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℃) and wide operating temperature range models (-40 to 75℃) 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℃ ("-E" model)
- Provides broadcast storm protection
- Supports DIP SW for alarm setting and broadcast storm protection

- 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
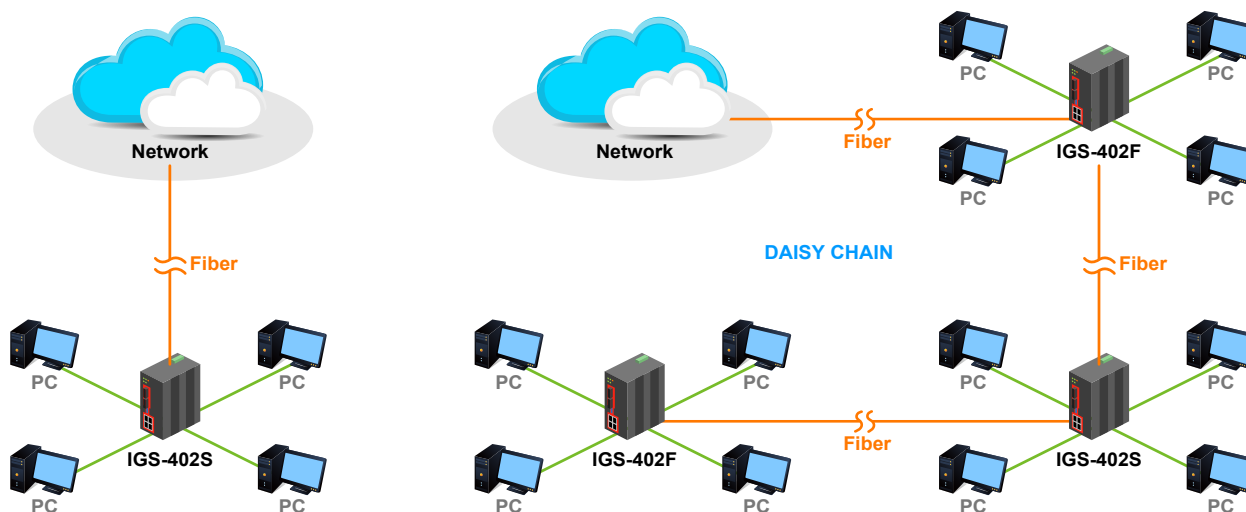- IP30 rugged metal housing and fanless

Specifications

IEEE Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX, 100Base-FX, Fast Ethernet
	IEEE 802.3ab 1000Base-T Gbit/s Ethernet over twisted pair
	IEEE 802.3z 1000Base-X Gbit/s Ethernet over Fiber-Optic
	IEEE 802.3x Flow Control and Back Pressure
Switch Architecture	Back-plane (Switching Fabric): 12Gbps (IGS-402S Full wire-speed
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
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)

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 (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	7.9W (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℃ (IGS-402S)	
	-40 ~ 75℃ (IGS-402S-E)	
Operating Humidity	5% to 95% (Non-condensing)	
Storage Temperature	-40 ~ 85℃	
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	

