

SAMSUNG TECHWIN

PoE Function IP Extender

User Manual

SP0-100



PoE Function IP Extender

User Manual

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❖ Design and specifications are subject to change without prior notice.

Please read the following recommend safety precautions carefully.

- Please do not install the device in a location where the temperature gets higher than 50 °C or lower than -10°C, nor in a location where there is a lot of rain or snow or where humidity is high, nor in a location that is exposed to oil or gas, nor in a location that experiences vibration or shocks, nor in an outside area, nor exposed to direct light, nor in a location close to strong magnetism, high frequency (RF) or power cables. Failure to comply may cause performance degradation or malfunction.
- Do not disassemble the product or introduce a foreign substance such as the metal.
- Install only after checking the specifications and operation manual.
- Never connect a device of more than rated capacity as it can cause a fire. (PTZ cameras, in particular, are prohibited as they consume too much power.)
- The operating conditions appropriate for this device are -10°C to 50°C. Be cautious when you use it commonly indoors or outdoors.
- Be careful not to mix up the wiring during installation. Refer to the UTB cable wiring manual.
- Make sure that the IP camera supports PoE type B before using it.
- Caution is necessary as strong impact or vibration can cause a device malfunction.
- Smoke or a smell coming from the device while it is operating can lead to a fire or electric shock.
In that case, pull off the power cable immediately and contact the place of purchase or A/S center and receive counseling by the technical staff.
- The UTP cable is UTP (unshielded twisted pair) indoor cable and should not be used outdoors but STP (shielded twisted pair) is recommended for installation outdoors. If the UTP cable is used outdoors, problems can occur with the product such as an abnormal voltage being applied to the cable due to lightning.
- Refer to the operating manual regarding other problems or questions and contact the A/S center if you need help from technical staff.

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PRODUCT INTRODUCTION

This device is a single channel UTP (Ethernet Data + PoE) extender and has the built-in power supply function (PoE) to supply the power to the camera through the UTP cable. To overcome problems caused by the short transmission distance (100m or less) of network equipment, it can be installed in the UTP cable section between the camera and PoE hub, extending the transmission distance to more than 100m. Since power can be supplied to the IP camera with PoE, the construction cost can also be saved.

PRODUCT FEATURES

- Simultaneous transmission of power and IP data to the UTP cable (CAT.5)
- Support of TCP speed of 100Mbps Full Duplex
- Each time this device is installed, the maximum transmission distance for Ethernet data is extended by more than 100m.



- The number of SPO-100 systems that can be added is limited by the rated capacity of the IP camera.

- A camera with up to 11.7W power consumption can be connected when power is supplied through the PoE HUB.



- Refer to the maximum extensible distance table on page11.

- Built-in surge-protection circuit for safety

APPLICATION

- Application for conventional IP type or Mega Pixel camera
- Area in which an IP camera is installed within 100m of a Web Viewer
- Extended connection between the IP systems (PC or NVR)

WHAT'S INCLUDED

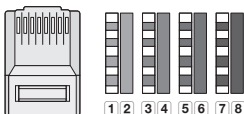
Please check if your network video encoder and accessories are all included in the product package.

Appearance	Item Name	Quantity
	Ethernet extender	1
	User Manual	1

CONNECTING THE UTP CABLE

Use the cable after checking the 4P UTP cable wiring method.

Scheme of TIA / EIA 568B



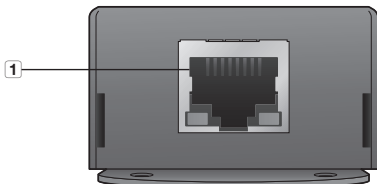
1	Orange+White	Tx +	5	Blue+White	DC 48V
2	Orange	Tx -	6	Green	Rx -
3	Green+White	Rx +	7	Brown+White	GND
4	Blue	DC 48V	8	Brown	GND



- Caution is required when working with the RJ-45 jack as above.

AT A GLANCE

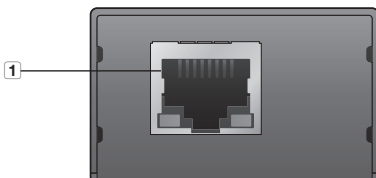
Front Side



Item	Description
1 Network connection terminal	The connection terminal of the IP camera, which uses PoE, acts as a power supply and data port .

LED Status	Status indication	
YELLOW	On	PoE IN
	Off	No Power
GREEN	On	Linked
	Flash	Data Active
	Off	Not Linked

Rear Side



Item	Description
1 Network connection terminal	It receives power through the PoE switching hub / PoE injector / NVR connection terminal and transmits camera data to the NVR.

