



## ***IO-Power DPOE-PSP1248-OA Series***

**Outdoor DC to DC Power over Ethernet (PoE) Converter**

***12VDC-18W / 24VDC-36W / 36VDC-54W / 48VDC-72W Passive Mode***

***(To be completed with online 12~24VDC DC UPS Power System)***



## **IOP-DPOE-PSP1248-OA Series**

### **User Manual**

***IOP-DPOE-PSP1218-1***

***IOP-DPOE-PSP2436-1***


***IOP-DPOE-PSP3654-1***

***IOP-DPOE-PSP4872-1***


**V.13.003\_0125**



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# Trademark and Copyright Notice

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Product specifications and information referred to in this manual are for reference only, specification changes, without prior notice, please consult with agent or dealer before purchase latest product specification data.

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## About this Manual

This manual discusses IO-Power DC to DC Power Converter which can be used in outdoor environment. Powered by on-line Outdoor DC UPS, IOP-DPOE-PSP1248-OA Power Converter powers up the devices via RJ-45, proceeding data transmission via RJ-45.

This manual uses the following criteria to communicate instructions and information:

 NOTE	Readers 'attention'. These attentions to include the special conditions referred to in this manual or use the recommendation and note references.
 CAUTION	Reader 'beware'. In this case, readers can result in equipment damage or risks.
 WARNING	Hazard. Means that there is a potential risk of this can result in physical damage. Before using any equipment, please pay attention to the risks associated with the circuit, as well as familiar with standard practices required to prevent accidents from happening.

**Bold:** has an important function and set of steps require your attention.



## Product Warranty

### Housing Warranty

IOP-DPOE-PSP1248-OA is a specially designed outdoor DC to DC PoE Power Converter, adopting industrial metal shell and professional antirust powered coating. It is suitable for outdoor environment.

Users operate this product under the construction of this manual, and under normal use. IO-Power provides 1 year warranty for the housing.

### PoE Control Board Warranty

IOP-DPOE-PSP1248-OA series adopts chip microprocessor to control the main board that can normally work between  $-40^{\circ}\text{C}$ ~ $60^{\circ}\text{C}$ .

The main board input power is 12~24VDC (28V Max), the limited input current is 12VDC 6A and 24VDC 3A. As for PoE, the limited output current is 1.5A. The max output power is 12VDC-18W, 24VDC-36W, 36VDC-54W, and 48VDC-72W.

IO-Power DPOE-PSP1248-OA series adopts the compatibility with 802.3, 802.3u, 802.3af, and 802.3a PoE Passive. Ethernet port can automatically detect 10/100/1000Mbps (1Gbps). Users operate this product under the construction of this manual, and under normal use. IO-Power provides 1 year warranty for the Control Board and Microprocessor.



# Attention of the Product Use

## Attention of the Product storage

### High and low temperature storage



IOP-DPOE-PSP1248-OA series must be stored at  $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$  to keep the safety and normal operation.

### Attention of the product use



This product adopts DC to DC stepping up chipset. The attention of the product use is as the following:





1. In accordance with the product specification data for the use of this product, please do not remove or change this equipment without authorization of any of the main parts, so as to avoid the safe use of the extension of the problem.
2. This product do not exceed  $80^{\circ}\text{C}$  heat and closer to the source of fire or less than  $-40^{\circ}\text{C}$  to direct low-temperature cooling, resulting in damage of electronic components and batteries.
3. When the product casing when the temperature exceeds  $70^{\circ}\text{C}$ , do not carry out charging and discharging operations to avoid danger.
4. Do not place this product in high humidity and put into water or close to the highly volatile chemical solvents to avoid danger.
5. Installation and assembly connectors in accordance with product instructions, not adjacent to the wrong wire connection to avoid the danger.
6. Do not hammer or other items to the hammer strike, trample on the battery and cause strong impact or throws, drops, heavy blow to this product to avoid danger.
7. When erecting system IOP-DPOE-PSP1248-OA series, if the distribution box or patch box space license case, recommend this product fixed inside the box, it will help to reduce this product at the risk of excessive high temperature operating temperature.



