

Dax Managed Layer 2 Fast Ethernet Switches



Introduction

Intelligent security access switches suitable for aggregation/access networks. Available in 8 / 24 / 48 10/100 port models with 1/2/4 # shared Gigabit SFP ports, these switches are equipped with rich features to provide comprehensive QoS, enhanced VLAN functions, bandwidth control, multi link aggregation, and intelligent security control. Additionally, all features are suitably enabled on the basic switch software and usable right from day one and hence no need to invest on separate software images or additional memory to realize the full potential of the switches.

Key Features

- ✓ Supports Port Configuration, UDLD, LLDP
- ✓ Anti IP packet DOS attack/ packet attack
- ✓ Supports Static MAC Address access limit on port
- ✓ Supports MRPP Ring Redundancy
- ✓ Supports IEEE 802.1x port security function
- ✓ Supports Rate Control on port
- ✓ Multi-rate SFP supporting both 100/1000x transceiver
- ✓ IP Clustering of up to 32 Units for single IP management
- ✓ IGMP V1/V2/V3 Multicast snooping
- ✓ Supports Q-in-Q
- ✓ Supports S-flow
- ✓ Optional Redundant power supply





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Multi rate SFP

The SFP ports of Dax Managed Fast Ethernet switches support both 100Fx SFP as well as 1000X SFP ports, allowing these switches to be deployed in existing Fast Ethernet fiber networks as well as Gigabit Fiber backbone.

Enhanced Security

Access Control Lists (ACLs) and policy settings can be used to restrict access to sensitive network resources by denying and forwarding packets respectively. IEEE 802.1X port-based access control ensures authorization of all users before being granted access to the network. User authentication can be carried out using any standard-based RADIUS server.

Ease of management and network troubleshooting

These Switches support Simple Network Management Protocol (SNMP) v1, v2, v3, in-band and out-of-band management. They also support standard Command Line Interface (CLI) as well as WEB based configuration. The login access as well as rights to access the switch can be restricted to prevent unauthorized users from tampering switch settings/configuration

For network troubleshooting, the switches are equipped with commands like ping, trace route which are very helpful in isolating network problems. Additional features like UDLD (Uni-directional link detection) and LLDP (Link layer discovery protocol) help in network problem isolation at the link level. The Sflow feature aids in advance network traffic analysis and management.

High adaptability VLAN Features

Dax Managed Fast Ethernet Switches support 802.1q VLAN, port based VLAN as well as MAC based VLAN. Even when the user moves from one port to another, the switch identifies the MAC address and therefore the user remains in the same VLAN. The advantages include multiple broadcast domains, efficient isolation of users within the same switch along with improved management and operation. Voice VLAN function in Managed Fast Ethernet Series switches provides efficient QoS for seamless Voice integration.

POE support

Dax Managed Fast Ethernet Switches (DX-509MG-POE, DX-5028MG-POE-AC) supports 8/24 POE ports with a maximum power of up to 15.4W per port. The power driven for each individual port can be defined depending upon the power requirement of the connected equipment, resulting in a huge amount of power saving.

Integrated authentication

Dax Managed Fast Ethernet Switches support 802.1x authentications by port and MAC address. These Switches support anti spam and user based dynamic VLAN and bandwidth authorization. The switches can allocate IP address based on group policy without a DHCP server.



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Technical Specifications

Port Configuration	
DX-509MG	8 # 10/100 Base T 1 # 10/100/1000T 1 # Shared SFP Console port
DX-509MG-POE	8 # 10/100 Base T (POE) 1 # 10/100/1000T 1 # Shared SFP Console port
DX-5010MGV-AC	8 # 10/100 Base T 2 # 10/100/1000T 2 # Shared SFP Console port
DX-5010MGV-AC-R	8 # 10/100 Base T 2 # 10/100/1000T 2 # Shared SFP Console port
DX-5026MGV-AC	24 # 10/100 Base T 2 # 10/100/1000T 2 # Shared SFP Console port
DX-5028MG	24 # 10/100 Base T 4 # 10/100/1000T 4 # Shared SFP Console port
DX-5028MG-R	24 # 10/100 Base T 4 # 10/100/1000T 4 # Shared SFP Console port
DX-5028MG-POE-AC	24 # 10/100 Base T (POE) 2 # 10/100/1000T 2 # Shared SFP 2 # additional 10/100/1000T Console port
DX-5052MG	48 # 10/100 Base T 4 # 10/100/1000T 4 # Shared SFP Console port



