NXT-F48C810R

48 x 25G (SFP28) + 8 x 100G (QSFP28) TOR Switch for Data Centers

Tyrone NXT-F48C810R is a line-rate L2/L3 Switch for use as TOR switch in high-performance data centers. In a compact 1U form factor this switch provides 48 x 25G (SFP28) and 8 x 100G (QSFP28) ports and includes redundant hot-swappable power supplies and fans. Each SFP28 port can be configured as 25GbE or 10GbE or 1 GbE (fixed speed, no Auto-negotiation) & each QSFP28 port can be configured as 1 x 100G or 1 x 40G or 4 x 25G or 4 x 10G by using break out cables. 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** **RoHS** **T**

Key Features

- 48 x SFP28 + 8 x QSFP28 switch ports, each QSFP28 supporting 1 x 100 GbE or 1 x 40 GbE, or via breakout cables, 4 x 25 GbE, or 4 x 10 GbE.
- Deploy as Top-of-Rack switch supporting 10 or 25 GbE to servers, with 40 GbE, or 100 GbE uplinks
- Hardware switch pre-loaded with Open Network Install Environment (ONIE) for automated loading of compatible opensource and commercial NOS offerings.
- Cost-effective, open network switch for data center fabric
- Layer 2 or Layer 3 forwarding of 4 Tbps (Full duplex)

- All ports on one side & PSUs + fans on the other side, with airflow from PSU to port side.
- 5+1 redundant, hot-swappable fan modules
- With SONiC open-source network software (Optional).
- With TPM 2.0 feature for security enhancements.
- With secure boot feature for security enhancements.
- Based on Broadcom BCM56873 (Trident III)
- Jumbo frames support up to 9K Bytes
- 32 MB integrated packet buffer
- 4K VLAN IDs
- 1U rack-mountable

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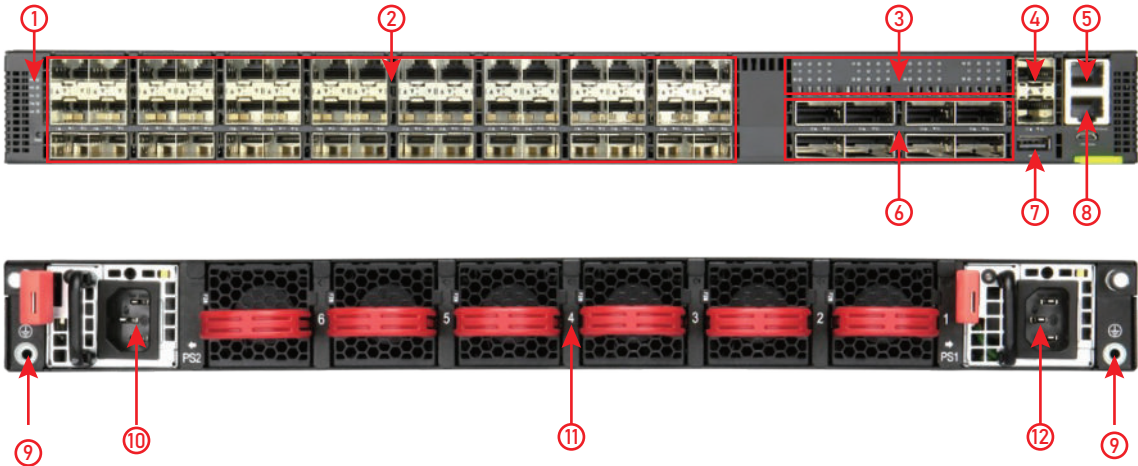
Description					
1.	System LEDs	5.	1 x Management Port	9.	Grounding point
2.	48 x 25G/SFP28 ports	6.	8 x 100G/QSFP28 ports	10.	PSU 2
3.	Port indicators	7.	USB storage port	11.	Hot-swappable 5 + 1 redundant fans
4.	2 x 10G/SFP+ management ports	8.	Console port	12.	PSU 1

SWITCH PORTS:

- **48 x 25 GbE SFP28 + 8 x 100 GbE QSFP28 ports:**
  - Each SFP28 supports 1 x 1 GbE (fixed speed, no Auto-negotiation) or 10GbE or 25 GbE single rate transceivers, AOC, and DAC
  - RJ-45 transceivers are supported
  - Each QSFP28 supports 1 x 40/100 GbE or 4 x 25 GbE or 4 x 10 GbE per port using breakout cables

- *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 on Port Side:**
  - 1 x RJ-45 serial console
  - 1 x RJ-45 100/1000 BASE-T management port
  - 1 x USB Type A storage

KEY COMPONETS:

- **Switch Silicon:** Broadcom BCM56873 Trident III 2.0 Tbps No PHYs
- **CPU Modules:**
  - **Intel® Xeon® D-1518 processor** (quad-core, 2.2 GHz)
  - **DDR4:** SO-DIMM 8 GB x 2
  - **SPI Flash:** 16 MB x2
  - **m.2 SSD:** 64 GB MLC

PERFORMANCE:

- **Switching Capacity:** 4 Tbps full duplex
- **Forwarding Rate:** 2 Bpps
- **Jumbo frames support up to 9K Bytes**
- **Packet Buffer Size:** 32 MB integrated packet
- **Buffer MAC Addresses:** 32K min./288K max.
- **VLAN IDs:** 4K
- **IPv4:** 16K min./168K max. host entries; 32K LPM entries with TCAM-only mode
- **IPv6:** 8K min/100K max. host entries; IPv6/128 = 8K TCAM-only mode

LEDs:

- **SFP28 Port LEDs:** Link Status, Activity, Rate
- **QSFP28 Port LEDs:** Link Status, Activity, Rate
- **Ethernet Management Port LED:** Link Status, Activity
- **System LEDs:** Diagnostic, Locator, PSU and Fan Status

POWER:

- **PSUs:** 2 redundant, load-sharing, hot-swappable AC
- **AC input range:** 100–127VAC, 50-60 Hz, 7.8A
  200-240VAC, 50-60 Hz, 3.8A
- **Redundant, current sharing, PG**
- **Power Rating:** 650 Watts

SOFWARE:

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

PHYSICAL AND ENVIRONMENTAL:

- **Dimensions (WxDxH):** 43.84 x 53.6 x 4.35 cm (17.26 x 21.1 x 1.71 in.)
- **Weight:** 10 kg (22.05 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

100G 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 Adress 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 Watchdog (WD)
- 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
- NAT
- Zero-touch Provisioning (ZTP)
- Container warm restart (BGP/TeamD/SWSS/SyncD)
- System Health
- Kubernetes
- PCIe Monitoring
- P4 Integrated Network Stack (PINS)

Ordering Information

- **Supported SKUs**

•	NXT-F48C810R	25G/100G Open Ethernet switch with ONIE, 48 x SFP28 and 8 x QSFP28 ports, Broadcom Trident-3, Dual Power Supplies, P2C air-flow, Rail Kit, 1 year warranty
•	NXT-F48C810R-SON	25G/100G Open Ethernet switch with SONiC, 48 x SFP28 and 8 x QSFP28 ports, Broadcom Trident-3, Dual Power Supplies, P2C air-flow, Rail Kit, 1 year warranty
•	SON-F48C8-1-3	Netweb SONiC Support for NXT-F48C810R, 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

For enquiries reach us at:
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