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

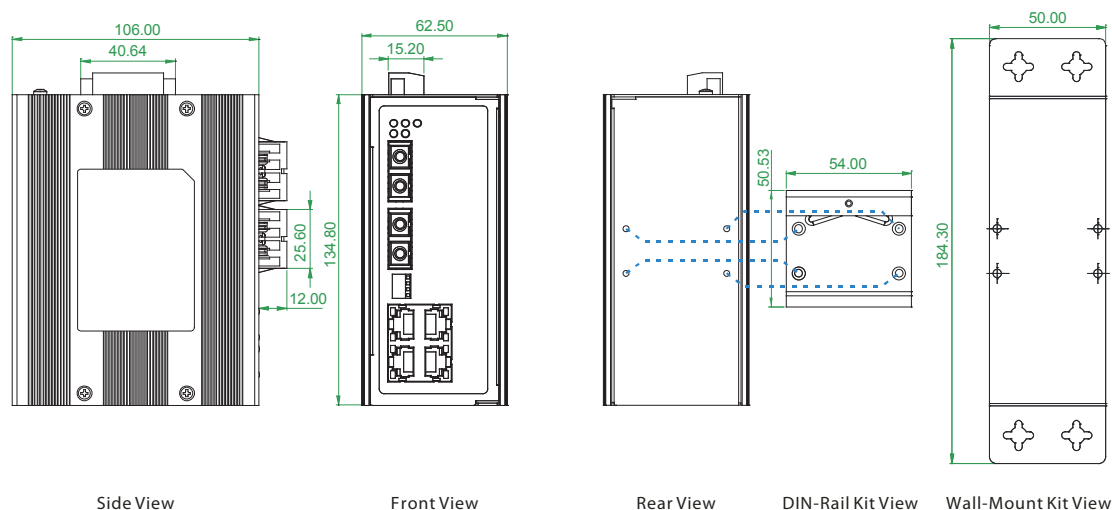| EMS	
EMS	EN61000-4-2 (ESD) Level 3, Criteria B
	EN61000-4-3 (RS) Level 3, Criteria A
	EN61000-4-4 (Burst) Level 3, Criteria A
	EN61000-4-5 (Surge) Level 3, Criteria B
	EN61000-4-6 (CS) Level 3, Criteria A
	EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A
Safety	UL60950-1
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

Application

▶ **Figure :** IGS-402S & IGS-402F Giagabit Ethernet Switch Transmission

Dimensions

▶ IGS-402F

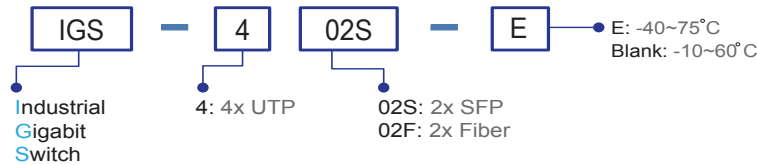| Side View | Front View | Rear View | DIN-Rail Kit View | Wall-Mount Kit View |

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

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Industrial Unmanaged GbE Switch

▶ IGS-402S

Side View   Front View   Rear View   DIN-Rail Kit View   Wall-Mount Kit View
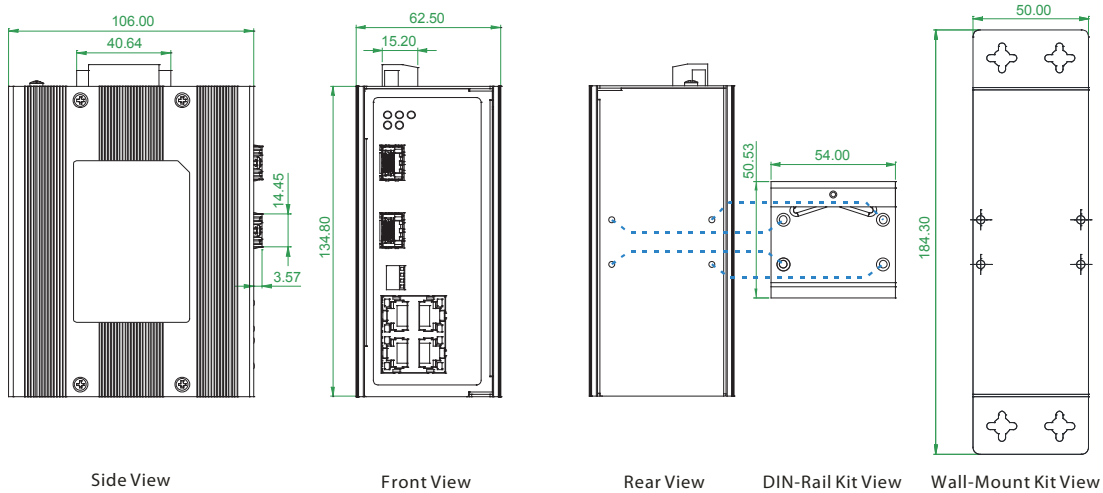
Ordering Information

