NEW!

Model NV-EC1701U Eo2™

Ethernet over 2-Wire Transceiver with PoE Power

Features:

- Transmit 10/100 BaseT Full Duplex Ethernet up to 1,000ft (305m)* over 4-pair cat5; 750ft (228m) over 18/2 (or similar 2-wire cable); 500ft (150m) over Shielded Twisted-Pair
- Powers PoE entry stations (or other PoE devices), up to 45 watts
- 48VDC is distributed over 2-wire cable to all connected IP devices
- One NVT Eo2™ transceiver at the network-end can support up to four remote Eo2™ transceivers and connected devices
- Up to four Eo2™ transceivers can be rack mounted on an NV-RMEC16U Eo2™ Rack Mount Tray Kit, connecting up to 16 entry stations or contact closures
- Easy configuration, no PC required
- Transparently supports all networking protocols (UDP, TCP/IP, HTTP, etc.)
- Advanced 128-bit AES encrypted transmission and power technology with built-in transient protection
- Available in 1-4 device Eo2™ System Kits
- Limited lifetime warranty

The NVT Model NV-EC1701U Eo2™ Ethernet over 2-wireTransceiver is a compact media coverter that allows 10/100 BaseT Ethernet and PoE power to be transmitted using 18/2 or similar. These devices are typically used in legacy installations where existing 18/2 is re-used as part of an upgrade to IP devices. 48 VDC class 2 power is delivered to one transceiver, which distributes it to up to four remote transceivers, and their PoE devices.

These transceivers are extremely simple to use, with no IP or MAC addressing required. Status LEDs indicate power and link connectivity/activity for RJ45 and 2-wire ports. The NV-EC1701U is backed by NVT's award winning customer support and limited lifetime warranty.

* Distance and number of devices supported may be lower due to power delivery voltage-drop on the wire. See Distance graphs on page 6.

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Technical Specifications

RJ45 ETHERNET INTERFACE

Connectivity:	RJ45, auto-crossover
Wire type:	4-pair Cat5 or better
Distance:	up to 328ft (100m)
Speed:	10/100 Base T, half/full duplex, auto-negotiation auto MDI/MDIX cross-over
Latency:	3mS

Data throughput:
80Mbps ±10% useable bandwidth per network Example: Four megapixel cameras, all sharing one coax network, each sending 20 Mbps video stream(s).

Power Output:
This Power Sourcing Equipment (PSE) supports Powered Devices (PDs) that are compatible with IEEE 802.3af, or PDs that draw up to 45 watts*. "always on" 48VDC out puts appear on pins 4&5 and 7&8, and are current-protected and transient-protected.

BUILDING WIRING INTERFACE

Connectivity:	2-wire, 18/2 or similar One control room NV-EC1701U transceiver plus up to four remote NV-EC1701U transceivers are supported
Impedance:	50 to 100Ω
Distance:	up to 1,000ft (305m)*
Transmission technology:	OFDM, 128-bit AES encryption

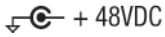
***IMPORTANT NOTE:**
Distance may be shorter due to power delivery voltage-drop on the wire. Power supplies may be used simultaneously at more than one Transceiver.

LED STATUS INDICATORS

Power:	Blue "Power On"
BNC Interface:	Green "Link"
RJ45 Interface:	Green "Link"

POWER CONSUMPTION
Consumption per transceiver: = 3.0 W @ 48VDC

Total system consumption: + total consumption of transceivers
+ total consumption of PDs (entry station)
+ total power dissipated in the wire

POWER SUPPLY
Power supplies are external inline, with an IEC380-C14 power inlet and 6ft (1.8m) line-cord. Input Voltage is 100 ~240VAC 50-60Hz. A molded P1J 5.5mm barrel connector provides a Class 2 (SELV) 48VDC regulated output. Use only the power cord provided with the unit or equivalent UL approved type SPT-2, SVT, or SJT, 18/3 AWG 100~240VAC, 1A 60°C Max. 15ft (4.5m) long. One end with IEC380-C13 appliance coupler and the other end 

with NEMA 1015P or equivalent for country.

MECHANICAL

Body:	5.1 in (131mm) long 1.3 in (33mm) high 1.5 in (38mm) wide
Transceiver weight:	5.1oz (145g)
Power supply weight:	10.6oz (300g)
Power cord weight:	5.5 oz (156g)
Total weight:	21.2 oz (600g)

ENVIRONMENTAL

Operating & storage temperature:	-40°F to 158°F (-40°C to 70°C)
Humidity:	20 to 70%, non-condensing
Transient Immunity:	5x20µ5 3000A, 6000V ESD 20KV, 200pF

REGULATORY


UL Listed to IEC/UL 60950-1 Complies with FCC part 15B limits

Specifications subject to change without notice.

