

## Product Highlights

### Versatile Advanced Functions

Supports a range of management, L2, and IPv6 features for network management such as bandwidth control, Voice VLAN<sup>1</sup>, and network load balancing

### Flexible Hardware Design

Choose from 9" to 19" models with 8, 16, 24, or 48 10/100BASE-TX and 2 or 4 Combo 1000BASE-T/SFP ports with AC/DC input to fit your networking needs

### Comprehensive Security Solution

Supports Access Control List (ACL) and multiple user authentication methods including 802.1X/ Web-Based (WAC)<sup>1</sup>, and MAC-Based (MAC) Access Control to keep the network secure



## DES-3200 Series

# Layer 2 Management Switches

## Features

### Flexible Hardware Design

- Selectable 8, 16, 24, or 48 10/100BASE-TX or 24 100BASE-FX ports
- 2 or 4 Combo 1000BASE-T/SFP ports
- 9", 11", or 19" Rack-mount
- Supports 802.3at (PoE+) and 802.3af (PoE) for PoE models
- All Ethernet ports have 6 KV surge protection

### L2 Features

- 802.1D STP, 802.1w RSTP, and 802.1s MSTP
- Loopback Detection
- 802.1AX and 802.3ad Link Aggregation
- Voice VLAN<sup>1</sup>

### Security

- SSH/SSL
- Port Security
- Access Control List (ACL)
- 802.1X / Web-Based (WAC)<sup>1</sup>/MAC-Based (MAC) Access Control
- Guest VLAN
- IP-MAC-Port Binding (IMPB)

### Traffic Monitoring and Bandwidth Control

- Port Mirroring/Bandwidth Control
- Broadcast/Multicast/Unicast Storm Control
- srTCM, trTCM, & policing

The DES-3200 Series is a member of D-Link's Layer 2 managed switch family designed for the ETTX, FTTX, and enterprise markets. The DES-3200 Series provides 8/16/24, or 48 10/100 Mbps Fast Ethernet connections and 2/4 combo Gigabit/SFP ports. The DES-3200-10/18 comes in a 9/11-inch compact size and incorporates a fanless design suitable for desktop, telecom cabinet, or distribution box deployment. The DES-3200-26, 28, 28/ME, 28F, and 52 models are 1U 19" rack mount size and provide 24/48 copper or fiber connections on Fast Ethernet with the beneficial design of 2/4 Gigabit/SFP Combo ports which provide up to 4 Gbps uplink bandwidth or dual Ethernet ring topology support. The DES-3200-10-DC, 18-DC, 26-DC, and 52-DC provide 48 V DC input which is adequate for the power systems of telecommunication facilities. The DES-3200-28/ME is a purpose-made device for telecom cabinets where devices have only one manageable side and operators or engineers have to do troubleshooting very quickly. The DES-3200-28/ME has all of its interfaces in the front including the power supply to meet specific metropolitan market requirements. Also, it can support an alarm interface for event detection and alarm actions. The DES-3200-28F is the ideal solution for FTTX deployments. It provides direct Ethernet fiber connectivity to the home CPEs. Without the crosstalk problem of traditional copper cables, DES-3200-28F extends the coverage of ETTX up to 20 km. The DES-3200-28P/52P are IEEE 802.3af and IEEE 802.3at Power over Ethernet (PoE) compliant switches and provide 15.4 W per port and up to 30 W in the first four/eight ports. The PoE/PoE+ powers devices such as video IP phones, wireless access points, and IP cameras directly through Ethernet cables which makes the deployment of the network much easier. All switches of the DES-3200 series feature embedded 2 or 4 Gigabit SFP uplinks, which provides flexible network topology choices such as ring, tree, or mixed.

## Security and Availability

The DES-3200 Series supports 802.1X port-based/host-based access control, Guest VLAN and RADIUS/TACACS /XTACACS/TACACS+ Authentication for strict access control over the network. The IP-MAC-Port Binding feature allows administrators to bind a source IP address with an associated MAC for a defined port number to enhance user access control. Furthermore, with the DHCP snooping feature, the switch automatically pairs the IP/MAC by snooping DHCP packets and saving them to the IMPB white list. These features play a significant role in keeping the network secure and auditable. The built-in D-Link Safeguard Engine identifies and prioritizes "CPU interested" packets to prevent malicious traffic from interrupting normal network flows and protects switch operation. In addition, the DES-3200 Series provides various multi-layer Access Control List (ACL) rules. Administrators are able to limit the network services or access rights without impacting the switch performance.

