

MIEN1203/MIEN2205

Industrial Ethernet Switch

User Manual
(Edition: V3.0)

Wuhan Maiwe Communication Co., Ltd.

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Clarification

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Statement

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Safe Use Instruction

This product performance is excellent and reliable in the designed range of use, **but it's necessary to avoid man-made damage or destroy for the equipment.**

- Read the manual carefully and keep this manual for reference if need afterwards.
- Do not put the device close to the water sources or damp places.
- Do not put anything on the power cable, it should be placed out of reach.
- To avoid causing fire, do not knot or wrap the cable.
- Power connector and other device connectors should be firmly connected with each other, frequently inspection is needed.
- Please keep the fiber socket and plug clean. Do not look directly at the fiber section when the equipment is working.
- Please keep the equipment clean and wipe it with a soft cotton cloth if necessary.
- Please do not repair the equipment by yourself, unless there is clear instructions in the manual.

Under the following circumstances, please cut off power immediately and contact us.

- Equipment water damage.
- The equipment is broken or the casing is broken.
- The equipment works abnormally or the performance has completely changed.
- The equipment produces odor, smoke or noise.

Statement: Information requiring explanation in use of the managed software.

Attention: Matters requiring specific attention in the use of the managed software.

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1. Product Description

1.1. Product introduction

MIEN1203-S/M is a 2 Tx ports 10M/100M adaptive high-performance industrial-grade media converter, with 1 100Base-FX fiber interface, which is used for optical fiber remote transmission of Ethernet signals.

MIEN2205 is a 5 Tx port 10M/100M adaptive high-performance industrial Ethernet switch.

MIEN2205-S/M is a 100Base-FX optical fiber interface and 4 Tx ports 10M/100M adaptive high-performance industrial Ethernet switch.

Both MIEN1203 and MIEN2205 series provide industrial rail-mounted installation. Each RJ45 port has an adaptive function, can automatically configure to 10Base-T or 100Base-TX state and full-duplex or half-duplex operation mode, and can automatically connect to MDI/MDI-X.

1.2. System characteristics

1.2.1. High-performance Ethernet switching interface

- 10Base-T/100Base-TX adaptive Ethernet interface (full duplex, half duplex), support automatic MDI/MDI-X connection.
- MIEN1203/MIEN2205-S/M has 100Base-FX full duplex.
- 6KV lightning protection standard.

1.2.2. Industrial grade power supply design

- Provide industrial-grade DC power supply DC12~48V input. (DC48V, AC/DC220V power supply is optional).
- The power supply has reliable overcurrent and EMC protection.
- Differential mode ± 2 KV, reliable surge protection.

1.2.3. Robust appearance design

- Single-ribbed aluminum chassis heat dissipation surface design, no fan for efficient heat dissipation, the system can work reliably in the environment of $-40^{\circ}\text{C}\sim+85^{\circ}\text{C}$.
- The high-strength enclosed aluminum housing enables the system to work reliably in harsh and dangerous industrial environments.
- Provide DIN rail installation.

1.3. Packing list

The MIEN1203/MIEN2205 series packaging contains the following items. If any of the following items is lost or destroyed, please contact the agent or the customer service center of Wuhan Maiwe Communication Co., Ltd., and they will assist you in replacing or supplementing.

Item	QTY
MIEN1203/MIEN2205	1
User manual	1
Product Certificate and Warranty Card	1

2. Hardware structure

2.1. Case

The MIEN1203/MIEN2205 series chassis is a small DIN rail structure. The whole machine adopts six-sided fully enclosed structure. Its overall dimensions (not including DIN rail dimensions) are: 118mm×35mm×86mm (height×width×depth).

2.2. MIEN1203 front panel

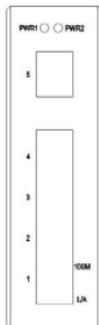
The front panel of MIEN1203 integrates one optical fiber interface and two 10Base-T/100Base-TX Ethernet RJ45 ports.

Port 3 is an optical fiber interface, TX is optical transmission, and RX is optical reception.



