

IP Product **Catalog**

Power over Ethernet Innovations that Go Beyond Traditional PoE Switch Limitations

Why NVT Phybridge? We have helped thousands of organizations create better digital transformation outcomes by eliminating the cable type and reach limitations of traditional switches. The CHARIoT series of PoE switches and extender solutions provide Power over Ethernet over any new or existing infrastructure with up to 18-times the reach of traditional switches. Let us help you replicate the success!

Outcomes Achieved:

- Infrastructure cost savings of up to 80%
- Accelerated digital transformation
- Eliminated risk and disruption.
- Building the most secure network platform for your new IP devices
- Robust network that is easy to manage
- Better Return on Investment
- Environmentally responsible digital transformation

Performance Matters: See the performance results for yourself! Visit our website to compare our CHARIoT switches against industry-leading switches and our competition.



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“NVT Phybridge PoE switches allowed us to create a robust and secure network backbone for our new IP Intercom System. We now have greater communication flexibility to help our operators improve the response time to customer needs.”

Jeff Thurston
Project Manager
Toronto Transit Commission (TTC)

FLEX Family **Ethernet Switches & Adapters: *Ethernet and PoE over Multi-Pair UTP***

The FLEX Family of switches and extenders leverages multi-pair UTP infrastructure (existing or new) to extend PoE connectivity up to 2,000ft (610m)



**FLEX24-10G Switch
(NV-FLX-024-10G)**

- 24-port managed long reach PoE++ switch with Layer 2, Layer 3, and Layer 4 capabilities
- 10/100/1000Mbps symmetrical (full-duplex) and PoE++ (50W) over 4-pair UTP or PoE+ (30W) over 2-pair UTP with 2,000ft (610m) reach
- 802.1x port-based authentication, with supported FLEX adapter only*
- MAC security - static MAC locking per port
- Authentication, Authorization, and Accounting (AAA) with TACACS+ or RADIUS
- Power redundancy available
- Power management by port and MAC locking
- EN 50121-4 Standard for Railway/ Subway environments



**FLEX8 Switch
(NV-FLX-08)**

- 8-port plug-and-play long reach PoE switch
- 10/100Mbps symmetrical (full duplex) and PoE++ (50W) over 4-pair UTP or PoE+ (30W) over 2-pair UTP with 2,000ft (610m) reach
- 2 x 1GB uplink ports
- 190W external power supply
- EN 50121-4 Standard for Railway/Subway environments



**FLEX-Base Extender
(NV-FLXLK-BSE)**

- Base unit for 1-port long reach PoE Extender
- Negotiates with PoE switch
- IEEE-compliant
- 10/100Mbps symmetrical (full duplex) and PoE++ (50W) over 4-pair UTP or PoE+ (30W) over 2-pair UTP with 2,000ft (610m) reach
- Can be locally powered*
- EN 50121-4 Standard for Railway/ Subway environments



**FLEX-C Adapter
(NV-FLXLK-C)**

- Adapter for FLEX24-10G, FLEX8 and FLEX-Base to extend PoE up to 2,000ft (610m)
- Supports IEEE-compliant devices
- Delivers up to 30W of power
- EN 50121-4 Standard for Railway/ Subway environments



**FLEX-Link Adapter
(NV-FLXLK)
(NV-FLXLK-1X)**

- Adapter for FLEX24-10G, FLEX8 and FLEX-Base to extend PoE up to 2,000ft (610m)
- For 2 or 4 pair-UTP deployment
- IEEE-compliant
- Delivers up to 50W of power
- Can be locally powered*
- EN 50121-4 Standard for Railway/ Subway environments
- 802.1x Supported with adapter SKU: NV-FLXLK-1X



**FLEX4 Adapter
(NV-FLX-04)**

- Adapter for FLEX24-10G, FLEX8 and FLEX-Base to extend PoE up to 2,000ft (610m)
- IEEE-compliant
- Enables 4 IP devices from a single 2 or 4 pair UTP cable run
- Delivers up to 30W of power per downlink port
- Can be locally powered*
- EN 50121-4 Standard for Railway/ Subway environments

