

## Workgroup/Departmental Connections

- Cost-Effective Ethernet Managed Desktops
- Gigabit Uplinks for Server/Backbone Attachments<sup>1</sup>

## Flexible Options

- Desktop and Rack-Mount Sizes
- Open Slots for Optional Modules<sup>2</sup>
- Gigabit Copper/Fiber Uplinks

## Security

- Port Security
- 802.1X Guest VLAN
- 802.1X Port-based/Host-based Access Control
- IP-MAC-Port Binding
- CPU Interface Filtering
- SSH v2

## Traffic Monitoring/Bandwidth Control

- Traffic Segmentation
- 802.3ad Link Aggregation (Port Trunks)
- GUI Traffic Monitoring
- RMON v1
- Port Mirroring
- Per-Port Bandwidth Control
- Broadcast/Multicast/Unicast Storm Control

## Configuration/Management

- Web-based GUI
- Command Line Interface (CLI)
- SNMP v1, v2c, v3
- D-Link Single IP Management (SIM)
- Virtual Stack of up to 32 units
- DHCP Auto Configuration
- D-View 6.0 Network Management Software
- DHCP Relay
- DHCP Relay Option 60, 61
- Telnet Server

## Managed L2 Ethernet Switches



The DES-3000 Series consists of high-performance managed Layer 2 switches, an ideal solution for the SMB and enterprise markets. Designed as an entry-level management solution for SMBs, these switches boast enriched advanced features. The DES-3000 Series provides a rich set of switching features that can be deployed in growing business networks. The DES-3000 Series is a cost-effective solution which is suitable for business applications that require superior performance with options for expansion. In addition, the switches offer fiber uplinks for long-distance connections that connect to different group users, such as classrooms or departments spread across campus or buildings.

### Affordable Enterprise Features

The DES-3000 Series includes many features which cannot be found in other switches of the same class, such as IP-MAC-Port Binding (IMPB) user access management and Traffic Segmentation. These switches implement 802.1X port-based and host-based network access control that enables user authentication and flexibility for each network access. The DES-3000 Series supports CPU Interface Filtering for filtering out malicious packets before they reach the CPU. This also helps protect the switch from unnecessary workloads. The series supports 802.1p priority queuing and packet classification based on TOS, DSCP, MAC DA and switch ports. Other features include 802.1D Spanning Tree (STP), 802.1w Rapid Spanning Tree (RSTP), Loopback Detection (LBD), and Broadcast Storm Control that enhance network resilience. For load sharing and redundancy backup in switch cascading/server attachment configuration, the DES-3000 Series provides dynamic 802.3ad Link Aggregation port trunking. The series also features IGMP Snooping for multicast transmission and Port Mirroring for tracking network errors.

### Bandwidth Control

When employing the DES-3000 Series, network administrators can manually define throughput-levels for each port in order to manage the bandwidth. This bandwidth control feature provides fine granularity by defining the limits as low as 64 Kbps. When a broadcast storm occurs, this feature can significantly limit the damage caused and ensure the ability to access the network.

### Versatile Management Support






The DES-3000 Series supports standard-based management protocols such as SNMP, RMON, BOOTP, telnet and web-based GUI. With the Cable Diagnostic feature, designed primarily for administrators and customer service representatives, the quality of the cables and type of error can be rapidly determined.

### Virtual Stacking

D-Link's Single IP Management (SIM) web-based management support simplifies management tasks and speeds up the process. Multiple switches can be configured, monitored and maintained from any workstation through a unique IP address. Using this web-based management tool, switches can be added to the stack and managed as a single unit. Up to 32 units can be added to a stack not limited to a specific switch model. The tree-view allows administrators to view the stacked units and a network topology displays the locations of the units providing link information.

<sup>1</sup> Available on DES-3010G and DES-3010F/3010FL only.  
<sup>2</sup> Available on DES-3018 and DES-3026 only.

