Installation Manual

ENFORCER®

Passive Video Baluns

Standard Baluns

EB-P501-01Q
- Standard

EB-P501-01SQ
- With surge protection

Power or Data Pass-Through

EB-P501-02Q
- Standard

EB-P501-02SQ*
- With surge protection

Patented

6″ Pigtail

EB-P501-20Q
- Standard

EB-P501-20SQ*
- With surge protection

6″ Pigtail and Power or Data Pass-Through

EB-P501-21Q*
- Standard

EB-P501-21SQ*
- With surge protection

Patented

RJ45 and DC Plug

EB-P501-22Q*
- Video/Power (Red DC plug)

EB-P501-23Q*
- Video/Power/Data (Black DC plug)

- Gold-plated BNC connector
- Transmits up to 1,300ft (400m) color video
- Passive operation – No external power required
- Uses low-cost Cat5e/6 cable instead of costly coaxial cable
- Terminal blocks – No crimping required**
- High immunity from interference
- Small size allows mounting of multiple baluns behind a DVR
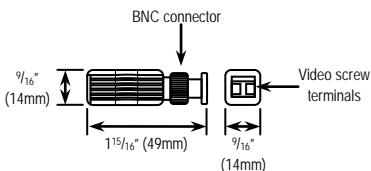
* Special order item. Please contact SECO-LARM.
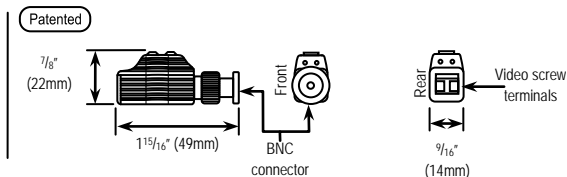**EB-P501-22Q and EB-P501-23Q use RJ45 connectors.

SECO-LARM® SLI

CE RoHS

Note: Products with model numbers that end with "Q" or that have a round green "Q" sticker are RoHS compliant.

Overview:

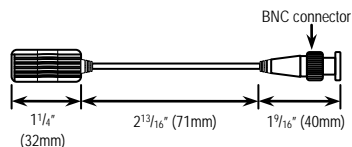**EB-P501-01Q and EB-P501-01SQ**

EB-P501-02Q and EB-P501-02SQ

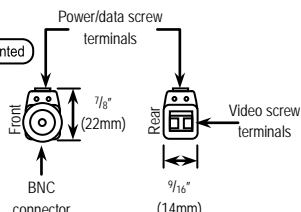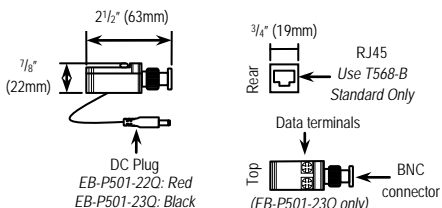

**EB-P501-20Q, EB-P501-20SQ
EB-P501-21Q, and EB-P501-21SQ**

EB-P501-20Q shown.

EB-P501-22Q and EB-P501-23Q (Use T568-B Wiring Standard for RJ45)

EB-P501-23Q shown.

T568-B Wiring Specification

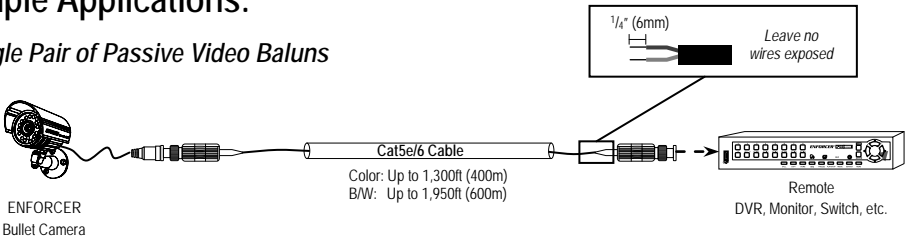| Pair	Wire	Pin	EB-P501-22Q	EB-P501-23Q
1	Blue/White	5	Power –	Power –
	Blue	4	Power +	Power +
2	Orange/White	1	Power –	Data +
	Orange	2	Power +	Data –
3	Green/White	3	Power –	Power –
	Green	6	Power +	Power +
4	Brown/White	7	Video +	Video +
	Brown	8	Video –	Video –

