



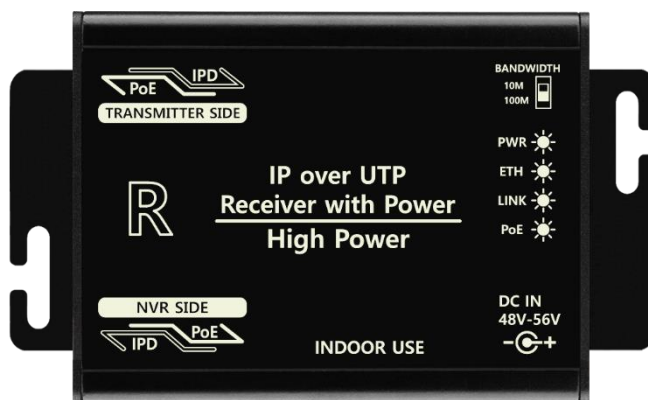
High Power IP Over UTP Transmission Solution

SC-IPU601(SC-IPU601T, SC-IPU601R)

User Manual



*SC-IPU601T
(1CH Transmitter)*



*SC-IPU601R
(1CH 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.

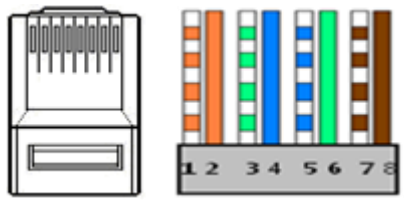
■ **Concerning the input voltage for operating this device, a voltage range must be within 10% of rated voltage, and the power outlet must be grounded. Also, do not use a heat source such as a hair dryer, iron and refrigerator to the same power unit.**

- 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 PoE (Power Over Ethernet.) function, it may cause malfunction to the connected device which doesn't support PoE 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






The 1-channel High Power IP Over UTP Transmission Solution consists of the transmitter(SC-IPU601T) and the receiver(SC-IPU601R). Among SeeEyes' IP transmission device series, this product was developed as a High Power supporting product of SC-IPC07PU, and the PoE output of the transmitter (SC-IPU601T) supports up to 70Watt, enabling high-performance and high-capacity IP cameras over long distances with PoE technology. PoE technology enables power supply to the transmitter and camera, so no separate power supply is required.

Existing analog UTP cameras can be replaced with IP cameras, and the existing UTP cable (CAT.5e/6) can be used, which shortens the construction period and reduces construction costs.

1-2. Features

- IEEE 802.3af/at/bt support
- Possible to supply power for IP camera (PoE Type B supported / max. 70W)
- Transmission bandwidth: up to 100Mbps
- Ethernet data can be transmitted up to 800m via UTP cable (CAT.5e/6) (10Mbps)
- Auto MDI/MDIX function support
- Safe power transmission with automatic line diagnosis function
- Camera-side transmitter PoE function ON/OFF setting switch
- Surge protection circuit

2. Components

SC-IPU601T	SC-IPU601R	Power code	DC adapter	User manual
 <p>SC-IPU601T Transmitter with Power High Power. Features include: CAMERA SIDE, RECEIVER SIDE, ETH, LINK, PWR, PoE, INDOOR USE.</p>	 <p>SC-IPU601R Receiver with Power High Power. Features include: BANDWIDTH, TRANSMITTER SIDE, ETH, LINK, PWR, PoE, DC IN 48V-55V, INDOOR USE.</p>	 <p>Power code cable.</p>	 <p>DC adapter.</p>	 <p>User manual.</p>

※ Accessories included in the product are subject to change.

3. Product Parts and Functions

3-1. SC-IPU601T(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	Blinking: 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 Blinking: IP camera side power supply error (short circuit, disconnection, overcurrent)

※ 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. SC-IPU601R(Receiver)



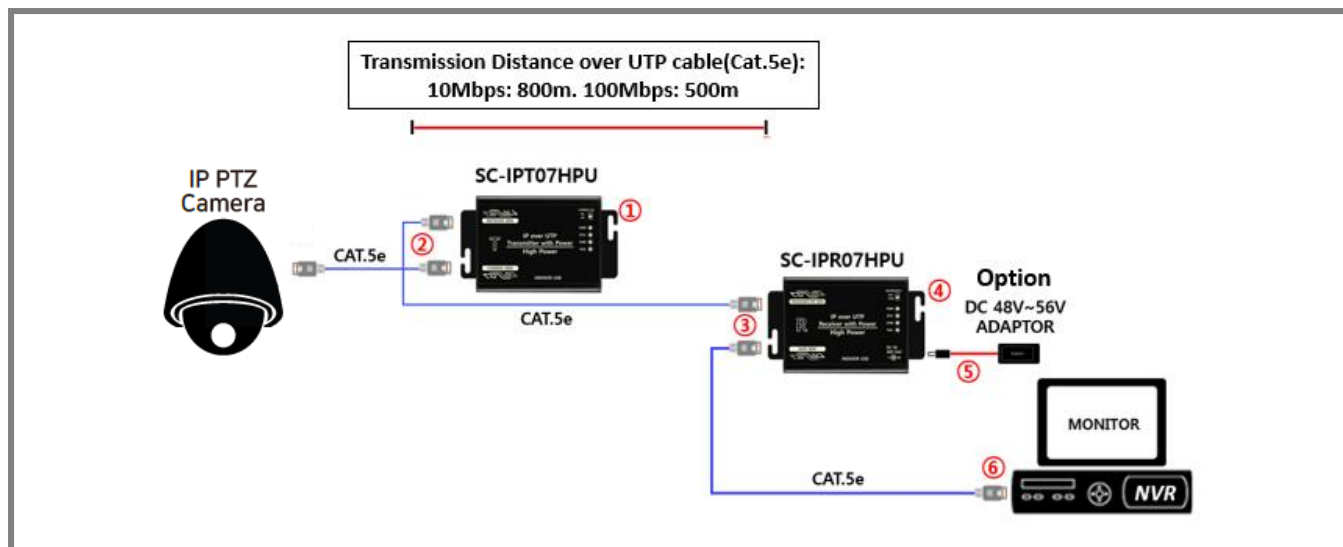
- ① **NVR SIDE:** Port to connect NVR or PoE Hub.
- ② **DC 48-56V IN:** Port to input DC adapter (48V or 56V) power.
- ③ **TRANSMITTER SIDE:** Port to connect Transmitter and input video.
- ④ **LED Indicator**

