## Unmanaged Industrial PoE+ Media Converters

■ Managed
■ Unmanaged



| | Model | IMC-661P | IMC-662P | IMC-561P | IMC-562P |
|---|---|---|---|---|---|
| Interface | 10/100/1000Base-T | 1 | 2 | 1 | 2 |
| | 100-FX/1000-SX/LX | 1 | 1 | - | 1 |
| | PoE, PSE | 1 Port, 802.3af/at | 2 Ports, 802.3af/at | 1 Port, 802.3af/at | 2 Ports, 802.3af/at |
| Hardware | Jumbo Frame (Bytes) | 10K | 10K | 10K | 10K |
| | Port Isolation | Y | Y | Y | Y |
| | Automatic MDI/MDI-X | Y | Y | Y | Y |
| | Switching Fabric | 4Gbps | 6Gbps | 4Gbps | 6Gbps |
| | LFS/LLB | Y | Y | Y | Y |
| | Flow Control | Y | Y | Y | Y |
| | Surge Protection | Y | Y | Y | Y |
| | ESD Protection | Y | Y | Y | Y |
| | Reverse Polarity | Y | Y | Y | Y |
| | Over Current Protection | Y | Y | Y | Y |
| Industrial Standards & Certifications | FCC Part 15, CE | Y | Y | Y | Y |
| | Shock Test | Y | Y | Y | Y |
| | Freefall Test | Y | Y | Y | Y |
| | Vibration Test | Y | Y | Y | Y |
| Power | DC Power Input | 48 ~ 57VDC | 48 ~ 57VDC | 48 ~ 57VDC | 48 ~ 57VDC |
| | Redundant Power | Y | Y | Y | Y |
| | Alarm Contact | Y | Y | Y | Y |
| | Power Isolation | Y | Y | Y | Y |
| | Power Consumption | 5.5W | 7W | 5.5W | 7W |
| | PoE Power Budget | 30W | 60W | 30W | 60W |
| Mechanical & Environmental | Dimensions (WxHxD) | 50 x 120 x 100 mm | 50 x 120 x 100 mm | 50 x 116 x 100 mm | 50 x 116 x 100 mm |
| | Weight | 450g | 456g | 385g | 395g |
| | Housing | Aluminum, IP30 | Aluminum, IP30 | Metal, IP30 | Metal, IP30 |
| | Mounting Kit | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) |
| | Operating Temperature | -40°C ~ 80°C | | -20°C ~ 60°C | |

