

# 9561-8GP4XS-TSN

Layer 3 Managed 8 x 10/100/1000 btPoE &  
4 x 100/1G/10G SFP+ Industrial TSN Switch

## Description

The 9561-8GP4XS-TSN is a managed industrial TSN switch featuring 8-port 10/100/1000BASE-T btPoE RJ45 interfaces and 4-slot 100/1G/10G SFP+ uplinks. It also includes one RJ45 console port and one USB port for firmware upgrades and configuration maintenance. This switch is engineered and designed especially for harsh & extreme industrial applications, featuring high tolerance to vibration and shock, and a wide operating temperature range from -40°C to 70°C.

It supports advanced Power over Ethernet capabilities including btPoE (IEEE 802.3bt) delivering up to 90W, enabling power-hungry devices such as high-end IP cameras and wireless access points to be operated without additional power sources. The PoE management features allow per-port power monitoring, prioritization, and scheduling to optimize power distribution and efficiency.

Additionally, the switch supports precision timing protocols such as IEEE 1588 and 802.1AS-Rev, making it ideal for applications requiring synchronized operations. Advanced features like G.8032 and full TSN support, along with TSN Domain Protection, enhance network reliability and security.



**RoHS** **CE** **FC**



## Features Highlight

### Precision Timing and TSN Support

Fully compliant with Time-Sensitive Networking (TSN) protocols, including IEEE 802.1Qci, 802.1Qav, 802.1Qbv, 802.1Qbu, 802.1BR, IEEE 802.1CB, 802.1AS-2020 gTPP, and IEEE 1588v2, this switch enables deterministic data transmission, precise time synchronization, and robust traffic shaping to meet automation and control system needs.

### Advanced Redundancy and Reliability

Implements Ethernet ring protection protocols including G.8032, IEC-62439-2 MRP, HSR, PRP to guarantee continuous network uptime and fast recovery from failures.

### Comprehensive Network Security

Includes IEEE 802.1X port-based authentication, TACACS, ACL, DHCP Snooping, ARP Inspection, BPDU Guard, Root Guard, IP Source Guard, and MAC Anti-spoofing to prevent unauthorized access and safeguard network integrity.

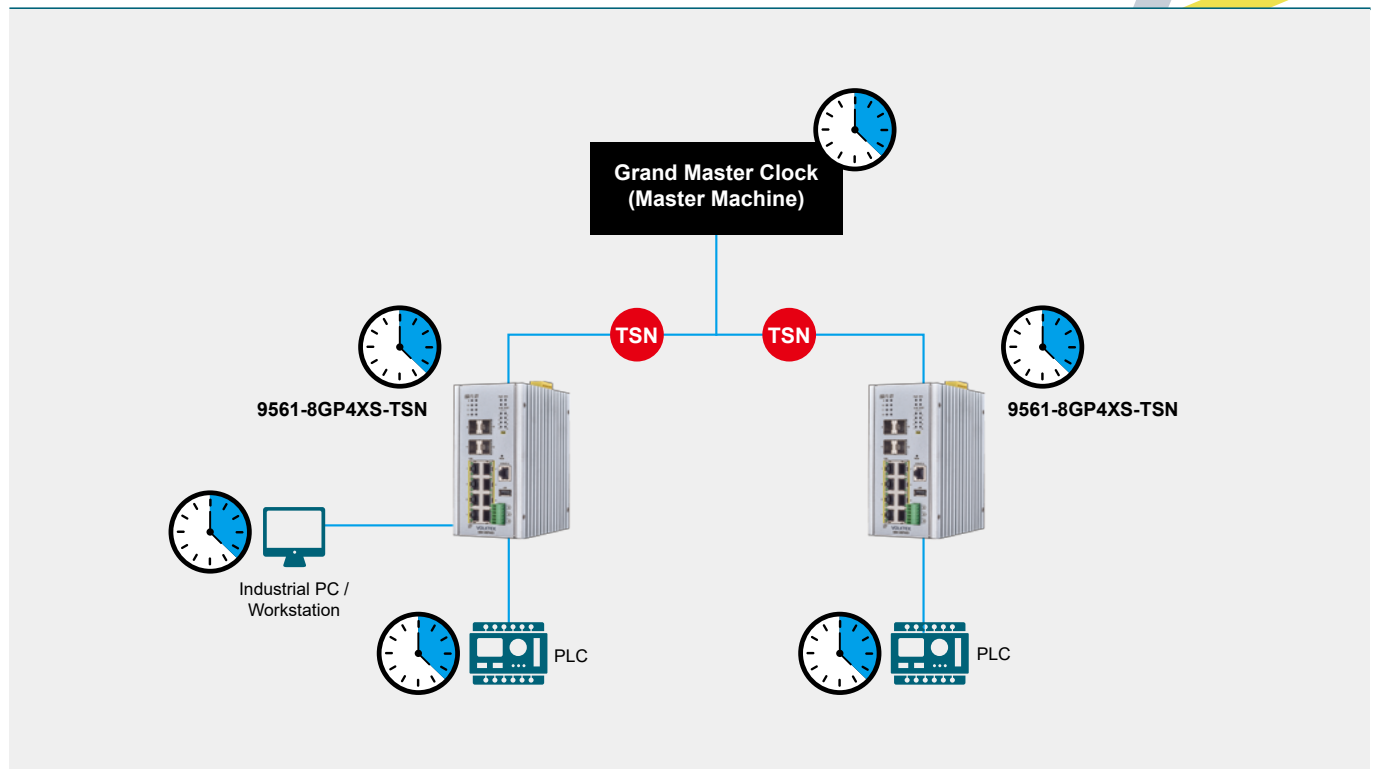
### Advanced Traffic Control and Quality of Service

