

## Fanless Design

- Allows for noiseless operation
- Saves energy while lowering costs
- Provides continuous, reliable and eco-friendly operation

## Security Features

- Access Control List secures network
- D-Link Safeguard Engine protects CPU from Broadcast/Multicast/Unicast flooding
- Port Security supports 64 MACs per port

## Intuitive Management

- Manage using SmartConsole or web-based GUI
- Built-in MIB browser for SNMP Management
- D-View 6.0 module support
- Compact CLI through Telnet

## VoIP Deployment

- Highest priority for VoIP services
- Auto Voice VLAN

## QoS

- Ensure time-sensitive data gets delivered efficiently
- Supports IEEE 802.1p QoS up to 4 802.1p Priority Queues
- DSCP QoS

## Advanced Features

- Loopback Detection auto disables port when loop is detected
- Cable Diagnostics allows administrator to determine cable status
- Configurable MDI/MDIX

## Trap & Logs

- SNMP Trap supports link and STP state change
- Trap for SmartConsole Utility

## Online Help

- Link to local support web site
- Downloadable user guide
- Real-time manual checks

## 24/48-Port Web Smart Switch

D-Link's DES-1210 Series is the latest generation of Web Smart Switches. Equipped with 24 or 48 10/100Mbps ports, 2 10/100/1000BASE-T ports, and 2 combo 10/100/1000BASE-T/SFP ports, the series integrates advanced management and security functions that provide performance and scalability. While easy to use, the DES-1210 Series provides a complete and affordable solution for small and medium businesses. Management options for the switches include SNMP, Web Management, SmartConsole Utility, and Compact Command Lines. The series also supports ACL filtering and D-Link's Safeguard Engine. Furthermore, the DES-1210-28/52 uses Auto Voice VLAN, ensuring higher priority for voice traffic. Both models come with an innovative fanless design in 19" metal cases.

### Seamless Integration

The Web Smart Switches are designed to provide SMB users a complete control over the network. With Ethernet and Gigabit copper ports capable of connecting to existing Cat.5 twisted-pair cables, these switches eliminate the need for a complex reconfiguration process. The DES-1210 Series allows for flexible connection to a backbone or servers. Additionally, all ports support auto-negotiation of MDI/MDIX crossover, or configurable auto MDI and therefore do away with crossover cables or uplink ports. This brings inexpensive and easy connectivity to your desktop.

### Extensive Layer 2 Features

Equipped with a complete lineup of L2 features, these switches include IGMP Snooping, Port Mirroring, Spanning Tree and Link Aggregation Control Protocol (LACP). The IEEE 802.3x Flow Control function allows servers to directly connect to the switch for fast, reliable data transfer. At 2000Mbps Full Duplex, the Gigabit ports provide high-speed data pipes to servers with minimum data transfer loss. Network maintenance features include Loopback Detection and Cable Diagnostics. Loopback Detection is used to detect loops created by a specific port and automatically shut down the affected port. Cable Diagnostics is designed for network administrators to quickly examine the quality of the copper cables and also determine the type of cable error.

### QoS, Bandwidth Control

The switches are perfect for deployment in a VoIP environment, as they support Auto Voice VLAN and Differentiated Services Code Point (DSCP) QoS for VoIP application. Auto Voice VLAN will automatically place voice traffic from an IP phone to an assigned VLAN and by doing so enhance the VoIP service. With a higher priority and individual VLAN, this feature guarantees the quality and security of VoIP traffic. DSCP marks parts of an IP packet, enabling different levels of service to be assigned for network traffic.

With Bandwidth Control, the network administrator can reserve bandwidth for important functions that require a larger bandwidth or might have high priority.

### Secure your Network

D-Link's innovative Safeguard Engine function protects the switches against traffic flooding caused by virus attacks. The switches also support 802.1X port-based authentication, allowing the network to be authenticated through external RADIUS servers. In addition, the Access Control List (ACL) feature enhances network security and helps to protect the internal IT network. The DES-1210 Series includes ARP Spoofing Prevention, which protects from attacks on the Ethernet network that may allow an intruder to sniff data frames on a LAN, modify traffic, or bring traffic to a halt altogether by sending fake ARP messages to the network. To prevent ARP Spoofing attacks, the switch uses Packet Control ACLs to block invalid packets that contain fake ARP messages. For added security, the DHCP Server Screening feature screens rogue DHCP server packets from user ports to prevent unauthorized IP assignment.

### Versatile Management

The new generation of Web Smart Switches provides growing businesses simple and easy management of their network using an intuitive SmartConsole utility or a web-based management interface that enables administrators to remotely control their network down to the port level. The SmartConsole easily allows customers to discover multiple D-Link Web Smart Switches within the same L2 network segment. With this utility, users do not need to change the IP address of their PC and it also provides an easy initial setting of the Smart Switches. Switches within the same L2 network segment that are connected to the user's local PC are displayed on screen for instant access. This allows extensive switch configuration settings and basic configuration of discovered devices such as password changes and firmware upgrades.

