NVT PHYBRIDGE

PoLRE24 & PoLRE48

DATASHEET

Ethernet and PoE over Single-Pair UTP with up to 1,200ft (365m) Reach

PoLRE®24/48 Managed Switch

The PoLRE24/48 managed switch makes the modernization to IP devices (IoT) simple, secure and cost-effective. When paired with the PhyLink Adapter, this powerful enterprise-grade switch delivers Ethernet and PoE over single-pair UTP cable with up to 1,200ft (365m) reach - **that's 4Xs the reach of standard Ethernet switches.** The PoLRE24/48 comes standard with robust power management capabilities and an industry leading, simple to use GUI interface.

With the PoLRE24/48, customers are taking full advantage of Modern LAN principles, protecting existing infrastructure assets and eliminating any need to rip and replace the established Single-Pair UTP cabling. The PoLRE24/48 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

PoLRE24/48 delivers 10 Mbps symmetrical (full duplex) and PoE over Single-Pair UTP cable with up to 1,200ft (365m) 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. PoLRE is one of the most energy efficient switches on the market, consuming less than 40 Watts of power to operate.

Managed Switch with Plug-and-Play Option

PoLRE24/48 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:

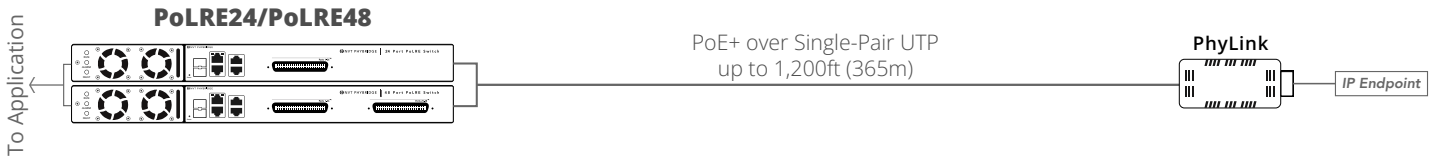
- Power management by port for easy reset of ports.
- Port MAC locking for higher security and peace of mind.
- Simple Network Manager, an intuitive Web GUI that makes managing the switch a breeze.

AT A GLANCE

(NV-PL-048/NV-PL-024)

- 24-port/48-port managed long reach PoE switch
- 10Mbps symmetrical (full duplex) and PoE (22W) 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
- 802.1x port-based authentication

CHARIOT
by NVT Phybridge



The Most Robust PoE Capabilities on the Market

Four switches can be stacked together for power sharing and power redundancy. The PoLRE24/48 switch comes standard with PowerWISE technology.

PoLRE24 & PoLRE48 Technical Specifications

Model	PoLRE24 & PoLRE48
Part Numbers	NV-PL-024 & NV-PL-048
802.1x Support	Supported
Dimensions	19 inches (48.26cm) x 1U without rack ears: • 9.92" x 17.13" x 1.75" (LxWxH) • 25.2cm x 43.5cm x 4.45cm (LxWxH)
Weight	7.94 lb (3.6 kg)
Mounting	Standalone, rack or shelf-mountable; 2 brackets included for installation
Processor	Broadcom BCM56018 switch processor, 266MHz
Memory	32MB FLASH, 64MB DDR SDRAM
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 copper cable

Interface: Downlink (PoE and IP to Adapter)	PoLRE24: 1 RJ21 male telco connector (standard), 24 pairs used PoLRE48: 2 RJ21 male telco connectors (standard), 48 pairs used Maximum Distance: 1200ft (365m) over CAT3 UTP cable, 24 AWG Speed: 10 Mbps (full duplex) Power: 22 Watts
Management	1 LAN port (MGMT): RJ45, 10/100 Base-T auto-sensing, IEEE 802.3 1 UART console port: RJ45 to DB9 cable
Power Supply	Unit auto-sensing 100-240VAC, 50/60 Hz Power output: 500W max at 100VAC, 1000W max at 240VAC
Power Consumption	PoLRE24: 34.5W | PoLRE48: 40W
Power Injection (PoE)	DC voltage: 48VDC to 56VDC; Endpoint devices must be compliant with IEEE 802.3af
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) *Minimum ambient temperature for cold start-up is 32°F (0°C)
Humidity	10% to 95% (non-condensing) at 95°F (35°C)