8. When erecting system IOP-DPOE-PSP1248-OA series, under erection conditions permit, recommends that this product is fixed to the Lee side, or not to be in the rain, it will help to reduce this product is too high or low humidity and rain water environments such as operational risks.
9. When erecting system IOP-DPOE-PSP1248-OA series, under erection conditions permit, recommend this product fixed on the back of sunshine, or not to be light, it will help to reduce this product is caused by excessive heat and sunshine of sunshine product ageing body and wiring to speed up operation of the environmental risks.
10. When system erecting IOP-DPOE-PSP1248-OA series, even this products has IP66~IP67 of waterproof dust of grade, but for seeking products and system of indoor outside electricity security, recommendations all connector are then for professional of waterproof department in; if used general electrical tape for waterproof Department in, please be sure to for 2 times different direction of package covered waterproof Department in, has reached actual waterproof dust of benefit.
11. IOP-DPOE-PSP1248-OA is designed to adopt by Outdoor 12VDC UPS power system. Therefore, please make sure that both input and output voltage and current are in its range to avoid dangers

# Specification

## IOP-DPOE-PSP1248-OA Series Specification

Model Number	IOP-DPOE-PSP1218-1	IOP-DPOE-PSP2436-1	IOP-DPOE-PSP3654-1	IOP-DPOE-PSP4872-1
Outdoor PoE Passive Mode Iron Airtight Housing IP 67 (Housing mold processing)				
Input DC Voltage	12~24VDC (28V Max)	12~24VDC (28V Max)	12~24VDC (28V Max)	12~24VDC (28V Max)
Input DC Current	12VDC 6A Max 24VDC 3A Max	12VDC 6A Max 24VDC 3A Max	12VDC 6A Max 24VDC 3A Max	12VDC 6A Max 24VDC 3A Max
Output PoE DC Voltage	12VDC	24VDC	36VDC	48VDC
Output DC Current	1.5A Max	1.5A Max	1.5A Max	1.5A Max
Output Power Consume Watts	18W Max	36W Max	54W Max	72W Max
Ethernet Pin Number	Power + Data Output PIN : 4 & 5 (+) / 7 & 8 (-) Data Input PIN : 1 & 2 / 3 & 6			
Ethernet Compatible	Compatible with IEEE802.3 / 802.3u / 802.3af / 802.3at PoE Passive			
Support Ethernet Bandwidth	Auto Detect 10/100/1000Mbps (1Gbps)Bandwidth			
Ethernet Cable SPEC	RJ-45 Cat.5 / Cat.5e / Cat.6 / Cat.6e / Cat.6A / Cat.7~			
Transform Efficiency	95%~			
Protection	Built-in MCU management Automatic detection of Ethernet transmit bandwidth 10/100/1000Mbps Over discharge protection Input power overcurrent protection Input power supply over voltage protection			





	Imported power polarity protection for anti-welding
<b>Industrial Housing &amp; Connector</b>	Iron Airtight Housing IP 67 Gland Connector
<b>Connector Type</b>	Input DC Power: 9~28VDC Max DC Jack Female with LED Power + Data Output:RJ-45 Port with LED Data Input:RJ-45 Port
<b>Operating Temperature</b>	-40°C ~ +60°C
<b>Storage Temperature</b>	-20°C ~ 40°C
<b>Rel. Humidity</b>	0~95%RH
<b>Dimension</b>	155mm(L)x152mm(W)x42mm(H)
<b>Weight</b>	0.5Kg
<b>LED Indicator</b>	1.Plug DC Jack, Input DC Power, Red LED Light 2.RJ-45 Ethernet Cable Plug Into Power + Data Output Port, Green LED Light
<b>Housing</b>	IP67
<b>Approvals</b>	CE FCC Processing
<b>Installation</b>	1.Street lamp pole mount or Upright pole mount 2.Wall mount installation
<b>Warranty</b>	12 months

