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Building Networks for People

PRODUCT HIGHLIGHTS

Robust Design

High EMC endurance, Fanless design, and wider operating temperature range combined with a IP30 housing to withstand harsh operating environments

Compact Housing

Small form factor design that supports multiple mounting types and PoE support allow the switch to be deployed virtually anywhere

Easy Management

Features a variety of flexible management options including a Web-based UI, Industry-standard CLI, SNMP, and a dedicated RJ-45 Console Port

DGS-F3000 Series
Layer 2 Gigabit Industrial Managed Switches

FEATURES

Robust Design

- IP30-rated Metal Housing
- Fan less, Passive Cooling Design
- High EMC Endurance

Network Redundancy

- Ethernet Ring Protection Switching (ERPS)
- Dual Power Input for Power Supply Redundancy

Switching Features

- IEEE 802.1q and Port based VLAN
- IEEE 802.1p Quality of Service (QoS)
- IEEE 802.3D STP/IEEE 802.3S RSTP/IEEE 802.3W MSTP
- Port Mirroring
- Link Aggregation
- Bandwidth Control
- Broadcast Storm Control

Advanced features

- IGMP/MLD Snooping
- L2 / L3 ACL

The DGS-F3000 Series Layer 2 Gigabit Industrial Managed Switches are equipped with 4/8/12 or 16 x 100/1000BASE-T Ports with or without PoE & up to 4 SFP or 10G SFP+ Ports. These switches feature a robust design, capable of withstanding the harshest environments, making them ideal for deployment in industrial and outdoor cabinet Wireless and Video Surveillance solutions. The DGS-F3000 series switches furthermore integrate advanced management and security functions to provide a complete industrial networking solution.

Durable Design

The DGS-F3000 Series switches are housed in a highly resistant IP30-rated metal casing to protect the switches from harsh environmental conditions. The high electromagnetic compatibility (EMC) protects the DGS-F3000 Series from unwanted effects when operating in environments with strong electromagnetic interference. Meanwhile, the Fanless design extends the life of DGS-F3000 Series switches while also being able to operate in a wider temperature range of up to 70 °C for increased flexibility, the DGS-F3000 Series can also be mounted on a DIN rail or wall mounted.

High Redundancy and Reliability

The DGS-F3000 Series support ERPS with <50ms quick fail over for ring topologies that ensures minimal downtime and avoids any loss of data in mission-critical deployment. Meanwhile, the dual power input allows for a redundant power supply to make sure the network continues to operate in the event of primary power supply failure.

Advanced Features

The DGS-F3000 Series is equipped with advanced security features such as Static MAC, Storm Control, and IGMP Snooping. Static MAC allows users to create a MAC whitelist for specific ports, helping administrators limit network access to authorized devices only. Storm Control monitors broadcast, multicast, or unknown unicast traffic and will start blocking or discarding packets which could flood the network when the defined threshold is exceeded. IGMP Snooping can reduce the load of L3 multicast routers and save bandwidth in network throughput.

Easy Troubleshooting

The DGS-F3000 Series features loopback detection and cable diagnostics to help network administrators find and solve network problems quickly and easily. Loopback detection is used to detect loops created by a specific port and automatically shuts down the affected port. Cable diagnostics helps network administrators quickly examine the quality of the copper cables, recognize the cable type, and detect cable errors.

Power over Ethernet support

The DGS-F3000 series switches are 802.3af PoE & 802.3at PoE+ ready switches (PoE models only) & can provide total PoE budget up to 240W, capable of supplying up to 30 W of power per port to connected PoE-enabled devices. This effectively reduces deployment times, reduces cable clutter, and eliminates the need for dedicated power supplies to allow PoE-devices to be installed in remote locations.

