

ENM-4401S/ENM-4201S

PCIE X8 2 或 4 个 SFP 光纤电口

PCIE x8 with Two or Four SFP

Optical Fiber Ports

Version: C00

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Safety Instructions

1. Please read this manual carefully before using the product;
2. Leave the board or card in the antistatic bag until you are ready to use it;
3. Touch a grounded metal object (e.g. for 10 seconds) before removing the board or card from the anti-static bag;
4. Before installing or removing a board, wear the ESD gloves or ESD wrist strap; handle the board by its edges only;
5. Before inserting, removing or re-configuring motherboards or expansion cards, first disconnect the computer and peripherals from their power sources to prevent electric shock to human bodies or damage to the product;
6. Remember to disconnect the AC power cord from the socket before removing the board or moving the PC;
7. For PC products, remember to disconnect the computer and peripherals from the power sources before inserting or removing a board;
8. Before connecting or disconnecting any terminal, peripheral or any device, be sure the system is powered off and all the power sources are disconnected;
9. After turning off the computer, wait at least 30 seconds before turning it back on.

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Chapter 1 Product Introduction

Overview

ENM-4401S/ENM-4201S is a server-grade PCIe network adapter with SFP gigabit optical fiber connectors. It adopts Intel® 82576EB high-performance network card chip with optical fiber connector indicator, supporting vertical installation mode. It is ideally suitable for network security, server products and common embedded and industrial computers.

Mechanical Dimensions, Weight and Environment

- Dimensions: 198.5mm (L) x 95mm (W) x 13.6mm (H);
- Net Weight: 0.13Kg (ENM-4401S);
- Operating Environment:
 - Temperature: 0°C ~ 60°C;
 - Humidity: 5% ~ 95% (non-condensing);
- Storage Environment:
 - Temperature: -10°C ~ 60°C;
 - Humidity: 5% ~ 90% (non-condensing);

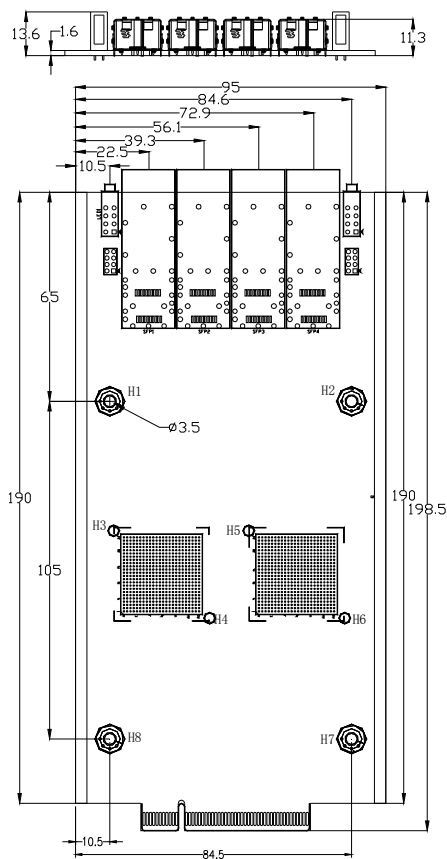
Network Function

ENM-4401S provides four 1000Mbps SFP optical fiber network connectors;

ENM-4201S provides two 1000Mbps SFP optical fiber network connectors.

Chapter 2 Installation

Product Outline (Taking ENM-4401S as an example)

