

The NETGEAR® new generation of Gigabit PoE/PoE+ Smart Switches offers powerful L2 and L2+ features, better PoE functions, and enhanced performance and usability. They are purposely designed for the converged networks where voice, video, data are all carried on a single network platform for network efficiency, operational cost savings, and ease of management. There are four products in this series, 16/28/52-port Gigabit with PoE and a 28-port Gigabit with PoE Plus. GS516TP is the Smart Switch with PoE/PD features. It can work as PD device that can get power from other PSE device through port 15 or/and port 16. Meanwhile, it can also deliver power to other PDs that are connected to its PoE ports (port 1 to 8). GS728TP and GS752TP are Gigabit PoE/PoE+ Smart Switches that come with PoE capabilities on all ports and supports PoE+ with up to 30W of power budget on the first 8 ports, providing hardware investment protections so that the switch can support many more PoE powered devices and new higher-powered devices down the road. With the 2nd Generation, also comes the addition of high-powered PoE+ Smart Switch into the portfolio. The GS728TPP comes with 24 PoE+ ports and a total PoE power budget of 384w. It can be used in any deployment with high-density of power-hungry devices, such as multiple 11ac Wireless Access Point, PTZ cameras and Video IP phones. All switches come with 4 dedicated Gigabit SFP ports for fiber connectivity. The new generation of Gigabit PoE/PoE+ Smart Switch from NETGEAR is the optimized solution providing the best value at an affordable SMB price point.

Highlights

Designed for Converged Network, Big or Small

- Gigabit Speed with all ports capable of support either PoE or PoE+
- Auto Voice VLAN for fast and reliable deployment of VoIP
- Auto Video VLAN, following the same concept of Auto Voice, help speed up your deployment of IP-based surveillance system
- Static routing, helps to route internal traffic for more efficient use of network resources
- IGMP and MLD snooping, providing advanced multicast filtering

Build a future-proof network with NETGEAR

- Solid performance with non-blocking architecture, 8K MAC addresses, 256 VLANs, 480 shared ACL entries, 32static routes, and 1,024 Multicast Groups
- Comprehensive IPv6 supporting management, QoS and ACL, ensuring investment protection and a smooth migration to IPv6-based network
- PoE+ support on all models with GS728TPP support PoE+ on all ports, providing flexibility in the future to add power-hungry devices such as video phone, PTZ camera and 11ac Wireless APs into the network

- 4 Dedicated SFPs, not only providing fiber uplinks, but also uplink redundancy and failover, improving reliability and availability for network virtualization
- Energy Efficient Ethernet (IEEE802.3az) support for more energy saving in the future when more EEE-compliant end devices come to market
- Advanced QoS with IPv4/IPv6 ingress traffic filtering (ACLs) and prioritization (QoS - DiffServ)
- Dynamic VLAN assignment for easy user authentication and location-independent access to network

Network Development Made Easy

- Auto Voice VLAN for easy development of VoIP
- Auto Video for simple deployment of IP Surveillance
- ACL Wizard for a guided tour to set up your network access control
- Smart Control Center, a powerful tool for multi-switch discovery, deployment, monitoring and firmware upgrade

- PoE Timer for scheduling on/off time of your PoE powered devices.
- With PD and PoE capability on the same device, GS516TP make network switch deployment truly free from AC power outlet. It provides maximum flexibility for network build-up, modifications and re-layout.

Smart IT, not Big IT

- Easy to manage via web-Based Management GUI or Smart Control Center for multi-switch deployment
- Standard-based technology, ensuring interoperability with any standard-based devices in the existing network
- Dual firmware images, improving reliability and uptime to your network
- Worry-free with NETGEAR ProSAFE Lifetime Hardware Warranty
- Assist with customer deployment with 1-year Free 24x7 Advanced Technical Support*



Hardware at a Glance

Model Name	Form-Factor	FRONT			REAR			
		10/100/1000Base-T RJ45 ports	100/1000X Fiber SFP ports	PoE 802.3af PoE+ 802.3at	Power Supply	EPS (connector)	PoE budget (PSU/Passthrough)	PoE budget (with EPS)
GS516TP	Rackmount	16	0	8 PoE 802.3af	Internal	-	76W (up to 22W)	-
GS728TP	Rackmount	24	4 (Dedicated)	24 PoE 802.3af of which first 8 are PoE+ 802.3at	Internal	-	192W	-
GS728TPP	Rackmount	24	4 (Dedicated)	24 PoE+ 802.3at	Internal	1	384W	Up to 720W
GS752TP	Rackmount	48	4 (Dedicated)	48 PoE 802.3af of which first 8 are PoE+ 802.3at	Internal	-	384W	-