Equipped with VLAN (IEEE 802.1Q), QinQ, IGMP snooping/filtering, MVLAN, QoS, storm control, rate limiting, loop detection, port isolation, SPAN/RSPAN/VSPAN, and inter-VLAN routing, enabling granular bandwidth control and smooth multimedia/data transmission.

### Energy Efficient and Smart PoE Management

Compliant with IEEE 802.3af/at/bt standards, providing a total power budget of up to 360W and delivering up to 90W per port for data and power delivery to end devices on a single cable. Supports automatic power class detection, power priority, and feeding power budget control to optimize power delivery and reduce energy consumption.

## Applications



## Specifications

| Standards            |                                    |
|----------------------|------------------------------------|
| IEEE 802.3           | 10BASE-T                           |
| IEEE 802.3u          | 100BASE-TX                         |
| IEEE 802.3ab         | 1000BASE-T                         |
| IEEE 802.3z          | 1000BASE-SX/LX                     |
| IEEE 802.3ae         | 10GBASE-SR/LR/ER                   |
| IEEE 802.3 Nway      | Auto-negotiation                   |
| IEEE 802.3x          | Flow Control                       |
| IEEE 802.3ad         | Link Aggregation                   |
| IEEE 802.3af         | Power over Ethernet (PoE)          |
| IEEE 802.3at         | Power over Ethernet Plus (PoE+)    |
| IEEE 802.3bt         | 4-Pair PoE Type 3 / Type 4 (PoE++) |
| IEEE 802.3az         | Energy Efficient Ethernet (EEE)    |
| IEEE 802.1AB         | LLDP                               |
| IEEE 802.1ad         | QinQ                               |
| IEEE 802.1D          | STP                                |
| IEEE 802.1w          | RSTP                               |
| IEEE 802.1s          | MSTP                               |
| IEEE 802.1p          | Class of service                   |
| IEEE 802.1Q          | VLAN Tagging                       |
| IEEE 802.1X          | Network Access Control             |
| IEEE 1588v2          | PTP                                |
| IEEE 802.3ah         | EFM                                |
| IEEE 802.3ag         | CFM                                |
| ITU-TY.1731 Ethernet | OAM                                |
| IEEE 802.1AS         | gPTP                               |
| IEEE 802.1Qci        | PSFP                               |
| IEEE 802.1Qav        | CBS                                |
| IEEE 802.1Qbv        | TAS                                |
| IEEE 802.1Qbu        | FP                                 |
| IEEE 802.1br         | BPE                                |
| IEEE 802.1CB         | FRER                               |

| Interface   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ports       | 8 x 10/100/1000 btPoE Ports                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|             | 4 x 100/1G/10G SFP+ Slots                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|             | 1 x RS232 Console Port                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|             | 1 x USB Port                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|             | 2 x pairs Dry Contact Digital Inputs (DI)                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|             | 1 x Alarm Relay Digital output (DO)                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LED Panel   | PWR, RPS, ALM, POST, 1000, 10G, LNK/ACT, PoE                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Features    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Performance | Jumbo Frames Size: 16Kbytes                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|             | MAC Table Entries: 16K                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|             | Switching Fabric: 56Gbps                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Management  | Forwarding Rate: 41.66Mpps                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|             | CLI, Telnet/SSH, HTTP/HTTPS, Syslog, NTP, DHCP Server/Client, DHCP Relay/Option 82, Server Control, Cable Test, DDM, SFP Info, Cable Test, Port Utilization, MAC Aging Time, EEE, IPv4 Ping/Traceroute, FTP Client, DSN Client/Relay, SNMP v1/v2c/v3, SNMP Trap/Inform, LLDP, LLDP-MED, MVLAN, UDLD, Port Management, SPAN/RSPAN/VSPAN, Firmware Upgrade, Configuration Backup/Restore, Mirroring, RMON, Statistics, ERPS, Digital Inputs/Digital Output, Standard/Private MIB, sFlow, OAM |
|             | STP/RSTP/MSTP, ERPS v1/v2, LACP, Static Trunk, Code redundancy, ITU-T G.8031, MRP, PRP, HSR                                                                                                                                                                                                                                                                                                                                                                                                |
| VLAN        | IEEE 802.1Q, GARP/GVRP, MVRP, Port-based VLAN, Private VLAN, MAC-based VLAN, IP Subnet-Based VLAN, Protocol-Based VLAN, QinQ, VLAN Translation, Voice VLAN, iPVLAN                                                                                                                                                                                                                                                                                                                         |