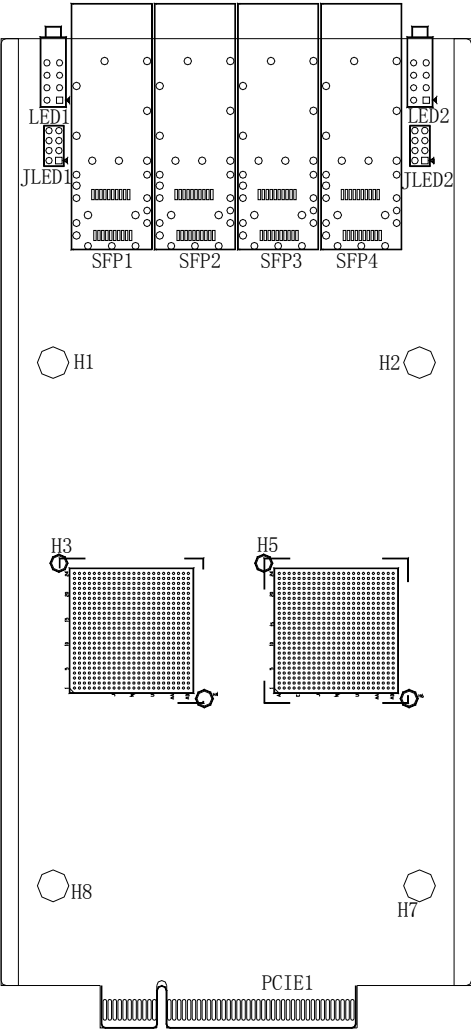


Unit: mm

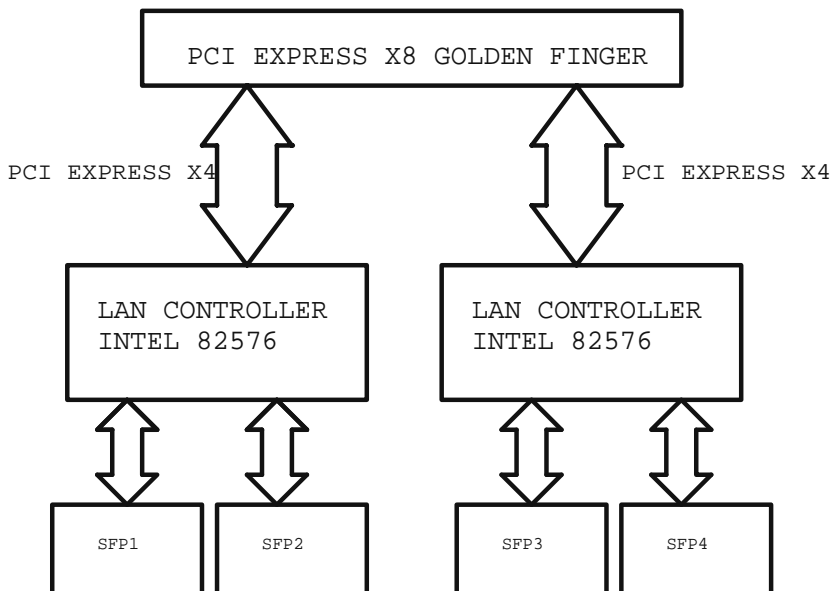
Warning!

Please adopt appropriate screws and proper installation methods (including board allocation, CPU and heat sink installation, etc); otherwise, the board may be damaged. It is recommended to use GB-9074.4-88/ M3x6 combo screws with gasket at H1, H2, H7 and H8.

Locations of Connectors (Taking ENM-4401S as an example)



Structure (Taking ENM-4401S as an example)

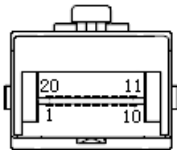


Tip: How to identify the first pin of the jumpers and connectors

1. Observe the letter beside the socket. The first pin is usually marked with “1” or bold lines or triangular symbols;
2. Observe the solder pad on the back; the square pad is the first pin.

SFP Optical Fiber Connector

The product provides 1000Mbps SFP optical fiber connectors on-board; the detailed information is listed as follows:



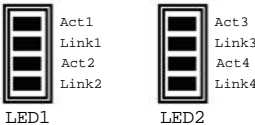
SFP1/SFP2
SFP3/SFP4

Pin	Signal Name	Pin	Signal Name
1	T_GND	11	R_GND
2	TX_FAULT	12	RX-
3	TX_DISABLE	13	RX+
4	MOD_DEF(2)	14	R_GND
5	MOD_DEF(1)	15	VCC_RX
6	MOD_DEF(0)	16	VCC_TX
7	RATE SELECT	17	T_GND
8	RX_LOS	18	TX+
9	R_GND	19	TX-
10	R_GND	20	T_GND

Note: ENM-4401S supports four connectors while ENM-4201S supports two connectors.

Optical Fiber Network Indicator

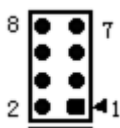
The product provides 1x4 network status indicators: LED1 indicates the network status for SFP1 and SFP2 while LED2 indicates the network status for SFP3 and SFP4. The corresponding silk screens of the indicators are as follows:



Act1/2/3/4 (Green)	Network Status	Link1/2/3/4 (Green)	Network Status
Blink	Data being transmitted	On	Linked
Off	No data being transmitted	Off	Unlinked

Note: ENM-4401S provides LED1 and LED2 while ENM-4201S only provides LED1.

