N10GSM16

(16 P 10G SFP+ L2/L3 Mangaed Switch)

- 16 P 10G SFP+ Ports
- 802.3az Energy Efficient Ethernet
- 320G Non-Blocking Switching Capability
- Layer 2 / 3 Full Managed Software Features
- MSTP, LACP, LLDP, sFlow,
- 802.1X, RADIUS, TACAS+, ACL
- IPv6, IPv4/v6 Multicast Filtering

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Product Specification

Introduction

N10GSM16 switch designed for carrier and MAN networks. It supports comprehensive QoS, enhanced VLAN functions, Ethernet Ring Protection Protocol (G.8032), classified bandwidth control, intelligent security control, OAM(Operations, Administration and Maintenance), manageability functions and Triple-Play services which fulfill the network requirements demanded by carrier network, MAN access. N10GSM16 offers green features like IEEE 802.3az (Energy Efficient Ethernet), Fan-less design and Smart Fan feature, which can dramatically lower power consumption, achieve green energy and save the cost for the carrier and MAN users. the series integrates advanced management and security functions to provide performance and scalability.

Main Features

- **Green Energy**
  - N10GSM16 complies with **IEEE 802.3az** (Energy-Efficient Ethernet) standard, dramatically lower power consumption
  - With **Innovative port-LED Shut-off** function, the user can automatically set the switch port-LED UP or DOWN at a specified time period according to their needs to achieve functional, energy-saving correct results.
  - Full account of low noise requirements of the environment, N10GSM16 use **Smart Fan** strategies to control fan speed according to real-time temperature monitoring system which can effectively reduce speed, extend fan life and reduce noise pollution.
- **Simple and Flexible Operation and Maintenance**
  - **Dying GASP.** An alarm will be triggered to remote SNMP network management platform when the system power is lost. This feature offer user-friendly operation and maintenance for the user.
  - Full Ethernet **OAM** technology (IEEE802.3ah/802.1ag), VCT, DDM (Digital Diagnostic Monitoring) and other features achieve rapid detection of the network failures; reduce operation and maintenance difficulty.
  - ERSPAN (Encapsulated Remote Switched Port Analyzer) technology mirrors traffic through the GRE tunnel technology which simplifies the configuration, helps network administrators to manage remote devices conveniently.
- **Enhanced Security**
  - N10GSM16 provides a variety of security mechanisms like SYN Flood, Land, ICMP Flood attack prevention and other DOS class technology, BPDU Guard and Root Guard which avoid accidental topology loops and prevent illegal edge devices become root to cause unnecessary flapping.
  - IEEE **802.1X** port-based access control ensures all users are authorized before being granted access to the network. User authentication is carried out using any standard-based RADIUS server.
  - Access Control Lists (**ACL**s) can be used to restrict access to sensitive network resources by denying packets and forward by different policies. User-defined ACL provides more flexible access control for users.
  - N10GSM16 support **DHCP snooping**, which prevents DHCP attacks and illegal DHCP

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SERVER by setting trust ports and untrusted ports. With DHCP Snooping binding and option82 enabled, it can combine modules like dot1x and ARP, or implement user-access-control independently.

- N10GSM16 supports much more L2 security features such as **ARP guard**, **Anti-ARP scanning**, and other ARP and **MAC Security** technology to protect network security and reliability.

➢ High Reliability

- N10GSM16 supports uplink ports, which could be designed to offer redundant uplinks with various ring protection applications, effectively raised the expansibility and performance of network.
- **G.8032** provides sub-50ms protection and recovery switching for Ethernet traffic in a carrier ring topology. N10GSM16 supports G.8032 v2 and can be deployed in a variety of complex network topologies including single ring, tangent ring, intersecting rings, double rings and other home networking.
- **Multi-process MSTP**. When a new access ring can be implemented through creating a new process of MSTP, the new ring does not affect the existing traffic. And each process may run different spanning tree protocol.

