



IGS-402F

4x 100/1000Base-T+ 2x 1000Base-SX/LX Gigabit Ethernet Switch

IGS-402S

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



These models are unmanaged 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 (See Figure 1). 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.

Features

- 4x 10/100/1000Base-T RJ45 + 2x 1000Base-SX/LX Fiber (IGS-402F)
- 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
- 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
- Heavy 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, IGS-402F) 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 1000Base-X Fiber SC connector (IGS-402F) 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) ON : Fiber 1 for 100Base-FX SFP DIP 4 OFF : Fiber 1 for Gigabit SFP (IGS-402S)
Reverse Polarity Protection	Supported for Power Input

Overload current protection	Supported
Power Supply	Redundant Dual DC 12/24/48V (9.6~60VDC) Input power (Removable Terminal Block)
Power Consumption	7.9W (IGS-402F) 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°C (IGS-402S, IGS-402F) -40 ~ 75°C (IGS-402S-E, IGS-402F-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) 0.68kg (IGS-402F)
Installation Mounting	DIN Rail mounting, or wall mounting (Optional)
MTBF	1,000,643 Hours (IGS-402S) 821,412 Hours (IGS-402F) (MIL-HDBK-217)
Warranty	5 years
Certification	
EMC/EMS	CE
EMI (Electromagnetic Interference)	FCC Part 15 Subpart B Class A, CE
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

EMS	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

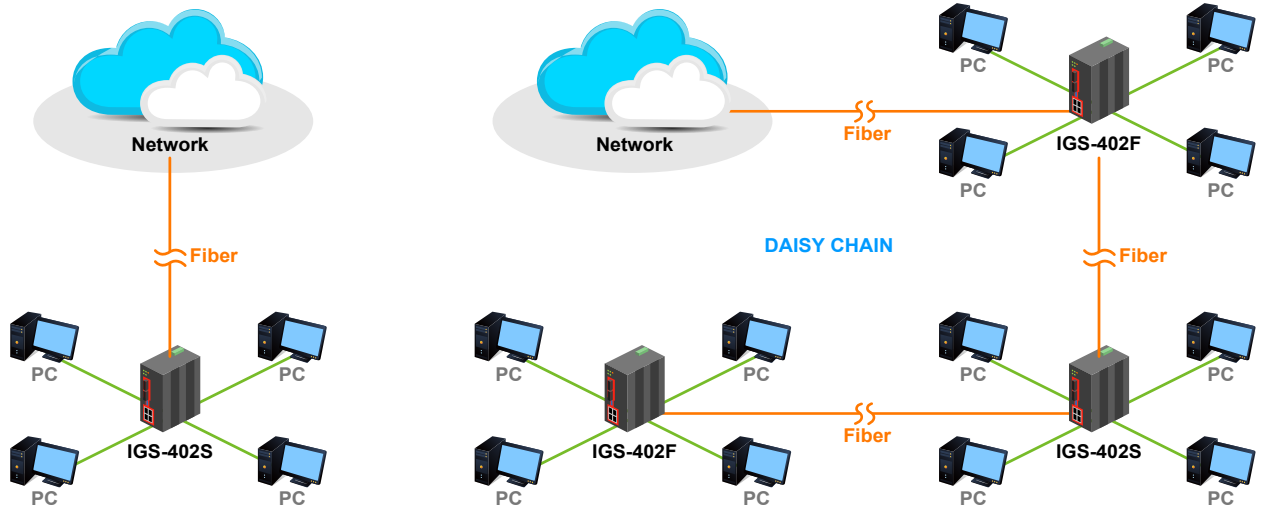
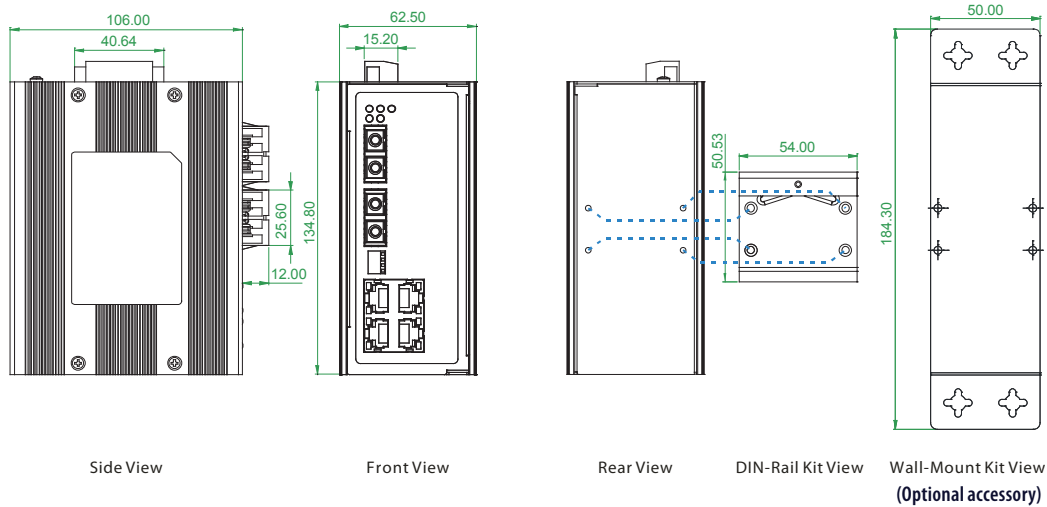


