PLANET
Networking & Communication

8/16/24-Port 10/100BASE-TX 802.3at PoE + 2-Port Gigabit TP/SFP Combo Ethernet Switch

FGSD-1022VHP
FGSW-1822VHP
FGSW-2622VHP

PoE+

802.3at
30 Watts

PoE Status
LCD

Port VLAN

Gigabit
Uplink

SFP
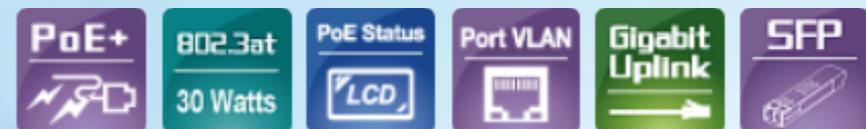
Presentation Outlines

- **Product Positioning**
- **Product Overview**
- **Product Benefits**

- **Product Features**
- **Applications**
- **Appendix**

Perfect PoE+ Solution with **Plug & Watch** for PoE Usage

PoE+
PoE Status — LCD
Port VLAN

PoE Port Status
P01:12.2W   P05:18.4W
P02: 8.4W   P06:----
P03: ULP   P07:   13W
P04: OLP   P08: SCP
PB:120W   Total: 52W

Internet

2 x Gigabit Uplink Port

8-channel NVR Control Room

Product Positioning

PLANET Unmanaged PoE/PoE+ Switch

IEEE 802.3at (Up to 30~36W)

FGSW-1822VHP
16FE at PoE + 2G
300W Budget
19" Rack-mount

FGSW-2622VHP
24FE at PoE + 2G
330W Budget
19" Rack-mount

GSW-1600HP
- 16G x PoE+
- 220W Budget
- 19" Rack-mount

GSW-2620HP
- 24G PoE+ + 2G SFP
- 260W Budget
- 19" Rack-mount

GSD-908HP
- 8G PoE+ + 1G
- 120W Budget
- 9" desktop
- Fanless

FSD-504HP
- 4 x PoE+ + 1TP
- 60W Budget
- Palm size & fanless

FSD-808HP
- 8 x PoE+
- 140W Budget
- 12" desktop

FGSD-910HP
- 8 x PoE+ + 1G TP
- 130W Budget
- 12" desktop

FGSD-1022VHP
8FE at PoE + 2G TP
130W Budget
12" desktop

GSD-604HP
- 6G TP w/ 4 PoE+
- 60W Budget
- Fanless, palm size

GSD-808HP
- 8G x PoE+
- 130W Budget
- 12" desktop

GSD-808HP2
- 8G x PoE+
- 240W Budget
- 13" desktop

IEEE 802.3af (Up to 15.4W)

FNSW-1600P
- 16 x PoE
- 125W Budget
- 19" Rack-mount

FSD-804P
- 4 x PoE + 4 TP
- 55W Budget
- 10" desktop

FSD-808P
- 8 x PoE
- 125W Budget
- 12" desktop

FGSD-910P
- 8 x PoE + 1G TP
- 120W Budget
- 12" desktop

GSD-804P
- 4G x PoE + 4G TP
- 55W Budget
- 10" desktop

Fast Ethernet   **FE + GbE Uplink**   **All-Port Gigabit**

Product Positioning

PLANET *12/19-inch 802.3at PoE+ Unmanaged* Switches w/ LCD Monitor

24-Port

FGSW-2622VHP

P01:12.2W	P07:18.4W
P02: 8.4W	P08:20.5W
P03: ULP	P09:15.5W
P04: OLP	P10:----
P05: OLP	P11:----
P06: OLP	P12: SCP
PB:300W	TP:140W-10

16-Port

FGSW-1822VHP

PoE Port Status

P01:12.2W	P05:18.4W
P02: 8.4W	P06:----
P03: ULP	P07: 13W
P04: OLP	P08: SCP
PB:300W	TP:102W-8

8-Port

FGSD-1022VHP

PoE Port Status

P01:12.2W	P05:18.4W
P02: 8.4W	P06:----
P03: ULP	P07: 13W
P04: OLP	P08: SCP
PB:120W	Total: 52W

Product Overview

Product Overview

◆ **Front Panel (FGSD-1022VHP)**

- ✓ **LCD Monitor** for system status and PoE Usage status display
- ✓ **Hardware DIP switch** for "Standard", "VLAN" and "Extend" mode selection
- ✓ LED Indication for **system power, per port PoE-in-use, speed, LNK/ACT**
- ✓ **8-Port 10/100BASE-TX 802.3at PoE+**, auto-MDI/MDI-X, auto negotiation
- ✓ **2-Port Gigabit TP/SFP Combo Interfaces**
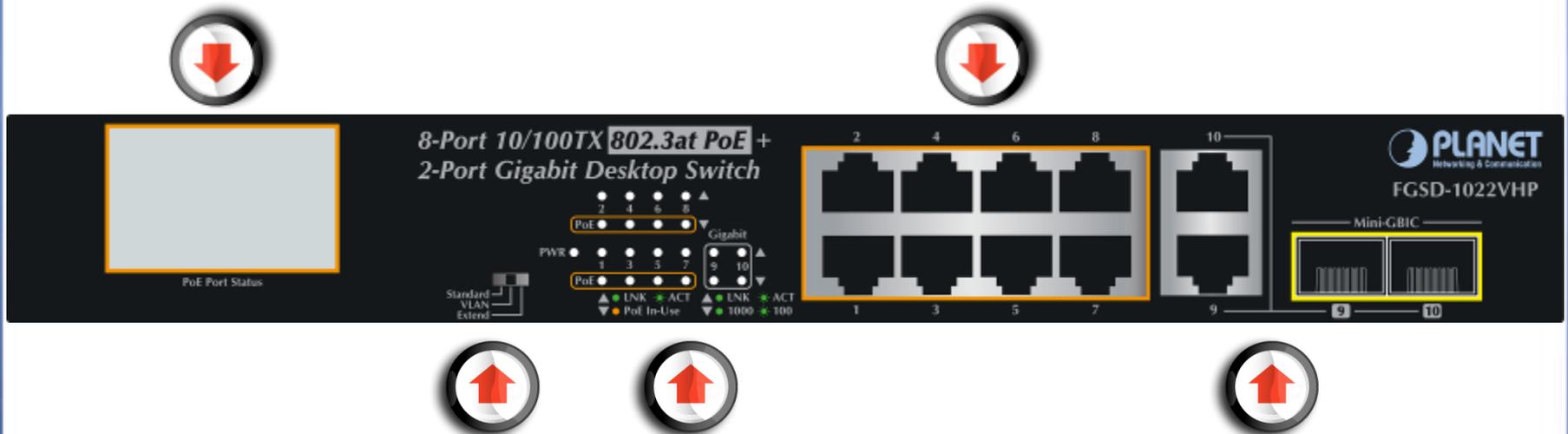
Product Overview