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Product and Accessories

NV-EC1701U: Single Eo2™ transceiver only, no power supply

ACCESSORIES

NV-PS48-60W: 48V DC power supply, 60 watts with IEC line cord

NV-PC2PR: RJ45 Patch Cord, 4-pair 3' (1m) Grey

NV-PC2PR: RJ45 Patch Cord, 2-pair 3' (1m) Red

NV-DPSC4: Detachable Power Supply Cord Splitter 1:4 2ft

NV-RMEC16U: Rack mounting chassis, 19" x 1U holds up to 4 NV-EC1701U transceivers plus power supplies. Includes NV-DPSC4 Power Cord Splitter (NV-EC1701U and NV-PS48-60W not included)

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Product Kits

Single Entry Station Eo2™ Transmission System

NV-EC1701U-KIT1: 2 NV-EC1701U Transceivers
1 NV-PS48-60W Power Supply with IEC line cord
1 NV-PC4PR patch-cord
1 NV-PC2PR patch-cord

Dual Entry Station Eo2™ Transmission System

NV-EC1701U-KIT2: 3 NV-EC1701U Transceivers
1 NV-PS48-60W Power Supply with IEC line cord
2 NV-PC4PR patch-cord
1 NV-PC2PR patch-cord

Triple Entry Station Eo2™ Transmission System

NV-EC1701U-KIT3: 4 NV-EC1701U Transceivers
1 NV-PS48-60W Power Supply with IEC line cord
3 NV-PC4PR patch-cord
1 NV-PC2PR patch-cord

Quadruple Entry Station Eo2™ Transmission System

NV-EC1701U-KIT4: 5 NV-EC1701U Transceivers
1 NV-PS48-60W Power Supply with IEC line cord
4 NV-PC4PR patch-cord
1 NV-PC2PR patch-cord

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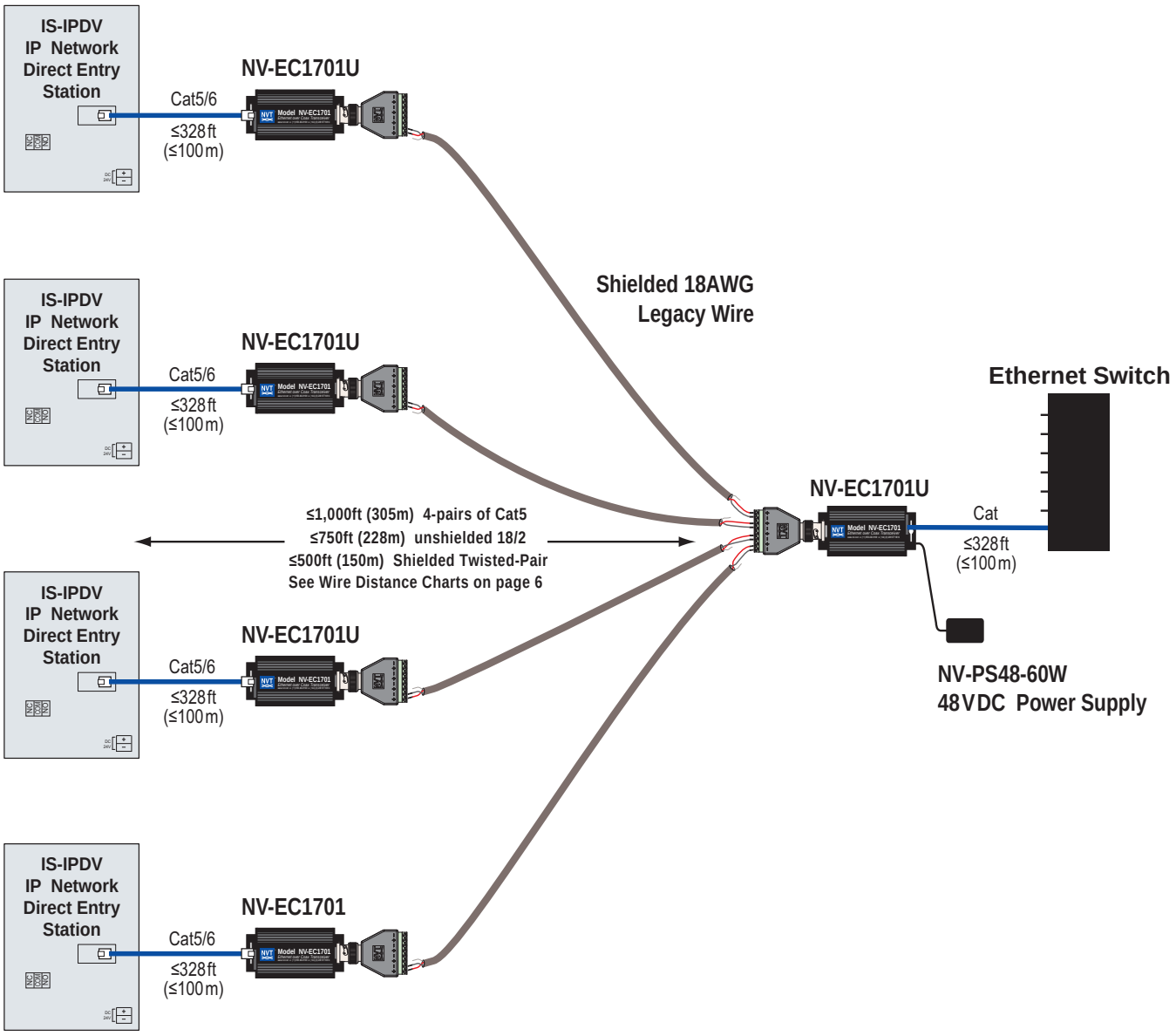
Application Drawing



