Overview

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The Cisco Nexus 93180YC-FX3 switch (N9K-C93180YC-FX3, N9K-C93180YC-FX3H) is a 1-rack unit (RU), fixed-port switch designed for deployment in data centers. This switch has the following ports:

• 48 100M/1/10/25-Gigabit Ethernet SFP28 ports (ports 1-48).

• 6 10/25/40/50/100-Gigabit QSFP28 ports (ports 49-54)

• One management port (one 10/100/1000BASE-T port)

• One console port (RS-232)

• 1 USB port

This switch includes the following user-replaceable components:

• Fan modules (four) with the following airflow choices:

    • Port-side exhaust fan module with blue coloring (NXA-FAN-35CFM-PE)

    • Port-side intake fan module with burgundy coloring (NXA-FAN-35CFM-PI)

Note

Table 1: Fan Speeds for This Switch

	Port-Side Intake Fan Speed %	Port-Side Exhaust Fan Speed %
Typical/Minimum	50%	70%
Maximum	100%	100%

Note This switch runs with +1 redundancy mode, so that if one fan fails, the switch can sustain operation. But if a 2nd fan fails, this switch is not designed to sustain operation. Hence before waiting for major threshold temperature to be hit, the switch will power down due to **Powered-down due to fan policy trigger**.

Note Each fan module has two rotors. The switch can function normally if one rotor inside the any one fan module fails. In case of more than one rotor failure, the switch will issue a warning and power down in 2 minute.

  • Power supply modules (two—One for operations and one for redundancy [1+1]) with the following choices:

  • 650-W port-side exhaust AC power supply with blue coloring (NXA-PAC-650W-PE)

  • 650-W port-side intake AC power supply with burgundy coloring (NXA-PAC-650W-PI)

  • 1200-W HVAC/HVDC power supply with dual-direction airflow white coloring (N9K-PUV-1200W)

  • 930-W port-side exhaust DC power supply with blue coloring (NXA-PDC-930W-PE)

  • 930-W port-side intake DC power supply with burgundy coloring (NXA-PDC-930W-PI)

Note All fan modules and power supplies must use the same airflow direction.

Note This switch may present access issues if installed between switches with greater chassis depth. Please consider this before installation.

Deployment Scheme for SFP-10G-T-X Transceivers

The following figure shows the maximum configuration density of SFP-10G-T-X SFP+ transceivers for this switch.

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1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54

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	Active Port deploying the SFP+ 10GBASE-T transceiver, with max power consumption up to 2.5W.
	Once configured with "media-type 10g-tx" in NX-OS or "Link Level Policy -> Physical Media Type -> SFP 10G TX" in ACI, these ports can deploy SFP-10G-T-X. Without such configuration, they behave like normal ports.

	Port Shutdown or Active with Passive Copper Cables only (Max. power consumption up to 0.1W).
	Once 10g-tx is configured on yellow ports, ports to the left, right, top and bottom of the yellow port are referenced as blue ports. These adjacent ports will then support only low power Passive Copper DAC cable, or these can be left empty to conserve power. If 10g-tx configuration is removed from adjacent yellow ports, the blue ports will revert to behaving like normal ports.
	Active Port deploying any Cisco 1/10/25G optics (SFP, SFP+, SFP28) EXCLUDING SFP+ 10GBASE-T, with max power consumption up to 1.5W. These ports are not part of any scheme and can deploy all regular Cisco optics and behave like normal ports.

The following figure shows the switch features on the port side of the chassis.
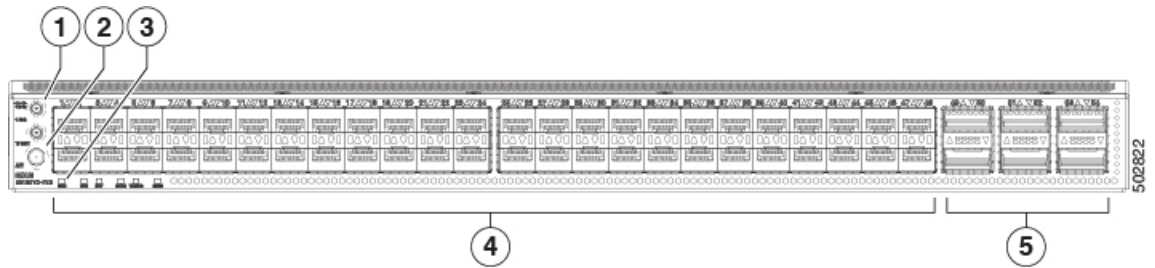
1	1PPS and 10MHz SMB ports	4	48 100M/1/10/25-Gigabit Ethernet SFP28 ports
2	GPS/GNSS antenna connector	5	6 10/25/40/50/100-Gigabit QSFP28 ports
3	LEDs		

Note Time of Day, and PTP GM is not supported

To determine which transceivers, adapters, and cables are support this switch, see the Cisco Transceiver Modules Compatibility Information document.

