

Overview

Cisco IE3500 Heavy Duty Series Switches are the next generation IP66, IP67-rated Industrial Ethernet switches. They bring robust capabilities to demanding IoT environments such as manufacturing, connected energy, and smart cities. These devices are engineered for harsh conditions, featuring IP67 ingress protection, Power over Ethernet (PoE) capabilities, and durable circular connectors.

A key highlight of the Cisco IE3500H family is its diverse port configurations, offering a comprehensive mix of Fast Ethernet (D-coded), Gigabit Ethernet (X-coded), 2.5GE, 10GE M12 ports. The switches can be wall mounted and deployed without a housing cabinet to meet varied industrial networking requirements.

The Cisco IE3500H series switches can be managed with powerful tools such as Cisco IOS-XE software, Cisco Catalyst Center, and can be easily set up with an on-device modern GUI tool called WebUI. The platform also supports Flexible NetFlow for real-time visibility into traffic patterns and threat analysis.

- Switch Models, on page 1
- Front Panel of the Switch, on page 3
- LEDs, on page 6

Switch Models

Figure 1: Cisco IE3500H Series Switches



	License Level	Description
IE-3500H-8T-E	Network Essentials	8x 10/100/1G X-code M12 ports, non-PoE

	License Level	Description
IE-3500H-16T-E	Network Essentials	16x 10/100/1G X-code M12 ports, non-PoE
IE-3500H-24T-E	Network Essentials	24x 10/100/1G X-code M12 ports, non-PoE
IE-3500H-12FT4T-E	Network Essentials	12x 10/100 D-code M12 ports, 4x 10/100/1G X-code M12 ports, non-PoE
IE-3500H-20FT4T-E	Network Essentials	20x 10/100 D-code M12 ports, 4x 10/100/1G X-code M12 ports, non-PoE
IE-3500H-14P2T-E	Network Essentials	14x 10/100/1G X-code PoE/PoE+ ports, 2x 10/100/1G X-Code M12 ports, PoE power budget of 240 W
IE-3500H-12P2MU2X-E	Network Essentials	2x 10G SFP+ ports, 2x 100/1G/2.5G UPoE X-code ports, 12x 10/100/1G M12 X-code ports, PoE power budget of 240 W
IE-3505H-16T-E	Network Essentials	16x 10/100/1G X-code M12 ports, non-PoE
IE-3500H-8T-A	Network Advantage	8x 10/100/1G X-code M12 ports, non-PoE
IE-3500H-16T-A	Network Advantage	16x 10/100/1G X-code M12 ports, non-PoE
IE-3500H-24T-A	Network Advantage	24x 10/100/1G X-code M12 ports, non-PoE
IE-3500H-12FT4T-A	Network Advantage	12x 10/100 D-code M12 ports, 4x 10/100/1G X-code M12 ports, non-PoE
IE-3500H-20FT4T-A	Network Advantage	20x 10/100 D-code M12 ports, 4x 10/100/1G X-code M12 ports, non-PoE
IE-3500H-14P2T-A	Network Advantage	14x 10/100/1G X-code PoE/PoE+ ports, 2x 10/100/1G X-Code M12 ports, PoE power budget of 240 W
IE-3500H-12P2MU2X-A	Network Advantage	2x 10G SFP+ ports, 2x 100/1G/2.5G UPoE X-code ports, 12x 10/100/1G M12 X-code ports, PoE power budget of 240 W
IE-3505H-16T-A	Network Advantage	16x 10/100/1G X-code M12 ports, non-PoE

Table 1: Hardware Specifications

Specifications	All PIDs
Removable storage	SD card[1]
Alarm[2,3]	1 alarm output relay 1 alarm input relay

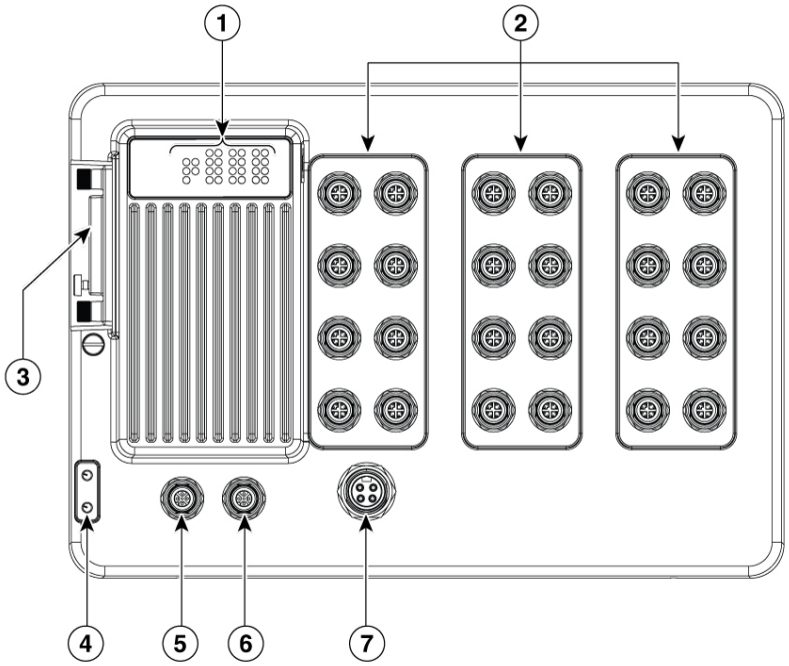
Specifications	All PIDs
Console port[2]	1

