



## FEATURES

### xStack Integration

- Virtual Stacking of up to 32 units
- Embedded D-Link SIM for integration all xStack Switches
- Physical Stacking<sup>1</sup> of up to 8 units

### VLAN

- 4K VLANs Support
- Selective Q-in-Q and VLAN Translation
- MAC-based VLAN
- 802.1v Protocol-based VLAN

### Security

- L2/L3/L4 Multi-Layer Access Control
- External RADIUS/TACACS+ Authentication Support
- SSH/SSL Support
- Guest VLAN
- Web-Based Access Control (WAC)
- MAC-Based Access Control (MAC)
- IP-MAC-Port Binding
- D-Link Safeguard Engine
- Supports Microsoft NAP

### Quality of Service

- 802.1p Priority Queues/Multi-Layer CoS
- IP Multicast Support for Bandwidth-Intensive Applications

### Traffic Monitoring/Bandwidth Control

- Port Mirroring
- Traffic Segmentation
- Bandwidth Control Down to 64bps
- Broadcast Storm Control
- Committed Information Rate
- RMON v1/v2 Support

### Configuration/Management

- Web-based GUI
- Command Line Interface (CLI)
- SNMP v1, v2c, v3 Standard
- D-Link Single IP Management (SIM) v1.6
- D-View SNMP Network Management Module Provided
- Telnet Client/Server

## L2+ Ethernet Stack

### Enhanced Access Layer Switch

- 24 Fast Ethernet Ports Per Switch
- 2 Combo 10/100/1000BASE-T/SFP Gigabit Uplinks
- 2 10/100/1000BASE-T Gigabit Uplinks
- Virtual Stacking or Physical High-Speed Stacking<sup>1</sup>
- Robust Security & L2/L3/L4 Multi-Layer QoS
- Malicious Traffic and Performance Degradation Prevention

The xStack DES-3528 Ethernet switch is part of D-Link's DES-3528/3552 series switches that inherit most of the features from the current DES-3526/50 switches with additional functions such as, notably improved switching capacity, physical stacking<sup>1</sup>, Layer 2+ functions including static routing<sup>1</sup>, multicast support and enhanced security, making it an ideal access layer solution for enterprise and campus networks. This switch can seamlessly integrate with L3 core switches to form a part of multi-level network structure of high-speed backbone and centralized servers.

**Flexible & Cost-Effective Ethernet Stack.** The DES-3528 stackable switch provides 24 10/100Mbps Ethernet ports and up to four Gigabit uplinks. The two combo 10/100/100BASE-T SFP slots on the front panel provide flexible copper or fiber Gigabit connection, while two 10/100/1000BASE-T ports on the back panel are designed for flexible dual usage - either as stacking ports with 4Gbps bi-directional stacking bandwidth, or can simply be used as copper Gigabit uplinks. Physical Stacking<sup>1</sup> capability allows users to stack up to 8 units on a scalable expansion basis, while D-Link Single IP Management (SIM) support permits users to create a Virtual Stack of up to 32 units. With a complete set of features and stacking capability, this switch is an attractive alternative to the more costly chassis-based switches solution.

**Comprehensive Security.** The DES-3528 provides users with the latest functions such as 802.1X Guest VLAN, MAC-based Access Control (MAC) and Web-based Access Control (WAC). 802.1X Guest VLAN is a comprehensive end-point security solution for user authentication/authorization and WAC guarantees granular network access control with user-friendly authentication mechanism. The switch provides IP-MAC-Port Binding to allow administrators to bind source IP to associated MAC and source port with utilization of DHCP information snooping to block illegal IP addresses keeping the network secure and audit able. With a built-in D-Link Safeguard Engine, the DES-3528 can identify and prioritize "CPU interested" packets to prevent malicious traffic from interrupting normal network flow and protect switch operation.

**Enhanced Network Performance & Availability.** The DES-3528 has a comprehensive set of features targeting enterprise and campus to provide a more flexible and expandable network. It provides Static Route<sup>1</sup> Layer 2+ functionalities, 4K VLAN, advanced selective Q-in-Q, as well as delivering progressive QoS capability for mission-critical applications and multicast services. With latest Spanning Tree protocol version, redundant power option, and Loopback Detection (D-Link's advanced technology for preventing loops without the presence of STP), the DES-3528 offers superior availability for corporate and campus network.