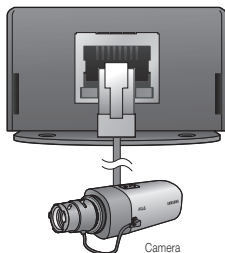
LED Status	Status indication	
YELLOW	On	100Mbps Linked
	Off	10Mbps Linked
GREEN	On	Linked
	Flash	Data Active
	Off	Not Linked

-  Take care regarding to get the production connection direction right. When connecting a PoE hub (standard type), it must be connected to the rear port RJ-45 connector in order for the PSE system to recognize it.

CONNECTING WITH OTHER DEVICE

Connecting the camera

Connect the **[CAMERA]** terminal of the device and video output terminal of the camera.

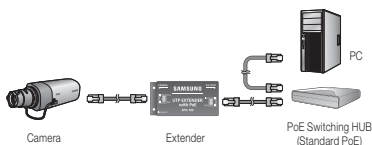


installation & connection

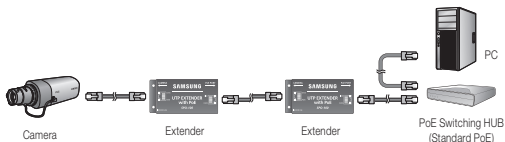
Connecting a product

Using a switching hub, multiple devices can be connected within the available power range (6.3W - 11.7W) of the SPO-100.

Supplying the power through the switching hub with built-in PoE function



Installing more than two SPO-100 systems



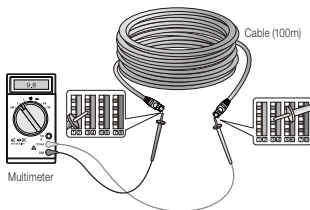
- The maximum extensible distance depends on the rated capacity of the IP camera, the precise characteristics of the cable, the cable type, and the number of added SPO-100s.
- Network link-time can increase as the number of systems increases.

Maximum extensible distance when using the PoE HUB

Maximum extensible distance	PoE extender quantity	Camera power standards	Available Samsung Cameras (example)
200m	1	Less than 11.7W	SNB-3002, SNB-5004, SNB-6004, SNB-6003, SNO-7084R, SNO-6084R, SND-3082, SND-7084, SND-7084R, SND-5083, SND-5084, SND-5084R, SND-6084, SNF-8010, SNV-6084R, SNV-7084R, SNV-3082
300m	2	Less than 9W	SNB-5003, SNB-6010, SNB-7004, SND-6083, SND-6011R, SND-6084R, SNO-6011R, SNF-7010, SNF-7010V, SNV-6013, SNZ-5200
400m	3	Less than 6.3W	SNB-5001, SNB-7001, SND-5061, SND-7061,



- The above maximum extensible distance is based on LS cable with CAT.5e standard AWG24 with DC resistance (100m) 9.8Ω.
- The above maximum extensible distance may differ if the cable is not the CAT.5e standard AWG24 cable or has a DC resistance (100m) greater than 9.8Ω.
- You can check the DC resistance (100m) value by measuring the DC resistance (100m) for the same color cable of the UTP cable RJ45 terminal using the cable(100m) and multimeter as shown below.

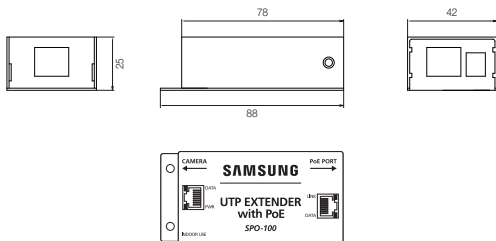


SPECIFICATION

Items		Description
Network	Data transmission speed (TCP Rate)	100Mbps(MAX)
	Data transmission method	Full Duplex
Environmental	Operating Temperature / Humidity	-10°C ~ +50°C / 0% ~ 90% RH
Electrical	Applicable power (MAX.)	6.3W ~ 11.7W
	Internal power consumption	1.7W Max.
Mechanical	Material	Aluminum
	External dimensions	88(W) x 42(H) x 25(D)mm
	Weight	58g

PRODUCT OVERVIEW

Unit : mm (inch)





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 commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Samsung Techwin cares for the environment at all product manufacturing stages, and is taking measures to provide customers with more environmentally friendly products. The Eco mark represents Samsung Techwin's devotion to creating environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.



Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.



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