UNIVERSAL ETHERNET EXTENDER

OUTREACH™ LITE

Application | Extend Ethernet range in stations, subways and walkways.

Universal Ethernet network range extender

OUTREACH LITE an easy way to double your network cable range without having to install power cables to an intermediate switch.

| Instantly doubles cable range to 200 metres

| No local power is required

| Full unrestricted network bandwidth

| Universal 10/100 compatibility (Gigabit available)

| POE powered device

| Integrated mounting holes

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OUTREACH Lite overcomes the distance limits of Ethernet, instantly

Simply connect an OUTREACH Lite in line with the network cable and instantly double its range to 200 metres (656 ft).

Ethernet is the ubiquitous technology for Local Area Network (LAN) installation, and the majority of networks in place use the 100Base-TX network standards. (A Gigabit version of OUTREACH is also available).

However, many security installations demand network connections that exceed the maximum 100 metres (328 ft) distance limit for wired Ethernet.

OUTREACH Lite provides an instant solution to this restriction. Simply connect an OUTREACH Lite in line with the network cable – adding a Power over Ethernet (POE) injector if required – to double the available range to 200 metres (656 ft).

Simple installation
OUTREACH Lite takes advantage of the universal 802.3af/at/bt POE standards, so it can draw its own power from the network connection. No local power is required, so OUTREACH Lite can be located exactly where it is needed.

If your network switch has POE, simply connect OUTREACH Lite up to 100 metres from the switch, and it will deliver another 100 metres' reach over regular Cat5e or similar cable (Diagram 1). If POE is not available, the link can easily be upgraded using a low-cost POE injector such as Veracity's OUTSOURCE (Diagram 2).

No set-up or network configuration is required, as OUTREACH Lite automatically sets up network speed, duplex and crossover on connection, and does not require an IP or MAC address.

Go further
If POE and network extension beyond 200 metres (656 ft) is required, Veracity's OUTREACH Max may be installed to extend Ethernet and POE to OUTREACH Lite.

For example, a 300 metre (984 ft) connection between a POE switch

and another network device can be achieved by fitting an OUTREACH Max at 100 metres along the cable, followed by 100 metres then an OUTREACH Lite, and up to 100 metres to the network device.

For longer Ethernet runs, Veracity recommends LONGSPAN long distance point-to-point devices, which can achieve 100Base-TX connections with POE at up to 820m (2,690ft).

No restrictions
Because OUTREACH Max and OUTREACH Lite simply restore the network connection every 100 metres, the full (100Mbit/s) bandwidth of 100Base-TX Ethernet is maintained across the entire link. This maximises performance and transparency, with no risk of a reduced or unpredictable bandwidth, even at distances of several hundred metres or more.

OUTREACH LITE APPLICATION DIAGRAMS

Diagram 1. OUTREACH Lite is powered by POE, so it can double Ethernet range without requiring a local power outlet.
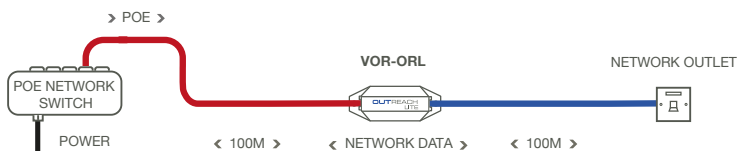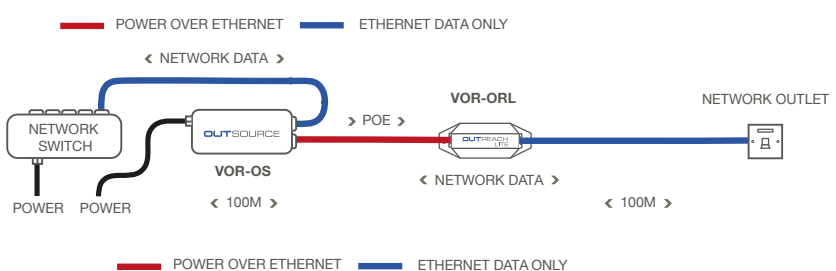
> POE >

POE NETWORK SWITCH

POWER

VOR-ORL

NETWORK OUTLET

< 100M >   < NETWORK DATA >   < 100M >

━━ POWER OVER ETHERNET   ━━ ETHERNET DATA ONLY

Diagram 2. If there is no POE available, upgrade the link with Veracity's low cost POE injector OUTSOURCE.