TECHNICAL SPECIFICATIONS

Model Number	DGS-F3000-04TI	DGS-F3000-04PI	DGS-F3000-2T2SI	DGS-F3000-04SI	DGS-F3000-2P2SI
General					
Interfaces	4 x 10/100/1000BASE-T Ports	4 x 10/100/1000BASE-T PoE/PoE+ Ports	2 x 10/100/1000BASE-T & 2 x 1000BASE-X SFP Ports	4 x 1000BASE-X SFP Ports	2 x 10/100/1000BASE-T PoE/PoE+ Ports & 2 x 1000BASE-X SFP Ports
Other Interfaces	1 x RS-232 Console Port (RJ-45) 2 relay outputs with current carrying capacity of 1A @ 24 VDC				
Media Interface Exchange	Auto MDI/MDIX adjustment for all twisted-pair ports				
Other Port Standards & Functions	IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted- pair copper) IEEE 802.3az compliance Auto-negotiation IEEE 802.3x Flow Control IEEE 802.3z				
Duplex Mode	Full/Half-Duplex for 10/100 Mbps Full-Duplex for 1000 Mbps				
Performance					
Switching Capacity	8 Gbps				
MAC Address Table	16K				
Transmission Method	Store-and-Forward				
Packet Buffer Size	1.5MB				
Physical / Environmental					
Diagnostic LED	PWR1, PWR2, Alarm, Run, Ring, Ring Master, Link/Speed, PoE Status				
Weight	800g				
Dimension (W x H x D)	54 x 113 x 145 mm				
Operating Temperature	-40°C ~ 70°C (-4°F - 158°F)				
Storage Temperature	-40°C ~ 85°C (-40°F - 185°F)				
Ambient Relative Humidity	5% ~95%, 55°C (Non-condensing)				
Housing	IP30-rated Metal casing				
Installation	DIN Rail / Wall Mountable				
Power Requirements					
Power Input	12 to 48V DC Redundant Inputs	51 to 57V DC Redundant Inputs	12 to 48V DC Redundant Inputs	12 to 48V DC Redundant Inputs	51 to 57V DC Redundant Inputs
Input Current	1.1A @ 12V DC (Non-PoE)	5.0A @ 51V DC (Support upto 4 Ports at 30W per PoE Port)	1.1A @ 12V DC (Non-PoE)	1.1A @ 12V DC (Non-PoE)	5.0A @ 51V DC (Support upto 2 Ports at 30W per PoE Port)
Reverse Polarity Protection	Yes				

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DGS-F3000 Series Layer 2 Gigabit Industrial Managed Switches

TECHNICAL SPECIFICATIONS

Model Number	DGS-F3000-08TI	DGS-F3000-08PI	DGS-F3000-4T4SI	DGS-F3000-4P4SI
General				
Interfaces	8 x 10/100/1000BASE-T Ports	8 x 10/100/1000BASE-T PoE/PoE+ Ports	4 x 10/100/1000BASE-T & 4 x 1000BASE-X SFP Ports	4 x 10/100/1000BASE-T PoE/PoE+ Ports & 4 x 1000BASE-X SFP Ports
Other Interfaces	1 x RS-232 Console Port (RJ-45) 2 relay outputs with current carrying capacity of 1A @ 24 VDC			
Media Interface Exchange	Auto MDI/MDIX adjustment for all twisted-pair ports			
Other Port Standards & Functions	IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted- pair copper) IEEE 802.3az compliance Auto-negotiation IEEE 802.3x Flow Control IEEE 802.3z			
Duplex Mode	Full/Half-Duplex for 10/100 Mbps Full-Duplex for 1000 Mbps			
Performance				
Switching Capacity	16 Gbps			
MAC Address Table	16K			
Transmission Method	Store-and-Forward			
Packet Buffer Size	1.5MB			
Physical / Environmental				
Diagnostic LED	PWR1, PWR2, Alarm, Run, Ring, Ring Master, Link/Speed, PoE Status			
Weight	800g			
Dimension (W x H x D)	54 x 113 x 145 mm			
Operating Temperature	-40°C ~ 70°C (-4°F - 158°F)			
Storage Temperature	-40°C ~ 85°C (-40°F - 185°F)			
Ambient Relative Humidity	5% ~95%, 55°C (Non-condensing)			
Housing	IP30-rated Metal casing			
Installation	DIN Rail / Wall Mountable			
Power Requirements				
Power Input	12 to 48V DC Redundant Inputs	51 to 57V DC Redundant Inputs	12 to 48V DC Redundant Inputs	51 to 57V DC Redundant Inputs
Input Current	1.1A @ 12V DC (Non-PoE)	5.0A @ 51V DC (Support upto 8 Ports at 30W per PoE Port)	1.1A @ 12V DC (Non-PoE)	5.0A @ 51V DC (Support upto 4 Ports at 30W per PoE Port)
Reverse Polarity Protection	Yes			

