



## Niveo Professional NGS-Series Enterprise Switches

L2/3 Managed Gigabit Switch (Rear and front port) 10-18-26-50-52 Ports  
L2/3 Managed Gigabit PoE+ Switch (Rear and front port) 10-18-26-50-52 Ports

## Introduction

The Niveo Professional NGS-Series Enterprise Switches offer a wide range of configurations, designed for Audio/Video, Security and Broadcast integrations.

### True Enterprise Grade

The switches are designed and build with chipsets for industrial and enterprise application, made by US Chip manufacturers.



- Higher performance, extreme stability
- Capable of running in toucher conditions
- Extreme endurance

### Convenient Design for AV and IT

The NGS-Series offers switches in both front and rear port configurations for easy patching and clean looking finish in AV-racks:



*2 IT-Design Switches*



*1 AV-Design Switches*

### Supporting Video-Over-IP Solutions: Small to extremely large

The Niveo Managed NGSM(E)-Switches are optimized for Video-over-IP, providing multicasting with IPGM Querier and Fast Leave to support very crisp switching of channels. The switches support any mainstream Video-over-IP Solution:



With the advanced Niveo Professional Virtual Stacking feature, the switches **support Video-over-IP designs up to 2300-endpoints!**

### QSC Q-SYS Audio/Video Qualified

The entire managed switch series has been qualified for QSC Q-SYS audio and video and is currently the only vendor that can make that claim.



### Supporting Audio Distribution

All managed Niveo switches support most common industry standard Audio and Video distribution Protocols:



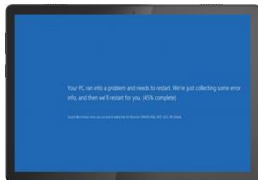
### Unparalleled PoE-features: No more locked up PoE devices!

No more locked up Control Panels, frozen IP Cams or non responding microphones!  
No more customer complaints and Physical resets!

Many PoE-powered devices are prone to lock ups due to power fluctuations. With the Niveo Professional NGSM-PoE switches, this is no longer an issue. The switches prevent most freezes and automatically corrects them:

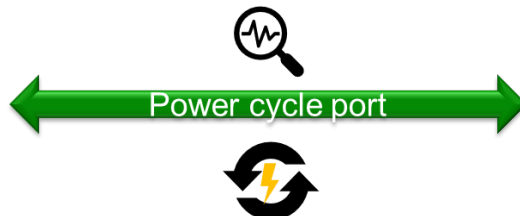
### Line Filtering

The unique Niveo line-filtering in the Managed PoE+ switches remove most power fluctuation and prevents most lock ups of PoE-devices.



### Self-Healing PoE

The Niveo Self-Healing PoE feature automatically monitors any device it gives PoE power to and, in case of a locked-up device, it will automatically power cycle that particular port, correcting over 99% of these issues.



### **Power Scheduling**

Installing a network with energy saving targets? The Niveo Professional Switches help out with the Power Scheduling feature. The easy to use scheduler let you make the switch turn down PoE on 'idle' hours and fire it up when needed.

### **Reduced Fan Noise**

The Niveo Professional Switches actively manages the fan speeds. Reducing the speed when possible to limit the noise to a minimum and rev it up when needed.

### **Check the cables**

Experiencing unexpected loss of Data or Power or you do not trust existing category cable?

The Niveo VeriPhy feature can check the integrity of connected Category cables. The switches can check through the resistance on the cable the likelihood of compromised capacity.

### **Unparalleled Quality and Warranty**

All Niveo NGS-switches are designed and constructed with true enterprise grade chipsets and components, to assure extreme durability and reliability needed for corporate networks. With **MTTF measures well over 100.000 hours**, these switches are designed to compete with Cisco Catalyst, Extreme Networks and Juniper switches and to stand out by great length against retail grade products from companies like Cisco SMB, Netgear, TP-Link and Luxul.

The manufacturing and quality standards go above and beyond its peers to assure the highest quality products. Every switch that leaves the factory goes through a rigid 72 hour stress testing, to make sure all functions meet the requirements.

Niveo Professional is proud to offer 10 Years limited warranty upon registration of the unit.

### **Ultimate Installer Support**

All Niveo Switches come included with lifetime access to software updates and support, without any additional costs for care packs.

The Niveo Switches come the ultimate installer support, making networking design and configuration a light breeze.