1. The SD card is optional and is not shipped by default with the switch.
2. Using an M12 A-coded 5-pin connector.
3. Relay max. rating: 24Vdc at 1A, 48Vdc at 0.5A.

Front Panel of the Switch

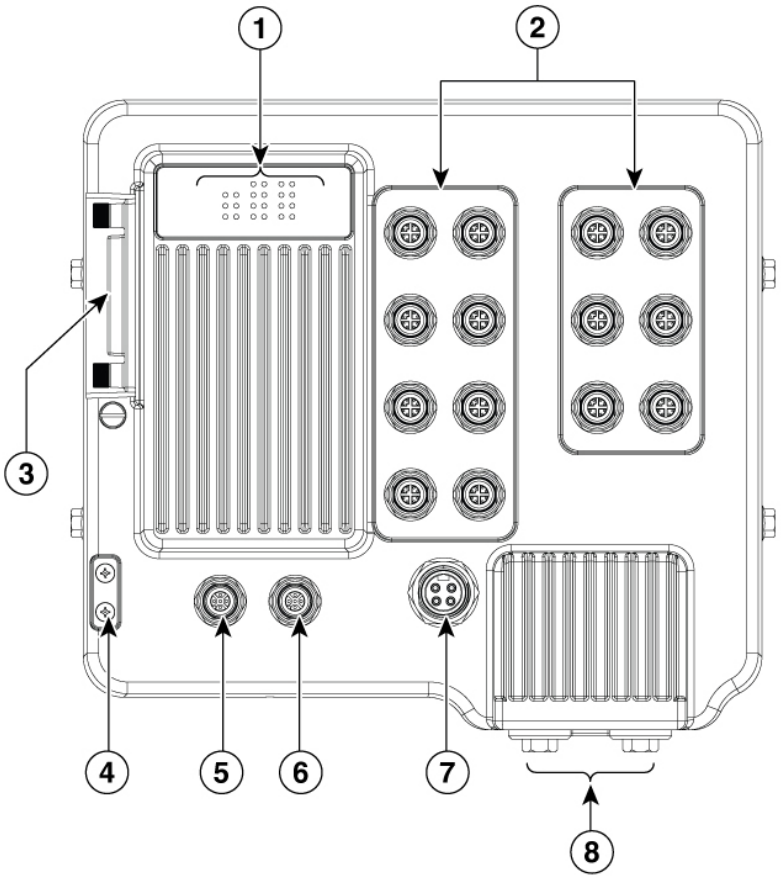
This section describes the front panel components. The following figures depict the components available on the various models in this product family. Not all models are illustrated.

Figure 2: Cisco IE3500H front panel



1	Switch status LEDs	5	Console port
2	Ethernet ports	6	Alarm port
3	SD card cover	7	Power input Port
4	Ground lug		

Figure 3: Cisco IE3500H SFP model front panel

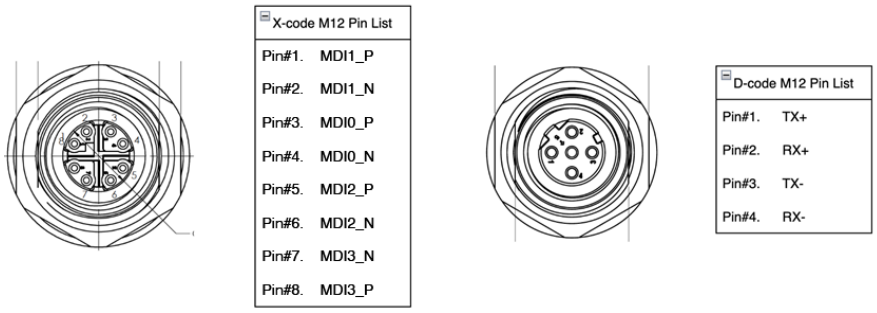


1	Switch status LEDs	5	Console port
2	Ethernet ports	6	Alarm port
3	SD card cover SFP ports	7	Power input port
4	Ground lug	8	2x SFP ports

Ethernet Ports

The Cisco IE3500H series switches have Ethernet ports supporting 1000Base-T, 100Base-TX and 10Base-T with autonegotiation, auto-MDIX, and cable diagnostics on X-code M12 connectors.

