

PLEXXI SWITCH 3EQ

DATA SHEET

KEY BENEFITS

- » High-density 10/25/40/50/100 GbE access
- » 3.2 Tbps switching capacity
- » 1 RU form factor
- » Redundant/hot-swappable power and fans
- » Controller-based architecture using Plexxi Control
- » Fully compatible with Plexxi Switch 2

Network Switches for the Software-Defined Data Center

The Plexxi Switch 3eq delivers the next generation of innovative networking solutions designed to meet the growing needs of today's virtual and highly dynamic data center and cloud environments. Specifically designed to support scale-out applications with high performance east/west traffic needs, Plexxi provides an easily scaled-out and automation focused network solution for diverse application workloads. Plexxi's Switch 3eq provide a cost effective 10GbE, 25GbE, 40GbE, 50GbE and 100GbE based 1U solution for intensive Big Data or Agile IT workload environments.

The switch's industry standard architecture uses the latest in Ethernet switching to create a high performance, resilient, low latency and scalable data center network fabric based on the 25GbE and 100GbE standards. Plexxi switches can be deployed as a single tier, eliminating cost and complexity while vastly reducing operational overhead while creating true fabric agility to support dynamic workload needs. In conjunction with Plexxi Control (a centralized management, visualization and control platform and Plexxi Connect (an integration platform that connects Plexxi fabrics to Datacenter Orchestration Systems), the solution streamlines operations and dynamically aligns the network resources to the demanding workload and data requirements of the modern data center.

The Fabric Advantage

Each Plexxi Switch 3eq uses up to sixteen QSFP28 optical interfaces delivering up to 1.6Tbit full-duplex bandwidth to create a programmable scalable meshed network fabric.

Plexxi Switch 3eq uses QSFP28 optics combined with a passive Pod Switch Interconnect to create an optical mesh network between switches on a Plexxi fabric that is completely controllable by software through Plexxi Control. Switch-to-switch cabling using the Pod Switch Interconnect is greatly simplified with 2 or 4 cables per switch. The Plexxi Switch 3eq can fully co-exist in a fabric with any Series 2 Switch.

Plexxi Switch 3eq can also be configured as a spine in Plexxi fabric, using Plexxi Switch 2e or other Switch 3eq as leafs, providing full 32 port, 3.2Tbit/sec spine capacity.

Multi-Layered Network Architecture

The full potential of mesh networking is unleashed by Plexxi's multi layered, but single tier network architecture that delivers efficient layer 1, layer 2 and layer 3 network topologies to critical application workloads. The Plexxi Switch 3eq provides 10, 25, 40, 50 and 100GbE layer 2 and layer 3 network topologies as part of the Plexxi network architecture. The optical interfaces create a highly meshed, multipath network fabric with multiple direct and indirect paths between switches. Plexxi Control software, which understands the physical and logical network topology as well as the application and data workload requirements, establishes a network where individual workloads receive their own portion of the network at each network layer.



Dynamic Topologies

In conjunction with the centralized Plexxi Control platform, the Plexxi network provides intelligent and adaptive technology that ensures workloads always get access to the most optimal network paths. Plexxi Switches intelligently select the best network paths for workloads that have resource requirements or explicit constraints defined from the network. Less sensitive workloads without explicitly defined traffic requirements are efficiently forwarded across the available direct and indirect paths created by the optical mesh. The Plexxi Control software is smart enough to detect high-traffic patterns and promote specific workload traffic to direct, or high-bandwidth paths when available, even without an explicit policy. Unlike typical multipath networks, which might utilize a maximum of 16 or 32 IP based equal cost paths between switch ports, Plexxi Control can intelligently select from hundreds of non-interfering, non-equal paths across the highly diverse Plexxi fabric at layer 1, 2 or 3. As a result, Plexxi creates unprecedented efficiency, delivering higher performance with greater flexibility than traditional access/aggregation/core hierarchical networking solutions.

Scale Out, Not Up

Plexxi Switch 3eq physically interconnect using QSFP28 ports to create a very dense full or partial mesh between switches at 10, 25 or 100GbE. This creates a more cost effective and power efficient network architecture than traditional tree or leaf and spine hierarchical networks can achieve. The mesh architecture enables linear scaling, with each additional switch adding fabric capacity, resiliency and multi-path options. Plexxi switches create network fabrics ranging from a few server racks in size to a large capacity cloud data center. The linear build out offers predictable economics and capacity growth in true scale-out fashion. With a flexible access to fabric oversubscription ranging from 1:1 to 4:1, the Switch 3 Entry Series provides cost effective performance for up to 104 10/25 GbE server and storage connections.

Latest Switching Technology

Plexxi Switch 3eq are based on the latest available commercial switching technology providing line rate forwarding. It provides up to 136,000 L2, 84,000 L3 IPv4 host entries, 128,000 IPv4 routes, sub 500 nanosecond L2 switching latency, full Data Center Bridging support and increased packet buffer allocation capabilities leading to improved congestion performance. This leading-edge silicon technology also provides full support for VXLAN and NVGRE overlay networks, with the ability to perform overlay to traditional network gateway functions, as well as optimized packet distribution algorithms based on VXLAN and NVGRE packet formats.

ORDERING INFORMATION			
PLEXXI ENTRY SWITCH		ACCESSORIES	
Product	Switch 3eq	Product	Control
Code	PX-S3EQ-R and PX-S3EQ-F	Code	PX-C1-2
Description	Plexxi Switch 3eqeq 6/12 x QSFP28 LightRail 104/80 x 10GbE, 104/80 x 25GbE, 26/20 x 40GbE, 26/20 x 100GbE Access Ports 2 Power Supplies, 4 Fan Trays IO to PSU Airflow (PSU Hot Isle) –PX-S3EQ-F PSI to IO Airflow (IO Hot Isle)–PX-S3EQ-R	Description	Plexxi Control unlimited RTU License for 1 25/100GbE based Plexxi Switch
		Product	Pod Switch Interconnect
		Code	PX-PSI-6
		Description	6 Switch Passive Pod Switch Interconnect for Use with Pod ("p") and Entry Series Switches

Plexxi Switch 3 Entry Series Specifications

	SWITCH 3EQ			
Chassis	1RU Form Factor Redundant Hot Swappable Power Supplies Hot swappable fans Console, RJ45			
Access Interfaces	104x10GbE, 104x25GbE, 26x40GbE, 26x100Gbe with 600 Gbit/sec Fabric Connectivity		80x10GbE, 80x25GbE, 20x40GbE, 20x100GbE with 1.2Tbit/sec Fabric Connectivity	
Switching Capacity	3.2 Tpbs	Linerate L2 and L3 forwarding	L2 Latency sub 500ns	
Tables and Buffers	Up to 136K MAC Entries	Up to 128K IPv4 Routes	Up to 84K IPV4 Hosts	16MB Dynamic Buffer
Control Plane	High Performance Intel Rangeley x86 4-core CPU		16GB DRAM	
Platform Software	Linux		ONIE	
LightRail Interfaces	6 or 12 x QSFP28 (24/48 x 25GbE)			
Power Consumption	Maximum Power Draw 300W		Typical Power Draw 200W	
Dimensions	17.2"W x 21.9"D x 1.73"H			
Weight	22.4 lbs, 10.2 Kg			
Safety	UL/CSA/EN 60950			
Emissions	EMI: FCC Part 15 Class A (US), VCCI Class A (Japan), ICES-003 Class A (Canada), EN 55022 Class A (EU)			
Other	ROHS-6			

Learn More

To learn more about Plexxi networking solutions and Plexxi Switch 3eq send an email to info@plexxi.com.

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