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## Niveo Professional Enterprise Series

# NGSME16T2H-AV

Rear-facing 16-port Gigabit PoE+ managed switch with two Gigabit SFP ports.




**PRODUCT DATASHEET**

NGSME16T2H-AV

# Product Specification

## Introduction

The NGSM16ET2H-AV is a 16-port 10/100/1000Base-T + 2 Gigabit SFP L2+ Management PoE Switch that is designed for small or medium network environment to strengthen its network connection. The 16 10/100/1000Base-T ports support IEEE 802.3at PoE technology, up to 30W per port and maximum 100m transmission distance. The switch equipped with AC to DC power module to support 200W power budget for PoE power. The added 2 SFP slots support 100M and Gigabit Fiber transceiver for long distance transmission. The switch also supports Layer 2+ full management software features. These features are powerful to provide PoE Control, Network Control, Management, Monitor and Security features' requests. It is a superb choice to boost your network with better performance, efficiency and high PoE power consumption.

## IEEE 802.3at Power over Ethernet (PoE) ports

The switch features 16 IEEE 802.3at Power over Ethernet (PoE) ports supplying up to 30 watts per port. This product can convert standard 100~240V/AC power into low-voltage DC that runs over existing LAN cable to power up IEEE 802.3at compliant network accessories. It also features PoE awareness to verify whether the network device receive power is IEEE 802.3at compliant, or only the data will be sent through LAN cable. By adding the switch to the existing networking, installing networking products such as Access Points and IP cameras can be easily managed and set up. Wireless device deployments are easily located with available power outlets and network administrators don't need to use heavy AC power adapters anymore.

## 2 Gigabit SFP Open Slots

The switch supports 2 additional SFP open slots to uplink to servers, storage, or other switching devices for long loop reach applications. The 2 SFP slots can support different types, speed and distance SFP transceivers. It also supports legacy 100M SFP transceiver. If the 100M fiber infrastructure is constructed and 100M bandwidth is enough, the 100M SFP transceiver can be an optional choice for the legacy 100M network environment.

## Full Layer 2+ Management Features

The switch includes full Layer 2+ Management features. The software set includes up to 4K 802.1Q VLAN and advanced Protocol VLAN, Private VLAN, MVR…advanced VLAN features. There are 8 physical queues Quality of Service, IPv4/v6 Multicast filtering, Rapid Spanning Tree protocol to avoid network loop, Multiple Spanning Tree Protocol to integrate VLAN and Spanning Tree, LACP, LLDP; sFlow, port mirroring, cable diagnostic and advanced Network Security features. It also provides Console CLI for out of band management and SNMP, Web GUI for in band Management.

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### Advanced Security

The switch supports advanced security features. For switch management, there are secured HTTPS and SSH, the login password, configuration packets are secured. The port binding allows to bind specific MAC address to the port, only the MAC has the privilege to access the network. The 802.1X port based Access Control, every user should be authorized first when they want to access the network. AAA is the short of the Authentication, Authorization and Accounting with RADIUS, TACAS+ server. Layer 2+ Access Control List allows user to define the access privilege based on IP, MAC, Port number…etc.

# Technical Specifications

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| **Standard** | Ethernet: IEEE 802.3, 802.3u, 802.3ab, 802.3z, 802.3az EEE<br>PoE: IEEE 802.3at PoE+<br>Protocol: IEEE 802.3x - Flow Control, IEEE 802.1Q – VLAN, IEEE 802.1p - Class of Service, IEEE 802.1D - Spanning Tree, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE802.1v - Protocol VLAN, IEEE 802.1AB - LLDP (Link Layer Discovery Protocol), IEEE 802.1X - Access Control |
| **Interface** | **Number of Port:** 18<br>**10/100/1000Base RJ-45 Port:** 16, Auto-negotiation, Auto MDI/MDIX<br>**100/1000Base-X SFP:** 2 |
| **Performance** | **Switch Fabric:** 32Gbps<br>**MAC Address Table Size:** 8K<br>**Forwarding Rate:** 26.8Mpps<br>**Packet Buffer:** 4Mb |
| **PoE Features** | **802.3af/at Compliant**<br>**Max. Power Output Per Port:** 30W<br>**PoE Power Budge:** 200W<br>**PoE Management:**<br>Enable/Disable per-port<br>Priority Setting per-port<br>Maximum Power per-port/system<br>PoE Mode Setting per-port<br>PD Classification, PoE Status |
| **L2 Features** | **Flow Control:** 802.3x (Full-duplex)ort/ Back-Pressure (Half-duplex)<br>**Spanning Tree:**<br>IEEE 802.1D-2004(Includes IEEE 802.1w): Rapid Spanning Tree Protocol<br>802.1s Multiple Spanning Tree Protocol<br>**Loop Detection**<br>**VLAN:**<br>IEEE 802.1Q Tagged Based, Max. VLAN Group: 4K<br>QinQ<br>Port-based VLAN |

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| | Voice VLAN<br>Private VLAN<br>MVR<br>MAC-Based VLAN<br>Protocol-Based VAN<br>**Link Aggregation:**<br>Static Trunk & IEEE 802.3ad with LACP<br>Max. Group: 5<br>Max. Ports/Group: 8<br>**IGMP Snooping:**<br>IGMP Snooping v1/v2/v3<br>IPv6 MLD Snooping v1/v2<br>Querier support/ IGMP Filtering, IGMP Leave Proxy, Immediate Leave<br>**Storm Control:** Broadcast/ Multi-cast/ Un-known Unicast<br>**Jumbo Frame Support:** 9K |
| **QoS Features** | **Number of Priority queue:** 8 queues/ port<br>**Scheduling for priority queue :** WRR/Strict Priority scheduling/Hybrid<br>**CoS :**<br>802.1p/ IP Precedence/ IP TOS Precedence<br>IP DSCP/ Port based Priority<br>**Rate Limiting:** Ingress/Egress: 1Kbps/ 1pps granularity<br>**DiffServ (RFC2474) remarking** |
| **Security** | **User Name / Password Protection**<br>**User Privilege:** up to 15 levels<br>**IEEE 802.1x:** Port-based Access Control<br>**IP Source Guard**<br>**MAC Based Authentication**<br>**Web-based Authentication**<br>**HTTPS**<br>**SSHv2**<br>**RADIUS:** Authentication/ Accounting<br>**TACACS+:** Authentication<br>**ACL (Access control list)** |
| **Management** | **Command Line Interface (CLI)**<br>**Web Based Management**<br>**Telnet**<br>**Access Management Filtering:** SNMP/WEB/SSH/TELNET<br>**SNMP:** v1/v2c/v3<br>**RMON:** RMON (1,2,3, & 9 groups)<br>**DHCP:** Client/ Relay/ Option82/ Snooping<br>**Event/Error Log**<br>**Software Download/ Upgrade:** HTTP<br>**Configuration Download / Upload**<br>**sFlow**<br>**Port Mirroring:** One to One/ Many to One<br>**Remote Ping** |

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| | **NTP/LLDP**<br>**UPnP**<br>**EEE Configuration**<br>**Cable Diagnostics**<br>**IPv6 Configuration** |
| **Power Input** | 100~240VAC |
| **Power Consumption** | **PoE Budget:** max. 200W<br>**System:** 15W |
| **Mechanical** | **Dimension(H*W*D) :** 44*330*220mm<br>**Weight :** 2.5 kg |
| **Operating Temperature** | 0~40°C |
| **Humidity** | 5~90% (non-condensing) |
| **Certification** | CE, FCC Class A, UL |