

# MoweStar

## Installation Manual

Industrial Ethernet Switch  
ES220-4F

(Wuhan MoweStar Technology Co., Ltd. )

Please read this user manual carefully and keep it properly before using the product

# 1. Specifications

Product number	<b>ES220-4F</b>
RJ45 port	16*10Base-T/100Base-TX
Fiber port	4*100Base-FX
Optical port parameters	Wavelength: 1310nm/1550nm (single mode) 850nm/1310nm (multimode)
	Optical port type: 100M SC/FC/ST optical interface optional
	Transmission distance: 20~80Km optional (single mode) 2Km (multimode)
	Transmission rate: 155Mbps
Power supply	DC: DC9~60V (dual power supply redundancy), AC: AC85-264V/DC110-370V (single power supply).
Power consumption	<10W (@24VDC)
Network standards	IEEE802.3, IEEE802.3u, IEEE802.3x, etc.
Exchange mode	store and forward
Backplane bandwidth	12.8G
Cache size	4.1Mbit
MAC address table	8K
Size	160mm×74mm×122mm
	Dimensions of terminal blocks and optical interface components are not included
Operating temperature	-40°C~+75°C
EMC	IEC61000-4-2(ESD), Level4 IEC61000-4-5(Surge), Level4※The network ports support 6KV lightning protection IEC61000-4-4(EFT), Level4

# 2. Hardware Installation

## Installation Precautions

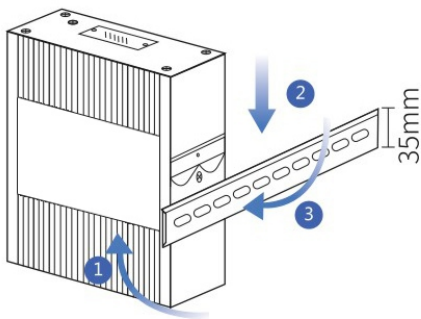
To avoid equipment damage or personal injury caused by improper use, please note the following:

- During installation, the switch should remain powered off;
- Please ensure that the input voltage is within the input voltage range indicated by the switch;
- When the power supply is connected, please connect the power cord correctly to the power terminal, and then turn on the power; when the power is cut off, please disconnect the power supply first, and then remove the power cord;

- Do not open the switch case;
  - Do not place heavy objects on the switch;
  - Please pay attention to the cleaning of the switch, do not use any liquid to clean the switch.
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## installation steps

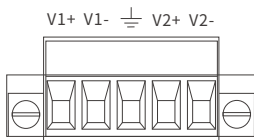
- ES220-4F series industrial switches are installed with DIN rails;
  - Slant the switch upwards so that the snap ring on the top of the snap on the back of the switch is fastened on the top of the DIN rail;
  - Press the switch down so that the lower end of the buckle on the back of the switch fits into the DIN rail;
  - After snapping in, shake the switch, if there is no obvious shaking, it means the switch is securely installed.
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## Power access

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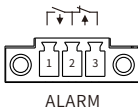
- ES220-4F series switches provide 5-digit 5.08mm pitch industrial-grade terminal blocks as power inlets. The power input ranges are different and the connection methods are different:
- DC9-60V: Support dual power input, mutual backup, can be connected to V1 or V2 or V1&V2 at the same time;
- AC AC85-264V/DC110-370V: Please connect the power cord to V1+(L), V1-(N) two terminals, do not connect from V2+, V2-, and pay attention to safety to prevent electric shock.



## Power-down alarm output

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- ES220-4F series switches support power failure alarm function;
- The power-down alarm output terminal adopts 3-position 3.81mm pitch industrial-grade terminal;
- The power-down alarm output is one normally open and one normally closed relay, the middle one is the common terminal, the left two terminals are normally open nodes, and the right two terminals are normally closed nodes. When the switch is working normally, the normally open node is energized and closed, and the normally closed node is disconnected. When the system is powered off, the normally open node is disconnected and the normally closed node is closed. The recommended switching load capacity of the relay is 1A (@24VDC).



## Electrical port access

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- RJ45 interface supports Category 5 twisted pair, supports automatic identification of parallel lines and crossover lines, and the transmission distance can reach 100 meters;
- The user's network equipment (such as workstations, hubs or switches) can be connected to the RJ45 interface of the switch and the RJ45 interface of the device itself through Category 5 twisted pair cables.