*Please see accessory table for appropriate power supply

FLEX Family **Base & Extender Kits: Ethernet and PoE over Multi-Pair UTP**

The FLEX Family of switches and extenders leverages multi-pair UTP infrastructure (existing or new) to extend PoE connectivity up to 2,000ft (610m)



**4-Port Extender Kit
(NV-FLX-04-XKIT)**

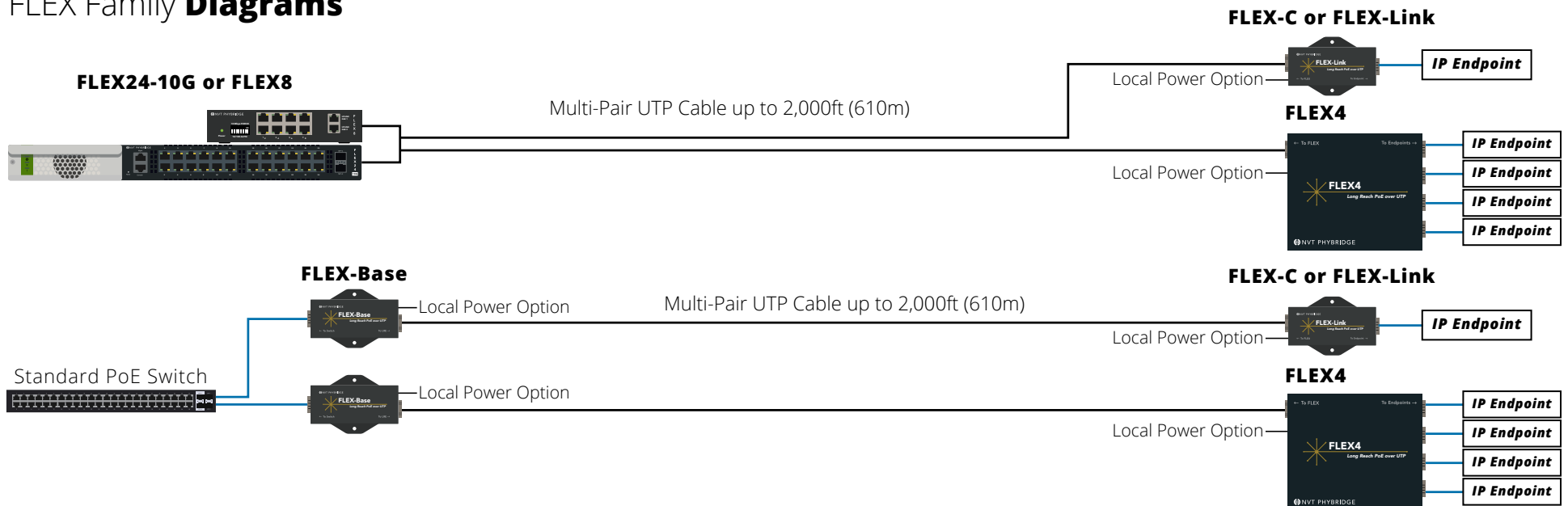


**1-Port Extender Kit
(NV-FLXLK-XKIT)**

- Extend reach of standard PoE switch
- Single port extender solution enabling 4 IP endpoints from a single 2 or 4 pair long run UTP cable
- 10/100Mbps symmetrical (full duplex) and PoE++ (50W) over 4-pair UTP or PoE+ (30W) over 2-pair UTP with 2,000ft (610m) reach
- Delivers up to 30W of power per downlink port
- Adapters can be locally powered*
- Includes: FLEX-Base Extender, FLEX4 Adapter, and 110W, 55V external power supply

- Extend reach of standard PoE switch
- Single port extender solution enabling 1 IP endpoint from a single 2 or 4 pair long run UTP cable
- 10/100Mbps symmetrical (full duplex) and PoE++ (50W) over 4-pair UTP or PoE+ (30W) over 2-pair UTP with 2,000ft (610m) reach
- Up to 50W of power available for the endpoint
- Adapters can be locally powered*
- Includes: FLEX-Base Extender, FLEX-Link Adapter, and 60W, 55V external power supply

FLEX Family **Diagrams**



*Please see accessory table for appropriate power supply

For more information, visit: www.nvtpybridge.com | 3.7.2022

CLEER Family **Ethernet Switches & Adapters: Ethernet and PoE over Coax**

The CLEER Family of switches and extenders leverage Coax infrastructure (existing or new) to extend PoE connectivity up to 6,000ft (1,830m)

Distances based on RG11 cable. For additional cable performance characteristics please see individual product datasheets.