## Managed L2 Ethernet Switches

Technical Specifications		DES-3010G	DES-3010F/3010FL	DES-3016	DES-3018	DES-3026
						
Physical & Hardware	Size	Desktop Size, 1U Height	Desktop Size, 1U Height	Rackmount Width, 1U Height	Rackmount Width, 1U Height	Rackmount Width, 1U Height
	Interface	8 10/100BASE-TX Ethernet 1 1000BASE-T Gigabit 1 SFP	8 10/100BASE-TX Ethernet 1 1000BASE-T Gigabit 1 100BASE-FX Ethernet	16 10/100BASE-TX Ethernet	16 10/100BASE-TX Ethernet	24 10/100BASE-TX Ethernet
	Port Options	-	-	-	2 Open Slots For Optional Fiber & Gigabit Uplinks	2 Open Slots For Optional Fiber & Gigabit Uplinks
	Console Ports	RS-232 Console Port	RS-232 Console Port	RS-232 Console Port	RS-232 Console Port	RS-232 Console Port
	Fiber Cable Distance	-	DES-3010F: Multi-mode Fiber Max Distance 2km DES-3010FL: Single-mode Fiber Max Distance 15km	-	-	-
	Stacking Topology	Virtual Stacking via SIM	Virtual Stacking via SIM	Virtual Stacking via SIM	Virtual Stacking via SIM	Virtual Stacking via SIM
Performance	Switching Capacity	5.6 Gbps	3.8 Gbps	3.2 Gbps	7.2 Gbps	8.8 Gbps
	64-Byte Packet Forwarding Rate	4.2 Mpps	2.8 Mpps	2.3 Mpps	5.4 Mpps	6.6 Mpps
	MAC Address Table Size	8 K	8 K	8 K	8 K	8 K
	DRAM for CPU	32 MB	32 MB	32 MB	32 MB	32 MB
	Packet Buffer	256 KB	256 KB	256 KB	256 KB	256 KB
	Flash Memory	4 MB	4 MB	4 MB	4 MB	4 MB
Diagnostic LEDs	Power (Per Device)	√	√	√	√	√
	Console (Per Device)	√	√	√	√	√
	Link/Activity (Per Port)	√	√	√	√	√
	Speed Indicator (Per Port)	√	√	√	√	√
MTBF (Hours)	247,500 hours	DES-3010F: 239,160 hours DES-3010FL: 220,196 hours	100,511 hours	130,465 hours	123,925 hours	
Heat Dissipation	50.47 BTUs per hour	DES-3010F: 51.15 BTUs per hour DES-3010FL: 50.47 BTUs per hour	34.54 BTU per hour	51.83 BTUs per hour	57.97 BTUs per hour	
Power Input	100 to 240 VAC, 50 to 60 Hz Internal Universal Power Supply					
Power consumption	14.8 W	DES-3010F: 15 W DES-3010FL: 14.8 W	11 W	15.2 W	17 W	

## Managed L2 Ethernet Switches

Technical Specifications	DES-3010G	DES-3010F/3010FL	DES-3016	DES-3018	DES-3026
Dimensions	280 (W) x 180 (D) x 44(H) / Desktop Size, 1U Height		441 (W) x 207 (D) x 44(H) / 19-inch Rack Mount Width, 1U Height		
Ventilation DC Fan	Fanless				
Operating Temperature	0° C to 40° C				
Storage Temperature	-40° C to 70° C				
Operating Humidity	5% to 95% non-condensing				
EMI	FCC Class A, CE, C-Tick, VCCI				
Safety	CSA International				

## Software Features

### Stackability

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

### L2 Features

- IGMP Snooping
  - IGMP v1/v2 Snooping
  - Supports 256 Groups
  - Port-based IGMP Snooping Fast Leave
- Spanning Tree
  - 802.1D STP
  - 802.1w RSTP
  - BPDU Filtering
- Loopback Detection (LBD)
- 802.3ad Link Aggregation
  - Max. 3 groups per device, 4 ports per group (2 groups for Fast Ethernet ports, 1 group for Gigabit ports)
- Port Mirroring
  - One-to-One
  - Many-to-One

