

LONG RANGE ETHERNET OVER COAX  
**HIGHWIRE™**  
 LONGSTAR



Deliver unsurpassed power and bandwidth over extreme distances of coaxial cable

Cut costs and installation time by re-using long runs of legacy coax cabling, especially in rail and metro applications.



- | Long range Ethernet and POE over new or legacy coaxial cable
- | Unrestricted 100Base-T and POE over 1400m (4,600ft) on RG11
- | Ruggedised for high-performance over extreme temperature range
- | Fully automatic, simple to install and maintenance-free
- | BS EN 50121-4 compliant (rail and metro)
- | Up to 4.2km (2.5 miles) data-only link at 10Base-T without POE

# Long-range Ethernet with POE over coax at distances up to 1,400 metres

HIGHWIRE Longstar's ruggedness and high performance is particularly suited to rail, metro and industrial applications.



## HIGHWIRE Longstar delivers unsurpassed distances

HIGHWIRE Longstar delivers a full bandwidth 100Base-T network signal and POE Plus over unsurpassed lengths of regular coaxial cable. It provides the reassurance of exceptional performance and reliability, while enabling considerable savings in the cost, time and risk of upgrading legacy analogue camera installations to IP.

A range of 540 - 690 metres with RG-59 or even up to 1400 metres with RG-11 is supported, without compromising the 100Base-T data rate. For even greater distances it can automatically configure to 10Base-T operation, running approx.

three times further with data only. Models with optional POE in or out can deliver the full 25 watts of 802.3at POE Plus to cameras over the same legacy cable. Designed for straight-forward installation, all the HIGHWIRE Longstar models are entirely self-configuring, and feature extended temperature operation, have a rugged enclosure with both wall-mount or high density rack mounting options.

## Designed for Installers

Used in pairs, installation of HIGHWIRE Longstar is extremely fast and efficient. The devices self-configure and self optimise on connection. No set-up or system pairings are required. Data and power

connections are easily monitored during installation using the embedded LEDs. The system incorporates Veracity's SAFEVIEW™ technology, which provides instant confirmation of link status, power level and diagnostic information.

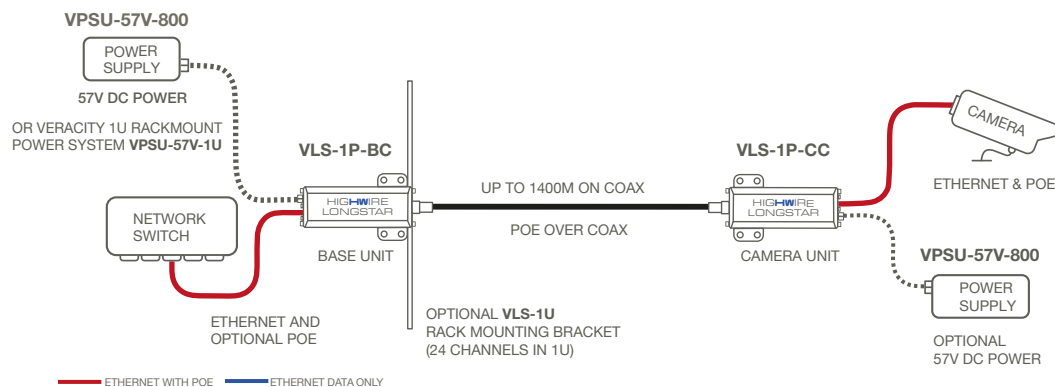
## Flexible High Performance

Although designed for 75 Ohm cable, HIGHWIRE Longstar will operate over 50 Ohm cable with full performance and only a slight reduction in the maximum distance attainable.

## POE - Simple Reliability

POE-equipped models allow all of the power for the link to be sourced from a POE switch, POE injector or power supply,

## POE OVER COAX Application Diagram



POE Models of HIGHWIRE Longstar enable both network data and power to be carried over extended lengths of new or existing coaxial cable.

# HIGHWIRE Longstar is a rugged and low-cost alternative to fibre, also with power delivery

HIGHWIRE Longstar is also suited to new coax installations, due to the low levels of signal distortion through long runs of RG6 or RG11 cabling.



for simple installation and optional UPS backed power delivery for high resilience against grid power failures.

### Simple Rackmount Option

Up to 24 HIGHWIRE Longstar Base units can be rack-mounted using the simple 1U space-saving bracket.

Although HIGHWIRE Longstar POE models can be powered from POE switches or injectors, several Veracity 57V DC power supply options are available (see partcodes) to provide the maximum power and range performance.

### Veracity Power Supply Options

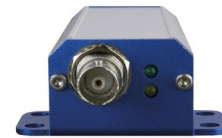
Rack-mounted HIGHWIRE Longstar

units can be powered by the Veracity 57V DC 1U rackmount power supply. This 8.8A power supply can provide enough power for up to 24 HIGHWIRE Longstar units with POE output. The power unit can be fitted behind the rack-mounted HIGHWIRE Longstars in the same 1U space, thus saving rack space.

