

Layer 3 Gigabit Ethernet Switches



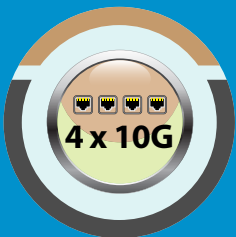
Dax Layer 3 Gigabit switches are synonymous with high performance, managed, stackable switches with multiple 10G ports and dual stack of IPv4 / Ipv6. This Layer 3 series has various port choices including 24 ports and 48 ports with power over ethernet (POE) options. They further support redundant power supply options and offer high availability at the power level.

The supreme advantages of these switches are the multiple 10G options. Supporting a maximum of 4 # of 10G per switch, this switch can be inter-connected with high speed 10Gbps for both copper and fiber. In addition, all the 4 # 10G ports can work simultaneously with the 4 # 1000X ports available in each switch.

Dax Layer 3 switches comes with rich software features including advanced Quality of Service, IPv6, high security with DOS protection, VLAN, Layer 3 routing features (Ipv4 / Ipv6), SNMP management, Cluster management, Web / CLI based management and configuration etc. With its attractive feature list and high performance, the Dax Layer 3 switches are ideal for mid-sized organizations and large enterprise networks.

Key Features:

- ✓ IPv6 ready with IPv4/IPv6 Dual Protocol Stack
- ✓ Static routing and Dynamic routing
- ✓ Supports Port Configuration, UDLD, LLDP
- ✓ Anti IP packet DOS attack/ packet attack
- ✓ MRPP Ring Redundancy
- ✓ IEEE 802.1x port security function
- ✓ IP Clustering of up to 32 Units for single IP management
- ✓ IGMP v1/v2/v3, Multicast VLAN registration
- ✓ MLD snooping v1/v2
- ✓ Multi-rate SFP supporting both 100/1000x transceiver
- ✓ Redundant power supply





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Performance and Scalability

Supporting 184 Gbps of Backplane bandwidth, the Dax Layer 3 Gigabit switches provide wire speed and non-blocking performance on any network. With IPv6 being adopted widely, these switches support Phase II implementation of IPv6. This includes a complete suite of IPv6 management and routing.

Continuous Availability

Dax Layer 3 Gigabit switches support Rapid and Multiple spanning trees as per the IEEE standard. The availability of spanning tree supports the elimination of network loops. Link aggregation or port aggregation helps combine speeds by bundling multiple links and offering a high speed link catering to the network demand. Dax Layer 3 Gigabit switches support MRPP which is a ring protection protocol and aids in reducing network convergence time in a ring topology network. IGMP snooping prevents flooding of IP multicast traffic and limits bandwidth intensive video traffic to selected users.

Comprehensive QoS

Dax Layer 3 Gigabit switches supports 8 queues per port to enable differentiated management of up to 8 traffic types. Traffic is prioritized according to IEEE802.1p, DSCP, IP precedence and TCP/UDP port number, giving optimal performance to real-time applications such as voice and video. Bi-directional rate-limiting, per port or traffic class preserves network bandwidth and allows full control of network resources.

Enhanced Security

Dax Layer 3 Gigabit switches support IEEE 802.1X port-based access control and MAC-based access control to ensure all users are authorized before being granted entry into the network. Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on L2/L3/L4 header information. Secure Shell (SSH) encrypts network management information via Telnet for secure network management. RADIUS Authentication enables centralized control of the switch and restricts unauthorized users from altering the configuration of the switch. Anti DoS attacks ensures high security to the network.

Ipv6 support:

Dax Layer 3 Gigabit switches support IPv6 routing in hardware for maximum performance. As the number of network devices increase and the need for larger IP addressing and higher security becomes critical, the Dax Layer 3 Gigabit switch is the right product to meet requirements. Furthermore, the Dax Layer 3 Gigabit switch support phase II implementation of Ipv6 with complete routing and management features.