|                                   |                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Traffic Control                   | IGMP Snooping v1/v2/v3, IGMP Querier/<br>Throttling/Proxy/Multicast Group/Group Filter,<br>IGMP Immediate/Fast Leave, MVR, IGMP Explicit<br>Host Tracking, MRP, QoS, Packet Scheduling/<br>Classification, Priority Overwrite, Flow Control, Rate<br>Limit, Storm Control, Traffic Policing/Shaping, Port<br>Isolation, Loop Detection |
| L3 Routing                        | Inter-VLAN Routing, Static Route, RIPv2, OSPFv2                                                                                                                                                                                                                                                                                        |
| Security                          | DHCP Snooping, DHCP Server Screening, IP<br>Source Guard, ARP Inspection, ACL, TACACS+,<br>RADIUS, SSH, 802.1x, Port Security, MAC Search,<br>Sticky MAC, Static MAC, BPDU Guard/Filter,<br>Root Guard, Management Host, HTTPs, MAC Anti-<br>spoofing, DoS/DDoS Attack Prevention, SFTP, SCP,<br>Secure Boot                           |
| PoE Functions                     | PoE Power On/OFF, PoE Priority, Feeding Power<br>Budget Control, Power Class Detection                                                                                                                                                                                                                                                 |
| <b>Power</b>                      |                                                                                                                                                                                                                                                                                                                                        |
| Input Voltage                     | Primary inputs: 48~57VDC<br>Redundant Inputs: 48~57VDC                                                                                                                                                                                                                                                                                 |
| Power Consumption                 | System: 19W<br>PoE Power Budget: 360W                                                                                                                                                                                                                                                                                                  |
| <b>Mechanical and Environment</b> |                                                                                                                                                                                                                                                                                                                                        |
| Housing                           | Aluminum (IP30 Protection)                                                                                                                                                                                                                                                                                                             |
| Operating Temperature             | -40°C~70°C (-40°F~158°F)                                                                                                                                                                                                                                                                                                               |
| Storage Temperature               | -40°C~85°C (-40°F~185°F)                                                                                                                                                                                                                                                                                                               |
| Operating Humidity                | 5 to 95% RH (non-condensing)                                                                                                                                                                                                                                                                                                           |

**Note:**

\* The SFP communication distance upon the request.

\* Industrial SFP with wide operating temperature from -40°C~85°C (-40°F~185°F) is available upon request.

\* Specifications subject to change without notice.

|                             |                                                                                                                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage Humidity            | 5 to 95% RH (non-condensing)                                                                                                                                                                    |
| Weight                      | 1,590 g (3.51 lb)                                                                                                                                                                               |
| Dimension (WxHxD)           | 80 x 160 x 140.3 mm (3.15 x 6.30 x 5.52 in)                                                                                                                                                     |
| <b>Certifications</b>       |                                                                                                                                                                                                 |
| EMI                         | FCC Part 15 Subpart B Class A<br>EN 55011 / BS EN 55011 Class A<br>EN 55032 / BS EN 55032 Class A<br>EN 61000-6-4 / BS EN 61000-6-4<br>ICES-003 Issue 7                                         |
| EMS                         | EN 55035 / BS EN 55035<br>EN 61000-6-2 / BS EN 61000-6-2<br>EN 61000-4-2 (ESD)<br>EN 61000-4-3 (RS)<br>EN 61000-4-4 (Burst)<br>EN 61000-4-5 (Surge)<br>EN 61000-4-6 (CS)<br>EN 61000-4-8 (PFMF) |
| Freefall                    | IEC 60068-2-31                                                                                                                                                                                  |
| Shock                       | IEC 60068-2-27                                                                                                                                                                                  |
| Vibration                   | IEC 60068-2-6                                                                                                                                                                                   |
| <b>Ordering Information</b> |                                                                                                                                                                                                 |
| 9561-8GP4XS-TSN             | Layer 3 Managed 8 x 10/100/1000 btPoE & 4 x<br>100/1G/10G SFP+ Industrial TSN Switch                                                                                                            |
| <b>Optional Accessories</b> |                                                                                                                                                                                                 |
| Power Supply                | SDR-480P-48: 240W DIN-Rail 48VDC Industrial<br>Power Supply, -25°C~70°C (-13°F~158°F)                                                                                                           |
| GBM-162                     | 10GSR SFP+, MM, 300m, DDM                                                                                                                                                                       |
| GBM-162-10                  | GBM-162-10: 10GLR SFP+, SM, 10Km, DDM                                                                                                                                                           |
| GBM-162-40                  | GBM-162-40: 10GER SFP+, SM, 40Km, DDM                                                                                                                                                           |
| GBM-123TS                   | GBM-123TS: 1000BASE-LX, Bi-Di SFP TX:1310/<br>RX:1550, Single Mode, 10Km                                                                                                                        |
| GBM-123RS                   | GBM-123RS: 1000BASE-LX, Bi-Di SFP TX:1550/<br>RX:1310, Single Mode, 10Km                                                                                                                        |
| GBM-104                     | GBM-104: 1000BASE-SX 1.25G, Multi-mode SFP,<br>500m                                                                                                                                             |

**Dimension**