



High Performance Wire-speed Architecture:

- + Non-blocking Architecture
- + 802.1x Authentication
- + 802.1p QoS (4 Queues)
- + DSCP-based QoS
- + 802.1Q VLAN
- + Asymmetrical VLANs
- + Static Link Aggregation
- + SNMP v1
- + 802.1D Spanning Tree
- + Broadcast Storm Control
- + Port Mirroring
- + Port Setting (Speed, Availability, Flow Control)
- + Web-based Management
- + D-Link Smart Console Utility
- + IGMP Snooping
- + D-Link® Safeguard Engine™
- + Management VLAN

Operational Simplicity:

- + True Plug-and-Play
- + Speed Auto-negotiation
- + Clear, At-a-glance Port LED Indicators
- + Auto MDI/MDI-X Detection

Investment Protection:

- + Support for Industry Standards
- + Fiber Media Support Via SFPs
- + Cable Diagnostics

Web Smart 24-Port 10/100 Switch with 4 Gigabit Copper Ports and 2 Combo SFP Ports

The DES-1228 Web Smart Switch from D-Link® is a cost-effective solution for the small and medium business that requires basic management features like VLAN segmentation, QoS prioritization, and secure 802.1x login and authentication. This is all showcased in a low cost, easy to configure, and GUI-managed 'smart' business solution. The DES-1228 comes with 24 10/100BASE-TX ports, 4 1000BASE-T with 2 combo fiber SFP interfaces for uplinking to storage area network devices, servers, or core switching solutions. The Graphical User Interface allows you to implement Quality of Service (QoS), VLANs and security without having to go through complex command line management usually found in other managed switches.

D-Link Safeguard Engine

The DES-1228 incorporates advanced mechanisms that detect an attack against the switch's central processing unit and takes corrective action on the attacking interface. When a Denial of Service attack is waged against the DES-1228, the D-Link Safeguard Engine™ detects the threat and prevents overload of the central processor, ensuring network integrity and helping to maintain open network bandwidth channels.

802.1D Spanning Tree

Spanning Tree provides protection from unintentional cabling loops within a network infrastructure. Loops dangerously create an unending circle where broadcast and multicast traffic propagates across the network. This storm of traffic overwhelms the network and brings traffic to a crawl, but 802.1D Spanning tree detects and breaks these loops, ensuring network uptime.

Link Aggregation

The DES-1228 supports static port trunking of up to 6 groups of 8 ports per device. Ports can be combined together to create multi-link loadsharing aggregated trunks to a server or a network backbone. To expand the network, you can also make use of link aggregation to eliminate bottlenecks between the cascaded switches.

802.1Q VLANs

The DES-1228 provides support for 802.1Q VLANs for improved security and bandwidth utilization. VLANs segment broadcast domains and reduce network congestion caused by constant network broadcasting. VLANs also provide a means of securing one broadcast domain from all others. This prevents users on one VLAN from gaining access to resources on other network segments. VLANs can be further configured to segment departmental resources. VLANs can be implemented on an SMB network. For example, to prevent one department from gaining access to secure resources in another department.

Asymmetric VLANs

The Web Smart Switch also supports asymmetric VLANs. With this feature enabled, VLAN groups will be able to send information to each other without the traffic going through a router or a Layer 3 switch. This eliminates the need to purchase an additional routing device and prevents flooding the router with internal communications, maximizing network efficiency, and keeping the groups securely segmented via VLANs.

802.1p Priority Tagging

Like 802.1Q VLAN tagging, 802.1p places a tag in a frame to indicate frame priority. The tag represents a priority of 0-7, which 802.1Q-compliant switches use to prioritize traffic. Unlike port-based QoS, which prioritizes all traffic entering a port with the same value, 802.1p classifies incoming frames through these sets of priorities. This means your 802.1p VoIP phone can be granted higher priority than other traffic, resulting in phone calls that are clear and jitter-free.

SNMP Management

The DES-1228 utilizes SNMP v1 to manage and control SNMP-supported network devices. SNMP enables the DES-1228 to provide valuable status information and send traps on abnormal events. This sharing of vital management information saves time and money.



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IGMP Snooping

The DES-1228 uses IGMP Snooping to analyze data packets and forward them through only where appropriate. This means that multicast packets, such as streaming audio and video or other bandwidth hogs, get through without creating extra network congestion. This smart packet management also reduces the workload of other devices further down the line, making your entire network function more efficiently.

802.1x Authentication

802.1x Authentication provides a secure means to allow users to log onto your network. When used in conjunction with a RADIUS server, 802.1x requires each user workstation attached to the DES-1228 to provide a username and password before gaining access to the local area network.

