D-Link®

—————— DES-3226

DES-3226 Switch shown here with 24 built-in 10/100Mbps ports and an open slot for installation of optional Fast Ethernet fiber ports or Gigabit ports.

10/100Mbps Managed Switch for Departmental Connection

The DES-3226 is a 10/100Mbps Switch designed for departmental connection. It provides 24 10/100Mbps ports and an open slot for optional Fast Ethernet fiber ports or Gigabit ports. This Switch offers advanced features that include port trunking, VLANs and priority queues, allowing a department to effectively deploy a bottleneck-free switching network that can also be easily integrated into a larger enterprise or campus network.

24 10/100Mbps Ports
The Switch provides 24 10/100Mbps ports supporting auto-sensing and auto-negotiation of network speeds and full/half duplex. These ports can connect to workstations and print servers, giving each a dedicated bandwidth. Some of these ports can also connect to Fast Ethernet hubs that in turn connect to sub-groups of users, who are less bandwidth demanding or who may be using the network less frequently. All ports support auto-adjustment to MDI/MDIX, making connection to a workstation, server, hub or any Fast Ethernet device a simple plug-and-play.

Fast Ethernet Fiber Ports
Optional Fast Ethernet fiber ports can be installed in the open slot. Transferring data at 100Mbps or 200Mbps full duplex over the fiber cable, these ports can be used to connect workstations or servers over the reliable, long-distance fiber cable.

Gigabit Fiber Ports
Alternatively, optional Gigabit fiber ports can be installed in the open slot. At 2000Mbps speed, these ports can be used to connect to Gigabit servers to provide large data pipes for simultaneous access by workstations. You can also use these ports to connect the Switch to the company fiber backbone.

Gigabit Over Copper Twisted-pair
The Gigabit copper ports provide an inexpensive alternative solution to the fiber. Using your existing low-cost Cat. 5 twisted-pair wires as the transmission media, these ports allow you to instantly upgrade your server to Gigabit capability without requiring you to install new, expensive fiber cables.

Port Trunking
With low cost per port, port trunking provides an easy and economical alternative solution for server connection to attain Gigabit bandwidth. Up to 8 10/100Mbps ports can be combined together to create a multi-link load-sharing aggregated bandwidth to a server. The Switch supports up to 6 port trunks.

VLANs
To segment up the network, workstations supporting IEEE 802.1Q VLAN Tagging connected to the Switch can be grouped into different Virtual LANs (VLANs). VLANs improve security and bandwidth utilization by limiting the broadcast domains and confining intra-group traffic within their segments.

Priority Queues
Each packet going through the Switch can be assigned a queue priority, packets with a higher priority are allowed to pass first. You can attach IP telephony devices or video servers to the Switch to run delay-sensitive applications like videoconference and voice over Internet.

IP Multicast (IGMP Snooping)
The Switch listens to IGMP (Internet Group Management Protocol) messages to build mapping table and associate forwarding filters. It dynamically configures the switch ports to forward IP multicast traffic only to those ports associated with multicast hosts.

Port Mirroring
This function allows you to mirror adjacent ports for the purpose of analyzing incoming and outgoing packets where packet patterns can be studied.

Spanning Tree Protocol
For mission critical environments with multiple switches supporting STP, you can configure this Switch with a redundant backup bridge path, so transmission and reception of packets can be guaranteed in event of any fail-over switch on the network.

Network Management
The Switch supports SNMP management and RMON monitoring (using third-party management platforms) through built-in MIBs. You can also configure and fine-tune the Switch using any standard web browser.

Key & Other Features
- *Managed Layer 2 switch with 24 built-in 10/100Mbps ports*
- *1 open slot for optional Fast Ethernet fiber or Gigabit ports*
- *Automatic MDI cross over function for all twisted-pair ports*
- *Secure store-and-forward switching scheme*
- *Broadcast storm control*
- *Flow control support*
- *Administrator-definable port security*

- *Telnet configuration support*
- *TFTP client (for upgrade firmware download) support*
- *Bootp, DHCP client (for IP address assignment) support*
- *Backup/restore configuration file support (TFTP)*
- *Menu-driven configuration, console interface (RS-232)*
- *Management interface authentication (password)*

DES-3226
Technical Specifications

General

Standards
- IEEE 802.3 10BASE-T Ethernet (twisted-pair copper)
- IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper)
- IEEE 802.3u 100BASE-FX Fast Ethernet (fiber)
- IEEE 802.3z 1000BASE-SX Gigabit Ethernet (fiber)
- IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper)
- ANSI/IEEE 802.3 NWay auto-negotiation
- IEEE 802.3x Flow Control
- IEEE 802.1p Priority Queues
- IEEE 802.1q VLANs
- IEEE 802.1d Spanning Tree

