

LONG RANGE ETHERNET & POE
LONGSPAN®

Application | LONGSPAN is a robust network extender used in railway networks and underpasses, over extreme distances.

Deliver the power and bandwidth your IP camera needs over exceptional distances

LONGSPAN delivers 25W POE power and full bandwidth over extreme lengths of regular Cat5e or Cat6 network cable.

- | Long range point-to-point Ethernet over Cat5e or Cat6 cable
- | Unrestricted 100Base-TX with POE at over 820 metres
- | Delivers full POE Plus power at 600 metres
- | Ruggedised for high performance over extreme temperature range
- | Smart power and diagnostic display for reliable installation
- | Fully automatic, simple to install and maintenance-free



Full speed, long range, point-to-point Ethernet link with POE over Cat5e / Cat6

LONGSPAN delivers unrestricted 100Base-TX with 802.3af and 802.3at POE at distances far beyond the normal Ethernet limits for problem-free IP camera installation.



Smart LED display shows
SAFEVIEW™ technology.

Unrivalled range and bandwidth

IP cameras can demand peak network bandwidth of several times their average data rate while transmitting high-activity or low-light scenes. LONGSPAN has been designed to run IP cameras on 820 metres (2,690ft) of normal network cable, supporting the 200Mbps required for full duplex 100Base-TX Ethernet. The full speed Ethernet provided by LONGSPAN ensures perfect image quality at critical moments, even at the longest cable ranges.

POE Delivery

LONGSPAN Base devices allow all of the power to be sourced from a POE switch, midspan injector or directly from a Veracity power supply. This allows simple installation and reliable UPS-backed central power delivery to IP cameras. LONGSPAN delivers the full 25.5W required for POE Plus equipment at up to 600 metres, or standard 15W POE at up to 820 metres. Higher POE power levels are available with the LONGSPAN Max range of devices. (See LONGSPAN Max datasheets for more information).

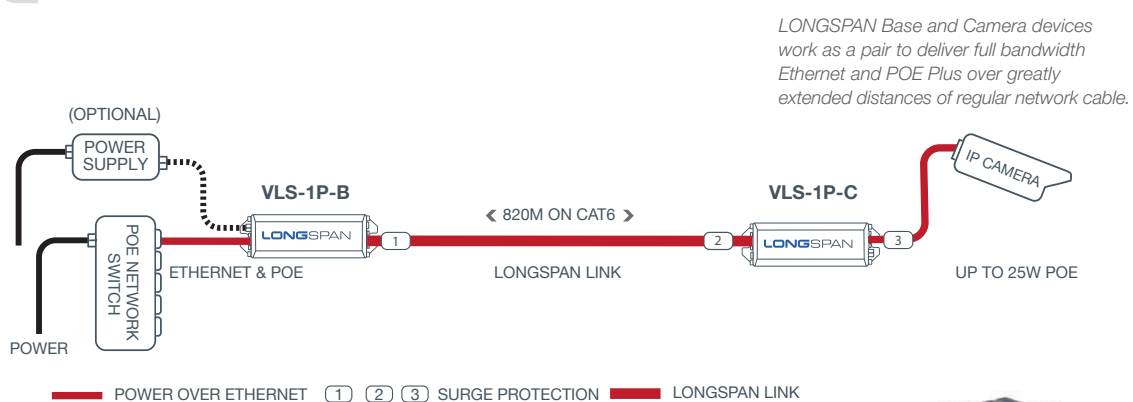
Upgrade legacy UTP cable

LONGSPAN also supports 1-pair and 2-pair cable with extended range, automatically adapting to the available pairs. Analogue cameras in UTP installations can now be upgraded to IP with no need to replace the cabling infrastructure that is already installed on site.

Extreme distances

For even more extreme distances, LONGSPAN devices can automatically drop to 10Base-T operation, supporting a range of over 1000 metres (3,280ft).

POE Over Cat5e or Cat6 Application Diagram



Range is for typical 24AWG Cat5e or 23AWG Cat6, 4-pair UTP. For other cables types, or any installations over 600 metres length, consult Veracity for recommendations or test on site.

Distances may be increased by connecting multiple links in series.
Data rate at full range stated:
100Base-TX = 200Mbps,
10Base-T = 20Mbps



Up to 24 LONGSPAN devices can be mounted in a 1U rack space. Ask for VLS-1U.

SAFEVIEW™ smart LED display provides instant information and link status

LONGSPAN self-configures for optimum performance across 4-pair, 2-pair or 1-pair links with extended range.

Designed for installers

LONGSPAN self-configures for the best performance every time it is connected. No user setup, no DIP switch settings, and no system pairings are required. A smart LED display utilising Veracity's SAFEVIEW™ technology provides instant, visible confirmation of link status, available power, and useful diagnostic information, from either end of the cable.

Multi-channel installations

High-density installations are also supported with a neat configurable

rackmounting system, which allows up to 24 channels to be installed in just 1U of rack space. Alternatively, integrated 8-channel base devices are available with gigabit uplinks, four of which can be mounted together to provide 32ch in 1U. Base 8 devices have a gigabit Ethernet uplink, requiring only 4 network ports on the main switch per 32 channels (cameras).

