



User Manual

AI PoE Switch

2.5G SFP PoE Switch

Outdoor Water Resistant AI PoE Switch

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Notice: This Manual takes 8-port switch as an example

Table of Contents

Foreword	2
Important Safeguards and Warnings	3
Main Characteristics	4
Installation Guidelines	5
Items List	6
Port Description	7
Specification	8~22
1) FE Series	8
2) EB Series	9
3) FE/GE Hybrid Series 01	10
4) FE/GE Hybrid Series 02	11
5) FE/GE Hybrid Series 03	12
6) All GIGA Series 01	13
7) All GIGA Series 02	14
8) 2.5G AI PoE Switch Series 01	15
9) 2.5G AI PoE Switch Series 02	16
10) 2.5G AI PoE Switch Series 03	17
11) 2.5G AI PoE Switch Series 04	18
12) Outdoor Waterproof Series 01	19
13) Outdoor Waterproof Series 02	20
14) Outdoor Waterproof Series 03	21
15) RJ 45 Making Method	22
After-sales Service	23~24

Foreword

General

This Manual contains explanations about the features and physical structure of PoE Switches and other products (hereinafter referred as "The Device")

Safety Instructions

The following signs may appear in the manual.

Signal Words	Meaning
 DANGER	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.
 WARNING	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or other unpredictable results.
 TIPS	Provides methods to help you solve a problem or save time.
 NOTE	Provides additional information to emphasize points in the main text.

About the Manual

The manual is for reference only. If there is inconsistency between the manual and the actual device, the actual device shall prevail.

1. We are not liable for any loss or property damage caused by operating the device differently than described in this manual.
2. The manual will be updated according to the latest laws and regulations of related jurisdictions. For detailed information, refer to the paper manual, CD-ROM, QR code or our official website. If there is inconsistency between paper manual and the electronic version, the electronic version shall prevail.
3. All the designs and software are subject to change without prior written notice. The device updates might bring some differences between the actual device and the manual. Please contact the customer service or your distributor for the latest update and supplementary documentation.
4. There still might be deviations in technical data, functions and operation description, or errors in print. If there is any doubt or dispute, we reserve the right of final explanation.
5. Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
6. All trademarks, registered trademarks and the company names in the manual are the properties of their respective owners.
7. Please visit our website contact the supplier or customer service if there is any problem occurring when using the device.
8. If there is any uncertainty or controversy, we reserve the right of final explanation.

Important Safeguards and Warnings

This manual helps you to use the device properly. To avoid any danger and property damage, read the manual carefully before using the device. It is highly recommended that you keep this manual stored in a safe place for future reference.

Operating Requirements

1. Do not expose the device directly to the sunlight and keep it away from heat sources.
2. Do not install the device in damp environments and avoid dust and soot.
3. Make sure the device is installed in horizontal position, on solid and flat surface.
4. Avoid liquid spattering on the device. Do not place any liquid container on top or near the device.
5. Install the device in well-ventilated environment. Do not block the air vents of the device.
6. Use the device at rated input and output voltages.
7. Never disassemble the device. There is risk of electric shock!
8. Transport, use, and store the device in allowed ranges of humidity and temperature.

Power Supply Requirements

Always use the power cords and power adapters provided with the device. If the power adapter or power cord gets damaged, please ask your distributor for a replacement. We assume no responsibility for damage and problems caused by the use of non-standard power adapters and power cords.

Main Characteristics

1. Always use patch cords rated for the power needed by the wireless AP/CPE and IP camera/PTZ
2. Network standard followed by all PoE devices is: IEEE802.3af/at/bt.
3. Auto-Adaption 250m Transmission can be found in some device
4. AI Watchdog Function offers: detection front-end PoE cameras and PD, automatic detection, automatic restart.
5. 6KV lightning protection, 8KV surge protection, anti-reverse connection, over-current protection, over-voltage protection, over-temperature protection, short circuit protection.
6. Maximum output power of the bt ports is 60W. These ports can be used to power hi-power equipment.
7. Zero configuration feature gives the possibility for the device to sense if the appliance connected to it needs PoE and the wattage needed.

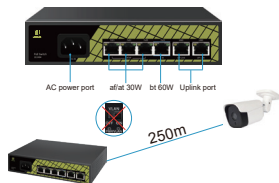
bt 60W high power

- ◆ bt port 60W output
Ordinary ports PoE power up to 30W
- ◆ Can be applied to lighting and intelligent buildings



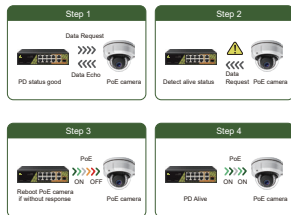
Auto-adaption 250m transmission (Part of model)

- ◆ 250 meters long distance transmission power supply
- ◆ Auto-adaption smart setting
- ◆ No need DIP switch



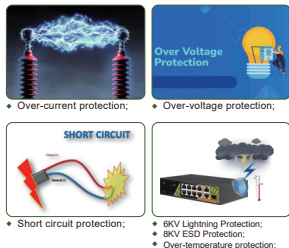
AI Watchdog 2.0

- ◆ Automatic detection, automatic restart.
- ◆ Designated port restart, reduce maintenance costs



Multi-Protection

- ◆ Surge protection;
- ◆ Anti-reverse connection protection;



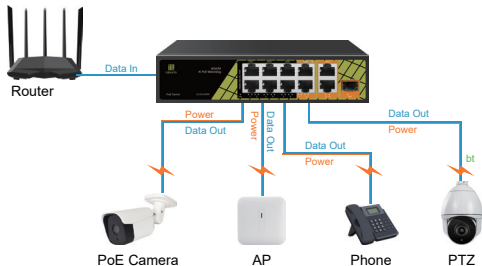
Installation Guidelines

Installation Steps:

Please follow these installation steps

1. Turn off all signal sources and devices. Installation of powered on devices may damage the equipment.
2. Use correct number of network cables and check that all cables are correctly crimped and certified according to industry standards.
3. Use another network cable (or optical fiber) to connect switch's UPLINK port to NVR or PC.
4. Connect the power adapter (or power cable) to the switch.
5. Check one last time if everything is installed correctly and then power up the device.
6. Make sure that every device is powered up correctly and the devices work as they should.

