



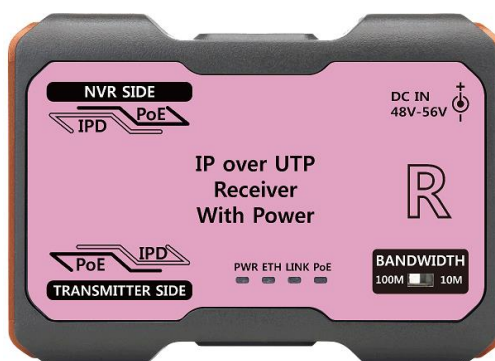
1Channel IP Over UTP Transmission Solution

SC-IPC07PU

User's Manual



TRANSMITTER



RECEIVER

Precaution and Safety Guidelines

The content of this guideline is to protect the safety of users and prevent property damage.

Be sure to read this user's manual thoroughly and use the device correctly.

Warning (If you do not keep any of the below guidelines, you may get seriously injured or cause somebody's death.)

■ **Be sure to install the product after unplugging power cord. Also, do not use several power plugs at the same time.**

- It may cause abnormal heat, fire and electric shock.

■ **Do not leave the device at any place that water falls or splashes. Also, do not put anything full of water such as a flower vase on the device.**

- It may cause malfunction or fire if liquid goes into the device.

■ **Do not bend the power cord by excessive force. Make sure the power cord is not crushed by heavy things.**

- It may cause fire.

■ **Do not open the lid arbitrarily as this device has high voltage part inside. Never disassemble, repair or modify it.**

- By abnormal working, it may cause fire, electric shock and personal injury.

■ **Do not install this product in places with high humidity, dust, or soot.**

- It may cause electric shock and fire.

■ **Do not tug at the power cord section or unplug the power plug with wet hands. If the power cord is loose, do not plug in.**

- There may be a risk of fire and electric shock.

■ **Always keep the location of the appliance clean during or after installation to prevent dust. Especially when cleaning the device, wipe it with dry towel and do not use water, thinner or organic solvent.**

- It may damage the case of this device, and cause malfunction or electric shock.

■ **Keep the device in a cool place where doesn't let direct sunlight. Keep it at a proper temperature and avoid heating appliances like candle or heater. Also, keep the equipment or tools away from places where people come and go.**

- It may cause fire.

■ **Pay attention to possible hazards in the workplace, such as wet floor, ungrounded power extension cables, old power cords and a lack of safety earth. Consult your place of purchase or professional if problems arise.**

- It may cause fire and electric shock.

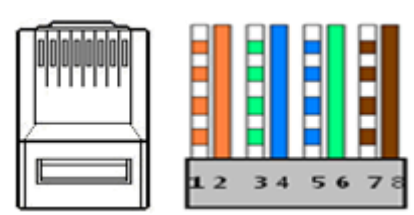
■ **Concerning the input voltage for operating this device, a voltage range must be within 10% of rated voltage, and the power outlet must be grounded. Also, do not use a heat source such as a hair dryer, iron and refrigerator to the same power unit.**

- It may cause abnormal heat, fire and electric shock.

Caution (If you do not keep any of the below guidelines, you may get injured or suffer property loss.)

- **Proper ambient temperature and humidity are recommended.**
 - Avoid extremely high temperatures(over 50°C) or low(below -10°C), and humid conditions.
- **Install in well ventilated place, and avoid direct sunlight or heat appliance.**
- **Be sure to plug the power cord with grounded outlet.**
 - There is a risk of electrical shock and personal injury.
- **Do not use this device in close proximity to a device that produces strong waves such as radio set(TRANCEIVER, Walkie-talkie, etc.) or repeater. It may affect the video signal, or cause disorders such as noise or crack on the screen.**
- **Disconnect the power plug with care during thunder and lightning.**
- **When connecting cables, install as "U" shape in order to prevent rainwater/dew/fog from getting into the product.**
- **Refer to the user's manual for problems or questions besides the above. Contact our service center if you need assistance from a professional technician.**
- **UTP(Unshielded Twisted Pair) Cable is for indoor use only. For outdoor use, it is recommended to use STP(Shield Twisted Pair) Cable which is covered with shield.**
 - Use standard CAT.5e or higher UTP cable.
- **Since this product has a PoC (Power Over Coax.) function, it may cause malfunction to the connected device without PoC function. Make sure to read the user's manual carefully before using this product.**
- **Make sure to separate general communication network (internet / in-house use, etc.) from CCTV network.**
 - It may cause malfunction.
- **Be careful not to change the network cable configuration.**
 - Refer to the cable wiring way below.

