# N2K-C2348TQ Datasheet



## Overview

N2K-C2348TQ is a Cisco Nexus 2300 Platform Chassis, offering 10G BASE T Fabric Extender, 2 power supplier, 3 Fan Modules, 48x100M/1/10GT (RJ45) + 6x40G QSFP+(req QSFP+) and choice of airflow. Cisco Nexus 2300 platform fabric extenders are the successors to the industry's widely adopted Cisco Nexus 2000 Series Fabric Extenders. The Nexus 2300 platform with its Cisco fabric extender architecture provides a highly scalable unified server-access platform across a range of connectivity options such as 100 Megabit Ethernet; 1, 10, and 40 Gigabit Ethernet; unified fabric; copper and fiber connectivity; and rack and blade server environments.

## **Quick Specs**

Figure 1 shows the appearance of the N2K-C2348TQ.

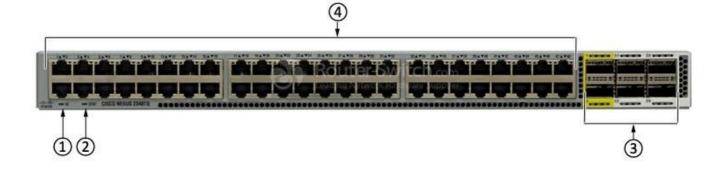


#### Table 1 shows the Quick Spec.

| Product Code                         | N2K-C2348TQ   |
|--------------------------------------|---|
| Fabric extender host interfaces      | 48  |
| Fabric extender host interface type  | 48 x 100M/1/10GBASE-T ports: RJ-45 connectors   |
| Fabric extender fabric<br>interfaces | 6 x 40 Gigabit Ethernet QSFP (24 x 10 Gigabit Ethernet)   |
| Fabric speed                         | Up to 240 Gbps in each direction<br>(480-Gbps full duplex)  |
| Performance                          | Hardware forwarding at 1440 Gbps or 2160 mpps   |
| FCoE                                 | FCoE support up to 30m with Category 6a and 7 cables (Cisco Nexus 5500 and 5600 platforms and 6000 Series)                                      |
| Cisco parent switch                  | Cisco Nexus 5500 and 5600 platforms<br>Cisco Nexus 6000 Series<br>Cisco Nexus 7000 Series and 7700 platform<br>Cisco Nexus 9300 and 9500 Series |
| Dimensions (H x W x D)               | 4.37 x 43.94 x 43.36 cm   |
| Net Weight                           | 8.0 kg  |

## **Product Details**

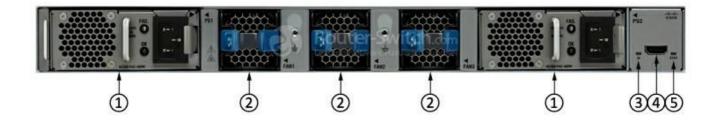
Figure 2 shows the front panel of the N2K-C2348TQ.



#### Note:

| (1) | ID LED     | (3) | 40-Gigabit ports (six) for QSFP+ transceivers and 40-Gigabit QSFP+ to four 10-Gigabit SFP+ breakout cables |
|-----|------------|-----|--|
| (2) | Status LED | (4) | 48 x 100M/1/10GBASE-T ports  |

#### Figure 3 shows the back panel of the N2K-C2348TQ.



#### Note:

| (1) | Power supply modules (one or two, hot swappable) (AC power supply shown) |
|-----|--|
| (2) | Fan modules (three, hot swappable)                                       |
| (3) | ID LED   |
| (4) | Management/Console HDMI port   |
| (5) | Status LED   |

