D-Link

Next Generation Layer 3 Stackable Smart Managed Switch

A new generation of Layer 3 stackable Smart Managed switches to aggregate your Gigabit network with 10G ports for uplink or stacking.

DGS-1520 Series

High Availability and Flexibility
- 24 or 48 x 10/100/1000Base-T ports
- 20 or 44 x 10/100/1000Base-T PoE and 4 x 2.5GBase-T PoE ports
- 2 x 10GBase-T and 2 x SFP+ uplink ports

High Bandwidth Stacking
- Physical Stacking of up to 8 units
- 2 x 10GBase-T and/or 2 x SFP+
- 80 Gbps physical stacking bandwidth

Advanced L2 features
- RSPAN
- Selective Q-in-Q

Advanced L3 features
- IGMP v1/v2/v3
- MLD v1/v2
- PIM-SM/DM/SSM
- Static Route
- RIP/RIPng
- OSPF

Reliability and Resiliency
- Ethernet Ring Protection Switching (ERPS)
- Virtual Router Redundancy Protocol (VRRP)
- Redundant Power Supply (RPS) support

Management, Provisioning and Automation
- D-View 7
- D-Link Network Assistant (DNA)
- Zero Touch Provisioning (ZTP)





Stackable Smart Gigabit

Stack up to 8 switches for high-density Gigabit aggregation

Zero Touch Provisioning

Effortless multi-site deployment

High Capacity

Up to 188 Gbps switching capacity

PoE Capable

Up to 370W PoE output per switch

Multi-Gigabit Ports

4 x 2.5GBase-T ports for Wi-Fi 6 APs (PoE models)

Power Redundancy

Connect with DPS-520 for power redundancy (non-PoE models)

Flexible Stacking or Uplink

10GBase-T and/or SFP+ (fiber) ports for stacking or uplink

Advanced Manageability

Supports dynamic routing and selective Q-in-Q tagging

Model	DGS-1520-28	DGS-1520-28MP	DGS-1520-52	DGS-1520-52MP
Product Image				
General				
Hardware Version	A1			
Size	19" standard rack width, 1U height			
Interfaces	24 x 10/100/1000Base-T Ports 2 x 10GBase-T Ports 2 x 10G SFP+ Ports	20 x 10/100/1000Base-T PoE Ports 4 x 2.5GBase-T PoE Ports 2 x 10GBase-T Ports 2 x 10G SFP+ Ports	48 x 10/100/1000Base-T Ports 2 x 10GBase-T Ports 2 x 10G SFP+ Ports	44 x 10/100/1000Base-T PoE 4 x 2.5GBase-T PoE Ports 2 x 10GBase-T Ports 2 x 10G SFP+ Ports
Standards	IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-FX 100 Mbps over fiber optic IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper) IEEE 802.3z 1000BASE-X 1 Gbps over fiber optic IEEE 802.3az Energy-Efficient Ethernet (EEE) IEEE 802.3x Flow Control IEEE 802.3ae 10 Gigabit Ethernet IEEE 802.3af/at IEEE 802.3bz			
Media Interface Exchange	Auto or configurable MDI/MDIX			
LED	Power/Stacking ID/Fan (per device) Link/Activity/Speed (per 10/100/1000 Mbps port, per 2.5G PoE port, per Gigabit SFP port, per 10G SFP+ port)			
Functionality				
Switching Capacity	128 Gbps	140 Gbps	176 Gbps	188 Gbps
Transmission Method	Store-and-Forward			
MAC Address Table	Up to 16,384 entries per device			
Static MAC Addresses	Up to 512 static MAC entries			
Maximum Forwarding Rate	95.24 Mpps	104.16 Mpps	130.95 Mpps	139.88 Mpps
PoE Standard	N/A	IEEE802.3at, IEEE802.3af	N/A	IEEE802.3at, IEEE802.3af
PoE Power Budget	N/A	370 W, 740 W (with RPS)	N/A	370 W, 740 W (with RPS)
Physical				
Power Input	100 - 240 VAC			
Maximum Power Consumption	30.4 W	453.3 W (PoE On); 45.2 W (PoE Off)	51.2 W	459.5 W (PoE On); 66.3 W (PoE Off)
Standby Power Consumption	20.9 W/100 V; 21.5 W/240 V	37.2 W/100 V; 37.3 W/240 V	25.5 W/100 V; 26.8 W/240 V	39.8 W/100 V; 40.7 W/240 V
Acoustics	51.8 dB(A)	57.1 dB(A)	56.8 dB(A)	56.7 dB(A)
Heat Dissipation	103.7 BTU/hr	1545.8 BTU/hr	174.6 BTU/hr	1635.1 BTU/hr
MTBF	468252 Hours	333946 Hours	364888 Hours	328174 Hours
Operating Temperature	-5 - 50°C (23 - 122 °F)			
Storage Temperature	-40 - 70°C (-40 - 158 °F)			
Operating Humidity	10% - 95% RH			
Storage Humidity	5% - 95% RH			
Dimensions (L x W x H)	441 x 207.4 x 44 mm (17.36 x 8.17 x 1.73 in)	441 x 308.5 x 44 mm (17.36 x 12.15 x 1.73 in)	441 x 207.4 x 44 mm (17.36 x 8.17 x 1.73 in)	441 x 308.5 x 44 mm (17.36 x 12.15 x 1.73 in)
Weight	2.33 kg (5.14 lbs)	4.29 kg (9.46 lbs)	2.78 kg (6.13 lbs)	4.80 kg (10.58 lbs)
EMI	CE Class A, FCC Class A, IC Class A, RCM Class A, VCCI Class A, BSMI Class A			