Network Cable Diagram

TIA / EIA 568B Type		Pin No.	Color	Function
	1	White	Orange	TX+
	2	Orange		TX-
	3	White	Green	RX+
	4		Blue	PWR+
	5	White	Blue	PWR+
	6		Green	RX-
	7	White	Brown	PWR-
	8		Brown	PWR-

1. Introduction

1-1. Overview

SC-IPC07PU, which consists of 1CH Transmitter and 1CH Receiver, transmits Ethernet data and power over one UTP cable. Its built-in power supply function (IEEE802.3at) operates a transmitter and a PoE camera from the receiver side without separate power lines and it resolves short-distance typical network system by transmitting Ethernet data in a long distance. Our solution is very cost-effective by minimizing construction period and cost as you can replace your old UTP system to network by keeping your UTP cable(CAT.5e).

1-2. Features






- Transmit Ethernet data Max. 800m over UTP cable (CAT.5e, 10Mbps)
- Supply power to PoE IP camera (PoE Type B / Max. 30W)
- Transmission bandwidth: Max. PHY Rate(Physical Layer Speed): 100 Mbps
- Auto MDI/MDIX function
- Auto diagnosis function for stable power supply
- PoE ON/OFF switch mounted on the transmitter
- Built-in surge protection circuit

2. Components

2-1. Transmitter

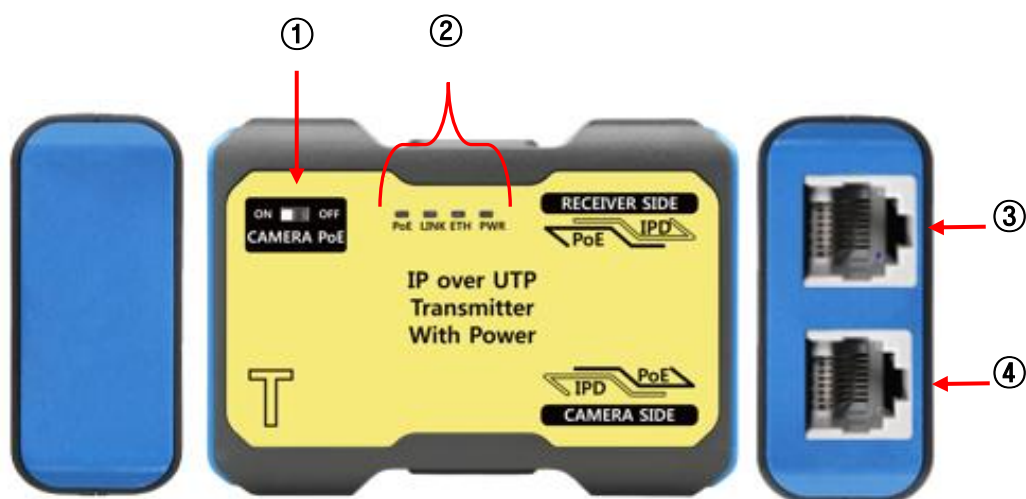
Transmitter	Bracket	RJ-45 Cable	Manual
			

2-2. Receiver

Receiver	DC 48V Adapter (Option)	Power Cord	Bracket	Manual
				

3. Product Parts and Functions

3-1. Transmitter



① **CAMERA PoE** : Switch to set power supply to PoE IP camera.

※ In case of connecting PoE IP camera, set CAMERA PoE switch as ON.

※ The factory setting for the PoE switch is ON.

※ In case of connecting non-PoE IP camera, set CAMERA PoE switch as OFF.