Name	Color	Status
PWR	Red	On: Power input Off: No power input
ETH	Green	Blinking: Ethernet connected Off: Ethernet Not connected
LINK	Green	On: Connected to Transmitter Off: Not connected to Transmitter
PoE	Red	On: PoE output to Transmitter Blinking: IP camera side power supply error (short circuit, disconnection, overcurrent)

- ⑤ **Bandwidth Select Switch:** 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 SC-IPU601T's CAMERA PoE switch to ON. (PoE LED On)
- ※ In case of connecting non PoE camera, set transmitter's CAMERA PoE switch to OFF.
- ② Connect the IP PoE CAMERA to the transmitter and connect the UTP cable to the terminal connected to the SC-IPU601R (receiver).
- ③ Connect UTP cable from 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 bandwidth.
- ※ 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. (Option)
- 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 blinking.

5. Precautions for product installation

- ※ Use a dedicated adapter individually for each product. It is not recommended to input power to multiple products with one adapter.
- ※ It is not recommended if the products are in contact with each other or tied together.
- ※ When supplying PoE to the receiver, it is not recommended to connect the DC adapter.
- ※ When installing the product with PoE supply, it is recommended to ground the camera after checking the video.
- ※ When installing a surge protector, the distance between the camera and the transmitters is recommended to be within 50m.
- ※ Using a LAN cable extension gender (coupler) causes signal attenuation. The use of multiple extension gender connections is not recommended.

6. Specifications

MODEL		SC-IPU601T
Power Input		PoE from SC-IPU601R
Power Output		Midspan PoE (Type B Only, PoE SW On/Off)
Transmission Bandwidth		10/100Mbps
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: PoE On/Off selection
Operating Temperature / Humidity		-10°C ~ 50°C / 0 ~ 80%
Case Body / Weight		Aluminum / 96g
Dimensions		103(W) x 60(D) x 25(H) mm

MODEL		SC-IPU601R
Power Input		AC Adaptor(DC 48-56V) or PoE Hub (IEEE 802.3af/at/bt)
Power Output		PoE
Max. Transmission Distance (CAT.5e)		100Mbps: 500m 10Mbps: 800m
Transmission Bandwidth		10/100Mbps
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 / 100M
Operating Temperature / Humidity		-10°C ~ 50°C / 0 ~ 80%
Case Body / Weight		Aluminum / 98g
Dimensions		103(W) x 60(D) x 25(H) mm

7. Maximum supplyable power

Distance CAT.5e	Bandwidth	DC 56V 2A	PoE(802.3bt, DC 54V)	DC 48V 1A
50m(164ft)	100Mbps	70W	52W	41W
100m(328ft)	100Mbps	65W	49W	38W
200m(656ft)	100Mbps	55W	42W	31W
300m(984ft)	100Mbps	41W	34W	22.5W
400m(1312ft)	100Mbps	31W	25.5W	17.5W
500m(1640ft)	100Mbps	24.5W	20.5W	14W
600m(1968ft)	10Mbps	20.5W	17W	11.5W
700m(2296ft)	10Mbps	17.5W	15W	10W
800m(2624ft)	10Mbps	15.5W	13W	8.5W

※ Depending on the power specifications of the camera, a difference of about 20 to 30% may occur compared to the power supply value in the table, and the cable transmission distance may vary depending on the specifications of the camera, NVR, cable etc.

※ When using the PoE function of the transmitter, the transmission distance may vary depending on the camera type.

In particular, for IP PTZ cameras and cameras with many IR LEDs that consume a lot of power, use a dedicated camera power adapter. It is recommended that the cable distance between the camera and the transmitter be less than 1 m.

※ When inputting power to the receiver through a PoE hub, it is recommended that the network cable distance be less than 1m.

※ When transmitting over a cable distance of 500m, camera input voltage may be low and may malfunction. Please, connect a DC 56V adapter to the receiver.

8. Trouble Shooting

Symptom	Checking Method
No Power	<p><Transmitter></p> <ul style="list-style-type: none"> • Check if PoE 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(56V) is used.
No Video	<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's wire 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.
No PoE	<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.
Unstable Network	<ul style="list-style-type: none"> • Check if the Network cable's wire 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.
Unstable Video	<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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