Protocol
CSMA/CD

Data Transfer Rates
- Ethernet: 10Mbps (half duplex)
  20Mbps (full duplex)
- Fast Ethernet:
  100Mbps (half duplex)
  200Mbps (full duplex)
- Gigabit Ethernet:
  2000Mbps (full duplex)

Topology
Star

Network Cables
- 10BASE-T:
  2-pair UTP Cat. 3, 4, 5 (100 m)
  EIA/TIA-586 100-ohm STP (100 m)
- 100BASE-TX, 1000BASE-T:
  UTP Cat. 5 (100 m max.)
  EIA/TIA-568 100-ohm STP (100m max.)
- 100BASE-FX:
  50, 62.5/125 micron multi-mode fiber-optics (2 km max.)
  8, 9/125-micron single-mode fiber-optics (15 km max.)
- 1000BASE-SX:
  50/125 micron multi-mode fiber-optics (500 m max.)
  62.5/125 micron multi-mode fiber-optics (275 m max.)
- 1000BASE-LX:
  9-micron single-mode fiber-optics (5 km max.)

Full/half Duplex
- Full/half duplex for 10/100Mbps speeds
- Full duplex only for Gigabit speed

Media Interface Exchange
MDI-II/MDI-X auto-sensing for all twisted-pair ports

Twisted-pair Rx Reverse Polarity
Auto-correction

Performance

Switch Fabric
8.8 Gbps

Transmission Method
Store-and-forward

MAC Address Table
8K entries per device

MAC Address Learning
- Dynamic entries: automatic update
- Static entries: user-defined

Packet Filtering/Forwarding Rates (half duplex)
- Ethernet: 14,880 pps per port
- Fast Ethernet: 148,810 pps per port
- Gigabit Ethernet: 1,488,100 pps per port

RAM Buffer
8MB per device (excluding optional modules)

Management

Management Support
- SNMP-based management
- Web-based management
- RMON monitoring
- Telnet (single session)

MIBs
- MIB-II (RFC 1213)
- Bridge MIB (RFC 1493)
- RMON MIB (RFC 1757)
- VLAN MIB (RFC 2674)
- IGMP MIB
- Entity MIB (RFC 2737)
- If MIB (RFC 2233)
- Ethernet-like MIB (RFC 2358)
- dot3statsTable
- D-Link enterprise MIB

RMON Groups
1, 2, 3, 9 (Alarm, Statistics, History, Event)

IP Number Self-identification
Through DHCP client, Bootp client

Priority Queues
4 queues

Console Port
DB-9 RS-232 DCE

Physical & Environmental

LED Indicators
- Per 10/100Mbps port: 100Mbps speed, Link, Act
- Per Fast Ethernet fiber port/Gigabit port: Link, Act
- Per device: Power, Consolev

AC Input
100 - 240 VAC, 50/60 Hz
Internal universal power supply

Power Consumption
30 - 42 Watts (max.)

Ventilation
2 40 x 40 mm DC fans

Operating Temperature
0° - 50°C (32° - 122°F)

Storage Temperature
-25° - 55°C (-13° - 131°F)

Humidity
5% - 95% non-condensing

Dimensions
441 x 207 x 44 mm (17.36 x 8.15 x 1.73 inches)
19-inch rack-mount width, 1 U height

Weight
2.8 kg (6.17 lb.)

Emission (EMI)
- FCC Class A
- CE Class A
- C-Tick Class A
- VCCI Class A
- BSMI Class A

Safety
- UL/CUL
- TUV/GS

ACN 052 202 838

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E141136
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Ordering Information

10/100Mbps Managed Switch	
DES-3226	24 10/100Mbps ports
Optional Modules	
DES-131F	1 100BASE-FX multi-mode fiber port (SC type connector) (supporting 2 Km cable distance)
DES-132F	2 100BASE-FX multi-mode fiber ports (SC type connectors) (supporting 2 Km cable distance)
DES-131FL	1 100BASE-FX single-mode (SC type connector) port (supporting 15 Km cable distance)
DES-132FL	2 100BASE-FX single-mode fiber ports (SC type connector) (supporting 15 Km cable distance)
DES-132G	2 1000BASE-SX Gigabit Ethernet ports (SC type connectors)
DES-132GL	2 1000BASE-LX Gigabit Ethernet ports (SC type connectors)
DES-322T	2 1000BASE-T Gigabit Ethernet ports
DES-132GB	2 GBIC ports

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