



Ethernet switch ESN108

ESN108 is a Layer 2 aggregation switch especially designed for the EDA solution offering a unique solution for deployment of ADSL in areas with low subscriber penetration.

Description

Concentrating the Ethernet traffic from the IP DSLAM, ESN108 provides eight 100 Mbps Fast Ethernet ports and one Single Mode Fiber (SMF) 100 Mbps SFP port. ESN108 has built-in power over Ethernet (PoE) for distributing power to the connected IP DSLAM via the Fast Ethernet ports. The unique design of the IP DSLAM has been carried forward in ESN108 and it can be installed directly on a KRONE LSA-PROFILE mount frame.

Quality of Service (QoS)

Priority queues are used to guarantee the QoS needed for delay-sensitive applications like voice (IP telephony), video conferencing or video broadcast. Each packet going through the switch can be assigned a queue priority (according to IEEE 802.1p). Packets with a higher priority are allowed to pass first through the switch.

Virtual LAN (VLAN)

By use of VLAN technology it is possible to create separate logical networks within the Ethernet LAN. In the EDA solution, VLAN is used to separate traffic types or different services and to improve security. ESN108 is transparent for VLAN IDs and offers port mapping filtering.

IP Multicast (IGMP snooping)

ESN108 offers multicast loading of IP DSLAM software and multicast video streaming by use of IGMP snooping. Listening to IGMP messages (Internet Group Management Protocol messages), the ESN108 switch builds mapping tables and associates forwarding filters. It dynamically configures the switch ports to forward IP multicast traffic only to those ports associated with multicast hosts.

Management

ESN108 is managed by the Public Ethernet Manager (PEM), which is based on HP OpenView and SNMPv2c. ESN108 can be managed via any of the Ethernet ports. By configuration, a dedicated VLAN can be used for management signaling. A default VLAN number is configured for management

Technical data

THIS DOCUMENT IS VALID FOR RELEASES

- EDA 2.0 and EDA 2.1

GENERAL

- IEEE 802.1
- IEEE 802.1D Bridged Ethernet
- IEEE 802.1D Spanning Tree
- IEEE 802.1w Rapid Spanning Tree
- Transparency for VLAN IDs
- Port mapping filtering

Quality of Service

- Flow control, traffic blocking based on memory usage
- Automatic packet aging support
- IEEE 802.1p, with two priority queues per egress port

Multicast

- IGMP snooping supporting RFC 2236

INTERFACES

Electrical interfaces

- 8 x IEEE802.3u 100Base-TX Fast Ethernet interface, UTP
- IEEE802.3x Flow control, full duplex

Optical interfaces

- 1 x IEEE802.3u 100 Mbps Fast Ethernet Module, as an SFP module (SMF 0-15 km)
- IEEE802.3ah compliance

Management interface

- Via any Ethernet port

MANAGEMENT

- Ericsson Public Ethernet Manager (PEM)
- A default VLAN is pre-configured for management
- SNMPv2c alarms
- RFC1907 SNMPv2-MIB
- RFC1213-MIB
- RFC2233 IF-MIB
- RFC1493 BRIDGE-MIB
- RFC3014 NOTIFICATION-LOG-MIB
- RFC 2665 Ethernet-like MIB
- RFC1757 RMON-MIB
- RFC 1907 SNMPv2
- Ericsson ELN and EDA Enterprise MIBs

CAPACITY

- Throughput: 900 Mbps full-duplex, 1.8 Gbps half-duplex
- Packet/Sec: 1.34 Mbps
- MAC address table capacity = 4096 MAC addresses

POWER

- Single -48 V DC input power connectors
- Power over Ethernet (PoE) capability
- Power consumption (PoE at -48 V):
 - Maximum (incl. 8 x EDN312x IP DSLAMs): 217 W
 - Nominal (no IP DSLAMs attached): Max. 18 W

Maximum power dissipation:

- Without PoE feature: 9 W
- With PoE feature: 18 W

DIMENSIONS

- HxWxD: 42 x 185 x 125 mm
- Mounted on LSA-PROFILE
- Plastic Box: Flame-retardant material UL94 - V0

PERFORMANCE AND RELIABILITY

- Availability better than 99.999 % uptime
- MTBF 56 years at 25°C

ELECTROMAGNETIC COMPATIBILITY

- EN 300 386:2001 for Telecommunication Centers and Locations other than Telecommunication Centers. Class B
- FCC Part 15 Class A

ENVIRONMENTAL

- ETS 300 019-2-1: Storage, class 1.2
- ETS 300 019-2-2: Transportation, class 2
- ETS 300 019-2-3: Stationary use at weather protected locations, Class 3.2
- Bellcore GR63-core zone 4
- The lifecycle is optimized according to ISO 14001
- Operational temperature range: -5°C to +65°C