



**IFS-401F**  
4x10/100Base-TX +  
1x100Base-FX

**IFS-500**  
5x10/100Base-TX

**IFS-402F**  
4x10/100Base-TX +  
2x100Base-FX

**IFS-800**  
8x10/100Base-TX

The series models are 4~8 ports 10/100Base-TX Ethernet unmanaged Fast Ethernet switches, with 0~2x 100Base-FX fiber 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.

## Features

- Redundant dual DC input power 12/24/48VDC (9.6~60VDC)
- IP30 rugged metal housing and Fanless
- 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
- CE, FCC, and EN50121-4 certification
- Industrial grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified

## Specifications

<b>IEEE Standard</b>	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX and 100Base-FX Fast Ethernet IEEE 802.3x Flow Control and Back Pressure
<b>Switch Architecture</b>	Back-plane (Switching Fabric) : 1.0 Gbps (IFS-401F) 1.2Gbps (IFS-402F) 1.0 Gbps (IFS-500) 1.6Gbps (IFS-800)
<b>Data Processing</b>	Store and Forward
<b>Transfer Rate</b>	14,880pps for Ethernet port 148,800pps for Fast Ethernet port
<b>Flow Control</b>	IEEE 802.3x flow control, back pressure flow control
<b>Provides Broadcast Storm Protection</b>	Present
<b>MAC Address Table</b>	2K
<b>Packet Buffer Size</b>	448Kbits
<b>Network Connector</b>	4X RJ-45, 1 Fiber (IFS-401F) 4X RJ-45, 2 Fiber (IFS-402F) 5x RJ-45 (IFS-500) 8x RJ-45 (IFS-800)  RJ-45 Port: Auto MDI/MDI-X function, 10/100Base-TX auto negotiation speed, Full/Half duplex 100Base-FX Fiber Port : SC/ST, Multi Mode/Single Mode
<b>Network Cable</b>	10Base-T: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m) Fiber Cable (Multi-mode): 50/125um~62.5/125um Fiber Cable (Single-mode): 8/125um~10/125um Wavelength: 1310nm (Multi-mode/Single-mode) Available distance: 2KM (Multi-Mode) 30KM (Single-Mode) 50KM (Single Mode)
<b>Protocol</b>	CSMA/CD
<b>LED</b>	Per unit: Power 1 (Green), Power 2 (Green), Fault (Amber) RJ-45 Per port: Link/Active (Green), Speed 100 (Yellow) Fiber Per port: Link/Active (Green) (IFS-401F, IFS-402F)
<b>DIP SW</b>	DIP 1 OFF : Enable power failure alarm ON : Disable  DIP 2 OFF : Enable broadcast storm protection ON : Disables broadcast storm protection
<b>Reverse Polarity Protection</b>	Present
<b>Overload Current Protection</b>	Present

<b>Power Supply</b>	Redundant Dual DC 12/24/48V (9.6~60VDC) Input power (Removable Terminal Block) Provide DC Power JACK adapter cable for external power supply
<b>Power Consumption</b>	4.4W (IFS-401F) 5.8W (IFS-402F) 2.9W (IFS-500) 3.9W (IFS-800)
<b>Alarm Relay Contact</b>	Relay outputs with current carrying capacity of 1 A @24VDC, NC
<b>Removable Terminal Block</b>	Provide 2 Redundant power, Alarm relay contact, 6 Pin
<b>Operating Temperature</b>	-10 ~ 60°C (IFS-401F, IFS-402F, IFS-500, IFS-800) -40 ~ 75°C (IFS-401F-E, IFS-402F-E, IFS-500-E, IFS-800-E)
<b>Operating Humidity</b>	5% to 95% (Non-condensing)
<b>Storage Temperature</b>	-40 ~ 85°C
<b>Housing</b>	Rugged Metal, IP30 Protection and Fanless
<b>Dimensions</b>	106 x 38 x 142mm (D x W x H) (IFS-401F, IFS-402F) 106 x 31.6 x 142mm (D x W x H) (IFS-500, IFS-800)
<b>Weight</b>	0.625Kg (IFS-401F) 0.63kg (IFS-402F) 0.42kg (IFS-500) 0.43kg (IFS-800)
<b>Installation Mounting</b>	DIN Rail mounting or wall mounting
<b>MTBF</b>	587,670Hrs (IFS-401F) 509,883Hrs (IFS-402F) 650,473Hrs (IFS-500) 552,587Hrs (IFS-800) (MIL-HDBK-217)
<b>Warranty</b>	5 years
<b>Certification</b>	
<b>EMC/EMS</b>	CE
<b>EMI (Electromagnetic Interference)</b>	FCC Part 15 Subpart B Class A, CE EN55022 Class A
<b>Railway Traffic</b>	EN50121-4
<b>Immunity for Heavy Industrial Environment</b>	EN61000-6-2
<b>Emission for Heavy Industrial Environment</b>	EN61000-6-4
<b>EMS</b>	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
<b>Safety</b>	UL60950-1 (Pending)
<b>Shock</b>	IEC 60068-2-27
<b>Freefall</b>	IEC 60068-2-32
<b>Vibration</b>	IEC 60068-2-6

