

CHARIOT
by NVT Phybridge

PRODUCT GUIDE

Why NVT Phybridge?

NVT Phybridge is the leader in Power over Long Reach Ethernet (PoLRE) using Modern LAN principles to make IP connections efficient and cost-effective. Our CHARIoT Series of switches help customers modernize to an IP based network, transforming the existing or new infrastructure into an IP path with power. We are a North American-based technology company with global reach dedicated to practical innovation. Our number one priority is bringing innovative and affordable solutions to market that are technologically advanced as well as practical for the customer.



Take full advantage of
Modern LAN Principles.
*www.themodernLAN.com



\$200,000,000 and Counting
in Customer Savings.



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At NVT Phybridge we know what partners need to win in technology refresh opportunities – simple, flexible, adaptable, affordable, non-disruptive solutions that protect customer investments while achieving business transformation. We also know how to enable partners to successfully engage in these opportunities.

- ✓ Accelerate revenues and margins
- ✓ Collapse long cycles for sales, planning and deployment
- ✓ Eliminate infrastructure barriers & competitive pressures

PRODUCT GUIDE - ETHERNET & 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 Switch

(NV-FLX-024)

- 24-port managed 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, 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
- 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



4-Port FLEX Extender Kit

(NV-FLX-04-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



1-Port FLEX Extender Kit

(NV-FLX-01-XKIT)

- 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

EXTENDER & ADAPTERS



FLEX-Base Extender

(NV-FLX-01-BSE)

- Base unit for 1-port long reach PoE Extender
- Negotiates with 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
- Can be locally powered
- EN 50121-4 Standard for Railway/Subway environments



FLEX-C Adapter

(NV-FLX-01-C)

- Adapter for FLEX24-10G, FLEX24, 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-FLX-01-L)

- Adapter for FLEX24-10G, FLEX24, 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

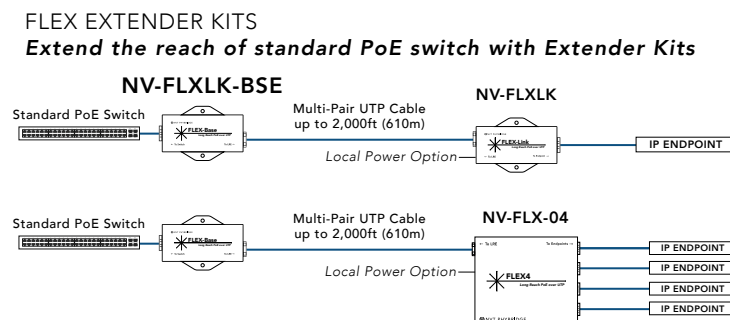
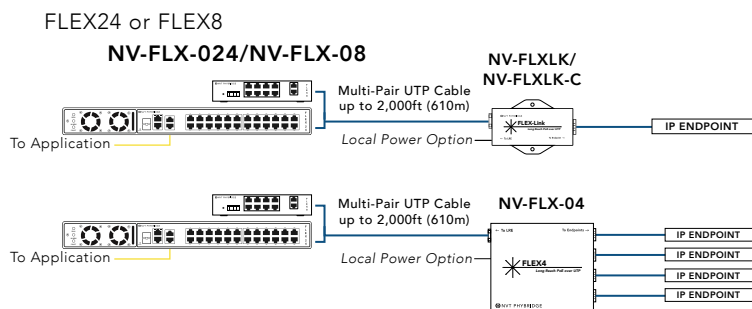


FLEX4 Adapter

(NV-FLX-04)

- Adapter for FLEX24-10G, FLEX24, FLEX8 and FLEX-Base to extend PoE up to 2,000ft (610m)
- Supports IEEE-compliant devices
- 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

DIAGRAMS



INTRODUCING **FLEX24-10G**

The NVT Phybridge FLEX24-10G switch is **the most versatile PoE switch on the market**, designed to make IP/IoT deployments simple, secure, and cost-effective. The FLEX24-10G switch delivers up to 50 Watts of PoE++ and 10/100/1000 Mbps symmetrical, full-duplex, over 2 or 4 pair UTP (unshielded twisted pairs) cabling with up to 2,000ft (610m) reach.