◆ **Rear Panel (FGSD-1022VHP)**

✓ **One fan** for system cooling

✓ **100~240V AC**, universal power socket

✓ **Earth grounding**

Product Overview

◆ **Front Panel (FGSW-1822VHP)**

✓ **LCD Monitor** for system status and PoE Usage status display

✓ LED Indication for **system power, per port PoE-in-use, speed, LNK/ACT**

✓ Hardware DIP switch for **"Standard"** and **"VLAN"** mode selection

✓ **16-Port 10/100BASE-TX 802.3at PoE+**, auto-MDI/MDI-X, auto negotiation

✓ **2-Port Gigabit TP/SFP Combo Interfaces**
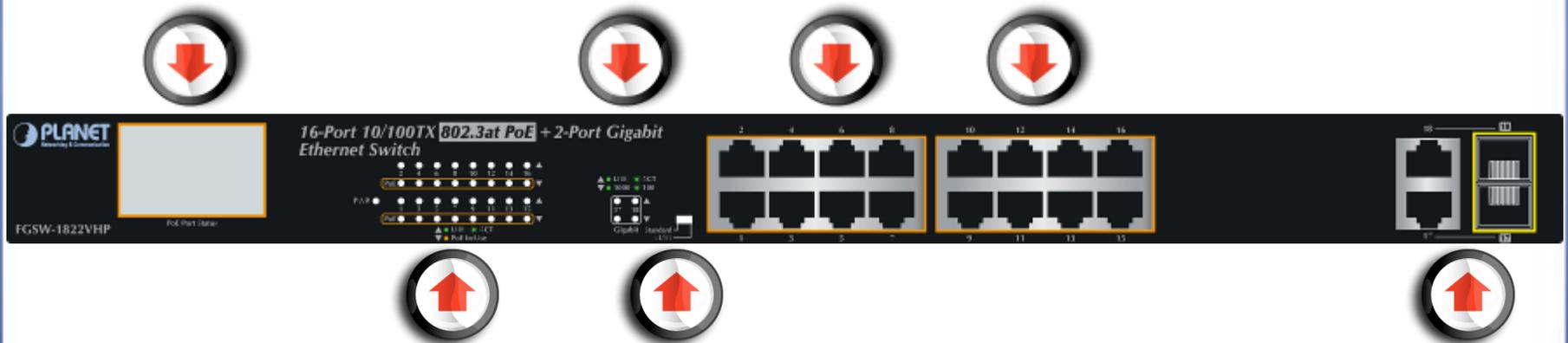
Product Overview

◆ **Rear Panel (FGSW-1822VHP)**

    ✓ **Earth grounding**

    ✓ **100~240V AC**, universal power socket

100~240V AC 50/60Hz, 5A max.
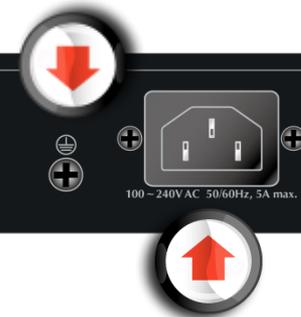
Product Overview

◆ **Front Panel (FGSW-2622VHP)**

✓ **LCD Monitor** for system status and PoE Usage status display

✓ LED Indication for **system power, per port PoE-in-use, speed, LNK/ACT**

✓ Hardware DIP switch for "**Standard**" and "**VLAN**" mode selection

✓ **24-Port 10/100BASE-TX 802.3at PoE+**, auto-MDI/MDI-X, auto negotiation

✓ **2-Port Gigabit TP/SFP Combo interfaces**
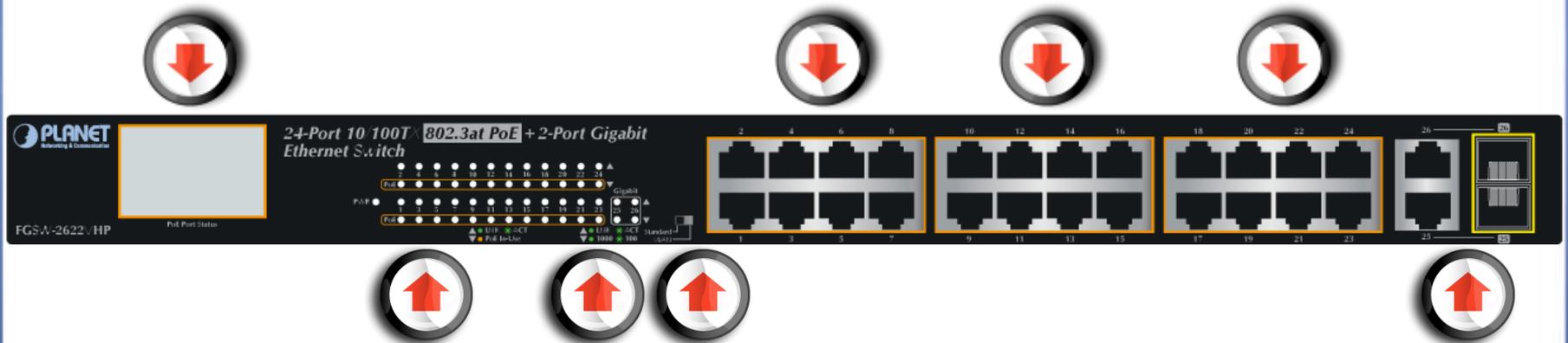
Product Overview

◆ **Rear Panel (FGSW-2622VHP)**

✓ **Earth grounding**

✓ **100~240V AC**, universal power socket

100~240V AC 50/60Hz, 5A max.
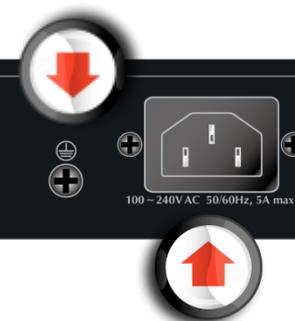
Product Benefits