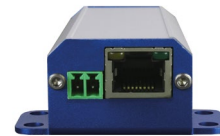
For a full range of solutions, power supplies and power configurations please contact sales at Veracity.

### NOTES

*HIGHWIRE Longstar units must be used in pairs and, due to the special technology used for very long-range performance, are not compatible with the rest of Veracity's HIGHWIRE and HIGHWIRE Powerstar product range.*



HIGHWIRE Longstar Coax and status LEDs



HIGHWIRE Longstar Ethernet and DC input

## HIGHWIRE Longstar POE over COAX Range

POWER SOURCE	No POE	POE Switch				POE Plus Switch		Veracity Power Supply					
		5	10	15	20	25	0	5	10	15	20	25	
Camera Power watts	0	5	10	15	20	25	0	5	10	15	20	25	
RG-59 (22AWG CCS)	540m	200m	130m	100m	60m	N/A	540m	400m	240m	140m	100m	60m	
RG-59 (20AWG core)	690m	690m	600m	500m	350m	N/A	690m	690m	690m	690m	640m	360m	
RG-6 (18AWG core)	950m	950m	800m	700m	470m	N/A	950m	950m	950m	950m	900m	500m	
RG-11 (14AWG core)	1400m	1400m	1400m	1400m	1200m	N/A	1400m	1400m	1400m	1400m	1400m	1300m	

These are typical limits for 100Base-T connections. For non-POE installations ie. Ethernet only, use the "0" Zero figures in the table above.

The data range at 10 Base-T is approximately 3 times further.

## TECHNICAL SPECIFICATION

HIGHWIRE™  
LONGSTAR

<b>POWER (Non POE models)</b> Unit power DC Power input	1.0 watts Detachable screw terminal for class II isolated external supply 8-57 volts DC or 20-28 volts AC, max 100mA
<b>POWER (POE models)</b> Unit Power POE in (Base) POE out (Camera) DC power in (Base)	1.0 watts IEEE 802.3af (POE) or IEEE 802.3at (POE Plus), 2-event, power class 4 IEEE 802.3af (POE) or IEEE 802.3at (POE Plus) Detachable screw terminal for optional Veracity 57V supply
<b>LONGSTAR INTERFACE</b> Connector Cable  Rate	BNC 75 Ohm Coaxial, RG59, RG6 or RG11 or equivalent Note: also compatible with 50 Ohm cable types 200Mbit/s up to 690 metres [2263ft] (RG59 20AWG) 200Mbit/s up to 1400 metres [4593ft] (RG11) 20Mbit/s up to 4.2km [2.6miles] (RG11), auto-adapts
<b>ETHERNET INTERFACE</b> Connector Cable Rate	RJ45 Patch or crossover, auto-detected 100Base-TX or 10Base-T, full-duplex with auto-negotiation
<b>LED INDICATORS</b> Ethernet Longstar (POE models only)	Link/activity, power good Link/activity, rate POE and link status (green/amber), diagnostic codes (red)
<b>PHYSICAL/Environmental</b> Dimensions Weight Operating temperature Relative humidity Compliance	L 115mm, W 55mm H 27mm, inc removable bracket 112g [3.95oz] -40°C to 70°C [-40°F to 158°F] 85% non-condensing FCC, CE, RoHS, BS EN 50121-4 (rail + metro)
<b>PRODUCT CODES</b> VLS-1P-BC VLS-1P-CC VPSU-57V-800 VPSU-57V-1500 VPSU-57V-1U  VLS-1N-LC  VPSU-12V-U VHW-RMPSU VPSU-TRAY-ASSY VLS-1U	HIGHWIRE Longstar (Base). Single POE converter with POE in, extended POE out HIGHWIRE Longstar (Camera). Single POE converter with POE out, extended POE in 57V power supply for POE models (optional: for max power/or an alternative to POE) 57V power supply for POE models (optional: for max power/or an alternative to POE) Rack-mountable multi channel power supply - optional dual redundancy/status LEDs  HIGHWIRE Longstar Lite. Single non POE Longstar converter, 1 port, no POE (2 required per link) 12V power supply for non POE models, universal AC input. Single unit PSU (with linking cable) for 8 x VLS-1N-LC units 1U PSU tray (up to 5 x VPSU-57V-1500 or 5 x VPSU-57V-800 power supplies) 1U panel for up to 24 HIGHWIRE Longstar units or 24 LONGSPAN units  <i>For a full range of solutions, power supplies and power configurations contact sales at Veracity</i>



HIGHWIRE Longstar is also available in a non POE version HIGHWIRE Longstar Lite.

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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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