**120 Watts, 24V Booster**

## IGS-402S-4PH24
**4x 10/100/1000Base-T and 2x100/1000Base-X SFP with 4x PoE+**

## IGS-401F-4PH24
**4x 10/100/1000Base-T and 1x 1000Base-X Fiber with 4x PoE+**

## IGS-402F-4PH24
**4x 10/100/1000Base-T and 2x 1000Base-X Fiber with 4x PoE+**

## IGS-600-4PH24
**6x 10/100/1000Base-T with 4x PoE+**

The series models are 5~6 Ports unmanaged industrial grade Gigabit PoE switches with 4x 10/100/1000Base-T PoE that provide stable and reliable Ethernet transmission. Housed in rugged DIN rail or wall mountable enclosures, these switches are designed for harsh environments, such as industrial networking, security automation applications, IP Surveillance, intelligent transportation systems (ITS) and are also suitable for many military and utility market applications where environmental conditions exceed commercial product specifications. Standard operating temperature range models (-10 to 60℃) and wide operating temperature range models (-40 to 75℃) fulfill the special needs of industrial automation applications.

## Features

- Provides 4-port IEEE802.3at/af PoE output (30W/Per Port )
- Maximum PoE output power budget 120W
- 24/48VDC (20~57VDC) redundant dual input power, and built-in 94~97% Very High Efficiency power booster
- Regulated PoE output voltage at 55VDC
- Wide operating temperature -40 ~ 75℃ ("E" model )
- UL60950-1, CE, FCC, EN50121-4 certification
- Industrial Grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified
- IP30 rugged metal housing and fanless

## Specifications

| | |
|---|---|
| **IEEE Standard** | 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 |
| | IEEE 802.3x Flow Control and Back Pressure |
| | IEEE 802.3at, IEEE802.3af |
| **Switch Architecture** | Back-plane (Switching Fabric): 10Gbps (IGS-401F- 4PH24) 12Gbps (IGS-402S- 4PH24, IGS-402F-4PH24, IGS-600-4PH24) |
| | Back-plane (Switching Fabric): 10Gbps (IGS-401F- 4PH24) 12Gbps (IGS-402S- 4PH24, IGS-402F- 4PH24, IGS-600-4PH24) |
| **Data Processing** | Store and Forward |
| **Flow Control** | IEEE 802.3x flow control, back pressure flow control |
| **Provides Broadcast Storm Protection** | Present, Enable / Disable set by DIP SW |
| **Jumbo Frame** | 10K Bytes |
| **MAC Address Table** | 8K |
| **Packet Buffer Size** | 1Mbits |
| **PoE standard** | IEEE 802.3at/af |
| **PoE RJ-45 pin Assignment** | RJ-45 port # 1~# 4 support IEEE 802.3at/af End-Span, Alternative A mode |
| | Positive (V+): RJ-45 pin 1, 2. |
| | Negative (V-): RJ-45 pin 3, 6. |
| | Data (1, 2, 3, 6, 4, 5, 7, 8 ) |
| **Network Connector** | 4 x RJ-45 (IGS-402S-4PH24, IGS-401F-4PH24, IGS-402F-4PH24) 6 x RJ-45 (IGS-600-4PH24) 10/100/1000Base-T auto negotiation speed, Auto MDI/MDI-X function, Full/Half duplex |
| | 2x 100/1000Base-X SFP (IGS-402S-4PH24) 1 or 2x1000Base-X Fiber connector: SC Muti Mode or Single Mode (IGS-401F-4PH24, IGS-402F-4PH24) |
| **Network Cable** | UTP/STP above Cat. 5e cable |
| | EIA/TIA-568 100-ohm (100m) |
| | Fiber Cable (Multi-mode): 50/125um, 62.5/125um Fiber Cable (Single-mode): 9/125um |
| **Protocols** | CSMA/CD |