The product provides 2x4pin headers, gigabit optical fiber network indicator (Pitch: 2.0mm).



JLED1

Pin	Signal Name	Pin	Signal Name
1	+3.3V	2	LAN1_ACTIVITY
3	+3.3V	4	LAN1_LINK
5	+3.3V	6	LAN2_ACTIVITY
7	+3.3V	8	LAN2_LINK



JLED2

Pin	Signal Name	Pin	Signal Name
1	+3.3V	2	LAN3_ACTIVITY
3	+3.3V	4	LAN3_LINK
5	+3.3V	6	LAN4_ACTIVITY
7	+3.3V	8	LAN4_LINK

Note: ENM-4401S provides two pin headers, JLED1 and JLED2 while ENM-4201S only provides one pin header, JLED1.

PCIex8 Gold Finger

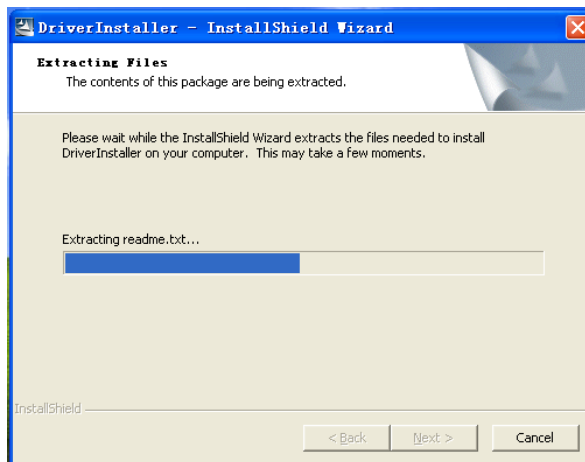
The module provides one PCIe x8 gold finger and some signals are user-defined nonstandard signals; the pin definitions are as follows:

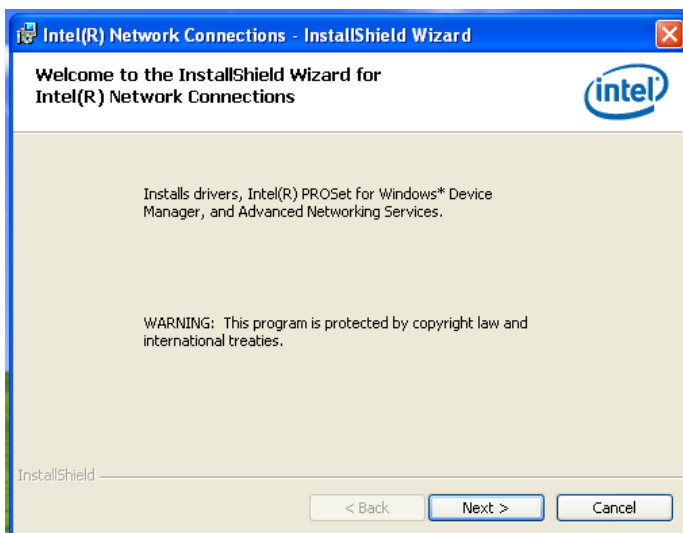
Pin	Signal Name	Pin	Signal Name	Pin	Signal Name	Pin	Signal Name
A1	PRSNT1#	A26	PERN2	B1	+12V	B26	GND
A2	+12V	A27	GND	B2	+12V	B27	PETP3
A3	+12V	A28	GND	B3	RSVD	B28	PETN3
A4	GND	A29	PERP3	B4	GND	B29	GND
A5	TCK	A30	PERN3	B5	SMCLK	B30	RSVD
A6	TDI	A31	GND	B6	SMDATA	B31	PRSNT2#A
A7	TDO	A32	RSVD	B7	GND	B32	GND
A8	TMS	A33	RSVD	B8	+3.3V	B33	PETP4
A9	+3.3V	A34	GND	B9	CFG1	B34	PETN4