Installation Diagram:



Caution:

1. The device is never to be opened. Opening the device will void the warranty and puts you in risk of electric shock or death.
2. When the devices are powered there is risk of high current and voltage, so caution is advised at all stages.
3. Always use provided power adapters and power cords. If the power adapter is lost or damaged please contact your distributor.
4. Don't operate the PoE switch in humid environments. liquids or humidity entering the device case can cause damage to the devices or personnel.
5. Turn on power to the device only after all cables are connected.
6. Do not plug-in or plug-out any connection cables when devices are powered up.
7. Do not operate the PoE switch in dusty or EME environment.
8. Do not put any equipment or other objects on top of the device.
9. According to the IEEE802.3af/at/bt standard, if the device needs to reach 250m, Cat5e or above cable standard is needed.
10. Calculate carefully the maximum power budget so it doesn't exceed device's capability.
11. Check carefully and use the appropriate model for indoor or outdoor use.

Items List

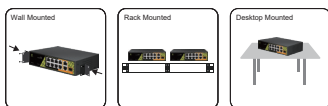
Indoor PoE++ Switch Items



Outdoor PoE++ Switch Items



Indoor Switch installation diagram



Outdoor Switch installation diagram

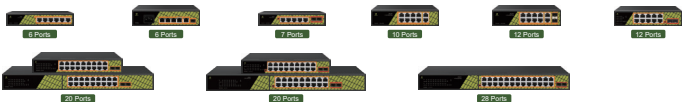


Model classification

Outdoor waterproof



1000Mbps Series



100Mbps 1000Mbps Hybrid Series



100Mbps Series

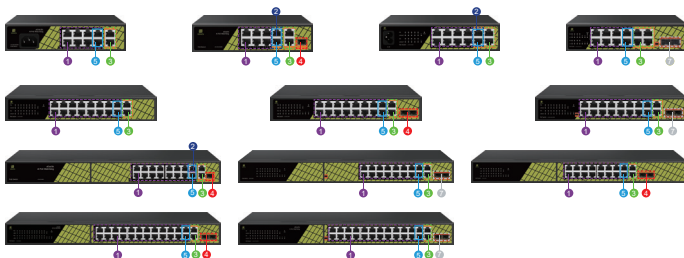


Port Description

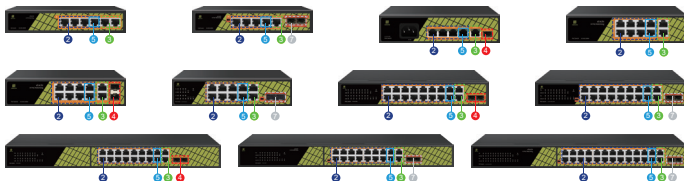
100Mbps Series



100Mbps 1000Mbps Hybrid Series



1000Mbps Series



① -100Mbps PoE Ports

② -1000Mbps PoE Ports

③ -1000Mbps Uplink Ports

④ -1000Mbps SFP Ports

⑤ -60W power supply Ports

⑥ -100Mbps Uplink Ports

⑦ -1G/2.5G SFP ports

Specification

FE Series

Model	GNT-P9206EA 	GNT-P9109EA 	GNT-P9828V6 
Ports	4X10/100Mbps PoE Ports (RJ45) 2X10/100Mbps Uplink Port (RJ45)	8X10/100Mbps PoE Ports (RJ45) 1X10/100Mbps Uplink Port (RJ45)	8X10/100Mbps PoE Ports (RJ45) 2X10/100Mbps Uplink Port (RJ45)
Transmission Rate	200Mbps Full Duplex; 10 or 100 Mbps Half Duplex		
Transmission Distance	10/100Mbps 130meters; 10Mbps Auto-adaption 250meters		130m
Performance Specification	Bandwidth: 1.2Gbps	Bandwidth: 1.8Gbps	Bandwidth: 2.0Gbps
	Network Latency (10 to 100Mbps):≤16μs (use the 64byte package size)		
	MAC address table: 2K		
	The Frame Filter & Transmission Rate: 14800pps the most for 10M port, 148800pps the most for 100M port		
Networking Standard	IEEE 802.3i 10BASE-T		
	IEEE 802.3u 100BASE-TX		
	IEEE 802.3x Flow Control		
	IEEE 802.3af/at/bt Power over Ethernet		
Power Support	Power Input: AC 90~240V Totals65W	Power Input: AC 90~240V Totals120W	
	AI Watchdog: Port 1~4	AI Watchdog: Port 1~8	
	Power Output: PoE1~3Port: 1/2(+52V),3/6(GND)≤30W PoE 4 Port: 1/2(+52V),3/6(GND)≤60W Compatible 1/2(+52V),3/6(GND)≤60W	Power Output: PoE1~6Port: 1/2(+52V),3/6(GND)≤30W PoE 7~8 Port: 1/2(+52V),3/6(GND)≤60W Compatible 1/2(+52V),3/6(GND)≤60W	
Protection Level	Lightning Protection: 6KV		
	ESD Protection: 8KV		
Physical Specifications	Size(L*W*H):187mm*139mm*43mm		
Working Environment	Operating Temperature: -30℃~60℃		
	Storage Temperature: -40℃~70℃		
	Operating Humidity: 10%~90% Non-condensing		
	Storage Humidity: 5%~90% Non-condensing		
Certification	CE		
	FCC		
	RoHS 2.0		
Warranty	Whole Device: 1 year		
Package Content	AC Power Cable,User Manual		

