# Exaware

# XDC25-56X

The Exaware XDC25-56X switch is a Top-of-Rack (TOR) switch for high-performance data centers. In a compact 1RU form factor, the switch provides line-rate L2 and L3 switching across the 48 x SFP28 + 8 x QSFP28 ports, and each QSFP28 port can be configured as 4 x 25 GbE, 1 x 40 GbE, or 4 x 10 GbE by using DAC breakout cables. The XDC25-56X can be deployed as a TOR switch supporting 10/25 GbE to servers with 40/100 GbE uplinks. This open network switch is available with Exaware SONiC support..

## KEY FEATURES AND BENEFITS

- Deploy as TOR switch supporting 10 or 25 GbE to servers, with 40 GbE, or 100 GbE uplinks.
- 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.
- Layer 2 or Layer 3 forwarding of 2 Tbps.
- Supports hot/cold aisles with front-to-back or back-to-front airflow SKUs.
- All ports on front; PSUs and fans accessible from rear.
- Hot-swappable, load-sharing, redundant AC or -48V DC PSUs.
- 5+1 redundant, hot-swappable fan modules.
- Energy efficient.
- The switch is pre-loaded with Open Network Install Environment (ONIE) and SONiC distributions, with support by Exaware.
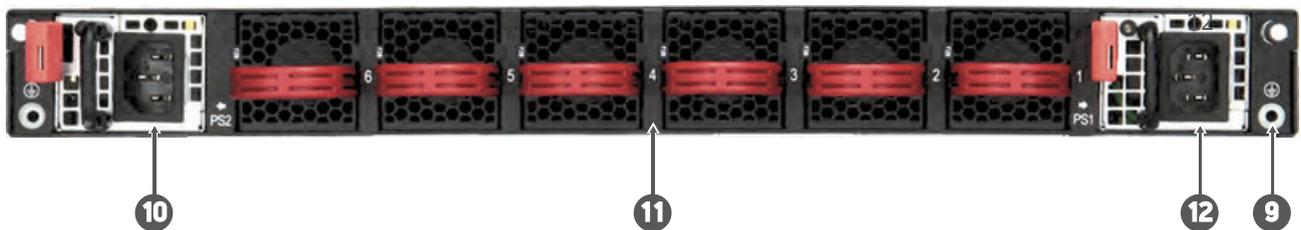
SONiC    OPEN ACCEPTED    OPEN Compute Project SOLUTION PROVIDER    OPEN PLATINUM    Freedom of Choice    Greater Control    Rapid Innovation

## SW options

onie

SONiC

## Front View



## back View



### Description

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

## PORTS

- Switch Ports:
- 48 x 25 GbE SFP28 plus 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 with H/W version R01G or newer 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-45 100/1000BASE-T management
  1 x USB Type A storage
- Supported Transceivers and Cables:
10GBASE-RJ45
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
- Note: More optics and detailed cabling information can be found at www.exaware.com

## KEY COMPONETS

- Switch Silicon: Broadcom BCM56873 Trident 3
- No PHYs
- CPU Modules:
- Intel® Xeon® D-1518 processor 4-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: 2 Tbps full duplex
- Forwarding Rate: 2 Bpps
- Jumbo frames support up to 9K Bytes
- Packet Buffer Size: 32 MB integrated packet buffer
- MAC Addresses: 32 K min./288 K max.
- VLAN IDs: 4 K
- IPv4: 16 K min./168 K max. host entries; 32 K LPM entries with
- TCAM-only mode
- IPv6: 8K min/100 K max. host entries; IPv6/128= 8 K TCAM-only

## 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:
- F2B Operating: 0°C to 45°C (32° F to 113° F) B2F Operating: 0°C to 40°C (32° F to 104° F)
- Storage Temperature: -40°C to 70°C (-40°F to 158°F)
- Operating Humidity: 5% to 95% non-condensing

## 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 or -48 VDC
- AC input range: 100–240 VAC
- DC input range: -36~-72 VDC
- Redundant, current sharing, PG

## SOFTWARE

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

## REGULATORY

- EMI:
- CE Mark
EN55032 Class A
EN55024 EN61000-3-2
EN61000-3-3
FCC 47 CFR Part 15b Class A
VCCI Class A
CCC
BSMI
- Safety:
CB
UL/CUL
CCC
BSMI
- Environmental:
NEBS GR63-CORE (Pre-test)
- RoHS 2.0 Compliant
- Country of Origin: Taiwan (TAA Compliant)
- The switch complied with the following WEEE standards: Waste Electrical and Electronic Equipment (WEEE Directive 2002/9A6/EC)

## Layer 2
- DHCP Snooping
- IGMP Snooping
- LAG (LACP)
- LLDP
- MAC Aging
- MC-LAG
- MSTP
- Port Mirroring
- QinQ (802.1Q Tunneling)
- STP/PVST
- TPID Configuration
- VLAN Translation
- VLAN/VLAN Trunk

## Layer 3
- BGP
- BGP Graceful Restart
- BGP Graceful Restart Helper
- BGP Multi-protocol
- BGP Unnumbered Links
- Critical Resource Monitoring
- ECMP
- EVPN/VxLAN
- VPN Multihoming
- IPv6
- IS-IS
- NAT
- OSPF
- Proxy ARP
- Static Anycast Gateway
- VRF
- VRRP
- VxLAN