**CLEER24-10G Switch
(NV-CLR-024-10G)**

- 24-port managed long reach PoE++ switch with Layer 2, Layer 3, and Layer 4 capabilities
- 10/100 symmetrical (full-duplex) and PoE++ (50W) over Coax with 6,000ft (1,830m) reach
- 802.1x Port-Based Authentication, with supported EC adapter only*
- MAC security - static MAC locking per port
- Authentication, Authorization, and Accounting (AAA) with TACACS+ or RADIUS
- Power redundancy available
- Power management by port and MAC locking
- EN 50121-4 Standard for Railway/ Subway environments



**EC10 Switch
(NV-EC-10)**

- 10-port plug-and-play long reach EoC PoE switch
- 100Mbps symmetrical (full duplex) and PoE+ (30W) over Coax with up to 3,000ft (915m) reach
- 2 x 1GB uplink ports
- 165W external power supply
- EN 50121-4 Standard for Railway/ Subway environments



**EC-Base Extender
(NV-ECLK-BSE)**

- Base unit for 1-port long reach PoE Extender
- Negotiates with PoE switch
- IEEE-compliant
- When paired with EC-Link+ (50W), EC4 (30W) or EC-Link (30W) Adapters, delivers PoE over coax with up to 6,000ft (1,830m) reach
- Can be locally powered*
- EN 50121-4 Standard for Railway/ Subway environments



**EC-Link Adapter
(NV-ECLK)**

- Adapter for CLEER24-10G, EC10 and EC-Base EoC switches to extend PoE up to 4,000ft (1,220m)
- Converts Coax connection to an RJ45 connection for standard Ethernet cable
- Supports IEEE-compliant devices
- Delivers 30W of power & can be locally powered*
- EN 50121-4 Standard for Railway/ Subway environments



**EC-Link Adapter
(NV-ECLK-PLS)
(NV-ECLK-PLS-1X)**

- Adapter for CLEER24-10G, EC10 and EC-Base to extend PoE up to 6,000ft (1,830m)
- Converts Coax connection to an RJ45 connection for standard Ethernet cable
- IEEE-compliant
- Delivers up to 50W of power
- Can be locally powered*
- EN 50121-4 Standard for Railway/ Subway environments
- 802.1x Supported with adapter SKU: NV-ECLK-PLS-1X



**EC4 Adapter
(NV-EC-04)**

- Adapter for CLEER24-10G, EC10 and EC-Base to extend PoE up to 3,000ft (915m)
- Enables 4 IP devices from a single Coax cable run
- Receives and delivers PoE power (up to 30w) from EC10, CLEER24-10G or EC-Base
- Supports IEEE-compliant devices
- Can be locally powered* (optional) and deliver up to 50 watts per port with a maximum overall power budget of 165W
- EN 50121-4 Standard for Railway/ Subway environments

*Please see accessory table for appropriate power supply

For more information, visit: www.nvtpybridge.com | 3.7.2022

CLEER Family **Base & Extender Kits: Ethernet and PoE over Coax**

The CLEER Family of switches and extenders leverage Coax infrastructure (existing or new) to extend PoE connectivity up to 6,000ft (1,830m)

Distances based on RG11 cable. For additional cable performance characteristics please see individual product datasheets.