**User-friendly & Ecosystem-friendly.** DES-3528 uses D-Link's Web GUI 2.0 which has an easy-to-use web interface and configuration wizards, minimizing administrators' learning curve. Utilizing the next generation of chipsets, the DES-3528 has optimized power consumption to save energy cost and contribute to the global ecosystem and a greener environment. In addition, its fanless design ensures quiet operation, ideal for deployment in open spaces.

<sup>1</sup> Physical Stacking and Static Route are planned for future releases.



**Product Specifications**

**DES-3528**



<b>Interface</b>	
10/100BASE-TX Ports	24
Dual Usage 10/100/1000BASE-T Stacking Ports	2
Combo 10/100/1000BASE-T Ports/SFP Slots	2
Auto-Negotiation of Network Speeds (RJ-45 Ports)	✓
Auto-MDI/MDIX (RJ-45 Ports)	✓
RS-232 Console Port	✓
<b>Power</b>	
Internal Power Supply	AC to DC
Power Input	100 to 240VAC, 1.5A, 50 to 60Hz
Power Output	12VDC, 5A (max.)
Power Consumption	20.5 watts (max.)
Optional Redundant Power Supply	✓
<b>Performance</b>	
Switching Capacity	12.8Gbps
Max. 64-Byte System Packet Forwarding Rate	9.5Mpps
MAC Address Table	16K
<b>Diagnostic LEDs</b>	
10Mbps or 100Mbps Speed (Per Ethernet Port)	✓
10/100Mbps or 1000Mbps Speed (Per Gigabit Port)	✓
Link/Activity (Per Port)	✓
Power, Console, RPS (Per Device)	✓
<b>Physical/Environmental</b>	
Ventilation DC Fans	Fanless
Heat Dissipation	69.9 BTU/hour
Dimensions	441 x 210 x 44 mm
Rack Mounting	19-Inch Standard Rack-Mount Width, 1U Height
Weight	2.51 kg (5.53 lbs)
Operating Temperature	0° to 45°C
Storage Temperature	-40° to 70°C
Operation Relative Humidity	20 to 80% Non-Condensing
Storage Relative Humidity	10 to 90% Non-Condensing
EMI	CE Class A, FCC Class A, C-Tick, VCCI
Safety	CB, UL / cUL
MTBF	203,785 Hours
Acoustic (Refer to ISO-7779)	0dB

## Software Features

### Stackability

- Virtual Stacking
- Support D-Link Single IP Management
- Up to 32 Devices per Virtual Stack

### L2 Features

- MAC Address Table: 16K
- Flow Control
  - 802.3x Flow Control
  - HOL Blocking Prevention
- Jumbo Frame up to 9,216K Bytes
- IGMP Snooping
  - IGMP v1/v2/v3 Snooping
  - Support 256 Groups
  - IGMP Snooping Fast Leave
  - Host-based IGMP Snooping Fast Leave
- MLD Snooping
  - MLD v1/v2 Snooping
  - Support 256 Groups
  - MLD Snooping Fast Leave
- Spanning Tree
  - 802.1D STP (IEEE802.1D-2004 Edition)
  - 802.1w RSTP (IEEE802.1D-2004 Edition)
  - 802.1s MSTP (IEEE 802.1Q-2005 Edition)
- Loopback Detection
- 802.3ad Link Aggregation
  - Max. 8 Groups per device / 8 Ports Per Group
- Port Mirroring
  - One-to-One
  - Many-to-One
  - Flow-based Mirroring
  - RSPAN
  - LLDP

### VLAN

- VLAN Group
  - Max. 4,096 Static VLAN Groups
  - Max. 255 Dynamic VLAN Groups
- 802.1Q Tagged VLAN
- 802.1v Protocol VLAN
- GVRP
- Double VLAN (Q-in-Q)
  - Port-Based Q-in-Q
  - Selective Q-in-Q
- VLAN Translation
- MAC-Based VLAN
- Asymmetric VLAN
- ISM-VLAN