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Performance	
Switching Technique	Store and forward
Switching Fabric	5.6 Gbps (DX-509MG, DX-509MG-POE) 9.6 Gbps (DX-5010MGV-AC, DX-5010MGV-AC-R) 17.6 Gbps (DX-5026MGV-AC) 25.6 Gbps (DX-5028MG, DX-5028MG-R, DX-5028MG-POE-AC, DX-5052MG)
Forwarding Rates	1000 Mbps port – 148,8000 pps 100 Mbps port – 148,800 pps 10 Mbps port – 14,880 pps
Forwarding rate	2.7 Mpps - DX-509MG, DX-509MG-POE 4.2 Mpps - DX-5010MGV-AC, DX-5010MGV-AC-R 6.6 Mpps - DX-5026MGV-AC 9.5 Mpps - DX-5028MG, DX-5028MG-R, DX-5028MG-POE 13.1 Mpps - DX-5052MG
VLAN Table	4K
Stacking	IP Clustering of 32 units with single IP management
Physical Characteristics	
Size	1U-19" Rack mountable
Operating Temperature	0°C ~ 50°C
Storage Temperature	-40 °C ~ 70 °C
Relative Humidity	5% ~ 95% non-Condensing
Power Supply	AC:100 ~240V AC , 50/60 Hz , Internal Supply
Power Consumption	DX-509MG <=20W DX-509MG-POE <=20W~180W DX-5010MGV-AC, DX-5010MGV-AC-R <= 15W DX-5026MGV-AC <=20W DX-5028MG, DX-5028MG-R <=30W DX-5028MG-POE <=30W ~400W, DX-5052MG <=30W
LED Indicators	Per Unit: Power Per Port- LINK Status, Port activity status, Link speed (LED on :1000 Mbps,Off:10/100 Mbps)
Standards	FCC, CE, ROHS



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Software Features	
Standards	IEEE 802.3 (10Base-T) IEEE 802.3u (100Base-TX) IEEE 802.3z (1000Base-X) IEEE 802.3ab (1000Base-T) IEEE 802.3af (POE switches) IEEE 802.3x flow control Auto MDI/MDIX Jumbo frame Broadcast / Unicast / Multicast storm control. Head of line Blocking Prevention Granular rate limiting in steps of 64K LLDP (Link layer discovery protocol) LLDP - MED UDLD
Port Mirroring	One to One Port Mirroring Many to One Port Mirroring Port Mirroring Based on Ingress and Egress Flow Port Mirroring based on data stream
Spanning Tree	IEEE 802.1d Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol BPDU Guard Root Guard
VLAN	IEEE 802.1Q VLAN Tagging Port based VLAN GVRP 4K VLAN Port Isolation GVRP Private VLAN Auto VLAN Guest VLAN VOICE VLAN (support available in DX-5010, DX-5028 & DX-5052 series. Future firmware support in DX-509 and DX-5026MGV series.)
Link Aggregation	Link Aggregation Control Protocol (LACP) IEEE 802.3ad link aggregation Max 14 Trunk groups with 8 ports per trunk



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<p>QoS</p>	<p>Traffic classification based on:</p> <ul style="list-style-type: none"> IEEE 802.1p Traffic priority 4 queues per port (DX-509MG, DX-509MG-POE, DX-5026MGV) 4 queues per FE port , 8 per GE port (DX-5010MGV-AC, DX-5010MGV-AC-R, DX-5028MG-POE, DX-5028MG-R, DX-5052MG) IPv4 TOS, Port IPv4/IPv6 DSCP TCP/UDP port number, Source/destination address VLAN ID CoS ACL Stream DiffServ Ingress CAR stream shaping Strict Priority (SP) Weighted Round Robin(WRR) Scheduled Weighted Round Robin (SWRR)
<p>Multicast Protocol</p>	<ul style="list-style-type: none"> IGMPv1/v2/v3 Snooping Multicast Receive Control Illegal Multicast Source Detect MVR(Multicast VLAN Register)
<p>Security</p>	<ul style="list-style-type: none"> Anti IP packet DOS attack Traffic Segmentation Multiple Ring Redundancy Protocol(MRPP)
<p>ARP</p>	<ul style="list-style-type: none"> Static ARP Anti ARP Attack ARP Rate Limit ARP Re-authentication ARP Binding with L2 ports ARP Scan ARP Guard Gratuitous ARP
<p>ACL</p>	<ul style="list-style-type: none"> Time Based ACL ACL based on VLAN Physical Port MAC ACL and IP ACL combination IP ACL Based on : Source /Destination IP, IP protocol IP priority (DSCP, TOS, Precedence) TCP/ UDP Source/destination port MAC ACL Based on : Source/Destination MAC Address CoS



