



**CHARIoT**  
by NVT Phybridge

# PRODUCT GUIDE

## FOR THE MODERN LAN

## Why NVT Phybridge?

NVT Phybridge is the leader in Power over Long Reach Ethernet (PoLRE) using Modern LAN principles and technology 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](http://www.themodernLAN.com)



£100,000,000 and Counting  
in Customer Savings.



CHARIoT Products are IoT to  
the Power of Green Certified.  
[www.iod-g.com](http://www.iod-g.com)



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Find us on Social Media!



At NVTP 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 allows organizations to take full advantage of \*Modern LAN principles, leveraging Multi-Pair UTP infrastructure (existing or new) to extend PoE connectivity to over 2,000ft (610m).



## FLEX24 Switch

(NV-FLX-024)

- 24-port managed long reach PoE switch
- 100Mbps symmetrical (full duplex) and PoE++ (50W) over 2 or 4 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
- 100Mbps symmetrical (full duplex) and PoE++ (50W) over 2 or 4 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-XXKIT)

- 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
- 100Mbps symmetrical (full duplex) and PoE++ (50W) 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
- EN 50121-4 Standard for Railway/ Subway environments



## 1-Port FLEX Extender Kit

(NV-FLX-04-XXKIT)

- 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
- 100Mbps symmetrical (full duplex) and PoE++ (50W) 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
- EN 50121-4 Standard for Railway/ Subway environments

## EXTENDER & ADAPTERS



## FLEX-Base Extender

(NV-FLX-04-BSE)

- Base unit for 1-port long reach PoE Extender
- Negotiates with PoE switch
- When paired with FLEX-Link (50W), FLEX4 (30W) or FLEX-C (30W) Adapters, delivers PoE over 2 or 4 pair UTP with up to 2,000ft (610m) reach
- Can be locally powered
- EN 50121-4 Standard for Railway/ Subway environments



## FLEX-C Adapter

(NV-FLX-04-C)

- Adapter for 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-04-L)

- Adapter for 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

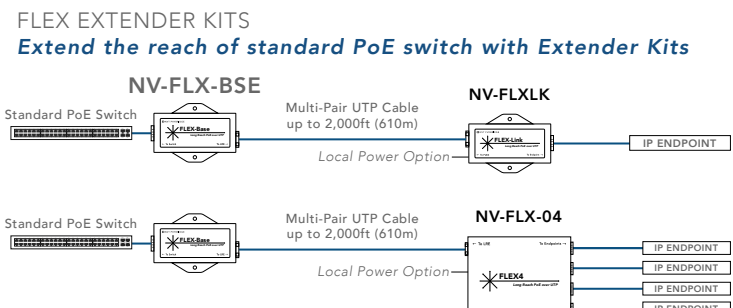
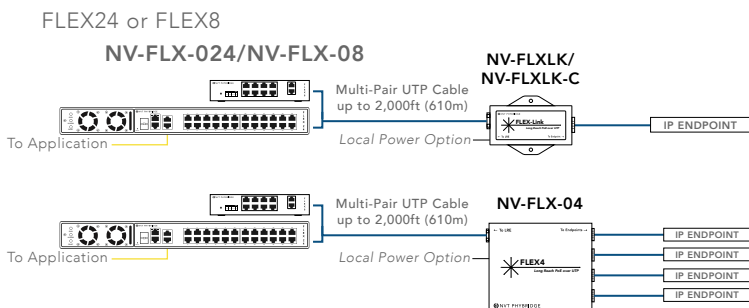


## FLEX4 Adapter

(NV-FLX-04-F)

- Adapter for 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



## POWER & DISTANCE CHART

Wattage indicated is based on 37V (802.3af). For additional power information visit [www.nvtpybridge.com/partner-portal/](http://www.nvtpybridge.com/partner-portal/)

FLEX-Link/FLEX4	20ft (6m)	250ft (76m)	500ft (152m)	750ft (228m)	1,000ft (305m)	1,250 (381m)	1,500ft (457m)	1,750ft (533m)	2,000ft (610m)
4-Pair UTP/STP	50W	47W	44W	41W	38W	35W	32W	30W	27W
2-Pair UTP/STP	30W	30W	27W	25W	22W	20W	17W	14W	12W
FLEX-C	20ft (6m)	250ft (76m)	500ft (152m)	750ft (228m)	1,000ft (305m)	1,250 (381m)	1,500ft (457m)	1,750ft (533m)	2,000ft (610m)
4-Pair UTP/STP	30W	30W	30W	29W	27W	26W	25W	23W	22W
2-Pair UTP/STP	30W	30W	27W	25W	22W	20W	17W	14W	12W

# PRODUCT GUIDE - ETHERNET & PoE OVER COAX

The CLEER Family of Switches and Extenders allows organizations to take full advantage of \*Modern LAN principles, leveraging Coax infrastructure (existing or new) to extend PoE connectivity to over 4,000ft (1,220m).



