# Exaware

# XAI800-64O/XAI800-64D

The Exaware XAI800-64O and XAI800-64D are high-performance, low latency switches for high-performance data centers.

Application Scenarios:
- Spine Switch:
  A next-generation, highest-capacity switch for data center spine use case. Breakout options include 2 x 400G, 4 x 200G, and 8 x 100G per port, with a maximum of 320 logical ports. Offers reduced cost and power per bit. Scalable and enables migration to 400G leaf connectivity in data centers.

- AI/ML Clusters:
  Standards-based (Ethernet) networking for AI/ML training, leveraging low latency and high-throughput RoCEv2. Reduces Job Completion Time (JCT) using the cognitive routing and congestion management capabilities of the Switch. Fully programmable telemetry enables sophisticated on-chip applications for heightened network insight and efficient network management.

- High-Performance Computing:
  The large number of high-capacity Ethernet ports enables server interfaces to transition to higher speeds and denser networks. Enables the virtualization of compute and storage with VxLAN switching and routing.

- Cloud DCI:
  Support 400G QSFP-DD ZR/OpenZR+/+6dBm ZR+ and future proof 800G OSFP ZR/ZR+/+6dBm for Cloud DCI scenarios.

SONiC

OPEN Compute Project
SOLUTION PROVIDER

OPEN PLATINUM

Freedom of Choice

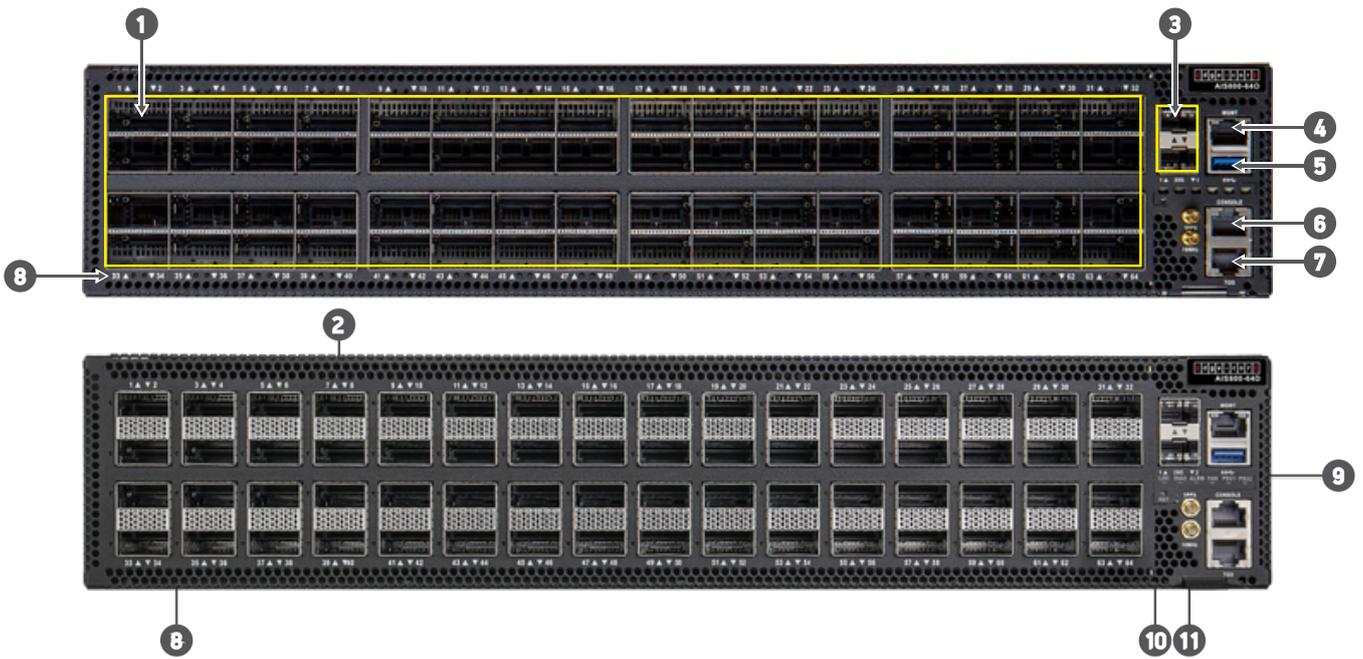Greater Control

Rapid Innovation

www.exaware.com

## KEY FEATURES AND BENEFITS

- OSFP800 or QSFP-DD800 switch ports, each supporting 1 x 800 GbE (100G PAM4), or via breakout cables 2 x 400G GbE, 4 x 200 GbE, or 8 x 100 GbE.
- OSFP800 or QSFP-DD800 switch ports also support 1 x 400 GbE (50G PAM4), 1 x 100 GbE (NRZ), and via breakout cables 2 x 200 GbE, 4 x 100 GbE, or 8 x 50 GbE.
- Up to 30 W power budget per port.
