Industrial Ethernet switch
Model: MIEN2205

User Manual

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Industrial Ethernet switch

MIEN2205 User manual

Before using this manual, please read the following license agreement.

Important declaration:

The Company provided in this manual for any information, does not mean these information can provide to third parties.

Notice:

AS technical developing maybe some part of the datasheet get different with actual product. Pretty sorry for this, if want more news about products. Please check our website or connect with our sales directly

SAFETY PROVISION FOR THE USING NOTICE

This product is designed as a good and reliable quality, however it still need to avoid human hurt or destroy.

- Please read carefully and keep this manual for search.
- Do not place the equipment near water or moisture.
- Do not put anything on the power line, it should be in the not touch place.
- To avoid fire, do not put power lines together or firmly connected to each other.
- Please always check power control whether fix up with other equipments.
- Please keep optical fiber ports and slots clean. When it work, not lock fiber cross section.
- Please keep equipment clean, please use a soft cotton wipe it.
- Please follw use manual, please do not repair by youself.

When appear following cases, please **shutdown power** and directly connect with our company.

- Water split
- Equipment break or crust broken.
- Equipment working abnormity or need update.
- Equipment gets some smell or smoke or noise.

Catalogue

Chapter 1 Introduction

1.1 MIEN2205 industrial Ethernet Switch

The MIEN2205 is 5x10M/100M industrial Ethernet switch. It is high performance Industrial Ethernet switch.
The MIEN2205-S is 5x10M/100M and 1x100Base-FX industrial Ethernet Switch. It is high performance Industrial Ethernet switch.
The MIEN2205 provide din rail installation.
Each RJ45 port has adaptive function, can automatically configure the 10Base-T or 100Base-TX full-duplex or half duplex status, and can automatically MDI/MDI-X connection.

1.2 MIEN2205 system features

High performance industrial Ethernet switch interfaces

- 10Base-T/100Base-TX adaptive port□full/half duplex□□ automatic MDI/MDI-X connection.
- MIEN2205 with full duplex 100Base-FX single mode or Multimode fiber interface.
- Broadcast Storm suppression

Industrial power supply

- Provide industrial grade DC24V power supply and redundant power input.(DC12V,DC48V,AC/DC220V and others can choose)
- Reliable EMC protection and over-current / over-voltage protection.

Rugged Design

- Single-ribbed aluminum chassis cooling surface design, efficient cooling without fan, the system can work reliably at -40 □ ~ +70 □ environment.
- Closed high-strength aluminum casing, enabling the system to work reliably in harsh and hazardous industrial environments.

- DIN-Rail mounted installation

1.3 Product packing list

MIEN2205 includes following items:

Item	QTY
MIEN2205 Industrial Ethernet switch	1pcs
User manual	1pcs

Chapter 2 General

2.1 System Parameters

Content	MIEN2205/MIEN2205
RJ45 ports	MIEN2205: 5x10Base-T/100Base-TX MIEN2205-S: 4x10Base-T/100Base-TX
Optic port	MIEN2205-S: 1x100Base-FX
System parameter	Standard: IEEE802.3, IEEE802.3u, IEEE 802.3x store-and-forward mode rate□148810pps MAC address table size□1K Converter method□store-and-forward mode
Electric port parameter	Physics socket□RJ45 Socket(shielded) RJ-45 socket□10Base-T/100Base-TX,auto-negotiation Socket standard□IEEE802.3 standard Communication distance□<100m
Optic port parameter	Link Budget: >-12dBm(Single mode); >-17dBm(Multimode) RX Sensitivity: <-38dBm(Single mode); <-35dBm(Multimode) Wavelength: 1310nm/1550nm(Single mode); 1310 nm(Multimode) Typical Distance: 20□80Km(Single mode); <5Km(Multi mode fiber) Converter type: SC/FC/ST Transport rate: 125Mbps
Power parameter	Voltage input: DC24V Input expend: <10W Voltage passing: Inside
Technical parameter	Dimensions(H×W×D): 135 □ ×53 □ ×90mm(not include DIN rail equipments dimensions) Installation method: DIN rail Heat dissipation: protection class with aluminum casing, not flow fan. Weight: 0.6 □
Working environment	Operation: -20□□+70□ Store: -45□□+85□ Ambient Relative Humidity: 0□95%(non-condensing)

Chapter 3 Hardware

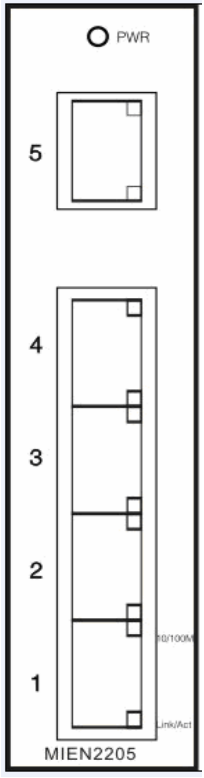
3.1 DIN-rail casing

MIEN2205 use Din rail mount installation. Machine with six sides fully enclosed structure.

