

4-PORT HI-POE EXTENDER  
**LONGSPAN®**  
 MAX QUAD



Application | LONGSPAN MAX Quad is a network extender ideal for connecting multiple high power IP cameras.

## Four-port high power POE with extreme distance Ethernet for IP Cameras

LONGSPAN Max Quad® integrates a four-port 90W POE switch with a long distance network extender for Cat5e or Cat6 cable.

- | Quad LONGSPAN camera device with 802.3bt POE
- | Long range point-to-point Ethernet over Cat5e or Cat6 cable
- | Unrestricted 100Base-TX with POE at over 820 metres
- | Delivers power for 4 x 13W IP cameras up to 290m from Base device
- | With local power, can deliver POE for 71W IP cameras at 820 metres
- | Ruggedised for high performance over a wide temperature range
- | Smart POE power and diagnostic display for reliable installation
- | Fully automatic, simple to install and maintenance-free



# Maximum power, full-speed long range Ethernet link with SAFEVIEW™ diagnostics

LONGSPAN Max Quad delivers four ports of 802.3bt high-power POE, ideal for external PTZ IP camera installations



LONGSPAN Max Quad is shown here with a LONGSPAN Max Base device.

## LONGSPAN Max for Maximum power

LONGSPAN Max® devices are high power versions of the successful LONGSPAN® long distance Ethernet transmission extenders. They support the 802.3bt standard which specifies the highest power permissible on standard network cable (90W). See the POE Reference Table opposite for classes and power levels.

Max versions deliver POE for even the most power-hungry external PTZ IP cameras at considerable distances.

## Unrivalled range

LONGSPAN products are designed to connect IP cameras at ranges of up to 820 metres (with Cat6 cable), supporting the 200Mbps aggregate bandwidth required for full-duplex 100Base-TX Ethernet. LONGSPAN devices therefore ensure perfect image quality at all times, even at the longest cable ranges. See the LONGSPAN Max Data Range Table opposite for details.

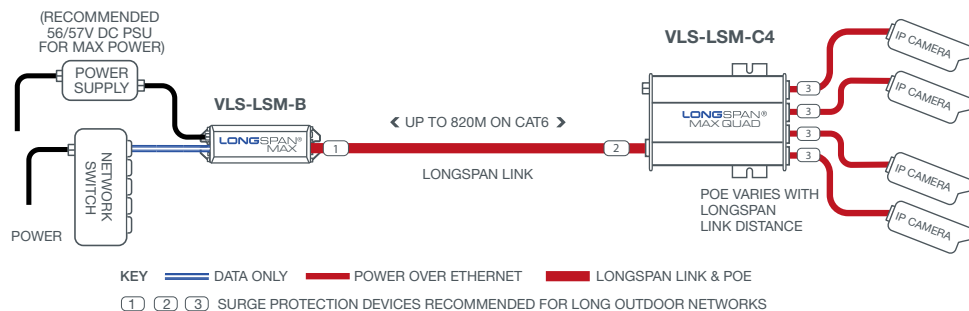
## LONGSPAN Max Quad

A LONGSPAN Max Base device is used with a LONGSPAN Max Quad

device which has an integrated 4-port POE switch to achieve a LONGSPAN link for up to four POE IP cameras (see diagram below).

Whilst LONGSPAN Max devices achieve the same data range as a standard LONGSPAN device (820m), higher power POE delivery is only possible to just over 600 metres. Max Quad can also be used with standard LONGSPAN Base devices depending on the power level required and transmission distance. LONGSPAN Max Quad should be used for all

## Hi-POE Over Cat5e or Cat6 Application Diagram

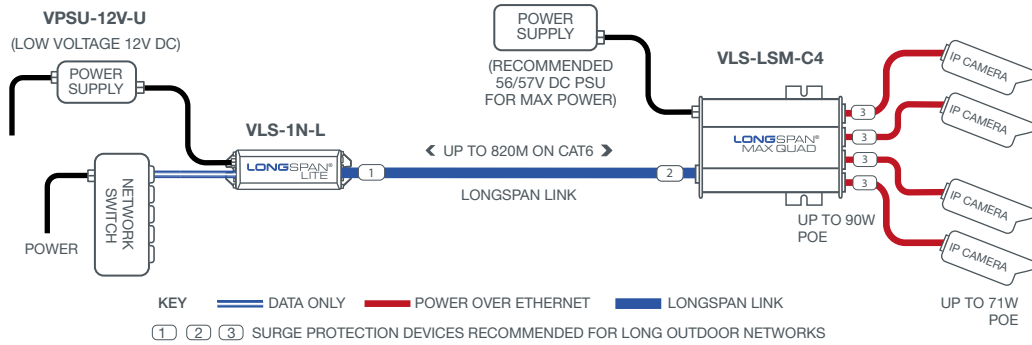


LONGSPAN Max Base and Max Quad Camera adaptors deliver full bandwidth Ethernet up to 820 metres. The Max Base device can output the maximum POE permitted by the 802.3bt standard,

allowing the Max Quad to power 4 x 13W cameras at up to 250 metres. POE power levels drop quickly with distance. For higher power delivery to the IP cameras, a local PSU may be used to power the LONGSPAN

Max Camera Quad device, as shown in the second diagram on the next page. Note that the Base device is replaced with a LONGSPAN Lite as no POE is transmitted over the LONGSPAN Link.

**Local Power at the Camera End**  
Application Diagram



multi camera-end connections as this model has superseded the original standard LONGSPAN Quad device.