## Resilience/Performance Enhancement

For mission critical environments the DES-3200 Series supports 802.1D-2004 edition, 802.1w, and 802.1s Multiple Spanning Tree Protocol (MSTP). MSTP allows you to configure the switch with a redundant backup bridge path, so transmission and reception of packets can be guaranteed in the event of any failed switch on the network. The switches also support 802.1AX and 802.3ad Link Aggregation, enabling you to group multiple ports in parallel to form a single port, increasing bandwidth and redundancy for higher availability. For Quality of Service (QoS), the switch supports 802.1p and advanced packet classification based on TOS, DSCP, MAC address, IP addresses, VLAN ID, TCP/UDP port number, protocol type, and user-defined packet content. This enables flexible configuration for specific multi-media applications such as VoIP or IPTV. Furthermore, the DES-3200 series supports automatic, effective QoS function for voice traffic. The Voice VLAN<sup>1</sup> includes the voice end points automatically in to a dedicated VLAN with higher priority to guarantee the quality and security of the voice traffic.

## Traffic and Bandwidth Control

The bandwidth control feature allows network administrators to define the ingress/egress throughput levels for each port with granularity down to 8 kbps. The switch supports storm control, which minimizes damage within the network. Port mirroring helps administrators facilitate traffic diagnostics or track switch performance and make changes if necessary. The DES-3200 Series supports a two rate and single-rate Three Color Marker (trTCM/srTCM) to classify traffic streams into conforming and nonconforming groups to guarantee minimum bandwidth for important traffic.

## Multicast Applications

The DES-3200 series provides full L2 multicast functions, including IGMP snooping, IGMP filtering, fast leave, and multicast traffic configuration for specific ports. With L2 Multicast support, the DES-3200 is capable of handling growing applications such as IPTV. Host-based IGMP/MLD Snooping allows multiple multicast subscribers per physical interface and ISM VLAN sends multicast streams in a multicast VLAN to save bandwidth in the backbone network. The ISM VLAN profiles allow users to bind/replace pre-defined multicast registration information to subscription ports quickly and easily.

## OAM

The DES-3200 series provides cable diagnostics to check the status of network cables and pinpoint the cause of any network cable malfunction without requiring on-site operator support. The 802.1ag Connectivity Fault Management (CFM) feature provides tools to monitor and troubleshoot end-to-end Ethernet networks, allowing service providers to check connectivity, isolate network issues, and identify customers affected by network issues. The 802.3ah Ethernet OAM, Dying Gasp, and D-Link Unidirectional Link Detection (DULD) functions improve network management over Ethernet, help maintain a stable network connection, and assist in locating faults.

## Management Capability

The DES-3200 series supports standard management protocols such as SNMP, RMON, Telnet, SSH/SSL security authentication, and DHCP relay option 82. A web-based GUI provides a user-friendly interface and easy management. These switches include DHCP auto-configuration, which is an enhanced management feature that allows administrators to preset a configuration on a TFTP server and apply to switches automatically when the switch is trying to get IP addresses from DHCP. It makes switch deployment fast and easy, especially for large scale networks. LLDP and LLDP-MED<sup>1</sup> provide quick discovery of Ethernet equipment especially for endpoint devices. Based on the discovery results, administrators can easily push configurations to corresponding devices and quickly build a topology drawing through the network management system (NMS).

D-Link Single IP Management (SIM) simplifies and speeds up management tasks, allowing multiple switches to be configured, monitored, and maintained from any workstation running a web browser through one unique IP address. The DES-3200 Series also works with D-Link's D-View 6.0 software, which is a Network Management System that allows for central management of critical network characteristics such as availability, reliability, resilience, and security. D-View 6.0 provides a useful set of tools for network administrators who want to effectively manage device configurations, fault tolerance, performance, and security.

## IPv6 Ready

The DES-3200 Series has been certified with IPv6 Ready Logo Phase 2 which guarantees connectivity and manageability in an IPv6 network. Furthermore, it supports IPv4/v6 dual stack functions that allow the switch to act as a bridge between IPv4 and IPv6 networks. As networks grow and the need for larger addressing and higher security becomes critical, the DES-3200 Series supports various IPv6 ACL, IMPv6<sup>1</sup>, and L3 Control Packet Filtering functions to protect the network against attacks and meet the requirements for the design of the IPv6 architecture.