### QoS (Quality of Service)

- 802.1p Quality of Service
- 8 Queues
- Queue Handling
  - Strict
  - Weighted Round Robin (WRR)
  - Strict + WRR
- CoS Based on
  - SwitchPort
  - VLAN ID
  - 802.1p Priority Queues
  - MAC Address
  - IPv4/v6 Address
  - DSCP
  - Protocol Type
  - IPv6 Traffic Class
  - IPv6 Flow Label
  - TCP/UDP Port
  - User-Defined Packet Content
- Support Following Actions for Flows
  - Remark 802.1p Priority Tag
  - Remark TOS/DSCP Tag
  - Bandwidth Control
  - Committed Information Rate(CIR), min. granularity 64Kbps
- SRED Congestion Control
- Bandwidth Control
  - Port Based (Ingress/Egress, Min. Granularity 64Kbps)
  - Flow Based(Ingress/Egress, Min. Granularity 64Kbps)

### ACL (Access ControlList)

- Up to 768 Access Rules
- Time Based ACL
- CPU Interface Filtering

### Security

- SSH v1/v2
- SSL v1/v2/v3
- Port Security up to 64 MAC Addresses per port
- Broadcast/Multicast/Unicast Storm Control
- Traffic Segmentation
- IP-MAC-Port Binding
  - Support 500 Address Binding Entries per Device
  - Support ARP/ACL/Auto (DHCP Snooping) Mode
- D-Link Safeguard Engine
- NetBIOS/NetBEUI Filtering
- DHCP Server Screening

### AAA

- 802.1X
  - Port-Based Access Control
  - Host-Based Access Control
  - Dynamic VLAN Assignment
- Web-Based Access Control (WAC)
  - Port-Based Access Control
  - Dynamic VLAN Assignment
- MAC-Based Access Control (MAC)
  - Host-Based Access Control
  - Dynamic VLAN Assignment
- Japan Web-Based Access Control (Host-Based J-WAC)
- Guest VLAN
- RADIUS Accounting
- RADIUS and TACACS + Authentication for Switch Access
- 3-Level User Account

### Management

- Web-Based GUI
- Single IP Management v1.6
- Command Line Interface (CLI)
- Telnet Server
- ZModem
- SNMP v1/v2c/v3
- SNMP Traps
- System Log
- RMON v1, Support 1,2,3,9 Groups
- RMON v2, Support ProbeConfig Group
- BootP/DHCP Client
- DHCP Auto-configuration
- DHCP Relay
- DHCP Relay Option 82
- Dual Image
- Dual Configuration
- CPU Monitoring
- NTP/SNTP

### MIB

- RFC1213 MIB-II
- RFC1493 Bridge MIB
- RFC1907 SNMPv2 MIB
- RFC1757, 2819 RMON MIB
- RFC2021 RMONv2 MIB
- RFC1643, 2358, 2665 Ether-like MIB
- RFC2674 802.1p MIB
- RFC2233, 2863 IFMIB
- RFC2618 RADIUS Authentication Client MIB
- RFC2620 RADIUS Accounting Client MIB
- RFC2925 Ping & TRACEROUTE MIB
- Private MIB

### Optional SFP Transceivers

- DEM-310GT** SFP transceiver for 1000BASE-LX, single-mode fiber, max. distance 10km, 3.3V
- DEM-311GT** SFP transceiver for 1000BASE-SX, multi-mode fiber, max. distance 550m, 3.3V
- DEM-312GT2** SFP transceiver for 1000BASE-SX, multi-mode fiber, max. distance 2km, 3.3V
- DEM-314GT** SFP transceiver for 1000BASE-LHX, single-mode fiber, max. distance 50km, 3.3V
- DEM-315GT** SFP transceiver for 1000BASE-LX, single-mode fiber, max. distance 80km, 3.3V
- DEM-210** SFP transceiver for 100BASE-FX, single-mode fiber, max. distance 10km, 3.3V
- DEM-211** SFP transceiver for 100BASE-FX, multi-mode fiber, max. distance 2km, 3.3V

### Optional Redundant Power Supply

- DPS-200** 60-watt redundant power supply
- DPS-800** 2-slot redundant power supply chassis
- DPS-900** 8-slot redundant power supply chassis

### Management Software

- DV-600S & DV-600P** D-View 6.0 SNMP Network Management Software  
(Also supports D-View 5.1)



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Rev. 02 (July, 2008)