Model Name	Total Port	UTP Port 10/100/1000 Base-T	Fiber Port		Certification					Operating Temperture
			1000Base-X	100/1000Base-X	Safety UL60950-1	Railway EN50121-4	EN61000-6-2 EN61000-6-4	CE	FCC	
IGS-402F	6	4	2 SC		V	V	V	V	V	-10~60℃
IGS-402F-E	6	4	2 SC		V	V	V	V	V	-40~75℃
IGS-402S	6	4		2 SFP	V	V	V	V	V	-10~60℃
IGS-402S-E	6	4		2 SFP	V	V	V	V	V	-40~75℃

Model Naming Rule

IGS – 4 02S – E

E: -40~75°C
Blank: -10~60°C

Industrial
Gigabit
Switch

4: 4x UTP

02S: 2x SFP
02F: 2x Fiber

Fiber Connector	Connectivity Distance
SC (IGS-402F only)	SC001: 500m (SC, M/M) 002 : 2km (M/M) SC020: 20km (SC, S/M) SC040: 40km (SC, S/M) SC020A: WDM 20km A type (TX:1310nm) SC020B: WDM 20km B type (TX:1550nm)

Port Number   Temperature   Connector Type   Connectivity Distance

IGS – 40 ☐ F – ☐ – ☐☐☐☐☐

Example: IGS – 402F   – E – SC002
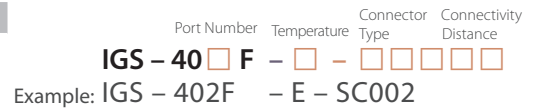
Optional Accessories

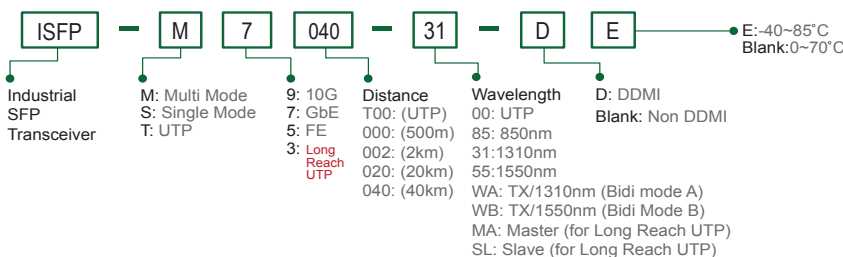### ■ Industrial Power Supply

DR-4524	Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 48W, -10 ~ +50℃
MDR-40-24	Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 40W, -20 ~ +70℃

■ Industrial SFP Transceiver

(The ISFP series of industrial grade SFP modules have been fully tested with the series 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,wave length 850nm, 7.5dB, LC, -10~70℃ (-40~85℃)
ISFP-S7020-31-(E)	Industrial SFP 1000Base-LX, S/M, 20km, wave length 1310nm, 15dB, LC, -10~70℃ (-40~85℃)
ISFP-T7T00-00-(E)	Industrial SFP 1000Base-T UTP 100meter, -10~70℃ (-40~85℃)
ISFP-M5002-31-(E)	Industrial SFP 155M 100Base-FX, MM, 2km, wave length 1310nm, 12dB, LC, -10~70℃ (-40~85℃)
ISFP-S5030-31-(E)	Industrial SFP 155M 100Base-FX, SM, 30km, 1310nm, 19dB, LC, -10~70℃ (-40~85℃)
ISFP-T3T00-MA-(E)	Industrial SFP 100Mbps, long reach UTP (2 wire) (500meter) , Master, -10~70℃ (-40~85℃)
ISFP-T3T00-SL-(E)	Industrial SFP 100Mbps, long reach UTP (2 wire) (500meter) , Slave, -10~70℃ (-40~85℃)

SFP Naming Rule

ISFP – M 7 040 – 31 – D E

E:-40~85℃
Blank:0~70°C

Industrial
SFP
Transceiver

M: Multi Mode
S: Single Mode
T: UTP

9: 10G
7: GbE
5: FE
3: Long Reach UTP

Distance
T00: (UTP)
000: (500m)
002: (2km)
020: (20km)
040: (40km)

Wavelength
00: UTP
85: 850nm
31:1310nm
55:1550nm
WA: TX/1310nm (Bidi mode A)
WB: TX/1550nm (Bidi Mode B)
MA: Master (for Long Reach UTP)
SL: Slave (for Long Reach UTP)

D: DDMI
Blank: 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

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