

LONG RANGE ETHERNET OVER COAX  
**HIGHWIRE®**  
 LONGSTAR LITE



Deliver full 100Mbps  
 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 over new or legacy coaxial cable
- | Unrestricted 100Base-TX 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) link at 10Base-T



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

HIGHWIRE Longstar Lite'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-TX network signal over unsurpassed lengths of regular coax 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 RG59 or even up to 1400 metres with RG11 is supported, without compromising the 100Base-TX data rate. For even greater distances it can automatically configure to 10Base-T operation, running approximately three times further.

HIGHWIRE Longstar Lite is designed for applications which do not require POE. Other models are available which can provide up to 25W of POE. Designed for straight-forward installation, all of the HIGHWIRE Longstar models are entirely self-configuring, feature extended temperature operation and have a rugged enclosure with both wall mount or high density rackmounting options.

## Designed for Installers

Used in pairs, installation of HIGHWIRE Longstar Lite is extremely fast and efficient. The devices self-configure and self-optimize on connection. No setup or system pairings are required. Data and power connections are easily

monitored during installation using the embedded status LEDs.

## Flexible High Performance

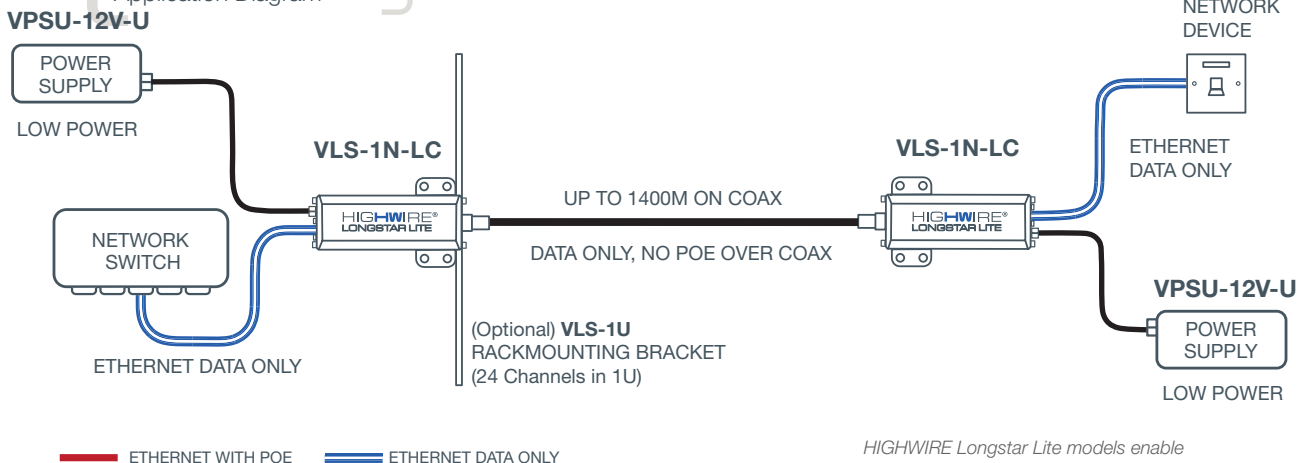
Although designed for 75 ohm cable, HIGHWIRE Longstar will operate over 50 ohm cable with full performance and only a slight reduction in the maximum distance attainable.

## Optional POE Models

If the application requires delivery of POE to the networked device, then HIGHWIRE Longstar Base and Camera units should be used in place of Longstar Lite. See Product Codes under Technical Specifications.

