The series models are 5/8-port 10/100/1000Base-T Ethernet non-managed Gigabit switches, with either 1 or 0 port 1000Base-X SFP port, 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
- **IGS-500**
  - 5x 10/100/1000Base-T RJ-45
- **IGS-800**
  - 8x 10/100/1000Base-T RJ-45
- Supports broadcast storm protection
- Supports power failure alarm message by relay
- Supports flow control
- Jumbo frame support
- Supports IEEE802.3az Green Ethernet
- Supports auto-negotiation and auto-MDI/MDI-X
- Redundant dual DC input power 12/24/48VDC (9.6~60VDC)
- IP30 rugged metal housing, Fanless
- Supports DIN Rail or wall mounting installation
- Wide operating temperature -40~75°C (-E model)
- EN50121-4, CE, FCC Certification
- Industrial Grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified

### Specifications

#### IEEE Standard
- IEEE 802.3 10Base-T Ethernet
- IEEE 802.3u 100Base-TX, 100Base-FX, Fast Ethernet
- IEEE 802.3ab 1000Base-T Gigabit Ethernet over twisted pair
- IEEE802.3x Flow Control
- IEEE 802.3z 1000Base-X Gigabit Ethernet over Fiber-Optic

#### Switch Architecture
- Back-plane (Switching Fabric):
  - 10Gbps (IGS-500)
  - 16Gbps (IGS-800)
- Full wire-speed

#### Data Processing
- Store and Forward

#### Flow Control
- IEEE 802.3x flow control for full duplex, back pressure for half duplex

#### Provides Broadcast Storm Protection
- Present

#### Jumbo Frame
- 9.6KBytes

#### MAC Address Table
- 8K

#### Packet Buffer Size
- 128KByte

#### Network Connector
- 5 x 10/100/1000Base-T RJ-45 (IGS-500)
- 8 x 10/100/1000Base-T RJ-45 (IGS-800)
- 10Base-T: 2-pair UTP/STP Cat. 5 cable
- 100Base-TX: 2-pair UTP/STP Cat. 5 cable

#### Network Cable
- EIA/TIA-568 100-ohm (100m)
- EIA/TIA-568 100-ohm (100m)

#### Protocols
- CSMA/CD

#### LED
- Per unit: Power 1 (Green), Power 2 (Green), Fault (Amber)
- Per RJ45 Fiber LED: Link/Act 1000 (Yellow), Link/Act 10/100 (Green), Link/Act (Green)

#### DIP SW
- **DIP 1**
  - ON: Disable Ethernet
  - OFF: Enable Ethernet
- **DIP 2**
  - ON: Disable broadcast storm protection
  - OFF: Enable broadcast storm protection
- **DIP 3**
  - ON: Disable Green Ethernet
  - OFF: Enable 802.3az Green Ethernet
- **DIP 4**
  - ON: 100M
  - OFF: 1000M

### Reserve Polarity
- Present for Power Input

### Overload Current Protection
- Present

### Power Supply
- Redundant Dual DC 12/24/48V (9.6~60VDC), or AC 24V (18~36VAC) Input power (Removable Terminal Block)
- Provides DC Power JACK adapter cable for external power supply

#### Power Consumption

<table>
<thead>
<tr>
<th>Input</th>
<th>IGS-500</th>
<th>IGS-800</th>
</tr>
</thead>
<tbody>
<tr>
<td>12VDC</td>
<td>3.3W</td>
<td>7.0W</td>
</tr>
<tr>
<td>24VDC</td>
<td>3.4W</td>
<td>7.0W</td>
</tr>
<tr>
<td>48VDC</td>
<td>4.8W</td>
<td>8.7W</td>
</tr>
</tbody>
</table>

### Alarm Relay Contact
- Relay outputs with current carrying capacity of 1 A
- Removable Terminal Block
- Provides 2 redundant power, alarm relay contact, 6 Pin

### Operating Temperature
- -10°C~60°C (IGS-500, IGS-800)
- -40°C~75°C (IGS-500-E, IGS-800-E)

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

### Storage Temperature
- -40 ~ 85°C

### Housing
- Rugged Metal, IP30 Protection and fanless

### Dimensions
- 106 x 31.6 x 142 mm (D x W x H)

### Weight
- 0.41kg (IGS-500)
- 0.44kg (IGS-800)

### Installation Mounting
- DIN Rail mounting or wall mounting

### MTBF
- 612,034hrs (IGS-500)
- 301,121hrs (IGS-800)

### Warranty
- 5 years

### Certification
- EMC/EMS: CE
- EMI: 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
Industrial Unmanaged GbE Switch

