



## **IGP-0521**

**5-Port Industrial Gigabit Ethernet PoE Switch, 4 PoE Outputs**

**+ 1 SFP/TX Combo, 126W, 12/24/48VDC**

## **User Manual**



## **FCC MARKING**

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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.

## **CE MARKING**

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022 class A for ITE, the essential protection requirement of Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

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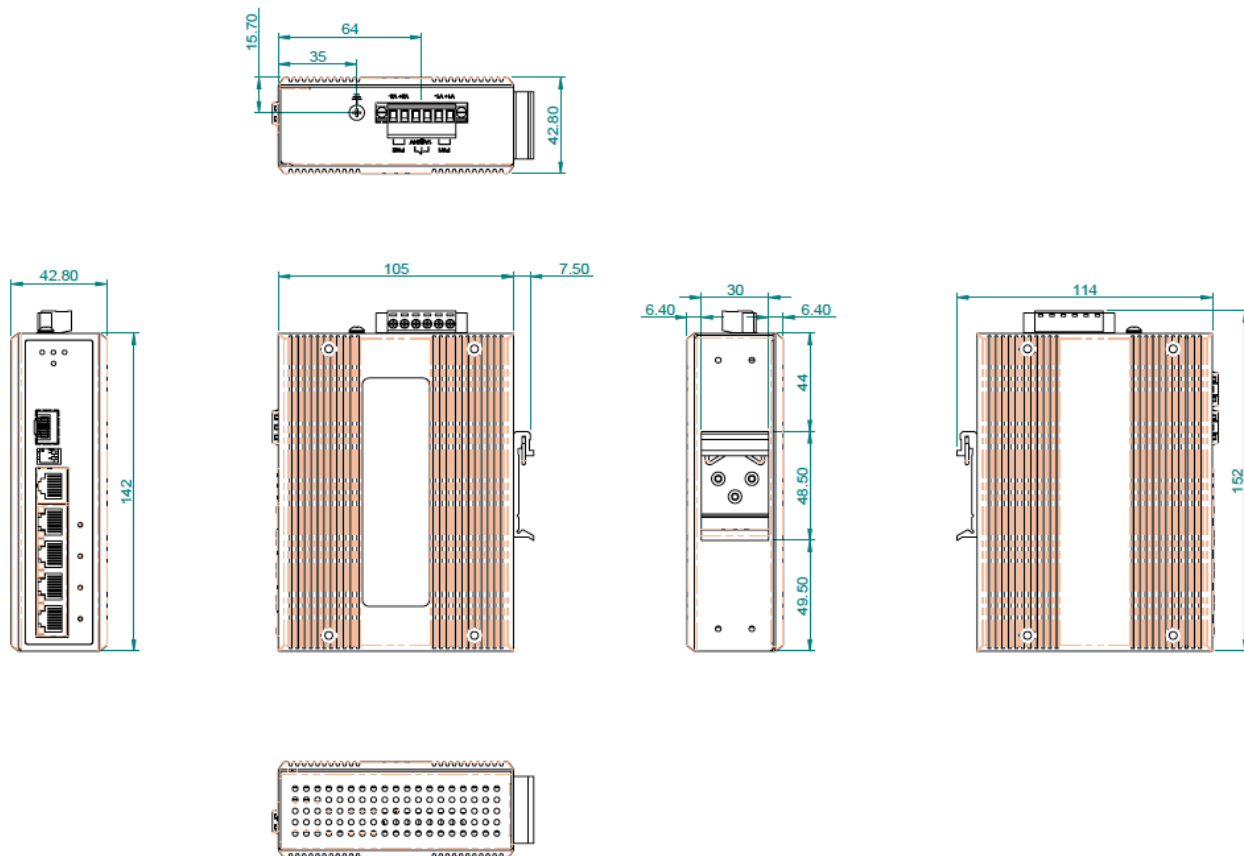
# Introduction

This rugged designed Industrial Ethernet switch / Industrial Giga-bit 4 port POE Injectors and Super Booster Industrial Giga-bit 4 port POE Injectors, which comply with IEEE802.3af and IEEE802.3at, has pass many rigorous environmental test. It delivers 30watts power (Max 36W) per POE port. And it can generate total 120 watts power(Max 126W) to PD devices. the uplink 2 SFP port (varied by models), can extend your environment to a much larger area.