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Technical Specification:

HARDWARE SPECIFICATIONS	
PORT AVAILABILITY	
DX-0524GTV-L3-AC	24 # 10/100/1000T 4 # Shared SFP 2 # 10G slots for loading 4 # 10G ports Console Port
DX-0548GTV-L3-AC	48 # 10/100/1000T 4 # Shared SFP 2 # 10G slots for loading 4 # 10G ports Console Port
DX-0524GTV-POE-L3-AC	24 # 10/100/1000T(POE) 4 # Shared SFP 2 # 10G slots for loading 4 # 10G ports Console Port
DX-0548GTV-POE-L3-AC	48 # 10/100/1000T(POE) 4 # Shared SFP 2 # 10G slots for loading 4 # 10G ports Console Port
DX-0524GV-L3-AC	24 # SFP ports 12 # shared 10/100/1000T 2 # 10G slots for loading 4 # 10G ports Console Port
DX-0548GV-L3-AC	48 # SFP ports 4 # shared 10/100/1000T 2 # 10G slots for loading 4 # 10G ports Console Port
PERFORMANCE	
SWITCHING TECHNIQUE	Store and Forward
SWITCHING FABRIC	184 Gbps
THROUGHPUT	96 Mpps (DX-0524GTV-L3-AC, DX-0524GTV-POE-L3-AC, DX-0524GV-L3-AC) 131Mpps (DX-0548GTV-L3-AC, DX-0548GTV-POE-L3-AC, DX-0548GV-L3-AC)
VLAN	4K
ACL	2K
PHYSICAL CHARACTERISTICS	
DIMENSION (WHD)	415mm×44mm×325mm
ENVIRONMENTAL	
RELATIVE HUMIDITY	5% ~ 90%, non-condensing
OPERATING TEMPERATURE	0°C ~ 50°C
STORAGE TEMPERATURE	-40°C ~ 70°C



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POWER CONSUMPTION	<p>130W (DX-0524GTV-L3-AC, DX-0524GV-L3-AC)</p> <p>130W ~ 500W (DX-0524GTV-POE-L3-AC - including POE power)</p> <p>180W (DX-0548GTV-L3-AC, DX-0548GV-L3-AC)</p> <p>180W ~919W (DX-0548GTV-POE-L3-AC - including POE power)</p> <p>15.4W on each port for POE switches</p>
STANDARD	
EMC / SAFETY	FCC, CE, ROHS
INDICATORS	LED for Link status, Power, RPS, Diag and POE (POE switches)
SOFTWARE SPECIFICATIONS	
LAYER 2 FEATURES	<p>IEEE 802.3 (10Base-T)</p> <p>IEEE 802.3u (100Base-TX)</p> <p>IEEE 802.3z (1000Base-X)</p> <p>IEEE 802.3ab (1000Base-T)</p> <p>IEEE 802.3ae (10G)</p> <p>IEEE 802.3af (POE switches)</p> <p>IEEE 802.3x flow control</p> <p>Auto MDI/MDIX</p> <p>9K Jumbo frame</p> <p>Broadcast storm control</p> <p>Head of Line Blocking Prevention</p> <p>Granular rate limiting in steps of 64K</p> <p>LLDP (Link layer discovery protocol)</p> <p>LLDP - MED</p> <p>UDLD</p> <p>ARP, Dynamic ARP</p>
STACKABILITY	<p>Virtual staking or IP clustering</p> <p>Inter switch stacking with 10G CX4 module</p> <p>32 units per stack</p> <p>Single IP management</p>
SPANNING TREE	<p>IEEE 802.1d Spanning tree</p> <p>IEEE 802.1w Rapid spanning tree</p> <p>IEEE 802.1s Multiple spanning tree</p> <p>BPDU guard</p> <p>Root guard</p> <p>BPDU forwarding</p>
LINK AGGREGATION	<p>IEEE 802.3ad</p> <p>Static and dynamic link aggregation</p> <p>128 trunks and 8 ports per trunk</p> <p>Load balance</p>



