D-Link®

Smart ™

— DES-1316

16-Port PoE 10/100Mbps Smart Switch

The DES-1316 16-port Smart Switch combines 10/100Mbps Ethernet switching with 802.3af standard remote power on network cabling of up to 100 meters. This switch presents a cost-effective solution for the small and medium business, delivering the perfect combination of functionality, ease of use and affordable pricing. With integral power sourcing capability and inherent support including VLAN, Priority Queues, port trunks and simplified management, this switch is the ideal PoE choice that offers security, Quality of Service, low infrastructure cost and easy deployment.

16 Ethernet Ports, 8 With PoE
The DES-1316 Smart Switch provides 16 10/100Mbps Ethernet ports, of which 8 ports supporting PoE for device connection, and the other 8 ports without PoE for workstation/server attachment. Complying with industry standard 802.3af Power over Ethernet (PoE), the PoE ports provide power over the normally unused pairs of the Ethernet cables, which makes it very valuable for deployment of VoIP phones, remote surveillance cameras and wireless access points. In addition to PoE, the DES-1316 auto-senses Ethernet speeds and negotiates for full/half duplex transmission while supporting auto MDI/MDIX for easy, plug-and-play network connection.

Designed for Business and Hot Spots
Suitable for installation at offices, factories, hospitals and schools, the DES-1316 can also be used for public Wi-Fi deployments requiring multiple access points, such as in hotels, airports, and marinas. For offices with VoIP, each phone must be individually powered, and a power failure in a building can leave phone service disrupted without an uninterruptible power supply (UPS) on each phone. For surveillance and wireless networks, cameras and access points typically need to be located in out-of-the-way locations such as on the ceilings or rooftops for maximum coverage, where wall AC outlets are inaccessible and providing power to these locations is difficult and expensive. By transmitting remote power through the standard network cabling, the DES-1316 provides a centralized power source for IP phones, cameras and wireless AP, eliminating the need for individual power sources for these devices.

Centralized Power Provision, Easy Deployment
In addition to eliminating the need for additional, separate wiring to power devices, the DES-1316 is also more cost-effective than deploying an Ethernet switch and multiple single-port PoE injectors. Add a central UPS to the DES-1316, and you can maximize uptime for all connected devices. This switch can simplify your installation while minimizing costs by eliminating UPS for each individual device. It has a rugged metal case, comes with an internal universal power supply, and can be mounted in a standard size equipment rack along with a centralized UPS.

Port Trunks for Aggregated Bandwidths
Up to 4 non-PoE ports on the DES-1316 can be combined together to create a multi-link load-sharing aggregated bandwidth to a server or a network backbone. You can also make use of the port trunk to eliminate bottlenecks between 2 cascaded switches.

VLANs for Enhanced Security & Performance
The DES-1316 supports Virtual LANs (VLAN) to let you implement security and improve bandwidth utilization. VLANs limit broadcast domains and confine intra-group traffic within their segments. To segment up the network, you can group devices, workstations and servers on the network into different VLANs, using 802.1Q standard VLAN tagging.

Quality of Service Support

The DES-1316 provides Layer 2 802.1p control for prioritized network packet transmission. Classification of network data priorities can be based on Priority Queues. This QoS support allows you to run bandwidth-intensive and delay-sensitive applications, and is of particular importance to IP phone and Internet server cameras attached to your network.

Port Mirroring

The DES-1316 supports port mirroring to assist network traffic monitoring. Your network administrator can use this function as a diagnostic tool or debugging feature, especially when fending off an attack. It enables you to keep close track of switch performance and alter it, if necessary. Port mirroring can be managed locally or remotely. Your administrator places a protocol analyzer on the port receiving the mirrored data to monitor each segment separately. The analyzer captures and evaluates the data without affecting the client on the original port.

Easy Management

The DES-1316 is designed as an affordable solution for business to implement security, QoS and power sourcing without having to go through complex SNMP network management. All functions can be configured for the switch from any network station via an Internet browser, dispensing you of the need to set up consoles and connect console cables.