**Ps 1: Product specifications change, without notice, consultation with agent or dealer before buying the latest specifications**



# Product Installation Instructions

## Input DC 12V~24V power

DC 12V~24V / 6A Max

DC Plug



12VDC – 18W  
24VDC – 36W  
36VDC – 54W  
48VDC – 72W  
1.5A Max  
1000Mbps  
RJ-45 Cat 6



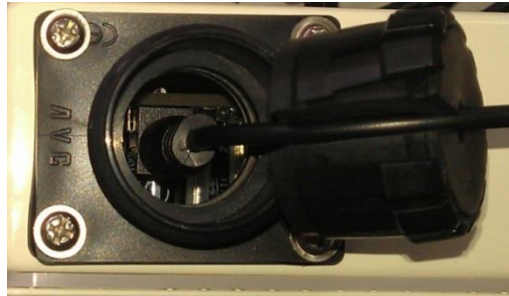
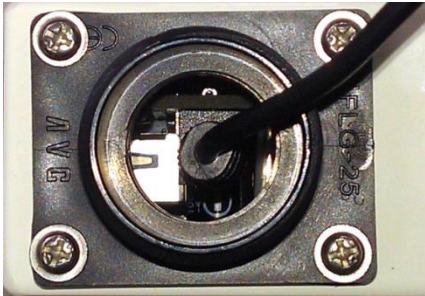
Data Input  
1000Mbps  
RJ-45 Cat 6



## DC Jack Female insert hole (DC Plug insert)



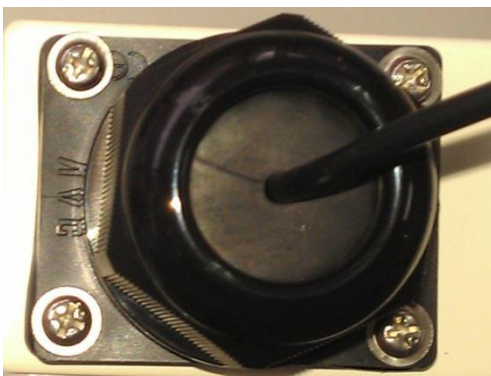
Waterproof and heat-resistant beam head (waterproof rubber harvest broken hold stuffing)



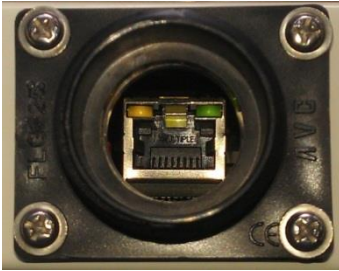
Insert the DC Jack Male head-end and into a waterproof rubber at the PCBA Female hole



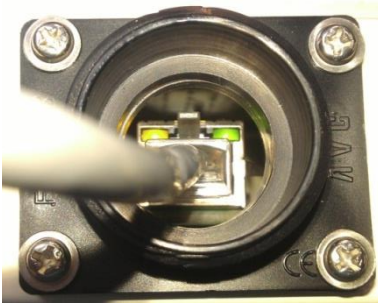
Lock waterproof and heat-resistant beam head (please do the waterproof protection)



## Installation for DC to DC Output PoE



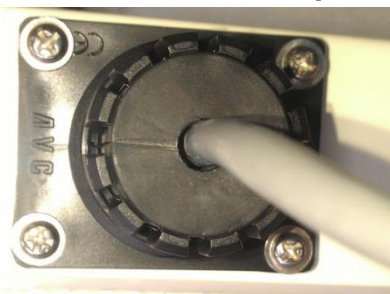
Insert the RJ-45 Jack into RJ-45 Plug on the PCBA



Waterproof and heat-resistant beam head (waterproof rubber harvest broken hold stuffing)