GS516TP: 16-port 1000Base-T Gigabit PoE Smart Switch with PD

- 8 PoE ports
- Up to 76W PoE budget
- PoE and PD capability operational at the same time



GS728TP: 24-port 1000Base-T Gigabit PoE Smart Switch

- 4 dedicated SFP ports
- 24 PoE ports with first 8 port supporting PoE+
- 192W PoE budget



GS728TPP: 24-port 1000Base-T Gigabit PoE Smart Switch

- 4 dedicated SFP ports
- 24 PoE+ Ports
- 384W PoE budget and up to 720W with EPS



GS752TP: 48-port 1000Base-T Gigabit PoE Smart Switch

- 4 dedicated SFP ports
- 48 PoE Ports
- 384W PoE budget

Software at a Glance

Management	IPv4 / IPv6 Multicast filtering	Auto-VoIP	EEE (802.3az) Auto-EEE	VLANs	Convergence
Web GUI: HTTPs; RMON SNMP	IGMP and MLD Snooping	Yes	Yes	Static, Voice Video, MAC, Protocol-based, Private VLANs	LLDP-MED, RADIUS, 802.1X, PoE timer

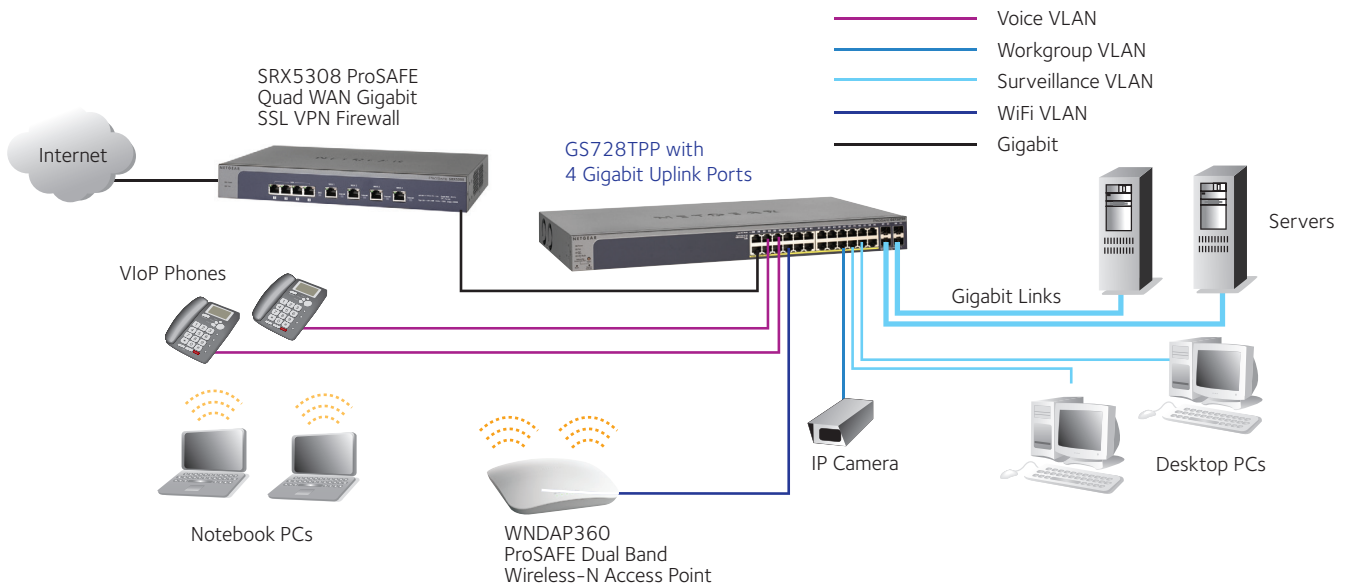
Performance at a Glance

Model Name	Packet buffer	ACLs	MAC address table VLANs Multicast Group	Fabric	Static Routes IP interfaces
GS516TP/GS728TP/ GS728TPP/GS752TP	8Mb	480 shared ACLs (MAC, IP4 and IPv6)	8K MAC 256 VLANs 1,024 Multicast Groups	Up to 1000Gbps all models line-rate	32 static routes IPv4