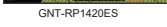
EB Series

Model	GNT-ES06ED-P 	GNT-P9210EB 	GNT-ES10ED-P 
Ports	4X10/100Mbps PoE Ports (RJ45) 2X10/100Mbps Uplink Port (RJ45)	8X10/100Mbps PoE Ports (RJ45) 2X10/100Mbps Uplink Port (RJ45)	
Transmission Rate	200Mbps Full Duplex; 10 or 100 Mbps Half Duplex		
Transmission Distance	130m		
Performance Specification	Bandwidth: 1.2Gbps	Bandwidth: 2.0Gbps	
	Network Latency (10 to 100Mbps):≤16μs (use the 64byte package size)		
	MAC address table: 2K		
	The Frame Filter & Transmission Rate: 14800pps the most for 10M port, 148800pps the most for 100M port		
Networking Standard	IEEE 802.3i 10BASE-T		
	IEEE 802.3u 100BASE-TX		
	IEEE 802.3x Flow Control		
	IEEE 802.3af/at/bt Power over Ethernet		
Power Support	Power Input: AC 90~240V Totals65W	Power Input: AC 90~240V Totals120W	
	AI Watchdog: Port 1~4	AI Watchdog: Port 1~8	
	Power Output: PoE1~3Port:1/2(+52V),3/6(GND)≤30W PoE 4 Port:1245(+52V),3678(GND) Compatible1/2(+52V),3/6(GND)≤60W	Power Output: PoE1~6Port:1/2(+52V),3/6(GND)≤30W PoE 7~8 Port:1245(+52V),3678(GND) Compatible1/2(+52V),3/6(GND)≤60W	
Protection Level	Lightning Protection: 6KV		
	ESD Protection: 8KV		
Physical Specifications	Size(L*W*H):190mm*80mm*36mm	Size(L*W*H):190mm*140mm*43mm	
Working Environment	Operating Temperature: -30℃~60℃		
	Storage Temperature: -40℃~70℃		
	Operating Humidity: 10%~90% Non-condensing		
	Storage Humidity: 5%~90% Non-condensing		
Certification	CE		
	FCC		
	RoHS 2.0		
Warranty	Whole Device: 1 year		
Package Content	AC Power Cable,User Manual		

FE/GE Hybrid Series 01

Model	GNT-ES10UD-P-E 	GNT-P1210SG 	GNT-P4804V6 
Ports	8X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45)		6X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 1X10/100/1000Mbps SFP Port
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex		
Transmission Distance	10/100Mbps 130meters; 10Mbps Auto-adaption 250meters	130m	
Performance Specification	Bandwidth: 5.6Gbps		Bandwidth: 11.2Gbps
	Network Latency (10 to 1000Mbps): $\leq 16\mu s$ (use the 64byte package size)		
	MAC address table: 8K		
	The Frame Filter & Transmission Rate: 14800pps the most for 10M port, 148800pps the most for 100M port, 1488000pps the most for 1000M port		
Networking Standard	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX		
	IEEE 802.3ab 1000BASE-T		
	IEEE 802.3x Flow Control		
	IEEE 802.3af/at/bt Power over Ethernet		
Power Support	Power Input: AC 90~240V Totals120W		
	AI Watchdog: Port 1~8		
	Power Output: PoE 1~6Port:1/2(+52V),3/6(GND) $\leq 30W$ PoE 7~8 Port:1245(+52V),3678(GND) Compatible1/2(+52V),3/6(GND) $\leq 60W$		
Protection Level	Lightning Protection: 6KV		
	ESD Protection: 8KV		
Physical Specifications	Size(L*W*H):190mm*140mm*43mm		
Working Environment	Operating Temperature: -30°C~60°C		
	Storage Temperature: -40°C~70°C		
	Operating Humidity: 10%~90% Non-condensing		
	Storage Humidity: 5%~90% Non-condensing		
Certification	CE		
	FCC		
	RoHS 2.0		
Warranty	Whole Device: 1 year		
Package Content	AC Power Cable,User Manual		

