

ZYXEL
NETWORKS



Born for Surveillance

IP Surveillance
Solution Guide

The trend moving toward IP surveillance

The Internet of Things (IoT) is rapidly creating business opportunities and the surveillance segment is among one of the largest. Requests of higher resolution, easy

installation and management for surveillance system, analogue security cameras are gradually being replaced with digital IP cameras.

Key of the Surveillance: PoE Switches

Following the increased development of IP camera technology, PoE switches have played an essential role in surveillance deployments. Current PoE switches' design on the market are too generic to keep up with

the needs of modern surveillance installation. Zyxel, an industry leader in switch design and production, offers PoE switches designed specifically for surveillance applications.



GS1350 Series

PoE switches specifically for surveillance

Essential need for PoE switch in surveillance

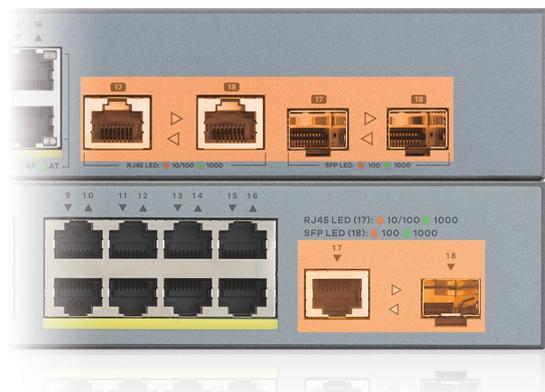
Worry-free PoE Power Budget

Most CCTV installers have no idea how much power their cameras are consuming, larger PoE power budget brings a worry-free installation experience. It is capable of powering up multiple IP cameras, even when all ports are connected. The PoE LED indicator is the standard feature of Zyxel's PoE switches for an instant view of the PoE usage.



Uplink Ports

In surveillance installation, it's normal for one or two ports on PoE switch required to connect to Camera Management System (CMS), storage, or other switches. Our surveillance switches are equipped with additional uplink ports fulfilling the need for cascaded surveillance networks without occupying ports for IP cameras.



Complete Port Selection

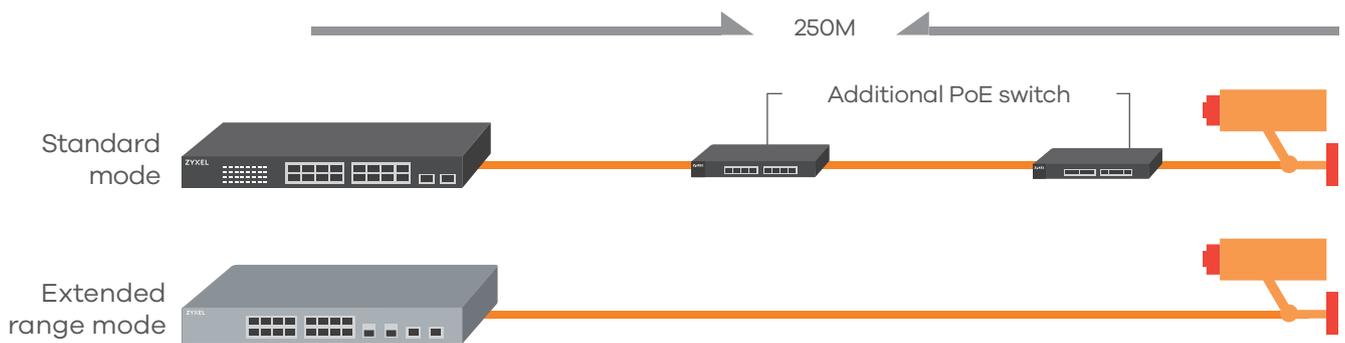
8/16/24-port PoE switches are most frequently used in the surveillance applications. Zyxel surveillance switches come with Unmanaged and Managed series, both of them include small to large port models suitable for CCTV installations of all sizes.



Go Farther than 100 Meters

Usually the max range of one Ethernet cable is 100 meters, making it common that there'll be one or two cameras out of this range in an CCTV installation and users require additional PoE switch or extension hardware to extend power and data over 100 meters, this adds up cost and time to the deployment.

The surveillance switch breaks through the 100-meter limitation with an extended range mode that achieves a remarkable 250 meters of transmission distance. No additional switches required, saving your time, effort, and money!



Extended Range Obstacles

IP cameras exist in various types and models. The maximum length of data transmission will vary between IP cameras due to different electrical characteristics in its Ethernet hardware. Although Zyxel surveillance switch supports 250 meters, the IP camera design may affect the long distance performance limiting to 200 meters or even less.

