

Cisco NCS 540 Small Density Passive Cooled Routers Overview

The Cisco NCS 540 Small Density Passive Cooled Router is temperature-hardened, fixed port, 2.5 rack unit form-factor router. An IOS XR based cell site router, the router extends Cisco's 5G Converged SDN Transport to edge of the networks as a CSR/NID/CPE, with the smallest footprint, ever.

For more information about its features and benefits, see the Cisco Network Convergence System 540 Small Density Router Data Sheet.

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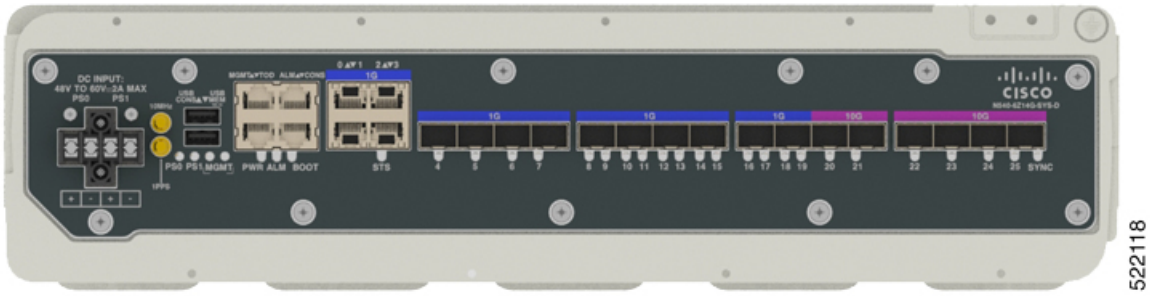
Network Interfaces

Cisco N540-6Z14S-SYS-D router

The Cisco N540-6Z14S-SYS-D router has the following hardware features:

- 6 X 1G/10G SFP+ ports
- 6 X CSFP ports
- 4 X 1G SFP ports
- 4 X 1G Copper GE ports

Figure 1: Cisco N540-6Z14S-SYS-D

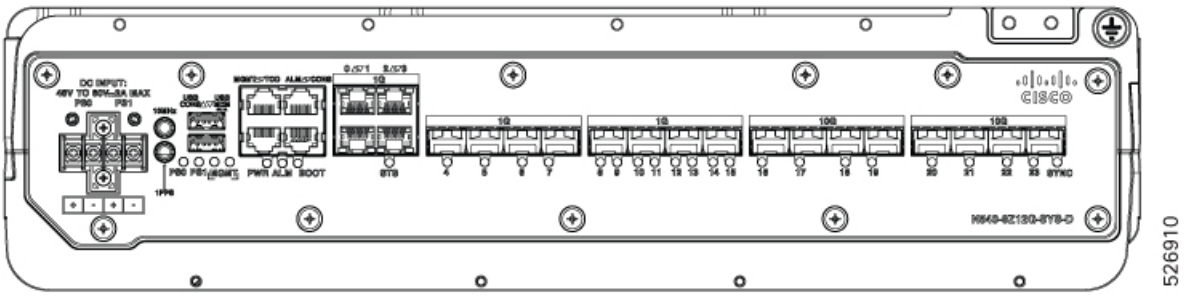


Cisco N540-8Z12G-SYS-D router

The Cisco N540-8Z12G-SYS-D router has the following hardware features:

- 8 X 1G/10G SFP+ ports
- 4 X CSFP ports
- 4 X 1G SFP ports
- 4 X 1G Copper GE ports