- Incorporates Broadcom Tomahawk 5 switch series silicon.
    - Highest Radix: Up to 320 logical ports on a single chip, low latency.
    - Cognitive/Adaptive routing and Dynamic Load Balancing (DLB) and Global Load Balancing (GLB).
    - Advanced shared buffering.
    - Programmable in-band telemetry.
    - Supports end-to-end congestion control.
    - Power efficient due to a monolithic 5nm die.
    - Hardware-based link failover for network resiliency and reduced job completion time.
    - Support for SRv6.
    - Support for VxLAN RIOT.
- BMC module with serial-over-LAN support.
- SyncE and PTPv2 support with 1PPS, 10MHz, and ToD connectors on the front panel.
- Contains e-fuses to protect transceivers and internal components .
- 2 RU form factor.
- Supports hot/cold aisles with front-to-back/AFO/port intake airflow SKU and back-to-front/AFI/port exhaust airflow SKU.
- All ports on front; PSUs and fans accessible from rear.
- Hot-swappable, load-sharing, redundant 3000 W AC/DC PSUs.
- 4 Hot-swappable fan modules with 7+1 redundant fans.
- The switch is pre-loaded with Open Network Install Environment (ONIE) and SONiC distributions, with support by Exaware.
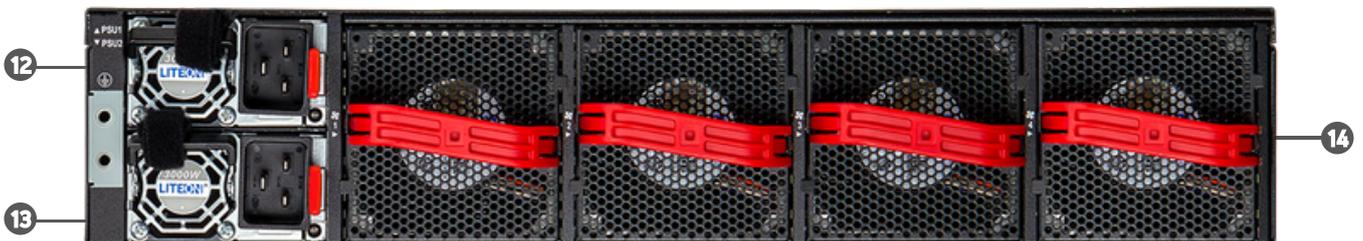
## SW options

onie

SONiC

## Front View



## Airflow: front-to-back



## Airflow: back-to-front

# Description

| | | | |
|---|---|---|---|
| 1. | 64 x 800G OSFP800 ports | 8. | Port indicators |
| 2. | 64 x 800G QSFP-DD800 ports | 9. | System LEDs |
| 3. | 2 x 25G SFP28 ports | 10. | 1PPS connector |
| 4. | RJ-45 management port | 11. | 10 MHz connector |
| 5. | USB 3.0 storage port | 12. | PSU1 |
| 6. | RJ-45 console port | 13. | PSU2 |
| 7. | ToD port | 14. | 4 Hot-swappable fan modules with 7+1 redundant fans |