TECHNICAL SPECIFICATIONS

Model Number	DGS-F3000-8T4SI	DGS-F3000-4T4P4SI	DGS-F3000-8P4SI
General			
Interfaces	8 x 10/100/1000BASE-T Ports & 4 x 1000BASE-X SFP Ports	4 x 10/100/1000BASE-T PoE/PoE+ Ports, 4 x 10/100/1000BASE-T Ports & 4 x 1000BASE-X SFP Ports	8 x 10/100/1000BASE-T PoE/PoE+ Ports & 4 x 1000BASE-X SFP Ports
Other Interfaces	1 x RS-232 Console Port (RJ-45) 2 relay outputs with current carrying capacity of 1A @ 24 VDC		
Media Interface Exchange	Auto MDI/MDIX adjustment for all twisted-pair ports		
Other Port Standards & Functions	IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted- pair copper) IEEE 802.3az compliance Auto-negotiation IEEE 802.3x Flow Control IEEE 802.3z		
Duplex Mode	Full/Half-Duplex for 10/100 Mbps Full-Duplex for 1000 Mbps		
Performance			
Switching Capacity	24 Gbps		
MAC Address Table	16K		
Transmission Method	Store-and-Forward		
Packet Buffer Size	1.5MB		
Physical / Environmental			
Diagnostic LED	PWR1, PWR2, Alarm, Run, Ring, Ring Master, Link/Speed, PoE Status		
Weight	2500 g		
Dimension (W x H x D)	76 x 200 x 160 mm		
Operating Temperature	-40°C ~ 70°C (-4°F - 158°F)		
Storage Temperature	-40°C ~ 85°C (-40°F - 185°F)		
Ambient Relative Humidity	5% ~95%, 55°C (Non-condensing)		
Housing	IP30-rated Metal casing		
Installation	DIN Rail / Wall Mountable		
Power Requirements			
Power Input	12 to 48V DC Redundant Inputs	51 to 57V DC Redundant Inputs	51 to 57V DC Redundant Inputs
Input Current	1.1A @ 12V DC (Non-PoE)	5.0A @ 51V DC (Support upto 4 Ports at 30W per PoE Port)	5.0A @ 51V DC (Support upto 8 Ports at 30W per PoE Port)
Reverse Polarity Protection	Yes		