#### **The Accessories**

#### Table 2 shows some recommended accessories.

| Models         | Description  |
|----------------|--|
| SFP-10G-SR     | 10GBASE-SR SFP Module  |
| SFP-H10GB-CU1M | Cisco Direct-Attach Twinax Copper Cable Assembly with SFP+ Connectors SFP-H10GB-CU1M |
| SFP-H10GB-CU5M | SFP-H10GB-CU5M,5M Passive Copper Twinax Cable F, Nexus,24AWG cable assembly          |

| QSFP-H40G-CU5M | Cisco QSFP to QSFP copper direct-attach 40GBASE-CR4 cable QSFP-H40G-CU5M      |
|----------------|---|
| QSFP-40G-LR4   | 40GBase-LR4 Optical Transceiver,QSFP+,40GE,Single-mode Module(1310nm,10km,LC) |

## **Compare to Similar Items**

Table 3 shows the comparison of similar items.

| Product Code                           | N2K-C2348TQ   | N2K-C2348UPQ  |
|--|---|---|
| Fabric extender host interfaces        | 48  | 48  |
| Fabric extender host interface<br>type | 48 x 100M/1/10GBASE-T ports: RJ-45 connectors   | For 48 x 1/10 Gigabit Ethernet host interface ports:<br>1/10 Gigabit Ethernet ports SFP/SFP+<br>AOC cables<br>DS-SFP-FC16G-SW                   |
| Fabric extender fabric<br>interfaces   | 6 x 40 Gigabit Ethernet QSFP (24 x 10<br>Gigabit Ethernet)  | 6 x 40 Gigabit Ethernet QSFP (24 x 10<br>Gigabit Ethernet)  |
| Fabric speed                           | Up to 240 Gbps in each direction<br>(480-Gbps full duplex)  | Up to 240 Gbps in each direction<br>(480-Gbps full duplex)  |
| Performance                            | Hardware forwarding at 1440 Gbps or 2160 mpps   | Hardware forwarding at 1440 Gbps or 2160 mpps   |
| Cisco parent switch                    | Cisco Nexus 5500 and 5600 platforms<br>Cisco Nexus 6000 Series<br>Cisco Nexus 7000 Series and 7700 platform<br>Cisco Nexus 9300 and 9500 Series | Cisco Nexus 5500 and 5600 platforms<br>Cisco Nexus 6000 Series<br>Cisco Nexus 7000 Series and 7700 platform<br>Cisco Nexus 9300 and 9500 Series |

#### **Get more information**

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# Specification

| N2K-C2348TQ Specification                   |   |
|---|---|
| Туре  | Cisco Nexus 2348TQ  |
| Fabric extender<br>host interfaces          | 48  |
| Fabric extender<br>host interface<br>type   | 48 100M/1/10GBASE-T ports: RJ-45 connectors   |
| Fabric extender<br>fabric interfaces        | 6 x 40 Gigabit Ethernet QSFP (24 x 10 Gigabit Ethernet)   |
|   | Fiber: QSFP-40G-SR-BD, QSFP-40G-SR4,QSFP-40G-SR4-S, QSFP-40G-LR4, QSFP-40G-LR4-S, and QSFP-40G-CSR4-S   |
| Fabric extender<br>fabric interface<br>type | Copper: 40 Gigabit Ethernet QSFP+ active Twinax cables (QSFP-H40G-ACU7M and QSFP-H40G-ACU10M (no passive cables)  |
|   | AOC cables: QSFP-H40G-AOC1M, QSFP-H40G-AOC2M, QSFP-H40G-AOC3M, QSFP-H40G-AOC5M, QSFP-H40G-AOC7M, QSFP- H40G-AOC10M, and QSFP-H40G-AOC15M  |
|   | AOC breakout cables: QSFP-4X10G-AOC1M, QSFP-4X10G-AOC2M, QSFP-4X10G-AOC3M, QSFP-4X10G-AOC5M, QSFP- 4X10G-AOC7M, and QSFP-4X10G-AOC10M   |
|   | Copper breakout cables: QSFP-4x10G-AC7M and QSFP-4x10G-AC10M (no passive cables)<br>Distance between Cisco Nexus 2300 fabric extender and Cisco Nexus 5500 switch is up to 10 km (up to 3 km for FCoE<br>traffic), and for the Cisco Nexus 5600 switch or 6000 Series Switch the distance is up to 3 km (300m for FCoE traffic) |
|   | All equivalent S-class optics are supported<br>Cisco 40GBASE QSFP to SFP+/SFP adapter (CVR-QSFP-SFP10G)   |