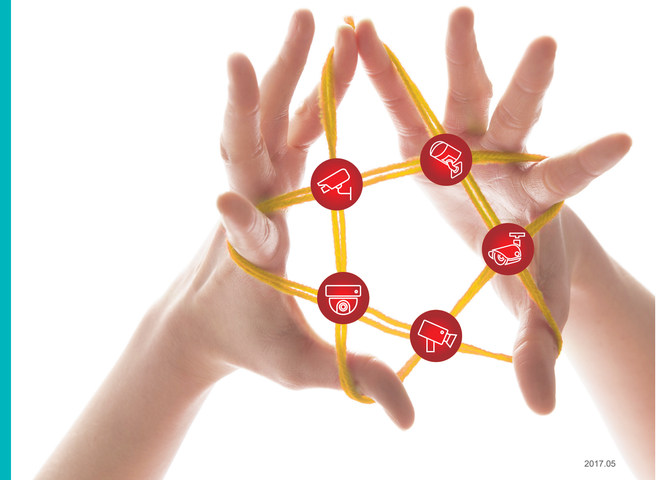
## Unmanaged Industrial PoE+ Switches



| | Model | INS-8424P | INS-8422P | INS-8224P | HNS-8405P | HNS-8415P | IEN-8205P-24V | IEN-8225P-24V |
|---|---|---|---|---|---|---|---|---|
| Interface | 10/100/1000Base-T | 4 | 2 | 4 | 5 | 5 | 5 | 5 |
| | 1000Base-SX/LX | 2 | 2 | 2 | - | 1 | - | 2 |
| | PoE, PSE | 4 Ports, 802.3af/at | 2 Ports, 802.3af/at | 4 Ports, 802.3af/at | 4 Ports, 802.3af/at | 4 Ports, 802.3af/at | 4 Ports, 802.3af/at | 4 Ports, 802.3af/at |
| Hardware | Jumbo Frame (Bytes) | 10K | 10K | 10K | 10K | 10K | 10K | 10K |
| | MAC Entries | 8K | 8K | 8K | 8K | 8K | 8K | 8K |
| | Automatic MDI/MDI-X | Y | Y | Y | Y | Y | Y | Y |
| | Switching Fabric | 12Gbps | 8Gbps | 12Gbps | 10Gbps | 12Gbps | 10Gbps | 14Gbps |
| | Flow Control | Y | Y | Y | Y | Y | Y | Y |
| | Surge Protection | Y | Y | Y | Y | Y | Y | Y |
| | ESD Protection | Y | Y | Y | Y | Y | Y | Y |
| | Reverse Polarity | Y | Y | Y | Y | Y | Y | Y |
| | Over Current Protection | Y | Y | Y | Y | Y | Y | Y |
| Industrial Standards & Certifications | FCC Part 15, CE | Y | Y | Y | Y | Y | Y | Y |
| | Shock Test | Y | Y | Y | Y | Y | Y | Y |
| | Freefall Test | Y | Y | Y | Y | Y | Y | Y |
| | Vibration Test | Y | Y | Y | Y | Y | Y | Y |
| Power | DC Power Input | 48 ~ 57VDC | 48 ~ 57VDC | 48 ~ 57VDC | 48 ~ 57VDC | 48 ~ 57VDC | 24 ~ 57VDC | 24 ~ 57VDC |
| | Redundant Power | Y | Y | Y | Y | Y | Y | Y |
| | Alarm Contact | Y | Y | Y | Y | Y | Y | Y |
| | Power Isolation | Y | Y | Y | Y | Y | Y | Y |
| | Power Consumption | 10W | 8W | 10W | 9W | 10W | TBD | TBD |
| | PoE Power Budget | 120W | 60W | 120W | 120W | 120W | 120W | 120W |
| Mechanical & Environmental | Dimensions (WxHxD) | 50 x 160 x 120 mm | 50 x 160 x 120 mm | 50 x 160 x 120 mm | 31 x 136 x 105 mm | 31 x 136 x 105 mm | 50x120x100 mm | 50x160x120 mm |
| | Weight | 730g | 720g | 705g | 510g | 515g | 464 | 766 |
| | Housing | Aluminum, IP30 | Aluminum, IP30 | Metal, IP30 | Metal, IP30 | Metal, IP30 | Metal, IP30 | Metal, IP30 |
| | Mounting Kit | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) |
| | Operating Temperature | -40°C ~ 75°C | | -20°C ~ 60°C | | | | |

# Surveillance Ethernet

Powering Next Generation
Surveillance Network Solutions



## ABOUT VOLKTEK

Volktek is built around the belief that technology is for people, and with the ideal of making technology easy to use and affordable a principle reflected in the choice of name for the company. The name volktek is derived from the German word for "people" and "technology", and is formed by bringing these two together: thus People's Technology.

Volktek is positioned as a provider of optical Ethernet solutions. With a focus on designing and manufacturing optical Ethernet products, Volktek is ideally placed to meet the need of clients looking for high-quality, radiation-free data transmission over long distances.

