

OUTREACH MAX / LITE

INSTALLATION MANUAL

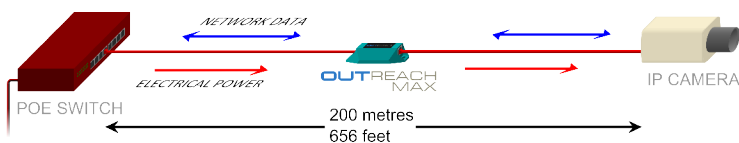
PLEASE READ CAREFULLY

Multiply your PoE network range

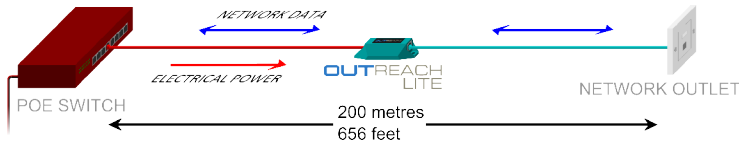
OUTREACH MAX and OUTREACH LITE let you instantly extend your Ethernet network installation beyond its 100 metre / 328 foot limit (

because they use power over Ethernet technology. OUTREACH MAX and OUTREACH LITE can be easily fitted where, ever network extension is required. with no need for a local power source

OUTREACH MAX extends Cat1e, Cat 2 or similar network connections to devices that use PoE power. such as IP cameras and wireless access points

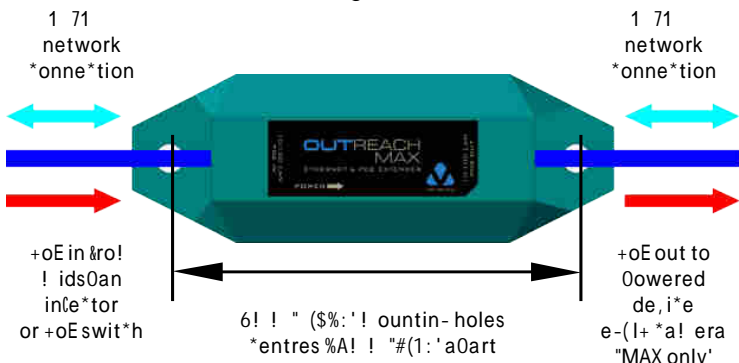


OUTREACH LITE extends network connections to devices that do not use PoE. such as PCs and routers



As OUTREACH MAX and OUTREACH LITE restore the Ethernet connection, every 100 metres / 328 feet, the total distance of the connection is maintained across the entire link. with no bandwidth restrictions

Connections and mounting



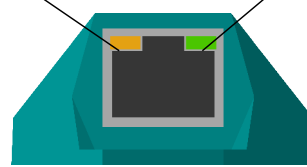
Technical specification

Device power	10 watts
Forwarded PoE power (MAX only)	+PoE forwarding - up to 6 watts depending on standard Maximum current (6 amps) on data pairs Maximum current (1 amp) on spare pairs
PoE standard	IEEE 802.3af / 702.3at PoE capable 'MAX' IEEE 802.3af Class 2 Powered device 'LITE'
Ethernet	Two independently auto-negotiating ports 10/100/1000 or 10/100/1000 Mbps 4 Half or Full Duplex maintains 100 Mbit/s link bandwidth 4+ ports or more, as available
Dimensions	115 x 95 x 25 mm (4.5 x 3.75 x 1 inch) Height 65 mm (2.56 inch)
Environmental	Operating temperature 0 to 40 °C (32 to 104 °F) Humidity up to 90% non-condensing

"ED indicators # PoE connectors

Network status	
On	Link
Flashing	Activity
Off	No link

PoE status	
On	PoE Power enabled
Off	PoE not enabled



Note that the LEDs on OUTREACH MAX will not light until the PoE source and Powered device are both connected

If the Powered device is disconnected then the OUTREACH MAX should also be disconnected from the PoE Power source. OUTREACH MAX should not be connected to equipment that is not PoE compatible.