Insert the waterproof rubber into the beam head

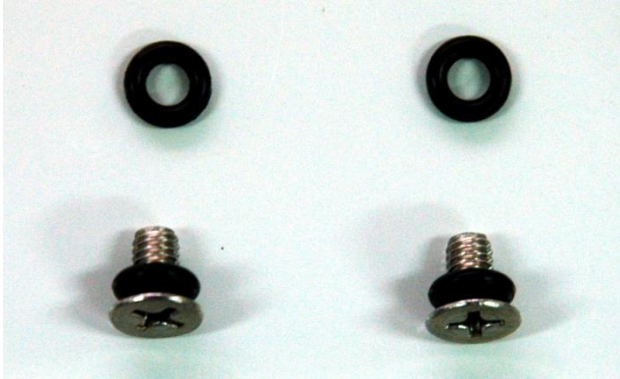


Lock waterproof and heat-resistant beam head (please do the waterproof protection)



## Mounting Instruction

First of all install the waterproof rubber gaskets fixed screw



Then screw through another set of waterproof rubber gaskets, fixed on the stainless steel bracket



Stainless steel screws on the bracket, locking into the shell rear screw hole



### Pole fixation

Stainless steel cable belt are recommended, through the stainless steel fixing brackets on either side of the hole, then beam tightly fixed in external support pole or fixed pole lay ...and so on.

### Plane fixation

Recommends that the first body plane welding two hole mounting holes or cable hole of the finds can be fixed through the plastic cable, through a stainless steel fixing brackets on either side of the hole, tight beam fixed card hole fixed products.



# Product operation instructions

## PoE Input power instruction

IOP-DPOE-PSP1248-OA series is especially designed for outdoor DC UPS power system, transforming input power 12~24VDC to 12VDC or 24VD or 36VDC or 48VD PoE (PSE) to provide PoE-12VDC or PoE-24VDC or PoE-36VDC or PoE-48VDC for the PoE (PD) devices.

## PoE output power instruction

IOP-DPOE-PSP1248-OA series, powered by on-line Outdoor DC UPS, can power up the devices via RJ-45. Proceed data transmission via RJ-45 and through the power processor chipset and PoE internet chipset. Integrate and output 12VDC or 24VDC or 36VDC or 48VDC PoE (PSE) to provide 12VDC-1.5A/18W or 24VDC-1.5A-36W or 36VDC-1.5A-54W or 48VDC-1.5A-72W for PoE (PD) devices.

## Ethernet transmission bandwidth specification



IOP-DPOE-PSP1248-OA series, complied with 802.3af and 802.3at internet chipset, can provide 10/100/1000Mbps (1Giga) bandwidth. Two-way bandwidth protocol is the final bandwidth protocol through chipset automatic detection and protocol communication.