The DES-1210 Series also supports D-View 6.0 and Compact Command Line Interface (CLI) through Telnet. D-View 6.0 is a Network Management System that allows for the central management of critical network characteristics such as availability, reliability, resilience, and security in a consistent way. 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. CLI management of the switches is possible via Telnet. This makes the adjustment of basic settings like password changes or firmware and configuration file uploads possible.





## 24/48-Port Web Smart Switch

### Technical Specifications

#### General

Port Standards & Functions	<ul style="list-style-type: none"> <li>▪ IEEE 802.3 10BASE-T Ethernet (twisted-pair copper)</li> <li>▪ IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper)</li> <li>▪ IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper)</li> <li>▪ IEEE 802.3z Gigabit Ethernet (fiber) ANSI/IEEE 802.3</li> <li>▪ Auto-negotiation</li> <li>▪ IEEE 802.3x Flow Control</li> </ul>
Number of Ports	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 24 10/100Mbps, 2 10/100/1000BASE-T, 2 combo 10/100/1000BASE-T/SFP</li> <li>▪ DES-1210-52: 48 10/100Mbps, 2 10/100/1000BASE-T, 2 combo 10/100/1000BASE-T/SFP</li> </ul>
Network Cables	<ul style="list-style-type: none"> <li>▪ UTP Cat. 5, Cat. 5e (100 m max.)</li> <li>▪ EIA/TIA-568 100-ohm STP (100 m max.)</li> </ul>
Full/Half Duplex	<ul style="list-style-type: none"> <li>▪ Full/half duplex for 10/100Mbps speeds</li> <li>▪ Full duplex for Gigabit speed</li> </ul>
Media Interface Exchange	Auto MDI/MDIX adjustment for all twisted-pair ports

#### Performance

Switching Capacity	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 12.8Gbps</li> <li>▪ DES-1210-52: 17.6Gbps</li> </ul>
Transmission Method	Store-and-forward
MAC Address Table	8K entries per device
MAC Address Update	<ul style="list-style-type: none"> <li>▪ Up to 256 static MAC entries</li> <li>▪ Enable/disable auto-learning of MAC addresses</li> </ul>
Maximum 64 bytes packet forwarding rate	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 9.5 Mpps</li> <li>▪ DES-1210-52: 3.1 Mpps</li> </ul>
RAM Buffer	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 512KB per device</li> <li>▪ DES-1210-52: 1MB per device</li> </ul>

#### Physical & Environmental

AC Input	100 to 240 VAC 50/60Hz internal universal power supply
Maximum Power Consumption	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 17.6W</li> <li>▪ DES-1210-52: 28.9W</li> </ul>
Standby Power Consumption	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 7.6W/110V, 7.9W/240V</li> <li>▪ DES-1210-52: 13.2W/110V, 13.3W/240V</li> </ul>
Fan Quantity	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 0</li> <li>▪ DES-1210-52: 0</li> </ul>
Acoustics	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 0dBA</li> <li>▪ DES-1210-52: 0dBA</li> </ul>
Heat Dissipation	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 60.05 BTU/hr</li> <li>▪ DES-1210-52: 98.61 BTU/hr</li> </ul>
Operating Temperature	0° to 40° C
Storage Temperature	-10° to 70° C
Operating Humidity	10% to 95% non-condensing



## 24/48-Port Web Smart Switch

Storage Humidity	5% to 95% non-condensing
Dimensions	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 440 mm x 210 mm x 44mm</li> <li>▪ DES-1210-52: 441 mm x 250 mm x 44 mm</li> <li>▪ 19-inch standard rack mounting width, 1U height</li> </ul>
Weight	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 2.6 kg</li> <li>▪ DES-1210-52: 3.3 kg</li> </ul>
Diagnostic LEDs	<ul style="list-style-type: none"> <li>▪ Power (Per device)</li> <li>▪ Link/Activity/Speed (Per 10/100/1000Mbps port)</li> <li>▪ Link/Activity/Speed (Per 10/100Mbps port)</li> <li>▪ Link/Activity/Speed (Per SFP port)</li> </ul>
Emission (EMI)	<ul style="list-style-type: none"> <li>▪ FCC Class A</li> <li>▪ CE Class A</li> <li>▪ VCCI Class A</li> <li>▪ C-Tick</li> </ul>
MTBF	<ul style="list-style-type: none"> <li>▪ DES-1210-28: 419,467hrs</li> <li>▪ DES-1210-52: 289,012hrs</li> </ul>
Safety	cUL, LVD

