



Product Overview

The Cisco® Industrial Ethernet (IE) 1000 Series Switches are compact rugged switches aimed to operational technology (OT) users with limited IT network knowledge. The IE 1000 Series Switches provide an easy transformation from the legacy factory to digital solution. For machine builders and machine-to-machine (M2M) solutions is an attractive entry level product as a GUI-based, lightly-managed switch. The 1000 is a good fit for locations with harsh temperatures and small spaces, and is Power over Ethernet (PoE) capable with and zero IT management.

The 1000 is ideal for industrial Ethernet applications where small and easy-to-be-managed hardened products are required, including factory automation, intelligent transportation systems, city-surveillance programs, building automations etc.

The Cisco IE 1000 Series Switches complement the current industrial Ethernet portfolio of related Cisco industrial switches, such as the Cisco IE 2000, IE 3000, IE 4000 and IE 5000 Series Switches.

The 1000 can be easily installed on your network. Through a user-friendly web device manager, the 1000 provides easy out-of-the-box configuration and simplified operational manageability to deliver advanced and secure multiservices over industrial networks.

Switch Models Supported

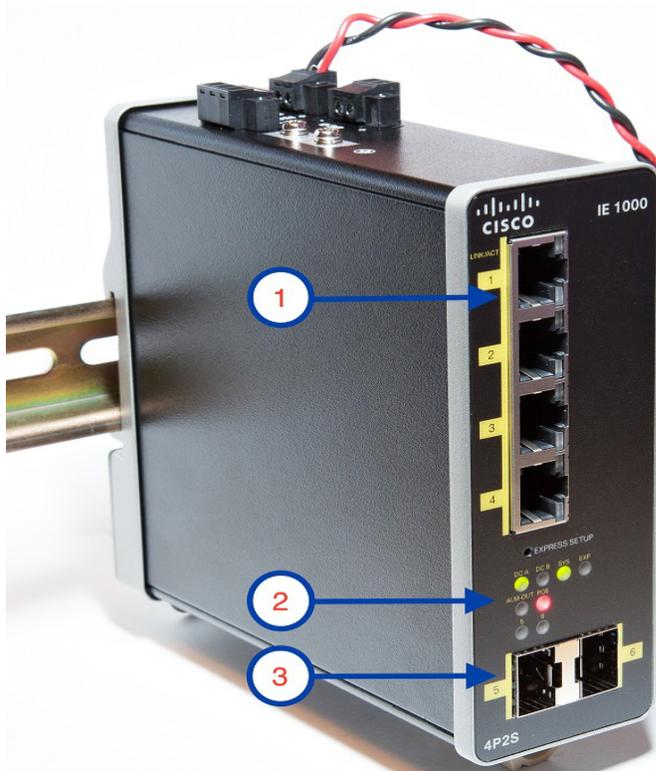


Model	FE Uplink	Gig Uplink	FE Downlink		Description
	Copper	SFP	Copper	POE	
IE-1000-4T1T-LM	1		4		IE1K with total of 5 FE ports 10/100
IE-1000-6T2T-LM	2		6		IE1K with total of 8 FE ports 10/100
IE-1000-4P2S-LM		2		4	IE1K with 2 GE SFP, 4 PoE 10/100 with total of 6 ports
IE-1000-8P2S-LM		2		8	IE1K with 2 GE SFP, 8 PoE 10/100 with total of 10 ports

Front Panel Overview

The illustrations in this section provide an overview of the variety of components available on the various switch models in this product family. Not all models are illustrated.

Figure 1 Cisco IE-1000-4P2S-LM front panel shown



1	10/100 BASE-T ports	3	SFP module slots
2	LEDs		

Ports and Slots

Note: Different configurations are available. Not all ports or slots are present in all configurations.