Connectivity

- 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
- 2 x SFP+ 10 Gb uplink ports
- Dedicated management and console RJ45 ports

Power

- 1,000W (100VAC / 240VAC) auto-sensing power supply
- Hot-swappable power supply
- Power redundancy available
- Power management by port
- User configurable PoE voltage

Security

- 802.1x port-based authentication
- MAC security - static MAC locking per port
- Authentication, Authorization, and Accounting (AAA) with TACACS+ or RADIUS
- Remote monitoring
- SSH/SSL
- Multi-level user privilege controls
- Multi-layer access control lists

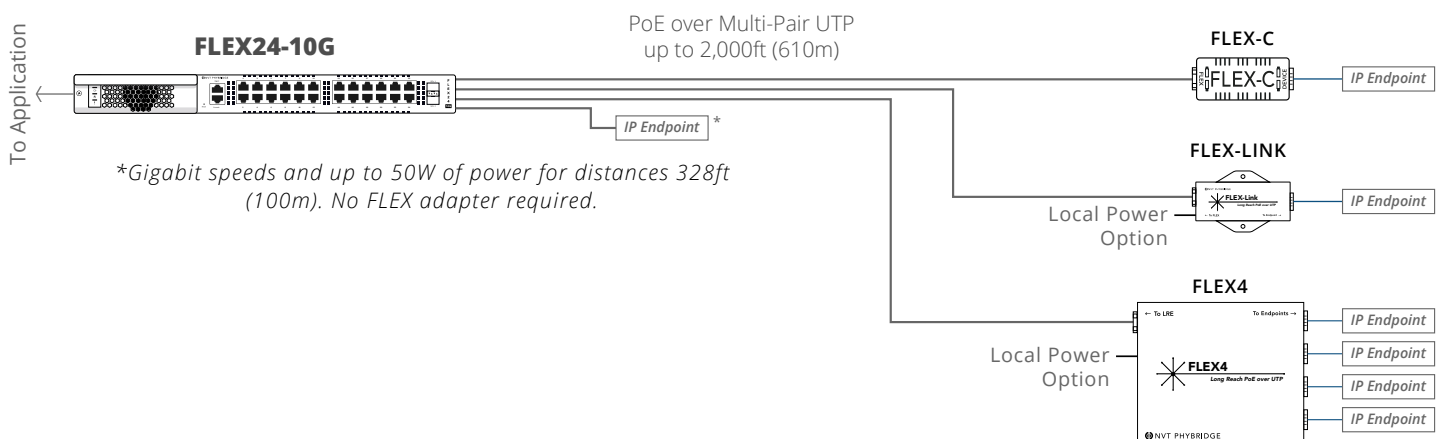
Management

- In-band and out-of-band management available
- Intuitive, simple management GUI
- Industry adopted Command Line Interface
- SNMP v1,v2,v3
- Multi-switch management
- Serial console-based management

Other

- EN 50121-4 standard for railway/subway environments
- Enables long reach deployments of IP cameras, IP phones, wireless access points, IPTV terminals, and any other IEEE-compliant IoT devices.

DIAGRAMS



PRODUCT GUIDE - ETHERNET & POE OVER COAX

The CLEER Family of Switches and Extenders leverages 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 Switch

(NV-CLR-024)

- 24-port managed long reach EoC PoE switch
- 10/100Mbps symmetrical (full duplex) and PoE+ (30W) over Coax with up to 6,000ft (1,830m) 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
- 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



4-Port EC Extender Kit

(NV-EC-04-XKIT)

- Extend reach of standard PoE switch
- Single port coax extender solution enabling 4 IP endpoints from a single long run Coax cable
- 10/100Mbps symmetrical (full duplex) and PoE+ (up to 30W) with up to 3,000ft (915m) reach
- Delivers up to 30W of power per downlink port
- Adapters can be locally powered
- Includes: EC-Base Extender, EC4 Adapter, and 110W, 55V external power supply



1-Port EC Extender Kit

(NV-ECLK-PLS-XKIT)

- 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

EXTENDER & ADAPTERS



EC-Base Extender

(NV-ECLK-BSE)

- Base unit for 1-port long reach PoE Extender
- Negotiates with PoE switch
- 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-ECLNK)

