



Product Overview

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Product Overview

The Cisco® Catalyst® IE3400 Heavy Duty Series is Cisco's next-generation, IP66 and IP67-rated switching platform designed to provide enhanced network-based security, segmentation, and visibility in the most demanding industrial environments. The Cisco® Catalyst® IE3400 Heavy Duty Series switches extend the power of intent-based networking to the harshest Internet of Things (IoT) edge.

The Cisco Catalyst IE3400 Heavy Duty Series switches deliver the advanced capabilities similar to the Cisco Catalyst IE3400 Rugged Series in environments that have heavy exposure to dust and water. These switches are available with 8, 16, or 24 Fast Ethernet (D-coded) or Gigabit Ethernet (X-coded) M12 interfaces. The switches can be wall mounted and deployed without a housing cabinet.



Note Installation details are provided in the Switch Installation section.

The IE3400 Heavy Duty Series switches are powered by Cisco IOS® XE, a next-generation operating system with built-in security and trust, featuring Secure Boot, image signing, and the Cisco Trust Anchor module. Cisco IOS XE also provides API-driven configuration with open APIs and data models.

The IE3400 Heavy Duty Series can be managed with powerful tools such as Cisco DNA Center and Industrial Network Director, and can be easily set up with a completely redesigned, user-friendly, modern GUI tool called WebUI. The platform also supports Flexible NetFlow for real-time visibility into traffic patterns and threat analysis with Cisco Stealthwatch®.

Most of the documentation related to this product can be found at http://www.cisco.com/en/US/products/ps12451/tsd_products_support_series_home.html

Switch Models and Power Supply

Figure 1: Cisco Catalyst IE3400 Heavy Duty Series



The following table lists and describes the switches and power supply. All IP66 and IP67 switches run Cisco IOS XE firmware.

Table 1: Switch and Power Supply Descriptions

Hardware Specifications	IE-3400H-8FT	IE-3400H-8T	IE-3400H-16FT	IE-3400H-16T	IE-3400H-24FT	IE-3400H-24T
Total 100-Mbps D-coded ports	8	N/A	16	N/A	24	N/A
Total 1-Gbps X-coded ports	N/A	8	N/A	16	N/A	24
Removable storage	SD card See Note 1.	SD card See Note 1.	SD card See Note 1.	SD card See Note 1.	SD card See Note 1.	SD card See Note 1.
Alarm outputs See Note 2 and 3.	1 alarm output relay	1 alarm output relay	1 alarm output relay	1 alarm output relay	1 alarm output relay	1 alarm output relay
Alarm inputs See Note 2.	1 alarm input	1 alarm input	1 alarm input	1 alarm input	1 alarm input	1 alarm input
Console ports See Note 2.	1	1	1	1	1	1
Power input	Mini-change, (single power source)	Mini-change, (single power source)	Mini-change, (single power source)	Mini-change, (single power source)	Mini-change, (single power source)	Mini-change, (single power source)

Note 1. The SD card is optional and is not shipped by default with the switch.

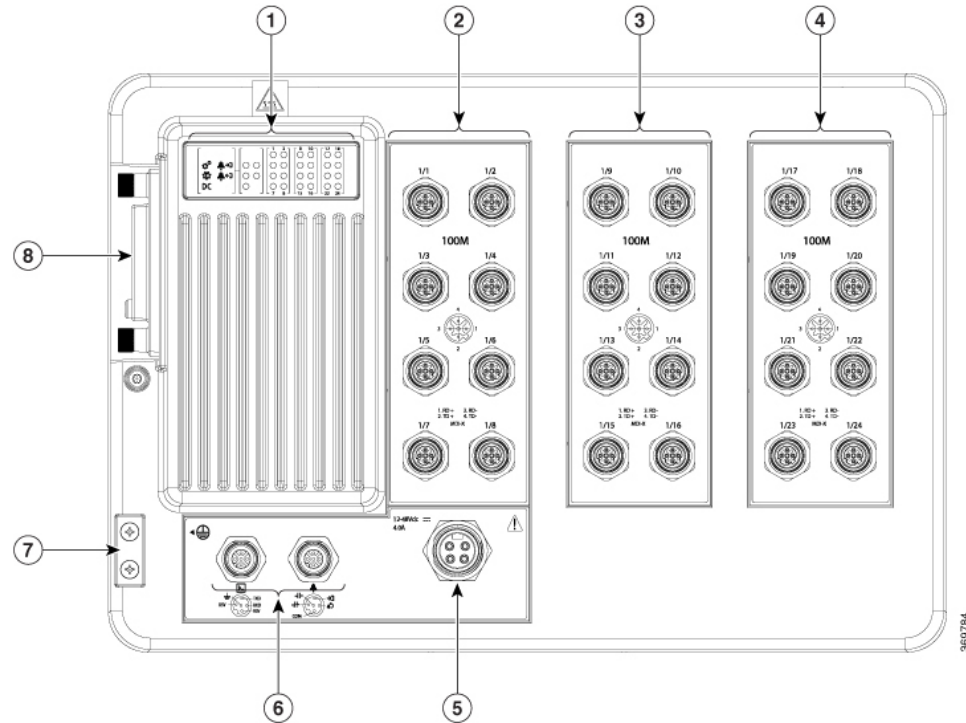
Note 2. Using an M12 A-coded 5-pin connector.