Functions & Features

- 16 10/100BASE-TX Ethernet ports (8 PoE ports, 8 non-PoE ports)
- Complies to 802.3af Power over Ethernet standard
- Supplies up to 15.4 watts per PoE port
- Auto-detection of network devices needing PoE
- Active circuit protection with auto-disable of PoE in case of over current
- PoE ports operate with all 802.3af compliant and non-compliant devices (DWL-P50 required for non-compliant devices)
- Auto MDI/MDIX cross over for all ports
- 802.3x Flow Control for protection against data loss
- Port mirroring for traffic monitoring
- Port trunk for server/network backbone attachment
- 802.1Q VLAN to enhance security/network performance
- 802.1p Priority Queues, port-based QoS
- Easy configuration through web-based management
- Standard rack-mount size

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Technical Specifications

General

Port Standards & Functions
- IEEE 802.3af Power over Ethernet (PoE)
- IEEE 802.3 10BASE-T Ethernet (twisted-pair copper)
- IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper)
- ANSI/IEEE 802.3 NWay auto-negotiation
- IEEE 802.3x Flow Control
- Port mirroring

Number of Ports
16 10BASE-T/100BASE-TX ports (8 PoE ports, 8 non-PoE ports)

Protocol
CSMA/CD

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

Topology
Star

Network Cables
- UTP Cat. 5, Cat. 5e (100 m max.)
- EIA/TIA-568 100-ohm STP (100 m max.)

Media Interface Exchange
Auto MDI/MDIX adjustment for all ports

LED Indicators
- Power (per device)
- CPU (per device)
- Link/Act, Speed (per port)
- 100Mbps (per port)
- PoE (per PoE port)

PoE

PoE Ports
Port 1 to Port 8

Power Supplied
Up to 15.4 watts per port

Auto-Detection
Automatic recognition of connected Powered Device (PD) and sending power to PD

DES-1316

Technical Specifications

Auto-Disable
Automatically disables the port in case port current is over 350mA

Active Circuit Protection
Automatically disables the port in case of is a short

PoE Pinouts
Pins 1, 2, 3, and 6 of Cat. 5 cable

Software
VLAN
- Standard: IEEE 802.1Q
- Maximum number of VLAN: 16 per device

Quality of Service (QoS)
- Standard: IEEE 802.1p
- Maximum number of queues: 2
- Port-based

Port Trunks
- Standard: IEEE 802.3ad
- Max. 4 ports per trunk
- 1 port trunk per device

Configuration/Management Methods
- Web-based configuration
- Windows-based utility
- Configuration reset through software or hardware (reset button)

Configuration/Management Functions
- Port speed/full/half duplex setting
- Port power setting
- Switch auto-discovery

Performance
Switch Fabric
3.2Gbps

Transmission Method
Store-and-forward

MAC Address Table
4K entries per device

MAC Address Learning
Automatic update

Packet Filtering/Forwarding Rates (half duplex)
Maximum 1,488,095 pps per port

RAM Buffer
512KB per device

Physical & Environmental
AC Input
100 to 240 VAC 50/60Hz internal universal power supply

Power Consumption
- Maximum 9 watts per device (without any PoE devices connected)
- Maximum 130 watts per device (when all 8 PoE devices are connected)

Dimensions
440 (W) x 140 (D) x 44 (H) mm
19-inch standard rack mount width, 1 U height