A10	+3.3V	A35	PERP4	B10	+3.3Vaux	B35	GND
A11	PWRGD	A36	PERN4	B11	WAKE#	B36	GND
A12	GND	A37	GND	B12	RSVD	B37	PETP5
A13	REFCLK+	A38	GND	B13	GND	B38	PETN5
A14	REFCLK-	A39	PERP5	B14	PETP0	B39	GND
A15	GND	A40	PERN5	B15	PETN0	B40	GND
A16	PERP0	A41	GND	B16	GND	B41	PETP6
A17	PERN0	A42	GND	B17	PRSNT2#	B42	PETN6
A18	GND	A43	PERP6	B18	GND	B43	GND
A19	RSVD	A44	PERN6	B19	PETP1	B44	GND
A20	GND	A45	GND	B20	PETN1	B45	PETP7
A21	PERP1	A46	GND	B21	GND	B46	PETN7
A22	PERN1	A47	PERP7	B22	GND	B47	GND
A23	GND	A48	PERN7	B23	PETP2	B48	CFG2
A24	GND	A49	GND	B24	PETN2	B49	GND
A25	PERP2			B25	GND		

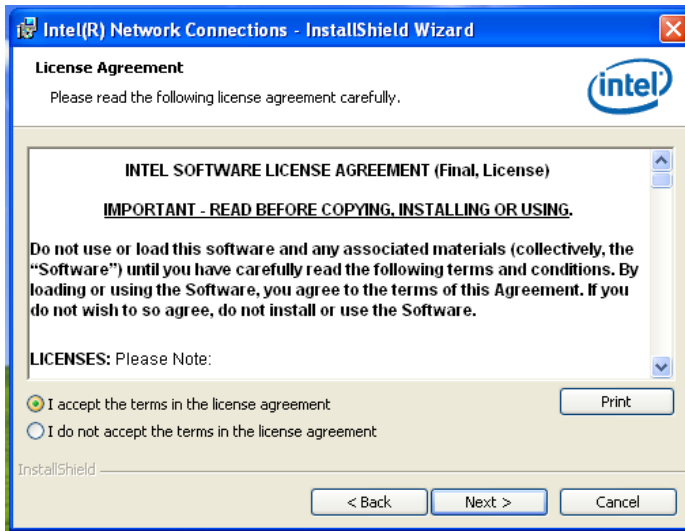
Installation Steps for Network Card Driver

1. Double click the installation file of the driver program and the following interface will appear:

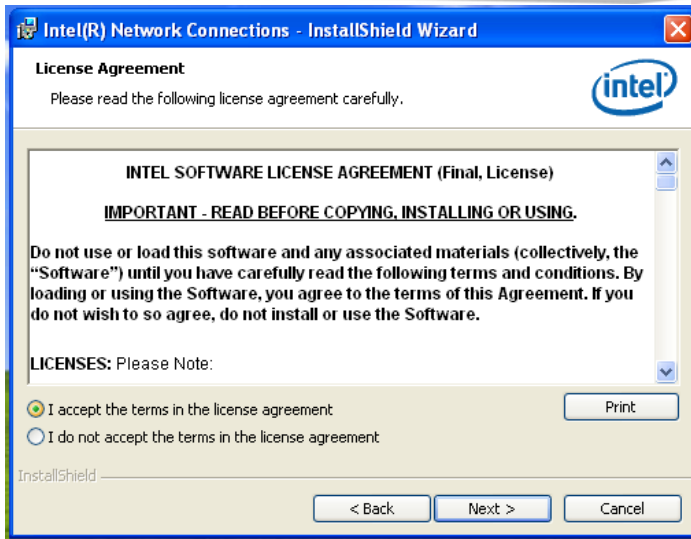




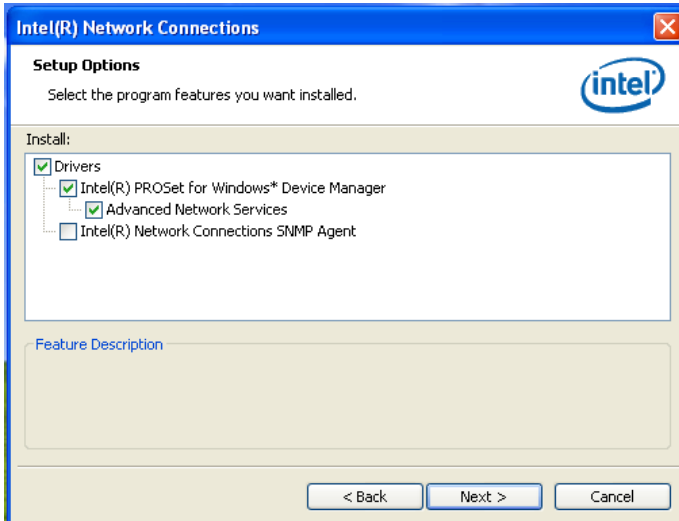
2. Click “Next” and the following interface will pop up:

