

ENFORCER[®] VIDEO

MANUAL

EVT-PB1-31RQ

Video, Power and Data Balun

EVT-PB1-318Q

Video, Power and Data Balun with RJ-45 Terminal

EVT-PB1-31RGQ

Video, Power and Data Balun with Ground Loop Isolator



- Up to 2,000' range (610m)
- Passive operation: No power required
- Built-in impedance coupled device and noise filter
- Gold-plated BNC connector
- Small size for easy installation
- Multi-colored LED power output indicator:
 - Blue: Correct polarity
 - Red: Incorrect polarity
 - Purple: AC power
- Removable terminal blocks
- Includes DC pigtail and data wires

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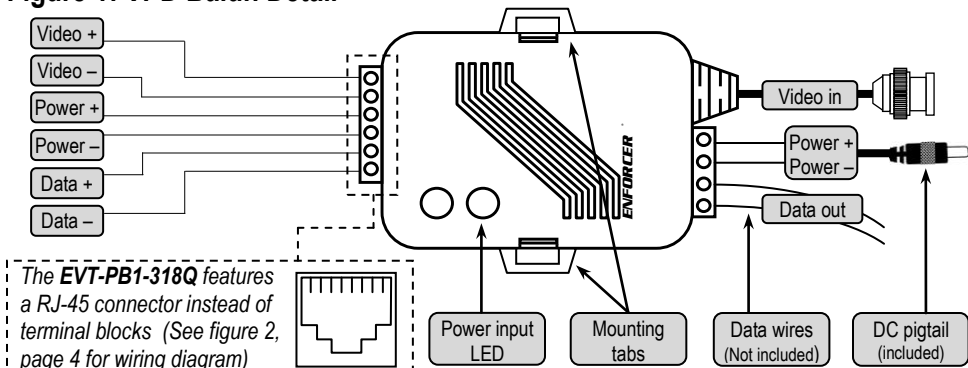
Introduction:

The ENFORCER EVT-PB1-31 Series of Video, Power and Data (VPD) Balun transmits video signals up to 2,000 feet over standard Cat5 cable. Video is transmitted over a single pair, 2-wire data control is sent over a second pair, and power is used on 1 or 2 remaining pairs. The EVT-PB1-31RGQ Video, Power and Data (VPD) Balun features a Ground Loop Isolator, and the EVT-PB1-318Q features an RJ-45 connector.

Specifications:

| | | EVT-PB1-318Q | EVT-PB1-31RQ | EVT-PB1-31RGQ | |
|-------------|----------------------------------|---|--------------------------|--------------------------|--|
| Video | Ground loop isolator | No | No | Yes | |
| | Range | 2,000' (610m) B/W, 1,300' Color (400m) | | | |
| | Video format | RS170, NTSC, PAL, SECAM, CCIR | | | |
| | Maximum input | 1vpp | | | |
| | Insertion loss | < 2dB per pair from DC ~ 5 MHz | | | |
| | Return loss | >-15dB from DC ~ 5 MHz | | | |
| | Common mode rejection | 60dB, 15KHz~5MHz | | | |
| | Frequency response | DC ~ 5 MHz | | | |
| | Power | No power required for video | | | |
| Connections | Wire type | UTP (unshielded twisted pair) | | | |
| | Wire category | 20 - 24 AWG @ Removable terminal block CAT2 or better, CAT5 ideal, CAT6 improves range | | | |
| | Camera side | Video in | Pigtail BNC | | |
| | | Power out | Removable terminal block | | |
| | | Data out | Removable terminal block | | |
| | Cable side | Video out | RJ-45 terminal | Removable terminal block | |
| | | Power in | | Removable terminal block | |
| | | Data in | | Removable terminal block | |
| | Max amperage | 1A@30VDC (power input) | | | |
| | Attenuation | DC ~ 5 MHz, 1.5 dB max | | | |
| Impedance | Coax, male BNC: 75 Ohms@ 1 MHz | | | | |
| | Terminal block: 100 Ohms @ 1 MHz | | | | |
| Other | Dimensions | 3 ¹³ / ₁₆ " x 1 ¹³ / ₁₆ " x 7 ⁷ / ₈ " (72 x 46 x 23 mm) | | | |
| | Humidity range | 0 ~ 95% | | | |
| | Temperature Range | 14°~165°F (-10°~74°C) | | | |
| | Case | PC Plastic | | | |

Figure 1: VPD Balun Detail



Installation:

1. Run UTP cable to the camera where the VPD balun is being installed.
2. Connect the output wires from the power supply to the power input terminal blocks on the balun.
Note: To avoid potential damage, use a voltage meter to ensure proper voltage is present at the input and output terminal block. Observe correct polarity.
3. Using the included pigtail DC plug, connect the wire end to the VDC output terminal block and connect the camera to the DC plug. See Fig.1.
4. Connect the video input male BNC connector from the VPD to the camera.
5. If using a RS-485 controlled camera, connect the data input wires to the camera.
6. Using the remaining terminal block, connect the data and video wires to the VPD balun according to Fig.1.

