D-Link
Building Networks for People



DGS-F3000 Series

16 ,12 or 20-Port High-Bandwidth Industrial Managed Gigabit PoE Switch

Features

- Up to 16 10/100/1000 RJ45 ports or 100/1000 BASE-X SFP slots. Plus 4 dedicated 1/10G Uplink SFP slots.
- Up to 8x 802.3af/ 802.3at PoE/PoE+ Power over Ethernet ports, with maximum 30W PoE power per port and up to 240W power budget.
- 128 Gbps High-Performance non-blocking Switching Fabric.
- Redundancy through ITU-T G.8032 ERPS Ring, RSTP, STP, MRP (Client)
- IEEE 1588v2 Precision Time Protocol HW-Based E2E Transparent clock.
- Wide temperature operations, from -40°C to 70°C.
- UL 62368-1:2014, CE/FCC, NEMA TS-2 certified for traffic control applications.
- DNV-GL Marine Application.

Designed to be adaptive, with unprecedented throughput: DGS-F3000 Series offers 24 different versions and 24 making it a very flexible product based on your specific needs. No matter if the 12, 16 or 20 port version, this device offers 4 x 1/10 Gigabit Ethernet SFP uplinks making it a cost-effective, reliable industrial solution where high-throughput and high-reliability is fundamental.

Designed for PoE, in wide temperature: DGS-F3000 Series supports up to 20 Gigabit ports in different configurations, either Copper, PoE or Fiber, any 8-port multiple configuration. Specifically designed for bringing power through Ethernet cable virtually anywhere, a maximum output Power over Ethernet of 240W over a maximum of 8 PoE/PoE+ ports is allowed (802.3af/at).

Rugged, Wide-Temperature, Well protected design: DGS-F3000 Series is EN61000-6-2, EN61000-6-4, IEC/EN/UL62368-1:2014 and FCC certified and is designed to withstand the harshest environments and the most demanding EMC environment. Its fanless design and EMC Level 3 protection guarantee reliable operations within -40 and +70°C, guaranteeing no packet is lost with all ports running full power and makes it suitable to be used for almost every application.

Powerul and versatile: With its high performance, it provides network redundant self-recovery mechanism is less than 20ms on full load that enables the user to build a reliable network through almost any redundant ring topology. DGS-F3000 Series supports ITU-T G.8032 ERPS Ring, IEEE802.1D-2004 RSTP, STP, MSTP, MRP (Client), iA-Ring, iA-Chain and many compatible rings protocols for network redundancy. With a Multifunctional web dashboard, its offers intelligent features such as Quality of service (QoS) per port or per VLAN, VLAN, IGMP, Port mirroring and security.

Application-Specific: NEMA TS-2 certification makes DGS-F3000 Series the perfect choice for Smart City and Traffic Control applications.

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Technical Specifications		
Model Name	DGS-F3000 Series	
Switch Properties		
Priority Queues	8	
VLAN Table	4096	
MAC-Based VLAN	512	
VLAN ID Range	VID 1 to 4094	
Trunk Group	4	
Static IGMP Groups	128	
Dynamic IGMP Groups	256	
MAC Table Size	16K	
Packet Buffer Size	1.5 MB	
Jumbo Frame	9216 Byte	
Ethernet		
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT(X) IEEE 802.3z for 1000BaseX IEEE 802.3ae For 10 Gigabit Ethernet Fiber IEEE 802.3x for Flow Control, back pressure flow control IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1Q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 802.1X for Authentication IEEE 802.3ad for Port Trunk with LACP IEEE 802.3az for Energy Efficient Ethernet	
Protocols	IPv4, IPv6, IGMPv1/v2/v3, IGMP Snooping, GARP, GMRP, GVRP, SNMPv1/v2c/ v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Server/Relay/Client, DHCP Option 66/67/82, BootP, RARP, TFTP, SMTP, SMTP (Gmail), RMON, HTTP, HTTPS, Syslog, MRP (Client),LLDP,802.1x,EAP,RADIUS,TACACS+,Mirror port, QoS, ACL	
Redundancy	ITU-T G.8032 ERPS Ring, STP, RSTP, MSTP, Compatible Ring/Chain, U-Ring	
Time Synchronization	Network Synchronization	NTP Server/Client, SNTP
	Precision Network Synchronization	IEEE1588v1 OC/BC (Software) IEEE1588v2 E2E TC (Hardware) - ns acc. IEEE1588v2 OC/BC (Software)
Automation Profiles	Modbus/TCP device status registers provided	
SNMP MIB	MIB II, IF-MIB, SNMPv2 MIB, BRIDGE-MIB, RMON MIB Group 1,2,3,9, RFC RFC 1157, RFC 1213, RFC 1215, RFC 1493, RFC 1643, RFC 1757, RFC 2011, RFC 2012, RFC 2013, RFC 2233, RFC 2571, RFC 2742, RFC 2819, RFC 2863, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415, RFC 2674	