TECHNICAL SPECIFICATIONS

Model Number	DGS-F3000-8T4XI	DGS-F3000-8P4XI	DGS-F3000-8T8P4XI	DGS-F3000-12T4XI	DGS-F3000-16T4XI
General					
Interfaces	8 x 10/100/1000BASE-T & 4 x 1/10GbE SFP+ Ports	8 x 10/100/1000BASE-T PoE/PoE+ Ports & 4 x 1/10GbE SFP+ Ports	8 x 10/100/1000BASE-T, 8 x 10/100/1000BASE-T PoE/PoE+ Ports & 4 x 1/10GbE SFP+ Ports	12 x 10/100/1000BASE-T & 4 x 1/10GbE SFP+ Ports	16 x 10/100/1000BASE-T & 4 x 1/10GbE SFP+ Ports
Other Interfaces	1 x RS-232 Console Port (RJ-45) 2 relay outputs with current carrying capacity of 1A @ 24 VDC				
Media Interface Exchange	Auto MDI/MDIX adjustment for all twisted-pair ports				
Other Port Standards & Functions	IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted- pair copper) IEEE 802.3z for 1000Base-X IEEE 802.3ae for 10Gigabit Ethernet Fiber IEEE 802.3az Compliance Auto-negotiation IEEE 802.3x Flow Control				
Duplex Mode	Full/Half-Duplex for 10/100 Mbps Full-Duplex for 1000 Mbps				
Performance					
Switching Capacity	96 Gbps	96 Gbps	112 Gbps	104 Gbps	112 Gbps
MAC Address Table	16K				
Transmission Method	Store-and-Forward				
Packet Buffer Size	1.5MB				
Physical / Environmental					
Diagnostic LED	PWR1, PWR2, Alarm, Run, Ring, Ring Master, Link/Speed, PoE Status				
Weight	2500 g		2500 g		
Dimension (W x H x D)	76 x 200 x 160 mm		95 x 200 x 160 mm		
Operating Temperature	-40°C ~ 70°C (-4°F - 158°F)				
Storage Temperature	-40°C ~ 85°C (-40°F - 185°F)				
Ambient Relative Humidity	5% ~95%, 55°C (Non-condensing)				
Housing	IP30-rated Metal casing				
Installation	DIN Rail / Wall Mountable				
Power Requirements					
Power Input	12 to 48V DC Redundant Inputs	51 to 57V DC Redundant Inputs	51 to 57V DC Redundant Inputs	12 to 48V DC Redundant Inputs	12 to 48V DC Redundant Inputs
Input Current	1.1A @ 12V DC (Non-PoE)	5.0A @ 51V DC (Support upto 8 Ports at 30W per PoE Port)	5.0A @ 51V DC (Support upto 8 Ports at 30W per PoE Port)	1.1A @ 12V DC (Non-PoE)	1.1A @ 12V DC (Non-PoE)
Reverse Polarity Protection	Yes				

Software Features

Protocol Support	IPv4 / IPv6, IGMP v1/v2/v3, MLD v1/v2, DHCP Server / Client / Relay, GARP, GVRP, LACP, NTP, SNTP, IEEE 1588 PTPv2, 802.1X, EAP, TACACS+, SMTP, SNMP v1/v2/v3, RMON, TFTP, ICMP, Telnet, Syslog, LLDP, Pingv6 IP v6 management feature on open standards
VLAN	802.1Q VLAN (512 Active VLANs) Port based VLAN Protocol based VLAN IP Subnet based VLAN MAC based VLAN
QoS	802.1p, COS 8 Priority Queues, Rate limiting, 8 egress queues per port, DSCP for Port based & IP based, Differentiated services architecture, Queue Handling – Strict, Weighted Round Robin, WRR scheduling, Deficit Weight Round Robin
Security	IEEE 802.1X Port based authentication, TACACS+, Radius, SSL/SSH Layer 2 and Layer 3 ACL, DHCP Snooping

Standards / Certifications / Compliance

Safety	UL 60950-1 2nd Ed. / CSA C22.2 No. 60950-1-07 2nd Ed. / EN 60950-1 / CB
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
Traffic Control	NEMA-TS2
EMS	IEC 61000-4-2 ESD IEC 61000-4-3 RS IEC 61000-4-4 EFT IEC 61000-4-5 Surge IEC 61000-4-6 CS IEC 61000-4-8 PFMF IEC 61000-4-11 DIP
Shock	MIL-STD-810G Method 516.5
Vibration	MIL-STD-810F Method 514.5 C-1 & C-2
Freefall	MIL-STD-810F Method 516.5
Environmental	RoHS II
MTBF	175200 Hours