FE/GE Hybrid Series 02

Model	GNT-ES12UD-P10 	GNT-ES18UD-P 	GNT-MP1420ES ①  ②  GNT-RP1420ES
Ports	8X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45)	16X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45)	16X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X10/100/1000Mbps SFP Port
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex		
Transmission Distance	Port1~8:10/100Mbps 130meters; 10Mbps Auto-adaption 250meters Port9~10:10/100/1000Mbps 130meters	Port1~15:10/100Mbps 130meters; 10Mbps Auto-adaption 250meters Port16:10/100Mbps 130meters	Port1~15:10/100Mbps 130meters; 10Mbps Auto-adaption 250meters Port16:10/100Mbps 130meters
Performance Specification	Bandwidth: 9.6Gbps	Bandwidth: 7.2Gbps	Bandwidth:11.2Gbps
	Network Latency (10 to 1000Mbps): $\leq 16\mu s$ (use the 64byte package size)		
	MAC address table: 8K		
	The Frame Filter & Transmission Rate: 14800pps the most for 10M port, 148800pps the most for 100M port. 1488000pps the most for 1000M port		
Networking Standard	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX		
	IEEE 802.3ab 1000BASE-T		
	IEEE 802.3x Flow Control		
	IEEE 802.3af/at/bt Power over Ethernet		
Power Support	Power Input: AC 90~240V Totals120W	Power Input: AC 90~240V Totals240W	Power Input: AC 90~240V Totals240W
	AI Watchdog: Port 1~10	AI Watchdog: Port 1~16	AI Watchdog: Port 1~16
	Power Output: PoE1~8Port:1/2(+52V),3/6(GND) $\leq 30W$ PoE9~10 Port:1245(+52V),3678(GND) Compatible 1/2(+52V),3/6(GND) $\leq 60W$	Power Output: PoE1~14Port:1/2(+52V),3/6(GND) $\leq 30W$ PoE 15~16 Port:1245(+52V),3678(GND) Compatible 1/2(+52V),3/6(GND) $\leq 60W$	Power Output: PoE1~14Port:1/2(+52V),3/6(GND) $\leq 30W$ PoE15~16 Port:1245(+52V),3678(GND) Compatible 1/2(+52V),3/6(GND) $\leq 60W$
Protection Level	Lightning Protection: 6KV		
	ESD Protection: 8KV		
Physical Specifications	Size(L*W*H):190mm*140mm*43mm	Size(L*W*H):270mm*170mm*45mm	Size(L*W*H):270mm*170mm*45mm Size(L*W*H):440mm*180mm*45mm
Working Environment	Operating Temperature: -30°C~60°C		
	Storage Temperature: -40°C~70°C		
	Operating Humidity: 10%~90% Non-condensing		
	Storage Humidity: 5%~90% Non-condensing		
Certification	CE		
	FCC		
	RoHS 2.0		
Warranty	Whole Device: 1 year		
Package Content	AC Power Cable,User Manual	AC Power Cable,User Manual, 19inch Rack Earring 1 Pair	

FE/GE Hybrid Series 03

Model	GNT-P4813V6  GNT-RP1428ES 	
Ports	15X10/100Mbps PoE Ports (RJ45) 1X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 1X10/100/1000Mbps SFP Port	24X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X10/100/1000Mbps SFP Port
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex	
Transmission Distance	Port1~15:10/100Mbps 130meters; 10Mbps Auto-adaption 250meters Port16:10/100/1000Mbps 130meters	10/100Mbps 130meters; 10Mbps Auto-adaption 250meters
Performance Specification	Bandwidth: 11.0Gbps	
	Bandwidth: 12.8Gbps	
	Network Latency (10 to 1000Mbps): $\leq 16\mu s$ (use the 64byte package size)	
	MAC address table: 8K	
Networking Standard	The Frame Filter & Transmission Rate: 14800pps the most for 10M port 148800pps the most for 100M port, 1488000pps the most for 1000M port	
	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX	
	IEEE 802.3ab 1000BASE-T	
	IEEE 802.3x Flow Control	
Power Support	IEEE 802.3af/at/bt Power over Ethernet	
	Power Input: AC 90~240V Totals $\leq 300W$	Power Input: AC 90~240V Totals $\leq 300W$
	AI Watchdog: Port 1~16	AI Watchdog: Port 1~24
	Power Output: PoE1~14Port: 1/2(+52V), 3/6(GND) $\leq 30W$ PoE15~16Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND) $\leq 60W$	Power Output: PoE1~22Port: 1/2(+52V), 3/6(GND) $\leq 30W$ PoE23~24 Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND) $\leq 60W$
Protection Level	Lightning Protection: 6KV	
	ESD Protection: 8KV	
Physical Specifications	Size(L*W*H): 440mm*180mm*45mm	
Working Environment	Operating Temperature: -30°C~60°C	
	Storage Temperature: -40°C~70°C	
	Operating Humidity: 10%~90% Non-condensing	
	Storage Humidity: 5%~90% Non-condensing	
Certification	CE	
	FCC	
	RoHS 2.0	
Warranty	Whole Device: 1 year	
Package Content	AC Power Cable, User Manual, 19inch Rack Earring 1 Pair	

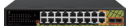
All GIGA Series 01

Model	GNT-ES06GD-P 	GNT-P1006GA 	GNT-P1210G7 
Ports	4X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45)	4X10/100/1000Mbps PoE Ports (RJ45) 1X10/100/1000Mbps Uplink Port (RJ45) 1X10/100/1000Mbps SFP Port	8X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45)
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex		
Transmission Distance	130m		
Performance Specification	Bandwidth: 12Gbps	Bandwidth: 12Gbps	Bandwidth: 20Gbps
	Network Latency (10 to 1000Mbps): ≤ 16μs (use the 64byte package size)		
	MAC address table: 2K	MAC address table: 8K	
	The Frame Filter & Transmission Rate: 14800pps the most for 10M port 148800pps the most for 100M port, 148800pps the most for 1000M port		
Networking Standard	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX		
	IEEE 802.3ab 1000BASE-T		
	IEEE 802.3x Flow Control		
	IEEE 802.3af/at/bt Power over Ethernet		
Power Support	Power Input: AC 90~240V Totals 65W AI Watchdog: Port 1~4	Power Input: AC 90~240V Totals 65W AI Watchdog: Port 1~4	Power Input: AC 90~240V Totals 120W AI Watchdog: Port 1~8
	Power Output: PoE1~3Port: 1/2(+52V), 3/6(GND)≤30W PoE 4 Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND)≤60W	Power Output: PoE1~3Port: 1/2(+52V), 3/6(GND)≤30W PoE 4 Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND)≤60W	Power Output: PoE1~6Port: 1/2(+52V), 3/6(GND)≤30W PoE 7~8 Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND)≤60W
Protection Level	Lightning Protection: 6KV		
	ESD Protection: 8KV		
Physical Specifications	Size(L*W*H):190mm*80mm*36mm	Size(L*W*H):190mm*140mm*43mm	
Working Environment	Operating Temperature: -30℃~60℃		
	Storage Temperature: -40℃~70℃		
	Operating Humidity: 10%~90% Non-condensing		
	Storage Humidity: 5%~90% Non-condensing		
Certification	CE		
	FCC		
	RoHS 2.0		
Warranty	Whole Device: 1 year		
Package Content	AC Power Cable, User Manual		