IMPORTANT – Correct polarity must be observed on all connections.

Troubleshooting:

| | |
|--|---|
| Wavy or ghost image when connected to image processor, but not directly connected to monitor | <ul style="list-style-type: none"> • Move the cable away from possible sources of interference • Install a video amplifier between image processor and balun • Make sure the same twisted pair connects balun at both ends • Replace cable with new cable |
| Image background flutters between black and white | <ul style="list-style-type: none"> • Remove power source or adjust monitor's brightness and contrast |
| Image is wavy and shakes | <ul style="list-style-type: none"> • Reverse polarity of the 2 wires at one of cable |
| Image is weak or faded | <ul style="list-style-type: none"> • Reduce cable length • Replace with higher grade cable. Cat5 cable meets the specifications in this manual, Cat6 will extend the range |
| No image | <ul style="list-style-type: none"> • Check the power supplies of all devices connected to cable • Double-check that the cable is connected properly • Run a continuity test on all wires in the cable • Replace the camera |
| Poor image quality when testing using cable on a reel | <ul style="list-style-type: none"> • Test only with cable laid out in such a way that is not coiled and does not double back on itself |

Sample Application: Connecting to a PTZ Camera:

NOTE: To avoid potential damage, use a voltage meter to ensure proper voltage is present at the input and output terminal blocks. **Observe correct polarity.**

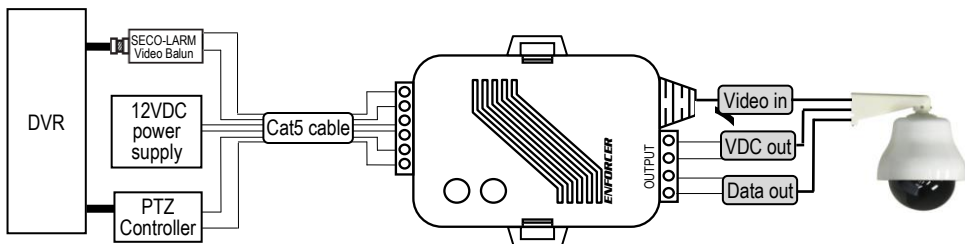


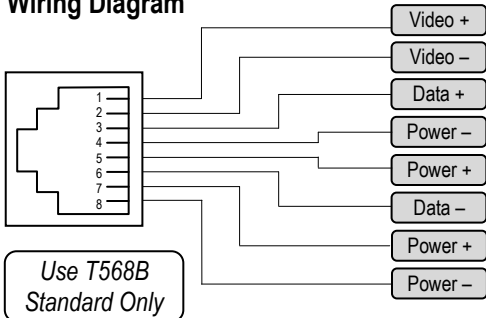
Table 1: LED Indicators

| LED colors | Status |
|------------|-----------------------|
| Blue | Correct DC polarity |
| Red | Incorrect DC polarity |
| Purple | AC power |

Table 2: 12 VDC Voltage Drop

| 24 AWG Wire | 1 Pair | 2 Pairs | 3 Pairs |
|-------------|--------|---------|---------|
| 250mA | 90' | 220' | 550' |
| 500mA | 45' | 110' | 285' |
| 750mA | 30' | 75' | 190' |
| 1A | 20' | 55' | 140' |

Figure 2: EVT-PB1-318Q RJ-45 Connector Wiring Diagram



Also Available from SECO-LARM:

Passive VGA Balun



EVT-SBP-GQ

Passive & Active Video Baluns



EVT-PB1Q
(shown)

BNC-to-VGA Converter



VC-1BAQ

VPD Balun with Voltage Booster



EVT-PB1-H05Q

Voltage Booster



ST-HB105-TTQ

Voltage Converter



ST-LA110-TTQ

Video Amplifiers



VA-2101B-WQ

Video Distributors



VA-1104B-WQ


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SECO-LARM® U.S.A., Inc.

16842 Millikan Avenue, Irvine, CA 92606
Tel: 800-662-0800 / 949-261-2999 Fax: 949-261-7326

Website: www.seco-larm.com
E-mail: sales@seco-larm.com

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