D-Link

Product Highlights

Feature-Rich Software

An integrated software image provides powerful L2 and L3 features to fulfill different applications' requirements, capable of building solid, reliable networks

Embedded 25G Ports

Four embedded high-speed 25G ports simplify the network deployment by providing versatile options for uplink connections

Scalability and High Availability

Physical stacking provides agile expansion and redundancy while reliability through fault tolerant topologies ensures rock-solid connectivity



DXS-3130-28P

10G Layer 3 Stackable Aggregation Managed Switch

Features

High Availability and Flexibility

- Variety of high-speed interface combinations to meet different network requirements
- Two hot-swappable power modules for 1+1 power redundancy and load sharing
- 60W BT PoE with 1440 W PoE power budget
- Smart fan design - 5-speed smart fan automatically adjusts according to device operating temperature

Reliability

- Redundant power supply (RPS) support
- Ethernet Ring Protection Switching (ERPS)
- Embedded 6 kV surge protection on all Ethernet ports
- IEEE 802.1D/802.1w/802.1s Spanning Tree
- Loopback Detection (LBD)

L3 Features

- Static Route
- RIP/RIPng
- OSPFv2/v3

Operations, Administration and Maintenance

- IEEE 802.3ah Ethernet Link OAM
- IEEE 802.1ag/ITU-T Y.1731 Service OAM

High Bandwidth Stacking

- Physical stack of up to 9 units via four 25G ports
- 200 Gbps per device physical stacking bandwidth

The DXS-3130-28P 10G Layer 3 Stackable Aggregation Managed Switch is designed for secure connectivity in an enterprise or metro Ethernet access network and supports both multicasting and enhanced security, making it an ideal 10G/multi-Gigabit access layer solution. The DXS-3130-28P features 24 10G/multi-Gigabit 802.3bt 60W PoE++ ports and 4 10/25G SFP28 ports, offering a versatile and high-speed networking connection. The DXS-3130-28P is equipped with 24 PoE ports, supporting 802.3af, 802.3at, and 802.3bt 60W PoE++ standards. It offers a default power budget of 790 watts, which can be expanded to 1440 watts with dual power supplies. Additionally, the switch features 4 10/25G SFP28 ports for enhanced speed and versatility. It also includes a USB 2.0 port, enabling direct booting of images and uploading of configuration files, as well as convenient storage of syslog files on a USB 2.0 device.

Enhanced Network Reliability

The DXS-3130-28P targets enterprises and metro Ethernet applications, and customers who require a high level of network security and maximum uptime. The DXS-3130-28P suppports hot-swappable internal redundant power supplies and incorporate essential reliability features to enhance network resilience, including 802.1D Spanning Tree (STP), 802.1w Rapid Spanning Tree (RSTP), 802.1s Multiple Spanning Tree (MSTP), Loopback Detection (LBD), and Broadcast Storm Control. G.8032 Ethernet Ring Protection Switching (ERPS) minimizes recovery time to 50 ms. For load sharing and redundancy backup in a switch cascading/server attachment configuration, the DXS-3130-28P provides dynamic 802.3ad Link Aggregation Port Trunking.

Comprehensive Security

The DXS-3130-28P provides users with the latest security features such as Multi-layer and Packet Content Access Control Lists (ACL), Storm Control, and IP-MAC-Port Binding (IMPB) with DHCP Snooping. The IP-MAC-Port Binding feature allows administrators to bind a source IP address with an associated MAC and define the port number to enhance user access control. With the DHCP Snooping feature, the switch automatically learns IP/MAC pairs by snooping DHCP packets and saving them to the IMPB white list.

Intelligent Fan Operation

The DXS-3130-28P PoE models have built-in internal fans which can automatically start working to prevent the device from overheating. The fan speed will be gradually adjustedbetween 5 levels of cooling according to the operating temperature of the switch. Administrators can also configure the operation state of internal fans through Web UI or command line interface (CLI).