**4-Port Extender Kit
(NV-EC-04-XKIT)**

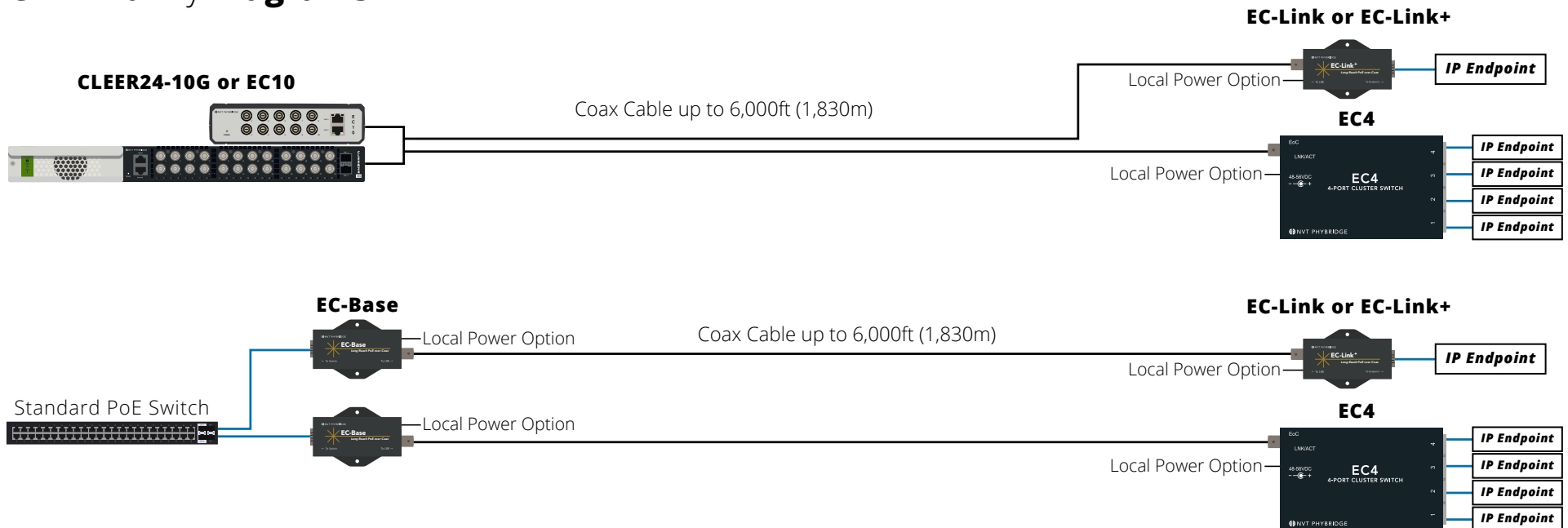


**1-Port Extender Kit
(NV-ECLK-PLS-XKIT)**

- Extend reach of standard PoE switch
- Single port coax extender solution enabling 4 IP endpoints from a single long run Coax cable
- 100Mbps symmetrical (full duplex) and PoE+ (up to 30W) with up to 3,000ft (915m) reach
- EC-04 can be locally powered (optional) and deliver up to 50 watts per port with a maximum overall power budget of 165W
- IEEE-compliant
- Adapters can be locally powered*
- Includes: EC-Base Extender, EC4 Adapter, and 110W, 55V external power supply

- Extend reach of standard PoE switch
- Single port coax extender solution enabling 1 endpoint from a single long run Coax cable
- 10/100Mbps symmetrical (full duplex) and PoE+ (up to 50W) with up to 6,000ft (1,830m) reach
- Up to 50W of power available for the endpoint
- Adapters can be locally powered*
- Includes: EC-Base Extender, EC-Link+ Adapter, and 60W, 55V external power supply

CLEER Family **Diagrams**



*Please see accessory table for appropriate power supply

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PoLRE Family **Ethernet Switches & Adapters: Ethernet and PoE over Single-Pair UTP**

The PoLRE Family of switches and adapters leverage single-pair UTP infrastructure (existing or new) to extend PoE connectivity up to 1,200ft (365m)



**PoLRE24 Switch
(NV-PL-024)**

- 24-port managed long reach PoE switch
- 10Mbps symmetrical (full duplex) and PoE (15W) over single-pair UTP with 1,200ft (365m) reach
- 2 x 1GB uplink ports, 2 x 1GB fiber uplink ports and dedicated management and console ports
- Intuitive, simple management GUI; remote access
- 500W (110v) or 1,000W (220v) auto sensing hotswappable power supply
- Power redundancy available
- Power management by port and MAC locking



