

N2K-C2248TF-E Datasheet

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Overview

N2K-C2248TF-E is a Cisco Nexus 2248TP-E Series 1GE Fabric Extender, offering 2 power supply, 1 Fan Modules, 48x100/1000Base-T + 4x10GE (includes 8 Fabric Extender Transceivers), 32MB buffer, and choice of airflow. Cisco Nexus 2000 Series Fabric Extenders comprise a category of data center products designed to simplify data center access architecture and operations. Nexus 2000 Series Fabric Extenders behave like remote line cards for a parent Cisco Nexus switch. The fabric extenders are essentially extensions of the parent Cisco Nexus switch fabric, with the fabric extenders and the parent switch together forming a distributed modular system. This architecture enables physical topologies with the flexibility and benefits of both top-of-rack (ToR) and end-of-row (EoR) deployments

Quick Specs

Figure 1 shows the appearance of the N2K-C2248TF-E.

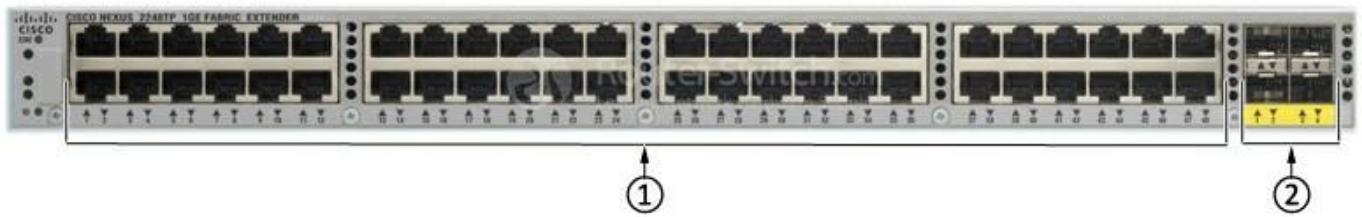


Table 1 shows the Quick Spec.

Product Code	N2K-C2248TF-E
Bundle	8 × Fabric Extender Transceivers
Fabric extender host interfaces	48
Fabric extender host interface type	100BASE-T/1000BASE-T ports: RJ-45 connectors
Fabric extender fabric interfaces	4 × 10-Gigabit parent-switch facing ports for SFP+ transceivers
Fabric speed	40 Gbps in each direction (80 Gbps full duplex)
Performance	Hardware forwarding at 176 Gbps or 131 mpps
Cisco parent switch	Cisco Nexus 5000 Series Cisco Nexus 6000 Cisco Nexus 7000 Series Cisco Nexus 9000 Series
Dimensions (H x W x D)	4.37 x 43.94 x 44.96 cm
Net Weight	8.0 Kg (Systems are fully loaded with two power supplies and one fan tray.)

Product Details

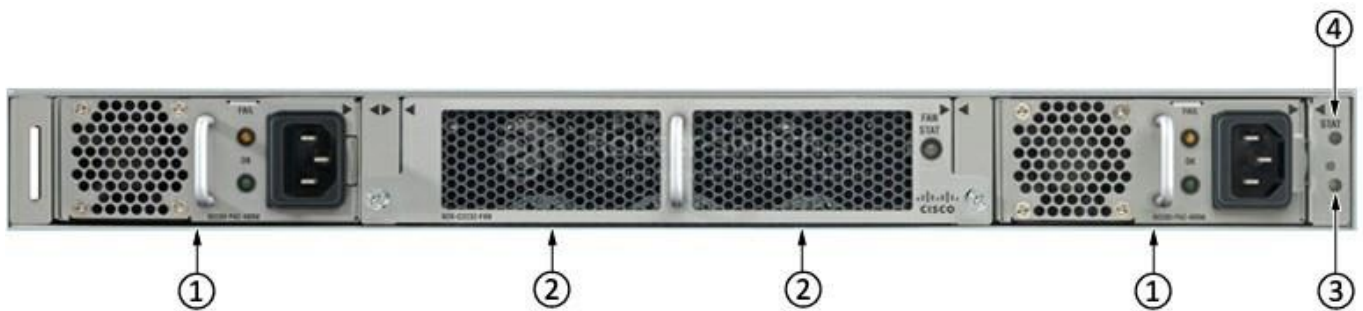
Figure 2 shows the front panel of the N2K-C2248TF-E.



Note:

(1)	48 × 100/1000BASE-T host-facing ports for RJ-45 connectors
(2)	4 × 10-Gigabit parent-switch facing ports for SFP+ transceivers

Figure 3 shows the back panel of the N2K-C2248TF-E.