*For more information, please contact us or visit our website: www.volktek.com


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2017.05

VOLKTEK



## Managed Industrial PoE+ Switches

■ Managed
■ Unmanaged



| | Model | INS-8648P | INS-8608P | INS-8624P | INS-8622P | INS-8348P | HNS-8605P | HNS-8615P |
|---|---|---|---|---|---|---|---|---|
| Interface | 10/100/1000Base-T | 8 | 8 | 4 | 2 | 8 | 5 | 5 |
| | 1000Base-SX/LX | 4 | - | - | - | 4 | - | - |
| | 100-FX/1000-SX/LX | - | - | 2 | 2 | - | - | 1 |
| | PoE, PSE | 8 Ports, 802.3af/at | 8 Ports, 802.3af/at | 4 Ports, 802.3af/at | 2 Ports, 802.3af/at | 8 Ports, 802.3af/at | 4 Ports, 802.3af/at | 4 Ports, 802.3af/at |
| Hardware | Jumbo Frame (Bytes) | 10K | 10K | 10K | 10K | 10K | 10K | 10K |
| | MAC Entries | 16K | 16K | 8K | 8K | 16K | 8K | 8K |
| | Automatic MDI/MDI-X | Y | Y | Y | Y | Y | Y | Y |
| | Switching Fabric | 24Gbps | 16Gbps | 12Gbps | 8Gbps | 24Gbps | 10Gbps | 12Gbps |
| | Flow Control | Y | Y | Y | Y | Y | Y | Y |
| | Surge Protection | Y | Y | Y | Y | Y | Y | Y |
| | ESD Protection | Y | Y | Y | Y | Y | Y | Y |
| | Reverse Polarity | Y | Y | Y | Y | Y | Y | Y |
| | Over Current Protection | Y | Y | Y | Y | Y | Y | Y |
| Industrial Standards & Certifications | FCC Part 15, CE | Y | Y | Y | Y | Y | Y | Y |
| | Shock Test | Y | Y | Y | Y | Y | Y | Y |
| | Freefall Test | Y | Y | Y | Y | Y | Y | Y |
| | Vibration Test | Y | Y | Y | Y | Y | Y | Y |
| Power | DC Power Input | 48 ~ 57VDC | 48 ~ 57VDC | 48 ~ 57VDC | 48 ~ 57VDC | 48 ~ 57VDC | 48 ~ 57VDC | 48 ~ 57VDC |
| | Redundant Power | Y | Y | Y | Y | Y | Y | Y |
| | Alarm Contact | Y | Y | Y | Y | Y | Y | Y |
| | Power Isolation | Y | Y | Y | Y | Y | Y | Y |
| | Power Consumption | 18W | 18W | 10W | 8W | 18W | 9W | 10W |
| | PoE Power Budget | 240W | 240W | 120W | 60W | 240W | 120W | 120W |
| Mechanical & Environmental | Dimensions (WxHxD) | 50 x 160 x 120 mm | 50 x 160 x 120mm | 50 x 160 x 120 mm | 50 x 160 x 120 mm | 50 x 160 x 120mm | 30 x 136 x 105 mm | 30 x 136 x 105 mm |
| | Weight | 860g | 860g | 730g | 720g | 870g | 510g | 515g |
| | Housing | Aluminum, IP30 | Aluminum, IP30 | Aluminum, IP30 | Aluminum, IP30 | Metal, IP30 | Metal, IP30 | Metal, IP30 |
| | Mounting Kit | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) | DIN-Rail, Wall-Mount (Optional) |
| | Operating Temperature | -40°C ~ 75°C | | | | | -20°C ~ 60°C | |

## Managed & Unmanaged Commercial PoE+ Switches



| | Model | NSH-3426P | NSH-3410P | NSH-2410P | NSH-1408PA |
|---|---|---|---|---|---|
| Interface | 10/100/1000Base-T | 24 | 8 | 8 | 8 |
| | 1000Base-SX/LX | 4 | 2 | - | - |
| | 100-FX/1000-SX/LX | - | - | 2 | - |
| | PoE, PSE | 24 Ports, 802.3af/at | 8 Ports, 802.3af/at | 8 Ports, 802.3af/at | 8 Ports, 802.3af/at |
| Hardware | Switching Fabric | 56Gbps | 20Gbps | 20Gbps | 16Gbps |
| | Forwarding Rate | 41.7Mpps | 14.9Mpps | 14.9Mpps | 11.9Mpps |
| | Packet Buffer | 12Mb | 4.1Mb | 524.8K | 128K |
| | MAC Address Table | 16K | 8K | 8K | 8K |
| | Jumbo Frames | 10K | 10K | 9K | 9K |
| Standards & Certifications | CE Mark | Y | Y | Y | Y |
| | FCC Class A | Y | Y | Y | Y |
| Network Function | LACP Support | Y | Y | Y | - |
| | STP/RSTP | Y | Y | Y | - |
| | IGMP Snooping | Y | Y | Y | - |
| Traffic Management & QoS | Tag-based VLAN | Y | Y | Y | - |
| | Port-based VLAN | Y | Y | Y | - |
| | Network Storm Control | Y | Y | Y | - |
| | Rate Limiting | Y | Y | Y | - |
| Network Management | SNMP v1/v2c | Y | Y | Y | - |
| | SNMP Trap | Y | Y | Y | - |
| | RMON Statistics | Y | Y | Y | - |
| | SNTP | Y | Y | Y | - |
| | eMail Alarm | Y | Y | Y | - |
| | Telnet CLI | Y | Y | Y | - |
| | Console Port | Y | Y | - | - |
| | Web-based GUI | Y | Y | Y | - |
| Power | Input Voltage | 100-240 VAC, 50-60Hz | 100-240 VAC, 50-60Hz | 100-240 VAC, 50-60Hz | 100-240 VAC, 50-60Hz |
| | Power Consumption | 20W | 6W | 6W | 5W |
| | PoE Power Budget | 370W | 125W | 125W | 115W |
| Mechanical & Environmental | Dimensions (WxHxD) | 44 x 22.4 x 4.4 cm | 33 x 20.4 x 4.26 cm | 26.6 x 16.5 x 4.4 cm | 28 x 18.5 x 4.4 cm |
| | Weight | 3.1 kg | 2.4 kg | 1.38 kg | 1.7 kg |
| | Form Factor | Rackmount | Rackmount | Rackmount | Rackmount |
| | Operating Temperature | 0°C ~ 50°C | 0°C ~ 40°C | 0°C ~ 40°C | 0°C ~ 40°C |

