

Intelix S-V1CP

Installation Manual



Introduction

The Intelix S-V1CP transmits composite video, two conductor control, and power over a single twisted pair cable, such as Cat 5 or Cat 6. Used in pairs, S-V1CP baluns replace bulky coaxial video cable and utilize a building's existing structured cabling network.

The S-V1CP features a wave filter and anti-static design and conforms to IEC 61000-4-2:1995 standards. S-V1CP baluns are ideal for security and monitoring applications with such equipment as CCTV cameras, monitors, DVRs, video sequencers, video multiplexers, quads, switchers, and servers.

When signal quality matters, choose Intelix.

Installation

Caution: Do not attempt to disassemble or alter the balun housing. There are no user-serviceable parts inside the unit. Doing so will void your warranty.

1. Power off the source and destination devices which will be connected to the baluns.
2. Verify the modular outlets and cross connects to which you will connect the S-V1CP are configured properly and labeled appropriately to identify the circuit.

Caution: To minimize the possibility of equipment damage from electrostatic discharge (ESD), all source and destination equipment must be powered off during installation. This includes signal extenders, splitters, and switches.

3. Verify the desired twisted pairs are not being used for other LAN or telephone equipment.

Caution: Do not connect the balun to a telecommunication outlet wired to unrelated equipment. Doing so may damage the unit or any connected equipment. Ensure all connected twisted pair cabling is straight-through (point-to-point).

4. Connect one S-V1CP to the video port of the source equipment.
5. If desired, connect the S-V1CP to the data port and a power supply (see *Voltage Drop* chart).
6. Connect one end of the twisted pair cable to the S-V1CP. The RJ45 pinout in the twisted pair cabling should conform to the EIA/TIA 568A or 568B standard.
7. Connect a second S-V1CP balun to the video port on the destination equipment.
8. If transmitting data and power, connect the second S-V1CP to the data port and power input on the destination equipment.

Note: The male and female power DIN connectors are wired in parallel. Both connectors from send balun will transmit to both connectors on the receive balun.

9. Connect the other end of the twisted pair cable to the second balun. The RJ45 pinout in the twisted pair cabling should conform to the EIA/TIA 568A or 568B standard.
10. Power on the source and destination equipment.

Note: For your convenience, it is recommended that you uniquely mark the ends of the twisted pair cable before pulling them through a wall or conduit.

Voltage Drop According to Cable Length

using 24AWG cable

| Transmission Distance | Transmission Voltage Required | | |
|-----------------------|-------------------------------|--------------|--------------|
| | 12V DC, 0.5A | 12V DC, 1.0A | 12V DC, 1.5A |
| 160 feet | 13.5V | 15.5V | 17.0V |
| 320 feet | 15.5V | 18.5V | 22.0V |
| 500 feet | 17.0V | 22.0V | 27.0V |
| 650 feet | 18.5V | 25.5V | 32.0V |

Troubleshooting

| Symptom | Probable Causes | Possible Solutions |
|---|-----------------------------|--|
| Insufficient power | Cable loss | Increase the power supply voltage. See the <i>Voltage Drop</i> chart. |
| Image not stable | Defective link or equipment | Verify source and destination equipment and cabling |
| Unusual colors | Reversed polarity | Verify RJ45 pinout conforms to EIA/TIA 568A or 568B standard |
| Smearing or weak video contrast | Exceeded cable distance | Verify cable grade and total cabling distance |
| Horizontal bars moving upward in background | Ground loop problem | Verify the source and destination equipment are at the same ground potential. Ground the source and destination equipment. |
| Shaking image | Ground loop problem | Verify the source and destination equipment are at the same ground potential. Ground the source and destination equipment. |
| Variance in hue | EMI interference | Identify possible radiating frequency sources and isolate them from the cabling. Use shielded twisted pair cabling. |
| Background pattern | EMI interference | Identify possible radiating frequency sources and isolate them from the cabling. Use shielded twisted pair cabling. |

Technical Specifications

| | |
|--|---|
| Maximum Distance | Video: 1,000 feet Power: 650 feet Control: 1,000 feet |
| Recommended Devices | CCTV cameras, monitors, DVRs, video sequencers, multiplexers |
| Bandwidth | DC to 8 MHz |
| Maximum Input | 1.1 Vp-p, 75 ohms |
| Insertion Loss | Less than 2 dB over the frequency range |
| Return Loss | Greater than 15 dB over the frequency range |
| Protection | 1KV (10/700us) |
| RJ45 Pin Configuration <i>Reverse Polarity Sensitive</i> | Pins 4 and 5 Power (pins 4, 5, 7, and 8 are tied together) Pins 1 and 2 Video Pins 7 and 8 Power (pins 4, 5, 7, and 8 are tied together) Pins 3 and 6 Data |
| Cable | Unshielded Cat 5, Cat 5e, Cat 6 or better |
| Temperature | Operating: 0 to 55 C. Storage: -20 to 85 C. Humidity: up to 95% non-condensing |
| Supported Control | RS422, RS485, DC |
| Warranty | 2 years |
| Order Information | S-V1CP: one balun in bulk packaging S-V1CP-PAC: two baluns in retail packaging |

Distances and picture quality may be affected by cable grade, cable quality, source and destination equipment, RF and electrical interference, and cable patches. Intelix specifications are based on straight-through cabling with standard-grade Cat 5.

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EIA/TIA 568B Crimp Pattern Standard

| Pin | Color |
|-----|--------------|
| 1 | Orange/White |
| 2 | Orange |
| 3 | Green/White |
| 4 | Blue |
| 5 | Blue/White |
| 6 | Green |
| 7 | Brown/White |
| 8 | Brown |