DES-3200-10



DES-3200-10-DC



DES-3200-18



DES-3200-18-DC



DES-3200-26



DES-3200-26-DC



DES-3200-28



DES-3200-28F



DES-3200-28/ME



DES-3200-28P



DES-3200-52



DES-3200-52-DC



DES-3200-52P

Technical Specifications				
General	DES-3200-10	DES-3200-10-DC	DES-3200-18	DES-3200-18-DC
Hardware Version	C1			
Size	9" inch Standard Rack-mount Width, 1U Height	9" inch Standard Rack-mount Width, 1U Height	11" inch Standard Rack-mount Width, 1U Height	11" inch Standard Rack-mount Width, 1U Height
Interface	8 10/100BASE-TX + 1 100/1000 SFP + 1 Combo 10/100/1000BASE-T / 100/1000 SFP	8 10/100BASE-TX + 1 100/1000 SFP + 1 Combo 10/100/1000BASE-T / 100/1000 SFP with DC power	16 10/100BASE-TX + 1 100/1000 SFP + 1 Combo 10/100/1000BASE-T / 100/1000 SFP	16 10/100BASE-TX + 1 100/1000 SFP + 1 Combo 10/100/1000BASE-T / 100/1000 SFP with DC power
Console Port	RJ-45			
LEDs	Per Device: Power, Console Per Port: Link/Active/Speed			
Performance				
Switching Capacity	5.6 Gbps	5.6 Gbps	7.2 Gbps	7.2 Gbps
64-byte Max. Forwarding Rate	4.2 Mpps	4.2 Mpps	5.4 Mpps	5.4 Mpps
MAC Address Table Size	16K Entries			
SDRAM for CPU	128 M DDR2			
Packet Buffer	1.5 MB			
Flash Memory	32 MB			
Jumbo Frame	12 KB			
Physical/Environmental				
MTBF	738,788 hours	931,568 hours	670,243 hours	825,160 hours
Acoustics	0 dB (No Fan)			
Heat Dissipation	41.94 BTUs per hour	40.238 BTUs per hour	48.422 BTUs per hour	49.10 BTUs per hour
Power Input	AC Input: 100 – 240 V AC, 50-60 Hz	DC Input: -36 V DC to -72 V DC	AC Input: 100 – 240 V AC, 50-60 Hz	DC Input: -36 V DC to -72 V DC
Maximum Power Consumption	13.54 watts	11.54 watts	15.44 watts	15.64 watts
Dimensions (W x D x H)	228.5 x 195 x 44 mm (9.00 x 7.68 x 1.73 inches)	228.5 x 195 x 44 mm (9.00 x 7.68 x 1.73 inches)	280 x 180 x 44 mm (11.02 x 7.09 x 1.73 inches)	280 x 180 x 44 mm (11.02 x 7.09 x 1.73 inches)
Ventilation	Fanless			
Power Surge Protection	All Ethernet ports support IEC61000-4-5 10/700us 6 KV surge protection			
Operation Temperature	-30 to 70 °C (-22 to 158 °F)			
Storage Temperature	-40 to 70 °C (-40 to 158 °F)			
Operating Humidity	10% to 90% non-condensing			
EMI	FCC Class A, CE Class A, VCCI Class A, IC, C-Tick, BSMI			
Safety	CE, LVD, UL/cUL, CB, BSMI			
3rd Party Certifications	IPv6 Ready Logo Phase 2			

General	DES-3200-26	DES-3200-26-DC	DES-3200-28	DES-3200-28F
Hardware Version	C1			
Size	19" inch Standard Rack-mount Width, 1U Height			
Interface	24 10/100BASE-TX + 2 Combo 10/100/1000BASE-T/ 100/1000 SFP	24 10/100BASE-TX + 2 Combo 10/100/1000BASE-T/ 100/1000 SFP	24 10/100BASE-TX + 2 100/1000 SFP + 2 Combo 10/100/1000BASE-T/ 100/1000 SFP	24 100BASE-FX + 4 Combo 10/100/1000BASE-T/ 100/1000 SFP
Console Port	RJ-45			
LEDs	Per Device: Power, Console Per Port: Link/Active/Speed			
<b>Performance</b>				
Switching Capacity	8.8 Gbps	8.8 Gbps	12.8 Gbps	12.8 Gbps
64-byte Max. Forwarding Rate	6.6 Mpps	6.6 Mpps	9.5 Mpps	9.5 Mpps
MAC Address Table Size	16K Entries			
SDRAM for CPU	128 M DDR2			
Packet Buffer	1.5 MB			
Flash Memory	32 MB			
Jumbo Frame	12 KB			
<b>Physical/Environmental</b>				
MTBF	601,273 hours	723,053 hours	590,424 hours	484,053 hours
Acoustics	0 dB (No Fan)			39.6 dB at low speed, 48.4 dB at high speed
Heat Dissipation	61.039 BTU per hour	57.24 BTU per hour	61.039 BTU per hour	142.88 BTU per hour
Power Input	AC Input: 100 – 240 VAC, 50-60 Hz	DC Input: -36VDC to -72 VDC	AC Input: 100 – 240 VAC, 50-60 Hz	
Maximum Power Consumption	20.83 watts	21.6 watts	20.83 watts	44.38 watts
Dimensions (W x D x H)	441 x 210 x 44 mm (17.36 x 8.27 x 1.73 inches)			
Ventilation	Fanless			Fan
Power Surge Protection	All Ethernet ports support IEC61000-4-5 10/700us 6 KV surge protection			
Operation Temperature	-5 to 50 °C (23 to 122 °F)			
Storage Temperature	-40 to 70 °C (-40 to 158 °F)			
Operating Humidity	10% to 90% non-condensing			
EMI	FCC Class A, CE Class A, VCCI Class A, IC, C-Tick, BSMI			
Safety	CE, LVD, UL/cUL, CB, BSMI			
3rd Party Certification	IPv6 Ready Logo Phase 2			