Product Benefits

◆ **As required by customers**

Provides **8/16/24** **802.3at PoE+** interfaces

Works with **8/16/32-channel NVR** via **bit TP/SFP** ces

LCD Display f time **PoE st** **monitori**

FGSD-1022VHP

FGSW-1822VHP

FGSW-2622VHP

er Flexibility

Effectiveness

Management

Product Benefits

8/16/24 x PoE IP Cameras
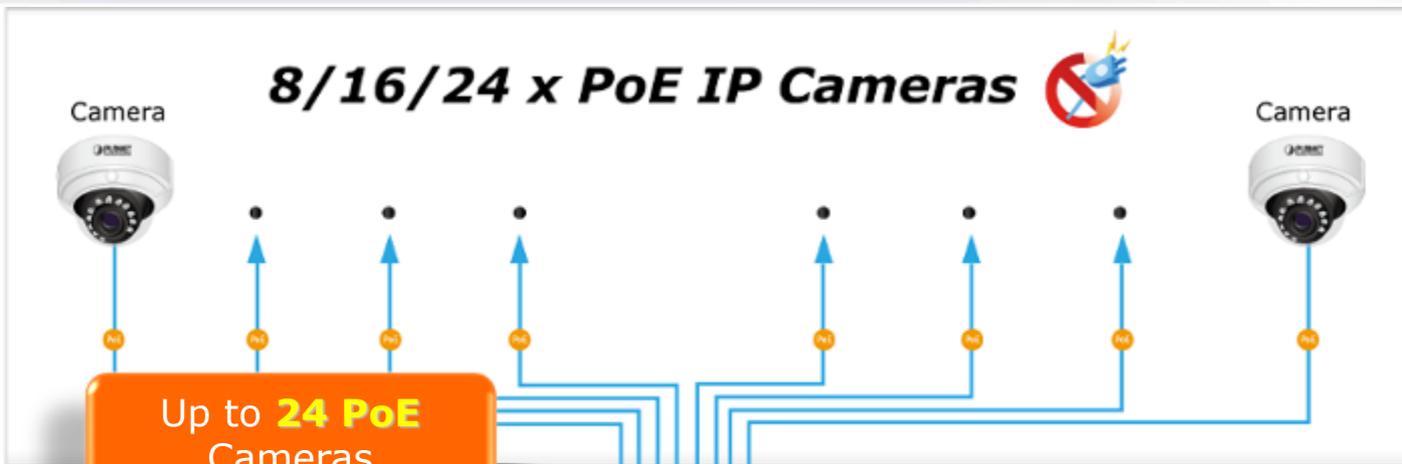
Camera

Camera

Up to **24 PoE** Cameras

One Gigabit Port for **NVR** connection

One Gigabit Port for **Uplink**
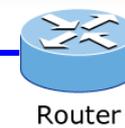
```
P01:12.2W    P07:18.4W
P02: 8.4W    P08:20.5W
P03:  ULP    P09:15.5W
P04:  OLP    P10:----
P05:  OLP    P11:----
P06:  OLP    P12:  SCP
_____
PB:300W      TP:140W-10
```

LCD display for **PoE status** monitoring

8/16/32-ch NVR

Router

Internet

Product Benefits

◆ **Why 8/16/24 PoE Ports w/2 Gigabit uplink?**

Designed for IP Surveillance

NVR

4/8/16/32 channel
Video Recording

CMS

4/8/16/32/64 channel
Central Management Software

Make it a part of the IP Surveillance Kit

FGSD-1022VHP/FGSW-1822VHP/FGSW-2622VHP
8/16/24-port PoE Switch

8/16/32-ch NVR

8/16/24 PoE IP Cameras

Product Key Features

Cost Effectiveness

Designed for IP Surveillance

DIP Switch for VLAN and Extend Mode Selection

IEEE 802.3at PoE+ Standard

FGSD-1022VHP
FGSW-1822VHP
FGSW-2622VHP

LCD Monitor w/ Plug & Watch

PoE Budget 120/300 watts

6KV ESD Protection/ 4KV Surge Immunity
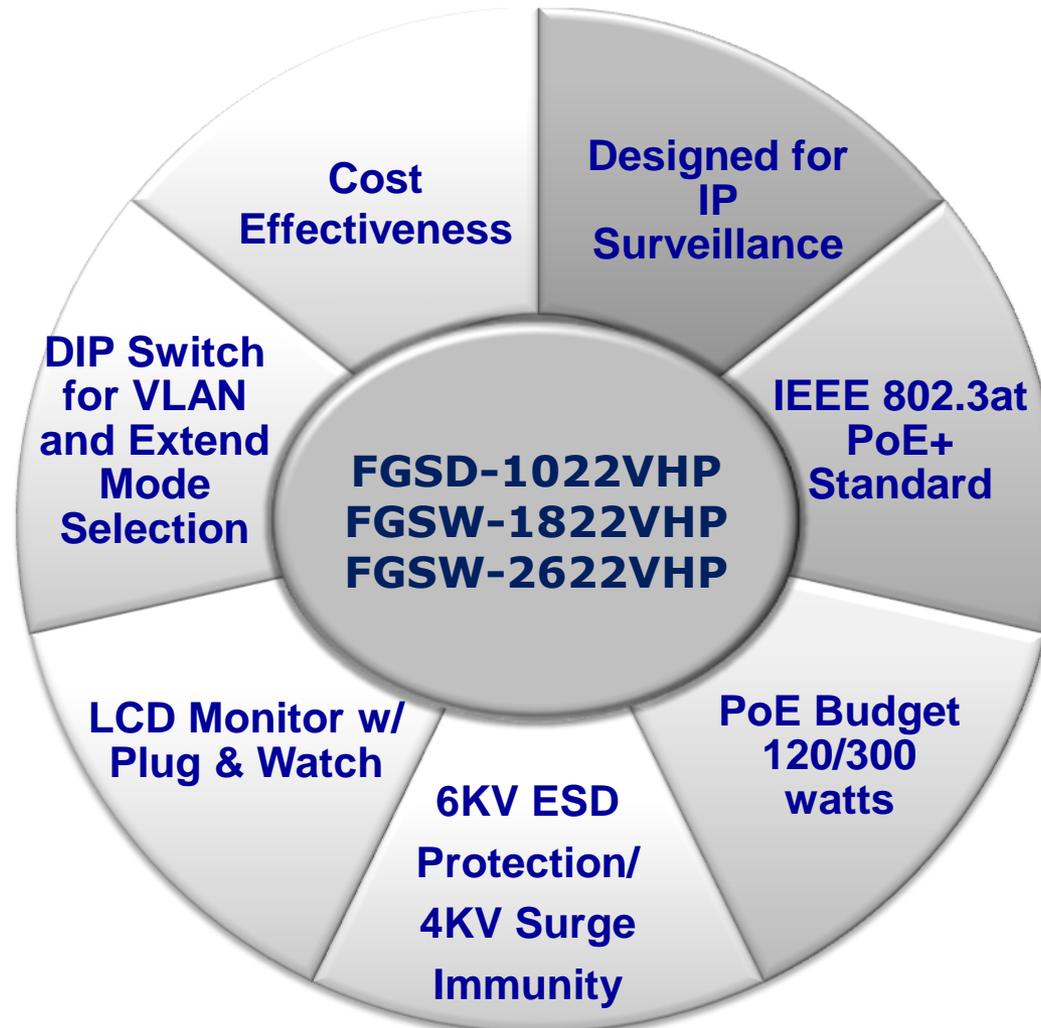
Product Features

