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# Quick Installation Guide

## IFS-500C IFS-500C-E

Industrial 5 Port 100Base-TX Compact Ethernet Switch (Hardened)



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### Introduction

**IFS-500C & IFS-500C(-E)** are unmanaged Fast Ethernet switches that support 10/100Base-TX Ethernet. Housed in rugged DIN rail or wall mountable enclosures, these converters are designed for harsh environments, such as industrial networking and 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°C to 60°C) and wide operating temperature range models (-40°C to 75°C) fulfill the special needs of industrial automation applications.

### Features

- DC input power 12/24/48VDC or 24VAC
- Compact size for easy installation
- IP30 rugged metal housing and fanless
- Wide temperature range -40°C~75°C (IFS-500C-E)
- Support broadcast storm protection

### Specifications

#### Ethernet Interface

- Standard: IEEE802.3, 802.3u
- Interface: 5 x RJ-45 (shielded) connectors
- Auto MDI/MDI-X
- Speed: 10/100Base-TX
- Data Processing: Store and Forward
- Switching Fabric: 1Gbps
- MAC Address Table Size: 1K
- Packet Length: 448Kbits
- Support 802.3x Flow Control
- Support broadcast storm protection

### Specifications (cont.)

#### Power

- DC Input Power: 12/24/48VDC (9.6~60VDC) or 24VAC (18~36VAC)
- Reverse Polarity Protection: Yes
- Connector: Removable 2-pin terminal block
- Consumption: 0.9W (DC 12V), 1.2W (DC 24V), 2W (DC 48V)

#### Mechanical

- Water & Dust Proof: IP30 Protection
- Dimensions: 70 mm (D) x 30 mm (W) x 103 mm (H)
- Mounting: DIN-Rail mounting, Wall mounting (Optional)
- Weight: 220 g

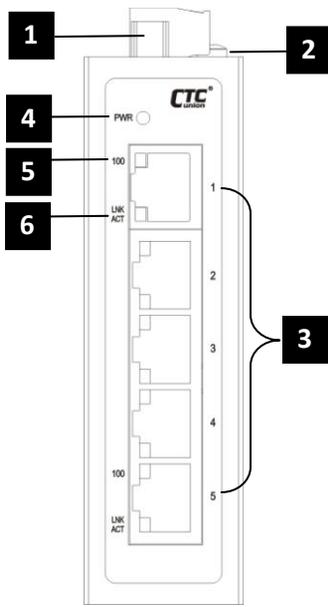
#### Environmental

- Operating Temperature: -10°C~60°C (IFS-500C)  
-40°C~75°C (IFS-500C-E)
- Storage Temperature: -40°C~85°C
- Humidity: 5%~95% (Non-condensing)

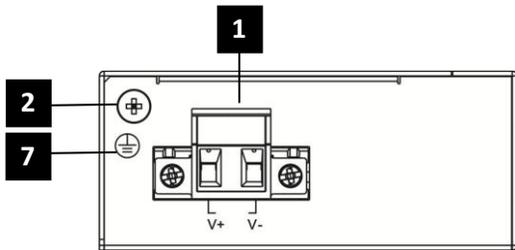
#### Certifications

- EMC: 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 (Electromagnetic Susceptibility) Protection Level:
  - EN61000-4-2 (ESD) Level 3, Criteria B
  - EN61000-4-3 (RS) Level 3, Criteria A
  - EN61000-4-4 (EFT) 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
- Shock: IEC 60068-2-27
- Freefall: IEC 60068-2-32
- Vibration: IEC 60068-2-6
- MTBF (MIL-HDBK-217): 1,013,759 Hours

**Panels**



**Figure 1. Front Panel**



**Figure 2. Top Panel**

No.	Description
1	Power terminal block
2	Earth ground connector
3	LAN connections
4	Power LED indicator
5	LAN Speed LED indicator
6	LAN Link/Active LED indicator
7	Earth ground sign

**Table 1: Index Reference**

**LAN Connection**

IFS-500C & IFS-500C(-E) are 5-port unmanaged Fast Ethernet switches. The LAN connections support 10/100Base-TX and use shielded RJ-45 connectors which support Auto MDI/MDI-X.

**DC Power Connection**

IFS-500C & IFS-500C(-E) are powered up by an external power supply. On the top panel, a removable 2-pin terminal block (See Figure 2) is provided for DC power connection. To connect to the power supply, insert V+ and V- wire into power contacts. Then, tighten the wire-clamp screws to prevent power wires from loosening. If the power supply is connected correctly, then the PWR LED on the front panel will light in green.

**Earth Ground Connection**

An earth ground connector is provided on the top panel (See Figure 2) with an earth ground sign next to it. Grounding the device can help to release leakage of electricity to the earth safely so as to reduce injuries from electromagnetic interference (EMI).

Prior to connecting to the power, it is important to connect the ground wire to the earth. Follow steps below to install ground wire:

1. Remove the grounding screw.
2. Attach the grounding screw to the ring terminal of the grounding cable. Make sure that the grounding cable is long enough to reach the earth.
3. Use a screwdriver to fasten the grounding screw.

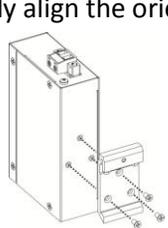
**LED Indicators**

LED	Color	Description
PWR	Green	Lit if power is connected and active.
	Off	Power is not connected.
100	Yellow	The connected LAN speed is 100M.
	Off	The connected LAN speed is 10M.
LNK/ACT	Green Blinking	Blinking when there is Ethernet traffic.
	Off	The LAN link is down.

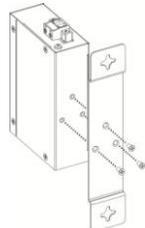
**Installation**

IFS-500C & IFS-500C(-E) compact switches can be installed in DIN rail or mounted in wall. Hardware brackets for DIN rail installation are provided with the device. However, wall-mounting brackets are not provided. If you need wall-mounting installation kit, please contact your sales representative.

When installing the DIN rail and wall-mounting bracket, be sure to correctly align the orientation pin.

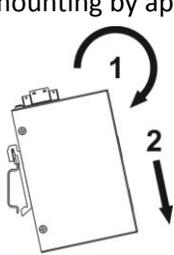


**Figure 3. DIN Rail**

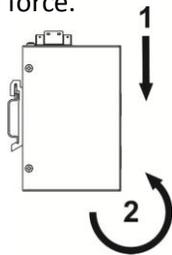


**Figure 4. Wall Mounting**

The switches with DIN Rail bracket has a steel spring in the upper rail of the bracket. This spring is compressed for mounting and un-mounting by applying downward force.

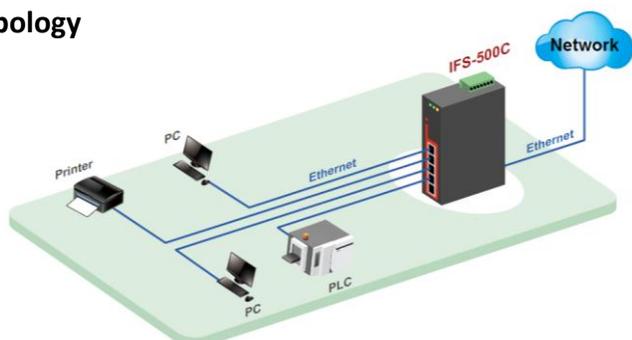


**Figure 5. Mounting**



**Figure 6. Un-mounting**

**Topology**



**Figure 7. IFS-500C(-E) Topology**

**Notes:**