Dimensions □W×H×D□□114 □×80 □×33mm□not including DIN rail dimension□

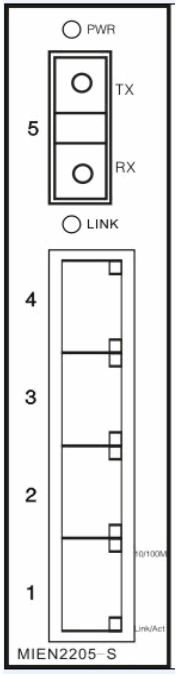
3.2 MIEN2205 front panel

MIEN2205 industrial Ethernet switch offers 5x10Base-T/100Base-TX RJ45 Ethernet ports.



3.3 MIEN2205-S front panel

MIEN2205-S industrial Ethernet switch offers 1 100Base-FX and 4x10Base-T/100Base-TX RJ45 Ethernet ports
TX for the optical transmitter, RX for the optical receiver.



3.4 LED indicator lights

The front panel of MIEN2205 industrial Ethernet switch LED indicatorto show the state of the system and port operation, easy to find and solve problems. Schematics.3-1 shows interface LED indicator lights functions:

Schematics 3-1 LED indicator lights

LED	Lights	Status
Interface LED Status		
POW	On	Power is being supplied to the power input.
	Off	Power is not being supplied to the power input.

Optic socket LED		
LINK	On	FX port's 100 Mbps link is active
	Blinking	Data is being transmitted at 100Mbps.
	Off	100BaseFX port's link is inactive.
RJ45 socket LED state		
Each RJ45 port has two LED indicator lights□the yellow LED light for the Link Budget indicator lights□the green LED light for the port connection status indicator lights.		
10M/ 100M □Yellow□	On	100M working state (100Base-TX□
	Off	10M TP□10Base-T□
LNK/ACT □Green□	On	Link is active
	Blinking	Data is being transmitted at 10 Mbps
	Off	Link is inactive.

3.5 Power spply

MIEN2205 is DC24V and 5.08mm 3 wire terminal block line power input. The Power cable diameter is <1.5mm. If you use AC220V power supply, V+ connected Fire Wire L, V- connected zero line N, and pay attention to safety, to prevent electric shock.

Chapter 4 Hardware installation

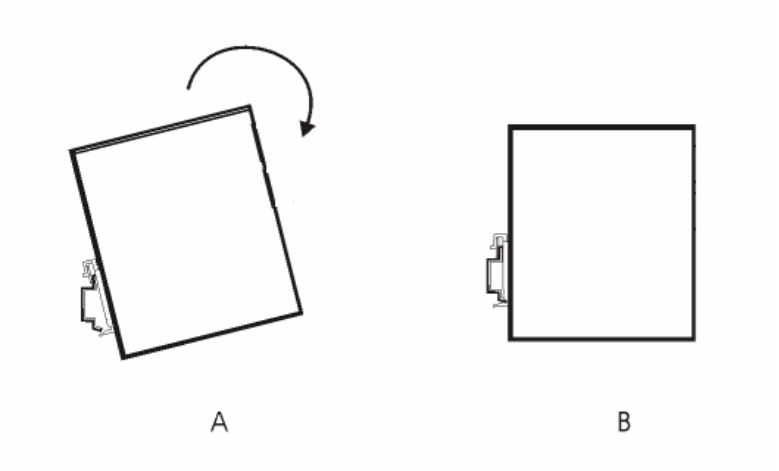
4.1 DIN-Rail installation

Most of industrial applications using 35mm standard DIN-Rail installation. The plastic DIN-Rail plate should be fixed to the rear panel of the MIEN2205 industrial Ethernet switch when you take it out of the box. If you need to reattach the DIN-Rail plate to MIEN2205, please check the DIN-Rail is situated towards the top. Please notice following two contents as below shows:

- Checking DIN-Rail is fixed firm, DIN-rail is installed on other equipment, whether there is enough space for the installation MIEN2205.
- Checking DIN-Rail whether suitable for MIEN2205 power input.