All GIGA Series 02:

Model	GNT-P1012G6 	GNT-MP1420G6 	GNT-RP1420G6 
Ports	8X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X10/100/1000Mbps SFP Port	16X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X10/100/1000Mbps SFP Port	
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex		
Transmission Distance	130m		
Performance Specification	Bandwidth: 24Gbps	Bandwidth: 40Gbps	
	Network Latency (10 to 1000Mbps): $\leq 16\mu s$ (use the 64byte package size)		
	MAC address table: 8K		
	The Frame Filter & Transmission Rate:14800pps the most for 10M port 148800pps the most for 100M port,1488000pps the most for 1000M port		
Networking Standard	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX		
	IEEE 802.3ab 1000BASE-T		
	IEEE 802.3x Flow Control		
	IEEE 802.3af/at/bt Power over Ethernet		
Power Support	Power Input: AC 90~240V Totals120W	Power Input: AC 90~240V Totals240W	
	AI Watchdog: Port 1~8	AI Watchdog: Port 1~16	
	Power Output: PoE1~6Port:1/2(+52V),3/6(GND) $\leq$ 30W PoE7~8 Port:1245(+52V),3678(GND) Compatible1/2(+52V),3/6(GND) $\leq$ 60W	Power Output: PoE1~14Port:1/2(+52V),3/6(GND) $\leq$ 30W PoE15~16 Port:1245(+52V),3678(GND) Compatible1/2(+52V),3/6(GND) $\leq$ 60W	
	Lightning Protection: 6KV		
Protection Level	ESD Protection: 8KV		
Physical Specifications	Size(L*W*H):190mm*140mm*43mm	Size(L*W*H):270mm*170mm*45mm	Size(L*W*H):440mm*180mm*45mm
Working Environment	Operating Temperature: -30℃~60℃		
	Storage Temperature: -40℃~70℃		
	Operating Humidity: 10%~90% Non-condensing		
	Storage Humidity: 5%~90% Non-condensing		
Certification	CE		
	FCC		
	RoHS 2.0		
Warranty	Whole Device: 1 year		
Package Content	AC Power Cable,User Manual	AC Power Cable,User Manual,19inch Rack Earring 1 Pair	

2.5G SFP PoE Switch Series 01

Model	GNTES14UDH2-P (Old Model: GNT-P1614ES) 	GNT-ES20UDH2-P 
Ports	8X10/100Mbps PoE Ports (RJ45) 4X10/100/1000Mbps Uplink Port (RJ45) 2X1G/2.5G SFP ports	16X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X1G/2.5G SFP ports
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex	
Transmission Distance	10/100Mbps 130meters; 10Mbps Auto-adaption 250meters	Port1~15:10/100Mbps 130meters; 10Mbps Auto-adaption 250meters Port16:10/100/1000Mbps 130meters
Performance Specification	Bandwidth: 19.6Gbps	Bandwidth:17.2Gbps
	Network Latency (10 to 1000Mbps): $\leq 16\mu s$ (use the 64byte package size)	
	MAC address table: 8K	MAC address table: 8K
	The Frame Filter & Transmission Rate:14800pps the most for 10M port 148800pps the most for 100M port,1488000pps the most for 1000M port	
Networking Standard	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX	
	IEEE 802.3ab 1000BASE-T	
	IEEE 802.3x Flow Control	
	IEEE 802.3af/at/bt Power over Ethernet	
Power Support	Power Input: AC 90~240V Totals120W	Power Input: AC 90~240V Totals300W
	AI Watchdog: Port 1~8	AI Watchdog: Port 1~16
	Power Output: PoE1~6Port:1/2(+52V),3/6(GND) $\leq 30W$ PoE 7~8 Port:1245(+52V),3678(GND) Compatible1/2(+52V),3/6(GND) $\leq 60W$	Power Output: PoE1~14Port:1/2(+52V),3/6(GND) $\leq 30W$ PoE15~16Port:1245(+52V),3678(GND) Compatible1/2(+52V),3/6(GND) $\leq 60W$
Protection Level	Lightning Protection: 6KV	
	ESD Protection: 8KV	
Physical Specifications	Size(L*W*H):190mm*140mm*43mm	Size(L*W*H):270mm*170mm*45mm
Working Environment	Operating Temperature: -30°C~60°C	
	Storage Temperature: -40°C~70°C	
	Operating Humidity: 10%~90% Non-condensing	
	Storage Humidity: 5%~90% Non-condensing	
Certification	CE	
	FCC	
	RoHS 2.0	
Warranty	Whole Device: 1 year	
Package Content	AC Power Cable,User Manual	AC Power Cable,User Manual,19inch Rack Earring 1 Pair