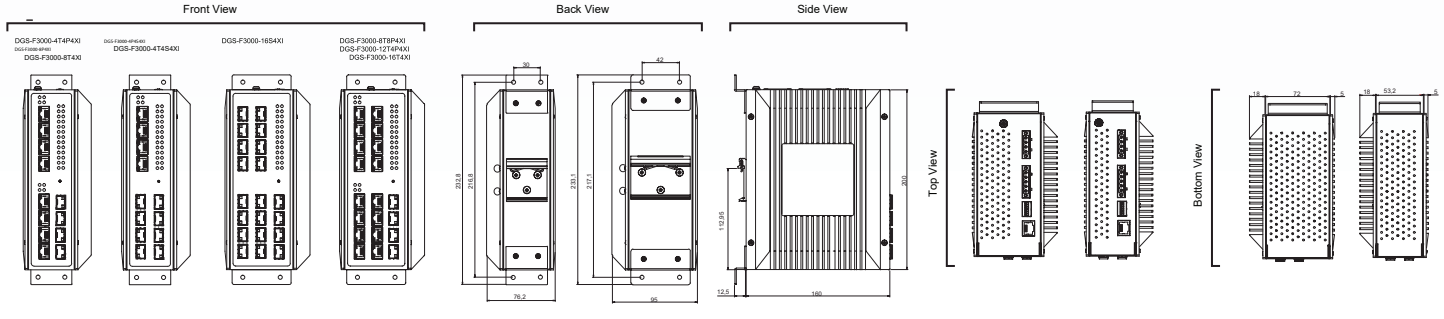
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Power	
Input Voltage	9-57 VDC for Non-PoE models 45-57 VDC for 802.3af mode 51-57 VDC for 802.3at mode
Input Current (System)	Max. 2.2 A @ 12 VDC (without PoE) Max. 3.3 A @ 45 VDC (Support up to 8 ports at 15.4W per PoE port) Max. 5.2 A @ 51 VDC (Support up to 8 ports at 30W per PoE port)
Power Consumption (System)	Max. 26.4 W @ 12 VDC (without PoE) Max. 148.5 W @ 45 VDC (Support up to 8 ports at 15.4W per PoE port) Max. 265.2 W @ 51 VDC (Support up to 8 ports at 30W per PoE port)
Connector Reverse Polarity Protection	5-Pin 5.08mm Lockable Terminal Block Yes
Interfaces	
RJ45 Ports	Up to 16 10/100/1000BASE-T(X) aut o negotiation speed
Fiber Optics Ports	Up to 16 100/1000BASE-X SFP slot plus 4 1000BASE-X or 4 10G SFP slots
LED Indicators	PWR1, PWR2, Alarm, Run, Ring, Ring Master , RJ-45 Link/Speed, SFP Link, PoE
Console	RS232 (RJ45 connector)
Relay Output	2 relay outputs with current carrying capacity of 1A @ 24 VDC
DIP Switches	Ring Control and Profinet Setting
Button	Reset Button
Physical Characteristics	
Housing	IP30 SPCC Metal housing, ruggedized Heat-sink
Dimension (W x H x D)	12 Ports: 76 x 200 x 160 mm; 16-20 Ports: 95 x 200 x 160 mm
Weight	2,500 g
Installation	DIN-Rail, Wall mount (optional kit)
Environmental Limits	
Operating Temperature	-40°C~70°C (-40°F~158°F)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Ambient Relative Humidity	5%~95%, 55°C (Non-condensing)

