

EXPANDING HORIZONS IN NETWORKED VIDEO

# OUTREACH™

ETHERNET AND POE EXTENDER



OUTREACH™ extends Ethernet cable installations to 200 metres and beyond

- Forwards LAN and power to remote POE devices
- Designed for IP cameras, VOIP phones etc.
- Requires no power cable installation
- Requires no set-up or configuration

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POWER PROMISE





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## Why OUTREACH simplifies your network installations

- Extends Ethernet cable installations to beyond 100 metres
- Forwards Power Over Ethernet (POE) to remote devices
- No power cable installation required
- Incorporates Power Promise™ technology for reliable power delivery
- Fully transparent – no restriction to network traffic
- Simple to install – works instantly
- Robust, compact and wall-mountable
- Supports all network devices
- Compatible with universal IEEE 802.3af POE standard

## Ethernet Extension

Cables in an Ethernet network are limited to 100 metres in length, but frequently network equipment must be connected over greater distances. OUTREACH lets you overcome this restriction with a single, simple device.

OUTREACH is fitted in-line with the cable and acts as a repeater. A single OUTREACH may be used to join two cables, each of up to 100 metres in length, to allow a network connection over up to 200

metres. OUTREACH is transparent to the link, allowing a full-duplex 100Base-T connection with no restrictions.

## POE Forwarding

OUTREACH draws its power from the network cable using Power Over Ethernet, and requires no local power supply to be installed. It can also forward POE power on to other connected devices such as IP cameras, VOIP phones and wireless access points, allowing the extension of both power and data to beyond 100 metres.

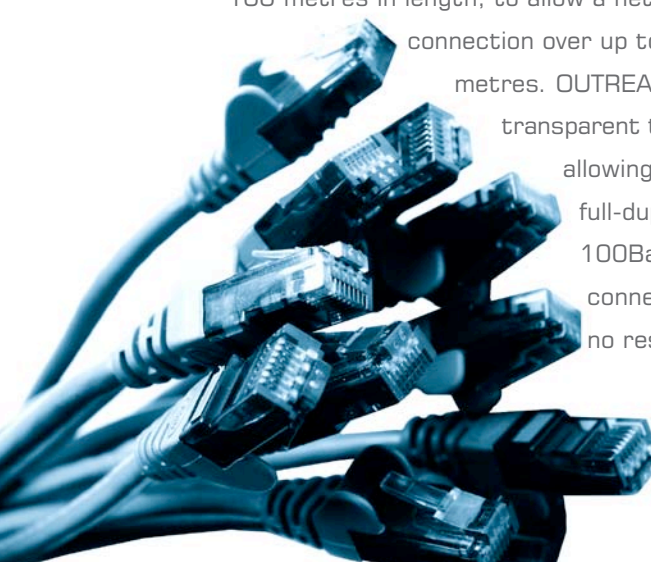
OUTREACH incorporates Veracity's Power Promise™ technology (patent pending), enabling it to intelligently monitor power distribution across the entire network link, without requiring any interaction from other devices. Only Power Promise makes it possible for OUTREACH to decide whether POE power can safely be enabled to connected devices.

## Daisy-chaining

For installations that reach beyond 200 metres, it is possible to connect two or more OUTREACHes in a chain, with up to 100 metres of cable between each OUTREACH or device. Links may be extended up to 1000 metres in this way, depending on the power requirements of the connected POE devices, and other factors. Power Promise allows POE to be forwarded by a chain of OUTREACHes with no risk of an overloaded POE supply or an underpowered POE device.

## Simple Installation

OUTREACH requires no setting-up and its only connectors are for the two network cables it joins. The Ethernet and POE connections are established and configured automatically, and no external equipment, custom installation or modifications are required.





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No network set-up is necessary as OUTREACH does not use a MAC or IP address and is undetectable to other network devices. The Power Promise™ technology ensures only safe and reliable POE power is enabled. In the unlikely event of any problems, diagnostic LEDs help the installer to locate the source of the problem quickly and easily.

### Cost Savings

Using OUTREACH in your installation brings the benefits of POE to the whole site. Most significantly, mains power installation is not required for remote switches or network

devices such as IP cameras. Installation costs become more predictable, as OUTREACH offers a fast and low-cost solution to underestimated cable lengths or changes to equipment locations.

Centrally-sourced POE also reduces ongoing maintenance costs, as devices can be reliably powered by an Uninterruptible Power Supply, and remotely power-cycled if they need to be reset. Devices are not tethered to power points and can easily be relocated after installation, using an OUTREACH to provide the extra distance.

