

# Business and Enterprise Solutions

## DES-3828P



**XSTACK™**

## Multilayer Managed Fast Ethernet Switch with 802.3af PoE Stackable 24-Port 10/100Mbps + (2) Combo 1000BASE-T/SFP + (2) 1000BASE-T Switch

### FEATURES

#### High Performance Switching:

- 24 Full Power 802.3af PoE ports
- Stack Up to 32 Units Per Stack using SIM
- Jumbo Frames up to 9K
- IPv6 Aware<sup>1</sup>

#### Advanced Metro Switching:

- 802.1p Priority (8 Queues)
- Double VLAN Tagging<sup>1</sup>
- Bandwidth Control
- QoS based on L2/3/4 DiffServ
- 802.3ad (Link Aggregation)
- 802.1w (Rapid Spanning Tree)
- 802.1s (Multiple Spanning Tree)<sup>1</sup>
- Web-based authentication
- 802.1x Authentication
- 802.1q VLANs (Up to 4000 Groups)
- Guest VLAN<sup>1</sup>
- IP/MAC-Address Binding

#### Advanced Dynamic L3 Routing:

- RIP v1/2
- OSPF/OSPF NSSA<sup>1</sup>
- Multi Path Routing<sup>1</sup>
- DVMRP/RRP
- Multiple IP per VLAN<sup>1</sup>
- Floating Static Route
- Policy Based Routing<sup>1</sup>
- IGMP v1/2/v3<sup>1</sup>
- PIM DM/SM<sup>1</sup>

#### Network Management:

- Console/Telnet/Web GUI
- SNMPv1/v2/v3 / RMON (4 Groups)
- Port Mirroring
- SYSLOG
- SSH, TACACS+, SSL
- ACL L2/L3/L4

For the SMB requiring a cost effective core switching solution, as well as for larger Enterprise and Metropolitan Service Providers (MSP) environments needing a managed, feature rich switch capable of uplinking to backbone switches, the xStack DES-3828P is designed to meet the needs of the most demanding departmental and enterprise connectivity applications. The D-Link xStack DES-3828P Switch is a fully managed Layer 3 switch that provides (24) 10/100Mbps Fast Ethernet ports each capable of up to 16.8 Watts of 802.3af PoE and (2) combo SFP/1000BASE-T Gigabit Ethernet ports. In addition, (2) fixed 1000BASE-T ports in the back-panel can provide a dedicated trunk connection between devices or core switches. The xStack DES-3828P also provides virtual stacking functionality via D-Link SIM technology allowing up to 32 units to be managed via a single IP address. With support for Q-in-Q Double VLAN tagging<sup>1</sup>, IPv6 aware<sup>1</sup>, Dynamic Layer 3 Routing, IEEE 802.1s<sup>1</sup>, and bandwidth control, the xStack DES-3828P incorporates advanced features suitable for the MSP as well as the SMB and Enterprise size network.

#### Metro Switching

Service provider networks are moving from circuit-based access to newer packet-based access that will require highly reliable intelligent switching, and at the same time demand resiliency and dependability. The xStack DES-3828P meets this demand by supporting industry standards for 802.1s<sup>1</sup> (multiple spanning tree), 802.3ad link aggregation for up to 32 groups, bandwidth rate limiting down to 64k, and support for an external redundant power option for added peace of mind. In addition the xStack DES-3828P offers Double VLAN Q-in-Q tagging<sup>1</sup>, which adds on an additional tag to a VLAN tag, expanding the VLAN space and allowing service providers to deploy their service quickly and securely. The xStack DES-3828P also incorporates advanced QoS support such as the ability to filter and forward traffic based on Layer 2/3/4, making it an ideal choice for VoIP, video, and audio services targeting business class customers.

#### Network Security

The xStack DES-3828P is equipped to handle many of today's emerging security vulnerabilities. Up to 800 independent access control lists can be configured with the ability to filter and block traffic based on such criteria as: Port, MAC, 802.1p priority, VLAN, DSCP, IP address, Protocol type, and TCP/UDP port number and content, proving that the xStack DES-3828P provides unparalleled security in its class. In addition the xStack DES-3828P incorporates 802.1x port and MAC based RADIUS authentication for secure network logins and SSH / SSL for increased management security. Further, the xStack DES-3828P incorporates MAC-IP Binding and CPU protection to protect the CPU from broadcast, multicast, and unicast flooding.