Support team is proud to assist integrators with:

- Network design advise
- Configuration assistance
- Creating configuration files
- Trouble shooting

## Enterprise Switches Selection Table

	Gigabit Ports	Gigabit Fiber Ports	10Gb Fiber Ports (SFP+)	Virtual Stacking	POE+	POE+ Budget	Management	Supports Dante AES67 Co-branet	Supports Q-sys	Rear-ports	Supports HD-Over-IP	Warranty in years
<b>Switches:</b>												
NGSE8H	8				•	130W						10
NGSE8H-AV	8				•	130W				•		10
NGSE8Hx	8				•	235W						10
NGSE8Hx-AV	8				•	235W				•		10
NGSM8T2	8	2					L2/3	•	•		•	10
NGSME8H	8	2			•	130W	L2/3	•	•		•	10
NGSME8H-AV	8	2			•	130W	L2/3	•	•	•	•	10
NGSME8Hx	8	2			•	235W	L2/3	•	•		•	10
NGSME8Hx-AV	8	2			•	235W	L2/3	•	•	•	•	10
NGS16TP	16							•				10
NGSM16T2	16	2					L2/3	•	•		•	10
NGSME16T2H	16	2			•	250W	L2/3	•	•		•	10
NGSME16T2H-AV	16	2			•	250W	L2/3	•	•	•	•	10
NGS24TP	24							•				10
NGS24TP-AV	24							•		•		10
NGSM24T2	24						L2/3	•	•		•	10
NGSM24T2-AV	24						L2/3	•	•	•	•	10
NGSME24T2H	24			•	•	500W	L2/3	•	•		•	10
NGSME24T2H-AV	24			•	•	500W	L2/3	•	•	•	•	10
NGSM48T2	48		2	•			L2/3	•	•		•	10
NGSME48T2H	48		2	•	•	500W	L2/3	•	•		•	10
NGSM48T4	48		4	•	•		L2/3	•	•		•	10
NGSME48T4H	48		4	•	•	520W	L2/3	•	•		•	10
NGSME48T4Hx	48		4	•	•	1200W	L2/3	•	•		•	10
NGSME48T4H-RD	48		4	•	•	2*520W	L2/3	•	•		•	10
NGSME48T4Hx-RD	48		4	•	•	2*1200W	L2/3	•	•		•	10

## Specifications Managed PoE+ Switches

	NGSME8H(-AV)	NGSME8x(-AV)	NGSME16T2H(-AV)	NGSME24T2H(-AV)	NGSME48T2H	NGSME48T4H	NGSME48T4HX	NGSME48T4H-RP	NGSME48T4HX-RP
<b>Interface</b>									
10 Base-T/100 Base-TX/1000 Base-T RJ45 Ports	8	8	8	24	48	48	48	48	48
100/1000Base-SX/LX SFP Port	2	2	2	2					
10G SFP+ Slot					2	4	4	4	4
Rear-port version available (-AV)	•	•	•	•					
Console Port for CLI Management	1								
<b>System Performance</b>									
Packet Buffer	4Mb				32Mb				
MAC Address Table Size	8K				32K				
Switching Capacity (Gbps)	20		36	52	136	176			
Forwarding Rate (Mbps)	14.88		26.8	38.7	74.4	130.94			
<b>PoE Features</b>									
IEEE 802.3 af/at	•	•	•	•	•	•	•	•	•
Number of PSE Ports	8	8	16	24	24	48	48	48	48
Max. PoE Budget (W)	130	235	250	500	500	520	1200	520	1200
Dual Power (Redundant)								•	•
External/Internal Power	Internal Power								
Power Feeding Detecting Capability on PD	•	•	•	•	•	•	•	•	•
PD Alive Check	•	•	•	•	•	•	•	•	•
PD Classification	•	•	•	•	•	•	•	•	•
Power Management (per-port)									
Enable/Disable PoE	•	•	•	•	•	•	•	•	•
Priority Setting Per	•	•	•	•	•	•	•	•	•
Power Level Setting	•	•	•	•	•	•	•	•	•
Overloading Protection	•	•	•	•	•	•	•	•	•
<b>L2 Features</b>									
Auto-negotiation	•	•	•	•	•	•	•	•	•
Auto MDI/MDIX	•	•	•	•	•	•	•	•	•
Flow Control (duplex)									
802.3x (Full)	•	•	•	•	•	•	•	•	•
Back-Pressure (Half)	•	•	•	•	•	•	•	•	•
Spanning Tree									
IEEE 802.1D (STP)	•	•	•	•	•	•	•	•	•
IEEE 802.1w (RSTP)	•	•	•	•	•	•	•	•	•
IEEE 802.1s (MSTP)	•	•	•	•	•	•	•	•	•
VLAN									
VLAN Group	4K	4K	4K	4K	4K	4K	4K	4K	4K
Tagged Based	•	•	•	•	•	•	•	•	•
Port-based	•	•	•	•	•	•	•	•	•
Voice VLAN	Voice VLAN with OUI								
Private Vlan	•	•	•	•	•	•	•	•	•
MVR	•	•	•	•	•	•	•	•	•
Mac-Based Vlan	•	•	•	•	•	•	•	•	•
Protocol-Based Vlan	•	•	•	•	•	•	•	•	•
Link Aggregation									
IEEE 802.3ad with LACP	•	•	•	•	•	•	•	•	•
Static Trunk	•	•	•	•	•	•	•	•	•
Max. LACP Link Aggregation Group	5	5	5	13	26	26	26	26	26
Max. Port per Link Aggregation Group	8	8	8	16	8	8	8	8	8
IGMP Snooping									
IGMP Snooping v1/v2/v3	Supports 1024 IGMP groups								
IGMP Static Multicast Addresses	Supports 1024 static multicast addresses								
IPv6 MLD Snooping	Supports 1024 MLD groups								