Easy Access Control Policies

The DXS-3130-28P supports authentication mechanisms such as 802.1X, Web-based Access Control (WAC), and MAC-based Access Control (MAC) for strict access control and easy deployment. After authentication, individual policies such as VLAN membership, QoS policies, and ACL rules can be assigned to each host.

Versatile Traffic Management

The DXS-3130-28P implements a rich set of multi-layer QoS/CoS features to ensure that critical network services such as VoIP, video conferences, IPTV, and IP surveillance are always given high priority. Traffic Shaping features guarantee bandwidth for these services when the network is busy. L2 Multicast support enables the DXS-3130-28P to handle growing IPTV applications.

Host-based IGMP/MLD Snooping allows multiple multicast subscribers per physical interface while ISM VLAN allows the switches to send multicast streams in a multicast VLAN to save bandwidth and to provide better security to the backbone network. The ISM VLAN profiles allow administrators to bind or replace the pre-defined multicast registration information to subscriber ports quickly and easily.

High Availability and Flexibility

The DXS-3130-28P allows multiple switches to be combined to form a single physical or virtual stack. This increases redundancy over multiple physical units, simplifies management, and provides a single IP address to manage all members in the stack. Up to 9 switches can be combined using DACs/Fibers to make up to 200 Gigabit transmission bandwidth, allowing switching capacity to be increased with demand.

6kV Surge Protection

The DXS-3130-28P features built-in 6kV surge protection on all Ethernet access ports, and requires no external surge protection equipment. This effectively protects the switches against sudden electrical surges caused events such as lightning strikes or unstable electrical current. Built-in 6kV surge protection significantly reduces the chances of equipment being damaged from electrical surges, and effectively lowers maintenance costs by minimizing the need for expensive equipment repairs or replacement.

Power over Ethernet (PoE)

The DXS-3130-28P features Power over Ethernet, which allows PoE-powered devices to be powered by the switch through a standard Ethernet cable. It supports the IEEE 802.3af PoE, IEEE 802.3at PoE+ and IEEE 802.3bt PoE++ standards, providing up to 60 W of power per port. PoE effectively reduces deployment time for PoE devices such as IP cameras, VoIP phones, and access points and eliminates the cost for additional electrical cabling.

Perpetual PoE and Fast PoE are also available with the DXS-3130-28P. Perpetual PoE delivers uninterrupted power to connected powered devices (PD) even when the power sourcing equipment (PSE) switch is booting. Fast PoE enables the switch to supply power to connected endpoint devices in a relatively short time without waiting for the operating system to boot up.

The DXS-3130-28P features a 790 W PoE power budget which can be increased to 1440 W when outfitted with dual power supplies, allowing the switches to power even more devices. Additionally, an extended Link Layer Discovery Protocol (LLDP) automatically negotiates and manages the power feed to IEEE 802.3bt 60W powered devices for optimal power distribution.

