

MODERNIZATION TO IP MADE SIMPLE

NVT PHYBRIDGE **CLEER24** DATA SHEET



Fast Ethernet and PoE+ over Coax with up to 4,000ft (1,220m) Reach

CLEER24 Managed Switch

The CLEER24 (Coax Leveraged Ethernet Extended Reach) managed 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 4,000ft (1,220m) reach - that's 12Xs the reach of standard Ethernet switches. The CLEER24 comes standard with robust power management capabilities and an industry leading, simple to use GUI interface.

With the CLEER24, 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 CLEER24 managed switch optimizes network design with advanced interoperability and easy integration into the overall LAN creating a secure, robust and easy to manage 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

CLEER24 delivers 100 Mbps symmetrical (full duplex) and PoE+ (30W) over coax cable with up to 4,000ft (1,220m) reach. It is designed to support the most demanding IP endpoints with plenty of bandwidth to spare. No speed degradation with longer distance.

Industry Leading PowerWISE® Technology

Power sharing for redundancy, load balancing, AC/DC options, hot swappable power supply and auto-sensing 100-240 VAC delivering 500 to 1,000 watts of power. CLEER24 is one of the most energy efficient switches on the market, consuming less than 17 Watts of power to operate.

Managed Switch with Plug-and-Play Option

CLEER24 can either operate in a transparent mode functioning as a bridge, allowing for plug-and-play deployment, or as a fully managed switch with high value features specifically designed for the security industry, including:

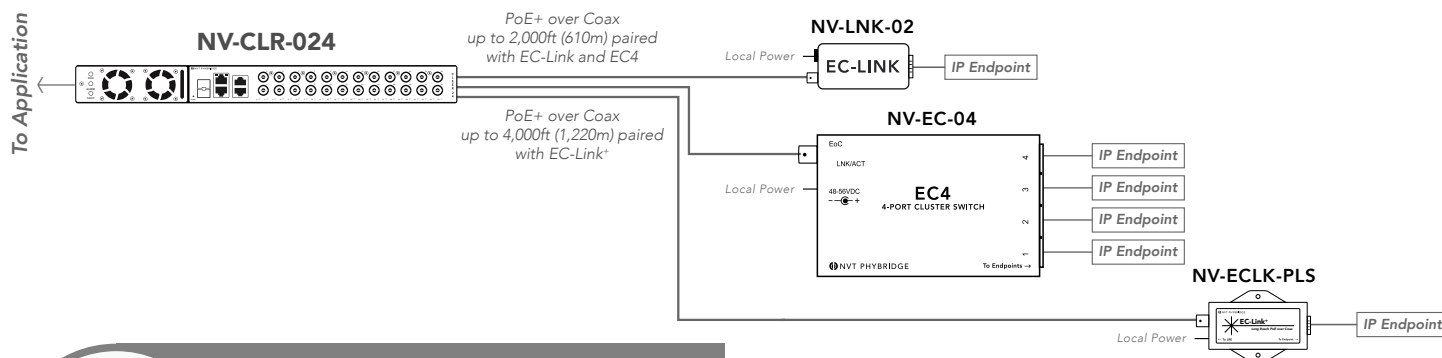
- Power management by port for easy reset of ports.
- Port MAC locking for higher security and peace of mind.
- Simple Network Manager, an intuitive Web GUI that makes managing the switch a breeze.

AT A GLANCE

(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





The Most Robust PoE Capabilities on the Market

Four switches can be stacked together for power sharing, load balancing and power redundancy. The CLEER24 switch comes standard with PowerWISE technology.

EC Adapter Options

There are three media converter options available to pair with the CLEER24 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	- Maximum 30W, delivered on 2-pairs (spare pairs) - Local power option - Does not negotiate power requirements with IP device - Device should be IEEE 802.3 af/at compliant	- Maximum 50W (If locally powered and 30W if power provided from switch) delivered on 4 pairs - Local power option - Adapter is IEEE 802.3af/at compliant and will negotiate power requirements with IP device.	- Maximum 50W, delivered on 4 pairs (local power required) - Local power option to support greater power delivery to IP devices - Does not negotiate power requirements with IP device - Device must be IEEE 802.3 af/at compliant.
Casing	Plastic	Metal	Plastic
EN 50121-4 Standard	Yes – approved to operate in a railway/subway environment		

CLEER24 Technical Specifications

Model	CLEER24	Interface: Downlink (PoE and IP to Adapter)	24 x BNC Jacks Speed: 100Mbps (full duplex) PoE Power: 30 Watts Maximum Maximum Distance: • 1700ft (518m) over RG59 Coax Cable • 2000ft (610m) over RG6 Coax Cable 24 x Status LEDs: • Configuration Options: Link Activity / Link / Off
Part Number	NV-CLR-024		
Dimensions	19 inches x 1U without rack ears: • 1.75" x 17.13" x 9.92" (HxWxD) • 4.45cm x 43.5cm x 25.2cm (HxWxD)		
Weight	7.94 lbs (3.6 kg)		
Mounting	Standalone, rack or shelf-mountable; 2 brackets included for installation	Management	1 LAN port (MGMT): RJ45, 10/100 Base-T auto-sensing, IEEE 802.3 1 UART console port: RJ45 (RJ45 to DB9 cable included)
Processor	Broadcom BCM56018 switch processor, 266MHz	Power Supply	Hot-Swappable Power Supply Unit Auto-sensing 100-240VAC, 50/60 Hz Power Output: 500W max at 110VAC, 1000W max at 240VAC
Memory	32MB FLASH, 64MB DDR SDRAM	Power Consumption	16.5W
Interface: Ethernet Uplink (Trunk IP)	Maximum 2 uplinks, each 1Gb/s (full duplex), either: • 2 mini-GBIC ports: 1000 Base-TX/SX/LX/EX/ZX/LHX (determined by SFP, transceiver module installed), Ethernet IEEE 802.3z, fiber optic cable; or • 2 RJ45 ports: 10/100/1000 Base-T auto-sensing, independent speed selection, Ethernet IEEE 802.3, CAT5e/6 copper cable	Power Injection (PoE)	DC voltage: 48VDC to 56VDC Endpoint devices must be compliant with IEEE 802.3af/at
		PowerWISE® Power Sharing	2 male connectors (rear) DC IN and DC OUT: 48VDC to 56VDC
		Operating temperature	14°F to 122°F (-10°C to 50°C)
		Humidity	10% to 95% (non-condensing) at 95°F (35°C)

EC Adapters Technical Specifications

Model Number	EC-Link	EC-Link+	EC4
Part Number	NV-LNK-02	NV-ECLK-PLS	NV-EC-04
Dimensions	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)
Weight	42g (1.48oz.)	108g (3.81oz.)	96g (3.38oz.)
Interface: Network Infrastructure side (CLEER)	1 BNC port: Coax cable (RG59, RG6, RG11)	1 BNC port: Coax cable (RG59, RG6, RG11)	1 BNC port: Coax cable (RG59, RG6, RG11)
Interface: IEEE Side (IP Device)	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
Power Supply	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
DC IN (Barrel Connector)	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.
Power Consumption	0.9W	1.1W	1W
Operating Temperature	-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
Mean Time Before Failure (MTBF)	20+ years	20+ years	20+ years
Humidity	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