## LED instruction

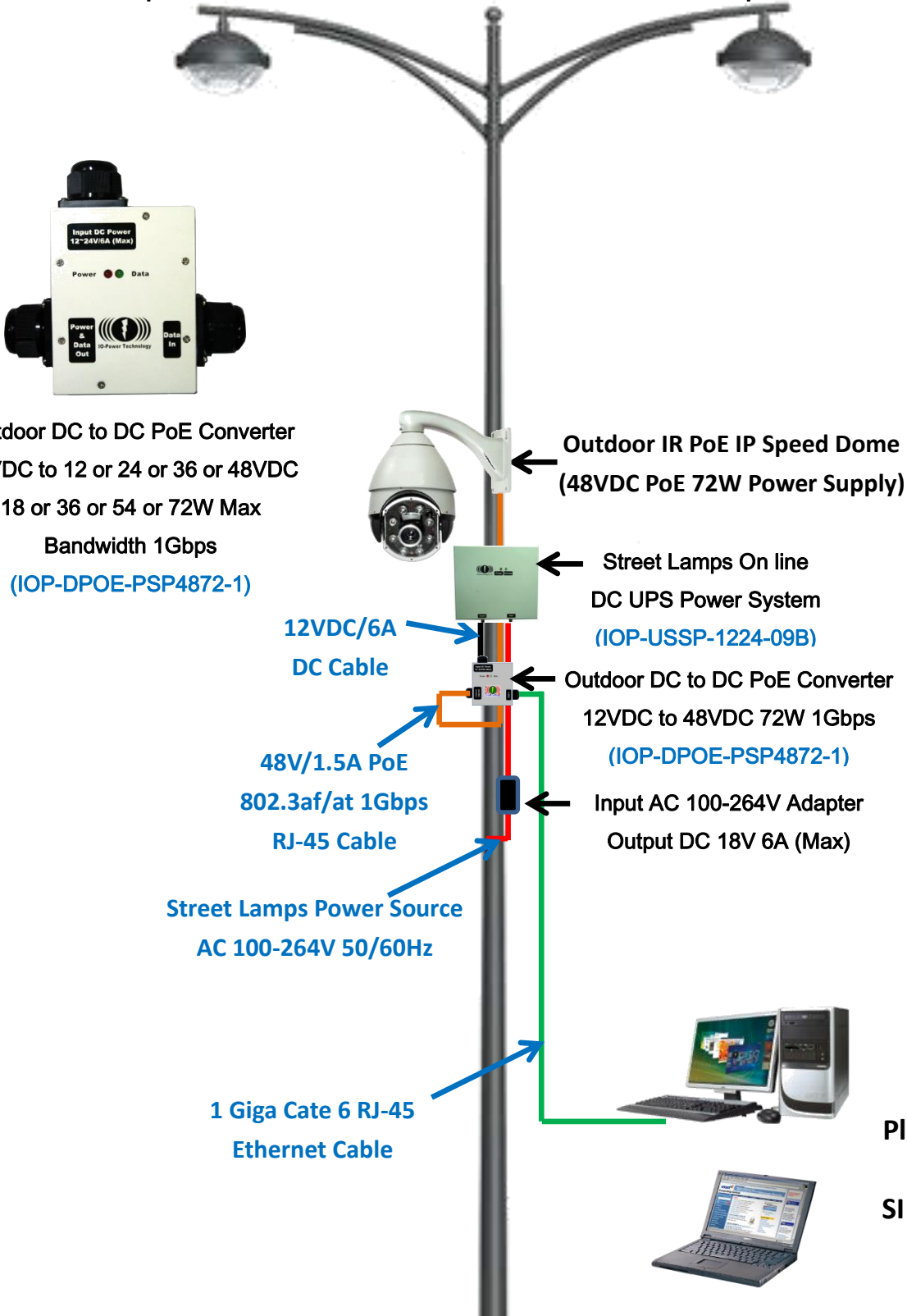
1. Input DC power, permanent red light on
2. Output PoE power or data transmission, green light on
3. Red light flashes: It means there is something not normal for input or output power, please must remove the input and output power. Shall not plug in before the problem is solved.



# Product Applications

## Road Cross Surveillance System

with Street Lamps DC UPS & DC to DC PoE Converter for IP Speed Dome Power Solution