Technical Specifications

Interfaces		
Ports	• 24 x 100M/1G/2.5G/5G/10GBASE-T 60W PoE++ ports	• 4 x 10/25G SFP28 ports
Optional Redundant Power Supply	• AC (DPS-PWR1200AC) hot-swappable redundant power supplies • DC (DPS-PWR1200DC) hot-swappable redundant power supplies	
Console Port	RJ-45 port for out-of-band CLI management	
Management Port	10/100/1000BASE-T RJ-45 port for out-of-band IP management	
Stacking Ports	4	
USB Ports	1 x USB 2.0 Type A port	
Performance		
Switching Capacity	680 Gbps	
64-Byte Packet Forwarding Rate	505.92 Mpps	
Packet Buffer Memory	4 MB	
PoE		
PoE Standards	• IEEE 802.3af • IEEE 802.3at	• IEEE 802.3bt
PoE Power Budget	• 790 W	• 1440 W (dual power supplies)
Physical		
MTBF (Hours)	286,495.20 hours	
Acoustics	• Max: 50.01 dB (fan high speed)	• Min: 41.2 dB (fan low speed)
Heat Dissipation	3439.64 BTU/h	
Power Input	100 to 240 VAC, 50 to 60 Hz	
Max Power Consumption	• Max: AC CRPS at 100V/60Hz • PoE On: w/ dual CRPS: 1782.37 W (AC CRPS x 2) w/ single CRPS: 1008.1 W (AC CRPS x 1) • PoE Off : 95.9W)	• Standby: 50.18 W
Dimensions (W xD x H)	440 x 470 x 44 mm (17.32 x 18.50 x 1.73 in)	
Weight	6.48 kg (14.29 lbs)	
Ventilation	2 x Smart fans	
Power Surge Protection	All Ethernet ports support IEC61000-4-5 6 kV surge protection	
Operation Temperature	0 to 50 ˚C (32 to 122 °F)	
Storage Temperature	-40 to 70 ˚C (-40 to 158 °F)	
Operating Humidity	10% to 90% RH	
Storage Humidity	5% to 90% RH	
Emission (EMI)	• FCC Class A • CE Class A • VCCI Class A	• IC • RCM • BSMI
Safety	• CB • cUL	• BSMI

Software Features

Stackability	• Physical stacking
	  • Up to 9 units per stack
	  • Up to 200 Gbps stacking bandwidth
	  • Ring/chain topology support
		• Virtual stacking
		  • D-Link Single IP Management (SIM)
		  • Up to 32 units per virtual stack

L2 Features	• MAC Address Table: 32K (32,768) entries
	• Flow Control
	  • 802.3x Flow Control
	  • HOL Blocking Prevention
	• Jumbo Frames up to 12 Kbytes
	• 802.1AX/802.3ad Link Aggregation
	  • Max. 32 groups per device, 8 ports per group
	• Spanning Tree Protocols
	  • 802.1D STP
	  • 802.1w RSTP
	  • 802.1s MSTP
	  • BPDU Filtering
	  • Root Guard
	  • Loop Guard
		• Loopback Detection
		• Port Mirroring
		  • Supports One-to-One, Many-to-One
		  • Supports Mirroring for both Tx/Rx
		  • Supports 4 mirroring groups
		• Flow mirroring
		  • Supports Mirroring for Tx/Rx
		• VLAN Mirroring
		• RSPAN
		• L2 Protocol Tunneling
		• Ethernet Ring Protection Switching (ERPS) v1/v2

L2 Multicasting	• IGMP Snooping
	  • IGMP v1/v2/v3 Snooping
	  • Supports 1024 IGMP groups
	  • IGMP Snooping Fast Leave
	  • Supports 128 static IGMP groups
	  • Per VLAN IGMP Snooping
	  • Data Driven Learning
	  • IGMP Snooping Querier
	  • IGMP Authentication
	  • IGMP Accounting
		• Report Suppression
		• MLD Snooping
		  • MLD v1/v2 Snooping
		  • Support 1024 MLD Groups
		  • MLD Snooping Fast Leave
		  • Supports 64 static MLD groups
		  • MLD Snooping Querier
		  • Per VLAN MLD Snooping
		  • MLD Proxy Reporting

L3 Multicasting	• IGMP v1/v2/v3	• PIM-SM for IPv4

VLAN	• VLAN Group
	  • Max. 4K VLAN groups
	  • Max. 1~4094 VIDs
	• GVRP
	  • Max. 4K dynamic VLAN groups
	• Double VLAN (Q-in-Q)
	  • Port-based Q-in-Q
	  • Selective Q-in-Q
	• 802.1Q
	• Auto Surveillance VLAN
	• Port-based VLAN
		• 802.1v Protocol-based VLAN
		• Voice VLAN
		• MAC-based VLAN
		• VLAN translation
		• Multicast VLAN (ISM VLAN for IPv4/IPv6)
		• Asymmetric VLAN
		• Private VLAN
		• VLAN Trunking
		• Super VLAN