## ETHERNET OVER COAX

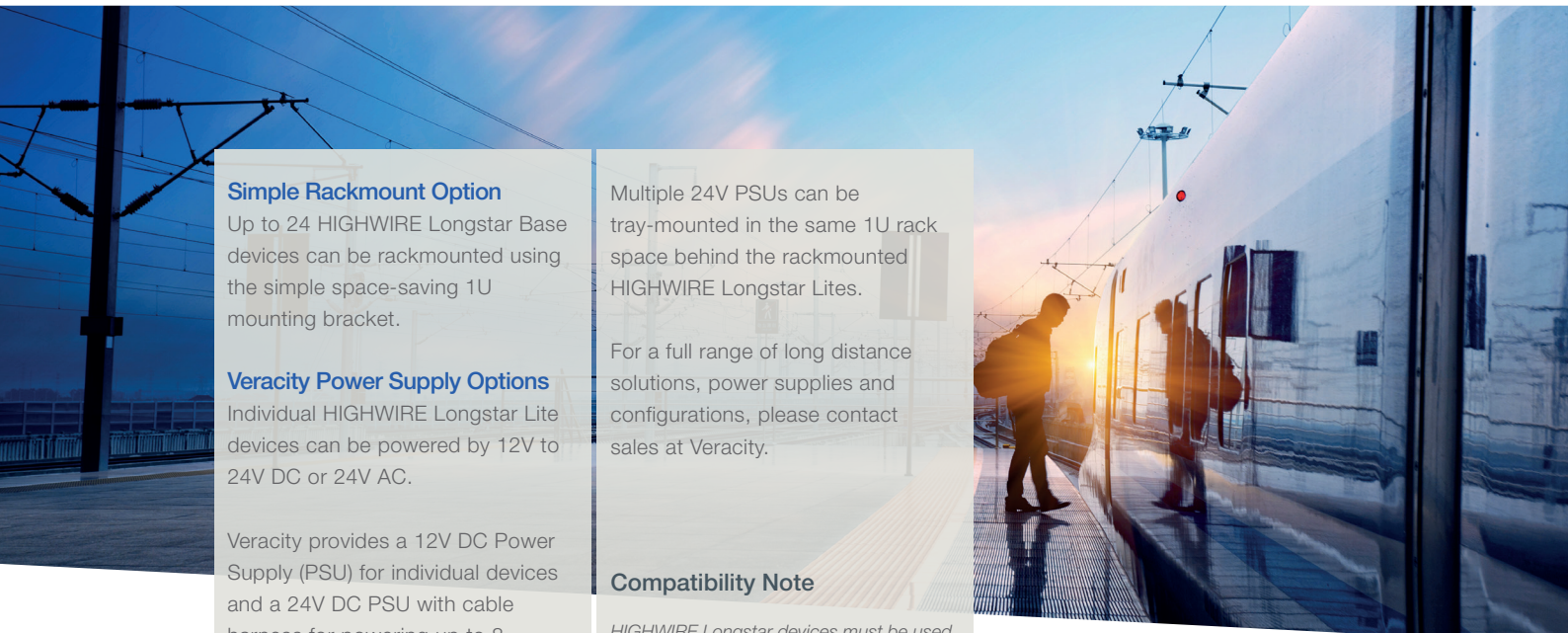
Application Diagram



HIGHWIRE Longstar Lite models enable network data to be carried over extended lengths of new or existing coaxial cable.

# HIGHWIRE Longstar is a rugged, low cost alternative to fibre

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



### Simple Rackmount Option

Up to 24 HIGHWIRE Longstar Base devices can be rackmounted using the simple space-saving 1U mounting bracket.

### Veracity Power Supply Options

Individual HIGHWIRE Longstar Lite devices can be powered by 12V to 24V DC or 24V AC.

Veracity provides a 12V DC Power Supply (PSU) for individual devices and a 24V DC PSU with cable harness for powering up to 8 devices. The 24V PSU can be mounted in the Veracity tray assembly along with the 1U mounting bracket.

Multiple 24V PSUs can be tray-mounted in the same 1U rack space behind the rackmounted HIGHWIRE Longstar Lites.

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

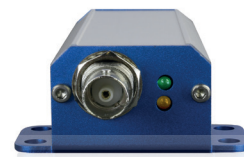
### Compatibility Note

*HIGHWIRE Longstar devices 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 Lite Ethernet over COAX Range

CABLE DISTANCES		
CABLE TYPE	100Base-TX	10Base-T
RG59 (22AWG CCS)	540m	1500m
RG59 (20AWG core)	690m	2000m
RG6 (18AWG core)	950m	2700m
RG11 (14AWG core)	1400m	4000m

These are typical limits for 100Base-TX connections. The data range at 10Base-T is approximately three times further.



HIGHWIRE Longstar Lite Coax and status LEDs



HIGHWIRE Longstar Lite Ethernet and DC input

## TECHNICAL SPECIFICATION

HIGHWIRE®  
LONGSTAR LITE

<b>POWER (Lite models)</b>	
Device power	1.0 watts
DC Power input	Detachable screw terminal for class II isolated external supply 8-57 volts DC or 20-28 volts AC, max 100mA
<b>LONGSTAR INTERFACE</b>	
Connector	BNC
Cable	75 ohm Coaxial, RG59, RG6 or RG11 or equivalent Note: also compatible with 50 ohm cable types
Rate	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	RJ45
Cable	Patch or crossover, auto-detected
Rate	100Base-TX or 10Base-T, full-duplex with auto-negotiation
<b>LED INDICATORS</b>	
Ethernet	Link/activity, power good
Longstar Lite	Link/activity, rate
<b>PHYSICAL/Environmental</b>	
Dimensions	L 115mm, W 55mm H 27mm, inc removable bracket
Weight	112g [3.95oz]
Operating temperature	-40°C to 70°C [-40°F to 158°F]
Relative humidity	85% non-condensing
Compliance	FCC, CE, RoHS, UKCA, BS EN 50121-4 (rail + metro)
<b>PRODUCT CODES</b>	
<b>VLS-1N-LC</b>	<b>HIGHWIRE Longstar Lite. Single non-POE Longstar converter, 1 port, no POE. (2 required per link).</b>
VPSU-12V-U	12V power supply for non-POE models, universal AC input. Single device.
VHW-RMPSU	24V DC PSU (with linking cable) for 8 x VLS-1N-LC devices.
VPSU-TRAY-ASSY	1U PSU tray (up to 5 x VHW-RMPSU power supplies).
VLS-1U	1U panel for up to 24 HIGHWIRE Longstar devices or 24 LONGSPAN devices.
VLS-1P-BG	HIGHWIRE Longstar (Base). Single POE converter with POE in, extended POE out.
VLS-1P-CC	HIGHWIRE Longstar (Camera). Single POE converter with POE out, extended POE in.
VPSU-57V-800	57V power supply for POE models (optional: for max power/or an alternative to POE).
<i>For a full range of solutions, power supplies and power configurations contact sales at Veracity.</i>	



HIGHWIRE Longstar is also available in POE versions HIGHWIRE Longstar Base and Camera.

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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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