

HI-POE ETHERNET EXTENDER  
**LONGSPAN<sup>®</sup>**  
**MAX**



Application | LONGSPAN MAX™, long-distance network extenders, compatible with the highest levels of POE power.



## Maximum POE power and bandwidth over extreme distances for IP cameras

LONGSPAN Max™ adds 90W POE power capability to the extremely successful LONGSPAN™ range of long-distance network extenders for Cat5e or Cat6 cable

- | LONGSPAN™ enhanced with 90W POE capability (802.3bt)
- | Long range point-to-point Ethernet over Cat5e or Cat6 cable
- | Unrestricted 100Base-TX with POE at over 820 metres
- | Can deliver 60W at 200 metres, 40W at 350 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 delivers unrestricted 100Base-TX with 802.3bt high power POE at distances far beyond the normal Ethernet limits for problem-free external PTZ IP camera installation



LONGSPAN Max Camera device 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 provides for 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 IP PTZ 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 for details.

## Base and Camera Pairs

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

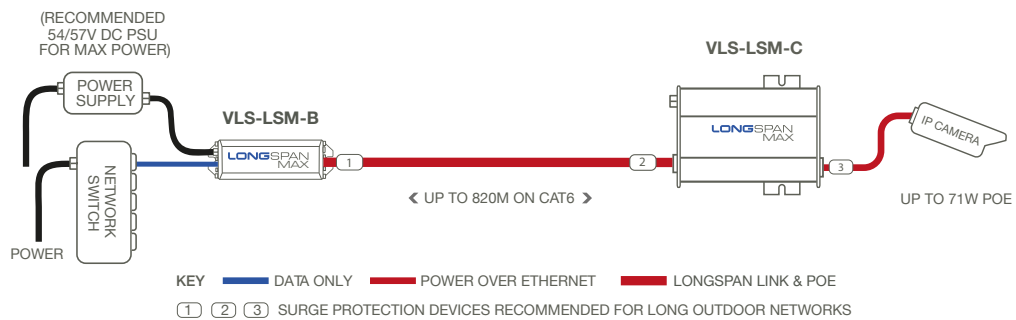
device to achieve the LONGSPAN link with higher POE power (see Base and Camera diagram below for details).

## LONGSPAN or LONGSPAN Max ?

Whilst LONGSPAN Max Base and Camera pairs achieve the same data range as a standard LONGSPAN pair (820m), higher power POE delivery is only possible to just over 600 metres.

Therefore lower-cost standard LONGSPAN pairs are recommended for ranges longer than 600 metres or for POE delivery of 25W or less.

## High Power POE Over Cat5e or Cat6 Application Diagram



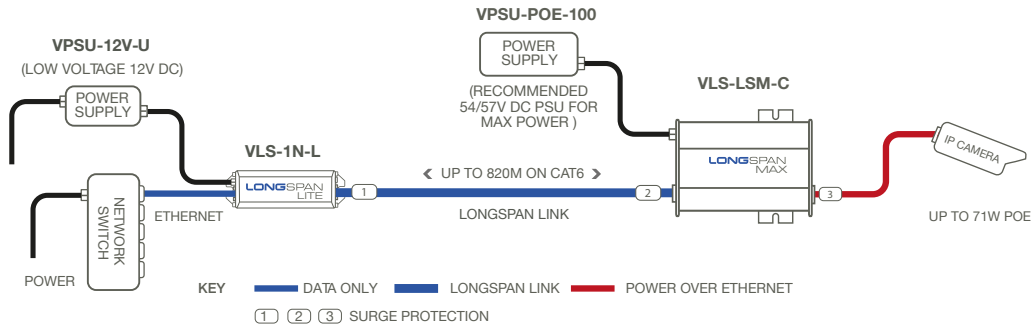
POE power levels drop quickly with distance. For maximum power delivery to the IP Camera, a local PSU may be used to power the LONGSPAN Max Camera device, in which case LONGSPAN Max Base could be

replaced with a LONGSPAN Lite. LONGSPAN Max Base and Camera extenders deliver full bandwidth Ethernet up to 820 metres. The Base unit can output the maximum POE permitted by the 802.3bt standard.