General	DES-3200-28/ME	DES-3200-28P
Hardware Version	C1	
Size	19" inch Standard Rack-mount Width, 1U Height	
Interface	24 10/100BASE-TX +2 100/1000SFP + 2 Combo 10/100/1000BASE-T/ 100/1000 SFP	24 10/100BASE-TX PoE +2 10/100/1000BASE-T + 2 Combo 10/100/1000BASE-T/ 100/1000 SFP
Console Port	RJ-45	
LEDs	Per Device: Power, Console Per Port: Link/Active/Speed	
<b>Performance</b>		
Switching Capacity	12.8 Gbps	12.8 Gbps
64-byte Max. Forwarding Rate	9.5 Mpps	9.5 Mpps
MAC Address Table Size	16K Entries	
SDRAM for CPU	128 M DDR2	
Packet Buffer	1.5 MB	
Flash Memory	32 MB	
Jumbo Frame	12 KB	
<b>Power Over Ethernet</b>		
PoE Standard	N/A	802.3af and 802.3at
PoE Capable Ports	N/A	Ports 1-4: Up to 15.4 or 30 watts per port Ports 5-24: Up to 15.4 watts per port
Maximum PoE Power Budget	N/A	188 watts
<b>Physical/Environmental</b>		
MTBF	607,514.5 hours	189,396 hours
Acoustics	0 dB (No Fan)	39.2 dB at low speed, 51.2 dB at high speed
Heat Dissipation	59.9 BTU per hour	855.696 BTU per hour
Power Input	AC Input: 100 – 240 V AC, 50-60 Hz	
Maximum Power Consumption	20.34 watts	250.78 watts
Dimensions (W x D x H)	441 x 207 x 44 mm (17.36 x 8.15 x 1.73 inches)	441 x 308 x 44 mm (17.36 x 12.13 x 1.73 inches)
Ventilation	Fanless	Smart Fan
Power Surge Protection	All Ethernet ports support IEC61000-4-5 10/700us 6 KV surge protection	
Operation Temperature	-5 to 50 °C (23 to 122 °F)	
Storage Temperature	-40 to 70 °C (-40 to 158 °F)	
Operating Humidity	10% to 90% non-condensing	10% to 90% non-condensing
EMI	FCC Class A, CE Class A, VCCI Class A, IC , C-Tick, BSMI	
Safety	CE, LVD, UL/cUL, CB, BSMI	
3rd Party Certification	IPv6 Ready Logo Phase 2	

General	DES-3200-52	DES-3200-52-DC
Hardware Version	C1	
Size	19" inch Standard Rack-mount Width, 1U Height	
Interface	48 10/100BASE-TX + 2 100/1000 SFP + 2 Combo 10/100/1000BASE-T /100/1000 SFP	48 10/100BASE-TX + 2 100/1000 SFP + 2 Combo 10/100/1000BASE-T /100/1000 SFP with DC power
Console Port	RJ-45	
LEDs	Per Device: Power, Console Per Port: Link/Active/Speed	
<b>Performance</b>		
Switching Capacity	17.6 Gbps	
64-byte Max. Forwarding Rate	13.1 Mpps	
MAC Address Table Size	16K Entries	
SDRAM for CPU	128 M DDR2	
Packet Buffer	1.5 MB	
Flash Memory	32 MB	
Jumbo Frame	12 KB	
<b>Physical/Environmental</b>		
MTBF	440,074 hours	440,074 hours
Acoustics	0 dB if fan is off, 32.8 dB if fan is on	0 dB if fan is off, 32.8 dB if fan is on
Heat Dissipation	113.90 BTU per hour	103.66 BTU per hour
Power Input	AC Input: 100 – 240 VAC, 50-60 Hz	DC Input: -36 V DC to -72 V DC
Maximum PoE Power Budget	N/A	N/A
Maximum Power Consumption	33.38 watts	32.28 watts
Dimensions (W x D x H)	441 x 308 x 44 mm (17.36 x 12.13 x 1.73 inches)	
Ventilation	Smart Fan	
Power Surge Protection	All Ethernet ports support IEC61000-4-5 10/700us 6 KV surge protection	
Operation Temperature	-5 to 50 °C (23 to 122 °F)	
Storage Temperature	-40 to 70 °C (-40 to 158 °F)	
Operating Humidity	10% to 90% non-condensing	
EMI	FCC Class A, CE Class A, VCCI Class A, IC , C-Tick, BSMI	
Safety	CE, LVD, UL/cUL, CB, BSMI	
3rd Party Certification	IPv6 Ready Logo Phase 2	