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Wire Type and Power Distance Capacity

The distance capability of wire is dependant on its ability to deliver DC power, and separately, to deliver high-frequency data signals.

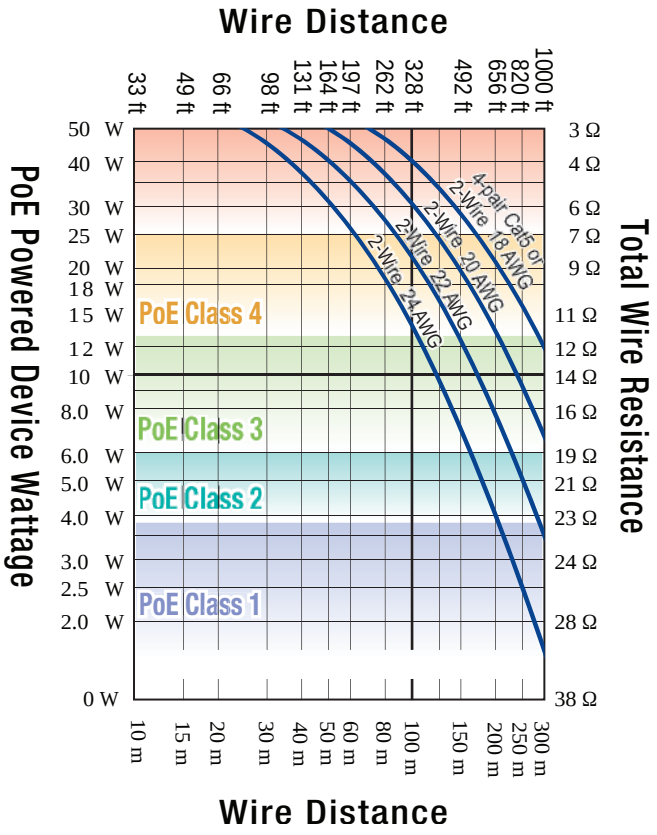
The left graph below shows maximum power delivery. If you are not delivering power to your camera (or other remote device), then this graph does not apply. The right graph below shows the maximum data delivery rate.

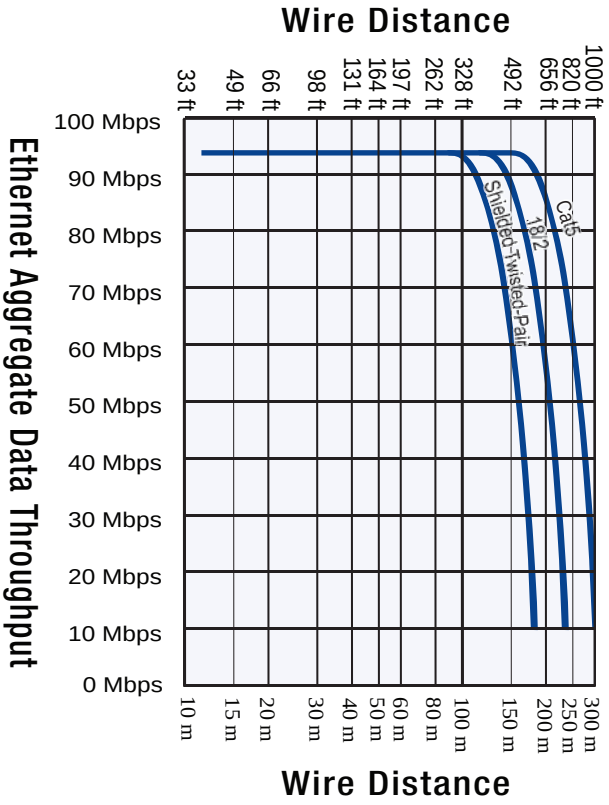
PoE devices require a minimum of 43V to operate. With a 48V supply, we have 5V of allowable voltage drop on the wire. The voltage will dip in proportion to the remote (camera) load. The graphs below show what distances are supported for various loads and wire types.

• Start with the Powered Device (camera) wattage at the left. Sometimes PoE devices are listed as to their PoE Class rather than wattage. If this is the case, use the colored classes instead.

• Now read over to the right until you find your kind of wire. Then look up (feet) or down (meters) to find your maximum wire distance.

• If your wire is not among the examples, simply measure its total resistance and find that value on the right side of the graph. The maximum supported wattage is on the left.





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