

| NXT-G48C210R

48 X 1G RJ45 + 4 x 25G (SFP28) + 2 x 100G (QSFP28) TOR Switch for Data Centers

Tyrone NXT-G48C210R is a line-rate L2/L3 Switch for use as gigabit ethernet switch in high-performance data center networking, enterprise access networking or campus networking. In a compact 1U form factor, this switch provides 48 X 1G RJ45 + 4 x 25G (SFP28) + 2 x 100G (QSFP28) ports and includes redundant hot-swappable power supplies and fans. Each SFP28 uplink port can be configured as 25GbE or 10GbE by using break out cables & 2 x 100G QSFP28 as a stacking port. This is an Open Network Switch loaded with Open Network Install Environment (ONIE) which supports installation of compatible Network Operating System (NOS) including commercial and open-source options.



FREEDOM
OF CHOICE



GREATER
CONTROL



RAPID
INNOVATION



REDUCED
CAPEX & OPEX

onie

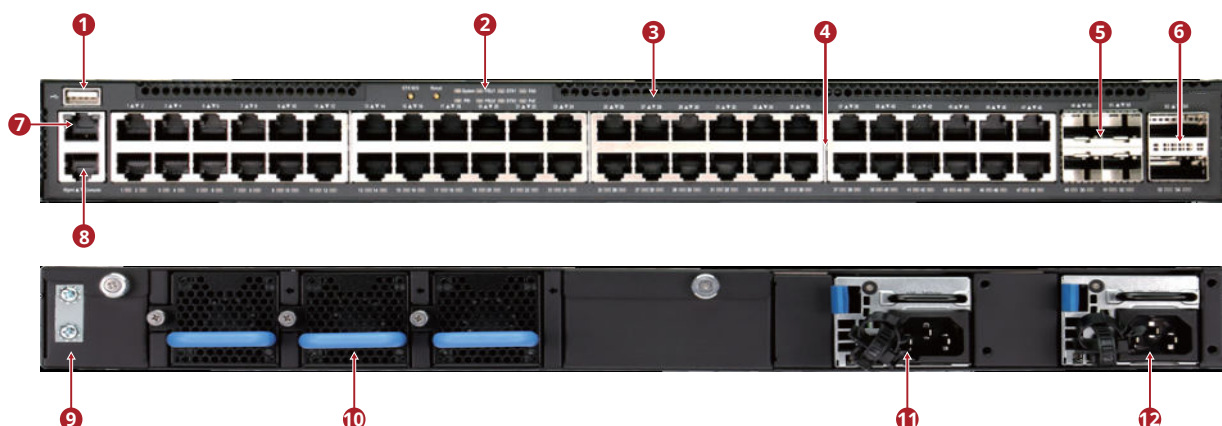
OPEN NETWORK
SWITCH



| Key Features

- 1 GbE connections to server and storage nodes in rack, with 25 GbE uplinks to spine network.
- 48 x 100/1000BASE-T RJ-45 ports.
- 4 x 25G SFP28 uplink ports Supporting 10GbE/25GbE
- 2 x 100G QSFP28 stacking ports (Subject to NOS implementation).
- Management Ports -1 x RJ-45 serial console, 1 x RJ-45 100/1000BASE-T management
- Full line-rate L2 or L3 forwarding and switching.
- Cost-effective, open network switch for data center racks or enterprise environment
- All ports on one side & PSUs + fans on the other side, with airflow from PSU to port side
- With SONiC open-source network software(Optional).
- With TPM 1.2 feature for security enhancements
- With secure boot feature for security enhancements
- Based on Broadcom BCM56371 (Trident III)
- Jumbo frames support up to 12,288 Bytes
- 8 MB integrated packet buffer
- 4K VLAN IDs
- 1U rack-mountable

| Interfaces



Description

1. USB storage port	5. 4 x 10G/25G SFP28 ports	9. Grounding point
2. System LEDs	6. 2 x 100G QSFP28 stacking ports	10. Hot-swappable 2 + 1 redundant fans
3. Port indicators	7. Management port	11. PSU 2
4. 48 x 10/100/1000BASE-T RJ-45 ports	8. Console port	12. PSU 1