General	DES-3200-52P
Hardware Version	C1
Size	19" inch Standard Rack-mount Width, 1U Height
Interface	48 10/100BASE-TX PoE + 2 10/100/1000BASE-T + 2 Combo 10/100/1000BASE-T / 100/1000 SFP
Console Port	RJ-45
LEDs	Per Device: Power, Console Per Port: Link/Active/Speed
Performance	
Switching Capacity	17.6 Gbps
64-byte Max. Forwarding Rate	13.1 Mpps
MAC Address Table Size	16K Entries
SDRAM for CPU	128 M DDR2
Packet Buffer	1.5 MB
Flash Memory	32 MB
Jumbo Frame	12 KB
Power Over Ethernet	
PoE Standard	802.3af and 802.3at
PoE Capable Ports	Ports 1-8: Up to 15.4 or 30 watts per port Ports 9-48: Up to 15.4 watts per port
Maximum PoE Power Budget	370 watts
Physical/Environmental	
MTBF	189,396 hours
Acoustics	39.2 dB at low speed, 51.2 dB at high speed
Heat Dissipation	1608.156 BTU per hour
Power Input	AC Input: 100 – 240 V AC, 50-60 Hz
Maximum Power Consumption	471.6 watts
Dimensions (W x D x H)	441 x 308 x 44 mm (17.36 x 12.13 x 1.73 inches)
Ventilation	Smart Fan
Power Surge Protection	All Ethernet ports support IEC61000-4-5 10/700us 6 KV surge protection
Operation Temperature	-5 to 50 °C (23 to 122 °F)
Storage Temperature	-40 to 70 °C (-40 to 158 °F)
Operating Humidity	10% to 90% non-condensing
EMI	FCC Class A, CE Class A, VCCI Class A, IC , C-Tick, BSMI
Safety	CE, LVD, UL/cUL, CB, BSMI
3rd Party Certification	IPv6 Ready Logo Phase 2



