NETGEAR®

GS750E Smart Managed Plus

#1 IN WEB/SMART SWITCHES¹

¹In Worldwide Market Share according to IHS Infonetics, December 2016

Go Beyond Network Connectivity with Easy Management

Today's growing businesses demand and rely more on their network to carry out mission critical business activities. Companies are putting more network traffic and applications on their Ethernet infrastructure. For example, the increasing deployments of VoIP phones and IP cameras require more than simple plug-and-play connectivity. It needs the network intelligence to separate the voice and video traffic from data, and prioritize them accordingly.

Smart Managed Plus Switches meet this growing need by providing fundamental network features that will help optimize the performance of business networks. Smart Managed Plus Switches also offer traffic monitoring for users to observe traffic behavior. If there are connectivity issues, these switches can identify and even locate connection problems via cable diagnostic test. To optimize traffic through the switches, Smart Managed Plus Switches offer both port and tag-based prioritization to keep latency-sensitive traffic moving ahead of less critical packets. Also, Smart Managed Plus Switches offer port and 802.1Q-based VLAN as a means of improving security and network performance.

Smart Managed Plus Switches are an upgrade from the plug-and-play Unmanaged Switch, delivering great value for empowering your network, delivering great value to the end user.

Highlights

Hardware Highlights

- 48- Port Gigabit
- 2 -Port SFP for fibre uplinks
- Rack-mount or Desktop
- Internal power supply to eliminate power brick
- No fan for silent operation
- 50°C Maximum Operating Temperature

Software Highlights

- VLAN support for traffic segmentation
- Quality of Service (QoS) for traffic prioritization
- Auto "denial-of-service" (DoS) prevention
- Link Aggregation to add redundancy and increase your network speed
- Loop prevention and broadcast storm controls
- IGMP snooping v1, v2 and v3 support for multicast optimization
- Rate limiting for better bandwidth allocation
- Port mirroring for network monitoring
- Jumbo frame support
- Energy Efficient Ethernet (IEEE802.3az) support for maximum power savings
- Troubleshoot connection issues via cable test

Industry Leading Warranty

- LIFETIME 24/7 Technical Support
- LIFETIME Next Business Day Replacement
- LIFETIME Hardware Warranty*

LIFETIME WARRANTY Hardware Warranty   **LIFETIME WARRANTY** Next Business Day   **LIFETIME** Tech Support

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GS750E Smart Managed Plus

Hardware at a Glance

Model Name	Form-Factor	10M/100M/1G Copper Ports	Internal Power Supply	1G SFP Ports	LED's	Case Material	Fans
GS750E	Rackmount/Desktop	48	Yes	2	Power, Port Link/Speed/Activity	Metal	Fanless

- 48 x Gigabit Copper Ports
- 2 x SFP Ports

- Internal PSU

Software at a Glance

LAYER 2 FEATURES							
Management	VLANs	QoS	Port Trunking (Manual LAG)	IP Multicast Filtering	Rate Limiting & Priority Queueing	Jumbo Frame Support	IEEE (802.3az) Energy Efficient Ethernet
Web Browser-based GUI (HTTP), PC-Based ProSAFE Plus Utility	Port-based, IEEE 802.1Q-based, Voice VLAN, Video VLAN	Port-based, IEEE 802.1p/DSCP-based	Static LAG and LACP	IGMP Snooping	Yes	Yes	Yes

## Performance at a Glance

Model Name	Fabric	Packet buffer	Latency (Max Connection Speed)	VLANS	MAC Address Table VLANs	Priority Queues	Multicast IGMP Group	Packet Forwarding Rate (64 byte)	Jumbo Frames (bytes)
GS750E	100Gbps line-rate	1.5MB	10Mbps: <32μs 100Mbps: <6μs 1000Mbps: <4μs	4K	16K Entries (dynamic)	8 (WRR)	128	11.9 Mfps	up to 9K

