AIS800 Data Center Switch

Edge-corE NETWORKS

DATA CENTER SWITCH

AIS800-64O/AIS800-64D

The Edgecore AIS800-64O and AIS800-64D 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
  Supports 400G QSFP-DD ZR/OpenZR+/+6dBm ZR+ and future-proof 800G OSFP ZR/ZR+/+6dBm for cloud DCI scenario.

Key Features and Benefits

- OSFP800 or QSFP-DD800 switch ports, each supporting 1 x 800 GbE (100G PAM4), or via breakout cables 2 x 400 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 OSFP800 or QSFP-DD800 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 5 nm 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, 10 MHz, 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 (2 fans per module), 8 fans total with 7+1 redundancy
- Hardware switch pre-loaded with Open Network Install Environment (ONIE) for automated loading of compatible open source and commercial NOS offerings

OPEN PLATINUM

OPEN Compute Project SOLUTION PROVIDER

Freedom of choice

Greater control

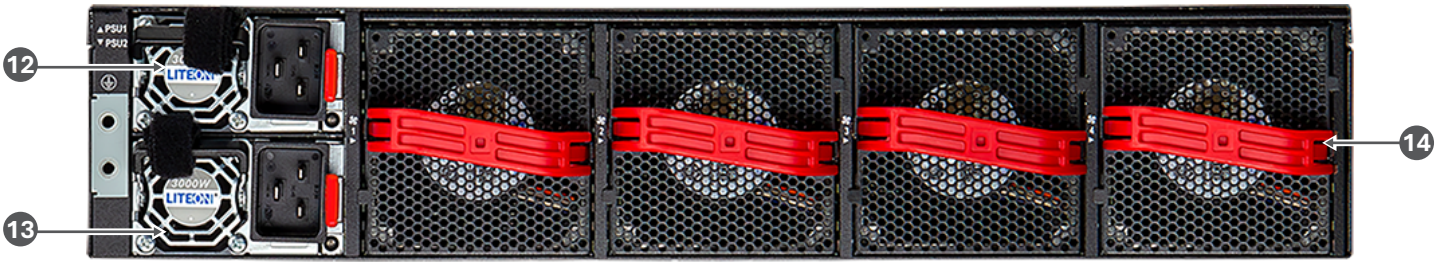
Rapid innovation

Free Software Included

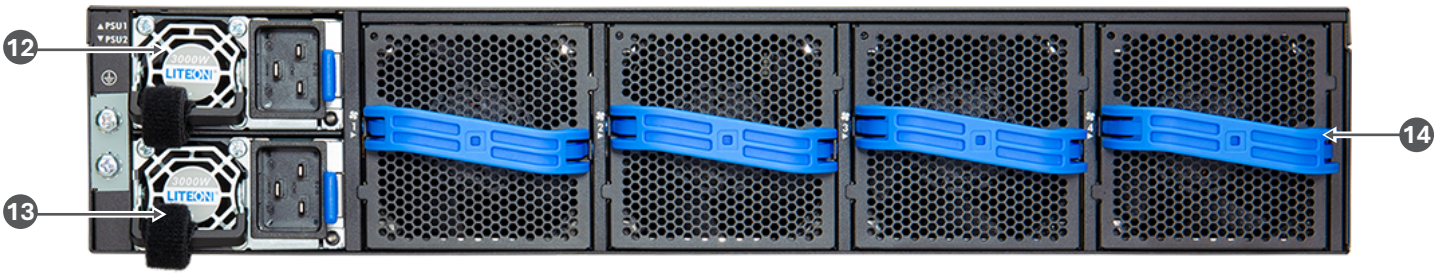
onie

Interfaces

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 (2 fans per module)

Specifications

Ports
- Switch Ports: 64 x OSFP800 or QSFP-DD800 800 GbE
- 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:
  Note: 800G optics and detailed cabling information can be found at https://www.edge-core.com/products/Transceiver-and-Cables/

Key Components
- Switch Silicon: BCM78900 Tomahawk 5
- CPU Module:
  Intel® Xeon® Processor IceLake D-1713NTE 4-Core 2.2 GHz COMe Type7
  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 (102.4 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 (2 fans per module), 8 fans total with 7+1 redundancy
- 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 the following NOS options:
  Open source options, plus commercial NOS offerings.