| | |
|---|---|
| **LED** | Per unit: Power 1 (Green), Power 2 (Green), Fault (Amber) |
| | Per RJ-45 port : Link/Active (Green), Speed 10 (OFF ), 100 (Green), 1000 (Yellow) |
| | Fiber Per port: Link/Active (Green) |
| | PoE Port LED : • Active : ON • Inactive : OFF • Fault : Flash (Over Load, Short Circuit, Port failed at Startup) |

| **DIP SW** | | |
|---|---|---|
| | DIP 1 | ON : Disable power failure alarm |
| | | OFF : Enable power failure alarm |
| | DIP 2 | ON : Disables broadcast storm protection |
| | | OFF : Enable broadcast storm protection |
| | DIP 3 | ON : Fiber 2 for 100Base-FX SFP |
| | | OFF : Fiber 2 for Gigabit SFP |
| | | (Only for IGS-402S-4PH24) |
| | DIP 4 | ON : Fiber 1 for 100Base-FX SFP |
| | | OFF : Fiber 1 for Gigabit SFP |
| | | (Only for IGS-402S-4PH24) |

| | |
|---|---|
| **Reserve Polarity Protection** | Present |
| **Overload Current Protection** | Present |
| **Power Supply** | Redundant Dual DC 24/48V (20~57VDC) Input power (Removable Terminal Block ) |

**Power Consumption**

| Input Voltage | IGS-402S-4PH24 | IGS-401F-4PH24 | IGS-402F-4PH24 | IGS-600-4PH24 |
|---|---|---|---|---|
| 24VDC | 143.3W | 142.1W | 143.2W | 142.9W |
| 48VDC | 138.2W | 137.4W | 138.2W | 139.6W |

| | |
|---|---|
| **PoE Power Output** | Maximum PoE Output power budget 120W (30W/Per Port) |
| **Alarm Relay Contact** | Relay outputs with current carrying capacity of 1A @24VDC |
| **Removable Terminal Block** | Provide 2 Redundant power, Alarm relay contact, 6 Pin |
| **Operating Temperature** | -10 ~ 60℃ (IGS-402S-4PH24, IGS-401F-4PH24, IGS-402F-4PH24, IGS-600-4PH24) |
| | -40 ~ 75℃ (IGS-402S-4PHE24, IGS-401F-4PHE24, IGS-402F-4PHE24, IGS-600-4PHE24) |
| **Operating Humidity** | 5% to 95% (Non-condensing) |

Specifications & design are subject to change without prior notice. Please visit CTC Union website for more details.

| Storage Temperature | -40 ~ 85℃ |
|---|---|
| Housing | Rugged metal, IP30 Protection and fanless |
| Dimensions | 106 x 62.5 x 134.8mm (D X W X H) |
| Weight | 0.84kg (IGS-402S-4PH24)    0.67kg (IGS-401F-4PH24)<br>0.68kg (IGS-402F-4PH24)    0.84kg (IGS-600-4PH24) |
| Installation Mounting | DIN Rail mounting or wall mounting |
| MTBF | 334,448 Hours  (IGS-402S-4PH24)<br>316,408 Hours  (IGS-401F-4PH24)<br>306,704 Hours  (IGS-402F-4PH24)<br>296,517 Hours  (IGS-600-4PH24)<br>(MIL-HDBK-217) |
| Warranty | 5 years |