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Features at a glance

HARDWARE FEATURES	BENEFITS
Rackmount form factor with fanless design	Adapts to your needs and configuration in any environment, even noise-sensitive (in a classroom, in a conference room, in a doctor's office…)
50°C Maximum Operation Temperature	Built with top quality components that allows the switch to work in small IT cabinets.
100Gbps non-blocking switching architecture	Get all the connectivity you need to your devices without congestion.
2 extra active SFP ports to be used as a fiber uplinks	Add fiber to your network to avoid any interference.
SOFTWARE FEATURES	BENEFITS
Port-based and 802.1Q-based VLANs	Segment network into smaller groups for more secure and efficient use of network resources.
Comprehensive QoS features: • Port-based or 802.1p-based prioritization • Layer 3-based (DSCP) prioritization • Port-based ingress and egress rate limiting	Advanced controls for optimized network performance and better delivery of mission-critical traffic such as voice and video. Ingress and egress rate limiting allows for bandwidth shaping for mitigating network resources constraints or for optimizing guest access bandwidth on the network.
IGMP Snooping	For improved network efficiency on delivering multicast traffic. Save cost and improve network efficiency by ensuring multicast traffic only reaches designated receivers without the need of an extra multicast router.
Port trunking / Link Aggregation	Build up bigger bandwidth to support aggregated uplink/downlink traffic or to provide redundant link(s) using Static Manual LAGs or LACP.
Voice VLAN	The feature enables auto assignment of voice traffic (based on OUI) to a special VLAN (AKA Voice VLAN); allowing the assignment of special QoS parameters to that traffic, giving it high priority services. Port has to be MANUALLY assigned to be a member of the Voice VLAN.
Loop prevention and auto DoS prevention	Detect and prevent accidental network loops and protect against DoS attacks.
Port Mirroring	For better and quicker network diagnostics and troubleshooting.
Energy Efficient Ethernet (IEEE 802.3az)	For maximum power savings and reduced energy costs.
Cable Test	Easily identify bad Ethernet cables.

Example Application

GS750E in a Business Environment
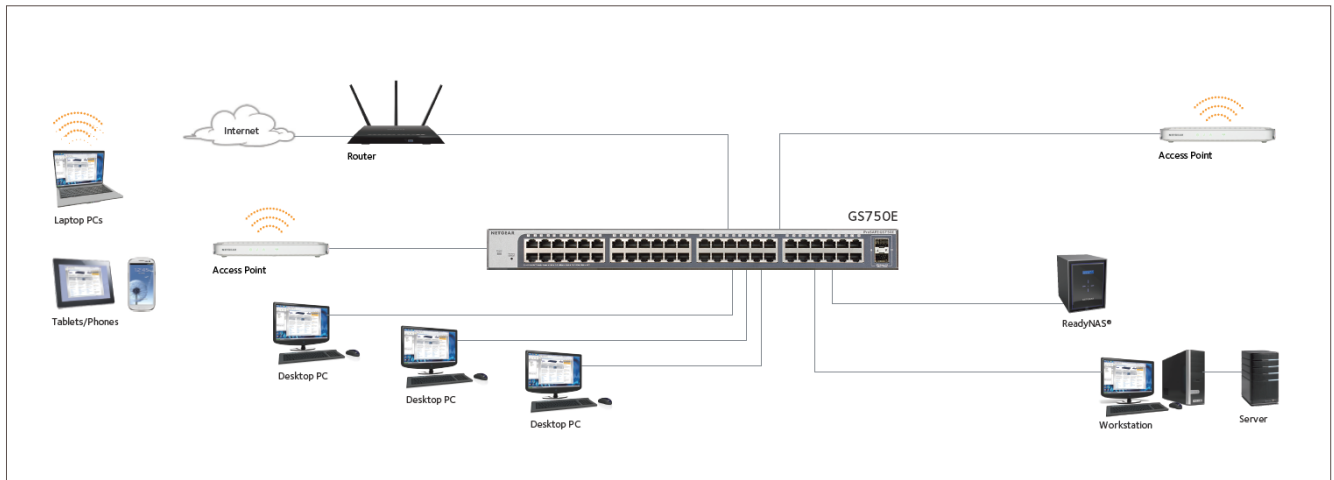
Why Smart Managed Plus Switches from NETGEAR?

Why the NETGEAR Smart Managed Plus Switch is the ideal upgrade from Unmanaged Switches for SMB networks:

1. Visibility to identify any possible cable issues or abnormal traffic behavior with cable health test and port statistics.