2.5G SFP PoE Switch Series 02

Model	GNT-ES20URH2-P-E 		GNT-ES28URH2-P 
Ports	16X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X1G/2.5G SFP ports		24X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X1G/2.5G SFP ports
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex		
Transmission Distance	Port1~15:10/100Mbps 130meters; 10Mbps Auto-adaption 250meters Port16:10/100/1000Mbps 130meters		10/100Mbps 130meters; 10Mbps Auto-adaption 250meters
Performance Specification	Bandwidth:17.2Gbps		Bandwidth: 18.8Gbps
	Network Latency (10 to 1000Mbps): $\leq 16\mu s$ (use the 64byte package size)		
	MAC address table: 8K		
	The Frame Filter & Transmission Rate:14800pps the most for 10M port 148800pps the most for 100M port,148800pps the most for 1000M port		
Networking Standard	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX		
	IEEE 802.3ab 1000BASE-T		
	IEEE 802.3x Flow Control		
	IEEE 802.3af/at/bt Power over Ethernet		
Power Support	Power Input: AC 90~240V Totals300W		Power Input: AC 90~240V Totals300W
	AI Watchdog: Port 1~16		AI Watchdog: Port 1~24
	Power Output: PoE1~14Port: 1/2(+52V), 3/6(GND) $\leq 30W$ PoE15~16Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND) $\leq 60W$		Power Output: PoE1~22Port: 1/2(+52V), 3/6(GND) $\leq 30W$ PoE23~24 Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND) $\leq 60W$
Protection Level	Lightning Protection: 6KV		
	ESD Protection: 8KV		
Physical Specifications	Size(L*W*H):440mm*180mm*45mm		
Working Environment	Operating Temperature: -30°C~60°C		
	Storage Temperature: -40°C~70°C		
	Operating Humidity: 10%~90% Non-condensing		
	Storage Humidity: 5%~90% Non-condensing		
Certification	CE		
	FCC		
	RoHS 2.0		
Warranty	Whole Device: 1 year		
Package Content	AC Power Cable, User Manual, 19inch Rack Earring 1 Pair		

2.5G SFP PoE Switch Series 03

Model	GNT-ES07GDH2-P (Old Model: GNTES07GDS-P) 	GNT-ES12GDH2-P (Old Model: GNT-P1412G6) 
Ports	4X10/100/1000Mbps PoE Ports (RJ45) 1X10/100/1000Mbps Uplink Port (RJ45) 2X1G/2.5G SFP ports	8X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X1G/2.5G SFP ports
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex	
Transmission Distance	130m	
Performance Specification	Bandwidth: 20Gbps	Bandwidth: 30Gbps
	Network Latency (10 to 1000Mbps): $\leq 16\mu s$ (use the 64byte package size)	
	MAC address table: 8K	
	The Frame Filter & Transmission Rate: 14800pps the most for 10M port, 148800pps the most for 100M port. 1488000pps the most for 1000M port	
Networking Standard	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX	
	IEEE 802.3ab 1000BASE-T	
	IEEE 802.3x Flow Control	
	IEEE 802.3af/at/bt Power over Ethernet	
Power Support	Power Input: AC 90~240V Totals 65W	Power Input: AC 90~240V Totals 120W
	AI Watchdog: Port 1~4	AI Watchdog: Port 1~8
	Power Output: PoE1~3Port: 1/2(+52V), 3/6(GND) $\leq 30W$ PoE 4 Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND) $\leq 60W$	Power Output: PoE1~6Port: 1/2(+52V), 3/6(GND) $\leq 30W$ PoE 7~8 Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND) $\leq 60W$
Protection Level	Lightning Protection: 6KV	
	ESD Protection: 8KV	
Physical Specifications	Size(L*W*H): 190mm*80mm*36mm	Size(L*W*H): 190mm*140mm*43mm
Working Environment	Operating Temperature: -30°C~60°C	
	Storage Temperature: -40°C~70°C	
	Operating Humidity: 10%~90% Non-condensing	
	Storage Humidity: 5%~90% Non-condensing	
Certification	CE	
	FCC	
	RoHS 2.0	
Warranty	Whole Device: 1 year	
Package Content	AC Power Cable, User Manual	

2.5G SFP PoE Switch Series 04

Model	GNT-ES20GDH2-P 	GNT-ES20GRH2-P-E 	GNT-ES28GRH2-P 
Ports	16X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X1G/2.5G SFP ports	16X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X1G/2.5G SFP ports	24X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X1G/2.5G SFP ports
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex		
Transmission Distance	130m		
Performance Specification	Bandwidth: 46Gbps	Bandwidth: 46Gbps	Bandwidth: 62Gbps
	Network Latency (10 to 1000Mbps): $\leq 16\mu s$ (use the 64byte package size)		
	MAC address table: 8K		
	The Frame Filter & Transmission Rate: 14800pps the most for 10M port 148800pps the most for 100M port, 148800pps the most for 1000M port		
Networking Standard	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX		
	IEEE 802.3ab 1000BASE-T		
	IEEE 802.3x Flow Control		
	IEEE 802.3af/at/bt Power over Ethernet		
Power Support	Power Input: AC 90~240V Totals240W	Power Input: AC 90~240V Totals300W	Power Input: AC 90~240V Totals300W
	AI Watchdog: Port 1~16	AI Watchdog: Port 1~16	AI Watchdog: Port 1~24
	Power Output: PoE1~14Port: 1/2(+52V), 3/6(GND) $\leq 30W$ PoE15~16 Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND) $\leq 60W$	Power Output: PoE1~14Port: 1/2(+52V), 3/6(GND) $\leq 30W$ PoE15~16 Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND) $\leq 60W$	Power Output: PoE1~22Port: 1/2(+52V), 3/6(GND) $\leq 30W$ PoE23~24 Port: 1245(+52V), 3678(GND) Compatible 1/2(+52V), 3/6(GND) $\leq 60W$
Protection Level	Lightning Protection: 6KV		
	ESD Protection: 8KV		
Physical Specifications	Size(L*W*H):270mm*170mm*45mm	Size(L*W*H):440mm*180mm*45mm	Size(L*W*H):440mm*180mm*45mm
Working Environment	Operating Temperature: -30°C~60°C		
	Storage Temperature: -40°C~70°C		
	Operating Humidity: 10%~90% Non-condensing		
	Storage Humidity: 5%~90% Non-condensing		
Certification	CE		
	FCC		
	RoHS 2.0		
Warranty	Whole Device: 1 year		
Package Content	AC Power Cable, User Manual, 19inch Rack Earring 1 Pair		