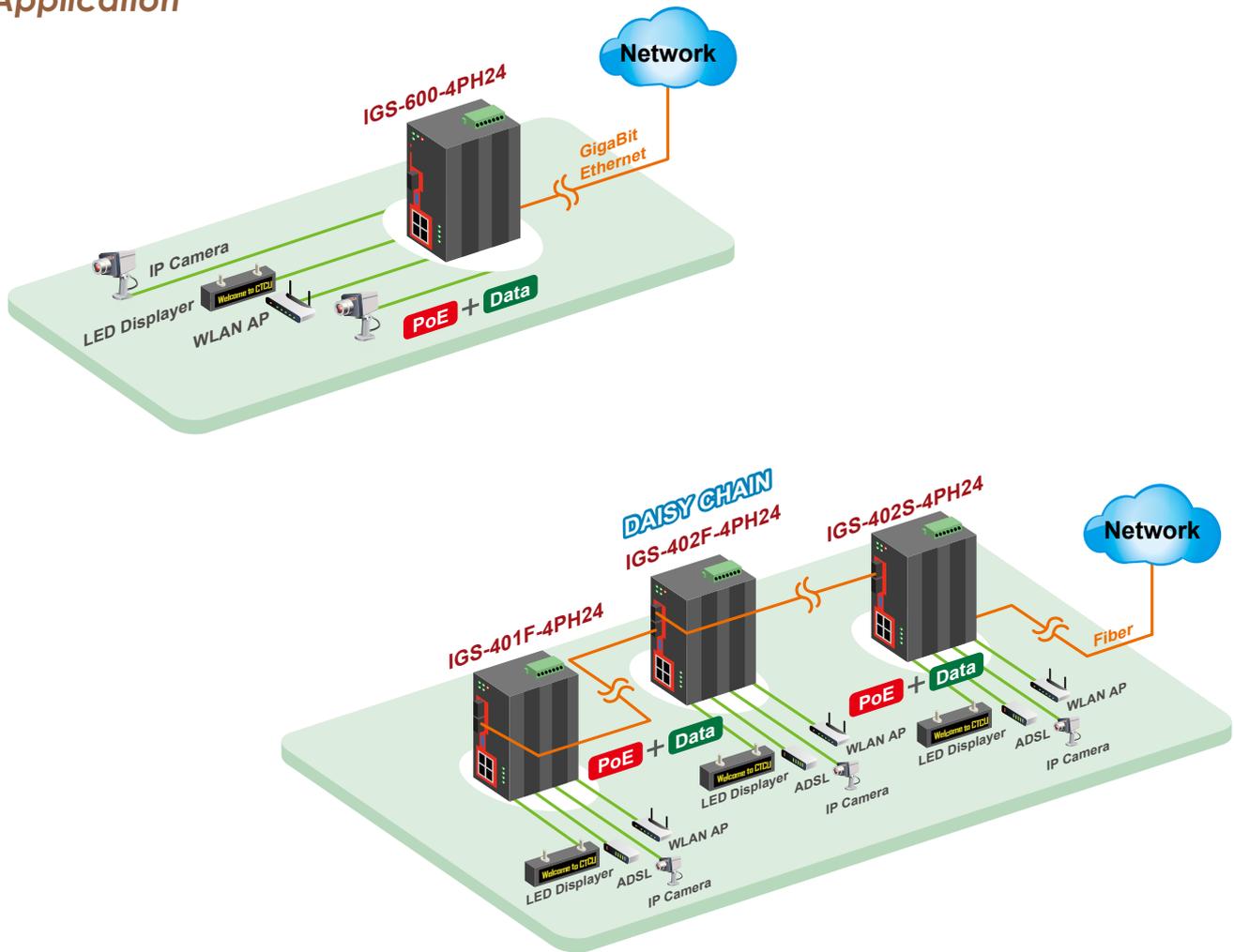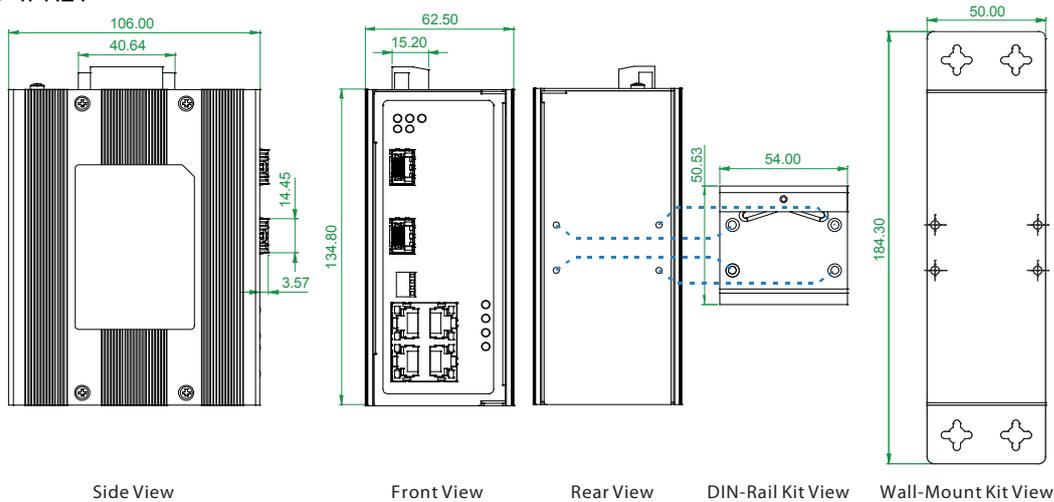| Certification | |
|---|---|
| EMC | CE |
| EMI (Electromagnetic Interference) | FCC Part 15 Subpart B Class A,CE EN55022 Class A |
| Railway Traffic | EN50121-4 |
| Immunity for Heavy Industrial Environment | EN61000-6-2 |
| Emission for Heavy Industrial Environment | EN61000-6-4 |
| EMS (Electromagnetic Susceptibility) Protection Level | EN61000-4-2 (ESD) Level 3, Criteria B |
| | EN61000-4-3 (RS) Level 3, Criteria A |
| | EN61000-4-4 (Burst) Level 3, Criteria A |
| | EN61000-4-5 (Surge) Level 3, Criteria B |
| | EN61000-4-6 (CS) Level 3, Criteria A |
| | EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A |
| Safety | UL60950-1 |
| Shock | IEC 60068-2-27 |
| Freefall | IEC 60068-2-32 |
| Vibration | IEC 60068-2-6 |

