Cables and Connectors

Connector Specifications

10/100/1000 Ports

The 10/100/1000 Ethernet ports on the switches use RJ-45 connectors.

Figure 1: 10/100/1000 Port Pinouts

SFP Module Connectors

The following illustration shows a Lucent Connector (LC) style, fiber-optic cable connector.

**Figure 2: Fiber-Optic SFP Module LC Connector**

⚠

Warning Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. Statement 1051

Avertissement :

Les fibres ou les connecteurs déconnectés peuvent émettre des rayonnements laser invisibles. Ne fixez pas les rayons ou ne les regardez pas directement avec des instruments optiques. Énoncé 1051

The following illustration shows the 1000BASE-T SFP module RJ-45 connector.

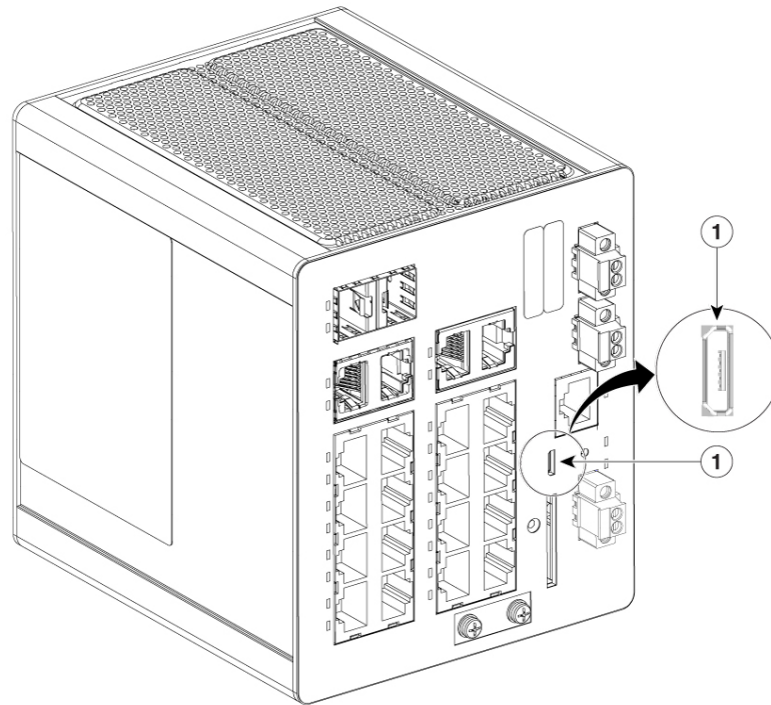*Figure 3: 1000BASE-T SFP Module Connector*
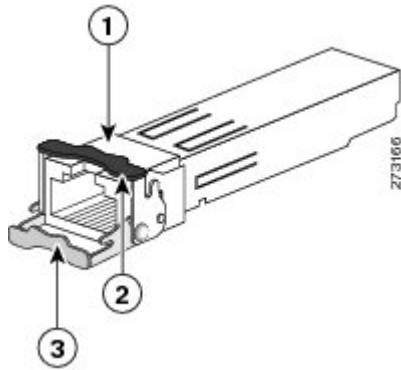
1	RJ-45 connector	3	Bale-clasp latching mechanism in the open (unlocked) position
2	Bale-clasp latching mechanism in the closed		

Console Port

The switch has two console ports: a USB micro-Type B port and an RJ-45 console port, both on the front panel.
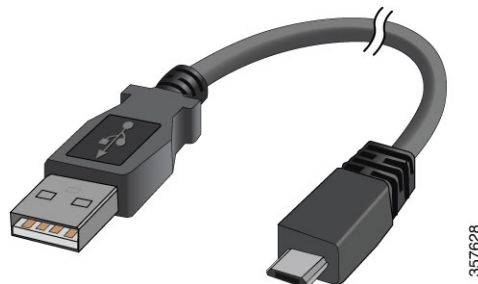
Figure 4: Micro USB Type B Port

| 1 | USB Micro-Type B Port |

The USB console port uses a USB Type B to 5-pin micro-Type B cable, which is shown in the following illustration. The USB micro Type A-to-USB micro-Type B cable is not supplied.