Maximum extension distance

By installing an OUTREACH MAX for every extra 100 metres / 328 feet, PoE and Ethernet can be extended for considerable distances. with no bandwidth restrictions or any requirement for electrical power installation

The maximum distance from the PoE source to the IP camera or other device depends on how much PoE power the device requires

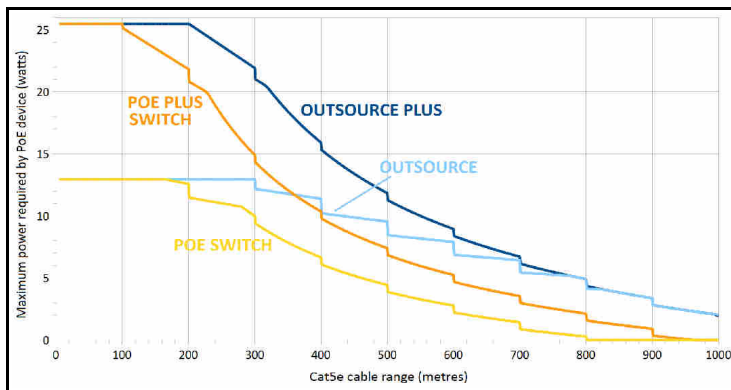
PoE source	Maximum range (for PoE power (watts))					
	10W	15W	20W	25W	30W	35W
PoE switch	111m / 363ft	196m / 643ft	271m / 889ft	346m / 1135ft	421m / 1381ft	496m / 1627ft
OUTSOURCE	111m / 363ft	196m / 643ft	271m / 889ft	346m / 1135ft	421m / 1381ft	496m / 1627ft
PoE plus switch	111m / 363ft	196m / 643ft	271m / 889ft	346m / 1135ft	421m / 1381ft	496m / 1627ft
OUTSOURCE + LU5	111m / 363ft	196m / 643ft	271m / 889ft	346m / 1135ft	421m / 1381ft	496m / 1627ft

1) Not available for use with an OUTREACH LITE at the end of the chain
2) Not available for these power levels are for PoE plus source and device only
3) Extension is not possible at this power level with this power source

These figures are strictly for installation use - refer to the OUTSOURCE PLUS and OUTSOURCE data sheets for actual power use and installed cable distances. Any use of OUTSOURCE or OUTSOURCE + LU5 is always recommended

OUTSOURCE is an enhanced PoE injector and is fully compliant with the IEEE 802.3af standard. OUTSOURCE + LU5 is an enhanced PoE plus injector and is fully compliant with the IEEE 802.3at standard

The distance limits for extension at other PoE power levels can be checked using the graph below



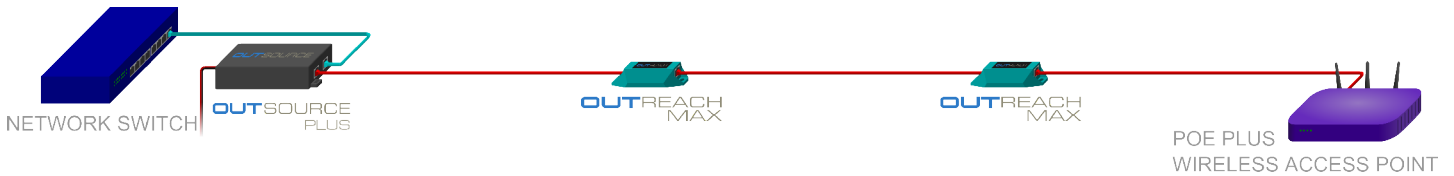
Non-standard PoE

OUTREACH MAX can be used with any PoE devices that are not IEEE 802.3af or 802.3at compliant. This includes high-current PoE or PoE which is always on: or uses a proprietary signature

our 40amp PoE. in which current is carried on both spare and data pairs to double available power. is also supported (see installation notes)

Extending PoE+ to 600m with 3x PoE+ extenders

Delivering 50Watts to a PoE Plus device over 600 metres (789 feet)!