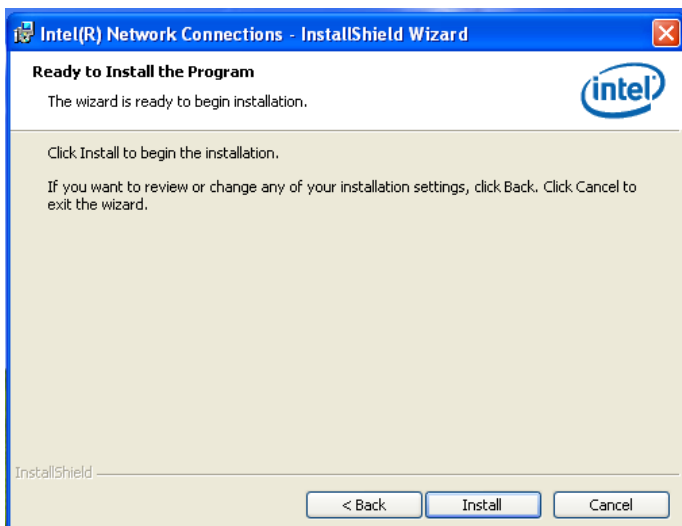


3. Choose “I accept the terms of the license agreement” and click “Next”, then the following interface will appear:

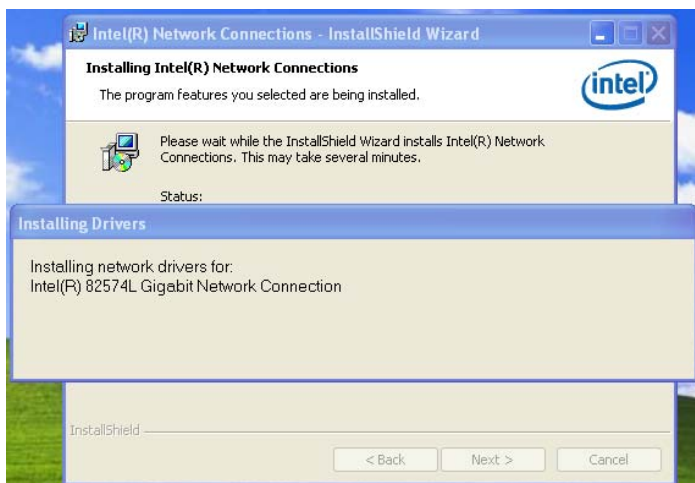


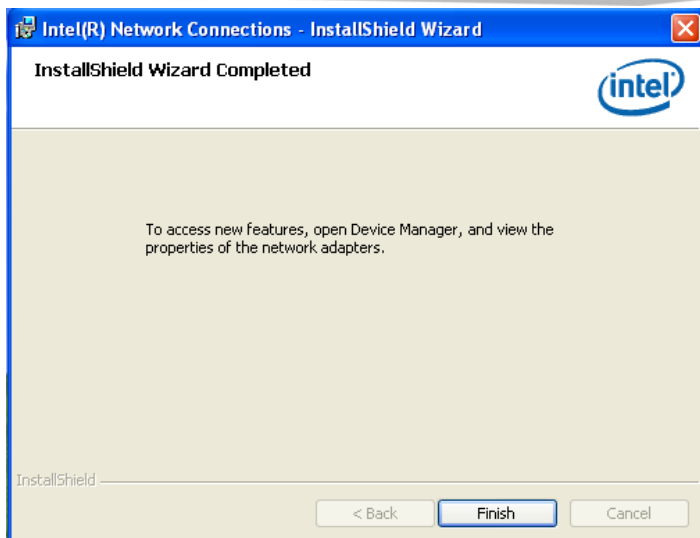
4. Then click "Next".





5. Click “Install” and the following interface will pop up.





6. Click "Finish" to complete the driver program installation.

Note: the driver may be updated; therefore, the installation interfaces may not be completely the same as the ones shown above.