Note   When running Linux, access the USB Console using **Minicom** instead of **Screen**.

Figure 5: USB Micro Type B-to-USB 5-Pin Micro-Type B Cable

The RJ-45 console port uses an 8-pin RJ-45 connector. The supplied RJ-45-to-DB-9 adapter cable is used to connect the console port of the switch to a console PC. You must provide a RJ-45-to-DB-25 female DTE adapter if you want to connect the switch console port to a terminal. You can order a kit (part number ACS-DSBUASYN=) containing that adapter.

Alarm Port

The labels for the alarm connector pin-outs are on the switch panel and are displayed in the following table.

Table 1: Alarm Port Labels

Label	Connection
NO	Alarm Output Normally Open (NO) connection
COM	Alarm Output Common connection
NC	Alarm Output Normally Closed (NC) connection
IN2	Alarm Input 2
REF	Alarm Input Reference Ground connection
IN1	Alarm Input 1

Cables and Adapters

SFP Module Cables

Each port must match the wave-length specifications on each end of the cable, and for reliable communications, the cable must not exceed the allowable length. See the Cisco Catalyst IE3100 Rugged Series Data Sheet on cisco.com for detailed cabling information.

Note

- The maximum operating temperature of the switch varies depending on the type of SFP module that you use.

- Modal bandwidth applies only to multimode fiber (MMD),

- A mode-field diameter/cladding diameter = 9 micrometers/125 micrometers.

- 1000BASE-LX/LH SFP modules connected with MMF over a short link distance require a mode-conditioning patch cord.

  Ordinary patch cords can cause transceiver saturation, resulting in an elevated bit error rate (BER). Using the 1000BASE-LX/LH SFP module with 62.5-micron diameterMMF requires a mode-conditioning patch cord between the single mode fiber (SMF) SFP module and the MMF cable on both the send and receive link ends.

- Link distances greater than 984 feet (300 m) require a mode-conditioning patch cord.

- 1000BASE-ZX SFP modules can send data up to 62 miles (100 km) by using dispersion-shifted SMF or low-attenuation SMF. The distance depends on fiber quality, the number of splices, and the connectors.

  Fiber-optic cable spans less than 15.43 miles (25 km) require a 5-decibel (dB) or 10-dB inline optical attenuator between the fiber-optic cable plant and the receiving port on the 1000BASE-ZX SFP module.

SFP Module Patch Cable

The switch uses an SFP-module patch cable, a 0.5-meter, copper, passive cable with SFP module connectors at each end, as shown in the following illustration. The patch cable connects two switches in a cascaded configuration.
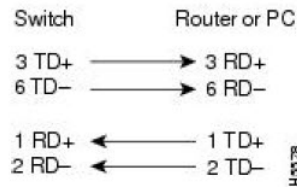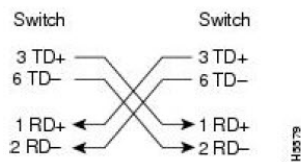
Figure 6: SFP Module Patch Cable
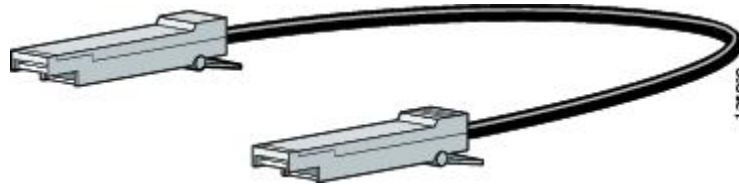
Cable Pinouts

