



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-IEX01G-BT90 PoE++ Extender enables installers to overcome this network limitation. Simply connecting an POE-IEX01G-BT90 in line with the network cable instantly doubles the range from 100 metres to 200 metres (656 ft).

Simple to install

Fitting POE-IEX01G-BT90 is simple because no set-up is required. Its only connections are two RJ45 network ports, both of which immediately self-configure for 10/100/1000Base-TX operation. POE power is automatically transferred between connected equipment. No local power supply connection is needed, because POE-IEX01G-BT90 is powered by POE.

POE-IEX01G-BT90 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-IEX01G-BT90 could be installed 90 metres from the switch. A further 90 metres of cable would run from the POE-IEX01G-BT90 to the camera.

Max POE power

Benchu group's POE-IEX01G-BT90 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.

In addition, POE-IEX01G-BT90 is compatible with POE Plus (IEEE 802.3at) and higher power 4-pair POE (IEEE 802.3bt) up to 90W.

Go further

If POE and network extension beyond 200 metres (656 ft) is required, more than one POE-IEX01G-BT90 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-IEX01G-BT90 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-IEX01G-BT90 simply restores the network connection every 100 metres, the full (1000Mbps) 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	15W
IEEE 802.3bt POE Switch/ injector (90W)	72W	55W	40W
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.			

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.

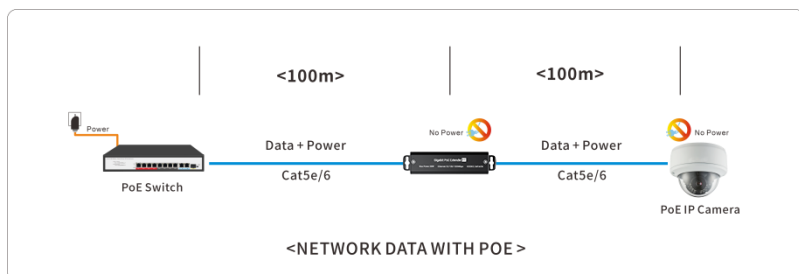
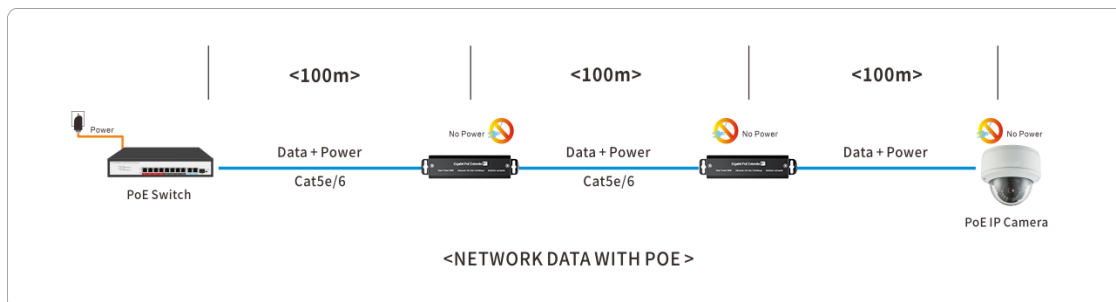


Diagram 2. PoE++ Extender provides enough power to allow 300 metres (984 ft) of extension to a POE Plus wireless access point, using two PoE++ Extender units located at 100 metre intervals.





Technical Specifications		POE-IEX01G-BT90
10M/100/1000M RJ-45 copper ports		2
PoE++ ports (PSE)		1
PoE++ ports (PD)		1
Power over Ethernet		
PoE Standard	IEEE 802.3bt Power over Ethernet Plus Plus /PSE	
	IEEE 802.3bt Power over Ethernet Plus Plus /PD	
	Backward compatible with IEEE 802.3at Power over Ethernet	
	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)	
	Per port 52V DC, 1800mA. max. 90 watts (IEEE 802.3bt)	
PoE Power Budget(POE Source)	90 Watts	
Maximum PoE Power, at 200m	72 Watts	
Maximum PoE Power, at 300m	55 Watts	
Maximum PoE Power, at 400m	40 Watts	
Performance Specification		
Chip	Realtek	
Packet buffer memory (Dynamically shared across only used ports)	2 Mb	
Forwarding modes	Store-and-forward	
Bandwidth	10 Gbps	
Packet forwarding rate (64 byte packet size) (Mpps)	3Mpps	
MAC address database size (48-bit MAC addresses)	2K	
Mean Time Between Failures (MTBF) @ 25°C	106,325 hours	
100M Copper Latency (64-byte; 1518-byte; 9216-byte frames)	8.321μs; 8.622μs; 8.435μs	
1G Copper Latency (64-byte; 1518-byte; 9216-byte frames)	3.414μs; 3.545μs; 3.628μs	
IEEE Network Protocols		
• IEEE 802.3i 10BASE-T	• IEEE 802.3at PoE+	
• IEEE 802.3u 100BASE-T	• IEEE 802.3bt POE++	
• IEEE 802.3ab 100BASE-T	• IEEE 802.3az Energy Efficient Ethernet (EEE)	
• IEEE 802.3af PoE	• IEEE 802.3x Full-Duplex Flow Control	
Monitoring		
LEDs	Yes	
Per port	Speed, Link, Activity; PoE	



Physical Specifications

Dimensions	118.5 x 28 x 25mm (4.66 x 1.1 x 0.98 in)
Weight	0.15 kg (0.33 lb)
Enclosure	IP40 Metal case
Installation	Wall-mount

Environmental Specifications

Operating

Operating Temperature	-40° to 75°C (-40° to 167°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
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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)
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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-IEX01G-BT90

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