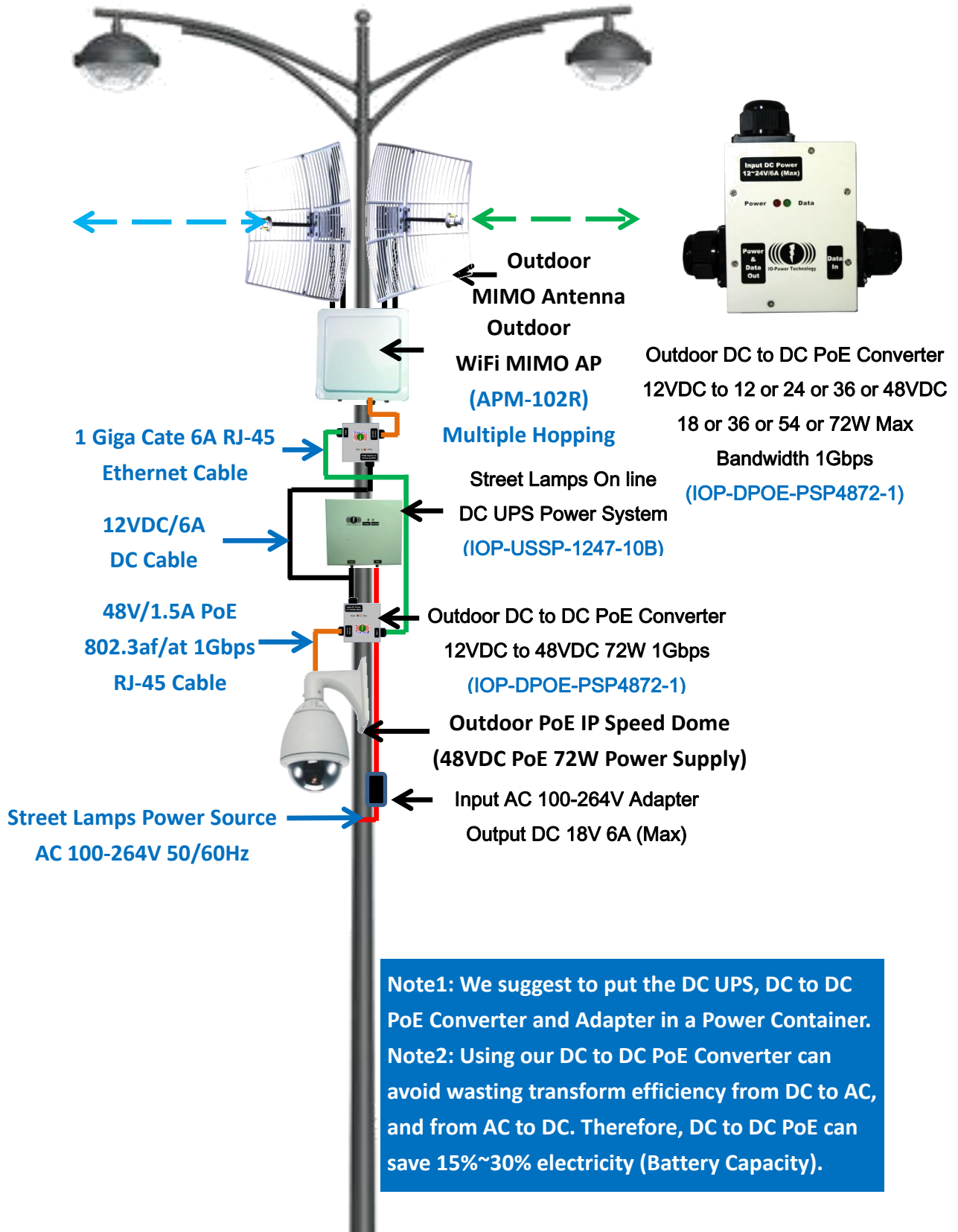






## Outdoor WiFi MIMO Wireless Road Cross Surveillance System