The super voltage booster model uses 12/24/48VDC input to boost voltage to 55VDC. It guaranty to meet IEEE802.3at and to delivery full POE power up to 36Watts per POE port to a PD. With its multi-purpose design, it can also be used for Din-Rail or wall-mounted. It is an ideal unit for IP

## Housing Dimension

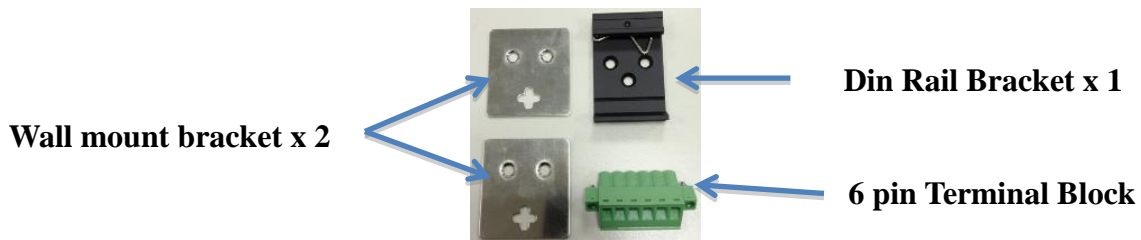
switch, for Monitoring and Security application in critical environment. It can tolerate -40°C to 75°C in harsh environment to perform a reliable network.



This super voltage booster --- the high power 4 port industrial POE+ injector is equipped with our high efficiency ColdDesign technology which allows low input voltage, such as 12/24/48VDC be boost up to 55VDC to meet IEEE802.3at requirement. The ColdDesign technology will not only boost up Input Voltage, also reduce the excessive heat problem to a minimum. It accepts the input voltage as low as 12VDC, to be boost up to 55VDC. And it is also equipped with 2 port SFP fiber that can be used as fiber redundancy, cascaded to your other devices to expand your network application. It is being rigorously tested for your Security Transportation and Telco application

## Installation package

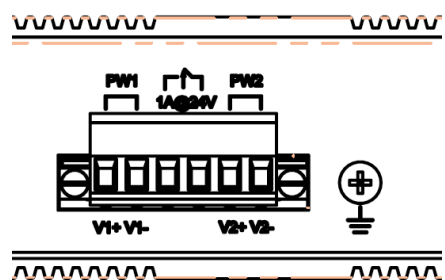
This unit can be installed by din-rail mounted or wall-mounted. Din-rail brackets and wall-mounted bracket are included.



## Power connection

This unit provides 6 pin terminal block. The POE port can be operated from 44-56VDC power source. The VDC power range can be 48VDC only or lower, or wide range from 44-56VDC. Always Make sure your input voltage is within this supported voltage range for each model.

**WARNING – any exceeded input voltage will not make this unit function and may damage this unit.**



To make power connection – Follow the printed polarity for V1+, V1-, V2+, V2-, and ground. Connect positive wire to V+ , connect negative wire to V-, also connect neutral wire to the ground screw as shown .

Relay -- You may use 24V@1A relay connection to your external device for special purpose. When 2 powers are connected, the relay is in SHORT mode. When any power source fails, the relay change to OPEN status.

### Power connecting procedure:

STEP 1 – Pull out 6 pin terminal block.

STEP 2 – Connect wire to V1+, V1-, or V2+, V2-, and Ground the neutral wire to the ground screw.

STEP 3– Plug back 6 pin terminal block to its place.

### WARNING –

Always ground the power source to maintain a clean power input. Due to too many cheap made power supplies, it creates too much noise, and it will cause the power input fluctuates when connect to this unit. To avoid this, always ground the power source to gain a clean power input.

## Dip switch function

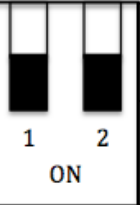
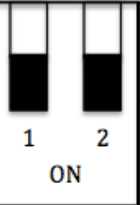
This unit is equipped with dip switches, located on the front panel. Adjusting the dip switches will change the default function of this unit. This unit has set to manufacturer default as: Port 5 SFP and the speed is set to 1000M for both port 5 and port 6 SFP ports. you may adjust dip switch setting to select port 5 as TX ( disable port 5 SFP) or set SFP speed to 100M. The detail setting as shown below:

### Warning:

Dip switch function will not work if it is changed when power is connected.

Always turn off or disconnect power supply to change dip switch settings.