## Optical port access

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- ◆ ES220-4F series switches provide 4 \* 100Base-FX full-duplex single-mode/multi-mode optical fiber interfaces, and the interface type can be selected from SC/ST/FC three optical fiber interface types according to user requirements.

### ◆ Precautions for fiber access:

- Before the optical port is connected, please remove the protective plug of the optical fiber port. When the optical fiber port is not in use, please do not remove the protective plug to protect the cleanliness of the optical fiber port section;
- Check the fiber optic connector to see if it is damaged or stained, and if you find the above problems, please contact our company in time;
- The optical port is divided into single-fiber or dual-fiber. Single-fiber has only one optical fiber socket, and dual-fiber has two optical fiber sockets (marked as TX and RX). If dual-fiber ports are used, connect the TX of the fiber port to the RX of the opposite fiber port, and connect the RX of the fiber port to the TX of the opposite port; if a single-fiber port is used, use a single fiber optic interconnection.
- After the connection is complete, please check whether the Link/Act indicator light corresponding to the optical port on the panel of the device is on. If the indicator light is on, it means that the optical fiber interface is connected correctly.
- ◆ **warn:** When the device is powered on, do not look directly at the optical fiber transmission interface and the end face of the optical fiber connector, so as not to burn your eyes by the laser!

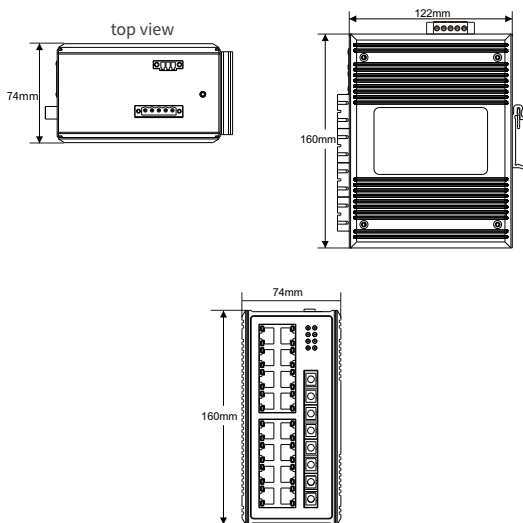
### 3. Indicator light

#### ES220-4F

indicator light		state	definition
Power Indicator	P1	Long bright	Power supply 1 power supply is normal
		Lights off	Power supply 1 is not connected or the power supply is abnormal
	P2	Long bright	Power supply 2 is normal
		Lights off	Power supply 2 is not connected or the power supply is abnormal
System Indicator	SYS	flicker	The system is running normally
		Lights off	The system is not running or is running abnormally
	ALM	long light	Relay alarm
		Lights off	Relay no alarm
RJ45 port indicator	yellow light (Speed)	long light	100M effective connection
		Lights off	10M working status or RJ45 network port is not connected
	green light (Link/Act)	long light	The RJ45 network port has established a valid connection
		flicker	There is network activity on the RJ45 network port
	Lights off	The RJ45 network port has not established a valid connection	
Optical port indicator	17-20	long light	Optical port connection is normal
		flicker	Optical port data sending and receiving is normal
		Lights off	The optical port is not connected or the connection is abnormal

## 4. Dimensions

### ES220-4F



## 5. Packing List

- Industrial Ethernet Switch\*1
- power cable\*1(AC power input products only)
- User Manual\*1(e-edition)
- Certificate of product\*1

## 6. Service commitment

Thank you for purchasing MoweStar products. You can enjoy the following services when using the products:

The company promises that you can choose to repair or replace the product within one year (including) if there is any fault with the product from the date of sale; Within five years (inclusive), our company will provide warranty service. If the product is repaired outside the warranty period, the user shall bear the corresponding cost of hardware replacement

### ◆ Non warranty coverage

- Parts not provided by our company (such as power adapter) shall be guaranteed by the parts manufacturer
- The product has exceeded the warranty period;
- Failure or damage not caused by repair, replacement or disassembly of our personnel;
- Faults caused by unexpected factors or human factors, including faults or damages caused by operation errors, scratches, handling, moving, bumping, improper voltage input, etc;
- Failure or damage caused by the use of non genuine and unpublished software;
- Failure or damage caused by force majeure (earthquake, flood, fire) such as natural disasters.

The right to interpret and revise this service commitment belongs to Wuhan MoweStar Technology Co., Ltd.



warranty card

User Name	
User address	
contacts	
contact number	
Product model	
Purchase date	
Fault description	