- Adapter for CLEER24 and EC10 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
- Can be paired together to act as EoC extender (requires always on PoE or local power)
- EN 50121-4 Standard for Railway/ Subway environments



EC-Link+ Adapter

(NV-ECLK-PLS)

- Adapter for CLEER24, EC10 and EC-Base to extend PoE up to 6,000ft (1,830m)
- Converts Coax connection to an RJ45 connection for standard Ethernet cable
- Supports IEEE-compliant devices
- Delivers up to 50W of power
- Can be locally powered
- EN 50121-4 Standard for Railway/ Subway environments



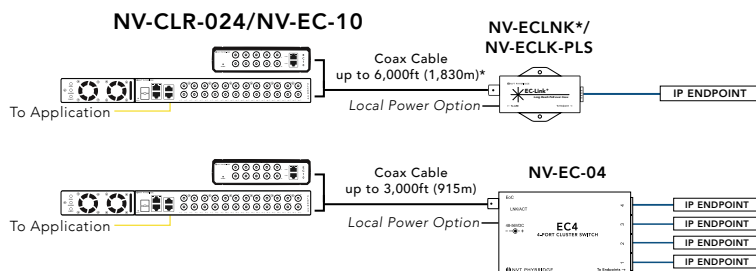
EC4 Adapter

(NV-EC-04)

- Adapter for CLEER24, EC10 and EC-Base to extend PoE up to 3,000ft (915m)
- Enables 4 IP devices from a single Coax cable run
- Supports IEEE-compliant devices
- Delivers up to 30W of power per downlink port
- Can be locally powered
- EN 50121-4 Standard for Railway/ Subway environments

DIAGRAMS

CLEER24 or EC10



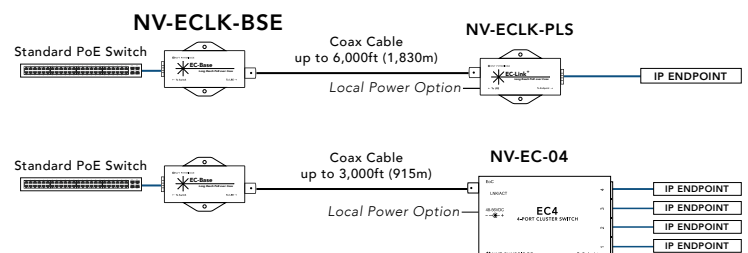
* Max distance achieved with EC10: 3,000ft (915m)

* Max distance achieved with NV-ECLNK when paired with NV-CLR-024: 4,000ft (1,220m)

* Max distance achieved with NV-ECLNK when paired with NV-EC-10: 3,000ft (915m)

EC EXTENDER KITS

Extend the reach of standard PoE switch with Extender Kits



PRODUCT GUIDE - ETHERNET & POE OVER SINGLE-PAIR UTP

The PoLRE Family of Switches and Adapters leverages Single-Pair UTP infrastructure (existing or new) to extend PoE connectivity up to 1,200ft (365m).



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

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

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

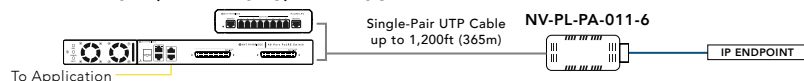
(NV-PL-PA-011-6)

- 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

DIAGRAMS

PoLRE24/48 or PoLRE LPC

NV-PL-024/NV-PL-048/NV-PL08



POWER & DISTANCE Please see individual product datasheets for Power & Distance information. Datasheets can be found at www.nvtpybridge.com.

IP ACCESSORIES FOR CHARIOT SWITCHES

IP Accessories	Description	PoLRE24/48	CLEER24	FLEX24	PoLRE LPC	EC10	FLEX8	CHARIoT Extenders
NV-PL-RMEC10	Rack mount kit for 2 Unmanaged Switches and Power Supplies				X	X		
NV-RMEXT	Rack mount kit for up to 8 CHARIOT Extenders (NV-ECLK-BSE and NV-FLXLK-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
NV-PS55-60W	55VDC, 60 Watt Power Supply with IEC line cord							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			
NV-PS55-60W-DC	55VDC, 60 Watt Power Supply with DC filter and IEC line cord. Used in Railway & Subway Applications.							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				