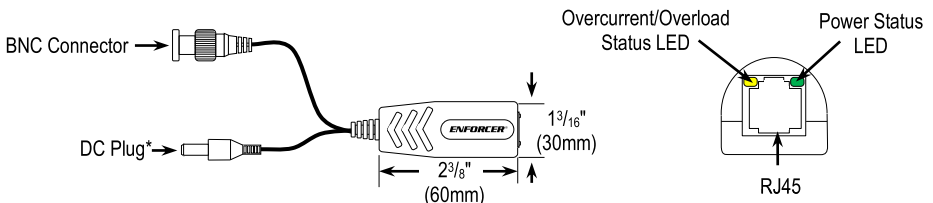
Specifications:

Video	Range*	TVI**	1080p: 820' (250m) / 5MP: 590' (180m)
		CVI**	1080p: 820' (250m) / 4MP: 656' (200m)
		AHD**	1080p: 820' (250m) / 5MP: 590' (180m)
		Analog (B/W)	1,476' (450m)
		Analog (Color)	1,312' (400m)
	Video format	NTSC, PAL, SECAM	
	Frequency response	DC~71MHz	
Common / Differential mode rejection		60dB, 15kHz~71MHz	
Connections	Wire type		UTP (Unshielded Twisted Pair) 24~16 AWG
	Wire category		Cat5~Cat6
	Camera side	Video in	BNC
		Power out	DC Plug
	DVR Side	Video out	BNC
		Power in	DC Jack
	UTP Connection		Nickel Plated
	Attenuation		8dB max.
Impedance	Coax, male BNC	75Ω@1MHz	
	RJ45	100Ω@1MHz	
Protection	Surge protection		Renewable solid state surge protection
	Video input		2KV (common mode), 10/700μs IEC6100-4-5/1955 (GB/T 1726, 5-1999)
	Video output		2KV (differential mode), 10/700μs IEC6100-4-5/1955 (GB/T 1726, 5-1999)
Other	Max. amperage		1A@12VDC
	Power range		755' (230m) max. See "Power Range", pg.3 for details
	DC Loop resistance		52Ω/1000' (18Ω/100m)
	Differential capacitance		19pF/ft max. (62pF/m max.)
	Power		No external power required
	Operating temperature		-4°~158°F (-20°~70°C)
	Storage temperature		-40°~302°F (-40°~150°C)
	Humidity range		0~95% (Non-condensing)
	Case		ABS Plastic
	Weight		2.5-oz (72g)
	Cable length		4 ³ / ₄ " (120mm)
Dimensions		2 ³ / ₈ "x1 ³ / ₁₆ "x1 ³ / ₁₆ " (60x20x30mm) Excluding pigtail and BNC connector	

*Actual range depends on format, resolution, cable quality, and input voltage

**See additional range specifications in "Installation," pg. 3.

Overview:



*Transmitter shown. Receiver has DC Jack

ENFORCER 4-in-1 HD Passive Video and Power Balun

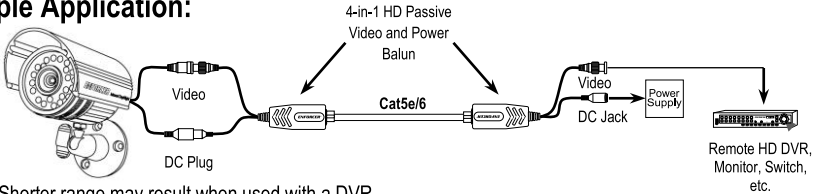
Installation:

1. HD Video/Power baluns are connected in pairs. Connect one balun to the HD CCTV camera. Connect the other balun to an HD DVR or other remote HD CCTV equipment.
2. Make sure the distance between the camera and the remote video device does not exceed the specified range for the cable type, resolution, and input voltage used (see table below).

TVI	CVI	AHD	Analog/CVBS
720p: 820ft (250m)	720p: 1,443ft (440m)	720p: 1,049ft (320m)	B/W: 1,476ft (450m)
1080p: 820ft (250m)	1080p: 820ft (250m)	1080p: 820ft (250m)	Color: 1,312ft (400m)
3MP: 820ft (250m)	3MP: N/A	3MP: 820ft (250m)	
4MP: 590ft (180m)	4MP: 656ft (200m)	4MP: 656ft (200m)	
5MP: 590ft (180m)	5MP: N/A	5MP: 590ft (180m)	

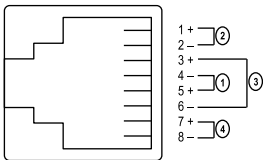
3. Run Cat5e/6 cable (UTP) from the remote video device to the camera. Use T568-B wiring specification (see below).
4. Connect the Cat5e/6 cable to the RJ45 ports of both baluns.
5. Connect the DC plug of the balun on the camera end to the camera's DC connector. Connect the DC jack of the balun on the other end to the power supply's DC connector.
6. Connect the BNC connector of the balun on the camera end to the camera's BNC connector. Connect the BNC connector of the balun at the other end to the DVR or remote device.
7. Test the connection by powering up the HD CCTV camera and remote video device to make sure they operate as expected.