Quality of Service	• 802.1p
	• 8 queues per port
	• Queue Handling
	  • Strict Priority
	  • Weighted Round Robin (WRR)
	  • Strict + WRR
	  • Weighted Deficit Round Robin (WDRR)
	• Policy Map
	  • Remark 802.1p priority
	  • Remark IP precedence/DSCP
	• Congestion Control
	  • Weighted Random Early Detection (WRED)
		• Bandwidth Control
		  • Port-based (ingress/egress, min. granularity 8 Kbps)
		  • Flow-based (ingress/egress, min. granularity 8 Kbps)
		  • Per queue bandwidth control (min. granularity 8 Kbps)
		• Three Color Marker
		  • CIR/PIR minimum granularity: 8 kbps
		  • trTCM
		  • srTCM

Access Control List (ACL)	• ACL based on
	  • 802.1p priority
	  • VID
	  • MAC address
	  • Ether Type
	  • LLC
	  • VLAN
	  • IP address
	  • IP preference/ToS
	  • DSCP mask
	  • Protocol type
	  • TCP/UDP port number
	  • IPv6 Traffic Class
	  • IPv6 Flow Label
	• Max. ACL entries:
	  • Ingress (hardware entries): 3072
	  • Egress (hardware entries): 1024
	  • VLAN Access Map Numbers: 100
		• CoS based on
		  • Switch port
		  • Inner/Outer VID
		  • Inner/Outer 802.1p Priority
		  • MAC address
		  • IP address
		  • DSCP
		  • Protocol type
		  • TCP/UDP port
		  • IPv6 traffic class
		  • IPv6 flow label
		• Time-based ACL
		• CPU Interface Filtering

Security	• Port Security
	  • Supports up to 64 MAC addresses per port
	• Broadcast/Multicast/Unicast Storm Control
	• D-Link Safeguard Engine
	• DHCP Server Screening
	• IP Source Guard
	• DHCP Snooping
	• IPv6 Snooping
	• Dynamic ARP Inspection (DAI)
	• DHCPv6 Guard
	• IPv6 Route Advertisement (RA) Guard
	• IPv6 ND Inspection
	• Duplicate Address Detection (DAD)
		• ARP Spoofing Prevention
		  • Max. 64 entries
		• L3 Control Packet Filtering
		• Traffic Segmentation
		• SSL
		  • Supports TLS 1.0/1.1/1.2
		  • Supports IPv4/IPv6 access
		• SSH
		  • Supports SSH v2
		  • Supports IPv4/IPv6 access
		• BPDU Attack Protection
		• DoS Attack Prevention

PoE Features	• Perpetual PoE • Fast PoE • Time-based PoE	• PD Alive • Auto PoE PD Discovery

AAA	• Guest VLAN
	• 802.1X Authentication
	  • Supports port/host-based access control
	  • Identity-driven Policy Assignment
	  • Dynamic VLAN Assignment
	  • Ingress/Egress Bandwidth Control
	  • ACL Assignment
	• Web-based Access Control (WAC)
	  • Supports port/host-based access control
	  • Identity-driven Policy Assignment
	  • Dynamic VLAN Assignment
	  • Support IPv4 access
	  • Ingress/Egress Bandwidth Control
	  • ACL Assignment
		• RADIUS and TACACS+ Authentication
		• Authentication Database Failover
		• Compound Authentication
		• MAC-based Access Control (MAC)
		  • Supports port/host-based access control
		  • Identity-driven Policy Assignment
		  • Dynamic VLAN Assignment
		  • Ingress/Egress Bandwidth Control
		  • ACL Assignment
		• Privilege Level for Management Access
		• Trusted Host
		• RADIUS/TACACS+ Accounting