MLD Static Multicast Addresses	Supports 1024 static multicast addresses									
Querier, Immediate Leave	•	•	•	•	•	•	•	•	•	•
Storm Control (Broadcast/Multi-cast/Unknown Unicast)	•	•	•	•	•	•	•	•	•	•
Jumbo Frame Support	9.6KB									
<b>QOS Features</b>										
Number of priority queue	8									
Rate Limiting Ingress 1KBps/1pps	•	•	•	•	•	•	•	•	•	•
Rate Limiting Egress 1KBps/1pps	•	•	•	•	•	•	•	•	•	•
<b>CoS</b>										
IEEE 802.1p	•	•	•	•	•	•	•	•	•	•
IP ToS precedence, IP DSCP	•	•	•	•	•	•	•	•	•	•
<b>DiffServ (RFC2474 Remarking)</b>										
Scheduling (WRR, Strict, Hybrid)	•	•	•	•	•	•	•	•	•	•
<b>MANAGEMENT</b>										
Command Line Interface (CLI)	•	•	•	•	•	•	•	•	•	•
Web Based Management	•	•	•	•	•	•	•	•	•	•
Telnet	•	•	•	•	•	•	•	•	•	•
<b>Access Management Filtering</b>										
SNMP	•	•	•	•	•	•	•	•	•	•
WEB	•	•	•	•	•	•	•	•	•	•
SSH	•	•	•	•	•	•	•	•	•	•
TELNET	•	•	•	•	•	•	•	•	•	•
<b>Firmware Upgrade via HTTP</b>										
Dual Firmware Images	•	•	•	•	•	•	•	•	•	•
Configuration Download/Upload	•	•	•	•	•	•	•	•	•	•
SNMP (v1/v2c/v3)	•	•	•	•	•	•	•	•	•	•
RMON (1,2,3,&9 groups)	•	•	•	•	•	•	•	•	•	•
DHCP (Client/Relay/Option82/Snooping)	•	•	•	•	•	•	•	•	•	•
System Event/Error Log	•	•	•	•	•	•	•	•	•	•
NTP/LLDP	•	•	•	•	•	•	•	•	•	•
Cable Diagnostics	•	•	•	•	•	•	•	•	•	•
IPv6 Configuration	•	•	•	•	•	•	•	•	•	•
Port Mirroring One to One/Many to One	•	•	•	•	•	•	•	•	•	•
sFlow	•	•	•	•	•	•	•	•	•	•
Remote Ping	•	•	•	•	•	•	•	•	•	•
UPnP	•	•	•	•	•	•	•	•	•	•
EEE Configuration	•	•	•	•	•	•	•	•	•	•
<b>Mechanical</b>										
Power Input	100-240VAC									
Dimension (H*W*D)	44*330*220 mm					44*440*331 mm				
LED	Power, PoE, Link/Act, SFP									
Operating Temperature	0~45°C					0~40°C				
Storage Temperature	-20~80°C					-20~90°C				
Operating Humidity	5~90% (non-condensing)									
Weight	2.2Kg	2.5Kg	4.7Kg				5.37Kg			
Certification	CE, FCC									
<b>Standard</b>										
IEEE 802.3 – 10Base-T	•	•	•	•	•	•	•	•	•	•
IEEE 802.3u - 100Base-TX	•	•	•	•	•	•	•	•	•	•
IEEE 802.3ab - 1000Base-T	•	•	•	•	•	•	•	•	•	•
IEEE 802.3z - 1000 Base-SX/LX	•	•	•	•	•	•	•	•	•	•
IEEE 802.3af - Power over Ethernet (PoE)	•	•	•	•	•	•	•	•	•	•
IEEE 802.3at - Power over Ethernet (PoE+)	•	•	•	•	•	•	•	•	•	•
IEEE 802.3az - Energy Efficient Ethernet (EEE)	•	•	•	•	•	•	•	•	•	•
IEEE 802.3x - Flow Control	•	•	•	•	•	•	•	•	•	•
IEEE 802.1Q - VLAN	•	•	•	•	•	•	•	•	•	•
IEEE802.1v - Protocol 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)	•	•	•	•	•	•	•	•	•
IEEE 802.1AB - LLDP (Link Layer Discovery Protocol)	•	•	•	•	•	•	•	•	•
IEEE 802.1X - Access Control	•	•	•	•	•	•	•	•	•
<b>Security</b>									
Management System User Name/Password Protection	•	•	•	•	•	•	•	•	•
User Privilege	Set user privilege up to 15 Level								
MAC Based Authentication	•	•	•	•	•	•	•	•	•
WEB Based Authentication	•	•	•	•	•	•	•	•	•
IEEE 802.1x Port-based Access Control	•	•	•	•	•	•	•	•	•
ACL (L2/L3/L4)	•	•	•	•	•	•	•	•	•
IP Source Guard	•	•	•	•	•	•	•	•	•
RADIUS (Authentication, Authorization, Accounting)	•	•	•	•	•	•	•	•	•
TACACS+	•	•	•	•	•	•	•	•	•
HTTP & SSL (Secure Web)	•	•	•	•	•	•	•	•	•
SSH v2.0 (Secured Telnet Session)	•	•	•	•	•	•	•	•	•
Virtual Stacking				•	•	•	•	•	•
MAC/IP Filter	•	•	•	•	•	•	•	•	•

