

**6 Port PoE Gigabit 10 G Uplink Industrial Switch  
(TN3M6P10GUPSW)  
48-56V DC**



## OVERVIEW

TN3M6P10GUPSW is a 6-port POE gigabit 10G Uplink industrial switch, providing 4 gigabit POE ports and 2 gigabit optical ports. Each POE port can provide up to 30W of power, which is suitable for IEEE802.3af /at compliant Powered Devices (PDs), especially suitable for application scenarios where it is difficult to provide AC power and the cost of wiring is high. EMC industrial level 4 protection performance; corrugated high-strength aluminum profile shell, IP40 grade, low power consumption design, anti-vibration guide rail installation, working temperature of -40 °C-75c, can work in harsh environments;TN3M6P10GUPSW can also Support rich network management functions: RUN-Ring (self-healing time <10ms), RSTP, VLAN, QoS, SNMPv1/v2c/v3, IEEE802.1X, SSH/SSL, port mirroring, port aggregation and other rich redundancy, switching and security Management features make it a reliable solution for intelligent transportation, video surveillance and other harsh industrial environments.

## FEATURE

### Port 6KV lightning protection

- All ports support 6KV lightning protection, PSE short circuit protection, PoE overload, power supply over temperature protection, over voltage protection, surge current protection and other protection features.

## FEATURE

### AI DIP Switch

- AI Loop Protect: Using the fast loop network RUN-Ring technology, when the main link of network transmission fails, the system automatically switches to the backup link, and the fault recovery time can reach as fast as 10ms.
- AI PoE: Automatically detect the power receiving port, find a dead device, and restart the device after power off.
- AI VLAN: Isolate ports 1-4 from each other, which can effectively suppress network storms and improve network performance.
- AI Extend: 1-4 ports support long-distance power supply of 250 meters (recommended to use a super network cable above 5)..

### Powerful processing capabilities

- Support 802.1Q VLAN, MAC VLAN, IP VLAN, users can flexibly divide VLAN as needed.
- Support QoS, 8 port queues, support port priority, 802.1P priority, DSCP priority, support SP, WRR, SP+WRR, WFQ priority scheduling algorithm.
- Support ACL, support L2 (Layer 2) ~ L4 (Layer 4) packet filtering function, provide flexible and secure access control policy.
- Support IGMP v1/v2/v3 Snooping, MLD v1/v2 Snooping, to meet the requirements of multi-terminal HD video surveillance or video conference.

- Supports the fast leave mechanism and querier of Layer 2 multicast, supports Layer 2 IPv4 static multicast and Layer 2 IPv6 static multicast.

#### Perfect security mechanism

- Complete security authentication mechanism: It supports IEEE 802.1x, Radius, Tacacs+, etc., and can provide users with a complete security authentication mechanism.
- The perfect loop detection mechanism can ensure the stable operation of the network for a long time.
- Provide port isolation in the same VLAN, and security features such as DHCP Snooping, IP+MAC+port binding, etc., to further ensure user data security.
- Support ARP protection, IP source protection, DoS protection.
- Support to restrict user access based on port number, IP address, and MAC address.

#### Diverse reliability protection

- Support STP (IEEE 802.1d), RSTP (IEEE 802.1w) and MSTP (IEEE 802.1s) protocols to eliminate Layer 2 loops and implement link backup.
- Supports loop protection, root bridge protection, TC protection, BPDU protection, and BPDU filtering.
- Support relay alarm output functions such as power failure, port disconnection, and PoE power supply abnormality.
- Industrial level 4 protection and anti-jamming capability

#### Perfect POE power supply function

- Support 802.3af/at standard, built-in high-power power supply, meet the needs of POE scenarios such as security monitoring, wireless coverage, and IP telephony.
- Support PoE power limit and set PoE port priority. When the power exceeds the limit, the power supply of the high-priority port will be given priority.
- Support setting PoE power supply time period, users can control the time period of PoE power supply according to their own needs.
- Support PoE chip status check, users can view the PoE chip temperature, output power and other parameters in real time through the web page.

