



## *10/100Mbps Modular Switch for Departmental Connection*

*The DES-1200M is a Modular Switch with 4 open slots designed for flexible departmental connection. The Switch allows you to configure your port density and port types to fit your changing network requirements. Port density can be up to 32 10/100Mbps ports, while port types offer selections of twisted-pair copper and fiber ports, Fast Ethernet ports and Gigabit ports. With plug-and-play installation, flexible configuration and an ideal cost/performance ratio, this Switch offers a cost-effective solution for the SMB or larger business to easily deploy a switching network.*

### **4 Open Slots**

The Switch comes with 4 open slots for installation of 4 modules. You install the modules by sliding them into the slots. Modules selectable include 10/100Mbps modules, Fast Ethernet fiber modules, Gigabit fiber modules and Gigabit copper modules. All modules come with their own RAM buffers and diagnostic LEDs.

### **Up to 32 10/100Mbps Ports**

You can install up to 4 10/100Mbps modules in the Switch to get up to 32 10/100Mbps ports. Each 10/100Mbps module comes with 8 10/100Mbps ports. All ports auto-sense and auto-negotiate the network speeds and full/half duplex. These ports can be used to connect to workstations and print servers, each having a dedicated bandwidth.

### **Fast Ethernet Fiber Ports**

The Fast Ethernet fiber module provides 4 fiber ports with SC connectors. These ports support full/half duplex, transfer data at 100Mbps over the single-mode or multi-mode fiber cable. They can be used to connect workstations or servers over the reliable, long-distance fiber cable.

### **Gigabit Fiber Ports**

The Gigabit fiber module provides a 1000BASE-SX Gigabit fiber port supporting full duplex. At 2000Mbps speed, this port can be used to connect to a Gigabit server to provide large, bottleneck-free bandwidth for simultaneous access by workstations. You can also use this module to connect the switch to the company fiber backbone.

### **Gigabit Over Copper Twisted-pair**

The Gigabit port provides an inexpensive alternative solution to fiber-optic. Using your existing low-cost Cat. 5 copper twisted-pair wires as the transmission media, this port allows you to instantly upgrade your server to Gigabit capability without requiring you to install new, expensive fiber cables.

### **IEEE 802.3x Flow Control**

All ports support Flow Control, allowing servers to directly connect to the Switch for fast, reliable data transfer. At full duplex, this function provides high-speed data pipes to your servers with minimum data transfer loss.

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## **Key Features**

- 4-slot Switch Chassis
- Flexible configuration for departmental connection
- Up to 32 optional dual-speed Fast Ethernet ports (Cat. 5 cable)
- Up to 16 optional Fast Ethernet ports (fiber cable)
- Optional Gigabit fiber ports
- Optional 10/100/1000Mbps Gigabit port for Cat. 5 cable
- Automatic MDI cross over function for twisted-pair ports
- Secure store-and-forward switching scheme
- Full/half-duplex for Ethernet/Fast Ethernet speeds
- Blazing 2000Mbps full duplex for Gigabit ports
- IEEE 802.3x Flow Control to minimize packet loss

# Technical Specifications

# Fast Ethernet Unmanaged Switch

## 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

### 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 (60 km max.)
- 1000BASE-SX:
  - 50, 62.5/125 micron multi-mode fiber-optics (500 m max.)
  - 10/125-micron single-mode fiber-optics (10 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

### Twisted-pair Rx Reverse Polarity

Auto-correction

## Performance

### Switch Chassis Back plane Fabric

Up to 9.6Gbps forwarding rate

### Transmission Method

Store-and-forward

### MAC Address Table

12K entries per module

### MAC Address Learning

Automatic update

### 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

- DES-128, DES-124FX modules: 5MB per module
- DES-121T, DES-121G modules: 3MB per module

## Physical & Environmental

### LED Indicators

- Per 10/100Mbps port: 100Mbps speed, Link/Act, Full duplex/Collision
- Per 100Mbps fiber port: Link/Act, Full duplex/Collision
- Per Gigabit port: Link, Act, Full duplex, Collision
- Chassis: Power

### 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°C - 40°C (32° - 104° F)

### Storage Temperature

-40°C - 70°C (-40° - 158° F)

### Humidity

10% - 90% non-condensing

### Dimensions (Chassis)

440 x 227 x 66.5 mm (17 x 8.94 x 2.62 inches)  
Rack-mount width, 1.5 U height

### Weight (Chassis)

4.3 Kg ( lb.)

### Emission (EMI)

- FCC Class A
- CE Class A
- C-Tick Class A
- VCCI Class A

### Safety

- UL
- TUV



## Ordering Information

### Modular Switch

**DES-1200** Chassis (no modules)

### Optional Modules

**DES-128** 8 10/100Mbps ports  
**DES-124F** 4 100BASE-FX Fast Ethernet fiber ports (SC connectors)  
**DES-121G** 1 1000BASE-SX Gigabit fiber port (SC connector)  
**DES-121T** 1 10/100/1000Mbps Gigabit copper port

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