Weight
2.15 kg

Operating Temperature
0° to 55°C

Storage Temperature
-10° to 70°C

Operating Humidity
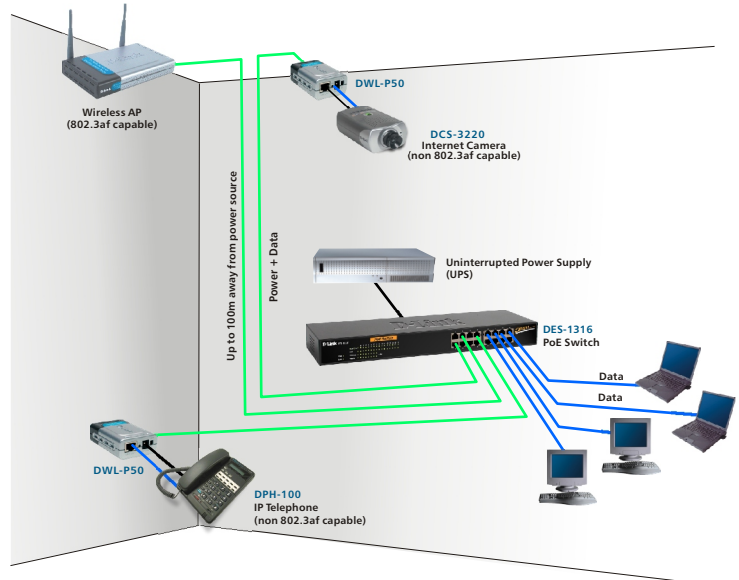10% to 90% RH

Storage Humidity
5% to 90% RH

Emission (EMI)
- FCC Class A
- CE Class A
- VCCI Class A

Safety
- UL
- CUL
- TUV

Ordering Information

PoE 10/100Mbps Smart Switch

DES-1316K	PoE switch kit (1 DES-1316 PoE switch, 2 DWL-P50 PoE adapters)
PoE Injector **DWL-P50**	5VDC/12VDC 802.3af PoE Adapter

D-Link®

	TEL	FAX
U.S.A	TEL: 1-714-885-6000	FAX: 1-866-743-4905
Canada	TEL: 1-905-8295033	FAX: 1-905-8295223
Europe	TEL: 44-20-8731-5555	FAX: 44-20-8731-5511
Germany	TEL: 49-6196-77990	FAX: 49-6196-7799300
France	TEL: 33-1-30238688	FAX: 33-1-30238689
Netherlands	TEL: 31-10-282-1445	FAX: 31-10-282-1331
Belgium	TEL: 32(0)2-517-7111	FAX: 32(0)2-517-6500
Italy	TEL: 39-2-2900-0676	FAX: 39-2-2900-1723
Iberia	TEL: 34-93-4090770	FAX: 34-93-4910795
Sweden	TEL: 46-(0)8564-61900	FAX: 46-(0)8564-61901
Norway	TEL: 47-22-309075	FAX: 47-22-309085
Denmark	TEL: 45-43-969040	FAX: 45-43-424347
Finland	TEL: 358-9-2707-5080	FAX: 358-9-2707-5081
Singapore	TEL: 65-6774-6233	FAX: 65-6774-6322
Australia	TEL: 61-2-8899-1800	FAX: 61-2-8899-1868
Japan	TEL: 81-3-5434-9678	FAX: 81-3-5434-9868
China	TEL: 86-10-8518-2533	FAX: 86-10-8518-2250
India	TEL: 91-022-652-6696	FAX: 91-022-652-8914
Middle East (Dubai)	TEL: 9714-8834234	FAX: 9714-8834394
Turkey	TEL: 90-212-335-2553	FAX: 90-212-335-2500
Egypt	TEL: 202-414-4295	FAX: 202-415-6704
Israel	TEL: 972-9-9715700	FAX: 972-9-9715601
LatinAmerica	TEL: 56-2-232-3185	FAX: 56-2-232-0923
Brasil	TEL: 55-11-55039320	FAX: 55-11-55039321
South Africa	TEL: 27(0)1266-52165	FAX: 27(0)1266-52186
Russia	TEL: 7-095-744-0099	FAX: 7-095-744-0099#350
Taiwan	TEL: 886-2-2910-2626	FAX: 886-2-2910-1515
D-Link Corp.	TEL: 886-2-2916-1600	FAX: 886-2-2914-6299

RECYCLABLE
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