#### Flexible and convenient management and maintenance

- Supports various management methods such as Console, Telnet, and SSH.
- Support WEB network management (HTTP, HTTPS, SSL V3), which is simpler and more efficient, and is convenient for users to install and debug.
- Supports file upload and download management in TFTP mode.
- Support SNMP V1/V2/V3 to facilitate device management through the network management platform.
- Support one-stop management and maintenance of Fengrunda Apollo cloud platform, which can realize all-round remote operation and maintenance such as automatic device discovery, network topology management, and remote configuration management of devices

#### Industry Standard

- EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A  
EMS:  
IEC61000-4-2 (ESD):  $\pm 8\text{kV}$  (contact),  $\pm 15\text{kV}$  (air)  
IEC61000-4-3 (RS):  $10\text{V/m}$  (80MHz-2GHz)  
IEC61000-4-4 (EFT): Power Port:  $\pm 4\text{kV}$ ; Data Port:  $\pm 2\text{kV}$   
IEC61000-4-5 (Surge): Power Port:  $\pm 2\text{kV/DM}$ ,  $\pm 4\text{kV/CM}$ ; Data Port:  $\pm 6\text{kV}$   
IEC61000-4-6 (CS):  $3\text{V}$  (10kHz-150kHz);  $10\text{V}$  (150kHz-80MHz)  
IEC60068-2-6 (Vibration)  
IEC60068-2-27 (Shock)  
IEC60068-2-32 (Free Fall)

## TECHNICAL SPECIFICATION

| Hardware Specifications             |  |
|-------------------------------------|--|
| <b>Network Interface</b>            | <ul style="list-style-type: none"> <li>• 4*10/100/1000Mbps RJ45 ports</li> <li>• 2*Gigabit SFP ports</li> <li>• 1 Console port</li> </ul>  |
| <b>Network Protocol</b>             | <ul style="list-style-type: none"> <li>• IEEE802.3、IEEE802.3i、IEEE802.3u、IEEE802.3ab、IEEE802.3z、IEEE802.3ad、IEEE802.3x、IEEE802.3af/at、IEEE802.1p、IEEE802.1q、IEEE802.1w、IEEE802.1d、IEEE802.1s</li> </ul>  |
| <b>Performance Specifications</b>   | <ul style="list-style-type: none"> <li>• Backplane bandwidth: 12Gbps (non-blocking)</li> <li>• Packet forwarding rate: 8.9Mpps</li> <li>• MAC address table: 8K</li> <li>• Port cache: 4.1Mb</li> <li>• Forwarding mode: store and forward</li> </ul>  |
| <b>LED Indicator</b>                | <ul style="list-style-type: none"> <li>• Power indicator: P1, P2</li> <li>• System indicator: SYS</li> <li>• Alarm indicator: ALM</li> <li>• Optical port indicator: Link&amp;Act F1~F2</li> <li>• Ethernet port indicator: POE&amp;Link&amp;Act 1~4</li> </ul>  |
| <b>POE Pin</b>                      | <ul style="list-style-type: none"> <li>• 1/2 (+) , 3/6(-);</li> </ul>  |
| <b>Power Supply Support</b>         | <ul style="list-style-type: none"> <li>• Input voltage: 48-56V DC</li> <li>• Input method: plug-in 5-core 5.08mm pitch terminal block (support dual DC power source backup, built-in overcurrent protection, support anti-reverse connection)</li> <li>• No-load power: 6W@52V DC</li> <li>• Full load power: 126W@52V DC (POE full load output)</li> <li>• Single-port PoE maximum output power: 30W</li> </ul> |
| <b>Physical Specifications</b>      | <ul style="list-style-type: none"> <li>• Casing: IP40 grade protection, corrugated high-strength metal shell</li> <li>• Installation: DIN rail installation</li> <li>• Dimensions (LxWxH): 163mm×110mm×46.5mm</li> </ul>   |
| <b>Environmental Specifications</b> | <ul style="list-style-type: none"> <li>• Operating temperature: -40~75°C</li> <li>• Storage temperature: -40~85°C</li> <li>• Working humidity: 5%~95% RH without condensation</li> <li>• Storage humidity: 0%~95% RH without condensation</li> </ul>   |
| <b>Safety Standard</b>              | <ul style="list-style-type: none"> <li>• CE/ROHS/FCC</li> </ul>  |

