



## Fast Ethernet and PoE+ over Coax with up to 2,000ft (610m) Reach

### EC10 Unmanaged Switch

The plug and play EC10 (Coax Leveraged Ethernet Extended Reach) unmanaged switch makes the modernization to IP devices (IoT) simple, secure and cost-effective. When paired with the EC Adapters, this powerful enterprise-grade switch delivers fast Ethernet and PoE+ over Coax cable with up to 2,000ft (610m) reach - that's 6Xs the reach of standard Ethernet switches.

With the EC10, customers are taking full advantage of Modern LAN principles, protecting existing infrastructure assets, and eliminating any need to rip/replace the established Coax cabling. The EC10 unmanaged switch optimizes network design with advanced interoperability and easy integration into the overall LAN creating a secure, robust path for IP endpoints.

- Accelerate your return on investment by reducing infrastructure costs.
- Simplify your IP modernization, collapsing planning and deployment time.
- Eliminate infrastructure barriers, risks, disruption and costs.
- Create a robust plug-and-play IP platform that is easy to deploy and manage.
- Be environmentally responsible during your IP upgrades.

### Speed, Reach and Power

EC10 delivers 100Mbps symmetrical (full duplex) and PoE+ (30W) over Coax with 2,000ft (610m) reach, providing substantial power to support bandwidth demanding IP cameras easily and reliably.

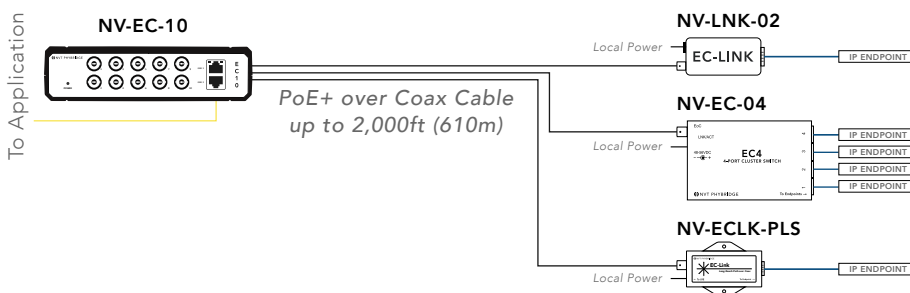
### Simple Deployment

EC10 comes preconfigured and ready to deploy, making modernization to IP quick and efficient in organizations of every size. Multi-site migrations are greatly simplified with a repeatable, predictable, scalable deployment methodology used across every location.

## AT A GLANCE

(NV-EC-10)

- 10-port plug-and-play long reach EoC PoE switch
- Per port - 100Mbps symmetrical (full duplex) and PoE+ (30W) over Coax with 2,000ft (610m) reach
- 2 x 1Gb uplink ports
- 165W external power supply
- Supports Multicast, Unicast and Broadcast
- Compliant with all major IP and IEEE standards for RFC network protocols such as UDP and TCP
- Adapters can be locally powered to deliver more power.
- Adapter operating temperature from -58°F to +158°F (-50°C to +70°C)
- Adapters come with LED indicators for operating status
- EN 50121-4 Standard for Railway/ Subway environments
- Designed and manufactured in North America
- 5-Year Warranty
- Optional rack mounting kit available to support 2 EC10 switches



## EC Adapter Options

There are three media converter options available to pair with the EC10 switch and extend PoE over Coax. The EC-Link and EC Link+ are single endpoint solutions and the EC4 enables 4 IP endpoints from a single long Coax cable.

### EC-Link



### EC-Link+



### EC4



	EC-Link	EC-Link+	EC4
Power	<ul style="list-style-type: none"> <li>Maximum 30W, delivered on 2-pairs (spare pairs)</li> <li>Local power option</li> <li>Does not negotiate power requirements with IP device</li> <li>Device should be IEEE 802.3 af/at compliant</li> </ul>	<ul style="list-style-type: none"> <li>Maximum 50W (if locally powered and 30W if power provided from switch) delivered on 4 pairs</li> <li>Local power option</li> <li>Adapter is IEEE 802.3af/at compliant and will negotiate power requirements with IP device.</li> </ul>	<ul style="list-style-type: none"> <li>Maximum 50W, delivered on 4 pairs (local power required)</li> <li>Local power option to support greater power delivery to IP devices</li> <li>Does not negotiate power requirements with IP device</li> <li>Device must be IEEE 802.3 af/at compliant.</li> </ul>
Casing	Plastic	Metal	Plastic
EN 50121-4 Standard	Yes – approved to operate in a railway/subway environment		