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. Video baluns are connected in pairs. Connect one balun to the CCTV camera's BNC connector, and connect another to the BNC connector of a DVR or other remote device.
2. Make sure the distance between the camera and the remote video device does not exceed 1,950ft (600m) for black and white video or 1,300ft (400m) for color.
3. Run Cat 5e/6 cable (UTP) from the remote video device to the camera.
   NOTE: Use T568-B wiring specification for RJ45 connections with EB-P501-22Q and EB-P501-23Q. See above.
4. Connect the Cat 5e/6 cable to both baluns. **NOTE:** Video 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. **For models with power or data pass-through:** Repeat steps 4a and 4b for the Power/Data terminals in order to run either power or data through the balun.
      NOTE: EB-P501-22Q and EB-P501-23Q are not compatible with any other baluns.
   d. **For EB-P501-22Q and EB-P501-23Q only:** Connect the balun at one end to the camera's DC jack. Connect the balun at the other end to the power supply's DC jack. Do not use these baluns with any other video/power/data balun.
5. Connect the video baluns into the BNC connector of the CCTV 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.

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Sample Applications:

Single Pair of Passive Video Baluns

$1/4$" (6mm)
Leave no
wires exposed

Cat5e/6 Cable
Color: Up to 1,300ft (400m)
B/W: Up to 1,950ft (600m)

ENFORCER
Bullet Camera

Remote
DVR, Monitor, Switch, etc.

Single Pair of Passive Video Baluns with Power or Data Pass-Through

Patented design for easy installation

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

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

DC Plug with pigtail
(not included)

Power
Supply

Cat5e/6 Cable
Color: Up to 1,300ft (400m)
B/W: Up to 1,950ft (600m)

ENFORCER
Bullet Camera

Remote
DVR, Monitor, Switch, etc.
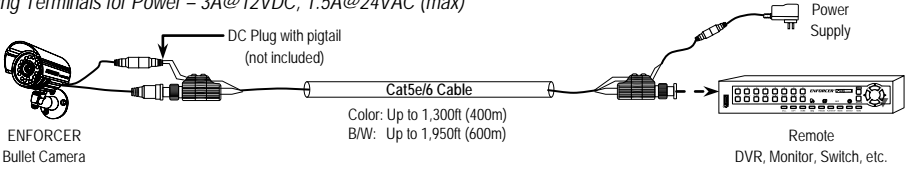
Note: Be sure to compensate for voltage drops.

OR

Using Terminals for Data

DVR Data Terminals or
PTZ Controller

Cat5e/6 Cable
Color: Up to 1,300ft (400m)
B/W: Up to 1,950ft (600m)

ENFORCER
Mini PTZ Camera

Remote
DVR, Monitor, Switch, etc.
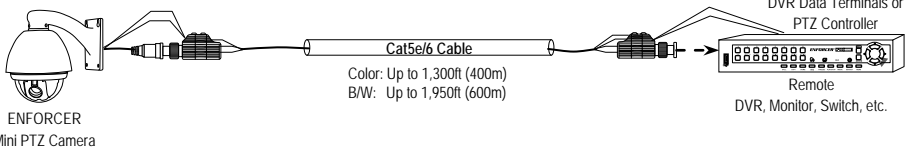
Single Pair of EB-P501-23Q

DVR Data Terminals or
PTZ Controller

Cat5e/6 Cable
Color: Up to 1,300ft (400m)
B/W: Up to 1,950ft (600m)

ENFORCER
Mini PTZ Camera

Remote
DVR, Monitor, Switch, etc.