| Fabric speed                     | Up to 240 Gbps in each direction<br>(480-Gbps full duplex)  |  |
|----------------------------------|---|--|
| Oversubscription                 |   |  |
| Performance                      | Hardware forwarding at 1440 Gbps or 2160 mpps   |  |
| FCoE                             | FCoE support up to 30m with Category 6a and 7 cables (Cisco Nexus 5500 and 5600 platforms and 6000 Series)  |  |
| FCOE                             |   |  |
| Cisco parent<br>switch           | Cisco Nexus 5500 and 5600 platforms<br>Cisco Nexus 6000 Series<br>Cisco Nexus 7000 Series and 7700 platform<br>Cisco Nexus 9300 and 9500 Series   |  |
| Minimum<br>software              | Cisco NX-OS Release 7.1(0)N1(1)<br>(Cisco Nexus 5500 and 5600 platforms and 6000 Series)<br>Cisco NX-OS Release 7.2.0D1(1)<br>(Cisco Nexus 7000 Series and 7700 platform)<br>Cisco NX-OS Release 7.0(3)I2(1)<br>(Cisco Nexus 9300 Series and 9500 platform) |  |
| Dimensions<br>(H x W x D)        | 1.72 x 17.3 x 17.07 in. (4.37 x 43.94 x 43.36 cm)   |  |
| Weight                           | 17.7 lbs. (8.0 kg)  |  |
| Environment                      | Operating temperature: 32 to 131°F (0 to 55°C)<br>Non-operating temperature: -40 to 158°F (-40 to<br>70°C) Humidity: 5 to 95 percent (noncondensing)<br>Altitude: 0 to 10,000 ft. (0 to 3000m)  |  |
| Power supply                     | N2200-PAC-400W,<br>N2200-PAC-400W-B,<br>N2200-PDC-400W,<br>N2200-PDC-350W-B, NXA-PHV-500W, and NXA-PHV-500W-B   |  |
| Fan modules                      | NXA-FAN-30CFM-F and NXA-FAN-30CFM-B (N+1 redundancy = 3 fans)   |  |
| Typical input<br>operating power | 280W at 30m (maximum 350W)  |  |
| Heat dissipation                 | 952 BTU/hour (typical); 1190 BTU/hour (maximum)   |  |
| Regulatory<br>Compliance         | Products should comply with CE Markings according to directives 2004/108/EC and 2006/95/EC  |  |
| Safety                           | UL 60950-1<br>CAN/CSA-C22.2 No. 60950-1EN 60950-<br>1 IEC 60950-1AS/NZS 60950-1GB4943   |  |
| EMC: Emissions                   | 47CFR Part 15 (CFR 47) Class<br>A AS/NZS CISPR22 Class A<br>CISPR22 Class A<br>EN55022 Class A<br>ICES003 Class A<br>VCCI Class A<br>EN61000-3-2<br>EN61000-3-3<br>KN22 Class A<br>CNS13438 Class A   |  |
| EMC: Immunity                    | EN50082-1<br>EN61000-6-1<br>EN55024<br>CISPR24<br>EN300386<br>KN 61000-4 series   |  |
| RoHS                             | The Cisco Nexus 2348UPQ, 2348TQ, and 2332TQ are RoHS-6 compliant  |  |