Outdoor Waterproof Series 01

Model	GNT-P9109EA-F	GNT-P9828F6
Ports	8X10/100Mbps PoE Ports (RJ45) 1X10/100Mbps Uplink Port (RJ45)	8X10/100Mbps PoE Ports (RJ45) 2X10/100Mbps Uplink Port (RJ45)
Transmission Rate	200Mbps Full Duplex; 10 or 100 Mbps Half Duplex	
Transmission Distance	10/100Mbps 130meters; 10Mbps Auto-adaption 250meters	130m
Performance Specification	Bandwidth: 1.8Gbps	Bandwidth: 2.0Gbps
	Network Latency (10 to 100Mbps): $\leq 16\mu s$ (use the 64byte package size)	
	MAC address table: 2K	
	The Frame Filter & Transmission Rate: 14800pps the most for 10M port, 148800pps the most for 100M port	
Networking Standard	IEEE 802.3i 10BASE-T	
	IEEE 802.3u 100BASE-TX	
	IEEE 802.3x Flow Control	
	IEEE 802.3af/at/bt Power over Ethernet	
Power Support	Power Input: AC 90~240V Totals 120W	
	AI Watchdog: Port 1~8	
	Power Output: PoE1~8 Port: 1/2(+52V), 3/6(GND) $\leq 30W$ PoE 7~8 Port: 1245(+52V), 3/678(GND) Compatible 1/2(+52V), 3/6(GND) $\leq 60W$	
Protection Level	Lightning Protection: 6KV	
	ESD Protection: 8KV	
Physical Specifications	Size(L*W*H): 310mm*260mm*100mm	
Working Environment	Operating Temperature: -30°C~60°C	
	Storage Temperature: -40°C~70°C	
	Operating Humidity: 10%~90% Non-condensing	
	Storage Humidity: 5%~90% Non-condensing	
Certification	CE	
	FCC	
	RoHS 2.0	
Warranty	Whole Device: 1 year	
Package Content	AC Power Cable, User Manual, Installation Kits (Steel hoops, Waterproof pipes, Wall mounting earrings)	

Outdoor Waterproof Series 02

Model	GNT- P1210F6	GNT-P4804F6	GNT-P4813F6
Ports	8X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45)	6X10/100Mbps PoE Ports (RJ45) 2X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 1X10/100/1000Mbps SFP Port	15X10/100Mbps PoE Ports (RJ45) 1X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 1X10/100/1000Mbps SFP Port
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex		
Transmission Distance	10/100Mbps 130meters; 10Mbps Auto-adaption 250meters	130m	Port1~15:10/100Mbps 130meters; 10Mbps Auto-adaption 250meters Port16:10/100/1000Mbps 130meters
Performance Specification	Bandwidth: 5.6Gbps	Bandwidth: 11.2Gbps	Bandwidth: 11.0Gbps
	Network Latency (10 to 1000Mbps): $\leq 16\mu s$ (use the 64byte package size)		
	MAC address table: 8K		
	The Frame Filter & Transmission Rate: 14800pps the most for 10M port, 148800pps the most for 100M port, 1488000pps the most for 1000M port		
Networking Standard	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX		
	IEEE 802.3ab 1000BASE-T		
	IEEE 802.3x FlowControl		
	IEEE 802.3af/at/bt Power over Ethernet		
Power Support	Power Input:AC 90~240V Totals120W		Power Input:AC 90~240V Totals300W
	AI Watchdog: Port 1~8		AI Watchdog: Port 1~16
	Power Output: PoE1~6 Port:1/2(+52V),3/6(GND) $\leq 30W$ PoE 7~8 Port:1245(+52V),3678(GND) Compatible1/2(+52V),3/6(GND) $\leq 60W$		Power Output: PoE1~14 Port:1/2(+52V),3/6(GND) $\leq 30W$ PoE15~16 Port:1245(+52V),3678(GND) Compatible1/2(+52V),3/6(GND) $\leq 60W$
Protection Level	Lightning Protection: 6KV		
	ESD Protection: 8KV		
Physical Specifications	Size(L*W*H):310mm*260mm*100mm		
Working Environment	Operating Temperature: -30°C~60°C		
	Storage Temperature: -40°C~70°C		
	Operating Humidity: 10%~90% Non-condensing		
	Storage Humidity: 5%~90% Non-condensing		
Certification	CE		
	FCC		
	RoHS 2.0		
Warranty	Whole Device: 1 year		
Package Content	AC Power Cable, User Manual, Installation Kits (Steel hoops, Waterproof pipes, Wall mounting earrings)		