Non-POE Applications

For network-only non-POE applications a lower cost 'Lite' version is available. LONGSPAN Lite is designed for long

distance data communication without delivering POE power. These devices are locally powered by 12V at each end and can connect network links between buildings or provide data links along a perimeter fence without resorting to fibre.

LONGSPAN Lite and Local Power

When a LONGSPAN device is locally powered at the camera end to provide maximum POE, a LONGSPAN Lite may be used at the base end, as no POE transmission over the LONGSPAN link is required.

LONGSPAN Data Range

RATE	Cat6	Cat5e	1 - PAIR (typical)
100Base-TX	820m (2,690ft)	690m (2,250ft)	300m (1,000ft)
10Base-T	1,050m (3,450ft)	950m (3,100ft)	900m (3,000ft)

LONGSPAN POE Range

CAMERA POWER	802.3af POE Switch		802.3at POE Plus Switch		Veracity Power Supply	
	Cat6	Cat5e	Cat6	Cat5e	Cat6	Cat5e
5 WATTS	1,050m	950m	1,050m	950m	1,050m	950m
10 WATTS	600m	450m	1,050m	950m	1,050m	950m
15 WATTS	n/a	n/a	700m	550m	1,000m	800m
20 WATTS	n/a	n/a	500m	350m	750m	600m
25 WATTS	n/a	n/a	n/a	n/a	600m	450m

TECHNICAL SPECIFICATION

LONGSPAN®

POWER	
Device power	1.0 watts
POE in (Base)	IEEE 802.3af (POE) or IEEE 802.3at (POE Plus), 2-event, power class 4
POE out (Camera)	IEEE 802.3af (POE) or IEEE 802.3at (POE Plus)
DC power in (Base)	Detachable screw terminal for optional Veracity 54 - 57V supply
LONGSPAN INTERFACE	
Connector	RJ45
Cable	Cat6, Cat5e, Cat3, other 1/2/4-pair UTP
Rate	Patch wiring recommended, other wiring auto-corrected 200Mbps (100Mbps full-duplex) up to 820 metres [2,690ft] (Cat6) 20Mbps (10Mbps full-duplex) up to 1,050 metres [3,450ft] (Cat6), auto-adapts
ETHERNET INTERFACE	
Connector	RJ45
Cable	Patch or crossover, auto-detected
Rate	100Base-TX or 10Base-T, full-duplex with auto-negotiation
LED INDICATORS	
Ethernet RJ45	Yellow: Link/activity, Green: power good
LONGSPAN link RJ45	Yellow: Link/activity, Green: 10/100Mbps
POE	Power available (5/10/15/20/25 watts) POE and link status (green/amber), diagnostic codes (red)
PHYSICAL/ENVIRONMENTAL	
Dimensions	L 120mm (inc. brackets), W 36mm H 23mm [L 4.7in, W 1.4in, H 0.9in]
Weight	100g [3.5oz]
Operating temperature	-40°C to 70°C [-40°F to 158°F]
Relative humidity	85% non-condensing
Compliance	FCC, CE, RoHS, UL, UKCA, BS EN 50121-4 (rail + metro)
PRODUCT CODES	
VLS-1P-B	LONGSPAN Base device with POE for base side
VLS-1P-C	LONGSPAN Camera device with POE for camera side
VLS-1N-L	LONGSPAN Lite device without POE
VLS-LSM-B	LONGSPAN Max Base device, with high power POE
VLS-LS-B8	LONGSPAN Base 8 device with 8 integrated LONGSPAN base channels
VLS-LSM-C	LONGSPAN Max Camera device, with high power POE
VLS-LSM-C4	LONGSPAN Max Quad Camera device, with high power POE
VPSU-12V	12V DC power supply for LONGSPAN Lite device
VPSU-57V-800	57V DC 800mA power supply (power cord required)
VPSU-POE-100-UK/EU/US	100W 57V DC power supply with power cable for UK, EU or US
VPSU-POE-240-UK/EU/US	240W 56V DC power supply with power cable for UK, EU or US
VPSU-1U-57V-UK/EU/US	1U rear-mounted 400W PSU for multi-channel installations & cable for UK, EU or US
VLS-1U	1U front panel for mounting 24 LONGSPAN devices
VPSU-TRAY-ASSY	1U tray for mounting power supplies and for use with VLS-1U
2-PIN-UK/EU/US	Power Cord 2-Pin C7 Power cord for 800mA PSUs
<i>A high power LONGSPAN Max Quad is also available for the camera side. For a full range of solutions, power supplies and power configurations contact sales at Veracity.</i>	

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Surge Protection

All Veracity products have been independently tested to verify their resilience to the stringent immunity levels of international standards. Users should note that no electronic equipment can be guaranteed to be completely protected at levels beyond the defined standard; therefore product warranty cannot include damage to products which has been caused by surges exceeding those of the standards specified, for example lightning strike activity.

It is the user's responsibility to implement relevant surge protection measures, as appropriate to the installation. This may include the fitting of additional surge protection devices where required.



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