2. Security to protect the SMB networks for possible threats thanks to Auto DoS and Storm Control.

3. Enhanced Control to improve your network performance with VLAN, QoS and Multicast Support.

4. Reliability, to assure that the SMB networks are up and running we introduced Link Aggregation and Loop Prevention to minimize possible downtimes

5. Lifetime limited warranty and lifetime support chat

Technical Specifications

PRODUCT	GS750E
100M/1G/10G RJ-45 copper ports	48
1G SFP ports	2 SFP
PERFORMANCE SPECIFICATION	
Packet buffer memory (Dynamically shared across only used ports)	1.5MB
Forwarding modes	Store-and-forward
Bandwidth	100 Gbps
Priority queues	8
Priority queuing	Weighted Round Robin (WRR)
MAC Address database size (48-bit MAC addresses)	16K
Multicast groups	128
Number of VLANs	4K
Packet forwarding rate (64 byte packet size) (Mfps or Mpps)	11.9 Mfps
Speed / Latency	10Mbps: <32μs 100Mbps: <6μs 1000Mbps: <4μs
Jumbo frame support	Up to 9K packet size
Acoustic noise level @ 25°C (dBA) (ANSI-S10.12)	Fanless
Mean Time Between Failures (MTBF) @ 25°C	1,031,177 hours
L2 SERVICES - VLANS	
IEEE 802.1Q VLAN tagging	Yes
Port-based VLANs (physical)	Yes
L2 SERVICES - AVAILABILITY	
Broadcast, multicast, unknown unicast storm control	Yes
Static Manual LAGs (Port Trunking)	Yes
LACP	Yes
IEEE 802.3x (full duplex and flow control)	Yes
L2 SERVICES - MULTICAST FILTERING	
IGMP snooping (v1, v2 and v3)	Yes
IGMP snooping querier	No
Block unknown multicast	Yes
IGMP snooping router port	Yes
L3 SERVICES - DHCP	
DHCP client	Yes
LINK AGGREGATION	
Static Manual LAGs (Port Trunking)	Yes
LACP	Yes
# of Static or LACP LAGs # of Members in each LAG	8 LAGs with max 8 members in each LAG

PRODUCT	GS750E
NETWORK MONITORING AND DISCOVERY SERVICES	
Broadcast, multicast, unknown unicast storm control	Yes
DoS attacks prevention	Yes
QUALITY OF SERVICE (QOS)	
Port-based rate limiting	Ingress and egress
Port-based QoS	Yes
IEEE 802.1p COS	Yes
IPv4 DSCP	Yes
IPv4 ToS	Yes
TCP/UDP-based	No
Weighted Round Robin (WRR)	Yes
Strict priority queue technology	No
Voice VLAN	Yes
IEEE STANDARDS SUPPORTED	
• IEEE 802.3 Ethernet • IEEE 802.3u 100BASE-TX • IEEE 802.3ab 1000BASE-T • IEEE 802.1Q VLAN Tagging • IEEE 802.3x Full-Duplex Flow Control • IEEE 802.1p Class of Service • IEEE 802.3az Energy Efficient Ethernet (EEE)	
MANAGEMENT	
Password management	Yes
Web browser-based graphical user interface (GUI)	Yes
ProSAFE Plus Configuration Utility (PCU) for multi-switch management	Yes
Firmware upgrade	TFTP (Plus Utility) / HTTP (Web GUI)
Config file transfers (backup, restore)	Plus Utility or Web GUI
Firmware upgrade through Plus Utility (TFTP)	Yes
Config download (to switch) through Plus Utility	Yes
Config upload (to server) through Plus Utility	Yes
Firmware upgrade through web GUI (HTTP)	Yes
Config download (to switch) through web GUI (HTTP)	Yes
Config upload (to server) through web GUI (HTTP)	Yes
Cable test utility	Yes
LEDS	
Per port	Speed, Link, Activity
Per device	Power
PHYSICAL SPECIFICATIONS	
Dimensions (W x D x H)	440 x 204 x 43 mm (17.3 x 8 x 1.7 in)
Weight	3.25 kg (7.17 lb)