Please selected MIEN2205 the correct position. As below behind picture shows:

- Insert DIN-Rail into DIN-Rail slot and as schematics 4-1 A shows turning equipment.
- As schematics 4-1 B shows, insert DIN-rail into DIN-Rail slot and confirm the MIEN2205 reliable equipment installed on the DIN-rail.



Schematics 4-1 DIN-Rail installation

4.2 Cable connection

After install MIEN2205, please correct install cable. Cable installation please following behind notice:

- Equipment port connection

MIEN2205 provided 10Base-T/100 RJ45 interface, use the crossover cable direct connect with master PC and equipment.

- Industrial Power supply

MIEN2205 using the instructions on the product label DC24V power supply. After all other cables connected, you can connect the power supply.

4.3 Fiber connection

MIEN2205/MIEN2205 provide full-duplex 100Base-FX single-mode or multimode fiber interface. Optical interface type can be selected according to requirements of SC / ST / FC.

Attention

This switch uses lasers to transmit signals over fiber cable. Laser Class 1 laser/LED products can cause serious damage on the eyes harmless. When the equipment is power on, please do not stare directly into the laser beam.

Connection optic cable please use following steps:

- When use fiber cable port, remove SC/FC/ST port cover; When it finish work, please put the plastic cover to protect the fiber optic head, keep clean.
- Check the fiber optic cable head whether it clean or not. If it not clean, this will redunce the quality of communication, internet speed maybe lower. Please clean it with tissue paper or tampon.
- One fiber optic head connect with switch optic interface, the other fiber head connect with another equipment fiber optic interface equipment.
- After connection, please check switch the front interface's LNK/ACT LED lights. If lights on, connection is available.

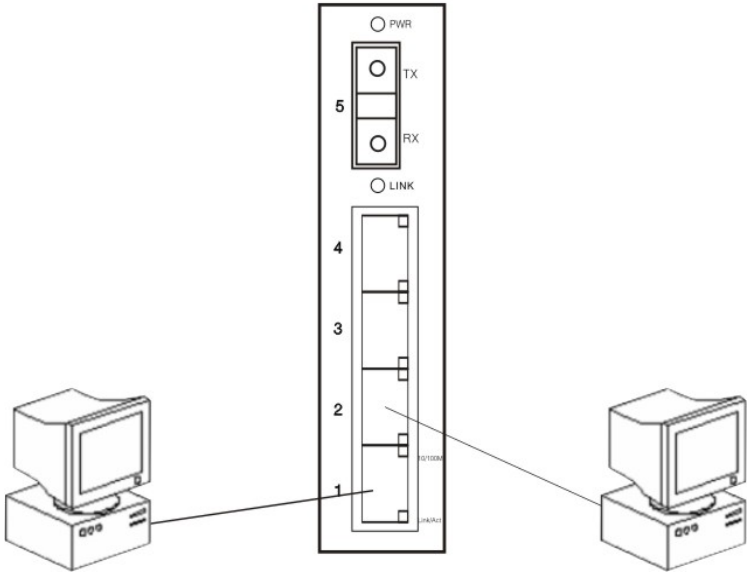
Chapter 5 Testing guide

5.1 Self-Verification

When it running, all indicator lights are bright one time, these means working well.

5.2 Electric port testing

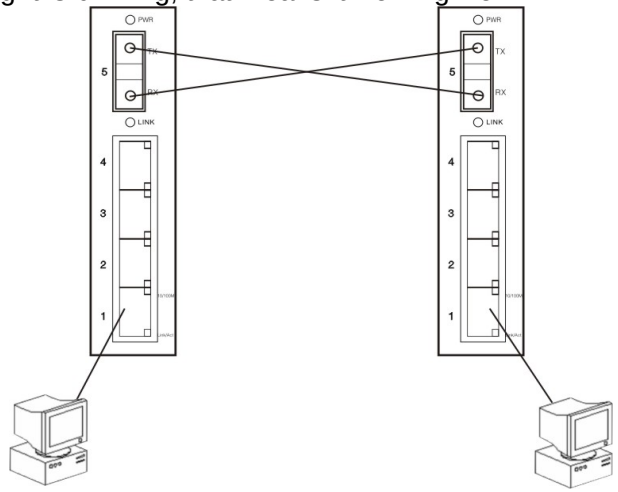
As schematics 5-1 shows, connect two PC with MIEN2205 RJ45 ports and sent Ping command each other, the two sides get right Ping message and don't loss package. At the same time the yellow light on the corresponding port should be bliking (100M Speed) or light off (10M speed), corresponding to green light should be shining on the port. That means it working well.