| Network<br>Equipment<br>Building<br>Standards<br>(NEBS) | The Cisco Nexus 2348UPQ, 2348TQ, and 2332TQ meet NEBS level-3 standards (hardware revision 3) (not currently supported)   |
|---|---|
| Description   | Specification   |
| Layer 2 features  | Layer 2 VLAN trunks<br>IEEE 802.1Q VLAN encapsulation<br>Cisco EtherChannel technology on uplinks<br>PortChannel on server ports on Cisco Nexus 2300 platforms<br>Advanced PortChannel hashing<br>Jumbo frames on all ports (up to 9216 bytes)<br>Pause frames (Priority Flow Control [PFC] and IEEE<br>802.3x) Private VLANs (promiscuous only on uplinks)<br>Local multicast replication on Cisco Nexus 2300 platform (8000 entries)<br>Autonegotiation to 1000BASE-T; full duplex on host interfaces   |
| Enhanced<br>Ethernet                                    | DCB   |
| Quality of<br>service (QoS)                             | Layer 2 IEEE 802.1p (class of service [CoS])<br>Eight hardware queues per port (Cisco Nexus 2300 platforms)<br>Per-port QoS configuration<br>Local policing on Cisco Nexus 2300 platform (64 policers)<br>CoS trust<br>Configurable tail-drop threshold on Cisco Nexus 2300 platform<br>Egress strict-priority queuing<br>Egress port-based scheduling: Weighted Round Robin (WRR)  |
| High availability                                       | Hot-swappable field-replaceable power supplies and fan modules<br>1:1 power redundancy<br>Uplink traffic management through Cisco EtherChannel hashing or static port pinning<br>vPCs for dual-homed active-active connectivity across two Cisco Nexus parent switches<br>vPCs for dual-homed straight-through NIC connectivity across two Cisco Nexus 2300 platform fabric extenders<br>In-Service Software Upgrade (ISSU)   |
| Security  | Local classification (256 access control list [ACL] entries)  |
| Management  | Fabric extender management using in-band management<br>Locator and beacon LEDs on front and back of chassis (locator beacons on the front and rear of the chassis help reduce<br>errors when the equipment is serviced)<br>Per-port locator and beacon LEDs<br>Syslog<br>Simple Network Management Protocol Versions 1, 2, and 3 (SNMP v1, v2, and v3)<br>Enhanced SNMP MIB support<br>XML (NETCONF) support<br>Remote Monitoring (RMON)<br>Cisco Discovery Protocol Versions 1 and 2<br>Cisco Switched Port Analyzer (SPAN) source on server ports<br>Power-on self-test (POST)<br>Cisco Generic Online Diagnostics (GOLD): Ethernet<br>Comprehensive bootup diagnostic tests<br>CiscoWorks<br>Cisco Data Center Network Manager (DCNM); the Cisco Nexus 2300 platform is managed through the parent Cisco Nexus<br>switch using DCNM and standard SNMP, XML interface, and command-line interface (CLI) |
| Configuration<br>MIBs                                   | ENTITY-<br>MIB IF-<br>MIB<br>FABRIC-EXTENDER<br>MIB CISCO-ENTITY-<br>EXT-MIB<br>CISCO-ENTITY-FRU-CONTROL-<br>MIB CISCO-ENTITY-SENSOR-MIB<br>CISCO-ETHERNET-FABRIC-EXTENDER-MIB  |
| Monitoring MIBs   | RMON-MIB  |

| Industry<br>standards | IEEE 802.1p: CoS prioritization<br>IEEE 802.1Q: VLAN tagging<br>IEEE 802.3: Ethernet<br>IEEE 802.3ae: 10 Gigabit Ethernet<br>SFF 8431 SFP+ support<br>IEEE 802.3u 100BASE-TX specification<br>IEEE 802.3ab 1000BASE-T specification<br>IEEE 802.3an 10GBASE-T<br>10GBASE-SR<br>10GBASE-LR<br>RMON<br>SFF-8461 |
|-----------------------|---|
|-----------------------|---|

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