## EC10 Unmanaged Switch Technical Specifications

Model	EC10
Part Number	NV-EC-10
Dimensions	<ul style="list-style-type: none"> <li>1.77" x 7.01" x 4.72" (HxWxD)</li> <li>4.5cm x 17.8cm x 12cm (HxWxD)</li> </ul>
Weight	0.679 lbs (0.308 kg)
Mounting	Standalone, rack or shelf-mountable; 2 brackets included for installation
Interface: Ethernet Uplink (Trunk IP)	2 RJ45 ports: 10/100/1000 Base-T auto-sensing Independent speed selection, Ethernet IEEE 802.3, CAT5e/6 copper cable
Interface: Downlink (PoE and IP to Adapter)	10 x BNC Jacks Speed: 100Mbps (full duplex) PoE Power: 30W max Maximum Distance: <ul style="list-style-type: none"> <li>1,700ft (518m) over RG59 Coax Cable</li> <li>2,000ft (610m) over RG6 Coax Cable</li> </ul>

Power Supply	55VDC 3A (165W) power supply included
Power Consumption	3.8W
Power Injection (PoE)	48- ; endpoints must be compliant with IEEE 802.3af/at
Operating temperature	14°F to 122°F (-10°C to 50°C)
Humidity	10% to 95% (non-condensing) at 95°F (35°C)
Rack Mount	Model NV-PL-RMEC10

## EC Adapters Technical Specifications

<b>Model Number</b>	EC-Link	EC-Link+	EC4
<b>Part Number</b>	NV-LNK-02	NV-ECLK-PLS	NV-EC-04
<b>Dimensions</b>	8.8cm x 3.2cm x 2.1cm (LxWxH); 3.46" x 1.23" x 0.83" (LxWxH)	10.09cm x 5.03cm x 2.57cm (LxWxH); 3.97" x 1.98" x 1.01" (LxWxH)	11cm x 7cm x 2.5cm (LxWxH); 4.3" x 2.75" x 0.98" (LxWxH)
<b>Weight</b>	42g (1.48oz.)	108g (3.81oz.)	96g (3.38oz.)
<b>Interface: Network Infrastructure side (CLEER)</b>	1 BNC port: Coax cable (RG59, RG6, RG11)	1 BNC port: Coax cable (RG59, RG6, RG11)	1 BNC port: Coax cable (RG59, RG6, RG11)
<b>Interface: IEEE Side (IP Device)</b>	1 RJ45 port; device should be IEEE 802.3 af/at compliant	1 RJ45 port; adapter is IEEE 802.3af/at compliant and will negotiate power requirements with IP end device.	4 RJ45 ports: device must be IEEE 802.3 af/at compliant, 10/100Mbps connection to IP end device
<b>Power Supply</b>	PoE from the CLEER / EC switch or local power from EC-Base, maximum 30W (over 2-pairs)	Maximum 50W (if locally powered and 30W if power provided from switch) delivered on 4 pairs.	PoE from the CLEER / EC switch, or external power supply; maximum 50W (over 4-pairs) each port
<b>DC IN (Barrel Connector)</b>	Optional (sold separately) 48V – 56VDC via an external AC/DC Power Adapter with phoenix connector (IEC Class II isolated only) NOTE 1: Local power supply used must have its output isolated from Earth potential. NOTE 2: If voltage of local power supply is lower than the power voltage provided from the PoE switch, then power on the PoE switch should be turned off.	Optional (sold separately) 48V – 56VDC via an external AC/DC Power Adapter (IEC Class II isolated only) NOTE 1: Local power supply used must have its output isolated from Earth potential. NOTE 2: If voltage of local power supply is lower than the power voltage provided from the PoE switch, then power on the PoE switch should be turned off.	Optional (sold separately) 48V – 56VDC via an external AC/DC Power Adapter (IEC Class II isolated only) NOTE 1: Local power supply used must have its output isolated from Earth potential. NOTE 2: If voltage of local power supply is lower than the power voltage provided from the PoE switch, then power on the PoE switch should be turned off.
<b>Power Consumption</b>	0.9W	1.1W	1W
<b>Operating Temperature</b>	-58°F to +158°F (-50°C to +70°C) Tests conducted against international safety standard at maximum ambient temperatures of 50°C	-58°F to +158°F (-50°C to +70°C) Tests conducted against international safety standard at maximum ambient temperatures of 60°C at 30W and 55°C at 50W	-58°F to +158°F (-50°C to +70°C) Tests conducted against international safety standard at maximum ambient temperatures of 50°C
<b>Mean Time Before Failure (MTBF)</b>	20+ years	20+ years	20+ years
<b>Humidity</b>	10% to 95% (non-condensing) at 35° C	10% to 95% (non-condensing) at 35° C	10% to 95% (non-condensing) at 35° C

## CLEER Family Compliance and Agency Approval

EMC	Emissions: FCC Part 15, ICES-003, EN 55032:2012, EN 50121-4:2015 Class A (EC-Link, EC4, EC10 and CLEER24), Class B (EC-Link+ and EC-Base) Immunity: EN 55024:2010, EN 50121-4:2015
Safety	UL 60950-1 2nd Ed 2014-10-14, CAN/CSA C22.2 No. 60950-1-07 2nd Ed 2014-10 IEC 60950-1:2005+A1+A2, EN 60950-1:2006+A1+A2+A11+A12
Environment	RoHS Directive 2011/65