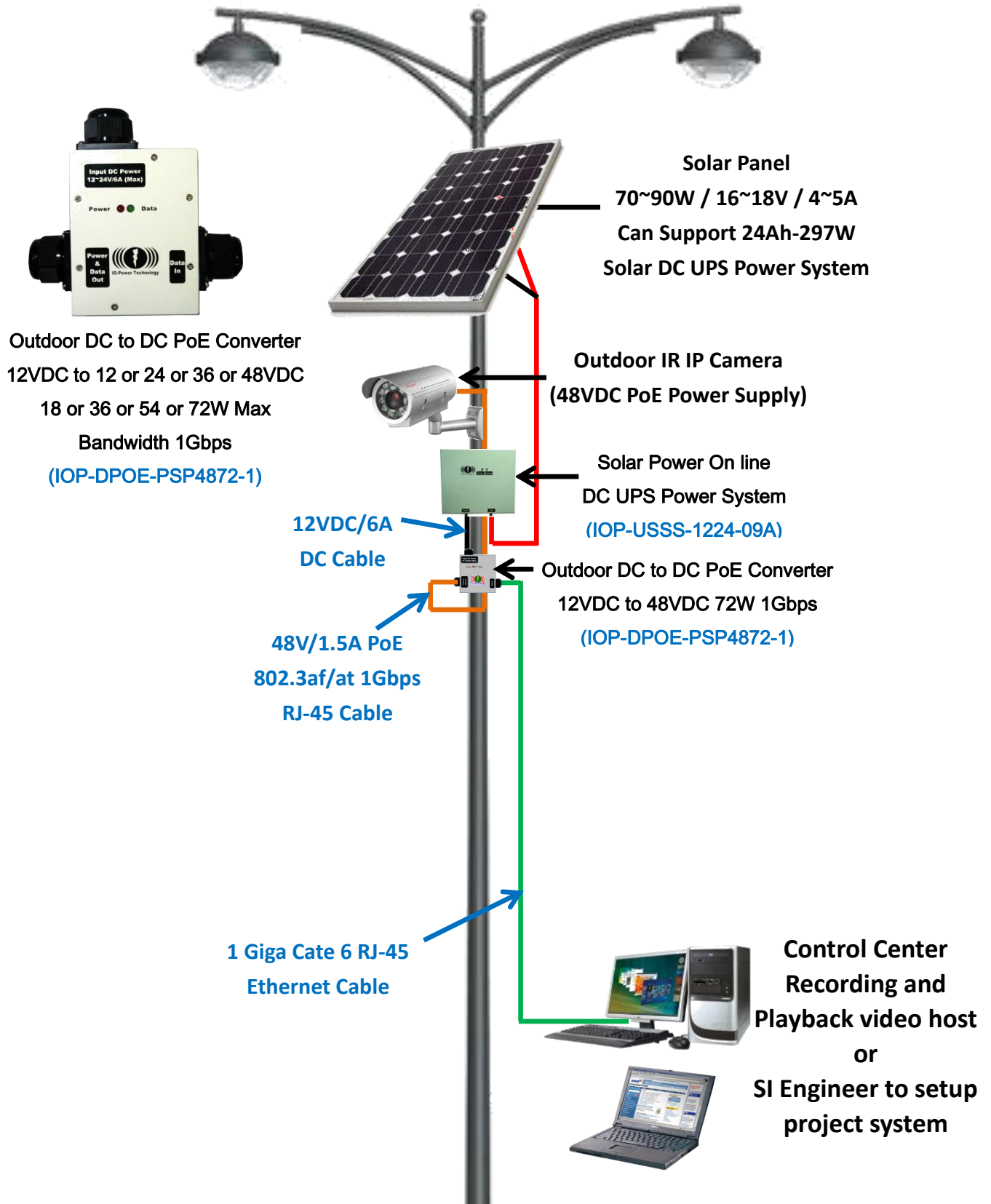
### with Street Lamps DC UPS & DC to DC PoE Converter Power Solution