## Accessories

### OUTSOURCE

OUTSOURCE is a single-channel POE injector. It is connected in-line with an Ethernet cable, to add POE capability to the network link.

It can be used to upgrade a channel of a standard Ethernet switch to POE, but can also be installed after a POE switch to increase available POE power (in which case the OUTSOURCE will supply all power and the switch will not enable POE to the connection at all)

OUTSOURCE is a fully IEEE

802.3af compliant POE midspan which can deliver maximum-class power to POE devices (up to 12.95 Watts). It is also capable of higher-power operation when used

in conjunction with OUTREACH, allowing OUTREACH to forward the full range of POE power over even greater distances.



### OUTBREAK

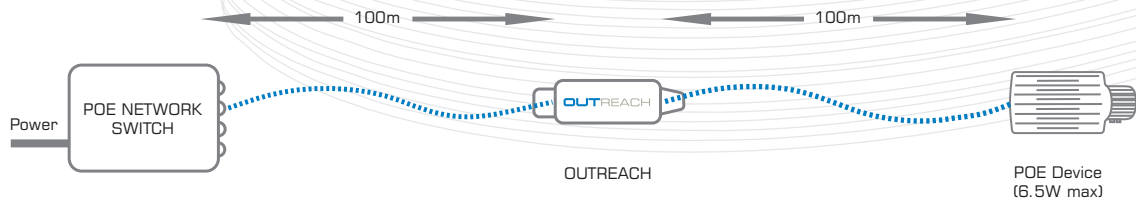
OUTBREAK is a POE splitter which can be used to add POE capability to non-POE devices. It receives POE power from its network input, and separates it into a non-POE Ethernet connection and an auxiliary 12V supply. Note that OUTBREAK is a IEEE 802.3af Class 0 device, so it will only be enabled by OUTREACH if an OUTSOURCE has been installed.



# OUTREACH™

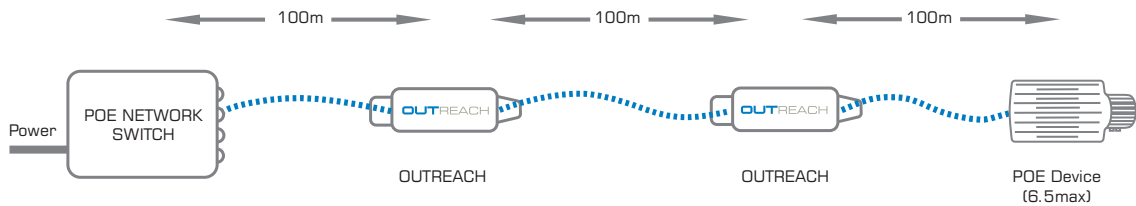
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## Applications



In the simplest application, an OUTREACH allows an IP camera to be located 200 metres away from a POE switch. The switch delivers POE power over the first 100 metres of Cat5 cable to the OUTREACH, and the OUTREACH restores the Ethernet signal and forwards remaining POE power to the camera. The OUTREACH requires no local power supply, and the OUTREACH presents no restriction to

the camera's network connection. Typically, the POE switch would be confined to a centrally located equipment room, and would connect to several IP cameras distributed about the site. With OUTREACH, each camera may have its own dedicated connection to the switch, and power cable installation to remote switches or cameras is not required.



This application is similar to the previous example, but extends the network connection by a further 100 metres by making use of OUTREACH's daisy-chaining capability. Again mains power is only required at the POE switch, data bandwidth is unrestricted,

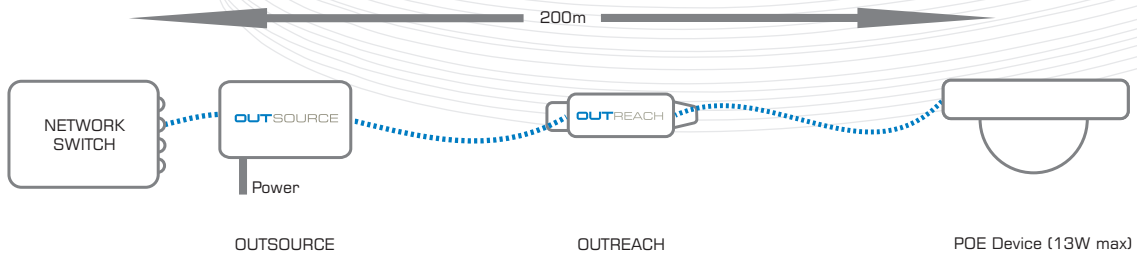
and POE power is safely managed. Although IP camera installations are highlighted in these applications, the examples apply equally to other POE devices such as IP telephones and Wireless Access Points.