◆ **Hardware**

✓ **8/16/24 10/100BASE-TX** Fast Ethernet RJ45 interfaces

✓ **2 10/100/1000BASE-T TP** and **2 1000BASE-X** Combo interfaces

✓ 2 mini-GBIC SFP slots, flexible for Gigabit fiber-optic network extension

✓ 1000BASE-SX/LX: Maximum 120 kilometers (MGB-L120)

✓ Auto-MDI/MDI-X on each Copper port

✓ 6KV DC Ethernet ESD protection and 4KV DC surge immunity

✓ IEEE 802.1Q VLAN transparency

✓ 1/2 silent fans to provide stable and efficient power performance

Product Features

◆ **Power over Ethernet Plus**

- ✓ Complies with **IEEE 802.3af/802.3at** Power over Ethernet Plus PSE
- ✓ **Eight** 10/100Mbps copper ports with **built-in PoE+** injector
- ✓ **53V DC**, **30-watt** PoE power output
- ✓ **120-watt** PoE Power Budget
- ✓ **Auto detects** powered device and consumption levels
- ✓ **Circuit protection prevents power interference between ports**

Model		FGSD-1022VHP
PoE Budget		120 watts
PoE Ability	Class 1 PD, <3.8W	8
	Class 2 PD, <6.5W	8
	Class 3 PD, <12.9W	8
	Class 4 PD, <25W	4
Input Power		100~240V AC/50-60Hz, 2.5A

Product Features

◆ **Power over Ethernet Plus**

- ✓ Complies with **IEEE 802.3af/802.3at** **Power over Ethernet Plus PSE**
- ✓ **Sixteen** **10/100Mbps copper ports with built-in PoE+ injector**
- ✓ **54V DC**, **30-watt** **PoE** power output
- ✓ **300-watt** **PoE Power Budget**
- ✓ **Auto detects** **powered device and consumption levels**
- ✓ **Circuit protection prevents power interference between ports**

Model		FGSW-1822VHP
PoE Budget		300 watts
PoE Ability	Class 1 PD, <3.8W	16
	Class 2 PD, <6.5W	16
	Class 3 PD, <12.9W	16
	Class 4 PD, <25W	11
Input Power		100~240V AC/50-60Hz, 5A

Product Features

◆ **Power over Ethernet Plus**

✓ Complies with **IEEE 802.3af/802.3at** Power over Ethernet Plus PSE

✓ **Twenty-four** 10/100Mbps copper ports with **built-in PoE+** injector

✓ **54V DC**, **30-watt** PoE power output

✓ **300-watt** PoE Power Budget

✓ **Auto detects** powered device and consumption levels

✓ **Circuit protection prevents power interference between ports**

Model		FGSW-2622VHP
PoE Budget		300 watts
PoE Ability	Class 1 PD, <3.8W	24
	Class 2 PD, <6.5W	24
	Class 3 PD, <12.9W	23
	Class 4 PD, <25W	11
Input Power		100~240V AC/50-60Hz, 5A

Product Features

◆ **LCD Monitor for Real-time PoE Usage/System Status**

- ✓ The LCD monitor clearly shows the **PoE loading** of each port, **total PoE power usage** and **system status**, such as **overload**, **low voltage**, **over voltage** and **high temperature**.

- ✓ With its brand-new LCD monitor, user is able to obtain detailed information about real-time PoE working condition directly.

PoE Port Status

```
P01:12.2W    P07:18.4W
P02: 8.4W    P08:20.5W
P03:  ULP    P09:15.5W
P04:  OLP    P10:----
P05:  OLP    P11:----
P06:  OLP    P12:  SCP

PB:300W      TP:140W-10
```

Power Over-voltage Protection

```
WARNING!
------------------
Main supply voltage
is high!

All ports are shut
down.
```

Power Low-voltage Protection

```
WARNING!
------------------
Main supply voltage
is low!

All ports are shut
down.
```

Power Over Temperature Protection

```
WARNING!
------------------
The PSE device is too
hot!

All ports are shut
down.
```