SWITCH PORTS:

- **48 x 10/100/1000BASE-T RJ-45 ports**
 - 4 x 10G/25G SFP28 uplink ports
 - 2 x 100G QSFP28 stacking ports (requires NOS to support hardware stacking feature)
- **Note: When a DAC cable is used in a topology, a link issue may be encountered if the CR4 Auto-Negotiation/Link Training does not turn on. This can be solved by manually enabling CR4 Auto Negotiation/Link Training.**
- **Management Ports:**
 - 1 x RJ-45 serial console
 - 1 x RJ-45 100/1000BASE-T management port
 - 1 x Type-A USB storage port
- **Supported Transceivers and Cables:**
 - 10GBASE-RJ-45
 - 10G-DAC/AOC Cable
 - 25GBASE-SR/LR
 - 25G-DAC/AOC Cable
 - 40GBASE-SR4/LR4
 - 40G-DAC/AOC Cable
 - 100GBASE-SR4/CWDM4/LR4
 - 100G-DAC/AOC Cable

KEY COMPONENTS

- **Switch Silicon:** Broadcom BCM56371 Trident III 480 Gbps
- **CPU:**
 - Intel® Atom®/Denverton® C3558 4-cores 2.2 GHz x86 processor
 - **DDR4:** 8 GB x 2 SO-DIMM
 - **SPI Flash:** 16 MB x 2
 - **m.2 SSD:** 32 GB MLC
 - **TPM 1.2 with LPC Interface**

LEDs:

- **1GE RJ-45 Port LEDs:** Link Status, Activity
- **SFP28 Port LEDs:** Link Speed, Link Status, Activity
- **QSFP28 Port LEDs:** Link Speed, Link Status, Activity
- **Ethernet Management Port LED:** Link Status, Activity
- **System LEDs:** PRI, PSU1, PSU2, STK1, STK2, FAN

PERFORMANCE:

- **Switching Capacity:** 348 Gbps
- **Forwarding Rate:** 744 Mpps
- **MAC Addresses:** 16K min./112K max.
- **VLAN IDs:** 4K
- **Jumbo Frames:** Up to 12,288 bytes
- **Packet Buffer Size:** 8 MB Integrated packet buffer memory

POWER:

- **PSUs:** 2 redundant, load-sharing, hot-swappable AC
- **AC input range:** 100–240 VAC, 50–60 Hz
- **Redundant, current sharing, PG**
- **Power Rating:** 150 Watts

SOFTWARE:

- **Switch is loaded with Open Network Install Environment (ONIE) software installer**
- **Compatible with the following NOS options:**
 - Open source options
 - Commercial NOS offerings
 - SONiC NOS Compatible

PHYSICAL AND ENVIRONMENTAL:

- **Dimensions (WxDxH):** 43.8 x 47.4 x 4.4 cm (17.24 x 18.66 x 1.73 in)
- **Weight:** 6.98 kg (15.39 lb), with two installed PSUs
- **Operating Temperature:** 0°C to 45°C (32°F to 113°F)
- **Storage Temperature:** -40°C to 70°C (-40°F to 158°F)
- **Operating Humidity:** 5% to 95% non-condensing

REGULATORY INFORMATION

- **EMI:**
 - CISPR 32/EN55032 Class A
 - EN/IEC61000-4-29
 - EN/IEC61000-4-11
 - EN/IEC61000-4-6
 - EN/IEC61000-4-5
 - EN/IEC61000-4-4
 - EN/IEC61000-4-3
 - EN/IEC61000-4-2
- **Safety:**
 - IS:13252 (Part1):2010+A1+A2
 - IEC: 60950-1:2005+A1+A2.
- **RoHS Compliant (Directive 2011/65/EU)**
- **Environmental:**
 - E-waste EPR 2022.