Figure 4: M12 Ethernet Ports



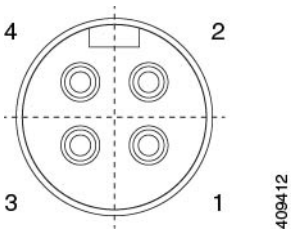
1	RD +	3	RD –
2	TD +	4	TD –

Power Connector

Power the switch using DC power through the front panel connector. The power connector labeling is on the panel. Torque power connection to 10in/lbs.

A Mini-Change (A-size) Single-Ended cord set power cord must be used to power the switch.

Figure 5: Power Connector



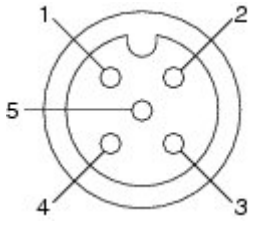
1	NC	3	DC–
2	DC+	4	NC

Alarm Connector

Connect the alarm signals to the switch through the alarm connector. The switch supports one alarm output relay.

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. The alarm output is rated at 24Vdc/1A, 48Vdc/0.5A maximum.

Figure 6: Alarm Connector



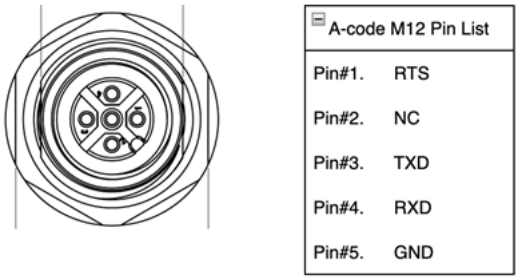
1	NO Alarm Output Normally Open (NO) connection	4	Alarm In Reference
2	NC Alarm Output Normally Closed (NC) connection	5	COMMON Alarm Common connection
3	Alarm In		

Console Management Port

Connect the switch to a PC running Microsoft Windows or to a terminal server through the A-code M12 connector console port and configure it by using the CLI. The baud rate and format of the console port is:

- 9600 baud
- 8 data bits
- 1 stop bit
- No parity
- None (flow control)

Figure 7: Console Connector

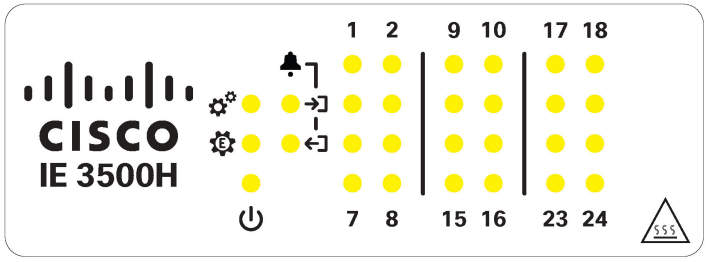


Note For specified cable, use Cisco Product CAB-CONSOLE-M12=

LEDs

Use the LEDs to monitor overall system status and power supply input and output status as well as port and alarm status.

Figure 8: Switch LEDs



System LED

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

Table 2: System LED

Color	Status
Off	Switch is not powered on.
Blinking green	Power-On Self Test (POST) is in progress.
Green	Switch is operating normally.
Red	Switch is receiving power, however not functioning properly.

Express Setup LED

The Express Setup LED displays the status of the initial setup for the initial configuration.

Table 3: Express Setup LED Status

Color	Status
Off	Configured as a managed switch.
Solid Green	System is operating normally.
Blinking Green	Performing the initial setup, in recovery, or the 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.

Power status LEDs

The power LED shows the device power status.

Table 4: Power Status LEDs

Color	System Status
Green	Power is present on the associated circuit.
Off	Power is not present on the circuit or the system is not powered up.

Alarm LEDs

The following table list the alarm LED colors and their meanings.

Table 5: Alarm Out Status LEDs

Color	System Status
Off	Alarm out is not configured or the Switch is off.
Green	Alarm out is configured, no alarms detected.
Blinking red	Major alarm detected.
Red	Minor alarm detected.

Port status LEDs

Each 10/100, 1G, 2.5G, 10G port (identified by numbers, depending upon the model) has a port status LED.

Table 6: Port status LEDs

Color	Status
Off	No link, or port administratively shut down, or port is in Error disable state
Solid green	Link present, no activity
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 blocked by Spanning Tree Protocol (STP) and is not forwarding data. After a port is reconfigured, the port LED can be amber for up to 30 seconds as STP checks the switch for possible loops.
Blinking amber	System is sending Spanning Tree BPDUs on an STP blocked port (Best Effort)

Power over Ethernet status LEDs

The PoE status LED indicates the current operational state of the PoE feature.

Table 7: PoE status LEDs

Color	Status
Off	PoE is not enabled
Solid green	PoE function is enabled, and all of the PoE-enabled ports are functioning correctly
Blinking red	PoE function is enabled, but one of the PoE port's power is disconnected or has failed
Solid red	PoE function is enabled, but all of the PoE ports have failed