Software	All Models	
Stackability	<ul style="list-style-type: none"> <li>Virtual Stacking D-Link Single IP Management</li> </ul>	<ul style="list-style-type: none"> <li>Up to 32 units per Virtual Stack</li> </ul>
L2 Features	<ul style="list-style-type: none"> <li>MAC address table: 16K</li> <li>Flow Control               <ul style="list-style-type: none"> <li>802.3x Flow Control</li> <li>HOL Blocking Prevention</li> </ul> </li> <li>Jumbo Frames up to 12K bytes</li> <li>Spanning Tree Protocols               <ul style="list-style-type: none"> <li>802.1D STP</li> <li>802.1w RSTP</li> <li>802.1s MSTP</li> </ul> </li> <li>BPDU Filtering</li> <li>Root Restriction</li> <li>Loopback Detection</li> <li>Ethernet Ring Protection Switching (ERPS)</li> <li>L2 Protocol Tunneling (L2PT)</li> </ul>	<ul style="list-style-type: none"> <li>Link Aggregation               <ul style="list-style-type: none"> <li>Complies with 802.1AX and 802.3ad</li> <li>DES-3200-10/10-DC: Max. 5 groups, 8 ports per group</li> <li>DES-3200-18/18-DC: Max. 9 groups, 8 ports per group</li> <li>DES-3200-26/26-DC: Max. 13 groups, 8 ports per group</li> <li>DES-3200-28/28F/28/ME/28P: Max. 14 groups, 8 ports per group</li> <li>DES-3200-52/52-DC/52P: Max. 26 groups, 8 ports per group</li> </ul> </li> <li>Port Mirroring:               <ul style="list-style-type: none"> <li>Supports 1 Mirroring group</li> <li>Supports One-to-One, Many-to-One, Flow-based (ACL) mirroring</li> </ul> </li> </ul>
L2 Multicasting	<ul style="list-style-type: none"> <li>IGMP Snooping:               <ul style="list-style-type: none"> <li>IGMP v1/v2 snooping, v3 awareness</li> <li>Supports 1024 Groups</li> <li>Port/Host-based IGMP snooping Fast Leave</li> <li>Report Suppression</li> </ul> </li> <li>IGMP Filtering <sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>MLD Snooping               <ul style="list-style-type: none"> <li>MLD v1, MLD v2 awareness</li> <li>Support 1 K groups</li> <li>Host-based MLD snooping</li> <li>Fast Leave</li> </ul> </li> <li>IGMP Authentication</li> <li>IGMP/MLD Proxy Reporting <sup>1</sup></li> </ul>
VLAN	<ul style="list-style-type: none"> <li>802.1Q Tagged VLAN</li> <li>VLAN Group               <ul style="list-style-type: none"> <li>Max. 4K VLAN</li> </ul> </li> <li>Port-based VLAN</li> <li>MAC-based VLAN</li> <li>GVRP</li> <li>802.1v Protocol VLAN</li> <li>VLAN Trunking</li> </ul>	<ul style="list-style-type: none"> <li>Double VLAN (Q-in-Q)               <ul style="list-style-type: none"> <li>Port-based Q-in-Q</li> <li>Selective Q-in-Q</li> </ul> </li> <li>ISM VLAN</li> <li>VLAN Translation</li> <li>Voice VLAN <sup>1</sup></li> <li>Private VLAN <sup>1</sup></li> </ul>
L3 Features	<ul style="list-style-type: none"> <li>ARP (IPv4/IPv6 <sup>1</sup>)               <ul style="list-style-type: none"> <li>Max. 1024 ARP entries</li> <li>Supports 255 static ARP entries</li> <li>Supports Gratuitous ARP</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>IPv6 Neighbor Discovery (ND)</li> </ul>
L3 Routing	<ul style="list-style-type: none"> <li>Static Route <sup>1</sup> <ul style="list-style-type: none"> <li>Max 16 route entries</li> </ul> </li> </ul>	
AAA	<ul style="list-style-type: none"> <li>802.1X               <ul style="list-style-type: none"> <li>Port-based Access Control</li> <li>Host-based Access Control</li> <li>Dynamic VLAN assignment</li> <li>Identity-driven Policy (VLAN, ACL, or QoS) Assignment</li> </ul> </li> <li>MAC-based Access Control (MAC)               <ul style="list-style-type: none"> <li>Port-based Access Control</li> <li>Host-based Access Control</li> <li>Identity-driven Policy (VLAN, ACL, or QoS) Assignment</li> </ul> </li> <li>Web-based Access Control (WAC)<sup>1</sup> <ul style="list-style-type: none"> <li>Port-based Access Control</li> <li>Host-based Access Control</li> <li>Identity-driven Policy (VLAN, ACL, or QoS) Assignment</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Microsoft<sup>®</sup> NAP (IPv4/v6<sup>1</sup>)               <ul style="list-style-type: none"> <li>Supports 802.1X NAP</li> </ul> </li> <li>Supports DHCP NAP</li> <li>Guest VLAN</li> <li>RADIUS Accounting</li> <li>RADIUS (IPv4/v6<sup>1</sup>)</li> <li>TACACS</li> <li>TACACS+</li> <li>XTACACS+</li> <li>Trusted Host</li> <li>User Account Privilege for Management Access</li> <li>Authentication Database failover</li> <li>Trusted Host</li> <li>Compound Authentication <sup>1</sup></li> </ul>
OAM	<ul style="list-style-type: none"> <li>Cable Diagnostics</li> <li>802.1ag Connectivity Fault Management (CFM)</li> <li>802.3ah Ethernet Link OAM               <ul style="list-style-type: none"> <li>802.3ah link layer remote loopback and discovery</li> <li>802.3ah D-Link extension: D-Link Unidirectional Link Detection (DULD)</li> </ul> </li> <li>Dying Gasp: Device reboot</li> <li>Dying Gasp: Power failure <sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>Y.1731 OAM <sup>1</sup></li> <li>sFlow <sup>1</sup></li> <li>Port Status Monitoring</li> <li>Device Status Monitoring</li> <li>Traffic Monitoring</li> <li>IGMP Statistics</li> <li>Switch Performance Monitoring <sup>1</sup></li> </ul>