## Specifications Managed Switches

	NGSM8T2	NGSM16T2(-AV)	NGSM24T2(-AV)	NGSM48T2	NGSME48T4
<b>Interface</b>					
10 Base-T/100 Base-TX/1000 Base-T RJ45 Ports	8	16	24	48	48
100/1000Base-SX/LX SFP Port	2	2	2		
10G SFP+ Slot				2	4
Rear-port version available (-AV)	•	•	•	•	
Console Port for CLI Management	1				
<b>System Performance</b>					
Packet Buffer	4Mb		32Mb		
MAC Address Table Size	8K		32K		
Switching Capacity (Gbps)	20	36	52	136	176
Forwarding Rate (Mbps)	14.88	26.8	38.7	74.4	130.94
<b>L2 Features</b>					
Auto-negotiation	•	•	•	•	•
Auto MDI/MDIX	•	•	•	•	•
Flow Control (duplex)					
802.3x (Full)	•	•	•	•	•
Back-Pressure (Half)	•	•	•	•	•
<b>Spanning Tree</b>					
IEEE 802.1D (STP)	•	•	•	•	•
IEEE 802.1w (RSTP)	•	•	•	•	•
IEEE 802.1s (MSTP)	•	•	•	•	•
<b>VLAN</b>					
VLAN Group	4K	4K	4K	4K	4K
Tagged Based	•	•	•	•	•
Port-based	•	•	•	•	•
Voice VLAN	Voice VLAN with OUI				
Private Vlan	•	•	•	•	•
MVR	•	•	•	•	•
Mac-Based Vlan	•	•	•	•	•
Protocol-Based Vlan	•	•	•	•	•