Features at a glance

HARDWARE FEATURES	BENEFITS
PoE-capable on all 24 and 48 Gigabit ports	Support high-density VoIP, Surveillance and WiFi AP deployments, scalable for future growth. Never face the risk of running out of PoE ports.
8 IEEE 802.3at PoE Plus ports	Flexible to add enough high-end and/or high-powered PoE devices such as video phones, PTZ cameras and 11ac Wireless Access Points in the future via the same existing switch that is used to power normal VoIP phones.
4 Dedicated SFP Fiber uplinks	Dedicated SFP ports provides fiber uplinks without sacrificing any downlink Gigabit port. 4 SFP ports provide not only redundant uplinks, but can also build dual redundancy by a trunked uplink with link aggregation and failover, the dual-redundancy, a powerful design for network virtualization.
24 PoE+ ports on GS728TPP with optional External power supply to reach PoE buget of 720W	Powerful PoE+ Switch for high-end power-hungry PoE deployment. Better value at a fractional price of the Full Managed PoE+ switches.
2 PD ports along with PoE capability on 16 Gigabit port model	2 PD ports for flexible network deployment and expansion without the constraints of AC power outlet. Additional PoE capability while being a PD device enable this switch to further power end devices such as IP phones, IP cameras and wireless access points.
SOFTWARE FEATURES	BENEFITS
Dynamic VLAN Assignment	IP phones and PCs can authenticate on the same port but under different VLAN assignment policies. Users are free to move around and enjoy the same level of network access regardless of their physical location in the network.
Static Routing	A simple way to provide segmentation of the network with internal routing through the switch – reserving the router for external traffic routing only, making the entire network more efficient.
Comprehensive IPv6 Support for management, ACL and QoS	Build current network with future in mind. Ensure investment protection and a smooth migration to IPv6-based network without switch replacement.
IGMP Snooping and MLD Snooping	Facilitate fast receiver joins and leaves for multicast streams. Save cost and improve network efficiency by ensuring multicast traffic only reaches designated receivers without the need of an extra Multicast router.
Robust security features: <ul style="list-style-type: none"> • 802.1x authentication • DHCP Filtering • Port-based security by locked MAC • ACL filtering to permit or deny traffic based on MAC and IP addresses 	Build a secured, converged network with all types of traffic by preventing external attacks and blocking malware while allowing secure access for authorized users.
Auto Voice and Auto Video	Automatic Voice over IP prioritization with Auto-VoIP simplifies most complex multi-vendor IP telephone deployments either based on protocols (SIP, H323 and SCCP) or on OUI bytes (default database and user-based OUIs) in the phone source MAC address; providing the best class of service to VoIP streams (both data and signaling) over other ordinary traffic by classifying traffic, and enabling correct egress queue configuration. When deployed IP phones are LLDP-MED compliant, the Voice VLAN will use LLDP-MED to pass on the VLAN ID, 802.1P priority and DSCP values to the IP phones, accelerating convergent deployments.
Comprehensive QoS features: <ul style="list-style-type: none"> • 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.
DHCP Snooping	Ensure IP address allocation integrity by allowing only clients with specific IP/MAC addresses to have access to the network.
Dual firmware Images and configuration files	Dual firmware image and dual configuration file for transparent firmware updates/configuration changes with minimum service interruption.
PoE Timer	Allows IT administrators to increase network security, better utilize network resources and conserve energy by scheduling or remotely controlling on/off of PoE ports.
Protected Ports	Ensure no exchange of unicast, broadcast, or multicast traffic between the protected ports on the switch, therefore, improve the security of your converged network where your sensitive phone conversation can stay private and your surveillance video clips can be forwarded to their designated storage device without leakage or alteration.





Converged Network Application



The latest generation of Gigabit PoE/PoE+ Smart Switches from NETGEAR are the right choice for the converged networks at SMBs and offer the best return on your investment.