10/100 BASE-T Downlink Ports

You can set the 10/100BASE-T downlink ports to operate at 10 or 100 Mb/s in full-duplex or half-duplex mode. You can also set these ports for speed and duplex autonegotiation in compliance with IEEE 802.3AB. (The default setting is autonegotiate.) When set for autonegotiation, the port senses the speed and duplex settings of the attached device and advertises its own capabilities. If the connected device also supports autonegotiation, the switch port negotiates the best connection (that is, the fastest line speed that both devices support, and full-duplex transmission if the attached device supports it) and configures itself accordingly. In all cases, the attached device must be within 328 feet (100 meters). 100BASE-TX traffic requires Category 5 cable. 10BASE-T traffic can use Category 3 or Category 4 cables.

When connecting the switch to workstations, servers, routers, and Cisco IP phones, make sure that the cable is a straight-through cable.

100/1000 Mb/s SFP Module Uplink Slots

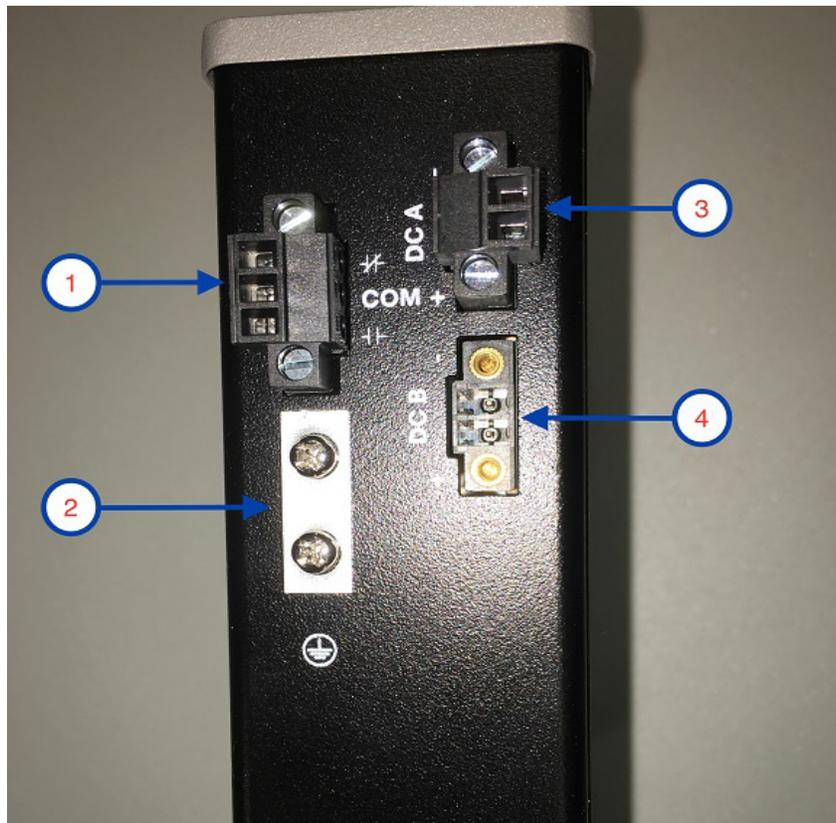
The IEEE 802.3u 100 Mb/s SFP module uplink slots provide full-duplex 100 or 1000 Mb/s connectivity over multi-mode (MM) fiber cables or single-mode (SM) fiber cables. These ports use a SFP fiber-optic transceiver module that accepts a dual LC connector. Check the SFP specifications for the cable type and length.

SFP Modules Supported

The SFP modules are switch Ethernet SFP modules that provide connections to other devices. Depending on the switch model, these field-replaceable transceiver modules provide uplink or downlink interfaces. The modules have LC connectors for fiber-optic connections. For a complete list of supported SFP modules refer to the [Data Sheet](#).