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 3000 W AC/DC
- AC PSU:
  AC input rating:
  200-240 VAC at 50-60Hz (16 A/3000 W max.)
  AC PSU Inlet: IEC 60320 C20
  Power efficiency: 90% ~ 94% (without fan)
- DC PSU:
  DC Input rating: -48 V ~ -60 V (80 A/3000 W max.)
  Power efficiency: 93% ~ 96% (without fan)
- Power Draw:
  Less than 2775 W (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)

Ordering Information

Base Model: AIS800-64O; Intel® Xeon® Processor IceLake D-1713NTE 4-Core 2.2 GHz COMe Type7; 64-Port 800G OSFP800; ONIE Software Installer.				
Model Number	**Part Number**	**PSU**	**Airflow**	**Power Cord**
AIS800-64O-AF-UN	FP6EC9664003Z	Dual AC PSUs	Front-to-back	IEC 60320 C19-C20 power cord
AIS800-64O-AF	FP6EC9664001Z	Dual AC PSUs	Front-to-back	No power cord
AIS800-64O-AB-UN	FP6EC9664006Z	Dual AC PSUs	Back-to-front	IEC 60320 C19-C20 power cord
AIS800-64O-AB	FP6EC9664007Z	Dual AC PSUs	Back-to-front	No power cord
AIS800-64O-DF	FP6EC9664010Z	Dual DC PSUs	Front-to-back	No power cord
AIS800-64O-DB	FP6EC9664012Z	Dual DC PSUs	Back-to-front	No power cord
Base Model: AIS800-64D; Intel® Xeon® Processor IceLake D-1713NTE 4-Core 2.2 GHz COMe Type7; 64-Port 800G QSFP-DD800; ONIE Software Installer.				
Model Number	**Part Number**	**PSU**	**Airflow**	**Power Cord**
AIS800-64D-AF-UN	FP6EC9664004Z	Dual AC PSUs	Front-to-back	IEC 60320 C19-C20 power cord
AIS800-64D-AF	FP6EC9664002Z	Dual AC PSUs	Front-to-back	No power cord
AIS800-64D-AB-UN	FP6EC9664005Z	Dual AC PSUs	Back-to-front	IEC 60320 C19-C20 power cord
AIS800-64D-AB	FP6EC9664008Z	Dual AC PSUs	Back-to-front	No power cord
AIS800-64D-DF	FP6EC9664014Z	Dual DC PSUs	Front-to-back	No power cord
AIS800-64D-DB	FP6EC9664016Z	Dual DC PSUs	Back-to-front	No power cord
PSU FRUs (Power Cord Not Included)				
Model Number	**Part Number**	**PSU**	**Airflow**	**Region**
PSU-AC-3000W-F	F0TEC9664006Z	AC	Front-to-back	Worldwide
PSU-AC-3000W-B	F0TEC9664004Z	AC	Back-to-front	Worldwide
PSU-DC-3000W-F	F0TEC9664009Z	DC	Front-to-back	Worldwide
PSU-DC-3000W-B	F0TEC9664008Z	DC	Back-to-front	Worldwide
Fan FRUs				
Model Number	**Part Number**	**Airflow**		
FAN-2U-1x1SN-F	F0TEC9664003Z	Front-to-back		
FAN-2U-1x1SN-B	F0OZZ9664002A	Back-to-front		
Accessories				
Model Number	**Part Number**	**Description**		
RKIT-AI-2-8-SLIDE	F0TEC9664007Z	Normal installed sliding rail		
RKIT-AI-2R-8-SLIDE	F0TEC9664001Z	Reversed installed sliding rail		

Warranty
Please check https://www.edge-core.com/supWP.php for the warranty terms in your country.

For More Information
To find out more about Edgecore Networks Corporation products and solutions, visit www.edge-core.com.

About Edgecore Networks Corporation
Edgecore Networks Corporation is in the business of providing innovative network solutions. In the service provider network, in the data center or in the cloud, Edgecore Networks Corporation delivers the software and systems that transform the way the world connects. Edgecore Networks Corporation serves customers and partners worldwide. Additional information can be found at www.edge-core.com.

Edgecore Networks Corporation is a subsidiary of Accton Technology Corporation, the leading network ODM company. The Edgecore data center switches are developed and manufactured by Accton.

To purchase Edgecore Networks solutions, please contact your Edgecore Networks Corporation representatives at +886 3 563 8888 (HQ) or +1 (949)-336-6801 or authorized resellers.