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MAC Operation	Supports port/MAC auto bundle and MAC filter CPU Monitoring
DHCP	DHCP Server DHCP Client/BOOTP DHCP Option 82 DHCP Auto Configuration DHCP Snooping
DNS	DNS Client
Authentication	RADIUS (Standard Support Client, MD5/PEAP/TLS) TACACS+ 802.1x Packet Transparent Transmission Port Based Authentication EAP (TLS, PEAP, MD5) MAC Based Authentication
Troubleshooting	Ping, Trace route
IPv6	IPv4/IPv6 Dual Protocol Stack (RFC2460) Unicast/ Multicast Address Types ICMPv6 (RFC2463) ICMPv6 Redirect (RFC2463) Neighbor Discovery Duplicate Address Detection Address Resolution (dynamic ARP) Static Cache Entry (static ARP) Stateless Auto Configuration (RFC2462) IPv6 Addressing Architecture (RFC2373, RFC3513) Aggregatable Global Unicast Address Format (RFC2374) Proposed TLA and NLA Assignment Rules (RFC2450) Reserved IPv6 Subnet Any cast Addresses (RFC2526) Format for Literal IPv6 Addresses in URL's (RFC2732) Addressing Architecture (RFC3513) Transmission of Packets over Ethernet Networks (RFC2464) Advanced Sockets API (RFC2292) Basic Socket Interface Extensions (RFC2553) ND snooping ICMP v6 (RFC2463) MLD v1/v2 Snooping



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MIB's and RFC's	RFC1215 type definition RFC1271 RMON RFC1354 IP-Forwarding MIB RFC1493 Bridge MIB RFC1643 Ether-like 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 vacm RFC2674 Bridge MIB Extensions (IEEE802.1Q MIB) RFC2674 Bridge MIB Extensions (IEEE802.1P MIB)
Configuration & Management	CLI Console (RJ-45) & Telnet Dual Firmware (support available in DX-5010, DX-5028 & DX-5052 series. Future firmware support in DX-509 and DX-5026MGV series) Multiple configuration files SNMP v1,v2,v3 SNTP/NTP Syslog SSH Sflow RMON MIB access Private MIB and Trap FTP/TFTP (Client, firmware Upgrade)



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Ordering Information:

Model No	Description
DX-509MG	8 Port 10/100 Base TX Layer 2 SNMP Managed Stackable switch with 1 # 10/100/1000 Base TX port shared with 1 unpopulated 100/1000 Mbps SFP slot, AC power supply
DX-509MG-POE	8 Port 10/100 Base TX Layer 2 SNMP Managed POE switch with 1 # 10/100/1000 Base TX port shared with 1 unpopulated 100/1000 Mbps SFP slot, AC power supply.
DX-5010MGV-AC	Layer 2 SNMP Managed switch, 8# 10/100 Base TX Ethernet ports, 2#10/100/1000 Base TX Ethernet Ports shared with 2 SFP slots, AC Power supply
DX-5010MGV-AC-R	Layer 2 SNMP Managed switch, 8-port 10/100 Base TX Ethernet ports, 2#10/100/1000 Base TX Ethernet Ports shared with 2#100/1000 Mbps SFP slots, AC power supply, optional RPS support
DX-5026MGV-AC	Layer 2 SNMP Managed Stackable switch with 24 # 10/100 Base TX ports and 2 # 10/100/1000 Base TX ports shared with 2 unpopulated Mini GBIC SFP slots, AC power supply included
DX-5028MG	24-port 10/100BaseTX Layer 2 SNMP-managed Stackable switch with 4 # 10/100/1000 Base TX ports shared with 4 Unpopulated SFP slots, AC power supply included
DX-5028MG-R	Layer 2 SNMP Managed Stackable switch with 24# 10/100 Base TX ports and 4#10/100/1000 Base TX ports shared with 4 unpopulated MiniGBIC SFP slots, AC power supply included, Optional RPS support
DX-5028MG-POE-AC	Layer 2 SNMP Managed switch with 24 fixed 10/100 BaseTX POE ports, 2#10/100/1000 Base TX ports shared with 2 Unpopulated miniGBIC SFP Slots and additional 2#10/100/1000 Base TX ports, AC power supply included
DX-5052MG	48-port 10/100BaseTX Layer 2 SNMP-managed Stackable switch with 4 # 10/100/1000 Base TX ports shared with 4 Unpopulated SFP slots, AC power supply included
Fiber Transceivers	
DX-SFP-100FX-MM-850-LC-2	100 FX SFP Transceiver with LC Connector, Multimode (850nm), 2 Km
DX-SFP-100FX-MM-1310-LC-2	100 FX SFP Transceiver with LC Connector, Multimode (1310nm), 2 Km
DX-SFP-100FX-SM-1310-LC-20	100 FX SFP Transceiver with LC Connector, Single mode (1310nm), 20 Km
DX-SFP-100FX-SM-1310-LC-40	100 FX SFP Transceiver with LC Connector, Single mode (1310nm), 40 Km
DX-SFP-100FX-SM-1550-LC-80	100FX SFP transceiver, Single mode, 1550nm, LC connector, 80Km
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, Single mode 1310nm, 10km
DX-MGBIC-LHX-LC-40	Mini GBIC 1000LHX transceiver port, with LC connector, Single mode 40km
DX-MGBIC-ZX-LC-80	Mini GBIC 1000ZX transceiver port, with LC connector, Single mode 80km
Optional RPS	
DX-5010MGV-RPS	Redundant power supply unit for DX-5010MGV-AC
DX-0500-RPS	Redundant Power supply unit for DX-5028MG-R



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Dax Managed Layer 2 Fast 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.

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