## PORTS

- Switch Ports: 64 x OSFP800 or QSFP-DD800 800GbE
- Logical Ports: Max. 320
- Port Modes:
  1 x 800G (8 lanes 100G PAM4)
  2 x 400G (4 lanes 100G PAM4) breakout
  4 x 200G (2 lanes 100G PAM4) breakout
  8 x 100G (1 lane 100G PAM4) breakout
  1 x 400G (8 lanes 50G PAM4)
  2 x 200G (4 lanes 50G PAM4) breakout
  4 x 100G (2 lanes 50G PAM4) breakout
  8 x 50G (1 lane 50G PAM4) breakout
  1 x 100G (4 lanes 25G NRZ)
- Management Ports on Port Side:
  1 x RJ-45 serial console
  1 x RJ-45 1000BASE-T management
  2 x SFP28 25G In-band management
  1 x USB 3.0 storage port
- Supported Transceivers and Cables:
  Contact Exaware for details

## KEY COMPONENTS

- Switch Silicon: BCM78900 Tomahawk 5
- CPU Module:
  Processor: Intel® Xeon® Processor D-1713NTE 4-Core 2.2 GHz
  SPI Flash: 64MB x 2
  Memory: 32GB DDR4 SO-DIMM with ECC
  Storage: 240G m.2 2280 NVMe SSD
  TPM: TPM2.0 SPI
- BMC: AST2600 with OpenBMC secured by AST1060 Root of Trust
- Timing and Sync:
  1PPS Port, 10 MHz port, ToD port, SyncE, IEEE 1588v2 PTP

## PERFORMANCE

- Switching Capability: 51.2 Tbps full duplex
- Jumbo Frames: up to 9416 Bytes
- Subject to NOS:
  - VxLAN RIOT support
  - SRv6 support
  - GLB support

## PHYSICAL AND ENVIRONMENTAL

- Dimensions (WxDxH): 44 x 64.92 x 8.7 cm (17.32 x 25.56 x 3.43 in.)
- Weight: 21.5 kg (47.4 lb), with 2 PSUs and 4 fan modules installed
- Fans: 4 Hot-swappable fan modules with 7+1 redundant fans
- Storage Temperature: -40°C – 70°C (-40°F – 158°F)
- Operating Temperature (front-to-back): 0°C – 40°C (32°F – 104°F)
- Operating Temperature (back-to-front): 0°C – 35°C (32°F – 95°F)
- *subject to used optics
- Operating Humidity: 5% – 95% non-condensing
- Operating Altitude: 1800 m

## SOFTWARE

- Switch is loaded with Open Network Install Environment (ONIE) software installer
- Compatible with SONiC support by Exaware.

## SYSTEM AND PORT LEDS

- Port LEDs: Link Status, Activity, Rate
- Management Port LEDs: Link Status, Activity
- RJ-45 Port: Link Status, Activity
- System LEDs: Locator, Diagnostic, PSU, Fan Status, Alarm
- Reset Button

## POWER

- PSUs: 2 redundant, load-sharing, hot-swappable 3000W AC/DC
- AC PCU:
  AC input rating: 200-240 VAC at 50-60Hz (16A/3000W max.)
  AC PSU Inlet: IEC 60320 C20
  Power efficiency: 90% ~ 94% (without fan)
- DC PSU:
  DC Input rating: -48V ~ -60V (80A A/3000W max.)
  Power efficiency: 93% ~ 96% (without fan)
- Power Draw:
  Less than 2775W ( 100% traffic at 40°C ambient temperature with 100% fan speed and 64 x 18 W optics)
- Power Budget:
  For all 64 ports all with per-port maximum 30 W capability on both OSFP version and QSFP-DD800 version and actual deployment population subject to total power distribution boundary and thermal considerations.