<p>Management</p>	<ul style="list-style-type: none"> <li>• Web-based GUI (IPv4)</li> <li>• Command Line Interface (CLI)</li> <li>• Telnet Server/ Client (IPv4)</li> <li>• TFTP Client (IPv4)</li> <li>• FTP Client (IPv4)</li> <li>• Zmodem</li> <li>• Command Logging</li> <li>• SNMP v1/v2c/v3</li> <li>• SNMP Traps</li> <li>• System Log</li> <li>• RMON v1               <ul style="list-style-type: none"> <li>• Supports 1,2,3,9 Groups</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• RMON v2               <ul style="list-style-type: none"> <li>• Supports ProbeConfig Group</li> </ul> </li> <li>• LLDP</li> <li>• 802.1AB</li> <li>• LLDP-MED<sup>1</sup></li> <li>• BootP/DHCP Client</li> <li>• DHCP Auto-Configuration</li> <li>• DHCP Relay (IPv4)</li> <li>• SNMPv6</li> <li>• DHCP Local Relay (IPv4/IPv6<sup>1</sup>)</li> </ul>
<p>Quality of Service (QoS)</p>	<ul style="list-style-type: none"> <li>• Bandwidth Control               <ul style="list-style-type: none"> <li>• Port-based (Ingress/Egress, Min. Granularity 8 Kbps)</li> <li>• Flow-based (Ingress/Egress, Min. Granularity 8 Kbps)</li> <li>• Per egress queue bandwidth control (Min. Granularity 8 Kbps)</li> </ul> </li> <li>• 8 Queues per Port</li> <li>• DSCP</li> <li>• 802.1p</li> <li>• Queue Handling               <ul style="list-style-type: none"> <li>• Strict Priority</li> <li>• Weighted Round Robin (WRR)</li> <li>• Strict + WRR</li> </ul> </li> <li>• Three Color Marker               <ul style="list-style-type: none"> <li>• trTCM</li> <li>• srTCM</li> </ul> </li> <li>• Supports Following Actions for Flows               <ul style="list-style-type: none"> <li>• Remark 802.1p Priority Tag</li> <li>• Remark TOS/DSCP Tag</li> <li>• Bandwidth Control Flow Statistic</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• CoS Based on:               <ul style="list-style-type: none"> <li>• Switch port</li> <li>• 802.1p Priority Queues</li> <li>• VLAN ID</li> <li>• MAC Address</li> <li>• Ether type</li> <li>• TOS</li> <li>• DSCP</li> <li>• Protocol Type</li> <li>• TCP/UDP Port</li> <li>• IPv6 Traffic Class</li> <li>• IPv6 Flow Label</li> <li>• User-Defined Packet Content</li> </ul> </li> </ul>
<p>Access Control List (ACL)</p>	<ul style="list-style-type: none"> <li>• Up to 1024 ingress access rules</li> <li>• ACL Based on               <ul style="list-style-type: none"> <li>• Switch Port</li> <li>• 802.1p Priority</li> <li>• VLAN ID</li> <li>• Ether Type</li> <li>• IPv4/v6 address</li> <li>• DSCP</li> <li>• Protocol Type</li> <li>• TCP/UDP Port Number</li> <li>• IPv6 Traffic Class</li> <li>• IPv6 Flow Label</li> <li>• User-Defined Packet Content</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Time-based ACL</li> <li>• ACL statistics</li> <li>• CPU interface filtering</li> </ul>
<p>Security</p>	<ul style="list-style-type: none"> <li>• SSH v1, v2</li> <li>• SSL v1, v2, v3</li> <li>• Port Security</li> <li>• Up to 64 MAC addresses per port</li> <li>• Broadcast/Multicast/Unicast Storm Control</li> <li>• Traffic Segmentation</li> <li>• IP-MAC-Port Binding               <ul style="list-style-type: none"> <li>• ARP Inspection</li> <li>• IP Inspection</li> <li>• DHCP Snooping</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• D-Link Safeguard Engine</li> <li>• DHCP Server Screening</li> <li>• DHCP Client Filtering</li> <li>• ARP Spoofing Prevention</li> <li>• BPDU Attack Protection</li> <li>• NetBIOS/NetBEUI Filtering</li> <li>• DoS Attack Prevention</li> <li>• L3 Control Packet Filtering</li> </ul>
<p>D-Link Green</p>	<ul style="list-style-type: none"> <li>• D-Link Green 3.0: Power saving functions               <ul style="list-style-type: none"> <li>• LED Shut-Off<sup>1</sup></li> <li>• Port Shut-Off<sup>1</sup></li> <li>• System Hibernation<sup>1</sup></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Power Saving by Time-based PoE</li> </ul>

MIB	<ul style="list-style-type: none"> <li>• RFC 1065, 1066, 1155, 1156, 2578 MIB Structure</li> <li>• RFC 1212 Concise MIB Definitions</li> <li>• RFC 1213 MIB II</li> <li>• RFC 1215 MIB Traps Convention</li> <li>• RFC 1493, 4188 Bridge MIB</li> <li>• RFC 1157, 2571-2576 SNMP MIB</li> <li>• RFC 1901-1908, 3418,3636, 1442,2578 SNMPv2 MIB</li> <li>• RFC 271,1757, 2819 RMON MIB</li> <li>• RFC 2465 IPv6 MIB</li> <li>• RFC 2466 ICMPv6 MIB</li> <li>• RFC 2737 Entity MIB</li> <li>• RFC 4293 IPv6 SNMP Mgmt Interface MIB</li> <li>• RFC 3289 DIFFSERV MIB</li> <li>• RFC 2021 RMONv2 MIB</li> <li>• RFC 1398, 1643, 1650, 2358, 2665, 3635 Ether-like MIB</li> </ul>	<ul style="list-style-type: none"> <li>• RFC 2668 802.3 MAU MIB</li> <li>• RFC 2674,4363 802.1p MIB</li> <li>• RFC 2233, 2863 IF MIB</li> <li>• RFC 2618 RADIUS Authentication Client MIB</li> <li>• RFC 4022 MIB for TCP</li> <li>• RFC 4113 MIB for UDP</li> <li>• RFC 3298 MIB for Deffserv.</li> <li>• RFC 2620 RADIUS Accounting Client MIB</li> <li>• RFC 2925 Ping &amp; Traceroute MIB</li> <li>• Running configuration write and backup</li> <li>• TFTP uploads and downloads</li> <li>• Private MIB</li> <li>• Trap MIB</li> <li>• D-Link Zone Defense MIB</li> </ul>
IETF® Standard	<ul style="list-style-type: none"> <li>• RFC 768 UDP</li> <li>• RFC 791 IP</li> <li>• RFC 792 ICMPv4</li> <li>• RFC 2463, 4443 ICMPv6</li> <li>• RFC 4884 Extended ICMP to Support Multi-Part Messages</li> <li>• RFC 793 TCP</li> </ul>	<ul style="list-style-type: none"> <li>• RFC 2474, 3260 Definition of the DS Field in the IPv4 and IPv6 Header</li> <li>• RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)</li> <li>• RFC 2571, 2572, 2573, 2574 SNMP</li> <li>• RFC 826 ARP</li> </ul>
IPv6	<ul style="list-style-type: none"> <li>• RFC 1981 Path MTU Discovery</li> <li>• RFC 2460 IPv6</li> <li>• RFC 2461, 4861 Neighbor Discovery</li> <li>• RFC 2462, 4862 IPv6 Stateless Address Auto-configuration</li> </ul>	<ul style="list-style-type: none"> <li>• RFC 2464 IPv6 Neighbor over Ethernet and definition</li> <li>• RFC 3513, 4291 IPv6 Addressing Architecture</li> <li>• RFC 2893, 4213 IPv4/IPv6 dual stack function</li> <li>• IPv6 Ready Logo Phase 2</li> </ul>