Note:

(1)	Power supply modules (one or two, hot swappable) (AC power supply shown)
(2)	Fan modules (two, hot swappable)
(3)	Status LED
(4)	ID 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

Compare to Similar Items

Table 3 shows the comparison of similar items.

Product Code	N2K-C2248TF-E	N2K-C2248TP-E
Bundle	8 × Fabric Extender Transceivers	N/A
Fabric extender host interfaces	48	48
Fabric extender host interface type	48 × 100BASE-T/1000BASE-T ports: RJ-45 connectors	48 × 100BASE-T/1000BASE-T ports: RJ-45 connectors
Fabric extender fabric interfaces	4 × 10-Gigabit parent-switch facing ports for SFP+ transceivers	4 × 10-Gigabit parent-switch facing ports for SFP+ transceivers
Fabric speed	40 Gbps in each direction (80 Gbps full duplex)	40 Gbps in each direction (80 Gbps full duplex)
Performance	Hardware forwarding at 176 Gbps or 131 mpps	Hardware forwarding at 176 Gbps or 131 mpps
Cisco parent switch	Cisco Nexus 5000 Series Cisco Nexus 6000 Cisco Nexus 7000 Series Cisco Nexus 9000 Series	Cisco Nexus 5000 Series Cisco Nexus 6000 Cisco Nexus 7000 Series Cisco Nexus 9000 Series

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Specification

N2K-C2248TF-E Specification	
Type	Cisco Nexus 2248TP-E with 48x100/1000Base-T + 4x10GE (includes 8 Fabric Extender Transceivers)
Fabric extender host interfaces	48
Fabric extender host interfaces type	100BASE-T/1000BASE-T ports: RJ-45 connectors
Fabric extender fabric interfaces	4
Fabric extender fabric interfaces type	<p>Fiber: Cisco Fabric Extender Transceiver (FET-10G) and SFP+ optics (SFP-10G-SR, SFP-10G-SR-S, SFP-10G-LR and SFP- 10G-LR-S)</p> <p>Copper: 10 Gigabit Ethernet SFP+ passive Twinax copper cables (SFP-H10GB-CU1M, SFP-H10GB-CU3M, and SFP-H10GB- CU5M) and active Twinax copper cables (SFP-H10GB-ACU7M and SFP-H10GB-ACU10M)</p> <p>AOC cables: SFP-10G-AOC1M, SFP-10G-AOC2M, SFP-10G-AOC3M, SFP-10G-AOC5M, SFP-10G-AOC7M, SFP-10G-AOC10M</p> <p>AOC breakout cables: QSFP-4X10G-AOC1M, QSFP-4X10G-AOC2M, QSFP-4X10G-AOC3M, QSFP-4X10G-AOC5M, QSFP- 4X10G-AOC7M, QSFP-4X10G-AOC10M</p> <p>Copper breakout cables: QSFP-4SFP10G-CU1M, QSFP-4SFP10G-CU3M, QSFP-4SFP10G-CU5M, QSFP-4x10G-AC7M, and QSFP-4x10G-AC10M</p> <p>Distance between Cisco Nexus 2000 Series Fabric Extender and Cisco Nexus 5000 or Nexus 6000 Series Switch: Up to 10 km</p> <p>Distance between Cisco Nexus 2000 Series Fabric Extender and Cisco Nexus 7000 Series Switch: Up to 10 km</p>
Fabric speed	40 Gbps in each direction (80 Gbps full duplex)
Oversubscription	1.2:1

Performance	Hardware forwarding at 176 Gbps or 131 mpps
Cisco parent switch	Cisco Nexus 5000 Series Cisco Nexus 6000 Cisco Nexus 7000 Series Cisco Nexus 9000 Series
Minimum software	Cisco NX-OS Software Release 5.1(3)N(1)1 (Cisco Nexus 5000 Series) Cisco Nexus 6000 Series Switches running Cisco NX-OS Software Release 6.0 and later Cisco NX-OS Software Release 6.1(1) on the Cisco Nexus 7000 Series Cisco NX-OS Software Release 6.1 on the Cisco Nexus 9000 Series
Dimensions (H x W x D)	1.72 x 17.3 x 17.7 in. (4.37 x 43.94 x 44.96 cm)
Weight	17.7 lb (8.0 kg) *Systems are fully loaded with two power supplies and one fan tray
Power supply	N2200-PAC-400W, N2200-PAC-400W-B, N2200-PDC-400W, and N2200-PDC-350W-B
Fan tray	N2K-C2248-FAN and N2K-C2248-FAN-B
Typical input operating power	95W (max 110W)
Input current	1.0A/1.2A (typical/maximum) Note: Input currents listed for 110V; divide by 2 for 220V Supply will surge on AC power-up for a fraction of a second beyond this rating
Output current	8A/10A (typical/maximum)
Heat dissipation	322/403 BTU/hour (typical/maximum)
Regulatory compliance	Products should comply with CE Markings according to directives 2004/108/EC and 2006/95/EC.
Safety	UL 60950-1 CAN/CSA-C22.2 No. 60950-1EN 60950-1 IEC 60950-1AS/NZS 60950-1GB4943
EMC: Emissions	47CFR Part 15 (CFR 47) Class A AS/NZS CISPR22 Class A CISPR22 Class A EN55022 Class A ICES003 Class A VCCI Class A EN61000-3-2 EN61000-3-3 KN22 Class A CNS13438 Class A
EMC: Immunity	EN50082-1 EN61000-6-1 EN55024 CISPR24 EN300386 KN 61000-4 series
RoHS	The Cisco Nexus 2148T is RoHS-5 compliant, and the Cisco Nexus 2224T, 2248TP, 2232PP, 2248PQ, 2232TM, and 2232TM-E are RoHS-6 compliant.