Dimensions & Layout



Regulatory Approvals				
Safety	UL62368-1, 2nd Ed., CSAC22.2 N. 62368-1-14,NZS62368.1:2018,EN62368-1:2014+A11:2017			
Traffic Control	NEMA TS-2			
EMC	FCC Part 15, Subpart B, Class A EN 55032, EN 55024, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-4,			
DNVGL Maritime	DNV-GL			
Test	**Item**		**Value**	**Level**
IEC 61000-4-2	ESD	Contact Discharge Air Discharge	±6KV ±8KV	3 3
IEC 61000-4-3	RS	80-1000MHz 1.4-2.0GHz 2.0-2.7GHz	10(V/m) 3 (V/m) 10(V/m)	3
IEC 61000-4-4	EFT	AC Power Port DC Power Port Signal Port	±2.0KV ±2.0KV ±1.0KV	3 3 3
IEC 61000-4-5	Surge	DC Power Port DC Power Port Signal Port	Line-to Line±1.0KV Line-to Earth±2.0KV Line-to Earth±2.0KV	3 3 3
IEC 61000-4-6	CS	Conducted	10V rms	3
IEC 61000-4-8	PFMF	Enclosure	30 V/m	4
IEC 61000-4-11	DIP	AC Power Port	-	A
Shock	MIL-STD-810G Method 516.5			
Drop	MIL-STD-810F Method 516.5			
Vibration	MIL-STD-810F Method 514.5 C-1 & C-2			
RoHS II	Yes			
MTBF	20 Years			

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Ordering Information

Model name	10/100/1000 RJ45 (non-PoE)	10/100/ /1000 RJ45 (PoE)	100/ /1000 SFP Slots	1000 SFP Slots	10G SFP Slots
DGS-F3000-8T4XI	8	-	-	-	4
DGS-F3000-4T4S4XI	4	-	4	-	4
DGS-F3000-12T4XI	12	-	-	-	4
DGS-F3000-8T4S4XI	8	-	4	-	4
DGS-F3000-4T8S4XI	4	-	8	-	4
DGS-F3000-12S4XI	-	-	12	-	4
DGS-F3000-16T4XI	16	-	1	-	4
DGS-F300012T4S4XI	12	-	4	-	4
DGS-F3000-8T8S4XI	8	-	8	-	4
DGS-F3000-4T12S4XI	4	-	12	-	4
DGS-F3000-16S4XI	-	-	16	-	4
DGS-F3000-4T4P4XI	4	4	-	-	4
DGS-F3000-4P4S4XI	-	4	4	-	4
DGS-F3000-8P4XI	-	8	-	-	4
DGS-F3000-8T4P4XI	8	4	-	-	4
DGS-F3000-4T4P4S4XI	4	4	4	-	4
DGS-F3000-4P8S4XI	-	4	8	-	4
DGS-F3000-4T8P4XI	4	8	-	-	4
DGS-F3000-8P4S4XI	-	8	4	-	4
DGS-F3000-12T4P4XI	12	4	-	-	4
DGS-F3000-8T4P4S4XI	8	4	4	-	4
DGS-F3000-4P12S4XI	-	4	12	-	4
DGS-F3000-8T8P4XI	8	8	-	-	4
DGS-F3000-4T8P4S4XI	4	8	4	-	4
DGS-F3000-4P4S4XI (Marine)	-	4	4	-	4
DGS-F3000-4T8P4XI (Marine)	4	8	-	-	4