Green Features	• Energy-Efficient Ethernet (EEE) • Power saving by link status • Power saving by LED shut-off	• Power saving by port shut-off • Power saving by system hibernation • Time-based PoE
OAM (Operations, Administration and Maintenance)	• 802.3ah Ethernet Link OAM • D-Link Unidirectional Link Detection (DULD) • Dying Gasp	• 802.1ag Connectivity Fault Management (CFM) • Y.1731 OAM • Optical Transceiver Digital Diagnostic Monitoring (DDM)

Management	• Web-based GUI
	  • Support IPv4/IPv6 access
	  • Support SSL (HTTPS)
	• Command Line Interface (CLI)
	• Telnet Server for IPv4/IPv6
	• Telnet Client for IPv4/IPv6
	• TFTP Client for IPv4/IPv6
	• DNS Client for IPv4/IPv6
	• Secure FTP Server for IPv4/IPv6
	• SNMP
	  • Support v1/v2c/v3
	  • Support for IPv4/IPv6 access
	• SNMP Traps
	• System Log for IPv4/IPv6 Syslog Server
	• sFlow
	• Multiple images/ Multiple Configurations
	• RMON v1:
	  • Supports 1, 2, 3, 9 groups
	• RMON v2:
	  • Supports ProbeConfig group
		• LLDP/LLDP-MED
		• BootP/DHCP Client
		• DHCP Auto-Configuration
		• DHCP/DHCPv6 Local Relay
		• DHCP Relay Option 60/61/82/125
		• Flash File System
		• PPPoE Circuit-ID Tag Insertion
		• D-Link Discover Protocol (DDP)
		• Debug command
		• Support IPv4/v6 SNTP Server
		• NTPv3/v4
		• Password recovery/ encryption
		• DHCP server
		  • Support for IPv4/IPv6 address assignment
		• Command Logging
		• SMTP
		• DHCPv6 Prefix Delegation (PD)
		• Ping/ Traceroute for IPv4/IPv6
		• Microsoft® Network Load Balancing (NLB)
		• PD Alive (PoE Models Only)

L3 Features	• IPv4 ARP Entries 4096
	  • 256 Static ARP
	• IPv6 ND Entries:1024
	  • 128 Static ND Entries
	• IP Interface
	  • Supports 128 interfaces
		• Gratuitous ARP
		• Loopback Interface
		• Proxy ARP
		  • Support local ARP proxy
		• VRRP v2/v3
		• IP Helper

L3 Routing	• Supports 1024 hardware routing entries shared by IPv4/IPv6
	  • 1 entry consumed by each IPv4 route
	  • 2 entries consumed by each IPv6 route
	• Supports up to 16K IPv4 / 8K IPv6 hardware L3 forwarding
	  • entries
	  • 1 entry consumed by each IPv4 route
	  • 2 entries consumed by each IPv6 route
	• IPv4/IPv6 Static Route
	  • Max. 512 IPv4 entries
	  • Max. 256 IPv6 entries
	  • Support Equal-Cost Multi-Path Route (ECMP)
	• IPv4/IPv6 Default Route
		• PBR (Policy-based Route)
		• Null Route
		• Route Preference
		• Route Redistribution
		• RIPv1/v2/ng
		• OSPF
		  • OSPF v2/v3
		  • OSPF passive interface
		  • Stub/NSSA area
		  • Support Equal-Cost Multi-Path Route (ECMP)
		  • Text/MD5