Power
Supply
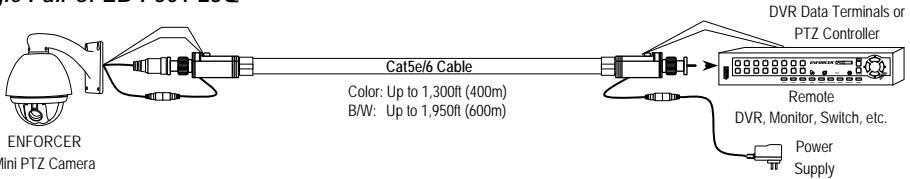
Multiple CCTV Cameras Over a Single Cat5e/6 Cable

ENFORCER
Bullet Camera

Cat5e/6 Cable
Color: Up to 1,300ft (400m)
B/W: Up to 1,950ft (600m)

Small size allows
multiple baluns to
be mounted to the
back of a DVR.

ENFORCER
Dome Camera

Elite 3X
Dome Camera

Elite 3X
Bullet Camera

Passive Video Baluns
connected to a DVR
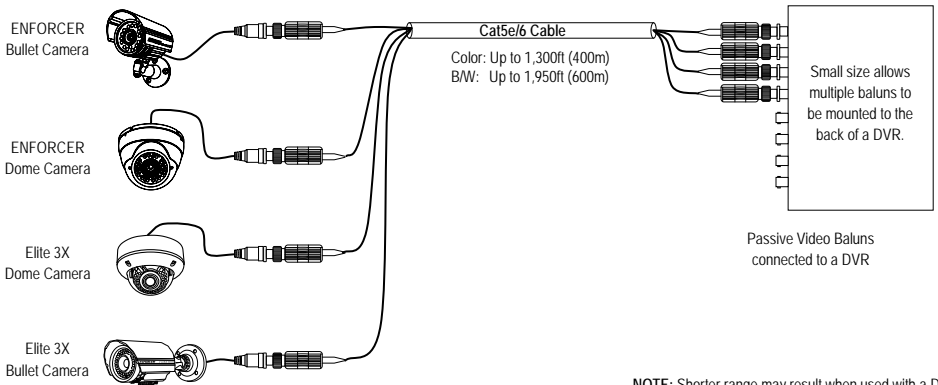
NOTE: Shorter range may result when used with a DVR.

Specifications:

Video	Range*	B/W	1,950′ (600m)
		Color	1,300′ (400m)
	Video format		PAL, NTSC, SECAM
	Maximum input		1Vp-p
	Insertion loss		<2dB per pair from DC~6MHz
	Return loss		>18dB from DC~6MHz
	Frequency response		DC~6MHz
	Common mode rejection		60dB, 15kHz~6MHz
Connections	Wire type		UTP (Unshielded Twisted Pair) 24~16 AWG
	Wire category		Cat2 min.
	BNC Connection		Gold plated
	Attenuation		DC~6MHz, 2dB max.
	Impedance	Coax, male BNC	75Ω@1MHz
		Terminal block	100Ω@1MHz
Other	DC Loop resistance		52Ω/1000′ (18Ω/100m)
	Differential capacitance		19pF/ft max. (62pF/m max.)
	Power		No power required
	Max. amperage EB-P501-02Q, EB-P501-02SQ, EB-P501-21Q, and EB-P501-21SQ Only		3A@12VDC, 1.5A@24VAC
	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

*Shorter range may result when used with a DVR.

Troubleshooting:

The image is wavy, shakes, or ghosts.	• Reduce cable length. • Replace cable with higher grade cable. • Install an ENFORCER Ground Loop Isolator (VG-1C12BQ). • Install an ENFORCER Video Amplifier (VA-2101B-WQ).
There is no image.	• Check the power supplies of all devices connected. • Double-check that the cable was connected properly. • Connect a test monitor directly to the camera. If there is still no video, troubleshoot the camera and its power supply.

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.

NOTICE
The information and specifications printed in this manual are current at the time of publication. However, the SECO-LARM policy is one of continual development and improvement. For this reason, SECO-LARM reserves the right to change specifications without notice. SECO-LARM is also not responsible for misprints or typographical errors.

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