HIGH AVAILABILITY



OPEN NETWORKING



FLEXIBILITY



SMART FEATURES



LAYER 2/3
FUNCTIONALITY



COST-EFFICIENT



25G UPLINK

Layer 2 Protocols

- Link Aggregation Group(LAG)
- Link Layer Discovery Protocol (LLDP)
- VLAN/VLAN Trunk
- Forwarding Database-FDB(Mac Aging/Learning)
- MCLAG-Dynamic Configuration
- MCLAG-Unique IP
- QinQ
- VLAN Translation
- Strom Control
- PVST
- Tag Protocol Identifier (TPID)

Layer 3 Protocols

- Border Gateway Protocol (BGP)
- BGP MP
- BGP Graceful Restart Helper
- BGP Unnumbered
- Routing Stack Graceful Restart
- Equal-cost Multi-path (ECMP)- Dynamic ordered next Hop
- ECMP- Fine grained next Hop
- Virtual Routing and Forwarding (VRF)
- VRF Route Leaking
- IPv6
- EVPN/VxLAN (ND/ARP suppression)
- EVPN/VxLAN (Ingress Replication for L2 BUM traffic over VxLAN tunnels)
- EVPN/VxLAN (Remote MAC programming over VxLAN tunnels)
- EVPN-MH
- SAG (Static Anycast Gateway)
- Open Shortest Path First (OSPF) V2
- IS-IS
- Proxy Address Resolution Protocol (ARP)
- Bidirectional Forwarding Detection (BFD)
- Subport

Quality of Service

- Explicit congestion notification (ECN)
- Weighted random early detection (WRED)
- Classification (CoS, DSCP)
- Marking (CoS, DSCP)
- PFC (Priority Flow Control)/Asym PFC
- PFC Watermark
- Scheduling
- Egress Shaping (port, queue)
- Ingress Port Rate

Security

- Control Plane Policing-COPP (config/Management)
- Access Control List (ACL) Permit/Deny
- IPv6 ACL
- AAA
- AAA Authentication-TACACS+
- AAA Authentication-RADIUS
- AAA Authentication-LDAP
- AAA Authorization- TACACS+ (CLI Level)
- AAA Accounting- TACACS+ (CLI Level)

System/Management

- SNMP
- Syslog
- Network Time Protocol (NTP)
- DHCP Relay
- DHCPv6 Relay
- Sysdump
- Fast Reload
- Warm Reboot
- Platform Monitor
- Thermal Monitor
- Sensor Transceiver Monitoring
- Logfiles
- DNS Utils
- Reachability Tools
- Open SSH/SCP/SFTP
- Critical Resource Monitoring (CRM)
- Mgmt VRF -In Band
- Incremental Config
- Mirroring (Everflow/SPAN/ERSPAN)
- Port Speed Settings
- Enable / Disable Auto Negotiation and Speed Setting with Number of Lanes
- Link Training
- Dynamic Port Breakdown (DPB)
- Telemetry
- Management Framework
- sFlow
- Configurable Drop Counter
- SSD Diagnostic Tooling
- MTU Setting
- DOM Optics Data
- Zero-touch Provisioning (ZTP)
- Container warm restart (BGP/TeamD/SWSS/SyncD)
- TDR (Cable Diagnostic)
- System Health
- Kubernetes
- PCIe Monitoring
- P4 Integrated Network Stack (PINS)

Ordering Information

Supported SKUs

NXT-G48C210R	1G/25G/100G Open Ethernet switch with ONIE, 48 x RJ45, 4 x SFP28 and 2 QSFP28 ports, Broadcom Trident-3, Dual Power Supplies, P2C air-flow, Rail Kit, 1 year warranty
NXT-G48C210R-SON	1G/25G/100G Open Ethernet switch with SONiC, 48 x RJ45, 4 x SFP28 and 2 QSFP28 ports, Broadcom Trident-3, Dual Power Supplies, P2C air-flow, Rail Kit, 1 year warranty
SON-G48C2-1-3	Netweb SONiC Support for NXT-G48C210R, 3 years

Warranty

- Warranty is provided to the original end-user, for a period of Twelve (12) months, if proof of purchase can be provided to TYRONE CARE at the time the warranty claim is made. The machine serial numbers, and model numbers will also be required.

Please check www.tyronesystems.com/supports/support_condition.php for the warranty terms.





FOR MORE INFORMATION

To find out more about Tyrone NXT's products and solutions, visit www.tyronesystems.com/networking



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info@tyronesystems.com | www.tyronesystems.com | www.netwebindia.com

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