## Security Features
- COPP
- Ingress/Egress ACL Permit/Deny
- Port MAC Security
- RADIUS
- TACACS+

## QoS
- Asymmetric PFC
- CoS
- Differentiated Services (DiffServ)
- DSCP
- ECN
- Egress Port Shaping (port, queue)
- Ingress ACL-based Mirroring (ERSPAN)
- PFC-WD
- PFC Watermark
- Port Rate Limiting
- Priority Flow Control (PFC)
- WRED

## Management and Monitoring Features
- CLI/SSH
- DHCPv6 Relay
- Dynamic Port Breakout
- Everflow
- Fast Reload
- Kubernets
- Management VRF
- MTU Setting
- NTP
- Object Track for Port Interface
OpenSSH/SCP/SFTP
- PINS
- Platform Monitoring
- Port Speed Setting
- RoCEv2
- Sensor Transceiver Monitoring
- sFlow
- SNMP/SNMPv2
- Telemetry Support
- Thermal Monitor
- Warm Reboot
- Zero Touch Provisioning (ZTP)

## Standards Compliance
- RFC792 ICMP Specifications
- RFC1157 Simple Network Management Protocol (SNMP)
- RFC1213 MIB-II Specifications
- RFC1213 Management Information Base for Network Management of TCP/IP-based internets: MIB-II
- RFC1267 Border Gateway Protocol 3 (BGP-3)
- RFC1771 A Border Gateway Protocol 4 (BGP-4)
- RFC1772 Application of the Border Gateway Protocol in the Internet
- RFC1901 Introduction to Community-based SNMPv2
- RFC1902 Structure of Management Information for Version 2 of the Simple Network Management Protocol (SNMPv2)
- RFC1905 Protocol Operations for Version 2 of the Simple Network Management Protocol (SNMPv2)
- RFC1907 SNMP MIB Specifications
- RFC1965 AS Confederations for BGP
- RFC1966 BGP Specifications
- RFC1981 Path MTU Discovery for IP version 6
- RFC1997 BGP Communities Attribute
- RFC2011 IP MIB Specifications
- RFC2012 Management Information Base for the Transmission Control Protocol (TCP)
- RFC2013 SNMPv2 Management Information Base for the User Datagram Protocol using SMIv2
- RFC2068 HTTP Specifications
- RFC2101 IPv4 Address Behaviour Today
- RFC2138 RADIUS Specifications
- RFC2270 Using a Dedicated AS for Sites Homed to a Single Provider
- RFC2283 Multiprotocol Extensions for BGP-4
- RFC2328 OSPF Specifications
- RFC2370 OSPF Opaque LSA Option Specifications
- RFC2373 IP Version 6 Addressing Architecture
- RFC2374 An IPv6 Aggregately Global Unicast Address Format
- RFC4760 Multiprotocol Extensions for BGP-4
- RFC7348 Virtual eXtensible Local Area Network (VXLAN): A Framework for Overlaying Virtualized Layer 2 Networks over Layer 3 Networks
- IEEE802.1D Spanning Tree Protocol
- IEEE802.1p Priority tagging implementation idea
- IEEE802.1AB Link Layer Discovery Protocol
- IEEE802.1ad QinQ, VLAN Stacking
- IEEE802.3ad Link aggregation (LAG), bound mode 4 (LACP)

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Base Model: XDC25-56X; Intel® Xeon® D-1518 Processor 4-Core; 48-25G SFP28 + 8-Port 100G QSFP28; ONIE Software Installer.

| Model Number | PSU | Air flow | Region (Power Cord) |
|---|---|---|---|
| XDC25-56X-A-AC-F-US | Dual AC PSUs | Front-to-Back Airflow | N. America |
| XDC25-56X-A-AC-B-US | Dual AC PSUs | Back-to-Front Airflow | N. America |
| XDC25-56X-A-AC-F-EU | Dual AC PSUs | Front-to-Back Airflow | EU |
| XDC25-56X-A-AC-B-EU | Dual AC PSUs | Back-to-Front Airflow | EU |
| XDC25-56X-A-AC-F-UK | Dual AC PSUs | Front-to-Back Airflow | UK |
| XDC25-56X-A-AC-B-UK | Dual AC PSUs | Back-to-Front Airflow | UK |
| XDC25-56X-A-AC-F-JP | Dual AC PSUs | Front-to-Back Airflow | JP |
| XDC25-56X-A-AC-B-JP | Dual AC PSUs | Back-to-Front Airflow | JP |
| XDC25-56X-A-48V-F | Dual DC PSUs | Front-to-Back Airflow | |
| XDC25-56X-A-48V-B | Dual DC PSUs | Back-to-Front Airflow | |
| XDC25-56X-A-PSU-AC-F | 650 W AC Power Supply FRU | Front-to-Back Airflow | |
| XDC25-56X-A-PSU-AC-B | 650 W AC Power Supply FRU | Back-to-Front Airflow | |
| XDC25-56X-A-FAN-F | Fan Module FRU | Front-to-Back Airflow | |
| XDC25-56X-A-FAN-B | Fan Module FRU | Back-to-Front Airflow | |

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| Part Number | Description |
|---|---|
| XDC25-CNOS-1Y | SONiC support & maintenance - 1 year |
| XDC25-CNOS-3Y | SONiC support & maintenance - 3 years |
| XDC25-CNOS-5Y | SONiC support & maintenance - 5 years |

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**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.