PRODUCT	GS750E
POWER CONSUMPTION	
Power Supply	Fixed internal PSU, 100-240VAC, 50-60Hz, 1A max Power cord localized to country of sale
Max power (worst case, all ports used, line-rate traffic) (Watts)	30.0W
Min power (link-down standby) (Watts)	11.38W
Heat Dissipation (max and min) (BTU/hr)	Max: 102.7 BTU/hr Min: 38.9 BTU/hr
Energy Efficient Ethernet (EEE) IEEE 802.3az	Yes
Short cable power reduction	Yes
Auto power-down	Yes
Fan(s)	Fanless
ENVIRONMENTAL SPECIFICATIONS	
Operating	
Operating temperature	0° to 50°C (32° to 122°F)
Humidity (relative)	90% maximum relative humidity (RH), non-condensing
Altitude	10,000ft (3,000m) maximum
Storage	
Storage temperature	−20° to 70°C (− 4° to 158°F)
Humidity (relative)	95% maximum relative humidity, non-condensing
Altitude	10,000ft (3,000m) maximum
ELECTROMAGNETIC EMISSIONS AND IMMUNITY	
Certifications	47 CFR FCC Part 15, SubpartB, ClassB ICES-003:2016 Issue 6, ClassB ANSI C63.4:2014
	EN 55022:2010 + AC:2011, Class A EN 55024:2010 EN 61000-3-2:2014, Class A EN 6100-3-3:2013
	AS/NZS CISPR 22:2009 + A1:2010, Class B
	VCCI V-3/2015.04, Class A V-4/2012.4
	Russia EAC mark
	Korea KC mark
	CNS 13438
Electromagnetic Compliance (Class A or B)	Class A

PRODUCT	GS750E
SAFETY	
Certifications	CB mark, commercial IEC 60950-1:2005(ed.2) + A1:2009 + A2:2013
	UL/cUL Listed (UL 60950-1)/CAN/CSA C22.2 No. 60960-1-07
	EN 60950-1: 2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013
	IEC 60950-1:2005 (ed.2)+A1:2009+A2:2013
	AN/NZS 60950.1:2015
	Russia EAC mark
WARRANTY AND SUPPORT	
ProSAFE Lifetime Warranty	
Lifetime 24x7 Online Technical Support*	
Lifetime Next-Business-Day (NBD) Replacement	
ProSUPPORT OnCall 24x7, Service Packs**	Category 1: PMB0311 (1 yr.), PMB0331 (3 yrs.), PMB0351 (5 yrs.)

Ordering Information

PACKAGE CONTENT	
All Models	48-Port Gigabit Smart Managed Plus Switch with 2-Port SFP (GS750E)
	Power cord (localized to country of sale)
	Rack-mounting kit
	Quick install guide
	Resource CD with installation guide, ProSAFE Plus utility software and links to additional online documentation including the Web browser-based management GUI User Manual and datasheet.
ORDERING INFORMATION	
GS750E-100NAS	North America and Latin America
GS750E-100EUS	Europe and United Kingdom
GS750E-100AJS	Asia Pacific and Australia
OPTIONAL MODULES AND ACCESSORIES	
AGM731	SFP Transceiver 1000BASE-SX (Short range, multimode)
AGM732F	SFP Transceiver 1000BASE-LX (Long range, single mode)
AGM734	SFP Transceiver 1000BASE-T Copper RJ45 GBIC

* This product comes with a limited warranty that is valid only if purchased from a NETGEAR authorized reseller, and modifications to product may void the warranty; covers hardware, fans, and internal power supplies - not software or external power supplies; see http://www.netgear.com/about/warranty/ for details. Lifetime technical support includes basic phone support for 90 days from purchase date and lifetime online chat support when purchased from a NETGEAR authorized reseller.

** The NETGEAR OnCall 24x7 contract provides unlimited phone and email technical support for your networking product. For ProSAFE products purchased prior to 06/2014, also includes next business-day hardware replacement.

† NETGEAR #1 in Fixed Web(Smart)-Managed Worldwide Market Share according to IHS Infonetics Ethernet Switches Market Share and Forecast, 1Q17 Edition, Dec 2016.

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