



Connecting Cisco Gigabit EtherSwitch EHWICs

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This guide describes the Cisco Gigabit EtherSwitch enhanced high-speed WAN interface cards (EHWICs) and how to connect the EHWICs to your network. It contains the following sections:

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Overview

The Cisco Gigabit EtherSwitch EHWICs are available in the following form factors:

- 4-port single-wide EHWIC
- 8-port double-wide EHWIC

Both form factors are available with or without power over Ethernet (PoE).

The following sections describe the Cisco Gigabit EtherSwitch EHWICs:

- [Important Safety Instructions, page 2](#)
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Important Safety Instructions



Warning

IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.
Statement 1071

SAVE THESE INSTRUCTIONS



Warning

Read the installation instructions before connecting the system to the power source. Statement 1004



Warning

Ultimate disposal of this product should be handled according to all national laws and regulations.
Statement 1040



Warning

No user-serviceable parts inside. Do not open. Statement 1073



Warning

Installation of the equipment must comply with local and national electrical codes. Statement 1074

Platform Support

Table 1 shows the supported router platforms.

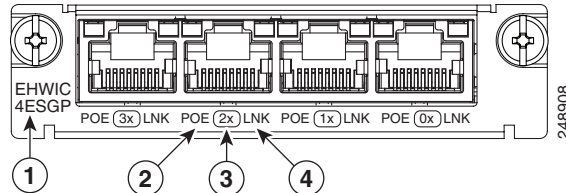
Table 1 Router Platforms Supported

Platform	4-port single-wide EHWIC	8-port double-wide EHWIC
Cisco 3945	Yes	Yes
Cisco 3945E	Yes	Yes
Cisco 3925	Yes	Yes
Cisco 3925E	Yes	Yes
Cisco 2951	Yes	Yes
Cisco 2921	Yes	Yes
Cisco 2911	Yes	Yes
Cisco 2901	Yes	Yes
Cisco 1941	Yes	Yes
Cisco 1921	Yes	Yes

4-Port Single-Wide Gigabit EtherSwitch EHWIC

Install the 4-port single-wide Gigabit EtherSwitch EHWIC into the single-wide slot on your router. [Figure 1](#) shows the 4-port single-wide Gigabit EtherSwitch EHWIC with PoE. The EHWICs without PoE do not have the POE LED.

Figure 1 4-Port Single-Wide Gigabit EtherSwitch EHWIC with PoE



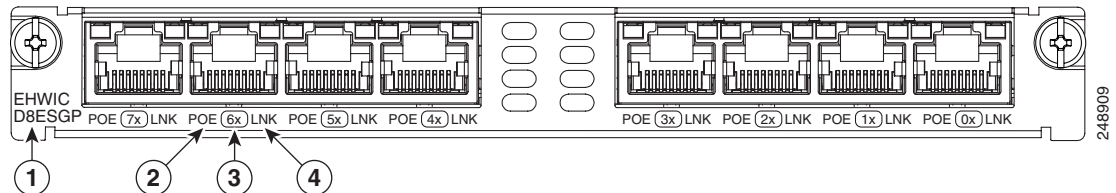
1	Product name	3	Port number
2	PoE LED ¹	4	Link LED

1. POE LED is not available on the EHWICs without PoE.

8-Port Double-Wide Gigabit EtherSwitch EHWIC

Install the 8-port double-wide Gigabit EtherSwitch EHWIC into the double-wide slot on your router. [Figure 2](#) shows the 8-port double-wide Gigabit EtherSwitch EHWIC with PoE. The EHWICs without PoE do not have the POE LED.

Figure 2 8-Port Double-Wide Gigabit EtherSwitch EHWIC with PoE



1	Product name	3	Port number
2	PoE Led ¹	4	Link Led

1. POE LED is not available on the EHWICs without PoE.

Port Numbering

The switch ports are numbered right to left.

The port numbering scheme to configure the ports on the Cisco Gigabit EtherSwitch EHWIC includes the interface type (**gi** or **gigabitethernet** for Gigabit Ethernet), the chassis slot number (always 0), the EHWIC slot number (0–3), and the switch port number (0–7).