### VLAN

- 802.1Q Tagged VLAN
- VLAN Group
  - Max. 4 K VLAN
- VLAN type: static only

### Quality of Service (QoS)

- 802.1p Quality of Service
  - 4 Queues
- CoS based on
  - MAC DA
  - Switch Port
  - TOS
  - DSCP

- Bandwidth Control
  - Port based (Ingress/Egress, min. granularity 64 kbps)

### Security

- SSH v2
- Port Security
  - Up to 10 MAC addresses per port
- IP-MAC-Port Binding (IMPB)
  - ARP Packet Inspection
  - Supports up to 500 address binding entries per device
- Traffic Segmentation
- Broadcast/Multicast/Unicast Storm Control
- CPU Interface Filtering

### AAA

- 802.1X
  - Port-based Access Control
  - Host-based Access Control
  - Dynamic VLAN Assignment
- Guest VLAN
- Microsoft® NAP
  - Supports DHCP NAP

### Management

- Web-based GUI
- Command Line Interface (CLI)
- Telnet Server
- TFTP Client
- SNMP v1/v2c/v3
- DHCP Relay
- DHCP Relay Option 60, 61
- SNMP Traps
- DHCP Auto-Configuration
- BootP/DHCP Client

### OAM

- Cable Diagnostics

### MIB Support

- RFC 1213 MIB II
- RFC 1493 4188 Bridge
- RFC 1757 RMON
- RFC 1398 1643 1650 2358 2665 3635 Ether-like MIB
- RFC 2674 802.1p
- RFC 1213 2233 IF MIB
- D-Link Private MIB
- RFC 2869 RADIUS extension standard

### IETF® Standards

- RFC 768 UDP
- RFC 783 TFTP
- RFC 791 IP
- RFC 792 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 1338 1519 CIDR
- RFC 854 Telnet
- RFC 951 1542 BootP
- RFC 2068 HTTP
- RFC 2139 2866 RADIUS Accounting
- RFC 2472 DiffServ
- RFC 1157 SNMPv1
- RFC 1901 1908 SNMPv2c
- RFC 2570 2575 SNMPv3
- RFC 3164 3195 Syslog
- RFC 3046 DHCP Relay Option

### Optional Products

#### Optional SFP Transceivers

DEM-310GT	1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3 V operating voltage
DEM-311GT	1000BASE-SX standard, multi-mode fiber, max. distance 550 m, 3.3 V operating voltage
DEM-312GT2	1000BASE-SX standard, multi-mode fiber, max. distance 2 km, 3.3 V operating voltage
DEM-314GT	1000BASE-LX standard, single-mode fiber, max. distance 50 km, 3.3 V operating voltage
DEM-315GT	1000BASE-LX standard, single-mode fiber, max. distance 80 km, 3.3 V operating voltage

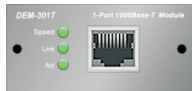
#### Optional WDM SFP Transceivers

DEM-330T	1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3 V operating voltage, Tx wavelength 1550 nm, Rx wavelength 1310 nm
DEM-330R	1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3 V operating voltage, Tx wavelength 1310 nm, Rx wavelength 1550 nm
DEM-331T	1000BASE-LX standard, single-mode fiber, max. distance 40 km, 3.3 V operating voltage, Tx wavelength 1550 nm, Rx wavelength 1310 nm
DEM-331R	1000BASE-LX standard, single-mode fiber, max. distance 40 km, 3.3 V operating voltage, Tx wavelength 1310 nm, Rx wavelength 1550 nm

#### Optional Uplink Modules\*

DEM-301T	10/100/1000BASE-T Gigabit Port
DEM-301G	SFP Slot
DEM-201F	100BASE-FX Ethernet Port (SC Connector), Multi-mode fiber, max. distance 2 km
DEM-201FL	100BASE-FX Ethernet Port (SC Connector), Single-mode fiber, max. distance 15 km

#### DEM-301T Copper Gigabit Module



#### DEM-301G SFP Gigabit Module



#### DEM-201F Fiber Ethernet Module



#### DEM-201FL Fiber Ethernet Module



\* 4 user-selectable optional uplink modules are available for installation in the open slots of switch models DES-3018 and DES-3026.



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