HIG**HW**IRE™
POWERSTAR
ETHERNET & POE-OVER-COAX

Ethernet and POE-over-coax to IP cameras without the need to re-cable

HIGHWIRE Powerstar uses existing coax cable to connect and power IP cameras without cabling costs. Easy to use and fast to install.

Re-use existing coax cable for IP cameras

Eliminate power cabling with POE-over-Coax™

Reliably power POE Plus cameras (25watts)

Instantly check connection and power status with SafeView™

Fully automatic - no configuration required

Simple fast, cost-effective installation

Full 100Base-T Ethernet performance

veracity

A true plug-and-play solution for connecting and powering IP cameras over legacy coaxial cabling

Our unique ultra low-power design and reliable power delivery enables long range extension even over the lowest-grade cable, such as the high-resistance copper-clad steel (CCS) types found in many legacy installations.

Reliability assured

HIGHWIRE Powerstar's unique ultra low-power design and efficient power delivery enables long range extension even over the lowest-grade cable, such as the high-resistance copper-clad steel (CCS) types found in many legacy installations. This means that legacy coax upgrades can be planned with confidence, while a quick check of the SafeView ™ power display reaffirms that the devices' connection will continue to be reliable, whatever the cable used.

Reliable power delivery is also ensured at the source, where either dependable screw-terminal connections or a UPS-backed POE supply can be used. And for predictable network operation with no restrictions, HIGHWIRE delivers a full 200Mbit/s of bandwidth at 300m (1000 ft) of RG-59 or 500m (1600 ft) of RG-11 coax.

If a custom application demands a greater range, HIGHWIRE coax sections can be connected in series to deliver network connections up to 4km (2.5 miles), at full bandwidth and with no extra power wiring.

POE-over-Coax™ Range

HIGHWIRE Powerstar delivers reliable power at long range, even over low-grade CCS cable, and Safeview ™ confirms it automatically on installation. In most cases the full 25 watts required by the most powerful POE Plus cameras is available. The table below shows the range achievable by cable type, power source, and camera wattage.

	POE-over-Coax™ Range									
POWER SOURCE	POE OR POE PLUS SWITCH					VERACITY POWER SUPPLY				
CAMERA POWER (watts)	5	10	15	20	25	5	10	15	20	25
RG-59 (22AWG CCS)	750ft 225m	420ft 125m	330ft 100m	200ft 60m	N/A N/A	900ft 270m	880ft 265m	620ft 185m	460ft 140m	360ft 110m
RG-59 (22AWG core)	1000ft 300m	1000ft 300m	880ft 265m	650ft 195m	N/A N/A	1000ft 300m	1000ft 300m	1000ft 300m	1000ft 300m	1000ft 300m
RG-59 (20AWG core)	1000ft 300m	1000ft 300m	1000ft 300m	1000ft 300m	N/A N/A	1000ft 300m	1000ft 300m	1000ft 300m	1000ft 300m	1000ft 300m
RG-11 (14AWG core)	1600ft 500m	1600ft 500m	1600ft 500m	1600ft 500m	N/A N/A	1600ft 500m	1600ft 500m	1600ft 500m	1600ft 500m	1600ft 500m

Once HIGHWIRE Powerstar is connected SafeView™ will automatically indicate POE power

HIGHWIRE Powerstar adds the convenience of POE-over-Coax™ technology and gives you the reassurance of SafeView™ monitoring which displays the power available at the base unit without access the remote equipment.

Simply add power

With no need to configure IP addresses, set DIP switches, or make awkward measurements and calculations, installing HIGHWIRE Powerstar is so straight forward, all you need to do is plug it in.

In the most simple implementation, shown below, the BASE unit receives POE power from a standard POE switch or injector and transmits it down the coax. The CAMERA unit receives this power and forwards it on to the IP camera. No external power cabling is required, and all detection and setup occurs automatically.

If POE is not available, or for an extra power boost at either end of the cable, just connect the optional power supply.

Installer friendly

HIGHWIRE Powerstar features Veracity's unique SafeView™ display, to provide IP camera installers with an instant and very easy-to-understand confirmation of correct operation from either end of the cable.

For example, the network link/activity and POE status of the IP camera can be viewed from the BASE unit, saving the time of accessing remote equipment.

Cable length and quality can be hard to predict or measure, especially in legacy upgrade scenarios, which is why SafeView™ includes a reassuring bar-graph display of the POE power available, and a warning if the camera's requirement approaches it.

True POE Plus detection means that all POE (IEEE 802.3af) and POE Plus (IEEE 802.3at) cameras are fully supported, and non-POE equipment can be safely connected as well.

Careful POE-over-coax™ detection and management is also employed, to prevent accidental damage to legacy equipment and allow operation with other HIGHWIRE models.

Diagram 1. HIGHWIRE Powerstar delivers Ethernet and POE over legacy coax, for maximum reliability with minimal wiring.

Example 1. HIGHWIRE Powerstar Rack bracket for 8 HIGHWIRE units in 1U.

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POWER

Unit power	1.5 watts
BASE POE In	IEEE 802.3af (POE) or IEEE 802.3at (POE Plus), 2-event, power class 4
CAMERA POE Out	IEEE 802.3af (POE) or IEEE 802.3at (POE Plus)
DC Power input	40-57 volts, 0.7 amps maximum, class 2 isolated, detachable screw terminal

HIGHWIRE INTERFACE

Connector type	BNC 75 Ohm
Cable type	Any 75 Ohm coaxial (other impedances supported)
Range	Up to 300m [1100ft] on RG59 or 500 metres [1600 feet] on RG11 at full rate.
Bandwidth	200 Mbps (total up + down)

ETHERNET INTERFACE

Connector type	RJ45
Cable type	Patch or crossover, auto-detected
Rate	100Base-T full-duplex with auto-negotiation

LEDS

Status indicators	HIGHWIRE coax link
	Ethernet link/activity (BASE)
	Ethernet link/activity (CAMERA)
	POE-over-coax
	POE to camera
	Power available (5/10/15/20/25W)
Colours	Off - Disabled. Green - Enabled. Red - Fault.

PHYSICAL/ENVIRONMENTAL

Dimensions	L 104mm W 54mm H24mm (84mm excluding connector)
Weight	140g [5oz]
Operating temperature	-10°C to 50°C [14°F to 122°F] (delivering POE <15w)
	-10°C to 40°C [14°F to 104°F] (delivering POE Plus >15w)
Relative humidity	85% non-condensing
Compliance	FCC, CE, RoHS

PRODUCT CODES

VHW-HWPS-B	HIGHWIRE Powerstar™ Base unit, for installation at the switch side. Features 802.3af/802.3at POE or 57V DC power input & POE-over-coax™ output.
VHW-HWPS-C	HIGHWIRE Powerstar™ Camera unit, for installation at the camera side. Features POE-over-Coax™ or 57V DC power input & 802.3af/802.3at POE output.
VPSU-57V-800	Optional 57V DC 800mA power supply. Recommended for maximum range and POE-over-coax™, or as a convenient alternative to a POE switch or injector.
VHW-WMB	Wall mounting bracket for a single HIGHWIRE unit.
VHW-DNB	DIN rail mounting bracket kit.
VHW-1U	Rack-mounting bracket for eight HIGHWIRE units in 1U.

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