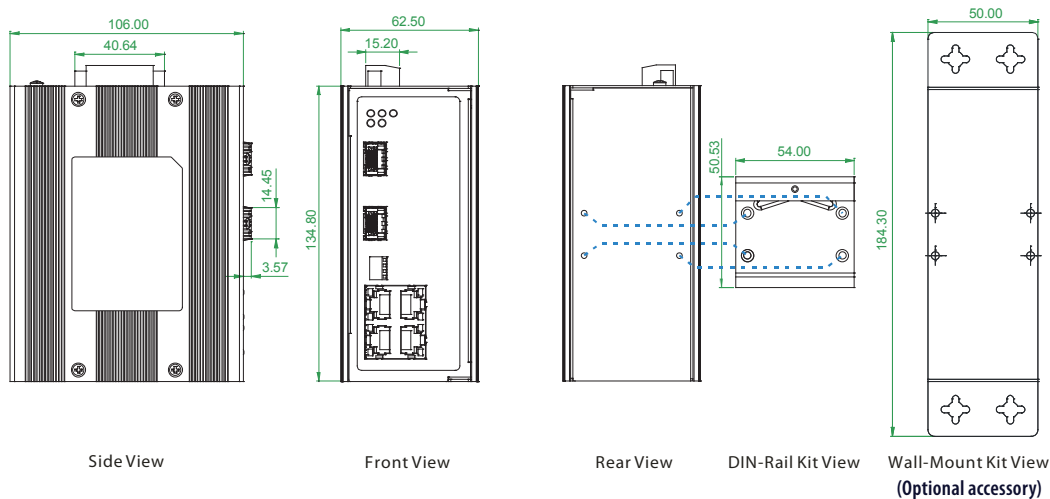
Figure 1 : IGS-402S & IGS-402F Gigabit Ethernet Switch Transmission

Dimensions

► IGS-402F



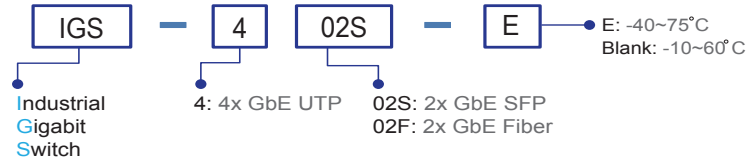
► IGS-402S



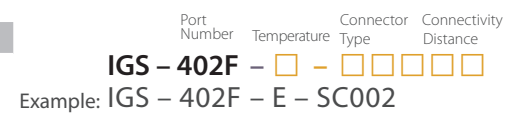
Ordering Information

Model Name	Total Port	RJ45 UTP port	Fiber Port		Power Input	Certification					Operating Temperature
		10/100/1000 Base-T	1000Base-X	100/1000Base-X	Redundant	Safety UL60950-1	Railway EN50121-4	EN61000-6-2 EN61000-6-4	CE	FCC	
IGS-402F	6	4	2 SC		12/24/48VDC	V	V	V	V	V	-10~60°C
IGS-402F-E	6	4	2 SC		12/24/48VDC	V	V	V	V	V	-40~75°C
IGS-402S	6	4	2 SFP		12/24/48VDC	V	V	V	V	V	-10~60°C
IGS-402S-E	6	4	2 SFP		12/24/48VDC	V	V	V	V	V	-40~75°C

Model Naming Rule



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



Optional Accessories

Wall mount kit accessories

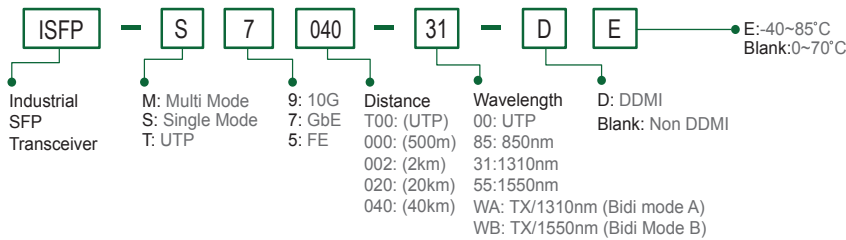
IND-WMK02	Wall Mount kit for Industrial product, 184 x 50mm
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Industrial SFP Transceiver

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°C (-40~85°C)
ISFP-S7020-31-(E)	Industrial SFP 1000Base-LX, S/M, 20km, wave length 1310nm, 15dB, LC, -10~70°C (-40~85°C)
ISFP-T7T00-00-(E)	Industrial SFP 1000Base-T UTP 100meter, -10~70°C (-40~85°C)
ISFP-M5002-31-(E)	Industrial SFP 155M 100Base-FX, MM, 2km, wave length 1310nm, 12dB, LC, -10~70°C (-40~85°C)
ISFP-S5030-31-(E)	Industrial SFP 155M 100Base-FX, SM, 30km, 1310nm, 19dB, LC, -10~70°C (-40~85°C)

SFP Naming Rule



Package List

- One device of the series
- Protective caps for SFP ports (for IGS-402S)
- Quickly installation guide
- Din Rail with screws
- Terminal block