## Road Cross Surveillance System

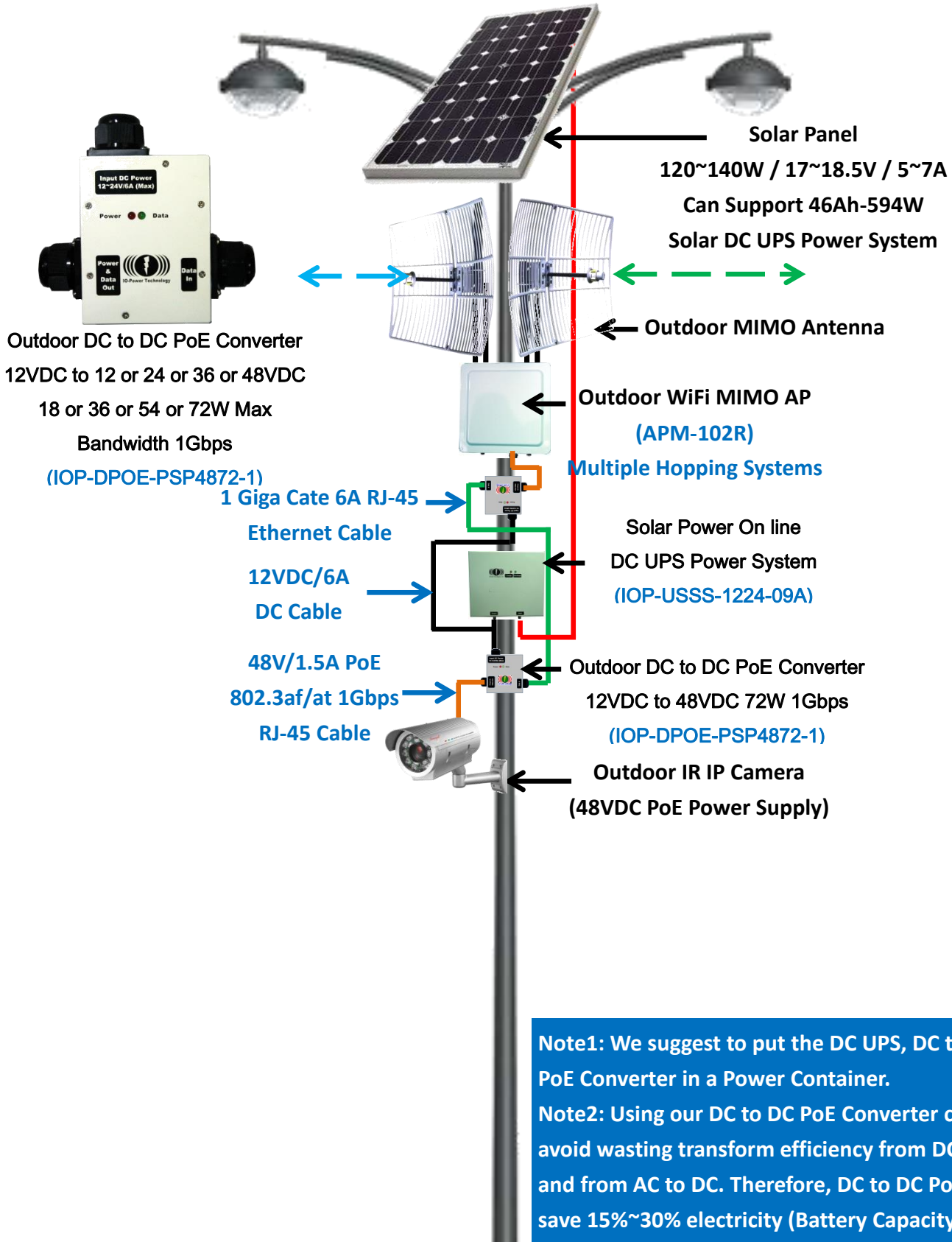
with Solar Power DC UPS & DC to DC PoE Converter Power Solution





## Outdoor WiFi MIMO Wireless Road Cross Surveillance System

### with Solar Power DC UPS & DC to DC PoE Converter Power Solution



**Note1:** We suggest to put the DC UPS, DC to DC PoE Converter in a Power Container.

**Note2:** Using our DC to DC PoE Converter can avoid wasting transform efficiency from DC to AC, and from AC to DC. Therefore, DC to DC PoE can save 15%~30% electricity (Battery Capacity).



# Outdoor WiFi MIMO Wireless Road Cross Surveillance System

with Solar Power DC UPS &

DC to DC PoE Converter Power Solution and DC to AC Power Inverter