**Local power option**

As shown in the diagram above, LONGSPAN Max Quad Camera devices can be locally powered to deliver the maximum POE (71W) to the IP camera or other type of POE-powered device, irrespective of LONGSPAN link distance.

This can be ideal for external PTZ IP cameras. In this configuration, the LONGSPAN link could be 820 metres

and LONGSPAN Max Base would be replaced with LONGSPAN Lite as POE transmission over the link is not required. A single-channel version, LONGSPAN Max Camera, is also available for the camera end with a single 802.3bt compatible POE port, allowing the connection of one high power IP device over a LONGSPAN link.

**Designed for installers**

LONGSPAN devices self-configure for the best performance every time they are connected. No user setup, no DIP switch settings, and no system

pairings are required. Veracity's SAFEVIEW™ smart LED display provides instant, visible confirmation of link status, power availability, and useful diagnostic information, from each device at either end of the cable.

**POE system design**

Power budget calculations can be complex for larger POE transmission systems. Please refer to the LONGSPAN Application Notes or contact our Veracity support team for further information.

**LONGSPAN Max Quad POE Range Table**

POWERED DEVICE	Cat6	Cat5e
Four x 5W	780m (2560ft)	630m (2067ft)
Four x 10W	390m (1280ft)	310m (1017ft)
Four x 13W	290m (951ft)	230m (755ft)
Four x 25W or more	Local Power	Local Power

**LONGSPAN Max Data Range Table**

CABLE TYPE	Cat6	Cat5e
Data Range (100Base-TX)	820m (2,690ft)	690m (2,250ft)

**POE Reference Table**

POE CLASS	IEEE STANDARD	POE POWER AT PSE	POE POWER AT PD
0	802.3af	15.4W	12.95W
1	802.3af	4W	3.84W
2	802.3af	7W	6.49W
3	802.3af	15.4W	12.95W
4	802.3at	30W	25.5W
5	802.3bt	45W	40W
6	802.3bt	60W	51W
7	802.3bt	75W	62W
8	802.3bt	90W	71.3W

PSE = Power Sourcing Equipment PD = Powered Device

## TECHNICAL SPECIFICATION

LONGSPAN®  
MAX QUAD

<b>POWER</b>	Device power consumption POE in (LONGSPAN Link) POE out DC power in	2.1W under minimum load, 3.2W under maximum load IEEE 802.3bt input 4 x IEEE 802.3bt (up to 90W) ports - requires local PSU for maximum output Detachable screw terminal for optional local Veracity POE power supply
<b>LONGSPAN INTERFACE</b>	Connector Cable Rate	RJ45 Cat6, Cat5e, Patch wiring recommended, other wiring auto-corrected 200Mbps (100Mbps full-duplex) up to 820 metres [2,690ft] (Cat6)
<b>ETHERNET INTERFACE</b>	Connector Cable Rate	Four x RJ45 Cat6, Cat5e, Patch or crossover, auto-detected 100Base-TX full-duplex with auto-negotiation
<b>LED INDICATORS</b>	LONGSPAN link RJ45 POE           Ethernet & POE out	Yellow: Link/activity, Green: 10/100Mbps Power available (5/10/20/30/40/50/60/70 watts) plus diagnostic codes Above 70W with local power, 70W is indicated LED Status: Blue - On and available LED Status: Purple - Approaching available power limit LED Status: Red - Power limit exceeded RJ45 Yellow: Link / Activity RJ45 Green: Power good
<b>PHYSICAL/ENVIRONMENTAL</b>	Dimensions Weight Operating temperature     Relative humidity Compliance	L 113mm (inc. brackets), W 75mm H 22mm [L 4.4in, W 2.9in, H 0.9in] 161g [5.7oz] -40°C to 70°C [-40°F to 158°F] -40°C to 50°C [-40°F to 122°F] when power load > 80W 85% non-condensing FCC, CE, RoHS, UKCA, BS EN 50121-4 (rail + metro)
<b>PRODUCT CODES</b>	<b>VLS-LSM-C4</b> VLS-LSM-B VLS-LSM-C VLS-1P-B VLS-1P-C VLS-LS-B8 VLS-1N-L VPSU-12V VPSU-57V-800 VPSU-57V-1500 VPSU-POE-100-UK/EU/US VPSU-POE-240-UK/EU/US VPSU-1U-57V-UK/EU/US VLS-1U VPSU-TRAY-ASSY 2-PIN-UK/EU/US	<b>LONGSPAN Max Quad Camera device with high power POE</b> LONGSPAN Max Base device with high power POE LONGSPAN Max Camera device with high power POE LONGSPAN Base device with POE for Base side LONGSPAN Camera device with POE for Camera side LONGSPAN Base 8 device with 8 integrated LONGSPAN Base channels LONGSPAN Lite device without POE 12V DC power supply for LONGSPAN Lite device 57V DC 800mA power supply (power cord required) 57V DC 1500mA power supply (power cord required) 100W 57V DC power supply with power cable for UK, EU or US 240W 56V DC power supply with power cable for UK, EU or US 1U rear-mounted 400W PSU for multi-channel installations & cable for UK, EU or US 1U front panel for mounting 24 LONGSPAN devices 1U tray for mounting power supplies and for use with VLS-1U Power Cord 2-Pin C7. Power cord for 800mA & 1500mA PSUs <i>For a full range of solutions, power supplies &amp; 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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