② **LED Indicator**

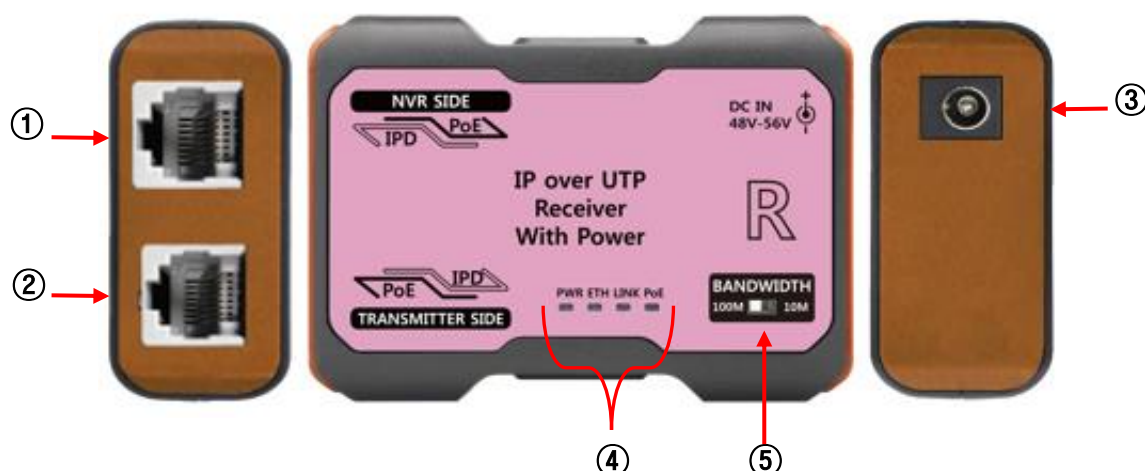
Name	Color	Status
PWR	Red	On: Power input Off: No power input
ETH	Green	Flashing: Ethernet connected Off: Ethernet Not connected
LINK	Green	On: Connected to Receiver Off: Not connected to Receiver
PoE	Red	On: PoE Input to IP camera Off: No Poe input to IP camera Flashing: IP camera overcurrent (short / open circuit)

※ When turning the product on, the LED turns on sequentially first and the product is operated.

③ **RECEIVER SIDE**: Port to connect Receiver and output video.

④ **CAMERA SIDE**: Port to connect IP camera.

3-2. Receiver



① **NVR SIDE:** Port to connect NVR or PoE Hub.

② **TRANSMITTER SIDE:** Port to connect Transmitter and input video.

③ **DC 48~56V IN:** Port to input DC adapter (48V or 56V) power.

※ PoE output and transmission distance may vary depending on the connected adapter.

④ **LED Indicator**

Name	Color	Status
PWR	Red	On: Power input Off: No power input
ETH	Green	Flashing: Ethernet connected Off: Ethernet Not connected
LINK	Green	On: Connected to Transmitter Off: Not connected to Transmitter
PoE	Red	On: PoC power output to Transmitter Flashing: Transmitter or cable overcurrent (short / open circuit)