Product Features
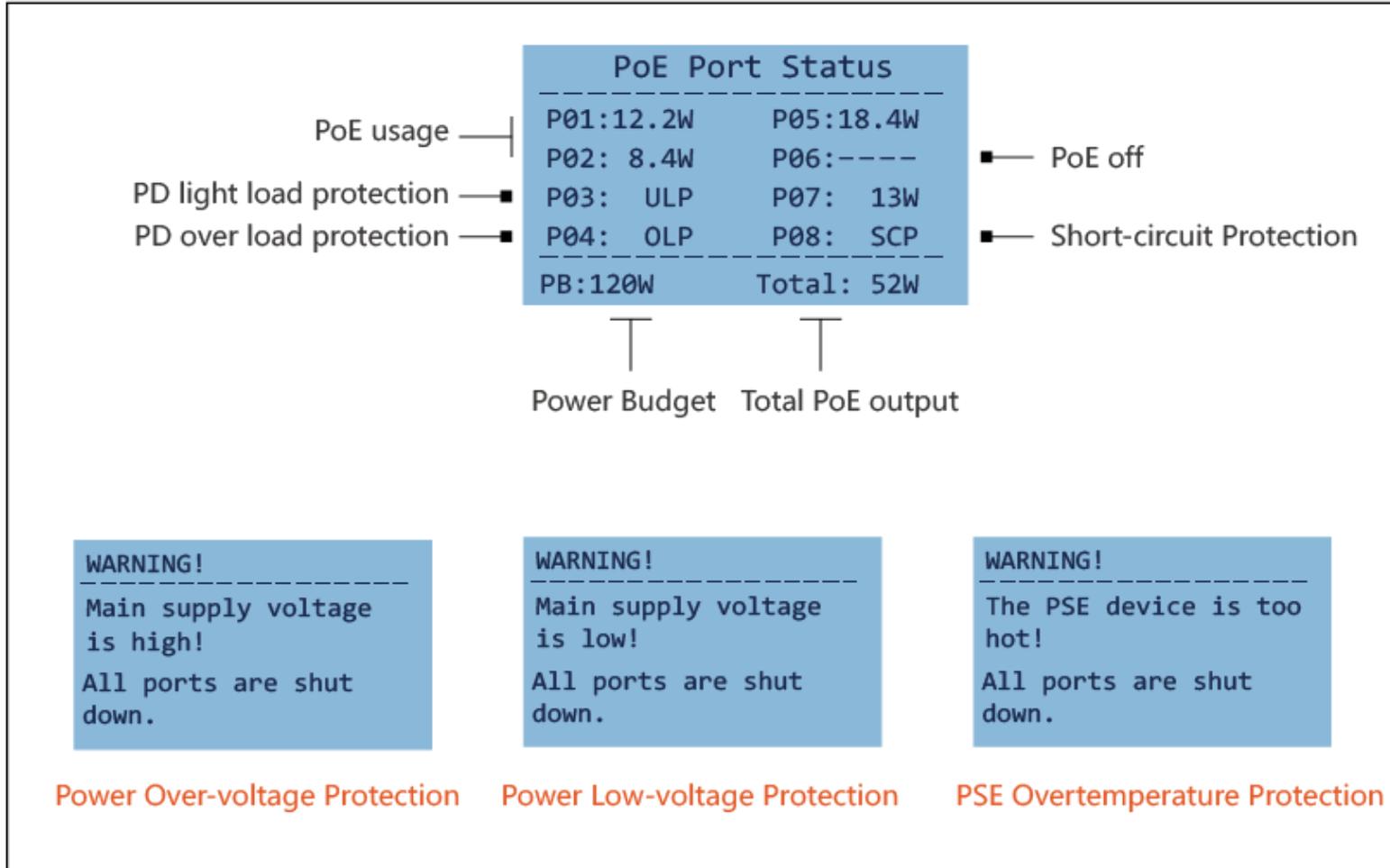
◆ **LCD Monitor for Real-time PoE Usage/System Status**

Product Features

◆ **DIP switch for "Standard", "VLAN" and "Extend" Mode Selection (FGSD-1022VHP only)**

✓ The built-in solid DIP switch provides "**Standard**", "**VLAN**" and "**Extend**" operation modes.

✓ The FGSD-1022VHP operates as a normal IEEE 802.at PoE+ Switch in the "**Standard**" operation mode.
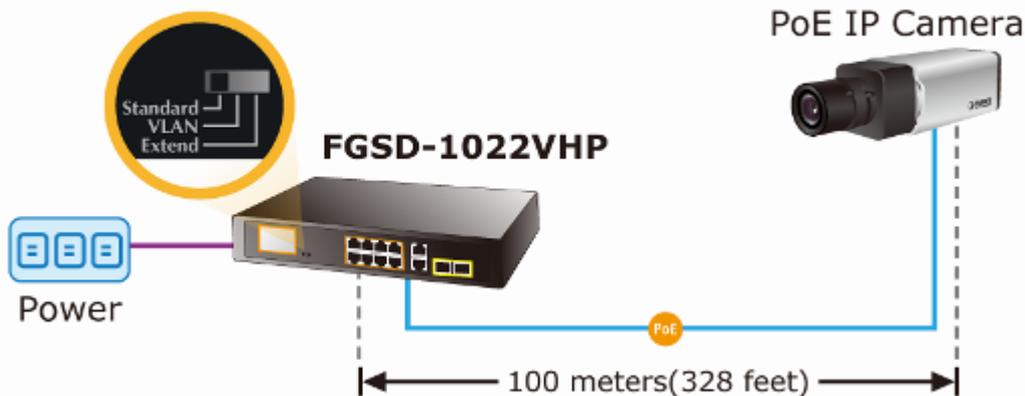
Product Features

◆ **DIP switch for "Standard", "VLAN" and "Extend" Mode Selection (FGSD-1022VHP only)**

   ✓ The "**VLAN**" operation mode features **port-based VLAN** function that can help to prevent the IP camera's multicast or broadcast storm from influencing each other.
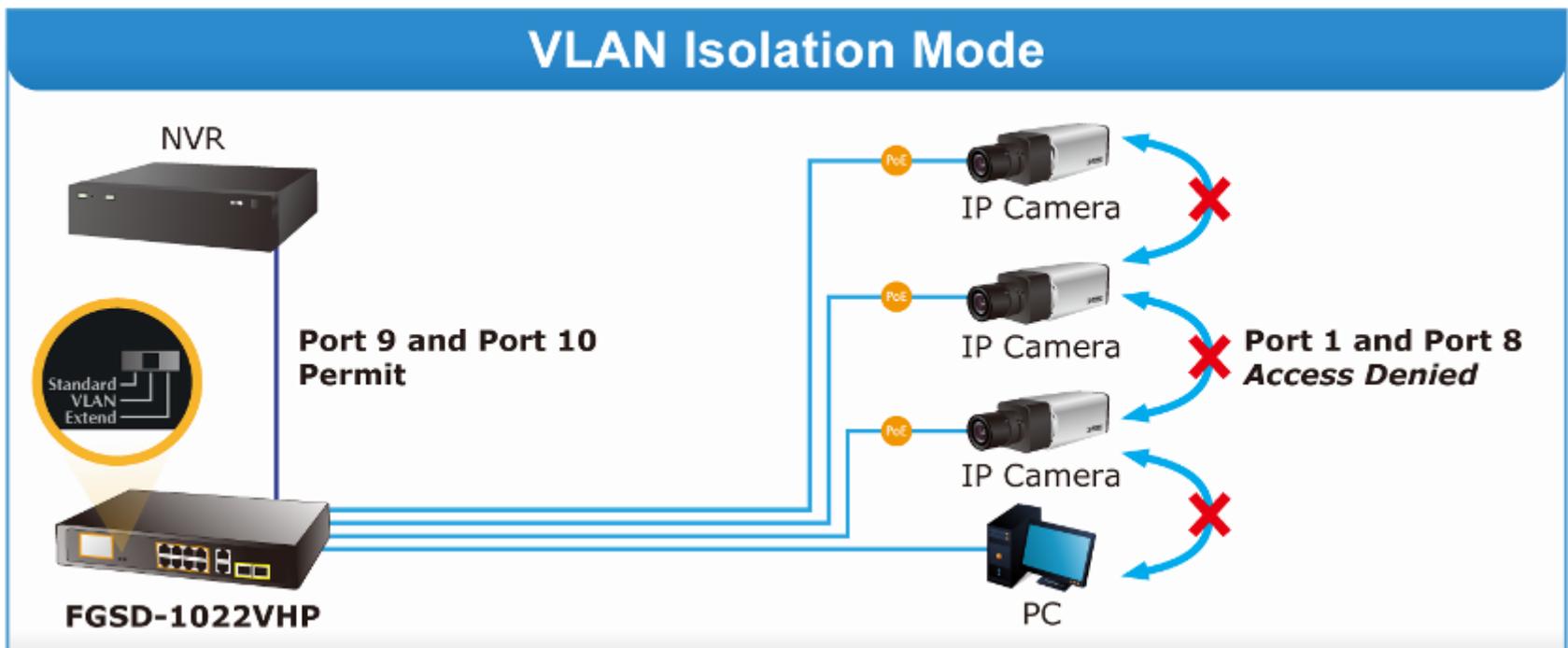
Product Features