2.3. MIEN2205 front panel

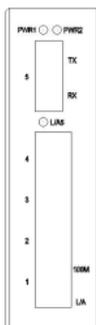
The front panel of MIEN2205 integrates 5 10Base-T/100Base-TX Ethernet RJ45 ports.



2.4. MIEN2205-S/M front panel

The front panel of MIEN2205-S/M integrates 1 optical fiber interface and 4 10Base-T/100Base-TX Ethernet RJ45 ports.

On the left is the fiber interface, TX is optical transmission, and RX is optical reception.



2.5. LED indicator

The LED indicator on the front panel of MIEN1203/ MIEN2205/ MIEN2205-S/M can display the system operation and port status, which is convenient for finding and solving the fault.

LED	Condition	Status
System status LED		
PWR1	On	Power supply 1 is connected and operating normally
	Off	The power supply is not connected or operating abnormally
PWR2	On	Power supply 2 is connected and operating normally
	Off	The power supply is not connected or operating abnormally
Fiber port status LED		
L/A	On	Port has established a valid network connection
	Shiny	Port has network activity

	Off	The port has not established a valid network connection
Ethernet RJ45 port status LE		
Each Ethernet RJ45 port has two indicator lights, the yellow light is the port speed indicator, and the green light is the port connection status indicator.		
100M (yellow light)	On	100M working status (namely 100Base-TX)
	Off	10M working status (ie 10Base-T)
L/A (green light)	On	Port has established a valid network connection
	Shiny	Port has network activity
	Off	The port has not established a valid network connection

2.6. Power input terminal

MIEN1203/ MIEN2205/ MIEN2205-S/M use DC12~48V power supply or DC48V. Use 5.08mm pitch 5-wire terminal to connect the power input. The diameter of the power cord is less than 1.5mm. If using AC220V power supply, connect V1+ to live wire L, and V1- to neutral wire N, and pay attention to safety to prevent electric shock.

3. Hardware installation

3.1. Din-rail installation

For most industrial applications, 35mm standard DIN rail installation is very convenient. When you take out the device from the packing box, the rear panel of MIEN1203/MIEN2205/MIE N2205-S/M should have a fixed DIN rail connector. If the device needs to be clamped on the DIN rail, the installation of the DIN rail should be checked before installation. It mainly includes the following 2 items:

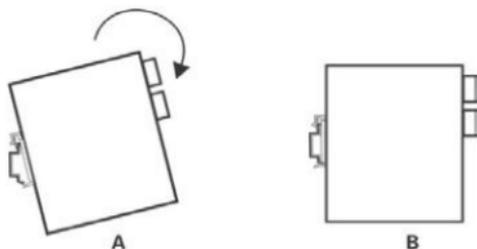
- Whether the DIN rail is firmly fixed, whether other equipment is installed on the DIN rail, and whether there is enough space for installing MIEN1203/MIEN2205/MIEN2205-S/M.

- Is there a power supply suitable for MIEN1203/ MIEN2205/ MIEN2205-S/M on the rail?

After selecting the installation location of MIEN1203/ MIEN2205/ MIEN2205-S/M, follow the steps below to install MIEN1203/ MIEN2205/ MIEN2205-S/M on the DIN rail:

- Insert the upper part of the card rail into the card slot on the upper part of the card rail connecting seat. Push down slightly on the upper panel of MIEN1203/MIEN2205/MIEN2205-S/M and turn the device as shown in Figure A below.

- As shown in Figure B below, insert the DIN rail into the DIN rail connector to confirm that the MIEN1203/MIEN2205/ MIEN2205-S/M device is reliably installed on the rail.



3.2. Cable connection

After MIEN1203/ MIEN2205/ MIEN2205-S/M is correctly installed, the cables can be installed and connected, including the cable connections of the following interfaces.

- Operation interface

MIEN1203/ MIEN2205/ MIEN2205-S/M provides the terminal equipment 10Base-T/ 100Base-TX Ethernet RJ45 interface, which uses a straight-chain network cable to connect to the terminal equipment, and a crossover network cable to connect to the network equipment.