## Software Specifications

|                                    |  |
|------------------------------------|--|
| <b>Protocol standard</b>           | <p>IEEE 802.3: Ethernet Media Access Control (MAC) Protocol</p> <p>IEEE 802.3i: 10BASE-T Ethernet</p> <p>IEEE 802.3u: 100BASE-TX Fast Ethernet</p> <p>IEEE 802.3ab: 1000BASE-T Gigabit Ethernet</p> <p>IEEE 802.3z: 1000BASE-X Gigabit Ethernet (optical)</p> <p>IEEE 802.3ad: Standard method for performing link aggregation</p> <p>IEEE 802.3x: Flow Control</p> <p>IEEE 802.1p: LAN Layer 2 QoS/Cos protocol for traffic prioritization (multicast filtering function)</p> <p>IEEE 802.1q: VLAN Bridge Operation</p> <p>IEEE 802.1d: STP Spanning Tree</p> <p>IEEE 802.1s: MSTP Spanning Tree</p> <p>IEEE 802.1w: RSTP Spanning Tree</p> <p>IEEE 802.3af</p> <p>IEEE 802.3at</p> |
| <b>One-click shortcut function</b> | <p>AI Loop Protect</p> <p>AI PoE</p> <p>AI VLAN</p> <p>AI Extend</p>   |
| <b>DHCP</b>                        | Support DHCP Snooping  |
| <b>VLAN</b>                        | <p>Support 4K VLANs</p> <p>Support 802.1Q VLAN, MAC VLAN, IP VLAN</p> <p>Voice VLAN</p>  |
| <b>MAC Address Table</b>           | <p>Comply with IEEE 802.1d standard</p> <p>Support MAC address automatic learning and aging</p> <p>Support static, dynamic, filtering address table</p>  |
| <b>Safety Features</b>             | <p>password protection</p> <p>Support to restrict user access based on port number, IP address, MAC address</p> <p>Support HTTPS, SSL V3, TLS V1, SSH V1/V2</p> <p>Support IP-MAC-PORT binding</p> <p>Support ARP protection, IP source protection, DoS protection</p> <p>Support DHCP Snooping, DHCP attack protection</p> <p>Support 802.1X authentication, AAA</p> <p>Support port security and port isolation</p> <p>Support CPU protection function</p>   |

| Software Specifications           |  |
|-----------------------------------|--|
| <b>PoE management</b>             | <ul style="list-style-type: none"> <li>Support PoE total power limit</li> <li>Support PoE chip status check</li> <li>Support PoE port priority setting</li> <li>Support setting PoE power supply time period</li> </ul>  |
| <b>Access control(ACL)</b>        | <ul style="list-style-type: none"> <li>Support L2 (Layer 2) ~ L4 (Layer 4) packet filtering function</li> <li>Support port mirroring, port redirection, flow rate limit, QoS remarking</li> </ul>  |
| <b>Quality of Service(QoS)</b>    | <ul style="list-style-type: none"> <li>Supports 8 port queues</li> <li>Support port priority, 802.1P priority, DSCP priority</li> <li>Support SP, WRR, WFQ priority scheduling algorithm</li> </ul>  |
| <b>Spanning tree</b>              | <ul style="list-style-type: none"> <li>Support STP (IEEE 802.1d), RSTP (IEEE 802.1w) and MSTP (IEEE 802.1s) protocols</li> <li>Support loop protection, root bridge protection, TC protection, BPDU protection, BPDU filtering</li> </ul>  |
| <b>Multicast</b>                  | <ul style="list-style-type: none"> <li>Support IGMP v1/v2 Snooping</li> <li>Support multicast VLAN</li> <li>Support multicast filtering, packet statistics, unknown multicast discard</li> </ul>   |
| <b>Storm suppression</b>          | <ul style="list-style-type: none"> <li>Support multicast suppression</li> <li>Support broadcast suppression</li> <li>Support unknown unicast suppression</li> </ul>  |
| <b>Link aggregation</b>           | <ul style="list-style-type: none"> <li>Support static aggregation</li> <li>Support dynamic aggregation</li> <li>Support based on IP, MAC, mixed load balancing mode</li> <li>A maximum of 32 aggregation groups are supported</li> </ul>   |
| <b>IPv6</b>                       | <ul style="list-style-type: none"> <li>Support IPv6 Ping, IPv6 Tracert, IPv6 Telnet</li> <li>Support IPv6 SSH, IPv6 SSL</li> </ul>   |
| <b>Management and maintenance</b> | <ul style="list-style-type: none"> <li>Support WEB network management (HTTP, HTTPS, SSL V3)</li> <li>Support CLI (Telnet, SSH V1/V2, local serial port)</li> <li>Support SNMP V1/V2/V3</li> <li>Support LLDP, RMON</li> <li>Support ARP protection, IP source protection, DoS protection</li> <li>Support CPU monitoring, memory monitoring</li> <li>Support system log, graded warning</li> <li>Support Ping, Tracert detection, cable detection</li> </ul> |