⑤ **Bandwidth Select Switch:** Support 100Mbps, 10Mbps setting

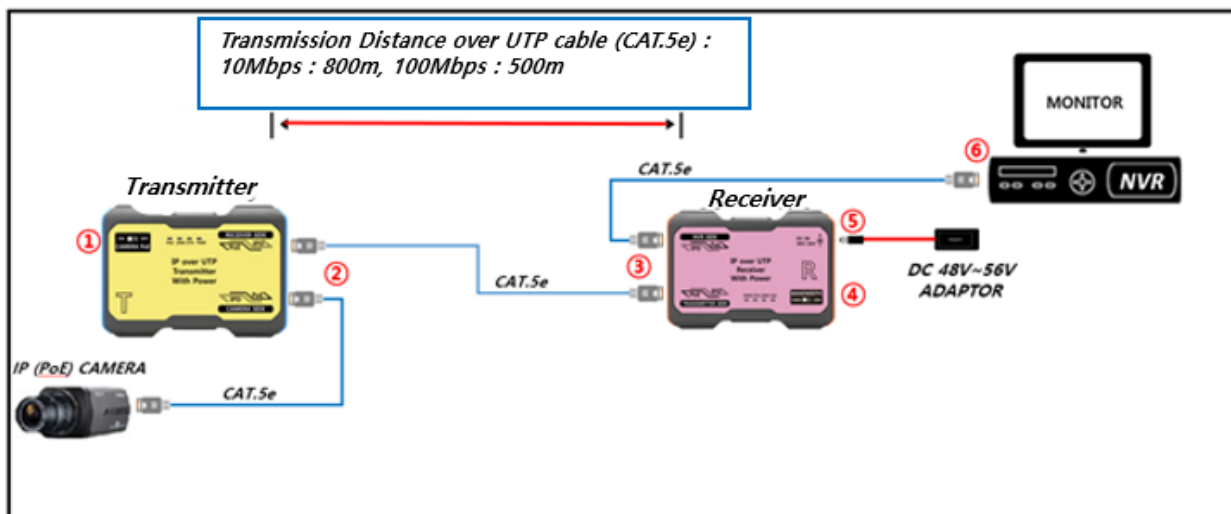
※ 10M : Transmit by 10Mbps (10Mbps over CAT.5e : 800m).

※ 100M : Transmit by 100Mbps (100Mbps over CAT.5e : 500m).

※ When turning the product on, the LED turns on sequentially first and the product is operated.

4. Connection Diagram

4-1. In case of connecting PoE IP Camera (TX's PoE Switch ON)



<Installation Guide>

① Set CAMERA PoE switch as ON from Transmitter. (PoE LED On)

※ In case of connecting non PoE camera, set CAMERA PoE switch as OFF from Transmitter.



CAMERA PoE switch OFF setting

② After connecting IP CAMERA to Transmitter, connect coaxial cable connected to Receiver.

③ Connect UTP cable connected to Transmitter to Receiver. Connect Receiver to NVR or PoE Hub.

④ Check the transmission distance and set the Bandwidth switch of Receiver to the corresponding transmission speed.

※ 10M : Transmit by 10Mbps (10Mbps over CAT.5e : 800m).

※ 100M : Transmit by 100Mbps (100Mbps over CAT.5e : 500m).

⑤ Supply power by connecting DC Adapter (48V or 56V) to the DC Jack of the receiver.

⑥ Check the camera's video from the monitor connected to NVR.

※ If connected properly, LINK LED on Tx and Rx is ON and ETH LED is flashing.

5. Specifications

MODEL		Transmitter
Power Input		PoE (PoE input from Receiver)
Power Output		Midspan PoE (Type B Only, PoE SW On/Off available)
Transmission Bandwidth		100Mbps
Connection Port	RECEIVER SIDE	RJ-45 (TIA/EIA568B Type)
	CAMERA SIDE	RJ-45 (TIA/EIA568B Type)
LED Indicator	PWR	RED LED
	ETH	GREEN LED
	LINK	GREEN LED
	PoE	RED LED
CAMERA PoE SW		Slide Switch
Operating Temperature / Humidity		-10°C ~ 50°C / 0 ~ 80%
Case Body / Weight		ABS / 52g
Dimensions		76(W) x 55(H) x 24(D)

MODEL		Receiver
Power Input		DC 48V-56V/1A adapter or PoE HUB (IEEE 802.3at)
Power Output		PoE (DC 48V)
Power Consumption		DC 48V~56V/900mA
Max. Transmission Distance		100Mbps: 500m (CAT.5e) 10Mbps: 800m (CAT.5e)
Transmission Bandwidth		100Mbps
Connection Port	TRANSMITTER SIDE	RJ-45 (TIA/EIA568B Type)
	NVR SIDE	RJ-45 (TIA/EIA568B Type)
	DC 48V-56V IN	DC-JACK
LED Indicator	PWR	RED LED
	ETH	GREEN LED
	LINK	GREEN LED
	PoE	RED LED
Bandwidth Select Switch		10M: 10Mbps, 100M: 100Mbps
Operating Temperature / Humidity		-10°C ~ 50°C / 0 ~ 80%
Case Body / Weight		ABS / 54g
Dimensions		76(W) x 55(H) x 24(D)