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

<table>
<thead>
<tr>
<th>EMS</th>
<th>EN61000-4-2 (ESD) Level 3, Criteria B</th>
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<tbody>
<tr>
<td></td>
<td>EN61000-4-3 (RS) Level 3, Criteria A</td>
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<tr>
<td></td>
<td>EN61000-4-4 (Burst) Level 3, Criteria A</td>
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<tr>
<td></td>
<td>EN61000-4-5 (Surge) Level 3, Criteria B</td>
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<td></td>
<td>EN61000-4-6 (CS) Level 3, Criteria A</td>
</tr>
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<td></td>
<td>EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A</td>
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<table>
<thead>
<tr>
<th>Shock</th>
<th>IEC 60068-2-27</th>
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<tr>
<td>Freefall</td>
<td>IEC 60068-2-32</td>
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<tr>
<td>Vibration</td>
<td>IEC 60068-2-6</td>
</tr>
</tbody>
</table>

Application

**Figure**: IGS-800 Gigabit Ethernet Switch Transmission

Dimensions

**IGS-501S**

**IGS-500**
## Ordering Information

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Total Port</th>
<th>UTP Port</th>
<th>Fiber Port</th>
<th>Certification</th>
<th>Operating Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGS-501S</td>
<td>5</td>
<td>5</td>
<td>1x SFP</td>
<td>V</td>
<td>-10~60°C</td>
</tr>
<tr>
<td>IGS-501S-E</td>
<td>6</td>
<td>5</td>
<td>1x SFP</td>
<td>V</td>
<td>-40~75°C</td>
</tr>
<tr>
<td>IGS-500</td>
<td>5</td>
<td>5</td>
<td>1x SFP</td>
<td>V</td>
<td>-10~60°C</td>
</tr>
<tr>
<td>IGS-500-E</td>
<td>6</td>
<td>5</td>
<td>1x SFP</td>
<td>V</td>
<td>-40~75°C</td>
</tr>
<tr>
<td>IGS-800</td>
<td>8</td>
<td>8</td>
<td>1x SFP</td>
<td>V</td>
<td>-10~60°C</td>
</tr>
<tr>
<td>IGS-800-E</td>
<td>8</td>
<td>8</td>
<td>1x SFP</td>
<td>V</td>
<td>-40~75°C</td>
</tr>
</tbody>
</table>

### Model Naming Rule

- **IGS**: Industrial Gigabit Switch
- **5**: 5x UTP
- **01S**: 1x SFP
- **E**: -40~75°C
- **Blank**: 0~70°C

### Optional Accessories

#### Industrial Power Supply
- **DR-4524**: Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 48W, -10 ~ +50°C
- **MDR-40-24**: Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 40W, -20 ~ +70°C

#### Industrial SFP Transceiver

(The ISFP series of industrial grade SFP modules have been fully tested with the IGS-501S product for guaranteed compatibility and performance. The best performance can be guaranteed even in mission-critical applications.)

(Please see CTC Union’s Industrial SFP datasheet for more details and more items.)

**ISFP-M7000-85-(E)**: Industrial SFP GbE 1000Base-SX, M/M, 500 meter, wavelength 850nm, 7.5dB, LC, -10~70°C (-40~85°C)

**ISFP-S7020-31-(E)**: Industrial SFP 1000Base-LX, S/M, 20km, wavelength 1310nm, 15dB, LC, -10~70°C (-40~85°C)

**ISFP-T7T00-00-(E)**: Industrial SFP 1000Base-U TP 100meter, -10~70°C (-40~85°C)

**ISFP-S5030-31-(E)**: Industrial SFP 155M 100Base-FX, MM, 30km, wavelength 1310nm, 13dB, LC, -10~70°C (-40~85°C)

**ISFP-T3T00-MA-(E)**: Industrial SFP 100Mbps, long reach UTP (2 wire) (500meter), Master, -10~70°C (-40~85°C)

**ISFP-T3T00-SL-(E)**: Industrial SFP 100Mbps, long reach UTP (2 wire) (500meter), Slave, -10~70°C (-40~85°C)

### SFP Naming Rule

- **ISFP**: Industrial SFP Transceiver
- **M**: Multi Mode
- **7**: 10G
- **D**: DDMI Blank: Non DDMI
- **31**: Distance UTP / 00 : (000m) 002 : (2km) 004 : (4km)
- **00**: Wavelength UTP 00 : 850nm 31 : 1310nm
- **55**: ISFP-850W (Bid mode A) ISFP-1550W (Bid Mode B)
- **MA**: Master (for Long Reach UTP)
- **SL**: Slave (for Long Reach UTP)

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**Package List**

- One device of the series
- Protective caps for SFP ports (for IGS-501S)
- Quickly installation guide
- DIN Rail with screws
- Wall mount bracket with screws
- Terminal block
- DC Power JACK adapter cable