The following figure shows the switch features on the power supply side of the chassis.
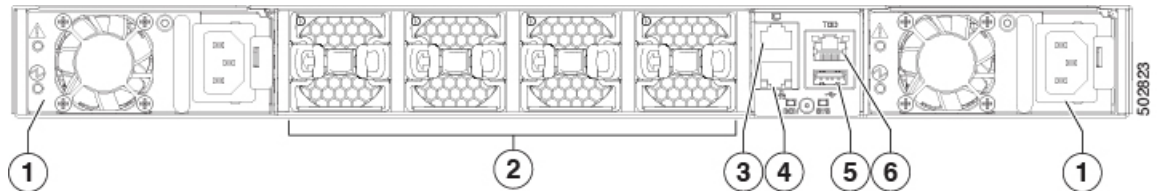
1	Power supply modules (1 or 2) (AC power supplies shown) with slots numbered 1 (left) and 2 (right)	4	Management port (RJ45)
2	Fan modules (4) with slots numbered from 1 (left) to 4 (right)	5	USB port
3	Console port	6	ToD port

Table 2: ToD/1PPS RS422 Interface-RJ-45 Pinout

Pin	Signal_name	Description
1	NC	No Connect
2	NC	No Connect
3	1PPS_N	1PPS RS422
4	GND	-
5	GND	-
6	1PPS_P	1PPS RS422
7	TOD_N	Time of Day (ToD) RS422
8	TOD_P	Time of Day (ToD) RS422

The following figure shows the side of the chassis.
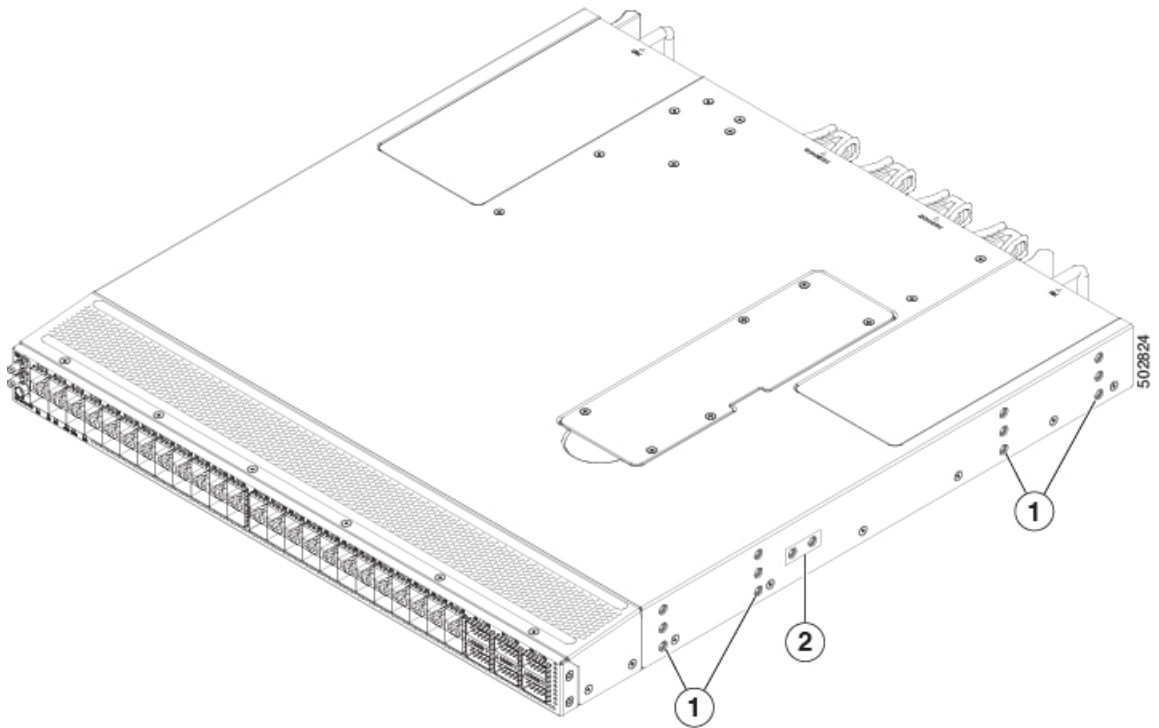
1	Screw holes for mounting brackets	3	Grounding pad

Depending on whether you plan to position the ports in a hot or cold aisle, you can order the fan and power supply modules with port-side intake or port-side exhaust airflow. For port-side intake airflow, the fan and power supplies have burgundy coloring. For port-side exhaust airflow, the fan and power supplies have blue coloring.

The fan and power supply modules are field replaceable. You can replace one fan module or one power supply module during operations so long as the other modules are installed and operating. If you have only one power supply installed, you can install the replacement power supply in the open slot before removing the original power supply.

Note All fan and power supply modules must have the same direction of airflow. Otherwise, the switch can overheat and shut down.

Caution If the switch has port-side intake airflow (burgundy coloring for fan modules), you must locate the ports in the cold aisle. If the switch has port-side exhaust airflow (blue coloring for fan modules), you must locate the ports in the hot aisle. If you locate the air intake in a hot aisle, the switch can overheat and shut down.