## Application

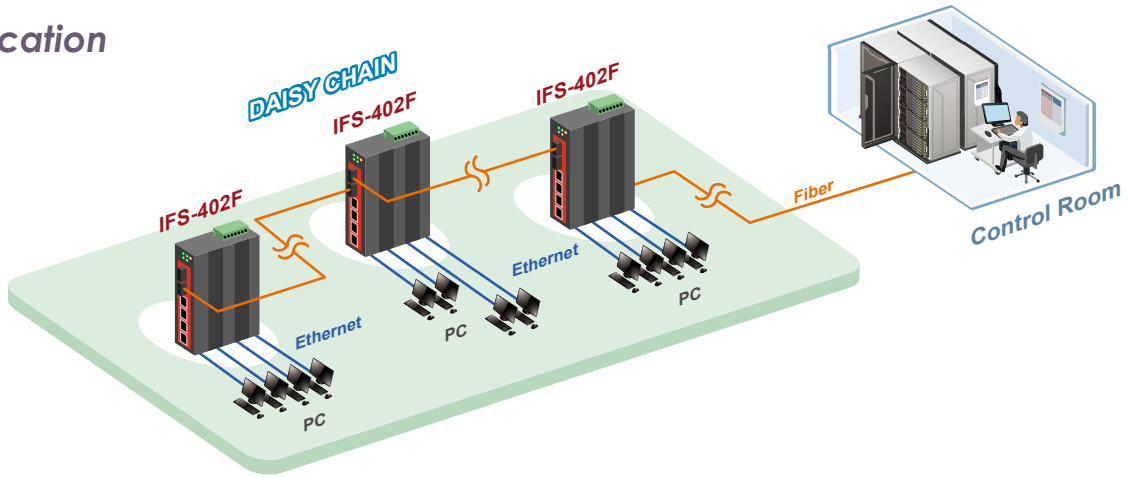


Figure 1 : IFS-402F Fast Ethernet Switch Transmission with Daisy Chain

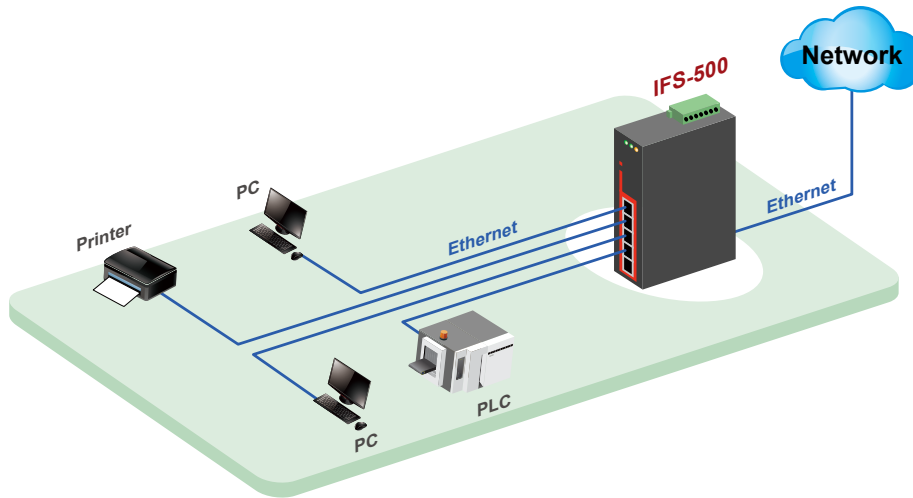
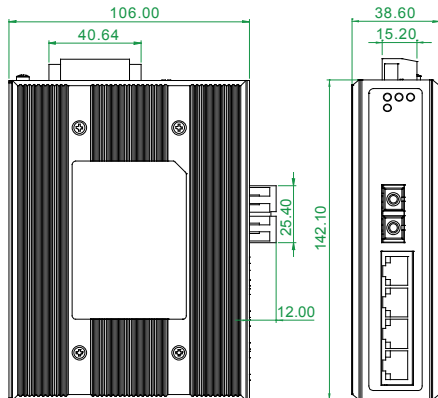