For example, to configure the Gigabit EHWIC port 3 in slot 0, use the **interface gi 0/0/3** command in global configuration mode.

LED Indicators

Each port has two LED indicators, described in [Table 2](#).

Table 2 **LED Description**

LED	Color	Description
POE	Green	Off—No external device detected or PoE is not installed. On—Providing power to the device.
	Amber	On—Power delivery fault because of one of the following reasons: - Power required by the device exceeds the maximum power configured for the port. - Total power used has reached the maximum limit for the card. - Power requirement exceeds the total allowed by the platform. Blinking—The port is configured to power inline never .
LNK	Green	Off—Ethernet port is not connected.
		On—Ethernet port is connected.

Power Considerations

EHWICs with PoE support inline power delivery over standard CAT5 cables to IP phones and access points. To support inline power, the router platform must provide the inline power supply to the EHWIC.

The Cisco Gigabit EtherSwitch EHWICs support standard legacy Cisco phones, IEEE 802.3af phones, and 20W ePOE phones.

The maximum power for a single wide EHWIC is 120 watts; and the maximum power for a double wide EHWIC is 125 watts.

Check the hardware installation guide for your platform power specifications.

Installing

See *Installing Cisco Interface Cards in Cisco Access Routers* at

http://www.cisco.com/en/US/docs/routers/access/interfaces/ic/hardware/installation/guide/inst_ic.html for instructions on how to install the Cisco Gigabit EtherSwitch EHWIC in your router.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030



Warning

To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables. Statement 1021

**Warning**

Hazardous network voltages are present in WAN ports regardless of whether power to the unit is OFF or ON. To avoid electric shock, use caution when working near WAN ports. When detaching cables, detach the end away from the unit first. Statement 1026

**Warning**

Voltages that present a shock hazard may exist on Power over Ethernet (PoE) circuits if interconnections are made using uninsulated exposed metal contacts, conductors, or terminals. Avoid using such interconnection methods, unless the exposed metal parts are located within a restricted access location and users and service people who are authorized within the restricted access location are made aware of the hazard. A restricted access area can be accessed only through the use of a special tool, lock and key or other means of security. Statement 1072

**Warning**

To comply with the Telcordia GR-1089 NEBS standard for electromagnetic compatibility and safety, connect the Gigabit Ethernet interface ports only to intra-building or unexposed wiring or cable. The intrabuilding cable must be shielded and the shield must be grounded at both ends. The intra-building port(s) of the equipment or subassembly must not be metalically connected to interfaces that connect to the OSP or its wiring. These interfaces are designed for use as intra-building interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE, Issue 4) and require isolation from the exposed OSP cabling. The addition of Primary Protectors is not sufficient protection in order to connect these interfaces metalically to OSP wiring. Statement 7003

**Note**

On the Cisco 1920 routers, disconnect the power cables before installing and removing the EHWIC.

Online Insertion and Removal

The Cisco Gigabit EtherSwitch EHWIC does not support Online Insertion and Removal (OIR).

Connecting

A 10/100/1000 Gigabit Ethernet (GE) port can be used as an uplink port to connect to another router or server, or it can trunk to another Cisco enhanced EtherSwitch service module or switch located in the same chassis or in a separate installation. A GE port with PoE can be used to link to phones.

Connecting a GE port to the network requires a Category 5 cable with RJ-45 male connectors, not provided with the switch interface card. Category 5 cables are widely available.

Related Documents

Related Topic	Document Title
Regulatory and Compliance information for Cisco interface cards.	Cisco Network Modules and Interface Cards Regulatory Compliance and Safety Information.
Overview of Cisco interface cards used in Cisco access routers.	Overview of Cisco Interface Cards for Cisco Access Routers.

Related Topic	Document Title
How to install Cisco interface cards in Cisco access routers.	<i>Installing Cisco Interface Cards in Cisco Access Routers.</i>
How to configure the Cisco 4-Port and 8-Port Gigabit EtherSwitch EHWICs.	<i>Configuring the Cisco Gigabit EtherSwitch EHWICs.</i>

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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