Smart Console Utility

Included with all D-Link Web Smart Switches is a D-Link exclusive software utility that automatically discovers all D-Link Smart Switches with the click of a button.

Operational Simplicity

The DES-1228 supports a wide array of plug-in-play features, such as

- 10/100Mbps auto-negotiation
- Universal UTP cable recognition for auto straight-through or crossover cable detection
- Full/Half duplex support
- IEEE standards support

Managing the DES-1228 has never been easier. Using its built in browser-based management interface, configuring the switch takes only minutes. With full color graphics and easy to understand navigation menus, configuring the DES-1228 is as easy as surfing the net.

Technical Specifications

Product Specifications

Max. Forwarding Rate	10M:14,880 pps / 100M:148,809 pps / 1G:1,488,095 pps
Forwarding Mode	Store and Forward
Switching Capacity	12.8 Gbps
Flash Memory	2MB
MAC Address	8K MAC Address Table
IGMP Snooping	Support 64 multicast groups
802.1D Spanning Tree	Support per device STP & BPDU forwarding.
Static Port Trunk	Support up to six 8-port groups
Flow Control	802.3x supported flow control
Port Mirroring	Support one-to-one or many-to-one port mirroring
	Support TX, RX and Both mode
802.1Q VLAN Group	Support 256 static VLAN groups
	Able to configure VID from 1-4094
802.1p Support	4 Queues
802.1x Port-based Access Control	Default 802.1x forwarding
Broadcast Storm Control	Allow specifying the per device threshold in terms of 8K - 4096K Bytes per second
Static MAC Address	Support 256 Static MAC entries
D-Link Safeguard Engine	Protects CPU from Broadcast/Multicast/Unicast flooding
Web-based GUI	Compatible with Internet Explorer®, Netscape®, Mozilla®, Firefox®, Opera®, Safari® browsers
SNMP v1	Configurable Community setting
	Support SNMP Trap



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DHCP Client	Supports ability to function as a DHCP client
Switch Discovery/Management Utility	Up to 256 agents/switches
Port Setting	Can set Speed, Duplex mode, flow control
Configuration Backup/Restore	Via Web GUI
Firmware Backup/Restore	Via Web GUI
Firmware Upgrade	Via SmartConsole Utility
Reboot	Via Web GUI

Interface Options

RJ-45 (24 x 10/100BaseTX ports & 4 1000Base-T ports)	IEEE 802.3 compliance
	IEEE 802.3u compliance
	IEEE 802.3x Flow Control support for Full-duplex mode, Back Pressure when Half-duplex mode
	IEEE 802.3ab compliance
SFP (2 combo 1000Base-T/SFP ports)	IEEE 802.3z compliance
	IEEE 802.3u compliance
	IEEE 802.3x Flow Control support for Full-duplex mode, Back Pressure when Half-duplex mode

Network Management

In & Out of Band	HTTP, SNMP v1, Port Mirroring
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Physical & Environmental

AC input	100-240 VAC, 50/60Hz
	Internal universal power supply
Operation Temperature	32° to 104° F (0° to 40°C)
Storage Temperature	14° to 158° F (-10° to 70°C)
Operating Humidity	10% ~ 90% RH
Storage Humidity	5% ~ 90% RH
Power consumption:	18.4 Watts
Heat Dissipation:	62.6 (BTU/hr)
Dimension (WxDxH)	19-inch, 1U Rack-mount size
	17.3" x 5.5" x 1.7" (439.4mm x 140mm x 43.9mm)
Weight	4.6 lbs (2.1 kg)
Environmental	RoHS

Emission (EMI) and Safety Certifications

EMI-EMC Compliance	FCC Class A, CE Class A, VCCI Class A
Safety Compliance	cUL, UL

Warranty Information

Warranty	Limited Lifetime ¹
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Ordering Information

<u>Part Number</u>	<u>Description</u>
DES-1228	Web Smart 24-Port 10/100 Switch with 4 Gigabit copper Ports and 2 Combo SFP Ports
DEM-310GT	1000Base-LX SFP/Mini Gigabit Interface converter (up to 10km)
DEM-311GT	1000Base-SX SFP/Mini Gigabit Interface converter (up to 550m)
DEM-211	100BASE-FX 155 Mbps Multi-Mode 2km SFP Transceiver

¹ Available in the USA and Canada only.

All references to speed are for comparison purposes only. Product specifications, size and shape are subject to change without notice, and actual product appearance may differ from that depicted herein. Specifications contained herein are based on Hardware version B3/B4.

Hardware version A1