## CLEER24 Switch

- (NV-CLR-024)
- 24-port managed long reach EoC PoE switch
  - 100Mbps symmetrical (full duplex) and PoE+ (30W) over Coax with 4,000ft (1,220m) 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 4,000ft (1,220m) 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-XXKIT)
- 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 2,000ft (610m) 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
  - EN 50121-4 Standard for Railway/ Subway environments



## 1-Port EC Extender Kit

- (NV-ECLK-PLS-XXKIT)
- 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 30W) with up to 4,000ft (1,220m) 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
  - EN 50121-4 Standard for Railway/ Subway environments

## 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 4,000ft (1,220m) reach
  - Can be locally powered
  - EN 50121-4 Standard for Railway/ Subway environments



## EC-Link Adapter

- (NV-LNK-02)
- Adapter for CLEER24 and EC10 EoC switches to extend PoE up to 2,000ft (610m)
  - 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

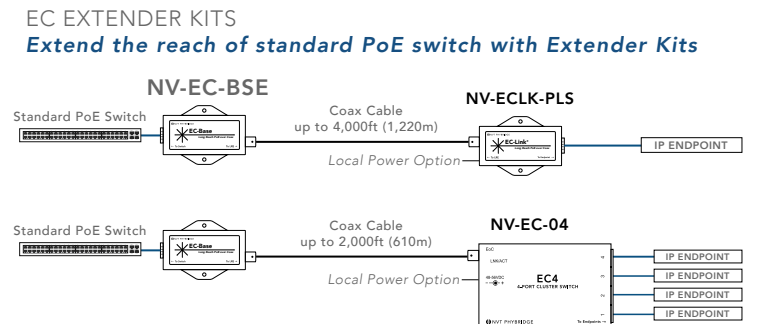
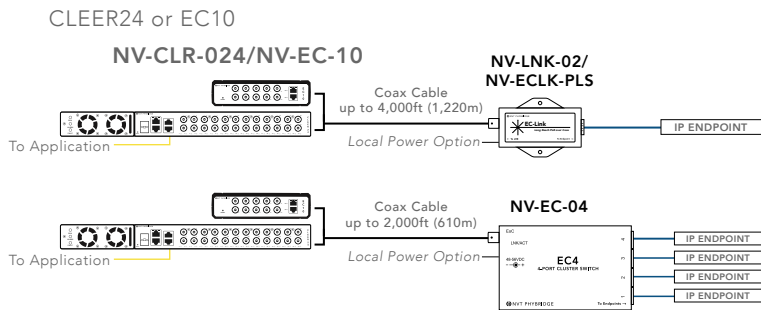
- (NV-ECLK-PLS)
- Adapter for CLEER24, EC10 and EC-Base to extend PoE up to 4,000ft (1,220m)
  - Converts Coax connection to an RJ45 connection for standard Ethernet cable
  - Supports IEEE-compliant devices
  - Delivers up to 50W of power
  - Can be locally powered
  - EN 50121-4 Standard for Railway/ Subway environments



## EC4 Adapter

- (NV-EC-04)
- Adapter for CLEER24, EC10 and EC-Base to extend PoE up to 2,000ft (610m)
  - 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



## POWER & DISTANCE CHART

Wattage indicated is based on 37V (802.3af). For additional power information visit [www.nvtpybridge.com/partner-portal/](http://www.nvtpybridge.com/partner-portal/)

Cable	300ft (92m)	600ft (183m)	900ft (275m)	1,300ft (396m)	1,700ft (518m)	2,000ft (610m)
RG6 18AWG	30W	28W	26W	23W	20W	17W
RG59 20AWG	30W	27W	25W	22W	17W	

# PRODUCT GUIDE - ETHERNET & PoE OVER SINGLE-PAIR UTP

The PoLRE Family of Switches and Adapters allows organizations to take full advantage of \*Modern LAN principles, leveraging Single-Pair UTP infrastructure (existing or new) to extend PoE connectivity to over 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
- 100W 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 CHART

Wattage indicated is based on 37V (802.3af). For additional power information visit [www.nvtpybridge.com/partner-portal/](http://www.nvtpybridge.com/partner-portal/)

Cable	300ft (92m)	400ft (144m)	600ft (183m)	800ft (244m)	1,000ft (305m)	1,200ft (365m)
Single-Pair UTP/STP (Single-Pair CAT3 Cable 24 AWG)	18W	17W	15W	13W	11W	9W

## IP ACCESSORIES FOR CHARIOT SWITCHES

IP Accessories	Description	PoLRE24/48	CLEER24	FLEX24	PoLRE LPC	EC10	FLEX8
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		
NV-PS55-60W	55VDC, 60 Watt Power Supply with IEC line cord						
NV-PS55-48W-P	55VDC, 48 Watt Power Supply with 2P terminal block adapter and IEC line cord						
NV-PS55-190W-DC	55VDC, 190 Watt Power Supply with DC filter and IEC line cord					X	X
NV-PS55-110W-DC	55VDC, 110 Watt Power Supply with DC filter and IEC line cord						
NV-PS55-60W-DC	55VDC, 60 Watt Power Supply with DC filter and IEC line cord						
NV-PL-RMEC10	Rack mount kit for 2 Unmanaged Switches and Power Supplies				X	X	
NV-PL-DCCBL	DC Cable for PowerWise Power Sharing (4 each)	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 (Qty 1)	X	X	X			
NV-FLXLK	FLEX-Link: Long Reach 2 or 4 pair UTP adapter (50 Watts); local power option			X			X
NV-FLX-04	FLEX4: 1-to-4 Port Long Reach 2 or 4 pair UTP adapter (up to 30 Watts per port)			X			X
NV-FLXLK-C	FLEX-C: Long Reach 2 or 4 pair UTP adapter (30 Watts); no local power option			X			X
NV-LNK-02	EC-Link: Long Reach EoC adapter (30 Watts)		X			X	
NV-ECLK-PLS	EC-Link+: Long Reach EoC adapter (50 Watts); local power option		X			X	
NV-EC-04	EC4: 1-to-4 Port Long Reach EoC adapter (30 Watts)		X			X	