< NETWORK DATA >

NETWORK SWITCH

OUTSOURCE

VOR-OS

> POE >

VOR-ORL

NETWORK OUTLET

POWER   POWER

< 100M >

< NETWORK DATA >

< 100M >

━━ POWER OVER ETHERNET   ━━ ETHERNET DATA ONLY

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For more information, read Veracity's 'Long range Ethernet extension' white paper on the Veracity website

Which type of OUTREACH do I need?

Choosing between **OUTREACH** models is straightforward using the information below.

ETHERNET ONLY	POE FORWARDING	EXTERNAL UNITS	GIGABIT OPTION
If Ethernet extension only is required, use OUTREACH Lite models. Lite models extend Ethernet only and do not forward POE.	If POE forwarding is also required, use OUTREACH Max models. Max models support all standards of POE forwarding.	For outdoor Ethernet extension, use OUTREACH XT models with IP67 / Nema 4X/6P standard enclosures and connections.	If Gigabit Ethernet extension is required, use OUTREACH G models as these support full gigabit data rates.

EXTENSION TYPE	APPLICATION		NETWORK SPEED
	INDOOR	OUTDOOR	
Ethernet extension only	OUTREACH Lite	OUTREACH Lite XT	100Base-TX Ethernet
Ethernet extension with POE	OUTREACH Max	OUTREACH Max XT	100Base-TX Ethernet
Ethernet extension only	OUTREACH Lite G	OUTREACH Lite GXT	Gigabit Ethernet
Ethernet extension with POE	OUTREACH Max G	OUTREACH Max GXT	Gigabit Ethernet

OUTREACH devices are ideal for Ethernet extension to 200m or 300m. The POE power source required will depend on the distance to the powered device (e.g. IP camera) and the power requirement of that device. As shown in this table.

POE SOURCE	MAXIMUM POE POWER	
	at 200m	at 300m
POE Switch (15W)	12W	9W
OUTSOURCE (20W)	12W	12W
OUTSOURCE Plus (30W)	25W	20W
IEEE 802.3bt / Custom injector (90W)	71W	43W

The power levels quoted above assume the use of high quality Cat6 Ethernet cabling. Smaller gauges may results in higher losses and reduced power delivery.

Beyond 300m, it is possible to daisy-chain further OUTREACH devices to achieve distances up to 700m or beyond, but we recommend the use of Veracity's LONGSPAN long distance point-to-point solution for such applications. LONGSPAN can span up to 820m with full 100Base-TX data rates and 15W of POE delivery or 25W at 600m.

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TECHNICAL **SPECIFICATION**

OUTREACH™
LITE

POWER	
Power consumption	1.3 watts via POE

POE STANDARDS	
	IEEE 802.3af POE (802.3at and 802.3bt compatible, but not required)
	Class 2 powered device
	No POE forwarding

ETHERNET INTERFACE	Two independently auto-configuring 10/100 ports
	(10Base-T/100Base-TX, half/full duplex)
	Patch or crossover cables supported

LEDS	
Status Indicators	Power good, network link/activity (both ports)

PHYSICAL/ENVIRONMENTAL	
Dimensions	L 105mm W 40mm H 22mm
Weight	45g [1.6 oz]
Mounting	Two 7mm diameter mounting holes. Centres 89mm apart
Operating temperature	-10°C to 50°C [14°F to 122°F]
Relative humidity	Up to 85%, non-condensing
Compliance	CE, FCC, RoHS

PRODUCT CODES		
VOR-ORM	OUTREACH Max	Ethernet and POE extender
VOR-ORL	**OUTREACH Lite**	**Ethernet extender**
VOR-ORM-XT	OUTREACH Max XT	Outdoor Ethernet & POE extender
VOR-ORL-XT	OUTREACH Lite XT	Outdoor Ethernet extender
VOR-ORM-G	OUTREACH Max G	Gigabit Ethernet and POE extender
VOR-ORL-G	OUTREACH Lite G	Gigabit Ethernet extender
VOR-ORM-GXT	OUTREACH Max GXT	Outdoor gigabit Ethernet and POE extender
VOR-ORL-GXT	OUTREACH Lite GXT	Outdoor gigabit Ethernet extender
VOR-OS	OUTSOURCE	POE injector
VOR-OSP	OUTSOURCE Plus	POE Plus injector

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 lighting 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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