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

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



**Local power option**

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

In this configuration, the LONGSPAN link could be 820m and LONGSPAN Max Base would be replaced with LONGSPAN Lite as POE transmission over the link is not required. A Quad version of LONGSPAN Max is also available for the camera end with four

802.3bt compatible POE ports, allowing the connection of up to four IP devices over one 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.

High-density device unit installations are supported, with up to 24 single Base devices or four LONGSPAN Base 8 devices mounted in a 1U rack space including options for rear-mounted Veracity POE power supplies.

**Surge protection**

LONGSPAN devices have built-in surge protection, but for long external runs additional surge protection is strongly recommended.

**LONGSPAN Max POE Range Table**

POE DEVICE POWER	Cat6	Cat5e
71 WATTS	180m (590ft)	140m (459ft)
62 WATTS	200m (656ft)	155m (508ft)
51 WATTS	250m (825ft)	200m (656ft)
40 WATTS	350m (1,148ft)	280m (919ft)
25 WATTS	570m (1,870ft)	450m (1,476ft)

**LONGSPAN Max Data Range Table**

CABLE TYPE	Cat6	Cat5e
DATA RANGE	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<sup>®</sup>  
MAX

<b>POWER</b>	
Device power consumption	1.0 watt
POE in (Base)	IEEE 802.3bt input (Optional - DC power input recommended)
POE out (Camera)	IEEE 802.3bt output
DC power in (Base or Camera)	Detachable screw terminal for Veracity POE power supply (recommended)
<b>LONGSPAN INTERFACE</b>	
Connector	RJ45
Cable	Cat6, Cat5e, Patch wiring recommended, other wiring auto-corrected
Rate	200Mbps (100Mbps full duplex) up to 820 metres [2,690ft] (Cat6)
<b>ETHERNET INTERFACE</b>	
Connector	RJ45
Cable	Patch or crossover, auto detected
Rate	100Base-TX full-duplex with auto-negotiation
<b>LED INDICATORS</b>	
Ethernet RJ45	Yellow : Link/activity, Green: power good
LONGSPAN link RJ45	Yellow : Link/activity, Green: 10/100Mbps
POE   Base	Power available (10/25/40/50/60 watts) plus diagnostic codes (red)
POE   Camera	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
<b>PHYSICAL/ENVIRONMENTAL</b>	
Dimensions   Base device	L 120mm (inc. brackets), W 36mm H 23mm [ L 4.7in, W 1.4in, H 0.90in ]
Dimensions   Camera device	L 113mm (inc. brackets), W 75mm H 22mm [ L 4.4in, W 2.9in, H 0.87in ]
Weight	Base device 100g [ 3.5oz ] Camera device 161g [ 5.7oz ]
Operating temperature	-40°C to 70°C [ -40°F to 158°F ]
Relative humidity	85% non-condensing
Compliance	FCC, CE, RoHS, BS EN 50121-4 (rail + metro)
<b>PRODUCT CODES</b>	
<b>VLS-LSM-B</b>	<b>LONGSPAN Max Base device, with high power POE</b>
<b>VLS-LSM-C</b>	<b>LONGSPAN Max Camera device, with high power POE</b>
VLS-LSM-C4	LONGSPAN Max Quad Camera device, with high power POE
VLS-1P-B	LONGSPAN Base device with POE
VLS-1P-C	LONGSPAN Camera device with POE
VLS-LS-B8	LONGSPAN Base 8 device with 8 integrated LONGSPAN base channels
VLS-1N-L	LONGSPAN Lite device without POE
VPSU-12V	12V DC power supply for LONGSPAN Lite device
VPSU-57V-800	57V DC 800mA power supply
VPSU-57V-1500	57V DC 1500mA power supply
<b>VPSU-POE-100-UK/EU/US</b>	<b>100W 57V DC power supply with power cable for UK, EU or US</b>
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

For a full range of solutions, power supplies and power configurations contact sales at Veracity.



veracity

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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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