Order Information	
Part Number	Description
DES-3200-10	8 10/100BASE-TX + 1 100/1000 SFP + 1 Combo 10/100/1000BASE-T / 100/1000 SFP
DES-3200-10-DC	8 10/100BASE-TX + 1 100/1000 SFP + 1 Combo 10/100/1000BASE-T / 100/1000 SFP with DC power
DES-3200-18	16 10/100BASE-TX + 1 100/1000 SFP + 1 Combo 10/100/1000BASE-T / 100/1000 SFP
DES-3200-18-DC	16 10/100BASE-TX + 1 100/1000 SFP + 1 Combo 10/100/1000BASE-T / 100/1000 SFP with DC power
DES-3200-26	24 10/100BASE-TX + 2 Combo 10/100/1000BASE-T / 100/1000 SFP
DES-3200-26-DC	24 10/100BASE-TX + 2 Combo 10/100/1000BASE-T / 100/1000 SFP with DC power
DES-3200-28	24 10/100BASE-TX + 2 100/1000 SFP + 2 Combo 10/100/1000BASE-T / 100/1000 SFP
DES-3200-28F	24 10/100BASE-FX + 4 Combo 10/100/1000BASE-T / 100/1000 SFP
DES-3200-28P	24 10/100BASE-TX PoE + 2 10/100/1000BASE-T + 2 Combo 10/100/1000BASE-T / 100/1000 SFP
DES-3200-28/ME	24 10/100BASE-TX + 2 100/1000 SFP + 2 Combo 10/100/1000BASE-T / 100/1000 SFP
DES-3200-52	48 10/100BASE-TX + 2 100/1000 SFP + 2 Combo 10/100/1000BASE-T / 100/1000 SFP
DES-3200-52-DC	48 10/100BASE-TX + 2 100/1000 SFP + 2 Combo 10/100/1000BASE-T / 100/1000 SFP with DC power
DES-3200-52P	48 10/100BASE-TX PoE + 2 10/100/1000BASE-T + 2 Combo 10/100/1000BASE-T / 100/1000 SFP
Optional Management Software	
DV-600S	D-View 6.0 Network Management Software (Standard Edition)
DV-600P	D-View 6.0 Network Management Software (Professional Edition)
Optional SFP Transceivers	
DEM-210	100BASE-FX, single-mode, 15 km
DEM-211	100BASE-FX, multi-mode, 2 km
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	100BASE-ZX, single-mode, 80 km
DEM-302S-LX	1000BASE-T, single-mode, 100 m (only supports 1000 Mbps mode, no flow control)
DGS-712	1000BASE-LX, single-mode, 2 km

## DES-3200 Series Layer 2 Management Switches

Optional WDM SFP Transceivers	
DEM-302S-BXD	1000BASE-LX, Wavelength Tx: 1310 nm, Rx: 1550 nm, single-mode, 2 km
DEM-302S-BXU	1000BASE-LX, Wavelength Tx: 1550 nm, Rx: 1310 nm, single-mode, 2 km
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: :1310 nm, Rx: 1550 nm, single-mode, 40 km
DEM-220T	1000BASE-LX, Wavelength Tx: :1550 nm, Rx: 1310 nm, single-mode, 20 km
DEM-220R	1000BASE-LX, Wavelength Tx: :1310 nm, Rx: 1550 nm, single-mode, 20 km

<sup>1</sup> Available on DES-3200 C1 (future firmware release)