

## AS5912-54X

### Bare-Metal Hardware



#### Product Overview

The Edgecore AS5912-54X switch meets the high-performance, availability, and network-scaling requirements of enterprise and cloud data centers. The AS5912-54X provides full line-rate switching at Layer 2 or Layer 3 across 48 x 10 GbE ports and 6 x 100 G/40 GbE uplinks. The switch can be deployed either as a Top-of-Rack switch, or as part of a 10 GbE or 40 GbE distributed spine, forming a non-blocking folded-Clos data center fabric. The switch is rack mountable in either a standard 19 inch rack, or with the Open Rack Switch Adapter in the 21-inch Open Rack.

The AS5912-54X hardware provides the high-availability features required for data center operation, including; redundant, hot-swappable AC or -48 VDC PSUs or 12 VDC power input; fan with 4+1 redundant fan modules; and port-to-power or power-to-port airflow options. The AS5912-54X is an ideal Top-of-Rack switch for virtualized data centers, with its support of VXLAN and NVGRE tunneling functions in hardware.

#### Key Features and Benefits

- Cost-effective, bare-metal switch infrastructure for data center fabric.
- 48 x SFP+ switch ports, supporting 10 GbE (DAC, 10GBASE-SR/LR) or 1 GbE (1000BASE-T/SX/LX).
- 6 x 100 G QSFP 28 ports at front
  - 100 G operation or 4 x 25 G / 2 x 50 fan out
  - 40 G operation or 4 x 10 G fan out
- Port Grouping to group 4 x 10 G ports into one 40 G port at the physical layer for maximum bandwidth utilization, and for 300 m optical reach over MMF (Subject to NOS options).
- Full line-rate Layer 2 or Layer 3 forwarding of 720 Gbps.
- VXLAN and NVGRE tunneling support in hardware for network virtualization.
- Rack mountable in standard 19" racks. Mountable in 21" Open Rack with the Open Rack Switch Adapter.
- Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs.
- All ports on front; PSUs, fan modules on rear.
- Hot-swappable, load sharing, redundant AC or -48 VDC PSUs. 12 VDC power input option.
- Hot swappable 5+1 redundant fan modules.
- Management: Ethernet and console RJ-45 ports; USB storage port.
- Hardware switch pre-loaded with Open Network Install Environment (ONIE) for automated loading of compatible open source and commercial NOS offerings.
  - Compatible with Open Network Linux (ONL), the open-source, OCP reference NOS.
  - Compatible with Cumulus<sup>®</sup> Linux<sup>®</sup> r3.x and later version from Cumulus Networks<sup>®</sup>.
  - Compatible with PicOS<sup>™</sup> r2.7.x and later version from Pica8 Inc.
  - Compatible with IP Infusion OcnOS.

## Features

### Ports

Switch Ports:  
48 x SFP+ each supporting 10 GbE or 1 GbE  
6 x 100G QSFP28 each supporting 1 x 40/100 GbE or  
4 x 10/25 GbE or 2 x 50 GbE  
Management Ports on Front Panel:  
1 x RJ-45 serial console  
1 x RJ-45 100/1000BASE-T management port  
1 x USB Type A storage port

### Key Components

Switch Silicon: Broadcom Qumran-MX BCM88370  
CPU Modules:  
Intel Rangely C2538 4-core 2.4 GHz processor  
DDR3 SO-DIMM 8 GB  
NAND Flash: 8 GB  
mSATA: 32 GB

### Performance

Switching Capability: 800 Gbps  
Forwarding Rate: 720 Mpps  
Jumbo Frame: 12 Kbytes  
Packet Buffer: 16 MB  
Deep DRAM buffering: up to 6 GB  
Subject to NOS:  
MAC Addresses: 750 K  
VLAN IDs: 4 K  
L3 Routes: IPv4 750 K, IPv6 350 K

### Supported Optics and Cables

SFP+ Ports:  
10GBASE-CR DAC: up to 5 m passive; up to 10 m active  
10GBASE-SR/LR: up to 100/300 m over OM3 MMF  
10GBASE-LR: Up to 10 km over SMF  
1000BASE-SX, 1000BASE-LX, 100/1000BASE-T  
QSFP+ Ports:  
40GBASE-CR4 DAC; 0.5 m to 7 m; Passive and Active  
40GBASE-CR4 DAC to 4 x SFP+ 10GBASE-CR DAC; up to 5 m  
passive; up to 10 m active  
40GBASE-SR4: Up to 100 m over OM3 MMF, 150 m over OM4  
MMF  
40GBASE-LR4: Up to 10 km over SMF  
100GBASE-SR4: 100 Gbps short range transceiver  
100GBASE-LR4: 100 Gbps long range transceiver  
QSFP28 AOC Cable: 100 Gbps to 100 Gbps AOC cable with  
upto 30 M 100G QSFP28 to 100 G QSFP28

### Physical and Environmental

Dimensions (WxDxH): 43.8 x 51.5 x 4.4 cm (17.2 x 20.2 x 1.7 inch)  
Weight: 8.5 kg (18.74 lb), with two installed PSU modules  
Fans: hot-swappable 5+1 redundant fans  
Operating Temperature: 0°C to 50°C (32°F to 122°F)  
Storage Temperature: -40°C to 70°C (-40°F to 158°F)  
Operating Humidity: 5% to 95% non-condensing

### Software

Switch is loaded with Open Network Install Environment (ONIE)  
software installer  
Compatible with the following NOS options:  
Cumulus® Linux® r3.x and later version from Cumulus Networks®  
Open Network Linux, the open-source, OCP reference NOS  
PicOS™ r2.7.x and later version from Pica8 Inc.  
Open Compute Network Operating System OcNOS and later  
version from IP Infusion