## *Application*





**Figure** : IGS-402S-4PH24, IGS-401F-4PH24, IGS-402F-4PH24, IGS-600-4PH24
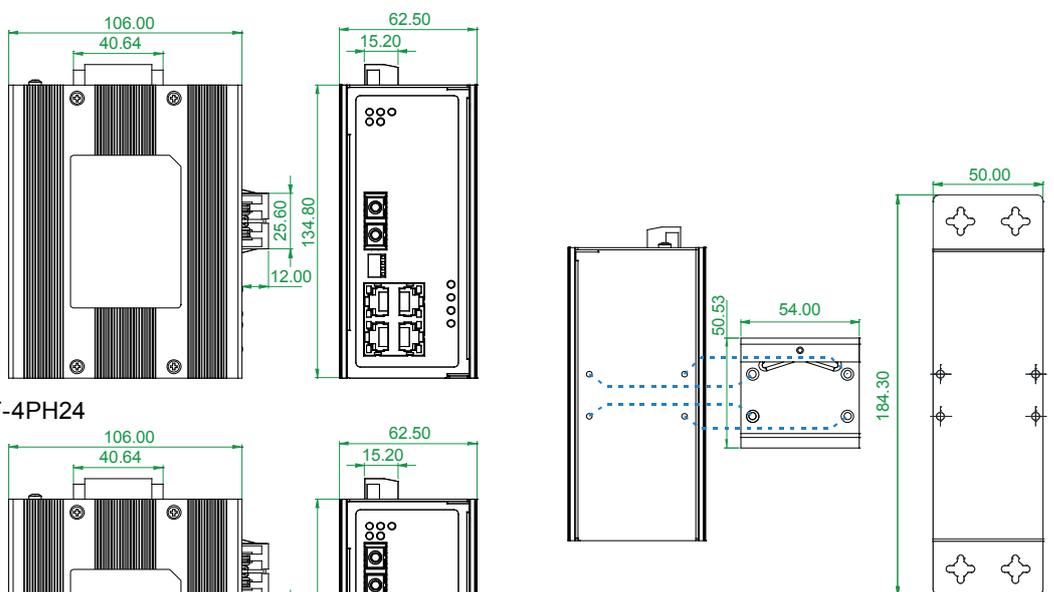PoE Gigabit Ethernet Switch Transmission

Specifications & design are subject to change without prior notice. Please visit CTC Union website for more details.