**PoLRE48 Switch
(NV-PL-048)**

- 48-port managed long reach PoE switch
- 10Mbps symmetrical (full duplex) and PoE (15W) over single-pair UTP with 1,200ft (365m) reach
- 2 x 1GB uplink ports, 2 x 1GB fiber uplink ports and dedicated management and console ports
- Intuitive, simple management GUI; remote access
- 500W (110v) or 1,000W (220v) auto sensing hotswappable power supply
- Power redundancy available
- Power management by port and MAC locking



**PoLRE LPC Switch
(NV-PL-08)**

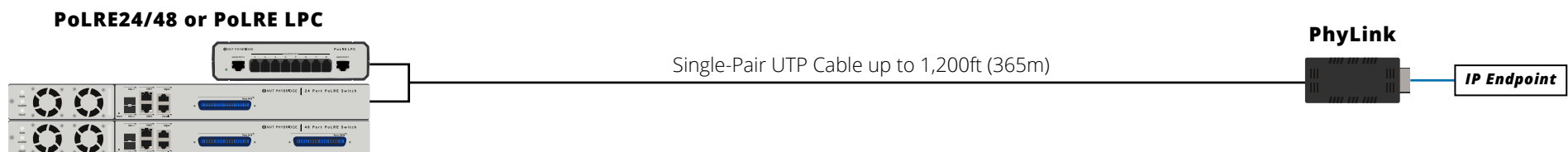
- 8-port plug-and-play long reach PoE switch
- 10Mbps symmetrical (full duplex) and PoE (15W) over single-pair UTP with 1,200ft (365m) reach
- 2 x 1GB uplink ports
- 110W external power supply



**PhyLink Adapter
(NV-PL-PA-011-6)**

- Adapter for PoLRE24/48 and PoLRE LPC
- Converts two-wire RJ11 connection into an RJ45 connection for standard Ethernet cable
- Supports IEEE compliant devices
- Delivers up to 15W of power
- Sold in packs of six

PoLRE Family **Diagrams**



1701+ Solution: **Ethernet and PoE over Coax, UTP or 2-Wire Cable**

1701+ Extender Solution leverages Coax, single-pair UTP, or 2-wire infrastructure (existing or new) to extend PoE connectivity up to 8,000ft (2.4km) on RG6



1701+ Base
(NV-EC1701PLS-BSE)



1701+ Link
(NV-EC1701PLS-LK)

- Paired with 1701+ Link Adapter
- Data rate up to 420 Mbps with up to 8,000 ft (2.4km) reach
- Negotiates power with 802.3at/af PoE Switch (802.3at/af max power is 30W)
- IEEE-compliant
- 1701+ Base can also be locally powered* for non-PoE switch deployments or high-power delivery (100W)
- 10/100/1000 Base-T, Auto-MDIX interface with Ethernet Switch
- Supports up to 4 endpoints in a point to multi-point topology
- LED Indicators (power, link, data)

- Paired with 1701+ Base Extender
- Data rate up to 420 Mbps with up to 8,000 ft (2.4km) reach
- Negotiates with 802.3at/af IP endpoint
- IEEE-compliant
- The 1701+ Link shall provide up to a maximum of 50 watts of power on all 4 pairs when locally powered* and 30W of power on Mode B pairs powered via the 1701+ Base with a local power supply
- 328ft (100m) reach from the adapter to the IP endpoint via CAT5 or better cable
- 10/100/1000 Base-T, Auto-MDIX interface with IP endpoint
- LED Indicators (power, link, data)

1701+ Kits



Single 60-Watt Transmission System (Coax or UTP) **NV-EC1701PLS-XKIT**

- 1 x 1701+ Base Extender
- 1 x 1701+ Link Adapter
- 1 x NV-PS55-60W Power Supply with IEC line cord
- 2 x BNC Screw Terminal Adapter (NV-BNCA)
- 1 x 2' Coax Cable



Dual 110 Watt Transmission System (Coax or UTP) **NV-EC1701PLS-K2H**

- 1 x 1701+ Base Extender
- 2 x 1701+ Link Adapter
- 1 x NV-PS55-110W Power Supply with IEC line cord
- 3 x BNC Screw Terminal Adapter (NV-BNCA)
- 1 x BNC "T" Adapter (NV-BNCT)
- 1 x 2' Coax Cable