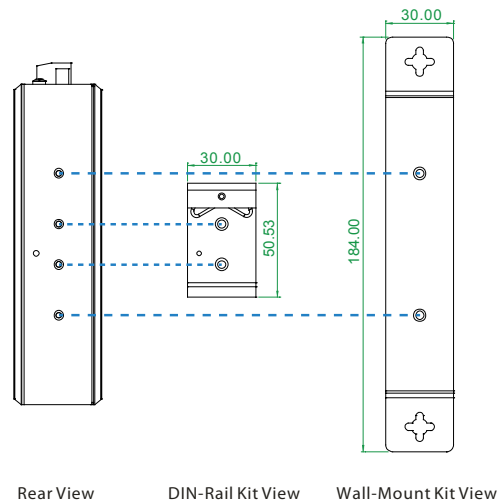
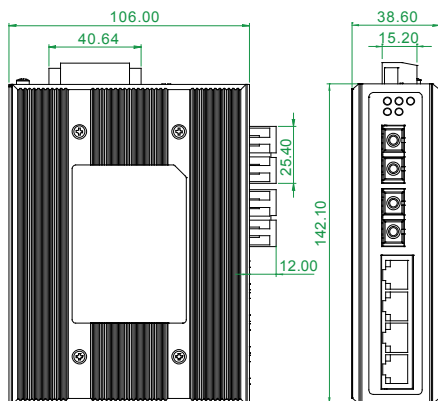
Figure 2 : IFS-500 Fast Ethernet Switch Transmission