# Product Features & Benefits

## Robust Switch Performance



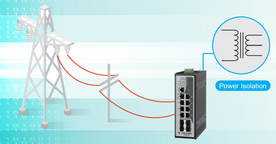

Built with field-hardened components and enclosed in rugged IP30 grade casing, Volktek Surveillance Ethernet switches can withstand in harsh operating environments such as constant vibration, heavy shocks, humidity and extreme temperatures ranging from -40°C to 75°C. These switches support robust protection features including Surge protection, ESD protection, Reverse Polarity Protection and Short Circuit Protection to deliver non-stop PoE power to the Powered Devices even in unstable power conditions.

## Efficient Power Booster Support

There are many places such as small factories, workstations where the voltage supply is not sufficient for PoE operation. Hence to deal with this situation, Volktek PoE switches are designed with innovative power booster technology which can boost standard DC voltage **24VDC/48VDC** to 57 VDC for demanding IP surveillance saving additional cost and space for installing external voltage converter.




## Safer Power Isolation




Volktek switches are designed with secured Power Isolation features which separate the internal primary circuit from the remainder of the on-board circuits, ensuring the safety of the internal parts. This feature guards the internal circuit to be getting damaged in case of higher voltage transmission due to surge, ESD or during power fluctuation.

## Hardened Power Connector with User Friendly Design

Offering a low-cost, simply installation and easy to use solution, Volktek PoE sitches are designed with 4-pin "lock-type" power connector and adjustable DIN-Rail power holder. Being acting as a primary power source, the adapter not only can easily power up the PDs but also prevents from accidental power shutdown due to losing power cable. Those innovated designs are helping to reduce the burdens of installation and maintenance, increase the stability and availability of surveillance systems.





### Managed PoE+ Switches

**INS-8608P**
8-port IEEE 802.3af/at PoE Plus

**INS-8648P**
8-port IEEE 802.3af/at PoE Plus + 4-slot Gigabit SFP

**GPI-421 / GPI-431 / GPI-441**
30W / 60W / 90W PoE Injector

**HNS-8615P**
4-port IEEE 802.3af/at PoE Plus + 1-port 10/100/1000Base-T + 1-slot 100FX/Gigabit SFP

**HNS-8605P**
4-port IEEE 802.3af/at PoE Plus + 1-port 10/100/1000Base-T

**INS-8348P**
8-port 10/100/1000BASE-T + 4 SFP Gigabit Ports

**INS-8622P**
2-port IEEE 802.3af/at PoE Plus + 2-slot 100FX/Gigabit SFP

**INS-8624P**
4-port IEEE 802.3af/at PoE Plus +2-slot 100FX/Gigabit SFP

### Unmanaged PoE+ Switches

**INS-8422P**
2-port IEEE 802.3af/at PoE Plus + 2-slot Gigabit SFP

**INS-8424P**
4-port IEEE 802.3af/at PoE Plus + 2-slot Gigabit SFP

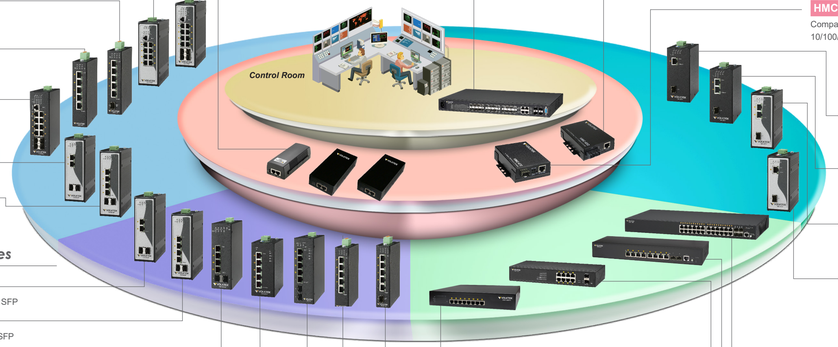
**INS-8224P**
4-port IEEE 802.3af/at PoE Plus + 2-slot Gigabit SFP