Another factor is the quality of the Ethernet cable used in the installation, low quality cables have higher impedance which generates more resistance that wears off the data signals when it traverses.

In addition, some IP cameras have pigtail cable that makes the matter worse if it does not share similar quality as a standard Ethernet cable.



IP cameras with pigtail may generate more interference and intensify the degradation of electrical signals.

Some IP cameras maximum range are limited by its electrical characteristics. We recommended to test for interoperability before physical deployment. If the IP camera occurs ping or video losses at 250 meters, try using a shorter cable length or higher graded cable to overcome these obstacles.

Zyxel provides an **IP camera IOP Test Report** with results from 17 different brands including Axis, Bosch, Panasonic, Hikvision, and so on. Please contact Zyxel for the latest report.

Pigtail cable

How Zyxel differentiates ourselves from others

Specialized Hardware

The PoE switch is prone to lightning surges and electrostatic discharges because IP cameras are often installed outdoors. It causes damage to the PoE switch that consequently results in a disabled surveillance network. Most PoE switches are designed for indoor applications without surge protection.

Zyxel Surveillance Switch GS1350 Series is designed with Patented Ethernet Protection on each port to protect the switch from lightning surges and electrostatic discharges. The selected power supply is purposely built to strengthen protection from surge. The robust hardware design of GS1350 Series helps protect against lightning-induced surges and electrostatic discharges, as well as reducing the truck-load to replace poor quality PoE switches.



- ✔ Selected Power Supply
- ✔ Stabilized Power
- ✔ Isolated Circuit Design
- ✔ Patented Ethernet Protection
- ✔ Intelligent System Monitoring

“ When questioned about the impact of the new network on the customer experience, the most desirable outcome is that we receive no complaints or negative reports, which means we have effectively resolved any connection issues. ”

—Dario de Vincentiis
CEO, Extratel srl

Tailor Made Software

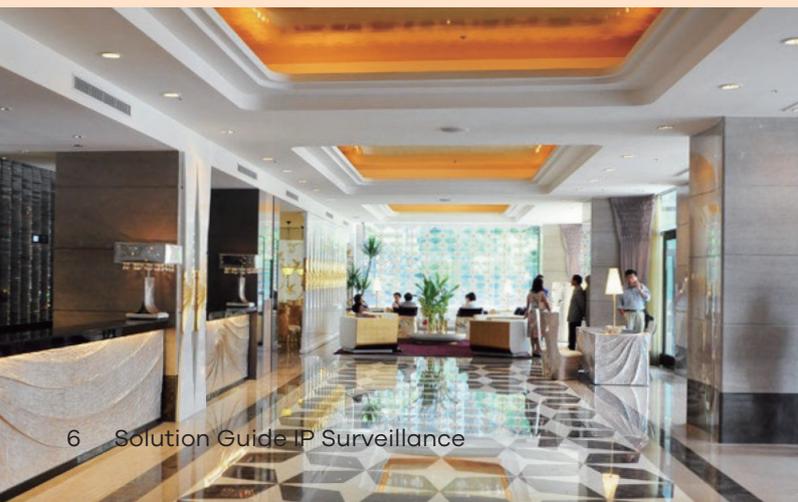
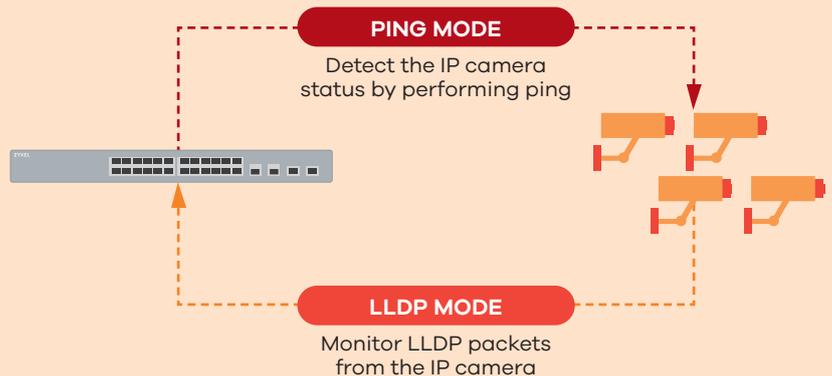
Auto camera recovery: no more black-screen on your monitor

IP cameras might experience an unexpected shutdown or disconnection due to the high-level of risks associated with the network attacks and probing. Once the IP camera goes offline, the only way to recover and bring it back to the normal state is to send a service engineer for onsite attention and troubleshooting. We feel your pain. Say goodbye to irritating downtime for onsite repairs and hello to auto-recovery!