6. Power Output (Calculated Value)

Cable Transmission Distance (CAT.5e)	Transmission Bandwidth	With DC48V 1A Adapter	With DC56V 1.16A Adapter	Cable Loop Resistance
100m	100Mbps	30W	30W	18.2Ω
200m	100Mbps	17.2W	30W	36.2Ω
300m	100Mbps	11.4W	22W	54.7Ω
400m	100Mbps	8.6W	16.6W	72.9Ω
500m	100Mbps	6.86W	13.3W	90.8Ω
600m	10Mbps	5.8W	11.2W	111.1Ω
700m	10Mbps	4.9W	9.6W	128.7Ω
800m	10Mbps	4.2W	8.3W	147.4Ω

※ The transmission distance may vary depending on the specification of camera and NVR.

※ In case of using PoE function of the Transmitter, the transmission distance may vary depending on the type of camera.

Especially, use exclusive adapter for cameras with high power consumption such as IP PTZ cameras and the cameras with many IR LEDs.

※ **When transmitting cable distance of 500m or more, the camera input voltage may low. Therefore, use DC56V adapter connected to the receiver.**

7. Installation Precautions

※ Use exclusive power adapter separately for each product. It is not recommended to use single adapter for supplying power to several products.

※ It is not recommended to place products in close or tie each other.

※ It is not recommended to connect adapter to DC jack when supplying power to the Receiver by PoE.

※ When installing the product by supplying power by PoE, it is recommended to check the video first and connect the ground of camera.

※ When using a surge protector, the cable distance between camera and Receiver is recommended to be within 50M.

※ Use of LAN cable extension gender (coupler) may cause signal attenuation. It is not recommended to use multiple extended gender connections.

8. Trouble Shooting

Symptom	Checking Method
<p>There is no power input.</p>	<p><Transmitter></p> <ul style="list-style-type: none"> • Check if PoC LED on Receiver and PWR LED on Transmitter is ON. • Check the connection status of UTP cable. <p><Receiver></p> <ul style="list-style-type: none"> • Check if the PWR LED is working properly. • Check the input status of power adapter or PoE Hub. • Check if the exclusive adapter is used.
<p>The video is not displayed.</p>	<ul style="list-style-type: none"> • Please check if LINK LED is ON and ETH LED is flashing. • Check if the transmission distance is within the recommended value or not. • Check if the Network Cable arrangement is correct. • In case of using PoE function on Transmitter, check if the PoE LED is On. If LED is Off, set the PoE switch as ON.
<p>Power supply by PoE does not work.</p>	<ul style="list-style-type: none"> • Check the PoE switch status on Transmitter. • Check if PoE LED on Transmitter is ON. • Check if the Network Cable arrangement is correct. • Check if the IP CAMERA supports PoE function.
<p>NETWORK connection does not work.</p>	<ul style="list-style-type: none"> • Check if the Network Cable arrangement is correct. • Check if there is Walkie-Talkie or any device which has strong waves near the product. • Check if the Network configuration is installed properly.
<p>The video status is abnormal.</p>	<ul style="list-style-type: none"> • Check the connection status of UTP and Network cable. • Check if the NVR is compatible with camera. • Check the performance status of camera.

9. Warranty Certificate

Product No.		
Model No.		
Date of Purchase		
Place of Purchase		
Purchaser	Name	
	Address & Contact No.	
Distributor	Name	
	Address & Contact No.	
Warranty Period	Two(2) years from the date of purchase	

Any failure that occurs in the normal use for only two years after purchase will be repaired free of charge.

Contact the phone number listed on the user's manual for repair.

When reporting the failure, please inform the model name and condition of the product accurately. It is convenient to know the name and department of the person in charge.

Please check this user's manual again before reporting the failure.

Product shapes and circuits are subject to change without notice to improve performance.

Faults following will be treated as a charge:

- ✓ Failure by user's handling without care
- ✓ Not connecting the rated power
- ✓ Disassembled or repaired arbitrarily by user
- ✓ Replacing consumables
- ✓ Failure caused by natural disaster (lightning, fire, flood, tsunami, etc.)



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