### Carrier Access Features

Carrier Access switch with expandable packet buffering and  
expandable routing table  
Advanced Quality of Service with ~100K virtual output queues  
Extensive MEF feature support  
Integrated hierarchical traffic manager with support for thousands of  
flows  
Carrier feature support including OAM, MPLS, VPLS  
Data Center virtual network tunneling including VXLAN, NVGRE and  
Geneve  
Integrate OAM Processor

### Power

PSUs: 2 redundant, load-sharing, hot-swappable AC or 48 VDC  
AC input range: 90 V~300 VAC (90~ 277 VAC is minimum)  
DC input range: 18~72 VDC  
Power Input Option: 12 VDC  
Redundant, current sharing, PG  
Environmental Criteria: -5 ~ 55°C

### Regulatory

EMI  
CE Mark  
EN55022 Class A  
EN55024  
EN61000-3-2  
EN61000-3-3  
FCC Part 15 Subpart B Class A  
VCCI Class A  
Safety  
CB  
UL/CUL  
Environmental:  
Temperature: IEC 68-2-14  
Vibration: IEC 68-2-36, IEC 68-2-6  
Shock: IEC 68-2-29  
Drop: ISTA 2A  
Acoustic Level: 62 dB@ 27°C  
RoHS-6 Compliant  
WEEE Standards  
The switches complied with the following WEEE standards:  
Waste Electrical and Electronic Equipment (WEEE Directive  
2002/96/EC)

### Warranty

Please check [www.edge-core.com](http://www.edge-core.com) for the warranty terms in your  
country.

## Ordering Information

Optional Accessories	Product Description
ET4201-RJ45	1000BASE-T Copper SFP transceiver
ET4202-SX	1 Gbps, Small Form Factor Pluggable (Distance: 550 m; Wavelength: 850 nm, DDM)
ET4202-LX	1 Gbps, Small Form Factor Pluggable (Distance: 10 km; Wavelength: 1310 nm, DDM)
ET5402-SR	10 Gigabit SFP+, 850 nm Multimode, 802.3ae 10GBASE-SR Compliance, 300 m, LC port
ET5402-LR	10 Gigabit SFP+, 1310 nm Singlemode, 802.3ae 10GBASE-LR compliance, 10 km, LC port
ET5402-DAC-1M	10 Gigabit SFP+ DAC 1 m cable
ET5402-DAC-3M	10 Gigabit SFP+ DAC 3 m cable
ET5402-DAC-5M	10 Gigabit SFP+ DAC 5 m cable
ET5402-AOC-3M	10 Gigabit SFP+ AOC 3 m cable
ET5402-AOC-5M	10 Gigabit SFP+ AOC 5 m cable
ET5402-AOC-7M	10 Gigabit SFP+ AOC 7 m cable
ET5402-AOC-10M	10 Gigabit SFP+ AOC 10 m cable
ET6402-40DAC-1M	40 G to 40 G DAC cable, QSFP+ DAC cable, 1 m
ET6402-40DAC-3M	40 G to 40 G DAC cable, QSFP+ DAC cable, 3 m
ET6402-40DAC-5M	40 G to 40 G DAC cable, QSFP+ DAC cable, 5 m
ET6402-10DAC-1M	40 G to 4 10 G DAC cable, QSFP+ DAC- 4*SFP+DAC Cable, 1 m
ET6402-10DAC-3M	40 G to 4 10 G DAC cable, QSFP+ DAC- 4*SFP+DAC Cable, 3 m
ET6402-10DAC-5M	40 G to 4 10 G DAC cable, QSFP+ DAC- 4*SFP+DAC Cable, 5 m
ET6402-10DAC-7M	40 G to 4 10 G DAC cable, QSFP+ DAC- 4*SFP+DAC Cable, 7 m
ET6402-10DAC-10M	40 G to 4 10 G DAC cable, QSFP+ DAC- 4*SFP+DAC Cable, 10 m
ET6402-10DAC-15M	40 G to 4 10 G DAC cable, QSFP+ DAC- 4*SFP+DAC Cable, 15 m
ET6402-40AOC-3M	40 G to 40 G AOC cable, QSFP+ AOC cable, 3 m
ET6402-40AOC-5M	40 G to 40 G AOC cable, QSFP+ AOC cable, 5 m
ET6402-40AOC-7M	40 G to 40 G AOC cable, QSFP+ AOC cable, 7 m
ET6402-40AOC-10M	40 G to 40 G AOC cable, QSFP+ AOC cable, 10 m
ET6402-40AOC-15M	40 G to 40 G AOC cable, QSFP+ AOC cable, 15 m
ET6402-40AOC-30M	40 G to 40 G AOC cable, QSFP+ AOC cable, 30 m
ET6401-LR4	40 G QSFP+ long range transceiver
ET6401-SR4	40 G QSFP+ short range transceiver
FTLC9551REPM	100 Gbps short range transceiver, 100GBASE-SR4
CXN2104	100 Gbps short range transceiver, 100GBASE-SR4
FTLC1151RDPL	100 Gbps long range transceiver, 100GBASE-LR4
FCBN425QE1C0x (x means 3/5/7/10/15/30)	100 Gbps to 100 Gbps AOC cable with xM 100G QSFP28 to 100G QSFP28

## For More Information

To find out more about Edgecore Networks Corporation products and solutions, visit [www.edge-core.com](http://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](http://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.

© Copyright 2016 Edgecore Networks Corporation. The information contained herein is subject to change without notice. This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment feature, or service offered by Edgecore Networks Corporation. Edgecore Networks Corporation shall not be liable for technical or editorial errors or omissions contained herein.