Software		
Stackability	Physical stacking • 10GBase-T and SFP+ • Up to 8 units per stack • Up to 80 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: 16,384 entries Flow Control • 802.3x Flow Control • HOL Blocking Prevention Jumbo Frames up to 12,288 Bytes 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 Ingress Mirroring only VLAN Mirroring RSPAN L2 Protocol Tunneling Ethernet Ring Protection Switching (ERPS) v1/v2
L2 Multicasting	IGMP Snooping • IGMP v1/v2/v3 Snooping • Supports 512 IGMP groups • Host-based IGMP Snooping Fast Leave • Supports 128 static IGMP groups • Per VLAN IGMP Snooping • Data Driven Learning • IGMP Snooping Querier • Report Suppression	MLD Snooping • MLD v1/v2 Snooping • Support 256 MLD Groups • Host-based MLD Snooping Fast Leave • Supports 64 static MLD groups • MLD Snooping Querier • Per VLAN MLD Snooping • MLD Proxy Reporting
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 Subnet-based VLAN VLAN translation Multicast VLAN (ISM VLAN for IPv4/IPv6) Asymmetric VLAN Private VLAN VLAN Trunking Super VLAN
L3 Features	IPv4 ARP Entries: 8192 • 256 Static ARP IPv6 ND Entries:4096 • 128 Static ND Entries IP Interface • Supports 16 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 4096 hardware L3 forwarding entries shared by IPv4/IPv6 • 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 Equal-Cost Multi-Path Route (ECMP) Weighted-Cost Multi-Path Route (WCMP)	IPv4/IPv6 Default Route Policy-based Route (PBR) Null Route Route Preference Route Redistribution RIPv1/v2/ng OSPF • OSPF v2/v3 • OSPF passive interface • Stub/NSSA area • Supports Equal-Cost Multi-Path Route (ECMP) • Text/MD5 authentication

Software		
L3 Multicasting	IGMP v1/v2/v3 IGMP Proxy MLD v1/v2 MLD proxy	DVMRP v3 PIM Sparse-Dense Mode (PIM-SDM) PIM-SM/DM/SSM for IPv4/IPv6
QoS (Quality of Service)	802.1p 8 queues per port Queue Handling • Strict Priority • Weighted Round Robin (WRR) • Strict + WRR • Weighted Deficit Round Robin (WDRR) Congestion Control • Weighted Random Early Detection (WRED) • 802.1Qbb Priority-based Flow Control (PFC) [10G ports only] Policy Map • Remark 802.1p priority • Remark IP precedence/DSCP • Rate limiting • Time based QoS CoS based on • Switch port • Inner/Outer VID	• Inner/Outer 802.1p Priority • MAC address • Ether type • IP address • DSCP • ToS/IP preference • Protocol type • TCP/UDP port • IPv6 traffic class • IPv6 flow label 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 Kb/s) 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 Time-based ACL CPU Interface Filtering Max. ACL entries: • Ingress (hardware entries): 1536 • Egress (hardware entries): 512 • VLAN Access Map Numbers: 2048
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 Unicast Reverse Path Forwarding (URPF) 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
AAA	Guest VLAN 802.1X Authentication • Supports port/host-based access control • Identity-driven Policy Assignment • Dynamic VLAN Assignment Web-based Access Control (WAC) • Supports port/host-based access control • Identity-driven Policy Assignment • Dynamic VLAN Assignment	MAC-based Access Control (MAC) • Supports port/host-based access control • Identity-driven Policy Assignment • Dynamic VLAN Assignment RADIUS and TACACS+ Authentication Authentication Database Failover Compound Authentication Privilege Level for Management Access Trusted Host RADIUS/TACACS+ Accounting