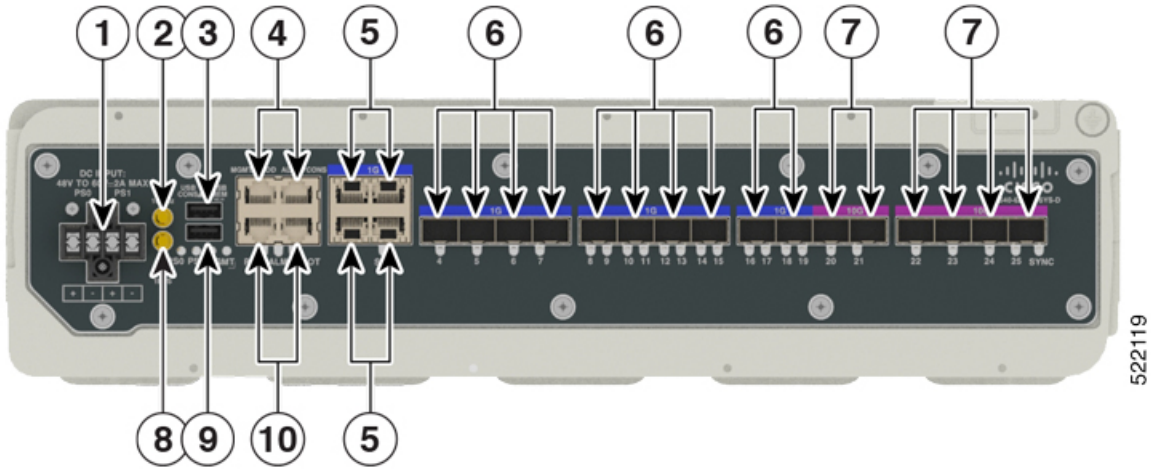
Figure 2: Cisco N540-8Z12G-SYS-D



Cisco NCS 540 Small Density Passive Cooled Router Features

Cisco N540-6Z14S-SYS-D ports

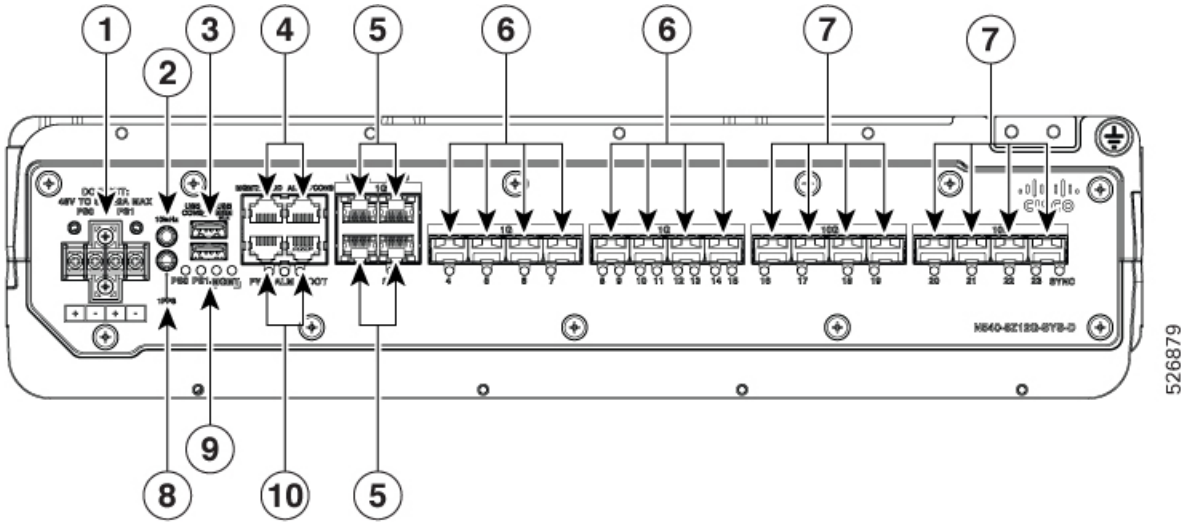
Figure 3: Cisco N540-6Z14S-SYS-D Ports



1	DC Power Input	2	10 MHz Input or Output
3	USB Console	4	Management and Alarm Ports
5	4 X 1G Copper Ports (Ports 0-3)	6	1G ports (Ports 4-19)
7	6 X 10G SFP ports (Ports 20-25)	8	1 PPS
9	USB Memory	10	ToD and Console Ports

Cisco N540-8Z12G-SYS-D ports

Figure 4: Cisco N540-8Z12G-SYS-D Ports



1	DC Power Input	2	10 MHz Input or Output
3	USB Console	4	Management and Alarm Ports
5	4 X 1G Copper Ports (Ports 0-3)	6	1G ports (Ports 4-15)
7	8 X 10G SFP ports (Ports 16-23)	8	1 PPS
9	USB Memory	10	ToD and Console Ports

Specification

For information on physical specification, temperature, and other details for the router, see *Cisco NCS 540 chassis specification* in the Cisco Network Convergence System 540 Small Density Router Data Sheet.