<b>Link Aggregation</b>					
IEEE 802.3ad with LACP	•	•	•	•	•
Static Trunk	•	•	•	•	•
Max. LACP Link Aggregation Group	5	5	13	26	26
Max. Port per Link Aggregation Group	8	8	16	8	8
<b>IGMP Snooping</b>					
IGMP Snooping v1/v2/v3	Supports 1024 IGMP groups				
IGMP Static Multicast Addresses	Supports 1024 static multicast addresses				
IPv6 MLD Snooping	Supports 1024 MLD groups				
MLD Static Multicast Addresses	Supports 1024 static multicast addresses				
Querier, Immediate Leave	•	•	•	•	•
Storm Control (Broadcast/Multi-cast/Unknown Unicast)	•	•	•	•	•
Jumbo Frame Support	9.6KB				
<b>QOS Features</b>					
Number of priority queue	8				
Rate Limiting Ingress 1KBps/1pps	•	•	•	•	•
Rate Limiting Egress 1KBps/1pps	•	•	•	•	•
<b>CoS</b>					
IEEE 802.1p	•	•	•	•	•
IP ToS precedence, IP DSCP	•	•	•	•	•
<b>DiffServ (RFC2474 Remarking)</b>					
Scheduling (WRR, Strict, Hybrid)	•	•	•	•	•
<b>MANAGEMENT</b>					
Command Line Interface (CLI)	•	•	•	•	•
Web Based Management	•	•	•	•	•
Telnet	•	•	•	•	•
<b>Access Management Filtering</b>					
SNMP	•	•	•	•	•
WEB	•	•	•	•	•
SSH	•	•	•	•	•
TELNET	•	•	•	•	•
<b>Firmware Upgrade via HTTP</b>					
Dual Firmware Images	•	•	•	•	•
Configuration Download/Upload	•	•	•	•	•
SNMP (v1/v2c/v3)	•	•	•	•	•
RMON (1,2,3,&9 groups)	•	•	•	•	•
DHCP (Client/Relay/Option82/Snooping)	•	•	•	•	•
System Event/Error Log	•	•	•	•	•
NTP/LLDP	•	•	•	•	•
Cable Diagnostics	•	•	•	•	•
IPv6 Configuration	•	•	•	•	•
Port Mirroring One to One/Many to One	•	•	•	•	•
sFlow	•	•	•	•	•
Remote Ping	•	•	•	•	•
UPnP	•	•	•	•	•
EEE Configuration	•	•	•	•	•
<b>Mechanical</b>					
Power Input	100-240VAC				
Dimension (H*W*D)	44*330*220 mm	44*440*331 mm			
LED	Power, PoE, Link/Act, SFP				
Operating Temperature	0~45°C	0~40°C			
Storage Temperature	-20~80°C	-20~90°C			
Operating Humidity	5~90% (non-condensing)				
Weight	2.2Kg	2.5Kg	4.7Kg	5.37Kg	
Certification	CE, FCC c-UL-us				
<b>Standard</b>					
IEEE 802.3 – 10Base-T	•	•	•	•	•
IEEE 802.3u - 100Base-TX	•	•	•	•	•
IEEE 802.3ab - 1000Base-T	•	•	•	•	•
IEEE 802.3z - 1000 Base-SX/LX	•	•	•	•	•
IEEE 802.3af - Power over Ethernet (PoE)	•	•	•	•	•

IEEE 802.3at - Power over Ethernet (PoE+)	•	•	•	•	•
IEEE 802.3az - Energy Efficient Ethernet (EEE)	•	•	•	•	•
IEEE 802.3x - Flow Control	•	•	•	•	•
IEEE 802.1Q - VLAN	•	•	•	•	•
IEEE802.1v - Protocol 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)	•	•	•	•	•
IEEE 802.1AB - LLDP (Link Layer Discovery Protocol)	•	•	•	•	•
IEEE 802.1X - Access Control	•	•	•	•	•
<b>Security</b>					
Management System User Name/Password Protection	•	•	•	•	•
User Privilege	Set user privilege up to 15 Level				
MAC Based Authentication	•	•	•	•	•
WEB Based Authentication	•	•	•	•	•
IEEE 802.1x Port-based Access Control	•	•	•	•	•
ACL (L2/L3/L4)	•	•	•	•	•
IP Source Guard	•	•	•	•	•
RADIUS (Authentication, Authorization, Accounting)	•	•	•	•	•
TACACS+	•	•	•	•	•
HTTP & SSL (Secure Web)	•	•	•	•	•
SSH v2.0 (Secured Telnet Session)	•	•	•	•	•
Virtual Stacking			•	•	•
MAC/IP Filter	•	•	•	•	•