PoLRE24/48 Compliance and Agency Approval

EMC	Emissions: FCC Part 15, ICES-003, EN 55032:2015 Class A Immunity: EN 55035:2017
Safety	UL 60950-1 2nd Ed, CAN/CSA C22.2 No. 60950-1-07 IEC 62368-1:2014, EN 62368-1:2014, AS/NZS 62368.1:2018
Environment	RoHS Directives 2011/65 and 2015/863

PoLRE24 & PoLRE48 Extended Technical Specifications

Layer 2 Features	• High performance Store and Forward architecture, runt/CRC filtering that eliminates erroneous packets to optimize the network bandwidth • Supports VLANs - IEEE 802.1Q tagged VLAN - 512 concurrent per port • Supports Spanning Tree Protocol - STP (Spanning Tree Protocol) - RSTP (Rapid Spanning Tree Protocol) • Supports Link Aggregation - Ether-channel (static trunk) • Jumbo Frame - Max 4k size • Automatic Media-Dependent Interface Crossover (MDIX) • IPV4/IPv6 Transport
Multicast	Supports IGMP snooping v2 and v3
Security	• Authentication - Built-in RADIUS client to co-operate with the RADIUS servers, when installed. - RADIUS / TACACS+ login user access authentication, when installed. • Access Control List when TACACS is used • MAC Security - Static MAC locking per port • SSH / SSL, when installed • 802.1x port-based authentication
Management	• Switch management interface - Web GUI switch management - Command line interface - SNMP v1, v2c, v3 - SSH / SSL secure access, when installed. • User privilege levels control, with TACACS only. • Built-in Trivial File Transfer Protocol (TFTP) client to backup configuration files • System maintenance - Firmware upload via FTP - Configuration upload/download through Web interface - Hardware reset button for system reboot or reset to factory default • NTP Network Time Protocol • Link Layer Discovery Protocol (LLDP) • Link Layer Discovery Protocol- Media Endpoint Discovery (LLDP-MED) • SNMP trap for interface linkup and linkdown notification • Event message logging to remote Syslog server

Power & Distance Table

PoLRE24/48 used with PhyLink							
	20ft (6m)	200ft (61m)	400ft (122m)	600ft (183m)	800ft (244m)	1,000ft (305m)	1,200ft (365m)
Cat6 1-Pair	19	18	17	16	15	14	13
Cat5e 1-Pair	19	18	16	15	14	12	11
Cat3 1-Pair	19	18	16	15	14	12	11

10Mbit

PoLRE FAMILY ADAPTER

There is one adapter available to pair with the PoLRE family of switches to extend PoE over Single-Pair UTP.

PhyLink

PhyLink Adapter Technical Specifications

Model	PhyLink Adapter
Part Number	NV-PLLK-6 (Sold as 6 pack)
802.1x Support	Supported
Dimensions	• 2.56" x 1.1" x 0.71" (LxWxH) • 6.5cm x 2.8cm x 1.8cm (LxWxH)
Weight	Weight: 0.78 oz. (22 g)
Interface: PoLRE Switch Side	1 RJ11 port: CAT3 unshielded single twisted pair cable. Between the wall plate and adapter, you can reuse the existing line cord when doing a DNIC/POTS displacement.
Interface Ethernet side: for IP endpoint device	1 RJ45 port: 10 Base-T

Power Consumption	0.9W
Power Injection (PoE)	DC voltage on RJ45 port: • 58V max • 37V when 1200ft (365m) away from its PoLRE Switch powers Class 1, Class 2 and some Class 3 IEEE 802.3af compliant IP devices
Operating temperature	32°F to 104°F (0°C to 40°C)
Humidity	10% to 95% (non-condensing) at 95°F (35°C)
Casing	Plastic
Wattage Delivery	22W

PhyLink Adapter Compliance and Agency Approval

EMC	Emissions: FCC Part 15, ICES-003, EN 55032:2015 Class B Immunity: EN 55035:2017
Safety	UL 60950-1 2nd Ed, CAN/CSA C22.2 No. 60950-1-07 IEC 62368-1:2014, EN 62368-1:2014, AS/NZS 62368.1:2018
Environment	RoHS Directives 2011/65 and 2015/863