Industrial Unmanaged GbE Switch

IGS-402S
4x 100/1000Base-T + 2x 100/1000Base-X SFP
Slot Gigabit Ethernet Switch

This series models are non-managed industrial grade gigabit switches with 4 10/100/1000Base-T ports and 2 fiber ports, 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, 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°C) and wide operating temperature range models (-40 to 75°C) fulfill the special needs of industrial automation applications.

Feature
- 4x 10/100/1000Base-T RJ45 + 2x 100/1000Base-X SFP (IGS-402S)
- 12/24/48VDC redundant dual input power design
- Wide operating temperature -40 ~ 75°C ("-E" model)
- Provides broadcast storm protection
- Supports DIP SW for alarm setting and broadcast storm protection

Specifications

<table>
<thead>
<tr>
<th>IEEE Standard</th>
<th>IEE 802.3 10Base-T Ethernet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IEE 802.3u 100Base-TX, 100Base-FX, Fast Ethernet</td>
</tr>
<tr>
<td></td>
<td>IEE 802.3ab 1000Base-T Gbit/s Ethernet over twisted pair</td>
</tr>
<tr>
<td></td>
<td>IEE 802.3z 1000Base-X Gbit/s Ethernet over Fiber-Optic</td>
</tr>
<tr>
<td></td>
<td>IEE 802.3x Flow Control and Back Pressure</td>
</tr>
</tbody>
</table>

Switch Architecture: Back-plane (Switching Fabric): 12Gbps

Data Processing: Store and Forward

Flow Control: IEE 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

Network Connector: 4 x RJ-45
- 10/100/1000Base-TX auto negotiation speed, Auto MDI/MDI-X function, Full/Half duplex
- 2 100/1000Base-X SFP connector (IGS-402S)

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)

Supports power failure alarm message by relay
- Supports flow control
- Jumbo frame support
- IP30 rugged metal housing and fanless
- Supports DIN Rail or wall mounting installation
- UL60950-1, CE, FCC, EN50121-4 certification
- Industrial Grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified
- IP30 rugged metal housing and fanless

DIP SW

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

Reserve Polarity Protection: Present

Overload current protection: Present

Power Supply: Redundant Dual DC 12/24/48V (9.6~60VDC) Input power (Removable Terminal Block)
- Provide DC Power JACK adapter cable for external power supply

Power Consumption: 79W (IGS-402S)

Alarm Relay Contact: Relay outputs with current carrying capacity of 1 A @24VDC

Removable Terminal Block: Provides 2 Redundant power, Alarm relay contact, 6 Pin

Operating Temperature: -10 ~ 60°C (IGS-402S)
-40 ~ 75°C (IGS-402S-E)

Operating Humidity: 5% to 95% (Non-condensing)

Storage Temperature: -40 ~ 85°C

Housing: Rugged Metal, IP30 Protection, Fanless

Dimensions: 106 x 62.5 x 134.8 mm (D X W X H)

Weight: 0.84kg (IGS-402S)

Installation Mounting: DIN Rail mounting or wall mounting

MTBF: 438,031 Hours (IGS-402S)
- MIL-HDBK-217

Warranty: 5 years
**Industrial Unmanaged GbE Switch**

**Certification**
- EMC/EMS: 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**
- EN61000-4-2 (ESD) Level 3, Criteria B
- EN61000-4-3 (RF) 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 & IGS-402F Giagabit Ethernet Switch Transmission*

**Dimensions**

*Figure: IGS-402F*
### Specifications & Design
Specifications & design are subject to change without prior notice. Please visit CTC Union website for more details.

---

### Industrial Unmanaged GbE Switch

**IGS-402S**

- **Specifications & Design**
  - **Port Numbers**
    - 6 4 2
  - **Temperature**
    - -10~60°C

- **Model Naming Rule**
  - IGS: Industrial Gigabit Switch
  - 4: 4x UTP
  - 02S: 2x SFP
  - E: -40~75°C

- **Fiber Connector**
  - SC (IGS-402F only)
  - SC001: 500m (SC, M/M)
  - SC002: 2km (M/M)
  - SC020: 20km (SC, S/M)
  - SC040: 40km (SC, S/M)

- **Model Information**
  - **Model Name**
    - IGS-402F
    - IGS-402F-E
    - IGS-402S
    - IGS-402S-E
  - **Total Port**
    - 6 4 2
  - **UTP Port**
    - 4 SFP
  - **Fiber Port**
    - 2 SFP
  - **UTP Port**
    - 2 Fiber
  - **Certification**
    - UL60950-1
    - Railway EN50121-4
    - EN61000-6-2
    - EN61000-6-4
    - CE
    - FCC
  - **Operating Temperature**
    - -10~60°C

### Ordering Information

**IGS-402S**

- **Model Name**
  - IGS-402F
  - IGS-402F-E
  - IGS-402S
  - IGS-402S-E

- **Total Port**
  - 6 4 2

- **Port Number**
  - 10/100/1000Base-T
  - 100/1000Base-X

- **UTP Port**
  - 4 SFP

- **Fiber Port**
  - 2 SFP

- **UTP Port**
  - 2 Fiber

- **Certification**
  - UL60950-1
  - UL61000-6-2
  - UL61000-6-4

- **Operating Temperature**
  - -10~60°C

### Optional Accessories

#### Industrial Power Supply

- **Model Name**
  - DR-4524
  - MDR-40-24

- **Input/Output**
  - 85 ~ 264VAC, 24VDC, 48W

#### Industrial SFP Transceiver

- **Model Name**
  - ISFP-M7000-85- (E)
  - ISFP-S7020-31- (E)
  - ISFP-T7T00-00- (E)
  - ISFP-M5002-31- (E)
  - ISFP-S5030-31- (E)
  - ISFP-T3T00-MA- (E)
  - ISFP-T3T00-SL- (E)

- **Distance**
  - 10G: (UTP)
  - 100: (500m)
  - 200: (2km)
  - 2000: (20km)
  - 400: (40km)

- **Wavelength**
  - 850nm
  - 1310nm
  - 1550nm

- **Certification**
  - Non DDMI

### Package List

- **One device of the series**
- **Protective caps for SFP ports** (for IGS-402S)
- **Quickly installation guide**
- **Din Rail with screws**
- **Wall mount bracket with screws**
- **Terminal block**
- **DC Power JACK adapter cable**

**Example:** IGS – 40F—E – SC002

---

**SFP Naming Rule**

- **M**: Multi Mode
- **T**: Single Mode
- **D**: DDMI
- **E**: Blank

- **Distance**
  - 10G: (UTP)
  - 100: (500m)
  - 200: (2km)
  - 2000: (20km)
  - 400: (40km)

- **Wavelength**
  - 850nm
  - 1310nm
  - 1550nm
  - 1310nm

- **Certification**
  - Non DDMI

---

**CTC Union**

- Website: www.ctcu.com
- Email: sales@ctcu.com

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