This section contains information about cable pinouts for different cables that are used with Cisco Catalyst IE3100 Rugged Series Switches.
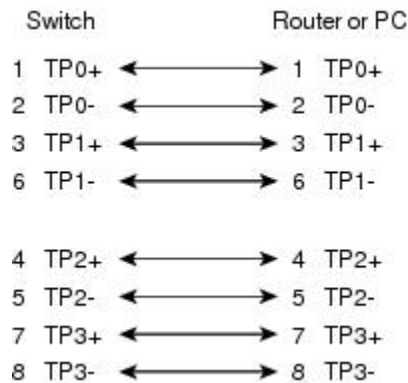
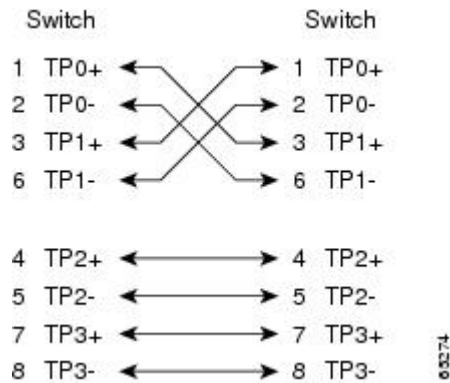**Figure 7: Two Twisted-Pair Straight-Through Cable Schematic for 10/100 Ports**

Figure 8: Two Twisted-Pair Crossover Cable Schematic for 10/100 Ports

Figure 9: Four Twisted-Pair Straight-Through Cable Schematic for 1000BASE-T Ports

Figure 10: Four Twisted-Pair Crossover Cable Schematics for 1000BASE-T Ports

To identify a crossover cable, hold the cable ends side by side, with the tab at the back. The wire connected to pin 1 on the left end should be the same color as the wire connected to pin 3 on the right end. The wire connected to pin 2 on the left end should be the same color as the wire connected to pin 6 on the right end.

Figure 11: Identifying a Crossover Cable
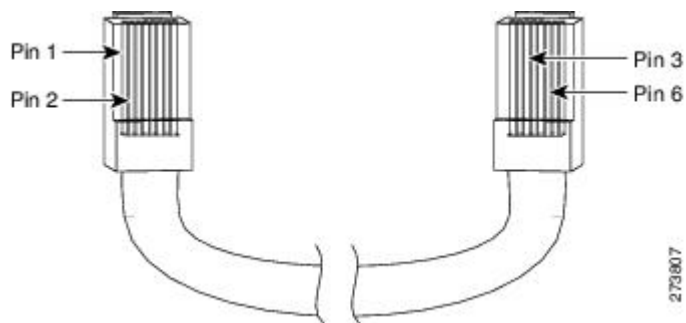
Console Port Adapter Pinouts

The console port uses an 8-pin RJ-45 connector. If you did not order a console cable, you must provide an RJ-45-to-DB-9 adapter cable to connect the switch console port to a PC console port. If you want to connect the switch console port to a terminal, you must provide an RJ-45-to-DB-25 female DTE adapter.

The following table lists the pinouts for the console port, the RJ-45-to-DB-9 adapter cable, and the console device.

Table 2: Console Port Signaling Using a DB-9 Adapter

Switch ConsolePort (DTE)	RJ-45-to-DB-9Terminal Adapter	ConsoleDevice
Signal	DB-9 Pin	Signal
RTS	8	CTS
DTR	6	DSR
TxD	2	RxD
GND	5	GND

Switch ConsolePort (DTE)	RJ-45-to-DB-9Terminal Adapter	ConsoleDevice
RxD	3	TxD
DSR	4	DTR
CTS	7	RTS

The following table lists the pinouts for the switch console port, RJ-45-to-DB-25 female DTE adapter, and the console device.

Table 3: Console Port Signaling Using a DB-25 Adapter

Switch Console Port (DTE)	RJ-45-to-DB-25Adapter	Console Device
Signal	DB-25 Pin	Signal
RTS	5	CTS
DTR	6	DSR
TxD	3	RxD
GND	7	GND
RxD	2	TxD
DSR	20	DTR
CTS	4	RTS