## Software Features

- **L2 Features**
  - MAC Address Table
    - DES-1210-28: 8K
    - DES-1210-52: 8K
  - Flow Control
    - 802.3x Flow Control
    - HOL Blocking Prevention
  - IGMP Snooping
    - IGMP v1/v2 Snooping
    - Support 256 IGMP groups
    - Supports at least 64 static multicast addresses
    - IGMP per VLAN
    - Supports IGMP Snooping Querier
  - Spanning Tree Protocol
    - 802.1D STP
    - 802.1w RSTP
  - Loopback Detection
  - 802.3ad Link Aggregation
    - DES-1210-28:
      - Max. 8 groups per device/8 ports per group
    - DES-1210-52:
      - Max. 8 groups per device/8 ports per group
  - Port Mirroring
    - One-to-One
    - Many-to-One
      - Supports Mirroring for Tx/Rx/Both
- Cable Diagnostics
- Configurable Auto MDI/MDIX
- Multicast Filtering\*
  - Forwards all unregistered groups
  - Filters all unregistered groups
- **VLAN**
  - 802.1Q
  - VLAN Group
    - Max. 256 static VLAN groups
    - Max. 4094 VIDs
  - Management VLAN
  - Asymmetric VLAN
  - Auto Voice VLAN
    - Max. 10 user defined OUI
    - Max. 8 default OUI
- **QoS (Quality of Service)**
  - 802.1p Quality of Service
    - 4 queues per port
  - Queue Handling
    - Strict
    - Weighted Round Robin (WRR)
  - CoS based on
    - 802.1p Priority Queues
    - DSCP
  - Bandwidth Control
    - Port-based (Ingress/Egress, min. granularity 64Kb/s)
- **Access Control List (ACL)**
  - Max. 50 profiles
  - Max. 240 rules shared by profiles
  - ACL based on
    - MAC Address
    - IPv4 Address (ICMP/IGMP/TCP/UDP)
    - VLAN ID
    - 802.1p Priority
    - DSCP

\* Available in future release



## 24/48-Port Web Smart Switch

- ACL Actions

- Permit
- Deny

- Security

- 802.1X
- Port Security
  - Supports up to 64 MAC addresses per port
- Broadcast/Multicast/Unicast Storm Control
- Static MAC
- D-Link Safeguard Engine
- DHCP Server Screening\*
- ARP Spoofing Prevention\*
  - Max. 64 entries
- SSL\*
  - Supports v1/v2/v3
  - Supports IPv4

- MIB

- 1213 MIB II
- 1493 Bridge MIB
- 1907 SNMP v2 MIB
- 1215 Trap Convention MIB
- 2233 Interface Group MIB
- D-Link Private MIB

- RFC Standard Compliance

- RFC 768 UDP
- RFC 791 IP
- RFC 792 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 854 Telnet Server
- RFC 855 Telnet Server
- RFC 856 Telnet Binary Transmission
- RFC 858 Telnet Server
- RFC 896 Congestion Control in TCP/IP Network
- RFC 903 Reverse Address Resolution Protocol
- RFC 951 BootP Client
- RFC 1155 MIB
- RFC 1157 SNMP v1
- RFC 1191 Path MTU Discovery
- RFC 1212 Concise MIB Definition
- RFC 1213 MIB II, IF MIB
- RFC 1215 Traps for use with the SNMP
- RFC 1239 Standard MIB
- RFC 1350 TFTP
- RFC 1493 Bridge MIB
- RFC 1519 CIDR
- RFC 1945 HTTP/1.0
- RFC 2131 DHCP

- RFC 2132 DHCP Options and BOOTP Vendor Extensions
- RFC 2138 Radius Authentication
- RFC 2233 Interface MIB
- RFC 2578 Structure of Management Information Version 2 (SMIv2)
- RFC 2647 802.1p
- RFC 3416 SNMP
- RFC 3417 SNMP

- Management

- Web-based GUI
- Compact CLI through Telnet
- Telnet Server
- TFTP Client
- SNMP
  - Supports v1/v2/v3\*
- SNMP Trap
- Trap for SmartConsole Utility
- System Log
  - Max. 500 log entries
  - Supports IPv4 log server
- BootP/DHCP Client
- Time Setting
  - SNTP

\* Available in future release

### Optional Products

- Optional SFP Transceivers

- DEM-310GT 1000BASE-LX, Single-mode, 10km
- DEM-311GT 1000BASE-SX, Multi-mode, 550m
- DEM-312GT2 1000BASE-SX, Multi-mode, 2km
- DEM-314GT 1000BASE-LX, Single-mode, 50km
- DEM-315GT 1000BASE-LX, Single-mode, 80km
- DEM-210 100BASE-FX, Single-mode, 15km
- DEM-211 100BASE-FX, Multi-mode, 2km

- Optional WDM SFP Transceivers

- DEM-220T 100BASE-BX, Wavelength Tx:1550nm  
Rx:1310nm, Single-mode, 20km
- DEM-220R 100BASE-BX, Wavelength Tx:1310nm  
Rx:1550nm, Single-mode, 20km
- DEM-330T 1000BASE-LX, Wavelength Tx:1550nm  
Rx:1310nm, Single-mode, 10km
- DEM-330R 1000BASE-LX, Wavelength Tx:1310nm  
Rx:1550nm, Single-mode, 10km

- DEM-331T 1000BASE-LX, Wavelength Tx:1550nm  
Rx:1310nm, Single-mode, 40km
- DEM-331R 1000BASE-LX, Wavelength Tx:1310nm  
Rx:1550nm, Single-mode, 40km



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 Release 02 (December 2009)