<sup>1</sup> Available in future firmware upgrade

## Technical Specifications

<b>Product specifications</b>	
DES-3828P	Managed Layer 2/3/4 Switch with (24) 10/100 Mbps Ports, (2) Combo SFP/1000BASE-T Ports, & (2) Built-in 1000BASE-T Uplinks & 802.3af PoE
Packet Buffer	32MB
MAC address Table	16K
IP Address Table	4K
IP Routing	128 static/ 16k total
Aggregated Bandwidth	12.8Gbps
Transmission Method	Store-and-Forward
Forwarding Rate	14,880pps (10M), 148,800pps (100M), 1,488,000pps (1000M)
VLANs Support	up to 4K static, 255 dynamic 802.1p VLAN Groups
Priority Queues	8 Queues - Strict Priority or Weight Round Robin Queue Scheduling
Classification ACLs	MAC Address, IP Address, TCP/UDP Port Number & payload, physical port, DSCP, 802.1p, VLAN, protocol type
Classification QoS	MAC Address, IP Address, TCP/UDP Port Number, physical port, DSCP, ToS
Multicast Support	IGMP v1/2/3 <sup>1</sup> , IGMP Snooping
Jumbo Frames	up to 9K
Number of IP Interfaces	50
Multicast Duplication	Hardware packet replication on 8 VLANs on FE ports and 32 VLANs on GE ports <sup>1</sup>
Port Security	Supports 16 MAC addresses per port
Broadcast Storm Bandwidth Control	Minimum Granularity: 128pkt/s
MAC-IP Binding	Supports 500 entries per device
CPU Protection	Protect CPU from Broadcast/Multicast/Unicast flooding
CPU Monitoring	utilization via Web/CLI/SNMP. Trap /Logging notification when configurable threshold reached.
0.0.0.0 IP Setting	Prevents device from occupying an IP address

## Interface Options

RJ-45	10BASE-T, 100BASE-TX & 1000BASE-T
LC	With optional Standard Small Form-Factor Pluggable (SFP) Gigabit Transceivers
RPS	Redundant Power Option Via Optional (DPS-600)

## Network Management

In Band & Out of Band	Telnet, CLI/Console, RMON, Web-based HTTP, SNMPv1/v2/v3, Syslog, Port Mirroring, TFTP Client, BootP Client, DHCP Client, IEEE 802.3 Ethernet, 802.3u Fast Ethernet, 802.3ab Gigabit Ethernet, 802.3z Gigabit Ethernet, 802.1d Spanning Tree, 802.1w Rapid Spanning Tree, 802.1p Priority Tags, 802.1q VLANs (4K static/ 255 dynamic), 802.3ad Link Aggregation (32 Groups/8 ports), 802.3x Flow Control, 802.1x Port-based /MAC based Authentication, 802.1s (Multiple Spanning Tree) <sup>1</sup> , 802.3af Power over Ethernet, WRED congestion control, STP loopback prevention <sup>1</sup> , GVRP, Guest VLAN <sup>1</sup> , Per port limit IP multicast address range <sup>1</sup> , Web GUI Traffic Monitoring, Web MAC address Browsing, SNMP Trap on MAC Notification, DHCP Relay Option, DHCP Auto-configuration, Trap/Alarm/Log Severity Control, Dual Image, Dual Configuration, Port Description, Editable Login Banner, Editable System prompt, Virtual Interface/Loopback Interface <sup>1</sup> , CPU Interface Filtering (Software ACL)
IETF	RFC 1157 SNMP, RFC 1112/2236 IGMPv1/2 IGMPv3 <sup>1</sup> , RFC 1757/2021/2819 RMON (4 Groups), RFC 1493 Bridge MIB, RFC 1213 MIB II, RFC 793 TCP, RFC 826 ARP, RFC 854 Telnet, and DiffServ, RFC 1724 RIP v1/2, RFC 1850 OSPF <sup>1</sup> , DVMRP, RFC 2934 PIM-DM, PIM-SM <sup>1</sup> , RFC 2932 Multicast Routing, RFC 2787 VRRP, RFC 2096 IP Forwarding Table, RFC 2618/2620 RADIUS Client, RFC 2863 IF MIB, RFC 2674 802.1p MIB, RFC 2668 802.3 MAU MIB, RFC 2665 ether-like MIB, SSH, SSL, TACACS+

## Electrical & Emissions Summary

Emissions	CE class A, FCC Class A, VCCI Class A, C-Tick Class A
Power Supply	AC Input: 100 - 240 VAC, 50/60 Hz Internal universal power supply
Power Consumption	395.2 Watts
PoE Budget	370 Watts
PoE per port	1-16.8 Watts (user configurable)

## Safety Agency Certifications and Environmental

Safety	CSA International, CB Report
Physical and Environmental Temperature	Operating: 0° - 40° C (32° - 104° F) Storage: -40° - 70° C (-40° - 158° F)
Humidity	Operating: 10% to 85% RH, Non-Condensing Storage: 5% to 95% RH, Non-Condensing

## Physical Specifications

Dimensions (W x D x H)	14.53in x 17.36 x 1.73 (30.90cm x 44.09 x 4.39)
Weight	13.27lbs (6.02kg)

## Warranty and Support Information

Warranty	Limited Lifetime
Support	Free Technical Support

## Ordering Information

<u>Part Number</u>	<u>Description</u>
DES-3828P	Managed Layer 2/3/4 Switch with (24) 10/100Mbps Ports, (2) Combo SFP/1000BASE-T Ports, & (2) Built-in 1000BASE-T Uplinks and 802.3af PoE
DEM-310GT	Mini-GBIC/SFP 1000BASE-LX (up to 10Km)
DEM-311GT	Mini-GBIC/SFP 1000BASE-SX (up to 550m)
DEM-312GT2	Mini-GBIC/SFP 1000BASE-SX+ (up to 2Km)
DEM-314GT	Mini-GBIC/SFP 1000BASE-LH (up to 50Km)
DEM-315GT	Mini-GBIC/SFP 1000BASE-ZX (up to 80Km)
DPS-600	Redundant Power Supply, up to 500 Watts