- Well-staged for future network upgrade with Gigabit to desktop and PoE+ support
- Cost-effectively bring intelligence to the edge of the network with traffic management features from the Smart Switches
- Improved usability for easier and smoother deployment of voice, video and WLAN on the same converged platform
- Lifetime warranty and 1-year Free Advanced Tech Support for peace-of-mind

Technical Specifications

PRODUCT	GS516TP	GS728TP	GS728TPP	GS752TP
				
Interfaces	16 10/100/1000 Mbps auto-sensing Gigabit-Ethernet switching ports	24 10/100/1000 Mbps auto-sensing Gigabit-Ethernet switching ports, and four dedicated 1000M SFP fiber ports.	24 10/100/1000 Mbps auto-sensing Gigabit-Ethernet switching ports, and four dedicated 1000M SFP fiber ports.	48 10/100/1000 Mbps auto-sensing Gigabit-Ethernet switching ports, and four dedicated 1000M SFP fiber ports.
PoE Ports	Port 1-8 IEEE 802.3af PoE, providing up to 15.4w of DC power through each port	<ul style="list-style-type: none"> Port 1-8: IEEE 802.3at PoE+, providing up to 30W of DC power through each port Port 9-24: IEEE 802.3af PoE, providing up to 15.4W of DC power through each port 	24 IEEE 802.3at PoE+ Ports, providing up to 30W of DC power through each port	<ul style="list-style-type: none"> Port 1-8: IEEE 802.3at PoE+, providing up to 30W of DC power through each port Port 9-48: IEEE 802.3af PoE, providing up to 15.4W of DC power through each port
PERFORMANCE SPECIFICATION				
Bandwidth	32Gbps	56 Gbps	56 Gbps	104 Gbps
Acoustic noise (ANSI-S10.12)	24.6	31.8 dBA	31.8 dBA	44.9 dBA
Mean Time Between Failures (MTBF)	479,350 hrs	345,901 hours	247,163 hours	220,447 hours
Heat Dissipation (at AC 97VAC/47Hz and full PoE load)	84 Btu/H	901.2 Btu/H	1650.67 Btu/H (internal PS)	1750.70 Btu/H
IEEE NETWORK PROTOCOLS				
IEEE 802.3 Ethernet	IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX			IEEE 802.1D Spanning Tree (STP)
IEEE 802.3i 10BASE-T	IEEE 802.3ae 10-Gigabit Ethernet			IEEE 802.1s Multiple Spanning Tree (MSTP)
IEEE 802.3u 100BASE-T	IEEE 802.3ad Trunking (LACP)			IEEE 802.1w Rapid Spanning Tree (RSTP)
IEEE 802.3ab 1000BASE-T	IEEE 802.1AB LLDP with ANSI/TIA-1057 (LLDP-MED)			IEEE 802.1X Radius network access control
IEEE 802.1Q VLAN Tagging	IEEE 802.1p Class of Service			
IEEE 802.3x full-duplex flow control	IEEE 802.3 af (PoE)			IEEE 802.3 at (PoE Plus)
PHYSICAL SPECIFICATIONS				
Dimensions	328 x 169 x 43 mm	440 x 257 x 44 mm	440 x 257 x 44 mm	440 x 316 x 43 mm
Weight	2.21kg	3.73 kg	4.36 kg	5.1 kg
POWER CONSUMPTION (WHEN ALL PORTS USED, LINE-RATE TRAFFIC AND MAX POE)				
Worst case, all ports used, line-rate traffic, max PoE	92.1w	264W	483.5W	512.8W

Technical Specifications

Performance Specification

Forwarding modes

- Store-and-forward

4 Priority queues

Priority queuing

- Weighted Round Robin (WRR)

MAC Address database size

- 8,000 media access control (MAC) addresses

Addressing 48-bit MAC address

1K Multicast groups

32 Static Routes

15 Routed VLANs

1024 ARP Cache entries

8K DHCP snooping bindings

1024 DHCP static entries

480 rules shared for MAC, IP and IPv6 ACLs

Packet size of 9k for Jumbo frame support

Network Security

- IEEE 802.1x
- Guest VLAN
- RADIUS based VLAN assignment via .1x
- MAC-based .1x
- Network Storm Protection
- Broadcast, Unicast, Multicast Protection

L2 Services - VLANs

- IEEE 802.1Q VLAN Tagging
- Video VLAN
- Voice VLAN - Based on phones OUI bytes (internal database, or user-maintained) or protocols (SIP, H323 and SCCP)

L2 Services - Availability

- IEEE 802.3ad - LAGs LACP (8 LAGS with max. of 8 members in each LAG)
- Broadcast Storm Control
- IEEE 802.3x (Full Duplex and flow control)
- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1w Rapid Spanning Tree
- IEEE 802.1s Multiple Spanning Tree

L2 Services - Multicast Filtering

- IGMP Snooping (v1, v2 and v3)
- MLD Snooping Support (v1 and v2)
- IGMP Snooping queriers
- Block unknown Multicast