Sample Application:



NOTE: Shorter range may result when used with a DVR

T568-B Wiring Specifications:



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

Power Range:

	Input Voltage			
	12VDC	15VDC	18VDC	24VDC
200mA Camera	492' (150m)	591' (180m)	755' (230m)	755' (230m)
300mA Camera	492' (150m)	591' (180m)	755' (230m)	755' (230m)
400mA Camera	394' (120m)	492' (150m)	656' (200m)	722' (220m)
500mA Camera	295' (90m)	427' (130m)	591' (180m)	722' (220m)
600mA Camera	197' (60m)	394' (120m)	591' (180m)	722' (220m)
800mA Camera	148' (45m)	312' (95m)	492' (150m)	722' (220m)
1A Camera	98' (30m)	262' (80m)	492' (150m)	656' (200m)

NOTE: Ranges given above are for 1080p cameras and are approximate. Distances will vary based on cabling, camera, and DVR types.

ENFORCER 4-in-1 HD Passive Video and Power Balun

Troubleshooting:

Wavy or ghost image if connected to image processor (e.g., multiplexer or DVR), but not if directly to monitor	<ul style="list-style-type: none">• Move the Cat5e/6 cable away from possible sources of interference.• Ensure that the same twisted pair connects to a balun at both end of the cable.• Replace the cable with a new Cat5e/6 cable.
Image background flutters between dark and light	<ul style="list-style-type: none">• Remove a local power source, or adjust the monitor's brightness and contrast.
Image is wavy and shakes	<ul style="list-style-type: none">• Try reversing polarity of the two wires at one end of Cat5e/6 cable.
Image is weak or faded	<ul style="list-style-type: none">• Reduce the Cat5e/6 cable length.• Replace with a higher grade cable. Cat5e/6 cable meets specifications in the manual. Cat6 cable allows for longer range.
No Image	<ul style="list-style-type: none">• Double-check that the Cat5e/6 and BNC cables are connected properly.• Run a continuity test on all wire in the cable.• Check that the camera and monitor are powered up.• Ensure that the polarities of the Cat5e/6 connections are correct.• Increase the input voltage.

Also Available from SECO-LARM®:

Passive 4-in-1 HD Video Balun



EB-P101-01HQ

4-in-1 HD Ground Loop Isolator



VG-1C12YQ

4-in-1 HD 16-Channel Passive Balun Hub



EB-P116-60HQ

IMPORTANT: Users and installers of this product are responsible for ensuring this product complies with all national, state, and local laws and statutes related to monitoring and recording audio and video signals. SECO-LARM will not be held responsible for the use of this product in violation of any current laws or statutes.

IMPORTANT: Incorrect mounting which leads to exposure to rain or moisture inside the enclosure could cause a dangerous electric shock, damage the device, and void the warranty. Do not open the case of this device, as there are no field-serviceable components inside.

WARRANTY: This SECO-LARM product is warranted against defects in material and workmanship while used in normal service for two (2) years from the date of sale to the original customer. SECO-LARM's obligation is limited to the repair or replacement of any defective part if the unit is returned, transportation prepaid, to SECO-LARM. This Warranty is void if damage is caused by or attributed to acts of God, physical or electrical misuse or abuse, neglect, repair or alteration, improper or abnormal usage, or faulty installation, or if for any other reason SECO-LARM determines that such equipment is not operating properly as a result of causes other than defects in material and workmanship. The sole obligation of SECO-LARM and the purchaser's exclusive remedy shall be limited to the replacement or repair only, at SECO-LARM's option. In no event shall SECO-LARM be liable for any special, collateral, incidental, or consequential personal or property damage of any kind to the purchaser or anyone else.

NOTICE: The SECO-LARM policy is one of continual development and improvement. For that reason, SECO-LARM reserves the right to change specifications without notice. SECO-LARM is also not responsible for misprints. All trademarks are the property of SECO-LARM U.S.A., Inc. or their respective owners. Copyright © 2018 SECO-LARM U.S.A., Inc. All rights reserved.

SECO-LARM® U.S.A., Inc.

16842 Millikan Avenue, Irvine, CA 92606
Phone: (949) 261-2999 | (800) 662-0800

Website: www.seco-larm.com
Email: sales@seco-larm.com

 PICFNA

ML_EB-P101-20PHQ_180925.docx