ORDERING INFORMATION

Product Code	Description
DGS-F3000-04TI	4 Ports Industrial Gigabit Managed Ethernet Switch 4 x 10/100/1000 Mbps Ports, -40 to 70 °C Operating Temperature
DGS-F3000-04PI	4 Ports Industrial Gigabit Managed Ethernet Switch 4 x 10/100/1000 Mbps PoE/PoE+ Ports, -40 to 70 °C Operating Temperature
DGS-F3000-2T2SI	4 Ports Industrial Gigabit Managed Ethernet Switch 2 x 10/100/1000 Mbps Ports, 2 x 1000BASE-X SFP Ports, -40 to 70 °C Operating Temperature
DGS-F3000-04SI	4 Ports Industrial Gigabit Managed Ethernet Switch 4 x 1000BASE-X SFP Ports, -40 to 70 °C Operating Temperature
DGS-F3000-2P2SI	4 Ports Industrial Gigabit Managed Ethernet Switch 2 x 10/100/1000 Mbps PoE/PoE+ Ports, 2 x 1000BASE-X SFP Ports, -40 to 70 °C Operating Temperature
DGS-F3000-08TI	8 Ports Industrial Gigabit Managed Ethernet Switch 8 x 10/100/1000 Mbps Ports, -40 to 70 °C Operating Temperature
DGS-F3000-08PI	8 Ports Industrial Gigabit Managed Ethernet Switch 8 x 10/100/1000 Mbps PoE/PoE+ Ports, -40 to 70 °C Operating Temperature
DGS-F3000-4T4SI	8 Ports Industrial Gigabit Managed Ethernet Switch 4 x 10/100/1000 Mbps Ports, 4 x 1000BASE-X SFP Ports, -40 to 70 °C Operating Temperature
DGS-F3000-4P4SI	8 Ports Industrial Gigabit Managed Ethernet Switch 4 x 10/100/1000 Mbps PoE/PoE+ Ports, 4 x 1000BASE-X SFP Ports, -40 to 70 °C Operating Temperature
DGS-F3000-8T4SI	12 Ports Industrial Gigabit Managed Ethernet Switch 8 x 10/100/1000 Mbps Ports, 4 x 1000BASE-X SFP Ports, -40 to 70 °C Operating Temperature
DGS-F3000-4T4P4SI	12 Ports Industrial Gigabit Managed Ethernet Switch 4 x 10/100/1000 Mbps Ports, 4 x 10/100/1000 Mbps PoE/PoE+ Ports, 4 x 1000BASE-X SFP Ports, -40 to 70 °C Operating Temperature
DGS-F3000-8P4SI	12 Ports Industrial Gigabit Managed Ethernet Switch 8 x 10/100/1000 Mbps PoE/PoE+ Ports, 4 x 1000BASE-X SFP Ports, -40 to 70 °C Operating Temperature
DGS-F3000-8T4XI	12 Ports Industrial Gigabit Managed Ethernet Switch 8 x 10/100/1000 Mbps Ports, 4 x 1/10GbE SFP+ Ports, -40 to 70 °C Operating Temperature
DGS-F3000-8P4XI	12 Ports Industrial Gigabit Managed Ethernet Switch 8 x 10/100/1000 Mbps PoE/PoE+ Ports, 4 x 1/10GbE SFP+ Ports, -40 to 70 °C Operating Temperature
DGS-F3000-12T4XI	16 Ports Industrial Gigabit Managed Ethernet Switch 12 x 10/100/1000 Mbps Ports, 4 x 1/10GbE SFP+ Ports, -40 to 70 °C Operating Temperature
DGS-F3000-16T4XI	20 Ports Industrial Gigabit Managed Ethernet Switch 16 x 10/100/1000 Mbps Ports, 4 x 1/10GbE SFP+ Ports, -40 to 70 °C Operating Temperature
DGS-F3000-8T8P4XI	20 Ports Industrial Gigabit Managed Ethernet Switch 8 x 10/100/1000 Mbps Ports, 8 x 10/100/1000 Mbps PoE/PoE+ Ports, 4 x 1/10GbE SFP+ Ports, -40 to 70 °C Operating Temperature
NRA-DINRP-1U	Rack Mount DIN RAIL Panel, 1U, 200m Depth

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