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PORT MIRRORING	<p>One to One port mirroring Many to One port mirroring Port mirroring based on data stream Port mirroring based on Ingress and Egress data flow Remote port mirroring/ RSPAN</p>
VLAN	<p>IEEE 802.1q VLAN GVRP , Dynamic VLAN registration Port based VLAN Private VLAN Port Isolation IP subnet VLAN Protocol VLAN IEEE 802.1v Voice VLAN MAC VLAN Management VLAN Q-in-Q Broadcast / Multicast / Unicast Storm Control MVR (Multicast VLAN Registration) for IPv4 / IPv6</p>
QUALITY OF SERVICE	<p>IEEE 802.1p Strict priority – SP Weighted round robin – WRR SWRR - SP + WRR 8 Priority queues Traffic classification based on IEEE 802.1p, Port, COS, TOS. Advanced classification based on VLAN ID, COS, ACL stream, DSCP, IP Precedence/ (IPv4 /IPv6). Diffserv PRI mark / remark Auto QOS (Voice VLAN)</p>
LAYER 3 FEATURES	<p>IPv4 / IPv6 dual stack Static routing Policy based Routing (IPv4 / IPv6) MD5 authentication. RIP v1, RIP v2 RIPng OSPF ** VRRP (Ipv4), VRRP v3 (Ipv6) URPF - Unicast Reverse Path Forwarding</p>



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<p>MULTICASTING FEATURES</p>	<p>IGMP v1/v2/v3 snooping IGMP v1/v2/v3 IGMP Query MSDP Multicast VLAN registration</p>
<p>IPv6 FEATURES</p>	<p>IPv4/IPv6 Dual Protocol Stack Internet Protocol, Version 6 (IPv6) Specification (RFC2460) ND snooping IPv6 Unicast Address Types IPv6 Multicast Address Types ICMPv6 for the Internet Protocol Version 6 (IPv6) (RFC2463) ICMPv6 Redirect IPv6 Neighbor Discovery IPv6 Stateless Auto Configuration as per RFC2462 IP Version 6 Addressing Architecture (RFC2373) IPv6 Aggregatable Global Unicast Address Format (RFC2374) IPv6 Multicast Address Assignments (RFC2375) Proposed TLA and NLA Assignment Rules (RFC2450) Reserved IPv6 Subnet Anycast Addresses (RFC2526) Format for literal IPv6 Addresses in URL's (RFC2732) Initial IPv6 Sub-TLA ID Assignments (RFC2928) Internet Protocol Version 6 (IPv6) Addressing Architecture (RFC3513) Transmission of IPv6 Packets over Ethernet Networks (RFC2464) Advanced Sockets API for IPv6 (RFC2292) Basic Socket Interface Extensions for IPv6 (RFC2553) IPv6 MVR SNMP over IPv6 HTTP over IPv6 SSH over IPv6 DNS over IPv6 IPv6 Ping/tracert IPv6 Telnet Support IPv6 DNS Resolver IPv6 RADIUS+ Support IPv6 Syslog Support IPv6 SNTP Support IPv6 NTP IPv6 FTP/TFTP Support IPv6 sFlow DHCP IPv6 VRRPv3 IPv6 ACL</p>



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SECURITY	<p>IEEE 802.1x, IEEE 802.1x packet Transparent Transmission Port based Authentication, MAC based Authentication Static and dynamic MAC locking EAP(TLS, PEAP, MD5) AAA Radius , TACACS + IP Source guard</p>
ADVANCED SECURITY	<p>DOS / DDOS prevention and protection (ARP, Synflood, Smurf, ICMP attack) Anti ARP attack, ARP rate limit Anti ICMP packet attack Switch engine CPU protection</p>
ACCESS CONTROL LIST	<p>Standard and Extended Access control List IP ACL based on source/destination IP, Protocol, IP priority, TCP/ UDP port number MAC ACL based on Source and destination MAC, VLAN ID , COS IP + MAC combination Time based ACL ACL on VLAN ACL on physical port Ingress based ACL ACL rules can be configured on VLAN routing interfaces QoS classification - DSCP/IP Precedence</p>
DHCP	<p>DHCP Client, Relay, Snooping, Option 82 DHCP Server for IPv4 and IPv6 DHCP V6 and DHCP snooping V6 BootP</p>
DNS	<p>DNS Client DNS Proxy</p>
MIB'S AND RFC'S	<p>RFC 792 ICMP. RFC 1812 IPv4 RFC 793 TCP RFC 768 UDP RFC 783 TFTP RFC 826 ARP RFC 903 RARP RFC 1027 Proxy ARP. RFC 894 IP over Ethernet. RFC 854 TELNET. RFC 1058 (RIP v1) RFC 1723 (RIP v2) RFC 2453 (RIP v2)</p>