Connectors

Figure 2 Cisco IE-1000-4P2S-LM top panel shown



1	Alarm connector (PoE Models Only)	3	Power connector DC-A
2	Protective ground connection	4	Power connector DC-B (PoE Models Only)

DC Power Connector

You connect the DC power to the switch through the top panel connectors. The switch has a dual-feed DC power supply; two connectors provide primary and secondary DC power (DC-A and DC-B). See [Figure 1 on page 3](#). Each power connector has an LED status indicator.

The switch power connectors are attached to the switch chassis. Each power connector has screw terminals for terminating the DC power. All connectors are attached to the switch top panel with the provided captive screws.

The power connector labeling is on the panel. The positive DC power connection is labeled “+”, and the return connection is labeled “-”.

Alarm Connector (PoE Models Only)

The switch can operate with a single power source or with dual power sources. When both power sources are operational, the switch draws power from the DC source with the higher voltage. If one of the two power sources fail, the other continues to power the switch.

Alarm Connector (PoE Models Only)

You connect the alarm signals to the switch through the alarm connector. The switch supports one alarm output relay. The alarm connector is on the top panel.

The alarm connector provides three alarm wire connections. The connector is attached to the switch top panel with the provided captive screws.

The alarm output circuit is a relay with a normally open and a normally closed contact. The switch is configured to detect faults that are used to energize the relay coil and change the state on both of the relay contacts: normally open contacts close, and normally closed contacts open. The alarm output relay can be used to control an external alarm device, such as a bell or a light.

For more information about the alarm connector, see [Cable and Connectors, page 37](#)

LEDs

You can use the LEDs to monitor the switch status, activity, and performance. [Figure 3 on page 6](#) and [on page 8](#) show the front panel LEDs.

Figure 3 LEDs on the Cisco IE 1000 Switch (PoE Models Only)



DC A	Power connector DC-A LED	ALM-OUT (PoE Only)	Alarm Out LED
DC B (PoE Only)	Power connector DC-B LED	POE (PoE Only)	POE port status LED
SYS	System LED	5 (PoE Only)	SFP module slot LED
EXP	Express Setup LED	6 (PoE Only)	SFP module slot LED

Express Setup LED

The Express Setup LED displays the express setup mode for the initial configuration.

Color	Setup Status
Off (dark)	Switch is configured as a managed switch.
Solid green	Switch is operating normally.
Blinking green	Switch is in initial setup, in recovery, or initial setup is incomplete.
Solid red	Switch failed to start initial setup or recovery because there is no available switch port to which to connect the management station. Disconnect a device from a switch port, and then press the Express Setup button. The EXP LED will go RED when User attempts to enter Express Setup mode, but the switch has a startup-configuration already. Express Setup mode only works when the switch does NOT have a startup-configuration.

System LED

The System LED shows whether the system is receiving power and is functioning properly.

Color	System Status
Off	System is not powered on.
Green	System is operating normally.
Red	The switch failed ACT 2 verification. The configuration running on the switch is not compatible with the running software. Switch is not functioning properly.

Alarm OUT (PoE Models Only)

Color	System Status
Off	Alarm OUT is not configured, or the switch is off.
Green	Alarm OUT is configured, no alarm detected.
Blinking red	Switch has detected a major alarm.
Red	Switch has detected a minor alarm.

Power Status LEDs

The switch can operate with one or two DC power sources. Each DC input has an associated LED that shows the status of the corresponding DC input. If power is present on the circuit, the LED is green. If power is not present, the LED color depends on the alarm configuration. If alarms are configured, the LED is red when power is not present; otherwise, the LED is off.

If the switch has dual power sources, the switch draws power from the power source with the higher voltage. If one of the DC sources fails, the alternate DC source powers the switch, and the corresponding power status LED is green.

Color	System Status
Green	Power is present on the associated circuit, system is operating normally.
Off	Power is not present on the circuit, or the system is not powered up.
Red	Power is not present on the associated circuit, and the power supply alarm is configured.

The Power A and Power B LEDs show that power is not present on the switch if the power input drops below the low valid level. The power status LEDs only show that power is present if the voltage at the switch input exceeds the valid level.