◆ **DIP switch for "Standard", "VLAN" and "Extend" Mode Selection (FGSD-1022VHP only)**

✓ In the "**Extend**" operation mode, the FGSD-1022VHP operates on a per-port basis at **10Mbps** duplex operation but can support 30-watt PoE power output over a distance of up to **250 meters** overcoming the 100m limit on Ethernet UTP cable.

✓ Furthermore, its **VLAN isolation** function isolates ports so as to prevent broadcast storm and defend DHCP spoofing in the "**Extend**" operation mode.
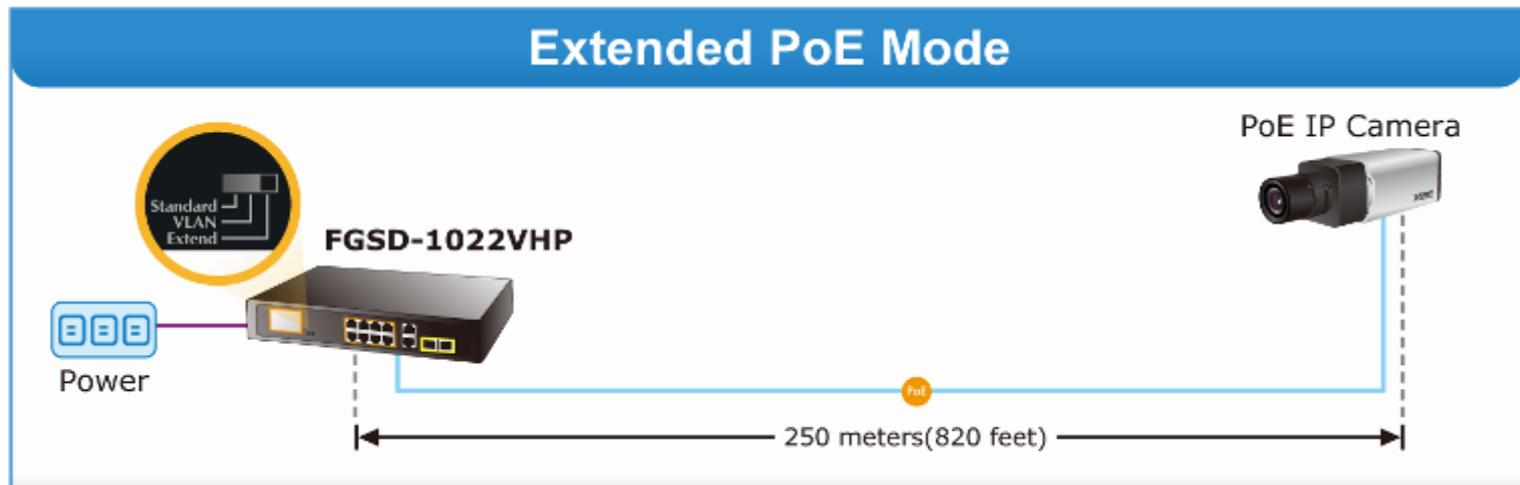
Product Features

◆ **DIP switch for "Standard" and "VLAN" Mode Selection (FGSW-1822VHP/FGSW-2622VHP only)**

✓ The built-in solid DIP switch provides "**Standard**" and "**VLAN**" operation modes.

✓ The FGSD-1822VHP/FGSW-2622VHP operates as a normal IEEE 802.at PoE+ Switch in the "**Standard**" operation mode.
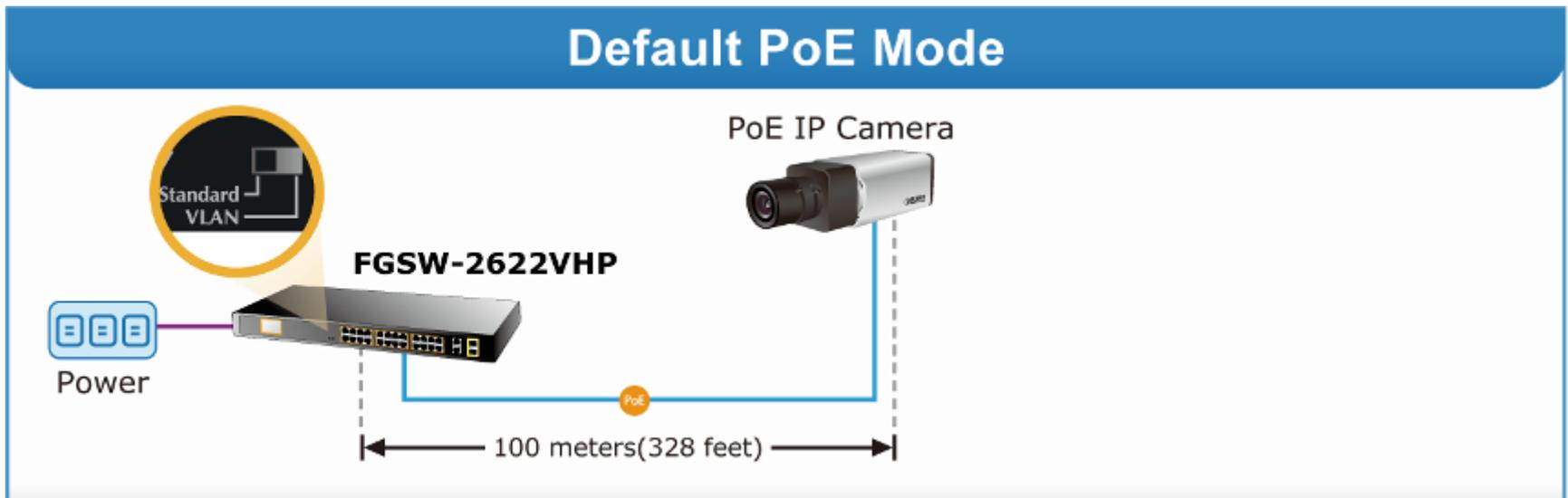
Product Features