Network Equipment Building Standards (NEBS)	The Cisco Nexus 2248TP, 2248TP-E, and 2232PP meet NEBS level-3 standards (hardware revision 3).
Layer 2 features	<p>Layer 2 VLAN trunks</p> <p>IEEE 802.1Q VLAN encapsulation</p> <p>Cisco EtherChannel technology on uplinks</p> <p>PortChannel on server ports on Cisco Nexus 2200 platforms</p> <p>Advanced PortChannel hashing</p> <p>Jumbo frames on all ports (up to 9216 bytes)</p> <p>Pause frames (Priority Flow Control [PFC] and IEEE 802.3x) Private VLANs (promiscuous only on uplinks)</p> <p>Local multicast replication on Cisco Nexus 2200 platform (8000 entries)</p> <p>Autonegotiation to 1000BASE-T; full duplex on host interfaces</p>
Enhanced Ethernet	DCB (Cisco Nexus 2232PP)
Quality of service (QoS)	<p>Layer 2 IEEE 802.1p (class of service [CoS])</p> <p>8 hardware queues per port (Cisco Nexus 2200 platforms), or 4 hardware queues per port (Cisco Nexus 2148T)</p> <p>Per-port QoS configuration</p> <p>Local policing on Cisco Nexus 2200 platform (64 policers)</p> <p>CoS trust</p> <p>Configurable tail-drop threshold on Cisco Nexus 2200 platforms</p> <p>Egress strict-priority queuing</p> <p>Egress port-based scheduling: Weighted Round Robin (WRR)</p>
High availability	<p>Hot-swappable field-replaceable power supplies and fan modules</p> <p>1:1 power redundancy</p> <p>Uplink traffic management through Cisco EtherChannel hashing or static port pinning</p> <p>vPCs for dual-homed active-active connectivity across two Cisco Nexus 5000 or 6000 Series Switches</p> <p>vPCs for dual-homed straight-through NIC connectivity across two Cisco Nexus 2000 Series Fabric Extenders</p> <p>ISSU</p>
Security	Local classification (256 access control list [ACL] entries)
Management	<p>Fabric extender management using in-band management</p> <p>Locator and beacon LEDs on front and back of chassis (locator beacons on the front and rear of the chassis help reduce errors when the equipment is serviced)</p> <p>Per-port locator and beacon LEDs</p> <p>Syslog</p> <p>Simple Network Management Protocol Versions 1, 2, and 3 (SNMP v1, v2, and v3)</p> <p>Enhanced SNMP MIB support</p> <p>XML (NETCONF) support</p> <p>Remote Monitoring (RMON)</p> <p>Cisco Discovery Protocol Versions 1 and 2</p> <p>Cisco Switched Port Analyzer (SPAN) source on server ports</p> <p>Power-on self-test (POST)</p> <p>Cisco Generic Online Diagnostics (GOLD): Ethernet</p> <p>Comprehensive bootup diagnostic tests</p> <p>CiscoWorks</p> <p>Cisco Data Center Network Manager (DCNM); the Cisco Nexus 2000 Series is managed through the parent Cisco Nexus switch using DCNM and standard SNMP, XML interface, and command-line interface (CLI)</p>
Configuration MIBs	<p>ENTITY-MIB</p> <p>IF-MIB</p> <p>FABRIC-EXTENDER-MIB</p> <p>CISCO-ENTITY-EXT-MIB</p> <p>CISCO-ENTITY-FRU-CONTROL-MIB</p> <p>CISCO-ENTITY-SENSOR-MIB</p> <p>CISCO-ETHERNET-FABRIC-EXTENDER-MIB</p>
Monitoring MIBs	RMON-MIB

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