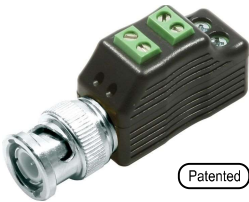


ENFORCER®

4-in-1 HD Passive Baluns with Pass-Through Manual



EB-P501-02HQ



EB-P501-21HQ*
with 6" Pigtail

TVI	CVI	AHD	Analog
1080p: 492ft (150m)	1080p: 820ft (250m)	1080p: 656ft (200m)	1,312ft (400m)
4K: 656ft (200m)	4K: 820ft (250m)	4K: 820ft (250m)	

Features:

- 4-in-1 TVI / CVI / AHD / Analog video up to 4K
- Transmits up to 1,312ft (400m) depending on format, resolution, and cable used
- PAL / NTSC / SECAM compatible
- Passive operation – No power required
- Lifetime limited warranty
- Built-in ESD, EFT, and transient protection
- High immunity from interference
- Uses low-cost Cat5e/6 cable instead of costly coaxial cable
- Screw terminals for easy installation
- Small size allows mounting of multiple baluns behind a DVR

*Special order item. Please contact SECO-LARM.

ENFORCER 4-in-1 HD Passive Baluns with Pass-Through

Specifications:

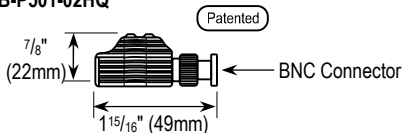
Model		EB-P501-02HQ	EB-P501-21HQ ¹	
Video	Range ²	TVI	1080p: 492ft (150m), 4K: 656ft (200m)	
		CVI	1080p: 820ft (250m), 4K: 820ft (250m)	
		AHD	1080p: 656ft (200m), 4K: 820ft (250m)	
		Analog	1,312ft (400m)	
	Video format		PAL, NTSC, SECAM	
	Maximum input		1Vp-p	
	Insertion loss		10dB@0.3~100Mhz max.	
	Return loss		3dB@0.3~51Mhz max.	
Frequency response		300kHz~100MHz		
Common mode rejection		65dB min.		
Connections	Wire type		UTP (Unshielded Twisted Pair) 24~16 AWG	
	Wire category		Cat2 min.	
	Attenuation		1.5dB max.	
	Impedance	Coax, male BNC	75Ω@1MHz	
Terminal block		100Ω@1MHz		
Protection	ESD Protection		30kV (Air), 15kV (Contact), IEC 61000-4-2 compliant	
	EFT Protection		40A (5/50ns), IEC 61000-4-4 compliant	
	Lightning protection		2A (8/20μs), IEC 61000-4-5 compliant	
Other	DC Loop resistance		52Ω/1000' (18Ω/100m)	
	Differential capacitance		19pF/ft max. (62pF/m max.)	
	Power		No power required	
	Maximum amperage		2A@12VDC, 2A@24VDC	
	Maximum pass-through voltage		24 VAC/DVC	
	Operating temperature		32°~131° F (0°~55° C)	
	Storage temperature		-4°~185° F (-20°~85° C)	
	Humidity range		0~95% (Non-condensing)	
	Case		ABS Plastic	
	Weight		0.6-oz. (18g)	0.8-oz. (23g)
	Cable length		N/A	3 ¹⁵ / ₁₆ " (100mm)
	Dimensions		1 ¹⁵ / ₁₆ "x ⁹ / ₁₆ "x ⁷ / ₈ " (49x14x22 mm)	1 ¹ / ₄ "x ⁹ / ₁₆ "x ⁷ / ₈ " (32x14x22 mm) excluding pigtail with connector

¹Special order

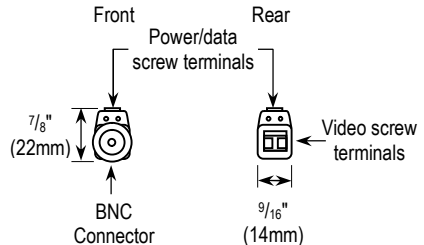
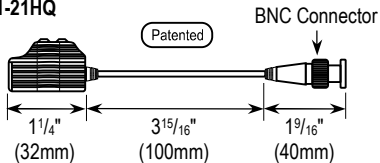
²Shorter range may result when using a DVR.

Overview:

EB-P501-02HQ



EB-P501-21HQ



ENFORCER 4-in-1 HD Passive Baluns with Pass-Through

Installation:

IMPORTANT: If using a balun to run power, make sure the terminals are connected to power at both ends.
Connecting a power supply to a camera's data will cause damage to the camera.
Double-check all connections before powering units.