◆ **DIP switch for "Standard" and "VLAN" Mode Selection (FGSW-1822VHP/FGSW-2622VHP only)**

✓ The "**VLAN**" operation mode features **port-based VLAN** function that can help to prevent the IP camera's multicast or broadcast storm from influencing each other.
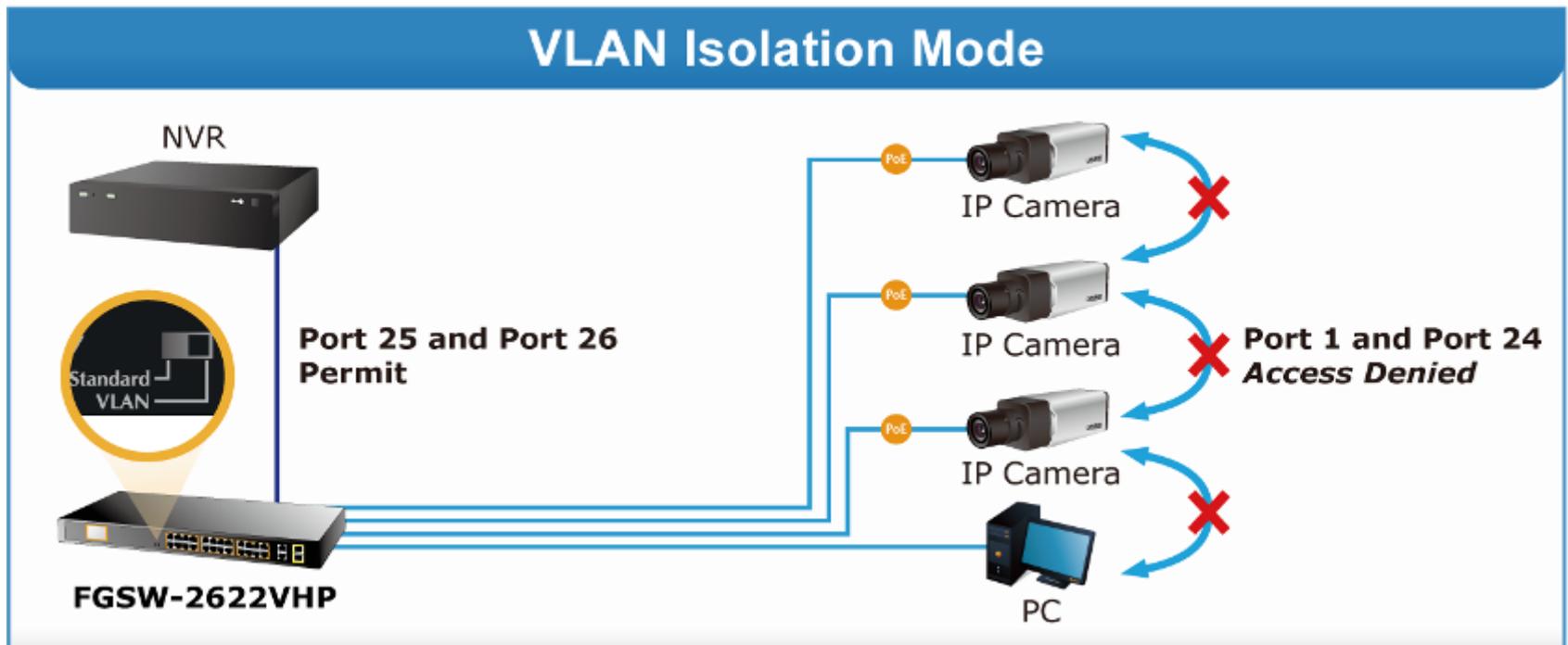
Applications

Applications

◆ **Central PoE Injector Switch for SMBs/Enterprise Network Infrastructure**
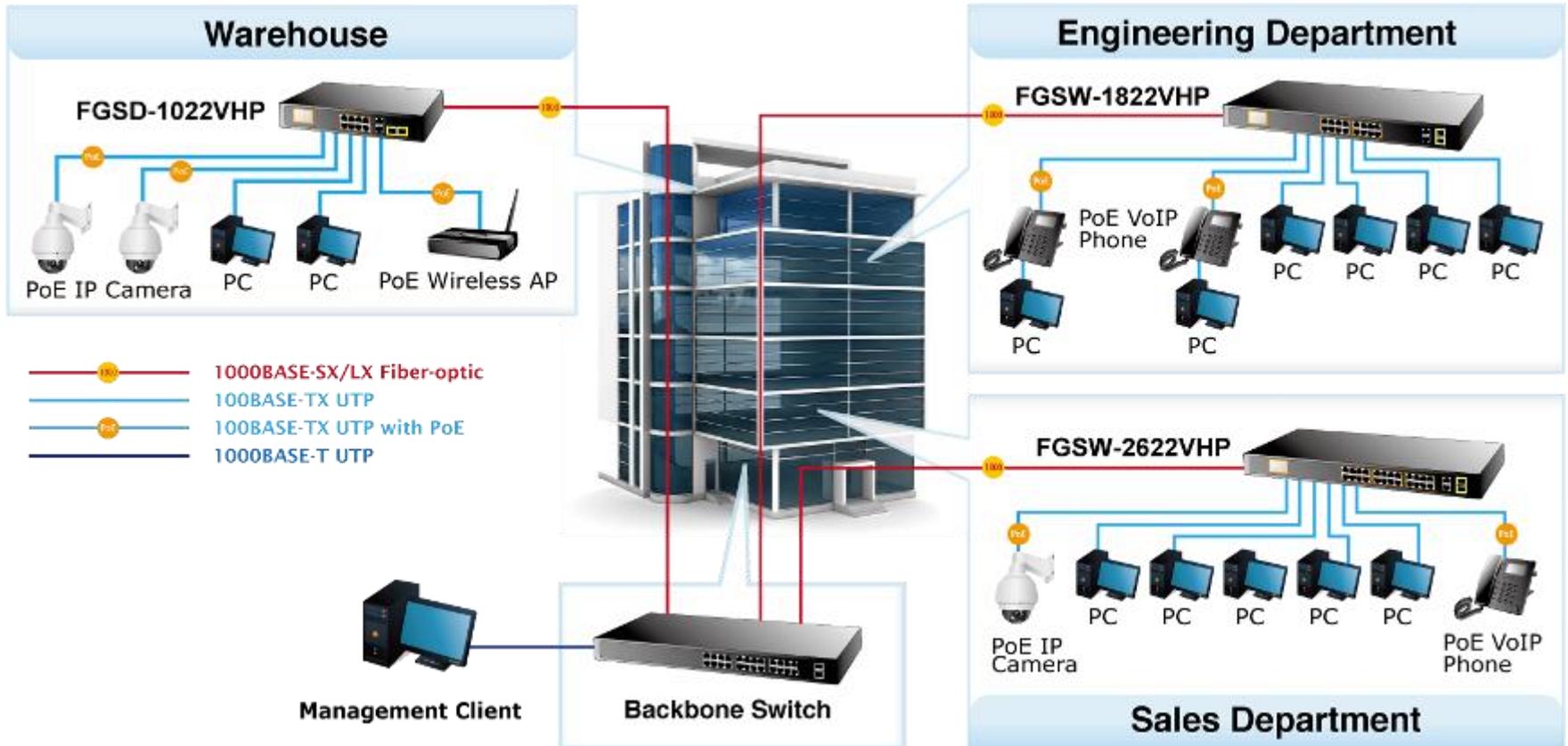
Appendix