More than one OUTREACH Max! They can be connected in series to extend PoE and Ethernet for several hundred metres. In the example above, the Fera's OUTSOURCE PLUS injector is used to add enhanced PoE Plus capability to a regular unpowered network port. Two OUTREACH MAX units are located 100 metres and 500 metres from the switch, allowing a PoE Plus wireless access point to be installed up to 600 metres from the power source.

Extending an unpowered network connection to 100 metres (328 feet)!



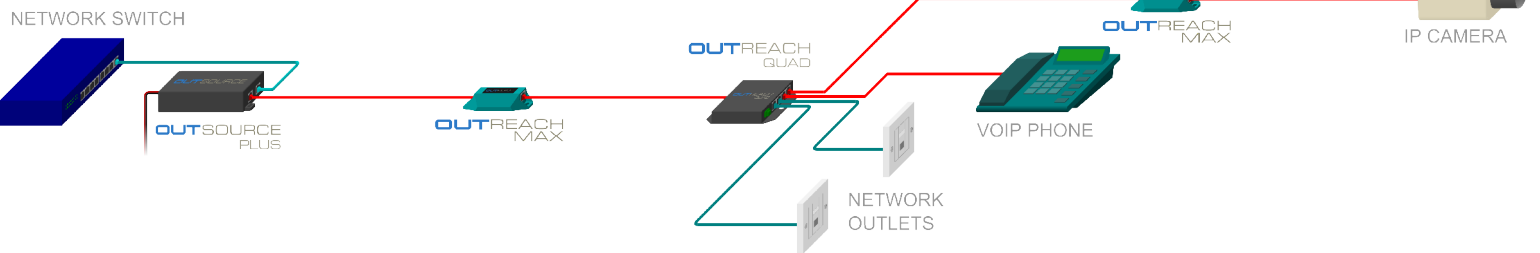
The combination of Fera's OUTSOURCE enhanced PoE injector and OUTREACH LITE Ethernet range extender delivers a simple and reliable means to extend LAN beyond its 100 metre limit. You can combine a single OUTREACH LITE after 100 metres of cable with the connection to a network switch port to wall outlet, allowing you to extend up to 500 metres. OUTSOURCE delivers power to the OUTREACH LITE, and it can be conveniently located near the network switch.

Combining PoE+ and PoE to deliver an unrestricted network connection beyond 600 metres




For extending data only connections, where no PoE is required for the end device, a combination of OUTREACH MAX and OUTREACH LITE can be used to increase range beyond 500 metres. The OUTREACH MAXes forward both data and PoE from the PoE switch to the powered device, which in this case is the OUTREACH LITE. The total distance from switch to outlet in the example is up to 900 metres (2953 feet). Unrestricted 10GbE total bandwidth 10Gbps connections of up to 500 metres (1640 feet) between power sources are possible using this method.

Versatile network expansion with distributed PoE using PoE+ extenders



In this example an OUTREACH MAX is used to forward enhanced PoE Plus power to an OUTREACH QUAD PoE+ extender located up to 500 metres from the network switch and OUTSOURCE PLUS injector. The OUTREACH QUAD extends the PoE and network connection a further 500 metres to an IP camera using OUTREACH MAX, and provides a PoE network port for a VoIP phone. Plus an additional two network connections for other devices or for connection to a local network.



EC Declaration of Conformity
In accordance with EN 60950-1:2006


Manufacturer: Fera's Technology Ltd, 2 Arns Street, Ayr, G6 1XA
Product: OUTREACH: Ethernet extenders
Model: OUTREACH MAX, OUTREACH LITE, OUTREACH QUAD

The following EMC standards have been applied:
EN 60950-1:2006 EMC Emissions Class B Radiated
EN 60950-1:2006 EMC Immunity Class B
EN 60950-1:2006 EMC Emissions Class B Conducted

I hereby declare that the equipment above has been found to comply with the relevant provisions of the above referenced standards. The unit complies with all essential requirements of the EMC Directive.

Responsible person: Alastair M Lead
Issued: 10th October 2014

Mr Alastair M Lead, Director
at Ayr



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, and 2) this device must accept any interference received, including interference from authorized digital devices.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a normal environment. This equipment may generate, use, and radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, and the user may be required to correct the interference at his own expense.