



PoE-Extend, Easily overcomes the distance limits of POE networks

### Data and power extend

Cable lengths in Ethernet networks are limited to 100 metres (328 ft), which is a serious restriction for many security installations. POE-EX01-WF PoE+ Extender enables installers to overcome this network limitation. Simply connecting an POE-EX01-WF in line with the network cable instantly doubles the range from 100 metres to 200 metres (656 ft).

### Simple to install

Fitting POE-EX01-WF is simple because no set-up is required. Its only connections are two RJ45 network ports, both of which immediately self-configure for 10/100Base-TX operation. POE power is automatically transferred between connected equipment. No local power supply connection is needed, because POE-EX01-WF is powered by POE. POE-EX01-WF 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 180 metres,

an POE-EX01-WF could be installed 90 metres from the switch. A further 90 metres of cable would run from the POE-EX01-WF to the camera.

### Max POE power

Benchu group's POE-EX01-WF PoE+ Extender 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.

### Go further

If POE and network extension beyond 200 metres (656 ft) is required, more than one POE-EX01-WF 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 POE-EX01-WF 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. Gigabit versions are also available.

### No restrictions

Because POE-EX01-WF simply restores the network connection every 100 metres, the full 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.

### POE power comparison table

Benchu group's PoE Extender 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	at 400m
IEEE 802.3af POE Switch (15W)	12W	9W	5W
IEEE 802.3at POE Switch (30W)	25W	20W	12W

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

### Application diagrams

Diagram 1. A single PoE Extender doubles the cable range to a POE IP Camera. Each cable segment can be up to 100 metres.

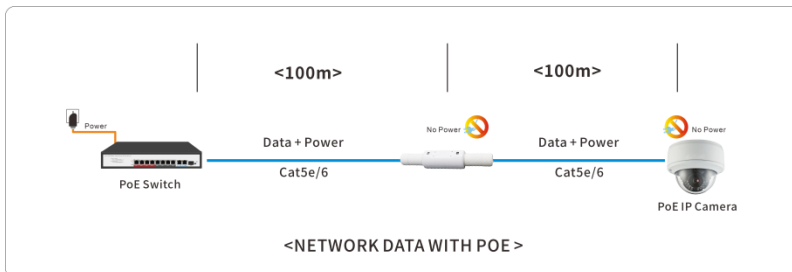
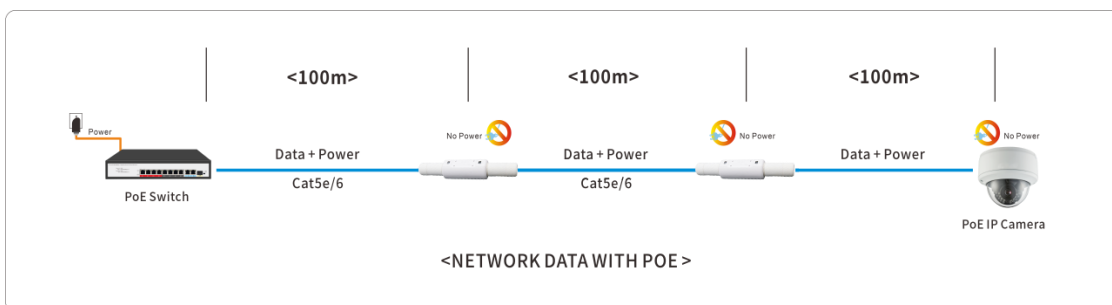


Diagram 2. PoE+ Extender provides enough power to allow 300 metres (984 ft) of extension to a POE IP Camera, using two PoE+ Extender units located at 100 metre intervals.





Technical Specifications	POE-EX01-WF
10M/100M RJ-45 copper ports	2
PoE+ ports (PSE)	1
PoE+ ports (PD)	1
Power over Ethernet	
PoE Standard	IEEE 802.3at Power over Ethernet Plus/PSE IEEE 802.3at Power over Ethernet Plus/PD Backward compatible with IEEE 802.3af Power over Ethernet
PoE Power Supply Type	End-span: 1/2/4/5(+), 3/6/7/8 (-)
PoE Power Output	Per port 52V DC, 300mA. max. 15.4 watts (IEEE 802.3af) Per port 52V DC, 600mA. max. 30 watts (IEEE 802.3at)
PoE Power Budget(PoE Source)	30 Watts
Maximum PoE Power, at 200m	25 Watts
Maximum PoE Power, at 300m	12 Watts
Performance Specification	
Chip	Realtek
Packet buffer memory (Dynamically shared across only used ports)	2 Mb
Forwarding modes	Store-and-forward
Bandwidth	1 Gbps
Packet forwarding rate (64 byte packet size) (Mpps)	0.298Mpps
MAC address database size (48-bit MAC addresses)	2K
Mean Time Between Failures (MTBF) @ 25°C	109,123 hours
100M Copper Latency (64-byte; 1518-byte; 9216-byte frames)	8.321µs; 8.622µs; 8.435µs
IEEE Network Protocols	
<ul style="list-style-type: none"><li>• IEEE 802.3i 10BASE-T</li><li>• IEEE 802.3u 100BASE-T</li><li>• IEEE 802.3af PoE</li></ul>	<ul style="list-style-type: none"><li>• IEEE 802.3at PoE+</li><li>• IEEE 802.3az Energy Efficient Ethernet (EEE)</li><li>• IEEE 802.3x Full-Duplex Flow Control</li></ul>
Physical Specifications	
Dimensions	<ul style="list-style-type: none"><li>• 120 x 20 x 20mm (4.72 x 0.79 x 0.79 in)</li></ul>
Weight	<ul style="list-style-type: none"><li>• 0.15 kg (0.33 lb)</li></ul>
Enclosure	<ul style="list-style-type: none"><li>• IP66 Metal case</li></ul>

### Environmental Specifications

#### Operating

Operating Temperature	-30° to 65°C (-22° to 149°F)
Humidity	90% maximum relative humidity (RH), non-condensing
Altitude	10,000 ft (3,000 m) maximum

#### Storage

Storage Temperature	-40° to 75°C (-40° to 167°F)
Humidity (relative)	95% maximum relative humidity, non-condensing
Altitude	10,000 ft (3,000 m) maximum

### Electromagnetic Emissions and Immunity

Certifications	CE mark, commercial
	FCC Part 15 Class A, VCCI Class A
	Class A EN 55022 (CISPR 22) Class A
	Class A C-Tick
	EN 55024
	CCC
	47 CFR FCC Part 15, SubpartB, Class A ICES-003: 2016 Issue 6, Class A ANSI C63.4:2014 IEC 60950-1:2005 (ed.2)+A1:2009+A2:2013 AN/NZS CISPR 22:2009+A1:2010 CLASS A

### Safety

Certifications	CB mark, commercial
	CSA certified (CSA 22.2 #950)
	UL listed (UL 1950)/cUL IEC 950/EN 60950
	EN 60950-1: 2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 IEC 60950-1:2005 (ed.2)+A1:2009+A2:2013 AN/NZS 60950.1:2015
	CCC (China Compulsory Certificate)

### Warranty and Support

Hardware Limited Warranty	Limited Lifetime*
Technical Support via Phone and Email*	Limited Lifetime*
Limited Lifetime* 24x7 Online Chat Technical Support	Limited Lifetime*

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POE-EX01-WF

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