## *Dimensions*

**IGS-402S-4PH24**

| Side View | Front View | Rear View | DIN-Rail Kit View | Wall-Mount Kit View |

**IGS-401F-4PH24**

**IGS-402F-4PH24**
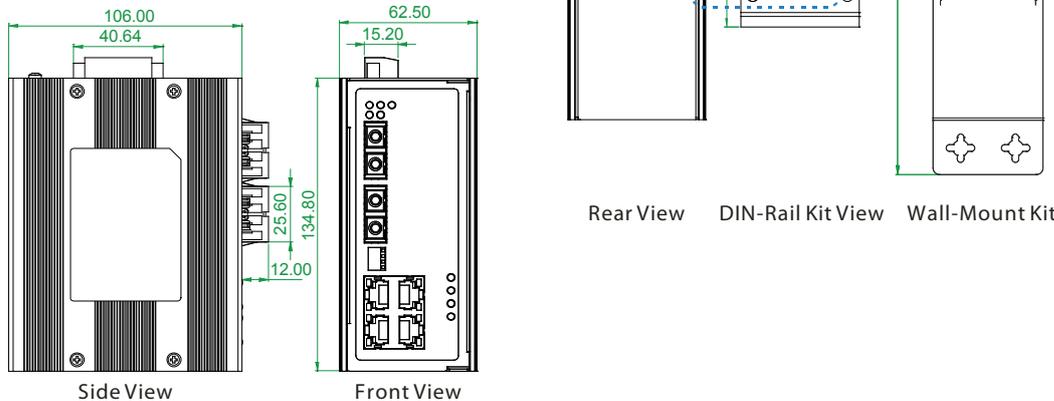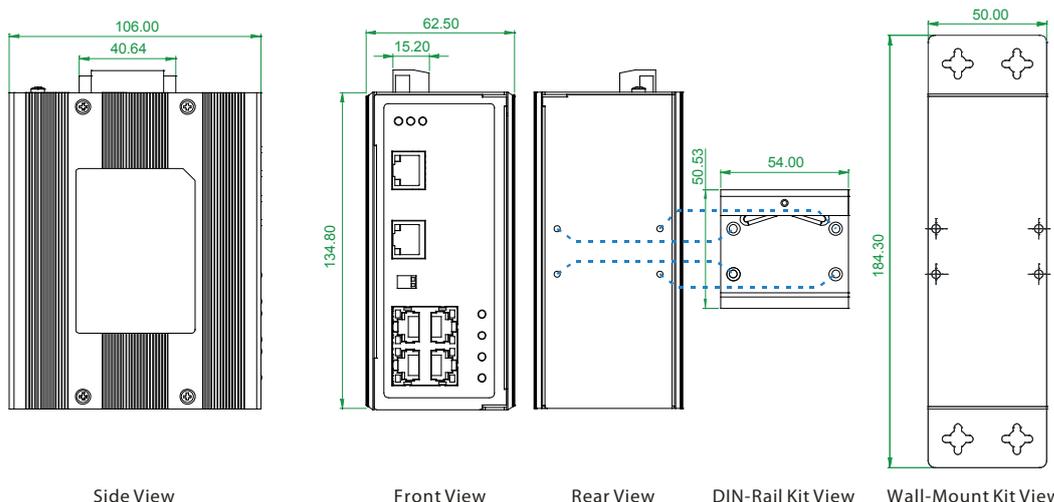
| Side View | Front View |

