

Gnodal GS0018

18 x 40 GbE QSFP ports in 1RU with latency of 150ns

High density, lowest latency 40 GbE switch



GS0018 Features and Benefits

High Port Count

18 QSFP ports, 1RU top-of-rack Ethernet switch provides “40 GbE ready” server/storage connections at minimal cost

Ultra-low Latency

150ns port-to-port with extremely low jitter making it ideal for latency sensitive applications

High Throughput

1.5 Tb/s non-blocking throughput and a forwarding capacity exceeding 1 Bpps. Ideal for bandwidth hungry, data-intensive applications in High Performance Data Centers

Scalability to Thousands of Ports

Unique top-of-rack switch fabric device with 40 GbE support, arbitrarily wide fabric link aggregation and MAC addressing up to 52 million entries. Used in conjunction with the GS4008, a 720-port fully connected network with 282ns latency can be constructed with a single tier of GS0018 fabric switches. Larger networks can be constructed by adding additional stages

Layer2+

Service differentiation, lossless transmission, highly efficient multicast and unicast increases overall application efficiency

Minimized TCO

Typical power consumption under 6.5W per port (40 GbE) substantially reduces operating costs. Reliability and serviceability are ensured with hot-swappable, redundant PSUs and fans

Standardization

QSFP fiber or copper cables, open-sourced from third-party vendors or directly from Gnodal. Support of QSFP to 4-port SFP+ converter cable enables further flexibility

Gnodal GS-Series

Based on the Gnodal Peta ASIC, the GS0018 is part of the Gnodal GS-Series 10 and 40 GbE switches for the High Performance Data Center. Gnodal derive their extreme performance capability from a revolutionary architectural design that eliminates network congestion within multi-chassis configurations, delivering optimum performance at minimum cost and power consumption.

The world's fastest and only fully adaptive, load-balancing Ethernet Fabric

Gnodal GS0018 Technical Specifications

GS0018: 18 QSFP Port L2+ Switch

Port-to-port Latency

18-port network: 150ns (RFC 1242 for Store and Forward)

Bandwidth

18-port network: 1.5 Tbps non-blocking
1071 million packets per second

Physical

1 RU 19" rack-mountable
Dimensions: 1.73" x 17.52" x 22.44"
(4.4cm x 44.5cm x 57cm)
Weight: 19.8 lbs (9.07 kg)
Airflow: Front-to-Rear (fan side to port side)

Operating Environment

Temperature: 32° to 104°F (0° to 40°C)
Relative humidity: 5 to 85 percent,
Non-condensing
Max Operating Altitude: 9842 ft (3000m)

Electrical Characteristics

Voltage Range (Vac): 100 – 240 V
Nominal Frequency: 50 – 60 Hz

Power Consumption

Maximum Power: 210W
Typical Power with Passive Copper: 114W
Typical Power with 18 x 40GBASE-SR4: 145W

Connectivity

40GBASE-SR4
40GBASE-CR4
QSFP-SFP+ Breakout Cable

Redundancy

1+1 redundant, hot-swappable PSUs
2+1 redundant, hot-swappable fans
Environmental self-monitoring

IEEE Compliance

Data coding & frame transmission
802.3-2008
Jumbo frames up to 9k

Bridge operation

802.1D-2004. MAC Bridges
Including 802.1w Rapid Spanning Tree
GVRP / GMRP
802.1Q-2005 Virtual Bridged LANs (VLANs)
Including 802.1s Multiple Spanning Tree
802.1AX-2008 Link Aggregation
802.1AB-2005 Connectivity discovery (LLDP)
802.1X-2004 Port-Based Authentication

L2+ Features

Congestion Avoidance
Broadcast Storm & Flood Control
Lossless Transmission Selection
Distributed Multi-Chassis LAG

Multicast

IGMP Snooping v1, v2
MLD Snooping v1

QoS

802.3x Flow Control
Prioritized Traffic Type
Priority-Based Flow Control

Security

Multiple User Privileges (CLI)
1492 TACACS+ (authentication)
2865 RADIUS (authentication)
SSH IPv4
RFC 3164 Syslog IPv4

SNMP v1, v2, v3 (IPv4)

Including RFC 1155, 1157, 1212, 1213, 1215, 2089, 2578, 3411, 3412, 3413, 3414, 3415, 3416, 3417, 3584

MIB Support

Including RFC 1213, 1493, 2233, 2618, 2665, 2674, 3412, 3413, 3414, 3415, 3584, 4133, 4363
IEEE 802.1X, 802.1AB, 802.3AD
RSTP, MSTP
DCBX (Priority-Based Flow Control)
RMON

Management & Administration

1 GbE Management port (out of band)
Serial Port
Single-point, multi-chassis management
Industry standard CLI Console
Multi-session Telnet, SSH with pre-defined commands
Firmware & configuration upgrade through TFTP & SFTP
TCP/IP stack IPv4
Port mirroring
SNTPv4
NTP
Span Aggregation

Regulatory Compliance

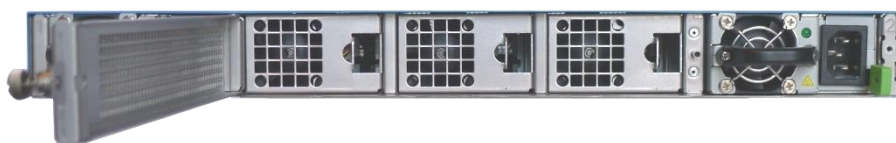
Safety
CSA C22.2 No 60590-1:2007
EN 60950-1, A1: 2009
IEC 60950-1, A1: 2009
CB Report Including all National Deviations

Electromagnetic Compatibility (EMC)

AS/NZS CISPR 22: 2006, Class A
Canada: ICES-003:2004
Europe: EN 55022: 2006 A1: 2007 (CISPR 22: 2006), Class A
USA: FCC CFR 47 Part 15, Subpart B, Class A
CISPR24: 2001 A2:2002
EN 55024: 1998 + A1: 2001 + A2: 2003
EN 61000-3-2: A2: 2009
EN 61000-3-3: 2008

RoHS Compliance

2011/65/EU Restriction of Certain Hazardous Substances Directive



Ordering Information for GS0018:

Part Number	Description
GX-10301-02	Gnodal GS0018 1RU ToR switch, 18 QSFP 40 GbE ports. Dual hot-swap PSUs. Includes rack-mount kit and power cords.

For further information please email: sales@gnodal.com or visit our website: www.gnodal.com

Items in italics supported in upcoming firmware releases

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