OFF

 1 ON	DIP 1 to select port 5 TX or SFP	ON	TX
		OFF	SFP (default)
 2 ON	Dip 2 to select SFP speed	ON	100M
		OFF	1000M(default)

## LED indicator

### PW1

ON -- when V1+, V1- is connected

### PW2

ON -- when V2+, V2- is connected

### ERR

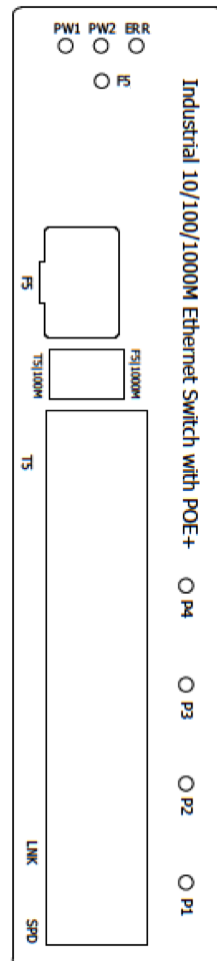
ON – connect only PW1 or PW2.  
OFF- both PW1 and PW2 are connected

### LNK

ON—TX link is detected  
OFF – TX port is not detected  
Flashing – TX port is active

### SPD

ON – 1000M speed is detected.  
OFF – 10M or 100M speed is detected



### F5

ON – port 5 SFP fiber is detected  
OFF –port 5 SFP fiber is not detected.  
Flashing – port 5 SFP fiber is active

### P1,P2,P3,P4

ON—PD is detected on designated port.  
OFF – no PD is detected

## Specification:

<b>IEEE Standard</b>	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3ab 1000Base-T Gigabit Ethernet IEEE 802.3z 1000Base-X Gigabit Ethernet IEEE802.3x Flow Control and Back Pressure, IEEE802.3af for POE IEEE802.3at for POE+
<b>Switch Architecture</b>	Back-plane (Switching Fabric): 12Gbps
<b>Data Processing</b>	Store and Forward
<b>Flow Control:</b>	IEEE 802.3x Flow Control and Back Pressure
<b>Jumbo Frame</b>	9KB
<b>MAC address Table Size</b>	1K
<b>Packet Buffer Size</b>	1M
<b>Network Connector :</b>	5xRJ-45 10/100/1000BaseT(X) auto negotiation, 4 Giga POE+ 802.3at/af PSE port Auto MDI/MDI-X function, Full/Half duplex 1x SFP 100/1000M BaseX
<b>Network Cable</b>	UTP/STP above Cat.5e Cable
	EIA/TIA-568 10-ohm (100m)
	Fiber Cable (Multi-mode):50/125um,62.5/125um Fiber Cable (Single-mode): 9/125um
<b>Protocol</b>	CSMA/CD
<b>LED</b>	PW1(Power 1) Green, PW2(Power 2) Green, ERR( Fault ) Amber,
	TX/RJ-45 port: LNK (Link/Active) Green, SPD(Speed) 10/100(OFF ) ,1000 (Green)
	SFP Fiber Per port: Link (Green) Active Flash
<b>DIP Switch</b>	DIP 1: OFF: Port 5 SFP (DEFAULT) ON: Port 5 TX DIP 2: OFF: SFP 1000M (DEFAULT) ON: SFP 100M
<b>Reserve polarity protection</b>	Present
<b>Overload current protection</b>	Present
<b>Power Supply</b>	Redundant Dual DC 9V-56V Power Input without POE
<b>Power Consumption</b>	5.76W @12/24/48 VDC full load, Without POE

<b>Alarm Relay Contact</b>	Relay outputs with current carrying capacity of 1 A @24VDC, Relay in short circuit mode when 2 powers are connected. in open circuit mode when only one power supply is connected
<b>Ethernet Switch power input</b>	Ethernet switch power input 9VDC -56VDC
<b>POE power</b>	POE power per port 30watts. Maximum 36Watts Maximum total power 126Watts at 24VDC and 48VDC power input. Maximum total power 65W at 12VDC power input .
<b>Removable Terminal Block</b>	Provide 2 Redundant power , Alarm relay contact ,6 Pin Wire range: 0.34mm <sup>2</sup> to 2.5mm <sup>2</sup> Solid wire (AWG):12-24/14-22 Stranded wire(AWG): 12-24/14-22 Torque:5lb-In/0.5Nm/0.56Nm Wire Strip length: 7-8mm
<b>Operating Temperature</b>	-40°C~75°C fully tested.
<b>Operating Humidity</b>	5% to 95% (Non-condensing)
<b>Storage Temperature</b>	-40°C~85°C
<b>MTBF (mean time between failure)</b>	510,304 hrs ( MIL-HDBK-217F) at 25°C
<b>Housing</b>	Rugged Metal ,IP30 Protection
<b>Case Dimension (L x W x D)</b>	142mmx43mmx105mm (LxWxD)
<b>Installation mounting</b>	DIN Rail mounting and Wall Mounting
<b>EMC/EMS</b>	CE, FCC,VCCI
<b>EMI</b>	FCC Part 15 Subpart B Class A, CE EN 55022 Class A