Appendix Sales Target

◆ **Target Markets**

- ✓ **IP Surveillance integrator, Wireless Service Provider**
- ✓ **Enterprises, SMBs, Governments, Campuses**
- ✓ **System Integrators**

◆ **Recommended Solutions**

- ✓ **The following 802.3af/802.3at PoE switches are potential to all customers:**
    - FSD-804P, FSD-808P, FGSD-910P, FNSW-1600P
    - FSD-808HP, FGSD-910HP

- ✓ **The following network video recorders (NVRs) are potential to all customers:**
    - NVR-915, NVR-1615,NVR-1620, HDVR-830, HDVR-1630, NVR-3210, NVR-3250

Appendix

◆ **Related IP Surveillance PoE Products:**

Model Name		Description
ICA-E3550V		5 Mega-pixel Bullet IR PoE IP Camera with Extended Support
ICA-E5550V		5 Mega-pixel Vandalproof IR PoE IP Camera with Extended Support
ICA-E8550V		5 Mega-pixel Outdoor IR PoE Fisheye
ICA-4120P		60fps Full HD IR IP Camera
ICA-2250VT		Industrial PoE Plus Outdoor IR IP Camera

Appendix

◆ **Related NVR Products**

  ✓ **Midrange NVRs**

Model Name		Description
NVR-1615		16-Ch Network Video Recorder
NVR-915		9-Ch Network Video Recorder

  ✓ **Entry-Level HDVRs**

Model Name		Description
HDVR-1630		16-Ch Hybrid Digital Video Recorder
HDVR-830		8-Ch Hybrid Digital Video Recorder
HDVR-430		4-Ch Hybrid Digital Video Recorder

Appendix

✓ **Professional NVRs**

Model Name		Description
NVR-E6480		64-Ch Windows-based NVR with 8-Bay Hard Disks
NVR-3250		32-Ch Rack-mount Network Video Recorder
NVR-1620		16-Ch Network Video Recorder with HDMI
NVR-820		8-Ch Network Video Recorder with HDMI

Appendix

◆ Related Wireless PoE Products:

Model Name		Description
WDAP-W7200AC		1200Mbps 802.11ac Wall-mount Wireless Access Point
WDAP-C7200AC		1200Mbps 802.11ac Ceiling-mount Wireless Access Point
WNAP-6350		2.4GHz 802.11n 300Mbps Wireless LAN Outdoor AP/Router with Industrial IP67 Enclosure (2 x N-type Connector)
WNAP-7350		5GHz 802.11a/n 300Mbps Wireless LAN Outdoor AP/Router with Industrial IP67 Enclosure (2 x N-type Connector)
WNAP-8350		600Mbps 802.11n Dual Band Outdoor Wireless CPE (IP66, 802.3at PoE, 4 x N-type Connector)

Appendix

◆ **Related PoE Extender and Splitter Products**

Model Name		Description
POE-E101		IEEE 802.3af Power over Ethernet Extender
POE-E201		IEEE 802.3at Power over Gigabit Ethernet Extender
IPOE-E202		Industrial 1-Port 802.3at PoE+ to 2-Port 802.3af PoE Extender
POE-162S		IEEE 802.3at High Power over Ethernet Splitter (12V & 24V)
IPOE-162S		Industrial IEEE 802.3at High Power over Ethernet Splitter (12V & 24V)

Appendix

◆ **Available Gigabit Ethernet Fiber Optic SFP Modules:**

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	1000	Copper	--	100m	--	0 ~ 60 ℃
MGB-SX	1000	LC	Multi Mode	550m	850nm	0 ~ 60 ℃
MGB-SX2	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 ℃
MGB-LX	1000	LC	Single Mode	10km	1310nm	0 ~ 60 ℃
MGB-L30	1000	LC	Single Mode	30km	1310nm	0 ~ 60 ℃
MGB-L50	1000	LC	Single Mode	50km	1550nm	0 ~ 60 ℃
MGB-L70	1000	LC	Single Mode	70km	1550nm	0 ~ 60 ℃
MGB-L120	1000	LC	Single Mode	120km	1550nm	0 ~ 60 ℃
MGB-TSX	1000	LC	Multi Mode	550m	850nm	-40 ~ 75 ℃
MGB-TLX	1000	LC	Single Mode	10km	1310nm	-40 ~ 75 ℃
MGB-TL30	1000	LC	Single Mode	30km	1310nm	-40 ~ 75 ℃
MGB-TL70	1000	LC	Single Mode	70km	1550nm	-40 ~ 75 ℃

Appendix

◆ **Available Gigabit Ethernet WDM Fiber Optic SFP Modules:**

Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 ℃
MGB-LB10	1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	0 ~ 60 ℃
MGB-LA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 ℃
MGB-LB20	1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 ℃
MGB-LA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 ℃
MGB-LB40	1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	0 ~ 60 ℃
MGB-LA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	0 ~ 60 ℃
MGB-LB60	1000	WDM(LC)	Single Mode	60km	1550nm	1310nm	0 ~ 60 ℃
MGB-TLA10	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75 ℃
MGB-TLB10	1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 75 ℃
MGB-TLA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 ℃
MGB-TLB20	1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 ℃
MGB-TLA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 ℃
MGB-TLB40	1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 ℃
MGB-TLA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	-40 ~ 75 ℃
MGB-TLB60	1000	WDM(LC)	Single Mode	60km	1550nm	1310nm	-40 ~ 75 ℃

Activating IP Power