

The NETGEAR® new generation of Gigabit PoE/PoE+ Smart Managed Switches offers powerful L2+/Layer 3 Lite 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 Managed 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 Managed 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 new generation, also comes the addition of high-powered PoE+ Smart Managed 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 28-port and above switches come with 4 dedicated Gigabit SFP ports for fiber connectivity.

The new generation of Gigabit PoE/PoE+ Smart Managed 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 (Windows PC required) 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



### 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 Managed Switch w/ 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 Managed 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 Managed 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 Managed 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	LLDP-MED, RADIUS, 802.1x, PoE timer

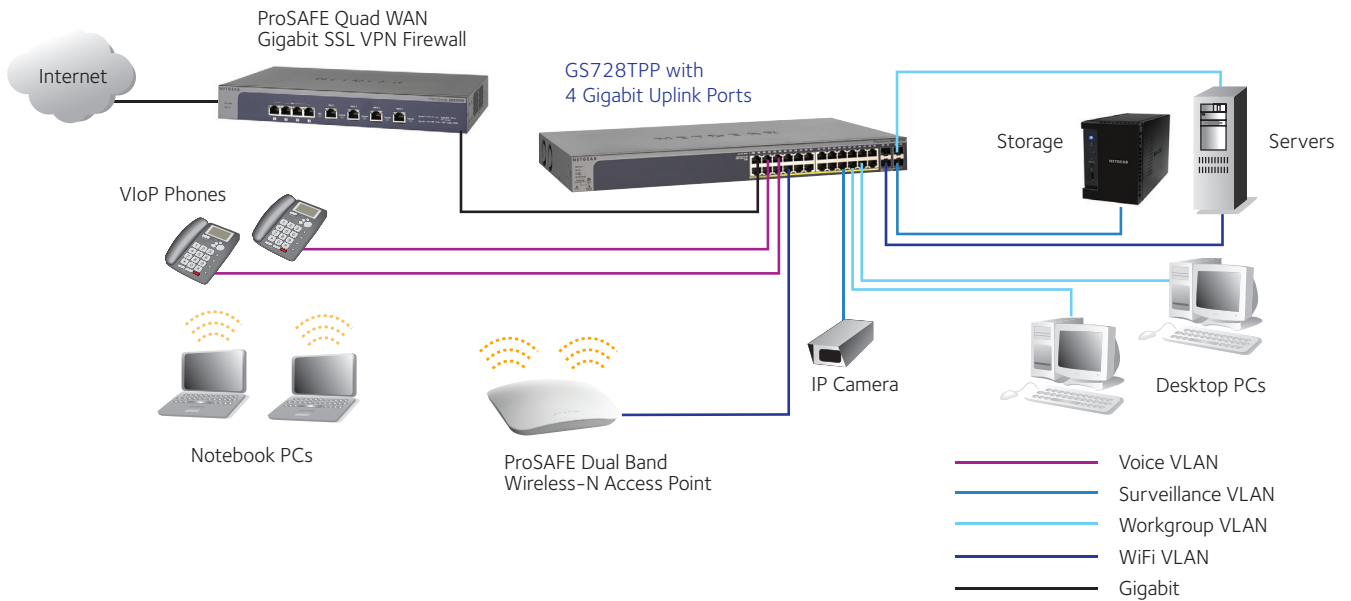
### Performance at a Glance

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 fraction of the price of fully 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"> <li>• 802.1x authentication</li> <li>• DHCP Filtering</li> <li>• Port-based security by locked MAC</li> <li>• ACL filtering to permit or deny traffic based on MAC and IP addresses</li> </ul>	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"> <li>• Port-based or 802.1p-based prioritization</li> <li>• Layer 3-based (DSCP) prioritization</li> <li>• Port-based ingress and egress rate limiting</li> </ul>	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 Managed 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 Managed 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 Auto-sensing Gigabit ports	24 Auto-sensing Gigabit ports, and four dedicated Gigabit SFP fiber ports.	24 Auto-sensing Gigabit ports, and four dedicated Gigabit SFP fiber ports.	48 Auto-sensing Gigabit ports, and four dedicated Gigabit 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"> <li>Port 1-8: IEEE 802.3at PoE+, providing up to 30W of DC power through each port</li> <li>Port 9-24: IEEE 802.3af PoE, providing up to 15.4W of DC power through each port</li> </ul>	24 IEEE 802.3at PoE+ Ports, providing up to 30W of DC power through each port	<ul style="list-style-type: none"> <li>Port 1-8: IEEE 802.3at PoE+, providing up to 30W of DC power through each port</li> <li>Port 9-48: IEEE 802.3af PoE, providing up to 15.4W of DC power through each port</li> </ul>
<b>PERFORMANCE SPECIFICATION</b>				
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
<b>IEEE NETWORK PROTOCOLS</b>				
<ul style="list-style-type: none"> <li>IEEE 802.3 Ethernet</li> <li>IEEE 802.3i 10BASE-T</li> <li>IEEE 802.3u 100BASE-T</li> <li>IEEE 802.3ab 100BASE-T</li> <li>IEEE 802.1Q VLAN Tagging</li> <li>IEEE 802.3x full-duplex flow control</li> </ul>	<ul style="list-style-type: none"> <li>IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX</li> <li>IEEE 802.3ae 10-Gigabit Ethernet</li> <li>IEEE 802.3ad Trunking (LACP)</li> <li>IEEE 802.1AB LLDP with ANSI/TIA-1057 (LLDP-MED)</li> <li>IEEE 802.1p Class of Service</li> <li>IEEE 802.3 af (PoE)</li> </ul>	<ul style="list-style-type: none"> <li>IEEE 802.1D Spanning Tree (STP)</li> <li>IEEE 802.1s Multiple Spanning Tree (MSTP)</li> <li>IEEE 802.1w Rapid Spanning Tree (RSTP)</li> <li>IEEE 802.1x Radius network access control</li> <li>IEEE 802.3 at (PoE Plus)</li> </ul>		
<b>PHYSICAL SPECIFICATIONS</b>				
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
<b>POWER CONSUMPTION (WHEN ALL PORTS USED, LINE-RATE TRAFFIC AND MAX POE)</b>				
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

- 10,000ft (3,000m) 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
- Lifetime 24x7 Online Chat Technical Support
- 90 days (24/7) Live Phone Technical Support
- Lifetime Next Business Day (NBD) Hardware Replacement

##### ProSUPPORT™ Service Packs Available

OnCall 24x7, Category 1\*\* (except GS752TP)

- PMB0311 (1 yr.)
- PBM0331 (3 yrs.)
- PMB0351 (5 yrs.)

OnCall 24x7, Category 2\*\* (GS752TP only)

- PMB0312 (1 yr.)
- PBM0332 (3 yrs.)
- PMB0352 (5 yrs.)

### Ordering Information

#### Package Content

##### All models

- ProSAFE® Gigabit PoE/PoE+ Smart Managed 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:

GS516TP-100NAS  
GS728TP-100NAS  
GS728TPP-100NAS  
GS752TP-100NAS

##### Europe:

GS516TP-100EUS  
GS728TP-100EUS  
GS728TPP-100EUS  
GS752TP-100EUS

##### Asia:

GS516TP-100AJS  
GS728TP-100AJS  
GS728TPP-100AJS  
GS752TP-100AJS

##### China:

GS516TP-100PRS  
GS728TP-100PRS  
GS728TPP-100PRS  
GS752TP-100PRS

#### 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)

\* 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.