Port Status LEDs

Each port and SFP uplink slot has a status LED, as shown in [Figure 3 on page 6](#) and described below.

Color	System Status
Off	No link.
Solid green	Link present.
Blinking green	Activity. Port is sending or receiving data.
Alternating green-amber	Link fault. Error frames can affect connectivity, and errors such as excessive collisions, CRC errors, and alignment and jabber errors are monitored for a link-fault indication.
Solid amber	Port is not forwarding. The port was disabled by management, an address violation, or STP. After a port is reconfigured, the port LED can remain amber for up to 30 seconds while STP checks the switch for possible loops.

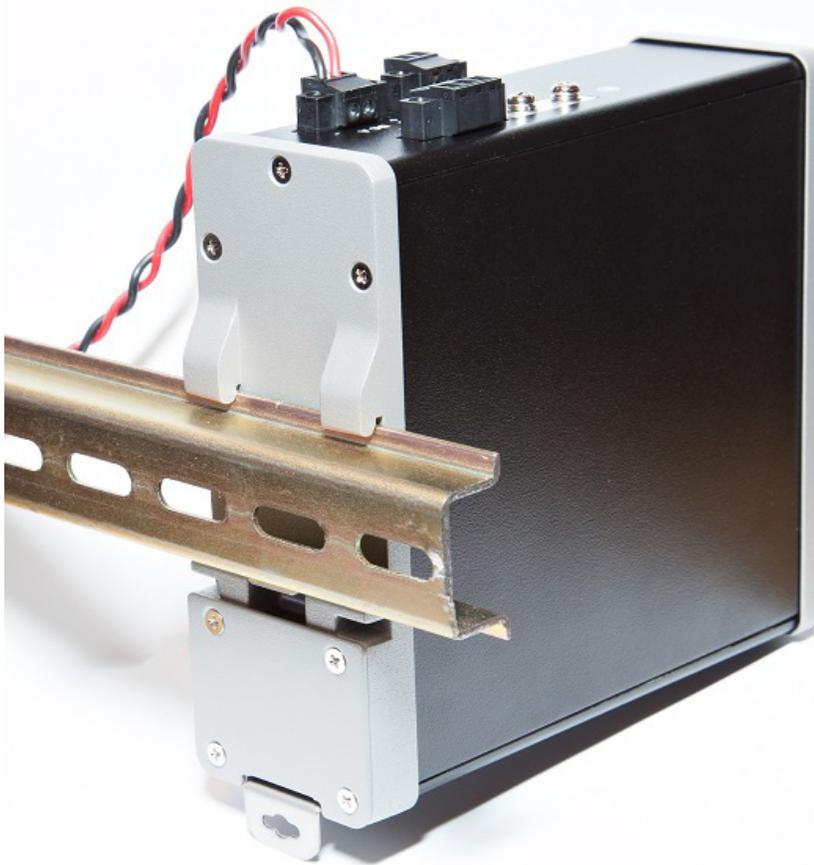
PoE Status LED

The PoE STATUS LEDs are located on the front panel of POE capable models. The LEDs display the functionality and status of the adjacent PoE ports.

Rear Panel

The rear panel of the switch has a latch for installation on a DIN rail. See [Figure 4 on page 8](#). The latch is spring-loaded to move down to position the switch over a DIN rail and return to the original position to secure the switch to a DIN rail.

Figure 4 Cisco IE 1000 Switch Rear Panel



Management Options

The switch supports these management options:

- Device Manager

You can use Device Manager, which is in the switch memory, to manage individual and standalone switches. This web interface offers quick configuration and monitoring. You can access Device Manager from anywhere in your network through a web browser.

Network Configurations

See the switch software configuration guide on [Cisco.com](https://www.cisco.com) for network configuration concepts and examples of using the switch to create dedicated network segments and interconnecting the segments through Gigabit Ethernet connections.