Triple 110 Watt Transmission System (Coax or UTP) **NV-EC1701PLS-K3H**

- 1 x 1701+ Base Extender
- 3 x 1701+ Link Adapter
- 1 x NV-PS55-110W Power Supply with IEC line cord
- 4 x BNC Screw Terminal Adapter (NV-BNCA)
- 1 x BNC Coax Splitter 1:4 (NV-EC4BNC)
- 1 x 2' Coax Cable



Quad 110 Watt Transmission System (Coax or UTP) **NV-EC1701PLS-K4H**

- 1 x 1701+ Base Extender
- 4 x 1701+ Link Adapter
- 1 x NV-PS55-110W Power Supply with IEC line cord
- 5 x BNC Screw Terminal Adapter (NV-BNCA)
- 1 x BNC Coax Splitter 1:4 (NV-EC4BNC)
- 1 x 2' Coax Cable

*Please see accessory table for appropriate power supply

1701+ Solution: **Ethernet and PoE over Coax, UTP or 2-Wire Cable**

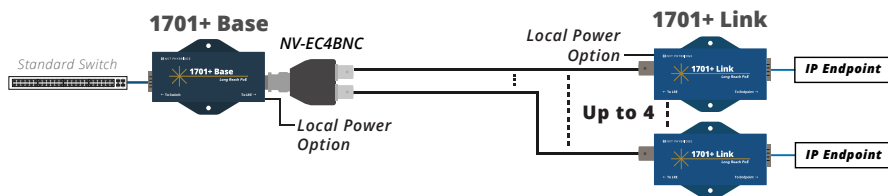
1701+ Extender Solution leverages Coax, single-pair UTP, or 2-wire infrastructure (existing or new) to extend PoE connectivity up to 8,000ft (2.4km) on RG6

Coax Usage Scenarios:

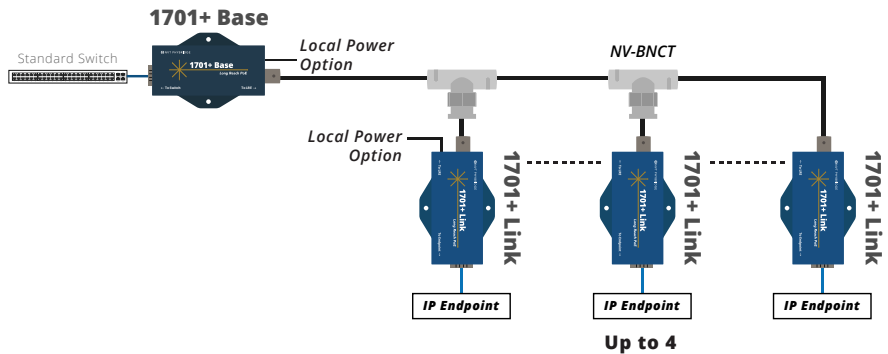
Point to Point



Point to Multi-Point (Star)



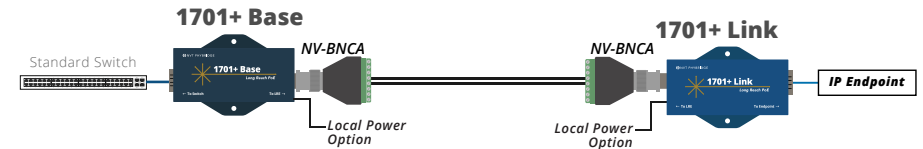
Point to Multi-Point (Daisy Chain)



UTP Usage Scenarios:

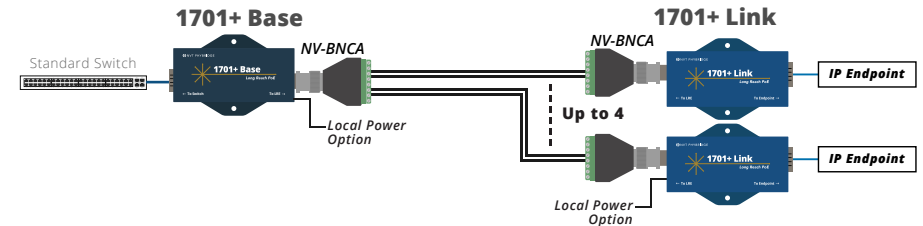
Point to Point

Note: NV-BNCA is polarity sensitive



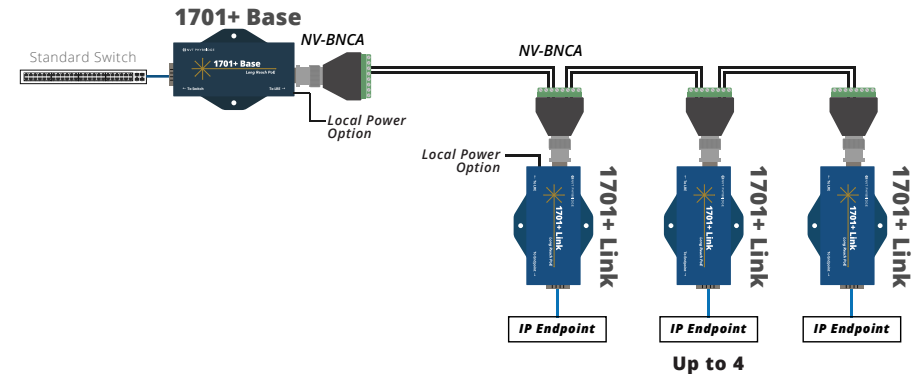
Point to Multi-Point (Star)

Note: NV-BNCA is polarity sensitive



Point to Multi-Point (Daisy Chain)

Note: NV-BNCA is polarity sensitive



IP Accessories

Applicable accessories for IP Products

IP Accessories	Description	PoLRE24/48	CLEER24-10G	FLEX24-10G	PoLRE LPC	EC10	FLEX8	EC-Base & FLEX-Base	1701+
NV-PL-RMEC10	Rack mount kit for 2 Unmanaged Switches and Power Supplies				X	X			
NV-RMEXT	Rack mount kit for up to 8 NV-ECLK-BSE or NVFLXLK-BSE							X	
NV-PL-1110-PWR	110VDC, 1,000 Watt Power Supply		X	X					
NV-PL-1000-PWR	110VDC, 500 Watt / 220VDC, 1,000 Watt Power Supply	X	X	X					
NV-PS55-190W	55VDC, 190 Watt Power Supply with IEC line cord					X	X		
NV-PS55-165W	55VDC, 165 Watt Power Supply with IEC line cord				X	X			
NV-PS55-110W	55VDC, 110 Watt Power Supply with IEC line cord				X			X	X
NV-PS55-60W	55VDC, 60 Watt Power Supply with IEC line cord							X	X
NV-PS55-48W-P	55VDC, 48 Watt Power Supply with 2P terminal block adapter and IEC line cord							X	
NV-PS55-190W-DC	55VDC, 190 Watt Power Supply with DC filter and IEC line cord. Used in Railway & Subway Applications.					X	X		
NV-PS55-110W-DC	55VDC, 110 Watt Power Supply with DC filter and IEC line cord. Used in Railway & Subway Applications.							X	X
NV-PS55-60W-DC	55VDC, 60 Watt Power Supply with DC filter and IEC line cord. Used in Railway & Subway Applications.							X	X
NV-PL-DCCBL	DC Cable for PowerWise Power Sharing (Qty 4)	X	X	X					
NV-RJ11A-2P	RJ11 to 2 position screw terminal adapter, for outbound 1 pair cable connection (Qty 4)				X				
NV-GLC-SX-MMD	GLC-SX-MMD GBIC Transceiver Module 1000Base-SX SFP Dual LC	X	X	X					
NV-GLC-LH-SMD	GLC-LH-SMD GBIC Transceiver Module 1000Base-LX LH Dual LC	X	X	X					
NV-GLC-EX-SMD	GLC-EX-SMD GBIC Transceiver Module 1000Base-EX Dual LC	X	X	X					
NV-SFP-RJ45	SFP Transceiver Module 1000Base-T RJ-45	X	X	X					
NV-SFP-10G-SR-LC	GBIC Transceiver Module – 10Gb/s – Dual LC		X	X					