Software		
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 (PoE models only)
Operation, Administration and Maintenance (OAM)	Cable Diagnostics Optical Transceiver Digital Diagnostic Monitoring (DDM)	
Management	Web-based GUI • Support IPv4/IPv6 access • Support SSL (HTTPS) Command Line Interface (CLI) Telnet Server/Client for IPv4/IPv6 TFTP Client for IPv4/IPv6 DNS Client for IPv4/IPv6 Secure FTP Server/Client 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 & Configurations RMON v1: • Supports 1,2,3,9 groups RMON v2: • Supports ProbeConfig group LLDP/LLDP-MED	BootP/DHCP Client DHCP Auto-Configuration/Auto Image DHCP/DHCPv6 Local Relay DHCP Relay Option 60/61/62/125 Flash File System 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) Zero Touch Provisioning (ZTP)

Order Information

DGS-1520-28	24 x 10/100/1000BASE-T Ports, 2 x 10GBase-T Ports and 2 x 10G SFP+ Ports
DGS-1520-28MP	20 x 10/100/1000BASE-T PoE Ports, 4 x 2.5GBASE-T PoE Ports, 2 x 10GBASE-T Ports and 2 x 10G SFP+ Ports
DGS-1520-52	48 x 10/100/1000BASE-T Ports, 2 x 10GBASE-T Ports and 2 x 10G SFP+ Ports
DGS-1520-52MP	44 x 10/100/1000BASE-T PoE Ports, 4 x 2.5GBase-T PoE Ports, 2 x 10GBASE-T Ports and 2 x 10G SFP+ Ports

Optional SFP Transceivers	
DEM-310GT	1000BASE-LX, single-mode, 10 km
DEM-311GT	1000BASE-SX, multi-mode, 550 m
DEM-312GT2	1000BASE-SX, multi-mode, 2 km
DEM-314GT	1000BASE-LHX, single-mode, 50 km
DEM-315GT	1000BASE-ZX, single-mode, 80 km
DGS-712	1000BASE-T to SFP transceiver

Optional WDM SFP Transceivers	
DEM-330T	1000BASE-LX, Wavelength Tx:1550 nm Rx:1310 nm, Single-mode, 10 km
DEM-330R	1000BASE-LX, Wavelength Tx:1310 nm Rx:1550 nm, Single-mode, 10 km
DEM-331T	1000BASE-LX, Wavelength Tx:1550 nm Rx:1310 nm, Single-mode, 40 km
DEM-331R	1000BASE-LX, Wavelength Tx:1310nm Rx:1550 nm, Single-mode, 40 km

Optional SFP+ Transceivers	
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)
DEM-433XT	10GBASE-ER Single-mode, 40 km (w/o DDM)
DEM-434XT	10GBASE-ZR Single-mode, 80 km (w/o DDM)
DEM-436XT-BXD	10GBASE-LR Single-mode, 20 km (TX-1330/RX-1270 nm) (w/o DDM)
DEM-436XT-BXU	10GBASE-LR Single-mode, 20 km (TX-1270/RX-1310 nm) (w/o DDM)

Optional SFP+ Direct Attach Stacking Cables	
DEM-CB100S	1 m 10G SFP+ Direct Attach Cable (DAC)
DEM-CB300S	3 m 10G SFP+ Direct Attach Cable (DAC)
DEM-CB700S	7 m 10G SFP+ Direct Attach Cable (DAC)

Optional Redundant Power Supplies	
DPS-520	PoE Redundant Power Supply for Non-PoE Models only
DPS-700	AC Redundant Power Supply for PoE Models only

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