GIGABIT ETHERNET & POE EXTENDER

OUTREACH™
MAX G

Application | Extend gigabit Ethernet and POE to wireless access points and IP cameras in railway stations

Power over Ethernet and gigabit network range extender

OUTREACH Max G extends gigabit Ethernet to 200 metres with full POE pass-through, ideal for deployment of wireless access points and IP cameras.

| Instantly doubles cable range to 200 metres

| No local power required

| Full gigabit Ethernet

| Universal 10/100/1000 compatibility

| Extends POE and POE Plus up to 90 watts

| Integrated mounting holes

veracity

OUTREACH Max G easily overcomes the distance limits of POE networks

Simply connecting an OUTREACH Max G in line with the network cable instantly doubles the range from 100 metres (328 ft) to 200 metres (656 ft) with POE.

Cable lengths in Ethernet networks are limited to 100 metres (328 ft), which is a serious restriction for many security installations.

OUTREACH Max G enables installers to overcome this network limitation. Simply connecting an OUTREACH Max G in line with the network cable instantly doubles the range from 100 metres to 200 metres (656 ft).

Simple to install

Fitting OUTREACH Max G is simple because no set-up is required. Its only connections are two RJ45 network ports, both of which immediately self-configure for 10Base-T, 100Base-TX or 1000Base-T operation. POE power is automatically transferred between connected equipment. No local power supply connection is needed, because OUTREACH Max G is powered by POE.

OUTREACH Max G can easily be located anywhere along the network cable, as long as no single length of cable is greater than 100 metres. For example, to extend the network connection between a POE switch and an IP camera to 170 metres, an

OUTREACH Max G could be installed 90 metres from the switch. A further 80 metres of cable would run from the OUTREACH Max G to the camera.

Max POE power

OUTREACH Max G enables network range extension to all POE devices that are compatible with IEEE 802.3af, which is the universal POE standard for low power network devices such as fixed IP cameras.

In addition, OUTREACH Max G is compatible with POE Plus (IEEE 802.3at) and higher power 4-pair POE (IEEE 802.3bt) up to 90W.

Note that OUTREACH Max G is designed for connection to POE compatible equipment only. If POE power is not required, Veracity's OUTREACH Lite G should be specified instead.

Go further

If POE and network extension beyond 200 metres (656 ft) is required, more than one OUTREACH Max G may be installed in series. For example, a 300 metre (984 ft) connection

between a POE switch and a 10 watt IP camera can be achieved by fitting two OUTREACH Max G units at 100 metre intervals along the cable. The maximum extension distance depends on how much power is required and which POE source is used. See the tables on the next page or read Veracity's "Long Range Ethernet Extension" white paper on our website.

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

No restrictions

All OUTREACH devices restore the network connection like a switch, so when placed at 100m intervals along the cable they can deliver full bandwidth Ethernet over the full distance of 200m, 300m or further. The "G" models deliver gigabit Ethernet, maximising performance and transparency, with no risk of reduced or unpredictable bandwidth.
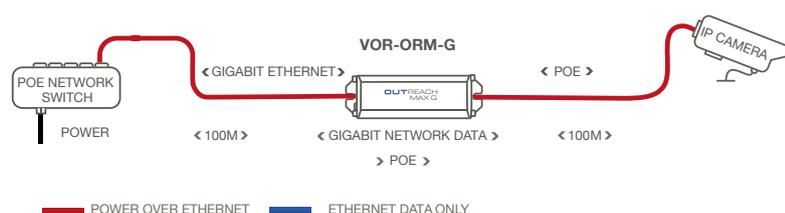
OUTREACH MAX G APPLICATION DIAGRAMS

Diagram 1. A single OUTREACH Max G doubles the cable range to a POE IP Camera. Each cable segment can be up to 100 metres.
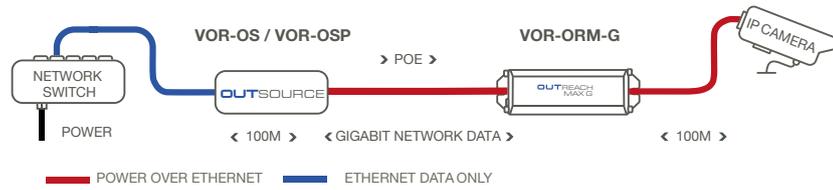
Diagram 2. Veracity's OUTSOURCE Plus provides enough power to allow 300 metres (984 ft) of extension to a POE Plus gigabit wireless access point, using two OUTREACH Max G units located at 100 metre intervals.

Which type of OUTREACH do I need?

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

ETHERNET ONLY

If Ethernet extension only is required, use OUTREACH Lite models. Lite models extend Ethernet only and do not forward POE.

POE FORWARDING

If POE forwarding is also required, use OUTREACH Max models. Max models support all standards of POE forwarding.

EXTERNAL UNITS

For outdoor Ethernet extension, use OUTREACH XT models with IP67 / Nema 4X/6P standard enclosures and connections.

GIGABIT OPTION

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	
Ethernet extension only	OUTREACH Lite G	OUTREACH Lite GXT	Gigabit Ethernet
Ethernet extension with POE	OUTREACH Max G	OUTREACH Max GXT	

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 connect up to 820m with full 100Base-TX data rates and 15W of POE delivery or 25W at 600m.

[TECHNICAL **SPECIFICATION**]

OUTREACH™
MAX G

POWER	
Power consumption	1.3 watts via POE

POE POWER COMPATIBILITY	90 watts max (full 802.3bt Class 8, 71 watts camera power) Maximum current 1.92 amps per pair at rated operating temperature

POE STANDARDS	IEEE 802.3af POE (15W) and IEEE 802.3at at POE Plus (2-event signature) (25-30W) IEEE 802.3bt POE (to 90W+, non-LLDP) Custom POE (incl. "always-on 48V" and "4-pair" POE)

ETHERNET INTERFACE	Two independently auto-configuring 10/100/1000 ports (10Base-T/100Base-TX/1000Base-T, half/full duplex) Patch or crossover cables supported

LEDs	
Status indicators	Green LED - shows POE Power good/speed Yellow LED - shows Ethernet link/activity

PHYSICAL/ENVIRONMENTAL	
Dimensions	L 119mm W 36mm H 24.5mm
Weight	79g [2.8oz]
Mounting	Two 5mm diameter mounting holes. Centres 111mm apart
Operating temperature	-40°C to 70°C [-40°F to 158°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 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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