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<p>MIB'S AND RFC'S</p>	<p>RFC 2082 (MD5 authentication) RFC 2030 (RIPng) RFC 2338 VRRP RFC 3768 VRRP RFC 5798 VRRP v3 RFC1213 MIB (System , port information MIB) RFC1215 type definition RFC1271 RMON RFC1354 IP-Forwarding MIB RFC1493 Bridge MIB RFC1643 Ether-like MIB RFC1724 rip2 MIB RFC 1907 SNMP v2 RFC2011 IP/ICMP MIB RFC2012 TCP MIB RFC2013 UDP MIB RFC2096 ip forward mib RFC2233 if MIB RFC2452 TCP6 MIB RFC2454 UDP6 MIB RFC2465 IPv6 MIB RFC2466 ICMP6 MIB RFC2573 SnmpV3 notify RFC2574 SNMPV3 RFC2674 Bridge MIB Extensions (IEEE802.1Q MIB) RFC2674 Bridge MIB Extensions (IEEE802.1P MIB) RFC 1112 IGMP RFC 2236 IGMP v2 RFC 2138 RADIUS RFC 1757 RMON Groups 1,2,3,9</p>
<p>CONFIGURATION , MANAGEMENT AND TROUBLESHOOTING</p>	<p>SNMP v1/v2/v3 RMON 1, 2, 3 and 9 Web based GUI , Industrial standard command line Interface (CLI), Telnet Multi level privileges Sflow Syslog SSH / SSL SNTP / NTP private MIB and Trap Firmware upgrade via FTP/ TFTP (Server / Client), Xmodem Dual firmware images, Multiple configuration files Ping / Trace route Supervise abnormality of task, memory, CPU, stack, switch chip, temperature and raise alarm</p>



Layer 3 Gigabit Ethernet Switches

Ordering Information:

DX-0524GTV-L3-AC	Layer 3 managed switch with 24 fixed 10/100/1000BaseTX ports and 4#Unpopulated miniGBIC SFP Slots(Shared), 2open slots capable of loading upto 4#10GPorts, AC power supply, Optional RPS support
DX-0548GTV-L3-AC	Layer 3 managed switch with 48 fixed 10/100/1000BaseTX ports and 4#Unpopulated miniGBIC SFP Slots(Shared), 2open slots capable of loading upto 4#10GPorts, AC power supply, Optional RPS support
DX-0524GTV-POE-L3-AC	Layer 3 managed switch with 24 fixed 10/100/1000BaseTX PoE ports and 4#Unpopulated miniGBIC SFP Slots(Shared), 2open slots capable of loading upto 4#10GPorts, AC power supply, Optional RPS support (RPS is mandatory for POE Power)
DX-0548GTV-POE-L3-AC	Layer 3 managed switch with 48 fixed 10/100/1000BaseTX PoE ports and 4#Unpopulated miniGBIC SFP Slots(Shared), 2open slots capable of loading upto 4#10GPorts, AC power supply. Optional RPS support (RPS is mandatory for POE Power)
DX-0524GV-L3-AC	Layer 3 managed switch with 24 SFP slots and 12 #10/100/1000 Base TX Ports(Shared), 2 open slots capable of loading upto 4#10GPorts, AC power supply, Optional RPS support
DX-0548GV-L3-AC	Layer 3 Lite managed switch with 48 SFP slots and 4#10/100/1000 BaseT Ports(Shared), 2 open slots capable of loading upto 4#10GPorts, AC power supply. Optional RPS support
DX-0500-RPS	Redundant power supply unit for DX-0524GTV-L3-AC/ DX-0548GTV-L3-AC/ DX-0524GTV-POE-L3-AC/ DX-0548GTV-POE-L3-AC
MODULES	
DX-05XX-2-SFP	2 port Gigabit SFP slot Module
Dax DX-05XX-2-XFP	2 port Unpopulated 10G XFP Module
DX-05XX- 2-SFP+	2 SFP+ slot Module
100FX TRANSCEIVERS (TO BE LOADED IN THE SFP PORTS)	
DX-G-SFP-100FX-MM-1310-LC-2	100FX SFP transceiver, Multimode, 1310nm, LC connector, 2Km, Pluggable into the Gigabit SFP slots
DX-G-SFP-100FXSM-1310-LC-10	100FX SFP transceiver, SingleMode, 1310nm, LC connector, 10Km, Pluggable into the Gigabit SFP slots
1000X TRANSCEIVERS (TO BE LOADED IN THE SFP PORTS)	
DX –MGBIC-SX-LC	Mini GBIC 1000SX transceiver port with LC connector, multimode 850nm, 550m
DX –MGBIC-LX-LC-10	Mini GBIC 1000LX transceiver port with LC connector, singlemode 1310nm, 10km
DX –MGBIC-LHX-LC-40	MiniGBIC 1000LHX Transceiver with LC Connector, Single mode 1310nm, 40Km
DX –MGBIC-ZX-LC-80	MiniGBIC 1000ZX Transceiver with LC Connector, Single mode 1550nm, 80Km
10G TRANSCEIVERS	
Dax DX-SFP+-10GT-3M	10G copper transceiver with 3mtrs Cable (Fits in SFP+ module)
Dax DX-SFP+-10GT-5M	10G copper transceiver with 5mtrs Cable (Fits in SFP+ module)
Dax DX-SFP+-10GT-10M	10G copper transceiver with 10mtrs Cable (Fits in SFP+ module)
DX-10G-SR-XFP-LC	10G SR Transceiver with LC Connector, Multimode (850nm) 300m (Fits in XFP module)
DX-10G-LR-XFP-10-LC	10G LR Transceiver with LC Connector, Singlemode (1310nm),10km (Fits in XFP module)
DX-10G-ER-XFP-40-LC	10G ER Transceiver with LC Connector, singlemode (1550nm),40km (Fits in XFP module)
DX-10G-ER-XFP-70-LC	10G ER Transceiver with LC Connector, singlemode (1550nm),70km (Fits in XFP module)



Layer 3 Gigabit Ethernet Switches

Dax Layer 3 Gigabit Ethernet Switches are brought to you by Dax (An Apcom Company) one of India's most renowned, technically qualified Data/ Voice Networking vendor. Dax offers an India-Centric, diverse product range which conforms to the highest world standards and meets the "edge to core" networking technology needs of all verticals. Dax is probably the most respected independent OEM supplier in India.

In the last 25 years, Dax has made wide country inroads through its Enterprise networking partners and national ADSPs. Dax is synonymous with high business ethics, consistent quality, optimized performance and support- commitment to Indian customers which supersedes MNC standards. Dax continues to synergistically work with Indian Customers to design products and networking solutions.

Today, Dax is the one of the Top Networking companies in India. We have achieved this status by a combination of relentless single-minded focus on cutting edge Networking technologies and a proud dedication (since 1986), to true professionalism.

Other Dax Offerings:



Access	Connectivity	Dax Networks Limited
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LAN Extenders	Network Attached Storage	Toll Free : 1800-4255-Dax
Interface Converters & modems	IP Surveillance	

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- Product image is an approximate guide only
- **Future firmware upgrade