MIB	• RFC1065, RFC1066, RFC1155, RFC1156, RFC2578 MIB Structure • RFC1212 Concise MIB Definitions • RFC1213 MIBII • RFC1215 MIB Traps Convention • RFC1493, RFC4188 Bridge MIB • RFC1157, RFC2571, RFC2572, RFC2573, RFC2574, RFC2575, C2576 SNMP MIB • RFC1442, RFC1901, RFC1902, RFC1903, RFC1904, RFC1905, RFC1906, RFC1907, RFC1908, RFC2578, RFC3418, RFC3636 SNMPv2 MIB • RFC271, RFC1757, RFC2819 RMON MIB • RFC2021 RMONv2 MIB • RFC1398, RFC1643, RFC1650, RFC2358, RFC2665, RFC3635 Etherlike MIB • RFC2668 802.3 MAU MIB • RFC2674, RFC4363 802.1p MIB • Interface Group MIB • RFC2618 RADIUS Authentication Client MIB • RFC4022 MIB for TCP • RFC4113 MIB for UDP • RFC2389 MIB for Diffserv.	• RFC2620 RADIUS Accounting Client MIB • RFC2925 Ping & TRACEROUTE MIB • TFTP uploads and downloads (D-Link MIB) • Trap MIB (D-Link MIB) • Entity MIB • VRRP MIB • RIPv2 MIB • RFC1850, RFC5643 OSPF MIB • RFC4293 IPv6 SNMP Mgmt Interface MIB • DDM MIB (D-Link MIB) • Private MIB • MIB for D-Link Zone Defense • RFC3621 Power Ethernet MIB • DDP MIB • LLDP-MED MIB • IP Forwarding Table MIB • PoE MIB
RFC Standard Compliance	• RFC 768 UDP • RFC 791 IP • RFC 793 TCP • RFC 826 ARP • RFC 3513, 4291, IPv6 Addressing Architecture • RFC2474, RFC3168, RFC3260 Definition of the DS Field in the IPv4 and IPv6 Headers • RFC1321, RFC2284, RFC2865, RFC2716, RFC1759, RFC3580, RFC3748 Extensible Authentication Protocol (EAP) • RFC2571 SNMP Framework • RFC 2068, 2616 HTTP • RFC 2866 RADIUS Accounting • RFC792 ICMPv4 • RFC2463, RFC4443 ICMPv6	• RFC4884 Extended ICMP to support Multi-Part Messages • RFC1338, RFC1519 CIDR • RFC2574 User-based Security Model for SNMPv3 • RFC1981 Path MTU Discovery for IPv6 • RFC2460 IPv6 • RFC 2571, 2572, 2573, 2574, SNMP • RFC 854 Telnet • RFC 951, 1542 BootP • RFC2461, RFC4861 Neighbor Discovery for IPv6 • RFC2462, RFC4862 IPv6 Stateless Address Auto-configuration (SLAAC) • RFC2464 IPv6 over Ethernet and definition • RFC1886 DNS extension support for IPv6

Optional Accessories	
DEM-CB100S	1 m 10G SFP+ Direct Attach Cable (DAC)
DEM-CB300S	3 m 10G SFP+ Direct Attach Cable (DAC)
DEM-CB100S28	1 m 25G SFP28 Direct Attach Cable (DAC)
Optional Redundant Power Supplies	
DPS-PWR1200AC	1200 W AC Hot-Swappable Internal Redundant Power Supply
DPS-PWR1200DC	1200 W DC Hot-Swappable Internal Redundant Power Supply
Optional SFP+ Transceivers	
DEM-410T	10GBASE-T Copper SFP+ Transceiver (w/o DDM), 30 m
DEM-431XT	10GBASE-SR Multi-Mode, OM1:33M/OM2:82M/OM3:300M (w/o DDM)
DEM-432XT	10GBASE-LR Single-Mode, 10 km (w/o DDM)
Optional 25 Gigabit Ethernet SFP28 Transceivers	
DEM-S2801SR	25G SFP28 Multi-Mode, 100 m Transceiver
DEM-S2810LR	25G SFP28 Single-Mode 10 km Transceiver

Actual performances may vary due to settings, cabling, temperature, network configuration, interface, device compatibility, environmental and on-site conditions, and other similar factors. References to power capability, signal or processing speed, signal range or distance, data encryption, storage capacity, display properties, or other performance metrics are based on optimal conditions derived from industry standards and provided for informational purposes only. Specifications may be subject to change without prior notice.

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