Note 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: Catalyst IE3400H Front Panel



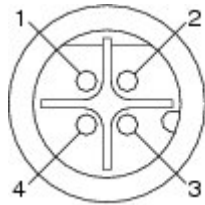
1	Switch Status LEDs	6	Console Port (left) Alarm Port (right)
2, 3, 4	Ethernet ports	7	Ground Lug
5	Power Input Port	8	SD Card Cover

10/100BASE-T Ports

You can set the 10/100BASE-T ports to operate at 10 or 100 Mb/s over IP standard M12 cabling. The ports can operate in full-duplex, half-duplex, autonegotiate (default), or never half-duplex mode.

A **Never Half Duplex** option for a port functions as the name implies, the link is never established at half duplex; it is either full-duplex or no link. Never Half Duplex avoids the unpredictable response times that in a CSMA/CD network can cause safety features to trip or interruptions that require restarting the process flow.

Figure 3: FE Ports



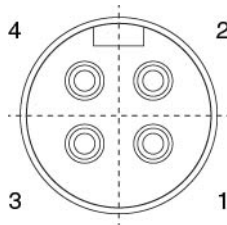
38100188

1	RD +	3	RD -
2	TD +	4	TD -

Power Connector

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

Figure 4: Power Connector



409412

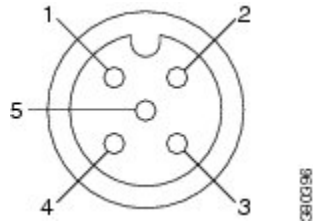
1	NC	3	DC-
2	DC+	4	NC

Alarm Connector

You 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 5: Alarm Connector



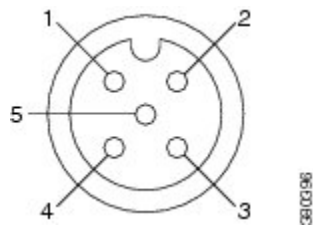
1	NO Alarm Output Normally Open (NO) connection	4	Alarm In Reference
2	NC Alarm Output Normally Closed (NC) connection	5	COMMON Alarm Common connection
3	Alarm In		

Console Management Port

You can connect the switch to a PC running Microsoft Windows or to a terminal server through the 5-pole A-coded 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 6: Console Connector



1	RTS	4	RXD
2	CTS	5	GND
3	TXD		

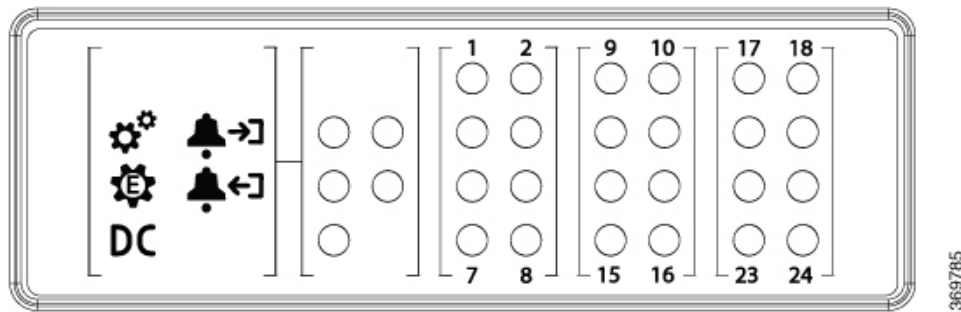


Note For specified cable, use Cisco Product CAB-CONSOLE-M12=

LEDs

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

Figure 7: 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	Boot fast (power-on self test) is in progress.
Green	Switch is operating normally.
Red	Switch is not functioning properly.