➢ High adaptability VLAN Features

- N10GSM16 supports 802.1Q and port based VLAN as well as MAC based VLAN, Voice VLAN and Protocol VLAN.
- Abundant QinQ technology including **Normal QinQ**, **Selective QinQ**, and **Flexible QinQ**, gives users maximum freedom to configure QinQ policy.
- **N:1 VLAN Translation** feature can translate multiple VLAN tags in the frames from access ports into one specified VLAN Tag. It provides a strong technical support for QoS policy convergence.

➢ Abundant Multicast Features

- N10GSM16 could prevent multicast traffic from flooding via IGMP Snooping, while multicast traffic is only forwarded to ports associated to multicast devices.

➢ Specifications

Item	N10GSM16
Management Port	1 Console port
Ports	16 x 10Gb(SFP+)
Performance	
Switching Capacity	320G
Forwarding Rate	238Mpps
MAC ADDRESS	16K
Jumbo Frame	9K
ACL Table	1k
Route Table IPv4 / IPv6 shared	64 / 64
Queues per port	8

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Item		N10GSM16
VLAN TABLE		4K
Dimension(W×H×D)		440mm x 44mm x 240mm
weight		3.2kg
Power Input		AC: 100~240VAC, 50~60Hz DC: Input -48V ~ -60V
Power Consumption		23.7W
Temperature		Working 0℃~50℃, Storage -40℃~70℃
Relative Humidity		5%~95%,non-condensing
EMC safety		FCC, CE, RoHS
Main Features		
Forwarding		Storage and Forwarding
VLAN		Port-based VLAN IEEE802.1Q private VLAN Protocol VLAN Voice VLAN MAC VLAN Normal QinQ, Selective QinQ, Flexible QinQ VLAN Translation, N:1 VLAN Translation
DHCP		IPv4/IPv6 DHCP Client,IPv4/IPv6 DHCP Relay Option 82,Option 37/38 IPv4/IPv6 DHCP Snooping,IPv4/IPv6 DHCP Server
IP Routing		IP Routing and Static Route, RIP
Reliability	Spanning Tree	802.1D STP, 802.1W RSTP, 802.1S MSTP Root Guard, BPDU Guard, BPDU Forwarding Multi-Process MSTP
	LACP	128 groups per device/8 ports per group Load balance
	L2 Ring Protection	ITU-T G.8032 Loopback Detection
Security		IP ACL, MAC ACL, MAC-IP ACL, User-Defined ACL Time Range ACL ACL on VLAN interface Storm Control based on packets and bytes Port Security, MAC Limit based on VLAN and Port Anti-ARP-Spoofing , Anti-ARP-Scan, ARP Binding ND Snooping

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Item	N10GSM16
	DAI IEEE 802.1x, Web Portal Authentication, Authorization, Accounting Radius, TACACS+
Multicast	IGMP v1/v2/v3 snooping, IGMP Fast leave MVR MLD v1/v2 snooping IPv4/IPv6 DCSCM(D)
QoS	8 Queues Per Port Bandwidth Control Flow Redirect Classification based on ACL, VLAN ID, COS, TOS, DSCP, IPv6 Flow Label Policing Based on Port and VLAN Single Rate Three Colors, Dual Rates Three Colors for Policing Remark DSCP, COS/802.1p, Precedence, TOS SP, WRR, SWRR, DWRR for Scheduling
Maintenance and Operation Management	XModem/TFTP/FTP CLI, Telnet, Console Web/SSL (IPv4/IPv6) SSH (IPv4/IPv6) SNMPv1/v2c/v3 SNMP Trap Public & Private MIB interface RMON 1,2,3,9 Ping, Trace Route Radius Authentication Syslog (IPv4/IPv6) SNTP/NTP (IPv4/IPv6) Dual IMG, Multiple Configuration Files Port Mirror, CPU Mirror, RSPAN, ERSPAN sFlow OAM VCT, DDM ULDP LLDP/LLDP MED OpenFlow 1.0
Green Energy	IEEE 802.3az Auto Fan Speed Control, Temperature Alarm

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