Interface Naming

Cisco N540-6Z14S-SYS-D router

The following table shows the interface naming of the Cisco N540-6Z14S-SYS-D router:

Table 1: Port Numbering

1G Copper ports	1G SFP ports	1G SFP ports (Including CSFP)	10G Dual rate SFP+ ports
0/0 to 0/3	0/4 to 0/7	0/8 to 0/19*	0/20 to 0/25

* ports 9, 11, 13, 15, 17, and 19 are enabled only with CSFP optical modules.

The *interface-path-id* is *rack* / *slot* / *module* / *port*. The slashes between values are required as part of the notation.

- **GigE** — 0/0/0/0 to 0/0/0/19 (ports 9, 11, 13, 15, 17, and 19 are enabled only with CSFP optics)
- **TenGigE** — 0/0/0/20- 0/0/0/25

Note Dual-Rate functionality is supported only with the supported SFP.

Table 2: Maximum Number of Ports

Category	Maximum Number of Ports	Port Number
1GE	20	0/0 - 19

Category	Maximum Number of Ports	Port Number
10GE	6	0/20 - 25

Cisco N540-8Z12G-SYS-D router

The following table shows the interface naming of the N540-8Z12G-SYS-D router:

Table 3: Port Numbering

1G Copper ports	1G SFP ports	1G SFP ports (Including CSFP)	10G Dual rate SFP+ ports
0/0 to 0/3	0/4 to 0/7	0/8 to 0/15*	0/16 to 0/23

* ports 9, 11, 13, and 15 are enabled only with CSFP optical modules.

The *interface-path-id* is *rack* / *slot* / *module* / *port*. The slashes between values are required as part of the notation.

- **GigE** — 0/0/0/0 to 0/0/0/15 (ports 9, 11, 13, and 15 are enabled only with CSFP optics)
- **TenGigE** — 0/0/0/16- 0/0/0/23

Note Dual-Rate functionality is supported only with the supported SFP.

Table 4: Maximum Number of Ports

Category	Maximum Number of Ports	Port Number
1GE	16	0/0 - 15
10GE	8	0/16 - 23

External Alarm Inputs

The router supports four dry contact alarm inputs through an RJ-45 jack at the front panel.

- Normally Open—indicates that no current flows through the alarm circuit and the alarm is generated when the current is flowing.

Each alarm input can be provisioned as critical, major, or minor.

Console

The RS232 console port provides transmission (Tx), reception (Rx), and ground (Gnd).

USB Console

A single USB 2.0 Type-A receptacle on the front panel of the router provides console access to uboot, Cisco IOS-XR and diagnostics. While it uses the Type-A connector, it operates as a USB peripheral only for connection to an external host computer. This interface requires the use of a Type-A to Type-A connector instead of a standard USB cable.

Note Use of the USB console is mutually exclusive of the RS232 console port. This interface requires the use of a Type-A to Type-A USB cable. If you insert the USB cable and connect to the host computer, then you can only enter the commands using the USB.

Online Insertion and Removal

The router supports the following Online Insertion and Removal (OIR) operations:

- When an SFP is removed, there is no effect on traffic flowing on other ports.
- When an SFP is installed, the system initializes that port for operation based on the current configuration. If the inserted SFP is incompatible with the current configuration of that port, the port does not become operational until the configuration is updated.
- When both power supplies are installed and active, the load may be shared between them or a single PSU supports the whole load. When a power supply is not working or the input cable is removed, the remaining power supply takes the entire load without disruption.
- The power supply modules are fixed and cannot be removed.

Supported Transceiver Modules

For more information on the supported transceiver modules, see Transceiver Module Group (TMG) Compatibility Matrix. In the **Begin your Search** search box, enter the keyword and click **Enter**.