Express Setup LED

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

Table 3: Setup LED

Color	Status
Off (dark)	Configured as a managed switch.
Solid green	Operating normally running the initial setup configuration.
Blinking green	Performing the initial setup, in recovery, or the initial setup is incomplete.
Solid red	Failed to start initial setup or recovery because there is no available port to link the switch to the management station. Disconnect a device from a switch port, and then press the Express Setup button.

Power Status LEDs

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.

Table 4: Power Status LEDs

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	An alarm has been configured to indicate that power is not present on the associated circuit or the power input dropped below the lowest valid level.

For information about the power LED colors and behaviors during the boot fast sequence, see the [“LEDs” section](#).

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 10/100BASE-T or 10/100/1000Base-T port (identified by numbers 1-23, depending upon the the model) has a port status led.

Table 6: Port Status LEDs

Color	Status
Off	No link.
Solid green	Link present. No activity.
Blinking green	Port is actively sending or receiving data.
Alternating green-amber	Link fault. Errors that affect connectivity and throughput, such as excessive collisions, CRC errors, and alignment and jabber errors, are monitored.

Solid amber	<p>Port is not forwarding. The port was disabled by management, an address violation, or STP.</p> <p>Note After a port is reconfigured, the port LED can remain amber for up to 30 seconds while STP checks the switch for loops.</p>
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IP67 Power Supply

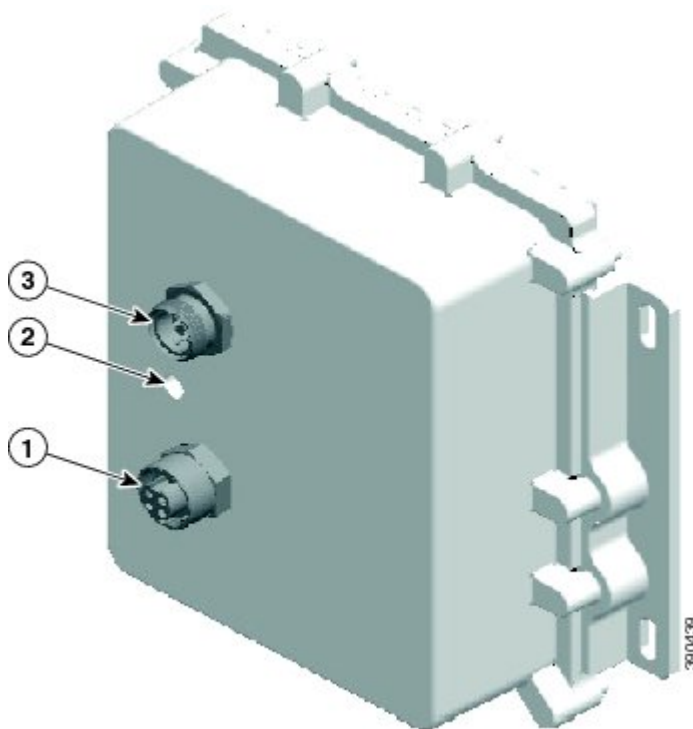
The switch is offered with optional IP67 power supplies, (PWR-IE160W-67-DC=) and (PWR-IE180W-67-AC=). The IP67 DC power supply can take 18 to 60Vdc input and provide a 54V, 160W DC output. The IP67 AC power supply can take 85-264VAC/ input and provide a 54V, 180W DC output. There are also non-IP67 power supplies compatible with the switch.



Note The power supplies are sold separately.

The following figure displays the IP67 Power Supply.

Figure 8: Cisco IP67 Power Supply



1 DC output connector	3 DC input power connector
2 Status LED	