## REGULATORY

- Emissions:
  EN 55032 Class A
  AS/NZS CISPR32
  EN 61000-3-2
  EN 61000-3-3
  FCC Class A
  ICES-003
  VCCI-CISPR32
- Immunity:
  EN 55035
  IEC 61000-4-2/3/4/5/6/8/11
- Safety:
  UL (CSA 22.2 No 62368-1 & UL 62368-1)
  CB (IEC/EN 62368-1)
- Environmental:
  GR63-CORE (Pre-test)
- RoHS-2.0 Compliant
- Electrical and Electronic Equipment (WEEE Directive 2002/96/EC)
- Country of Origin: Taiwan (TAA Compliant)

Base Model: XAI800-64O; Intel® Xeon® Processor D-1713NTE 4-Core; 64-Port 800G OSFP800.

| Model Number | PSU | Airflow | Region (Power Cord) |
|---|---|---|---|
| XAI800-64O-A-AC-F-UN | Dual AC PSUs | Front-to-back | IEC 60320 C19-C20 power cord |
| XAI800-64O-A-AC-F | Dual AC PSUs | Front-to-back | No power cord |
| XAI800-64O-A-AC-B-UN | Dual AC PSUs | Back-to-front | IEC 60320 C19-C20 power cord |
| XAI800-64O-A-AC-B | Dual AC PSUs | Back-to-front | No power cord |
| XAI800-64O-A-DF | Dual DC PSUs | Front-to-back | No power cord |
| XAI800-64O-A-DB | Dual DC PSUs | Back-to-front | No power cord |

Base Model: XAI800-64D; Intel® Xeon® Processor D-1713NTE 4-Core; 64-Port 800G QSFP-DD800.

| Model Number | PSU | Air flow | Region (Power Cord) |
|---|---|---|---|
| XAI800-64D-A-AC-F-UN | Dual AC PSUs | Front-to-back | IEC 60320 C19-C20 power cord |
| XAI800-64D-A-AC-F | Dual AC PSUs | Front-to-back | No power cord |
| XAI800-64D-A-AC-B-UN | Dual AC PSUs | Back-to-front | IEC 60320 C19-C20 power cord |
| XAI800-64D-A-AC-B | Dual AC PSUs | Back-to-front | No power cord |
| XAI800-64D-A-DF | Dual DC PSUs | Front-to-back | No power cord |
| XAI800-64D-A-DB | Dual DC PSUs | Back-to-front | No power cord |

# Ordering Part Number

## PSU FRUs (Power Cord Not Included)

| Model Number | PSU | Airflow | Region (Power Cord) |
|---|---|---|---|
| XAI800-64-A-PSU-AC-F | AC | Front-to-Back | Worldwide |
| XAI800-64-A-PSU-AC-B | AC | Back-to-Front | Worldwide |
| XAI800-64-A-PSU-DC-F | DC | Front-to-Back | Worldwide |
| XAI800-64-A-PSU-DC-B | DC | Back-to-Front | Worldwide |

## Fan FRUs

| Model Number | Air flow |
|---|---|
| XAI800-64-A-FAN-F | Front-to-Back |
| XAI800-64-A-FAN-B | Back-to-Front |

## Sliding Rail

| Model Number | Description |
|---|---|
| RKIT-AI-2-8-SLIDE | Normal installed sliding rail |
| RKIT-AI-2R-8-SLIDE | Reversed installed sliding rail |

## SONiC Support Options

| | Part Number | Description |
|---|---|---|
| C SONiC 1 Year | XAI800-CNOS-1Y | Community SONiC support 1 year |
| C SONiC 3 Years | XAI800-CNOS-3Y | Community SONiC support 3 years |
| C SONiC 5 Years | XAI800-CNOS-5Y | Community SONiC support 5 years |

**For More Information**

To find out more about Exaware Routing products and solutions, visit  www.exaware.com

**About Exaware Routing LTD.** Exaware Routing LTD is providing end-to-end networking solutions for the data center, enterprise and telco/ISP networks - including HW, SW, management systems, support and professional services. Exaware Routing LTD delivers the software and systems that transform the way the world connects and serves customers and partners worldwide. Additional information can be found at www.exaware.com. To purchase Exaware Routing solutions, please contact your Exaware Routing LTD representatives through https://www.exaware.com/contact-us.