## Dimensions

IFS-401F



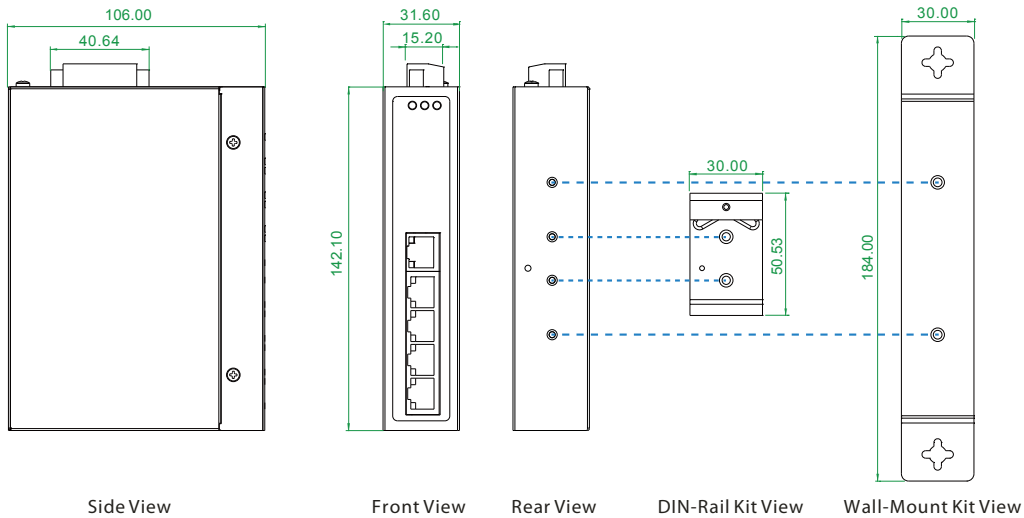
IFS-402F



Side View

Front View

## IFS-500



Side View

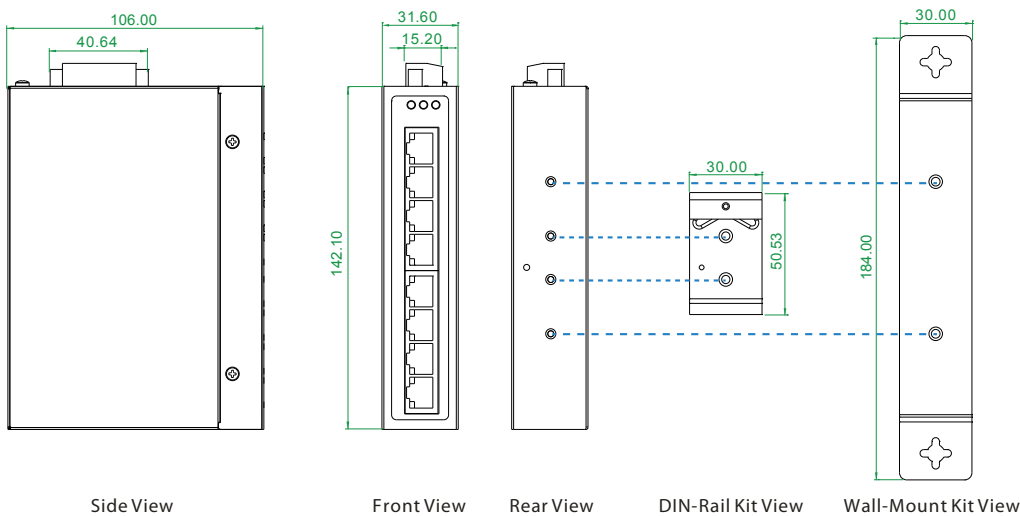
Front View

Rear View

DIN-Rail Kit View

Wall-Mount Kit View

## IFS-800



Side View

Front View

Rear View

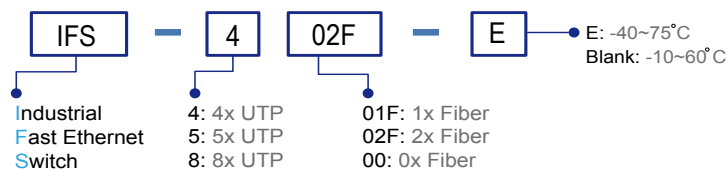
DIN-Rail Kit View

Wall-Mount Kit View

## Ordering Information

Model Name	Total Port	UTP Port		Fiber Port		Certification				Operating Temperature
		10/100Base-TX	100Base-FX	Railway EN50121-4	EN61000-6-2 EN61000-6-4	CE	FCC			
IFS-401F	5	4	1 SC/ST	V	V	V	V	V	-10~60°C	
IFS-401F-E	5	4	1 SC/ST	V	V	V	V	V	-40~75°C	
IFS-402F	6	4	2 SC/ST	V	V	V	V	V	-10~60°C	
IFS-402F-E	6	4	2 SC/ST	V	V	V	V	V	-40~75°C	
IFS-500	5	5	—	V	V	V	V	V	-10~60°C	
IFS-500-E	5	5	—	V	V	V	V	V	-40~75°C	
IFS-800	8	8	—	V	V	V	V	V	-10~60°C	
IFS-800-E	8	8	—	V	V	V	V	V	-40~75°C	

### Model Naming Rule



Fiber Option Type	Connectivity Distance
SC, ST	002: 2km 030: 30km 050: 50km
(only for IFS-401F, IFS-402F)	020A: WDM 20km A type (TX: 1310nm)
	020B: WDM 20km B type (TX: 1550nm)

### Accessories

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

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Temperature Connector Connectivity  
Type Type Distance  
Example: IFS - 401F - E - SC002