Zyxel Surveillance Switch GS1350 Series features Auto Camera Recovery capability and is able to intelligently detect problems and automatically recover from IP camera malfunction, which not only reduces truck rolls, but also shortens the recovery time significantly. This feature supports both LLDP and PING modes to detect and reboot remotely for all IP camera brands.

Supports all brands of IP camera

Supporting both LLDP and PING modes, our Auto Camera Recovery feature is able to detect and reboot remotely all IP camera brands. Additionally, the granular variables in Auto Camera Recovery feature are all customizable to ensure a quick and error free output for a speedy recovery.



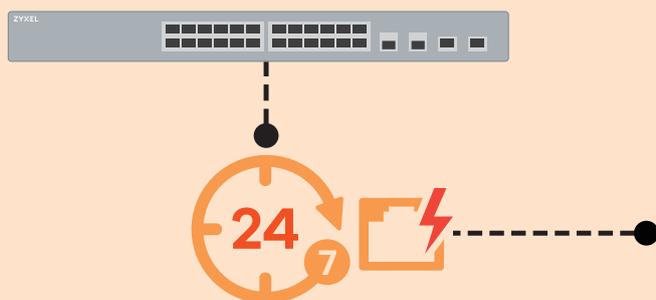
“ The Auto Camera Recovery feature can also be used for other powered devices, such as access points. Check out how this feature benefited this case. ”

—Monarch Skyline Hotel, Taiwan

Continuous PoE makes uninterrupted, 24/7 IP camera operation possible

It is quite common that PoE switches will stop supplying power to IP cameras temporarily during firmware upgrade, rebooting or configuration update takes time for IP cameras to go live again until the power supply is back on during the system maintenance. That's the major reason why many surveillance network devices still stay on outdated firmware, there is little to zero tolerance for shutting down the system for service upgrade.

Zyxel Surveillance Switch GS1350 Series features unprecedented Continuous PoE capability, which ensures non-stop power supply to IP cameras while the switch is undergoing firmware upgrade or rebooting. This function not only significantly shortens the system recovery time, but also makes sure the surveillance network stays up-to-date for the highest possible stability and security.



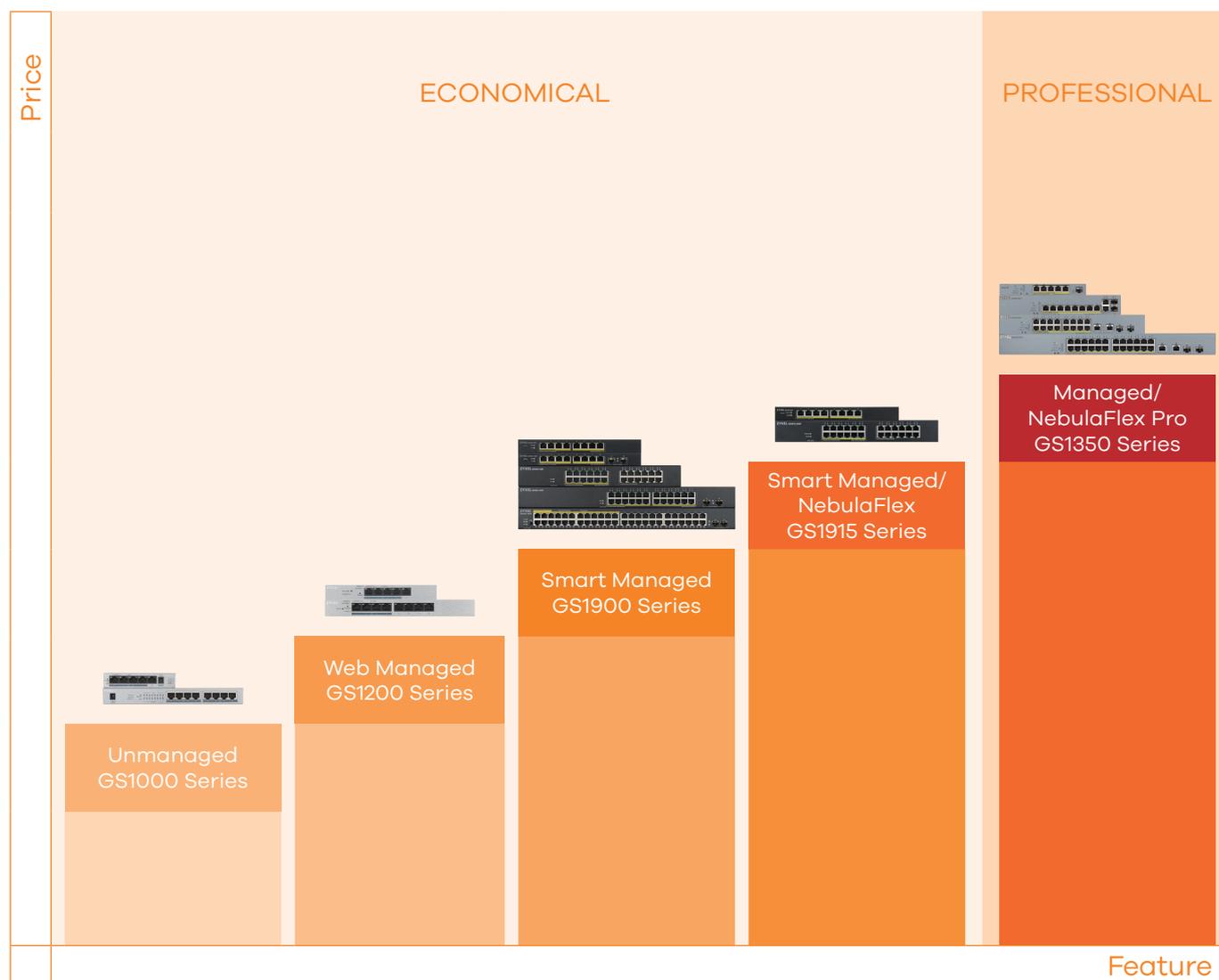
“ Network speed and stability improved significantly. Transmitting surveillance footage has gone from taking hours to minutes, and network management has become much easier, too. ”