L3 Services - DHCP

- DHCP Client
- DHCP Snooping

L3 Services - IPv4 Routing

- Static Routing
- VLAN Routing

Network Monitoring and Discovery Services

- 802.1ab LLDP
- SNMP V1, V2, V3
- RMON 1,2,3,9

Network Traffic

- Access Control Lists (ACLs) L2 / L3 / L4
- IP-based ACLs (IPv4 and IPv6)
- MAC-based ACL
- TCP/UDP-based ACL
- MAC lockdown
- MAC lockdown by the number of MACs
- IEEE 802.1x Radius Port Access Authentication
- Port Security
- DHCP Snooping
- PoE Timer

Quality of Service (QoS)

- Access Lists
- L2 MAC, L3 IP and L4 Port ACLs
- Ingress rate limiting
- Egress rate limiting
- Support for IPv6 fields
- DiffServ QoS
- IEEE 802.1p COS
- Dst MAC and IP
- IPv4 and v6 DSCP
- IPv4 and v6 TOS
- WRR (Weighted Round Robin)
- Strict Priority queue technology
- Auto-VoIP
Yes, based on protocols (SIP, H323 and SCCP) or on OUI bytes (default database and user-based OUIs) in the phone source MAC address
- Auto Video
- Port Mirroring

Technical Specifications

Management

- Password management
- Configurable Management VLAN
- Admin access control via Radius and TACACS+
- Web-based graphical user interface (GUI)
- Smart Control Center (SCC) for multi-switch management
- IPv6 management
- Dual Software (firmware) image
- Dual Configuration file
- SNTP client over UDP port 123
- SNMP v1/v2
- SNMP v3 with multiple IP addresses
- RMON 1,2,3,9
- Port Mirroring
- Many to One Port Mirroring
- Cable Test utility
- SSL/HTTPS and TLS v1.0 for web-based access
- TFTP/HTTP File transfers (uploads, downloads)
- HTTP Download (firmware)
- Syslog (RFC 3164)

LEDs

Per port

- Speed, Link, Activity

Per device

- Power, Fan and PoE Power Status

Environmental Conditions

Operating Temperature

- 32° to 122°F (0° to 50°C)

Storage Temperature

- - 4° to 158°F (-20° to 70°C)

Altitude

- 10,000 ft (3,000 m) maximum

Humidity

- 95% maximum relative humidity, non-condensing

Electromagnetic Emissions and Immunity

Certifications

- CE mark, commercial
- FCC Part 15 Class A, VCCI Class A
- Class A EN 55022 (CISPR 22) Class A
- Class A C-Tick
- EN 50082-1
- EN 55024
- CCC

Safety

Certifications

- CE mark, commercial
- CSA certified (CSA 22.2 #950)
- UL listed (UL 1950)/cUL IEC 950/EN 60950

Warranty and Support

- ProSAFE Lifetime Warranty
- ProSUPPORT 24x7 Advanced Technical Support, 1 year (included)*

ProSUPPORT™ Service Packs Available

- XPressHW, Category 1: PRR0331 (3-year next-business day hardware replacement contract)
- OnCall 24x7, Category 1: PMB0331 (3-year Advanced Technical Support contract, including Remote Diagnostics performed by our technical experts for prompt resolution of technical issues, and next-business day hardware replacement)

Ordering Information

Package Content

All models

- ProSAFE® Gigabit PoE/PoE+ Smart Switch
- Power cord
- Rack-mounting kit
- Resource CD with links to online documentation, installation guides, Web-management user manual, Smart Control Center (SCC) software and user guide.

Ordering Information

North America and Latin America:

GS516T-100NAS
GS728TP-100NAS
GS728TPP-100NAS
GS752TP-100NAS

Europe:

GS516T-100EUS
GS728TP-100EUS
GS728TPP-100EUS
GS752TP-100EUS

Asia:

GS516T-100AJS
GS728TP-100AJS
GS728TPP-100AJS
GS752TP-100AJS

Optional Modules and Accessories

AFM735

- 100Base-FX SFP GBIC (Multimode)

AGM731F

- 1000Base-SX SFP GBIC (Multimode)

AGM732F

- 1000Base-LX SFP GBIC (Single mode)

RPS4000

- External/Redundant Power Supply (for GS728TPP only, up to four switches)

APS1000W

- Power Module for RPS4000 (for GS728TPP only)

* 1-year 24x7 Advanced Technical Support includes Remote Diagnostics performed by our technical experts for prompt resolution of technical issues.

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