Outdoor Waterproof Series 03

Model	GNT-P1008G6-F		GNT-P1012G6-F	
Ports	8X10/100/1000Mbps PoE Ports (RJ45) Compatible Uplink Port (RJ45)		8X10/100/1000Mbps PoE Ports (RJ45) 2X10/100/1000Mbps Uplink Port (RJ45) 2X10/100/1000Mbps SFP Port	
Transmission Rate	2000Mbps Full Duplex; 10 or 100 or 1000Mbps Half Duplex			
Transmission Distance	130m			
Performance Specification	Bandwidth: 16 Gbps		Bandwidth: 24 Gbps	
	Network Latency (10 to 1000Mbps): ≤ 16μs (use the 64byte package size)			
	MAC address table: 8K			
	The Frame Filter & Transmission Rate: 14800pps the most for 10M port, 148800pps the most for 100M port, 1488000pps the most for 1000M port			
Networking Standard	IEEE 802.3i 10BASE-T/IEEE 802.3u 100BASE-TX			
	IEEE 802.3ab 1000BASE-T			
	IEEE 802.3x FlowControl			
	IEEE 802.3af/at/bt Power over Ethernet			
Power Support	Power Input:AC 90~240V Totals≤120W			
	AI Watchdog: Port 1~8			
	Power Output: PoE1~6 Port: 1/2(+52V),3/6(GND)≤30W PoE 7~8 Port:1245(+52V),3678(GND) Compatible1/2(+52V),3/6(GND)≤60W			
Protection Level	Lightning Protection: 6KV			
	ESD Protection: 8KV			
Physical Specifications	Size(L*W*H):310mm*260mm*100mm			
Working Environment	Operating Temperature: -30℃~60℃			
	Storage Temperature: -40℃~70℃			
	Operating Humidity: 10%~90% Non-condensing			
	Storage Humidity: 5%~90% Non-condensing			
Certification	CE			
	FCC			
	RoHS 2.0			
Warranty	Whole Device: 1 year			
Package Content	AC Power Cable, User Manual, Installation Kits (Steel hoops, Waterproof pipes, Wall mounting earrings)			

Troubleshooting

Please check the following if the device isn't operating as expected

1. Confirm that all installation steps were followed as described above in this manual
2. Confirm that the ethernet cables and connectors are terminated according to the EIA/TIA568A or 568B industry standards
3. Power of af/at ports can't exceed 30W and power of bt ports can't exceed 60W so make sure that all devices are connected accordingly to their power rating
4. Try a working device to check if the problem is happening inside the device
5. If the problem persists please contact will us.

RJ 45 Making Method

Tools to make RJ45: wire crimper, network tester;

Wire sequence of RJ45 plug should conform with EIA/TIA568A or EIA/TIA568B standard;

1. Strip off the 2cm insulating layer to expose the 4 pairs UTP cable;
2. Separate the 4 pairs of UTP cable and straighten them;
3. Line up the 8 separated pieces of cables per EIA/TIA 568A or 568B;
4. Cut the cables to leave 1.5cm bare wire and make sure 8 thread ends are flat and neat;
5. Plug 8 cables into RJ45 plug, make sure each cable is in each pin;
6. Then use wire crimper to crimp the RJ45;
7. Do the above 5 steps again to make the another end of the twisted pair and make sure consistent cable order between two ends;
8. Using network tester to test the cable.

pin color	
1	white/green
2	green
3	blue
4	white/orange
5	white/blue
6	white/brown
7	orange
8	brown



EIA/TIA 568A

pin color	
1	white/orange
2	orange
3	white/green
4	blue
5	white/blue
6	green
7	white/brown
8	brown



EIA/TIA 568B



Notice

Make sure both ends use EIA/TIA568A connection method when using RJ45 port.
Make sure both ends use EIA/TIA568B connection method when using RJ45 port.

After-sales Service

Warranty card

The following situations are not covered by free maintenance, the company can provide paid service for out-of-warranty devices:

- 1.The Device failure or damage is caused by installation, use, maintenance and storage not according to the instructions in this manual.
- 2.Out of the warranty period.
- 3.Alter or tear up of the product barcode by unauthorized personnel.
- 4.The product barcode or model number on the product warranty card does not match with the product itself.
- 5.Modification of firmware or disassembly and repair from unauthorized personnel.
- 6.Damage caused from accidental factors or human actions, such as exposing to strong light sources, inappropriate voltage, high temperature, water ingress, mechanical damage, falling, severe oxidation and rusting of the product etc.
- 7.Damage caused by delivery, loading and unloading during maintenance
- 8.Product failure or damage caused by force majeure such as earthquake, fire, flood, lightning.
- 9.All other failures or damage that are not caused by the product's own design, technology, manufacturing, quality and other issues.

Device after-sales service period and policy:

Product Category	Commitment Policy	Service Method
Switch	One year warranty	Customer delivery for repair



Notice

- 1.This warranty and replacement service is limited to the main device. Accessories such as packaging, various connection cable, software products and technical equipment are not covered.
- 2.During the warranty period (up to 1 year after the moment of purchase) the product will be checked by the authorized personnel in the distributor office. After the issue is confirmed the product will be repaired. If the issue can't be repaired, a replacement new device or similar model will be provided to the client. The old device will be property of the distributor. If not issue is detected in the device that the client delivered, that same device will be given back to the client after checkup
- 3.When asking for warranty, original invoice and warranty card must be provided to the distributor personnel. The original invoice and warranty card can be returned after a photocopy of it is made. If paid service will be provided, a warranty of 3 months will be applied for the repaired device
- 4.For a free warranty replaced device or repaired device, the original warranty period will remain a cive plus the days that the device remained in the distributor's premises.
- 5.All shipping costs, removal and installation of the device, delivery of the device to the distributor's premises are covered by the client.

User stub

In order to protect your rights, please fill in it carefully and keep it properly as a proof of repair:

Dealers Information	Model		Contact Number	
	Serial Number		Sale Date	
User Information	User Name		Contact Number	
	Address		E-mail	

Idea Transmission Navigator