**IEN-8205P-24V**
4-Port IEEE 802.3at PoE Plus + 1-port 10/100/1000Base-T

**IEN-8225P-24V**
4-Port IEEE 802.3at PoE Plus + 1-port 10/100/1000Base-T + 2-slot 100FX/Gigabit SFP

**HNS-8405P**
4-port IEEE 802.3af/at PoE Plus + 1-port 10/100/1000Base-T

**HNS-8415P**
4-port IEEE 802.3af/at PoE Plus + 1-port 10/100/1000Base-T + 1-slot Gigabit SFP




### For Control Center

**MEN-4532**
20-slot 100FX/Gigabit SFP + 4-port 100/1000 Combo + 4-slot Gigabit SFP

### ECO Media Converters

Enable Extension of Network Deployment

**HMC-652**
Compact RJ-45 To Fiber Hardened Media Converter 10/100Base-TX to 100FX Media Converter

**HMC-672**
Compact RJ-45 To Fiber Hardened Media Converter 10/100/1000Base-T to Gigabit SFP Media Converter

### Unmanaged PoE+ Media Converters

**IMC-561P**
1-port IEEE 802.3af/at PoE Plus + 1-slot 100FX/Gigabit SFP

**IMC-562P**
2-port IEEE 802.3af/at PoE Plus + 1-slot 100FX/Gigabit SFP

**IMC-661P**
1-port IEEE 802.3af/at PoE Plus + 1-slot 100FX/Gigabit SFP

**IMC-662P**
2-port IEEE 802.3af/at PoE Plus + 1-slot 100FX/Gigabit SFP

### Commercial PoE+ Switches

**NSH-1408PA**
Unmanaged Gigabit PoE Switch
8-port IEEE 802.3af/at PoE Plus

**NSH-2410P**
Web Smart Gigabit PoE Switch
8-port IEEE 802.3af/at PoE Plus + 2-slot 100FX/Gigabit SFP

**NSH-3428P**
Managed Layer 2 Gigabit PoE Switch
24-port IEEE 802.3af/at PoE Plus + 4-slot Gigabit SFP

**NSH-3410P**
Managed Layer 2 Gigabit PoE Switch
8-port IEEE 802.3af/at PoE Plus + 2-slot Gigabit SFP

### Tunnel Application



### Highway Surveillance



### Shoreline Surveillance



### PoE Solution for Base Stations



# Product Features & Benefits

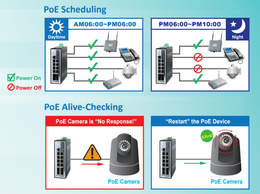
## High-Power Budget for PoE Network Devices



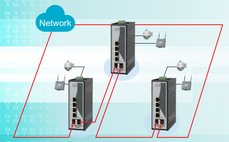

Designed under IEEE 802.3af/at standards capable of delivering power up to 30W per port over the existing Ethernet cable, Volktek PoE switches provide a high power budget for the attached Powered Devices without any need of external power source which significantly reduces the CAPEX. The PoE switches allow simple plug-and-play PoE functionality for various high power consuming PoE devices, enabling easy to manage and burden-less installation.

## Intelligent PoE+ for Powered Devices

With user configurable power budget limit feature, the PoE switches limit power output to devices to ensure that power consumption does not exceed user defined parameters. And to monitor real-time status of PDs, they send alive-checking packets to PDs. This reduces management burden and increases system reliability. Using power scheduling mechanism, administrators can set power on each port to a desired hourly/weekly schedule and can enable or disable the power output to these devices accordingly.




## Redundant and Resilient Surveillance Network




Understanding the important requirements of network redundancy and long fiber transmission for surveillance systems; most of Volktek PoE products are designed with dual Gigabit SFP ports and various network redundancy protocols such as Volktek proprietary Xpress Ring, STP/RSTP/MSTP, Dual Homing, and Ethernet Ring Protection Switching (ERPS) to satisfy not only daisy chain but also network ring topologies.

## Well synchronized Peer-to-peer Connectivity

Understanding the necessity of synchronization among multilevel of devices as precisely as possible over an ever increasing network, Volktek's surveillance Ethernet switches support leading-edge IEEE 1588PTP v2 time synchronization feature. This function enables to establish a stable and organized end-to-end connectivity between the switch in the outdoor cabinet and the regulatory core network.