| Rear View | DIN-Rail Kit View | Wall-Mount Kit View |

**IGS-600-4PH24**

| Side View | Front View | Rear View | DIN-Rail Kit View | Wall-Mount Kit View |

www.ctcu.com
sales@ctcu.com

IGS-402S-4PH24, IGS-401F-4PH24, IGS-402F-4PH24, IGS-600-4PH24

## Ordering Information

| Model Name | Port | UTP Port | Fiber Port | | Certification | | | | Operating Temperture |
|---|---|---|---|---|---|---|---|---|---|
| | | 10/100/1000 Base-T(X) | 1000 Base-X | 100/1000 Base-X | Railway EN50121-4 | Safety UL60950-1 | EN61000-6-2 EN61000-6-4 | CE, FCC | |
| IGS-402S-4PH24 | 6 | 4 | — | 2 SFP | V | V | V | V | -10~60℃ |
| IGS-402S-4PHE24 | 6 | 4 | — | 2 SFP | V | V | V | V | -40~75℃ |
| IGS-401F-4PH24 | 5 | 4 | 1 SC | — | V | V | V | V | -10~60℃ |
| IGS-401F-4PHE24 | 5 | 4 | 1 SC | — | V | V | V | V | -40~75℃ |
| IGS-402F-4PH24 | 6 | 4 | 2 SC | — | V | V | V | V | -10~60℃ |
| IGS-402F-4PHE24 | 6 | 4 | 2 SC | — | V | V | V | V | -40~75℃ |
| IGS-600-4PH24 | 6 | 6 | — | — | V | V | V | V | -10~60℃ |
| IGS-600-4PHE24 | 6 | 6 | — | — | V | V | V | V | -40~75℃ |

### Model Naming Rule

IGS — 4 02S — 4PH☐24

**I**ndustrial **G**igabit **S**witch

**4:** 4x UTP
**6:** 6x UTP

**02S:** 2x SFP
**01F:** 1x SC
**02F:** 2x SC
**00:** 0x Fiber

**4PHE24:**
4x High Power PoE
24V Booster -40~75℃

**4PH24:**
4x High Power PoE
24V Booster -10~60℃
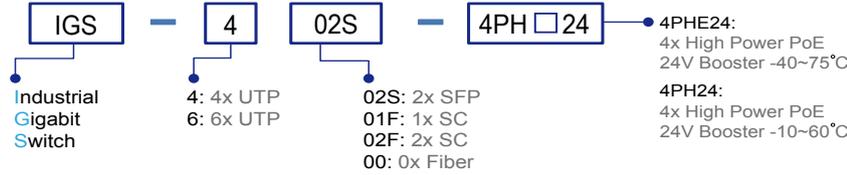
| Fiber Connector Type | Connectivity Distance |
|---|---|
| **SC** (Only for IGS-401F-4PH24, IGS-402F-4PH24) | SC001: 500m (SC, M/M)  SC002: 2km (SC, M/M)  SC020: 20km (SC, S/M)  SC040: 40km (SC, S/M) <br> SC020A: WDM 20km A type (TX: 1310nm) <br> SC020B: WDM 20km B type (TX: 1550nm) |

### Accessories

| DR-120-24 | Industrial Power, Input 88 ~ 132VAC / 176 ~ 264VAC, Output 24VDC, 120W, -10 ~ +60℃ |
|---|---|
| DRP-240-48 | Industrial Power, Input 85 ~ 264VAC, Output 48VDC, 240W, -10 ~ +70℃ |

### SFP Naming Rule

ISFP — M 7 040 — 31 — E

Industrial SFP Transceiver

**M:** Multi Mode
**S:** Single Mode
**T:** Copper

**7:** GbE
**5:** FE

Distance
002(2km)
020(20km), 040(40km)

Wavelength

**E:** -40~85℃
**Blank:** 0~70℃

3

Industrial Unmanaged GbE PoE Switch