Schematics 5-1 Electric pin testing

5.3 Fiber optic port testing

As schematics 5-2 shows, connect two PC with MIEN2205 RJ45 ports and sent Ping command each other. If any one can get right Ping message and don't loss package. slot's yellow light blinking (Speed 100M) or light off (Speed 10M).If green LED light is blinking, that means it working well.

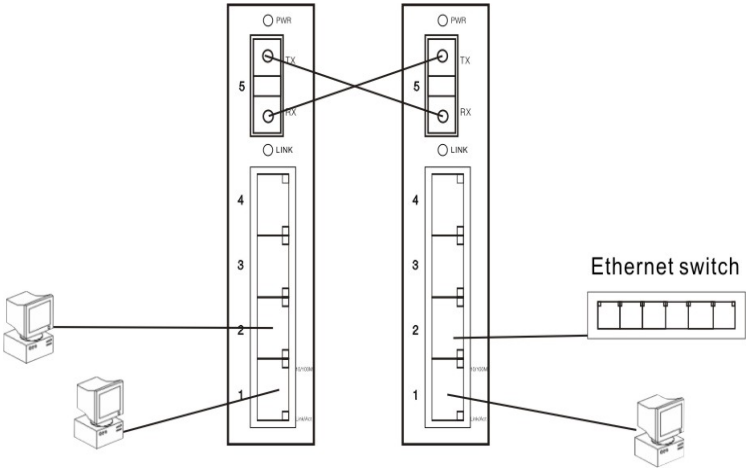


Schematics 5-2 Fiber pin testing

Chapter 6 Network construction

6.1 Network construction

MIEN2205 Industrial Ethernet switch provide 5*10Base-T/100Base-TX RJ45 ports. Each ports can directly connect witch master, or connect another industrial ethernet/hub with terminal which used as shared internet link.



MIEN2205 network construction Schematic

6.2 Network collocate

MIEN2205 standard power supply is DC24V. Users can choose according to the actual situation of isolation DC24V or DC-48V power supply, or AC/DC220V, and wide-voltage power supply. DC12V, 9 ~ 18V input voltage range;DC24V, input voltage range 18 ~ 36V; DC48V, input voltage range 36 ~ 72V AC-DC universal power supply, DC110/220V, input voltage range 100 ~ 360VDC; AC110/220V, input voltage range of 90 ~ 260VAC, 50/60Hz.

MIEN2205 single-mode optical interface can be customized / multi-mode and the SC / ST / FC interface. Standard single-mode optical interface is SC.

6.3 Order information

Model	Description
MIEN2205-P	5 ports 10M/100Mbase-TX high performance industrial ethernet fiber optic converter,which is used to ethernet signal communication. Multi mode, 2Km,DC12~36V support double power supply,SC,DC Spark-over voltage 100V/S: 600V±20%V; Nominal Impulse Discharge Current 8/20μs 10times:10KA;Impulse Life 10/1000μs100A:500 times
MIEN2205-S	5 ports 10M/100Mbase-TX optic port high performance industrial ethernet fiber optic converter,which is used to ethernet signal communication. Single mode, 20Km,DC12~36V support double power supply,SC,DC Spark-over voltage 100V/S: 600V±20%V; Nominal Impulse Discharge Current 8/20μs 10times:10KA;Impulse Life 10/1000μs100A:500 tim
MIEN2205-P1	4 ports 10M/100M + 1 multi mode 100Base-FX optic port high performance industrial ethernet fiber optic converter,which is used to ethernet signal communication. Multi mode, 2Km,DC12~36V support double power supply,SC,DC Spark-over voltage 100V/S: 600V±20%V; Nominal Impulse Discharge Current 8/20μs 10times:10KA;Impulse Life 10/1000μs100A:500 time
MIEN2205-S1	4 ports 10M/100M + 1 single mode 100Base-FX optic port high performance industrial ethernet fiber optic converter,which is used to ethernet signal communication. Single mode, 20Km,DC12~36V support double power supply,SC,DC Spark-over voltage 100V/S: 600V±20%V; Nominal Impulse Discharge Current 8/20μs 10times:10KA;Impulse Life 10/1000μs100A:500 times

Schematics 6-1 MIEN2205 order information