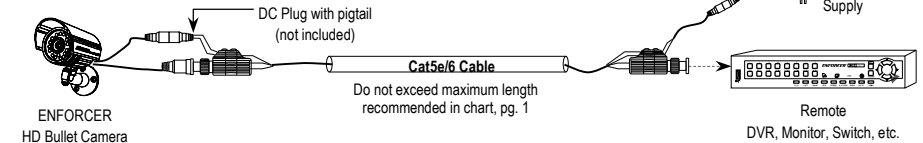
1. 4-in-1 HD baluns are connected in pairs. Connect the transmitter balun to the HD CCTV camera. Connect the receiver balun to an HD DVR or other remote HD CCTV equipment.
2. Make sure the distance between the camera and the remote video device does not exceed the specified range for the cable type and resolution used (see chart on pg. 1).
3. Run Cat5e/6 cable (UTP) from the remote video device to the camera.
4. Connect the Cat 5e/6 cable to both baluns. **NOTE:** 4-in-1 HD baluns are polarity-sensitive.
 - a. Strip approximately 1/4" (6mm) of insulation from the same two wires at both ends of a Cat 5e/6 cable.
 - b. Use a small screwdriver to loosen the video screw terminals on each balun. Insert one wire into each terminal at both ends of the cable. After the wires have been inserted into the terminals, there should be no bare wire showing.
 - c. Repeat steps 4a and 4b for the Power/Data terminals to run either power or data through the balun.
5. Connect the HD video baluns into the BNC connector of the HD camera and the remote video device.
6. Test the connection by powering up the CCTV camera and remote video device to make sure they operate as expected.

Sample Applications:

Single Pair of 4-in-1 HD Baluns with Power or Data Pass-Through

IMPORTANT: Terminals must be used for power or data. Do not use for both.

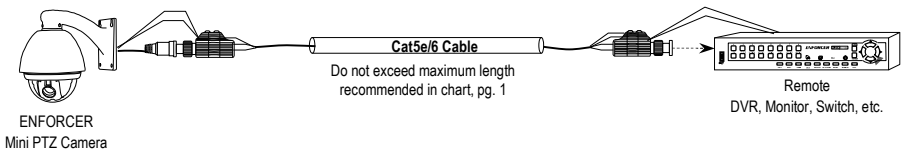
Using Terminals for Power – 3A@12VDC, 1.5A@24VDC (max)



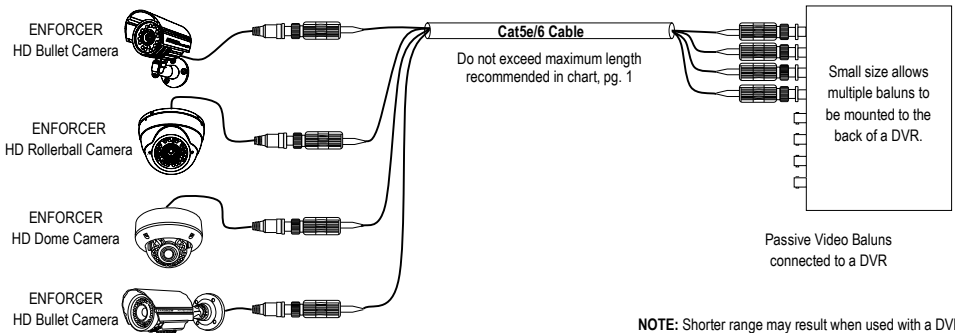
Note: Be sure to compensate for voltage drops.

OR

Using Terminals for Data



Multiple CCTV Cameras Over a Single Cat5e/6 Cable



NOTE: Shorter range may result when used with a DVR.

ENFORCER 4-in-1 HD Passive Baluns with Pass-Through

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 ends 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 the Cat5e/6 cable.• Reduce the Cat5e/6 cable length.
Image is weak or faded	<ul style="list-style-type: none">• Replace with a higher-grade cable. Cat5e cable meets the specifications in the manual. Cat6 cable allows longer range.• Double-check that the Cat5e/6 and BNC cables are connected properly.• Run a continuity test on all wires in the cable.• Check that the camera and monitor are powered up.
There is no image	

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.

The SECO-LARM UL Listed Baluns with surge protection are to be used with other UL Listed Audio/Video product.

WARNING: 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 the life of the product 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.

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