- Connect the power supply

MIEN1203/MIEN2205/MIEN2205-S/M devices use power according to the instructions on the product label. When all other cables are connected, you can connect to the power supply.

3.3. Fiber optic connection

MIEN1203/MIEN2205-S/M provide 100Base-FX full-duplex single-mode or multi-mode fiber interface. The type of optical fiber interface can be selected as SC/ST/FC according to requirements.

Warning:

This switch uses lasers to transmit signals on fiber optic cables. The laser meets the requirements of Class 1 laser products, and normal operation is harmless to eyes. However, when the equipment is powered on, do not look directly at the optical transmission port and the end face of the optical fiber terminator.

The steps to connect the pluggable fiber optic module are as follows:

- Remove and keep the rubber cover of SC/ST/FC port. When not in use, put on a rubber sleeve to protect the optical fiber terminator.
- Check whether the optical fiber terminator is clean. Slightly moisten a clean paper towel or cotton ball, and gently wipe the cable plug. Dirty fiber optic terminator will reduce the quality of optical transmission and affect port performance.
- Connect one end of the optical cable to the optical fiber interface, and the other end to the optical fiber interface of another device.
- After the connection is completed, please check the corresponding LINK/ACT indicator of the optical port on the front panel. If the indicator is on, the connection is valid.

4. Appendix

4.1. Technical index

System indicators	MIEN1203/ MIEN2205/ MIEN2205-S/M
Number of RJ45 ports	MIEN1203-S/M: 2 10Base-T/100Base-TX MIEN2205: 5 10Base-T/100Base-TX MIEN2205-S/M: 4 10Base-T/100Base-TX
Number of fiber ports	MIEN1203-S/M: 1 100Base-FX MIEN2205-S/M: 1 100Base-FX
System parameters	Support standards: IEEE 802.3, IEEE 802.3u, IEEE 802.3x Store and forward rate: 148810pps MAC address table: 1K Exchange method: store and forward
Copper port parameters	Physical interface: RJ-45 with shield RJ-45 port: 10Base-T/100Base-TX, support auto-negotiation function Interface standard: accord with IEEE802.3 standard Transmission distance: <100 meters
Fiber port parameters	Luminous power: >-12dBm (single mode)>-17dBm (multimode) Receiving sensitivity: <-38dBm (single mode)<-35dBm (multimode) Wavelength: 1310nm (single mode) 1550nm (single mode) 1310 nm (multimode) Transmission distance: 20~80Km (single mode)<5Km (multimode) Connector type: SC/FC/ST Transmission rate: 125Mbps
Power parameters	Input voltage: DC power input range: DC12~48V and DC48V (support dual power supply redundant input) AC power input range: DC110V~370V and AC85V~264V (single power input) Input power consumption: <5W Overcurrent protection: built-in

Mechanical parameters	Physical size (height width depth): 118mm 35mm 86mm (not including DIN rail component size) Installation method: DIN rail type Heat dissipation form: aluminum alloy single-rib chassis surface heat dissipation, no fan Weight: 0.3kg
Working environment	Working temperature: -40°C~+85°C Storage temperature: -40°C~+85°C Humidity: 5~95%(no condensation)

4.2. Product model

The MIEN1203/MIEN2205/MIEN2205-S/M standard configuration power supply specification is fixed DC12~48V. Users can choose DC48V power supply or AC/DC220V power supply according to actual conditions.

AC and DC universal power supply, DC110/220V, input voltage range 110~370VDC; AC110/220V, input voltage range 85~264VAC, 50/60Hz.

The optical fiber interface of MIEN1203/MIEN2205-S/M can be customized for single-mode/multi-mode and SC/ST/FC interfaces. The standard configuration is SC single-mode optical interface.

Product model	Product description
MIEN1203-M	100Base-FX multimode optical fiber interface media converter
MIEN1203-S	100Base-FX single-mode optical fiber interface media converter
MIEN2205	5-port industrial Ethernet switch
MIEN2205-M	100Base-FX Multimode Fiber Interface Ethernet Switch
MIEN2205-S	100Base-FX single-mode fiber interface Ethernet switch

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