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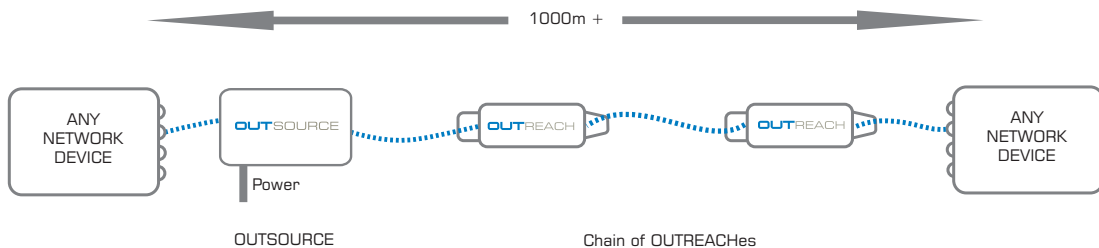
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In this application, POE capability is added to the network connection using Veracity's OUTSOURCE power injector. OUTSOURCE not only upgrades the standard switch's Ethernet port to be POE compatible, but is able to deliver extra power to the OUTREACH, above the usual maximum for POE.

This enables OUTREACH to extend Ethernet connections to greater distances, and enable power to higher power-class devices. In the example above, the OUTSOURCE and OUTREACH allow POE power to be supplied to a maximum power-class (13 Watt) dome camera over a 200 metre network connection.



OUTREACH will also extend Ethernet without POE to all standard network devices, and the maximum extension distance is greatest when there is no requirement for POE to be forwarded. The example above shows an OUTSOURCE powering a chain of OUTREACHes

of up to 1000 metres in length. The link is still a full 100Base-T connection – a significant improvement over other methods of Cat5 network extension, which seriously restrict bandwidth – and only one mains power connection is required.

## OUTREACH Technical Specifications

<b>ETHERNET</b> Connector type: Cable type: Rates supported	RJ45 x 2 Straight through or cross-over, auto detected 100BASE-TX, full duplex only with auto-negotiation			
<b>POWER</b> Maximum power: POE in: POE out:	2.2 Watts (1 Watt typical) IEEE 802.3af Class 0 (max 12.95 Watts) IEEE 802.3af Class 1 or 2 (max 6.49 Watts) IEEE 802.3af Class 3 (max 12.95 Watts) using OUTSOURCE			
<b>LED INDICATORS</b> Link/activity	On:	100BASE-T link good		
	Blinking:	Network activity		
	Off:	No network connection to port		
POE in:	On:	Power good		
	Blinking:	Power good, approaching IEEE limits		
	Off:	No power to OUTREACH unit		
POE out:	On:	POE enabled to connected device		
	Blinking:	Insufficient power for device or POE fault		
	Off:	POE not requested by connected device		
<b>MAXIMUM RANGE</b> POE device class Device power up to: Range with POE switch: Range with OUTSOURCE:	3	2	1	(no POE)
	12.95W	6.49W	3.84W	n/a
	n/a	300m	400m	700m
	300m	500m	700m	1000m
	Note: These distances are typical results when used with 24AWG Cat5, Cat5e or Cat6 cable.			
<b>ENVIRONMENTAL</b> Operating temp: Relative humidity: Dimensions: Mounting: Weight: Compliance:	-10°C to 50°C 85% non-condensing L 100mm (70mm excluding tabs) x W 37mm x H 20mm 7mm holes on two tabs, 84mm apart 85g CE, FCC, RoHS			
<b>OUTSOURCE</b> Power input: Dimensions:	100-240VAC, 47-63Hz L 140mm x W 65 mm x H 36mm			
<b>OUTBREAK</b> Power output: DC Connector: Dimensions:	12VDC, 1A 5.5mm barrel, pin 2.5mm, centre positive L 100mm x W 56mm x H 28mm			
<b>PRODUCT CODES</b> VOR-OR VOR-OS VOR-OB	OUTREACH Ethernet and POE extender OUTSOURCE midspan POE injector OUTBREAK 12 Volt POE splitter			