—Chang Junhao
IT Manager, SR SUNTOUR Cycling

Zyxel's complete PoE switch portfolio for surveillance

With over 30-years of expertise in PoE switches, we offer the complete PoE switch portfolio from entry-level to advanced options to cover different needs. For customers who seek for economical options, basic features, and lower PoE power budget, the 1000, 1200,

1900, 1915 are your top choices. For those who need more specialized features to save their total costs in the long run should check out 1350, which is designed to fit CCTV applications.



Economical options

Total Port Count	5	5
Model		
	GS1005HP	GS1200-5HP v2
Type	Unmanaged	Web Managed
PoE ports	4	4
Fiber uplink	-	-
PoE power budget	60 W	60 W
Extended range ports	-	-
802.3at PoE+	Yes	Yes

Total Port Count	8	8	8	8
Model				
	GS1008HP	GS1200-8HP v2	GS1900-8HP	GS1915-8EP
Type	Unmanaged	Web Managed	Smart Managed	Smart Managed/ NebulaFlex
PoE ports	8	4	8	8
Fiber uplink	-	-	-	-
PoE power budget	60 W	60 W	70 W	60 W
Extended range ports	-	-	-	-
802.3at PoE+	Yes	Yes	Yes	Yes

Total Port Count	10	24	24
Model			
	GS1900-10HP	GS1900-24EP	GS1915-24EP
Type	Smart Managed	Smart Managed	Smart Managed/ NebulaFlex
PoE ports	8	12	12
Fiber uplink	2 SFP	-	-
PoE power budget	77 W	130 W	130 W
Extended range ports	-	-	-
802.3at PoE+	Yes	Yes	Yes

Economical options

Total Port Count	26	50
Model		
	GS1900-24HP	GS1900-48HP
Type	Smart Managed	Smart Managed
PoE ports	24	24
Fiber uplink	2 SFP	2 SFP
PoE power budget	170 W	170 W
Extended range ports	-	-
802.3at PoE+	Yes	Yes

Professional options

Total Port Count	6	12	18	26
Model				
	GS1350-6HP	GS1350-12HP	GS1350-18HP	GS1350-26HP
Type	Surveillance Managed/ NebulaFlex Pro	Surveillance Managed/ NebulaFlex Pro	Surveillance Managed/ NebulaFlex Pro	Surveillance Managed/ NebulaFlex Pro
PoE port	5	8	16	24
Uplink ports	1 SFP	2 SFP, 2 GbE	2 GbE Combo	2 GbE Combo
PoE power budget	60 W	130 W	250 W	375 W
Auto camera recovery	Yes	Yes	Yes	Yes
Continuous PoE	Yes	Yes	Yes	Yes
Extended range ports	5	8	16	24
802.3at PoE+	Yes, PoE++ (port 1-2)	Yes	Yes	Yes
Ethernet port surge protection	4 KV	4 KV	4 KV	4 KV
Power supply surge protection (Line-GND/Line-Line)	4 KV/2 KV	4 KV/2 KV	4 KV/2 KV	4 KV/2 KV
Ethernet port ESD protection (air/contact)	15 KV/8 KV	15 KV/8 KV	15 KV/8 KV	15 KV/8 KV

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