

- Bandwidth up to 112 Gbps
- Non-blocking architecture
- 4 ports of 10G in basic configuration
- L3 functions
- Stacking up to 8 devices
- Hot-swappable redundant power supplies
- Front-to-Back cooling



MES3300-08F



MES3300-16F

MES3300-08F and MES3300-16F switches can be used as aggregation or transport switches in carrier networks. They ensure high performance due to the universal interfaces operating at speeds of 10 Gbps or 1 Gbps.

The benefits of MES aggregation switches include advanced L2 functions, support for static and dynamic routing, stacking of up to 8 devices, and hot-swappable redundant power supplies.

## Technical features

|                                                         | MES3300-08F | MES3300-16F               |
|---------------------------------------------------------|-------------|---------------------------|
| Interfaces                                              |             |                           |
| 1000BASE-X/100BASE-FX (SFP)                             | 4           | 12                        |
| 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo           |             | 4                         |
| 10GBASE-R (SFP+)/1000BASE-X (SFP)                       |             | 4                         |
| 10/100/1000BASE-T (OOB)                                 |             | 1                         |
| Console port RS-232 (RJ-45)                             |             | 1                         |
| Performance                                             |             |                           |
| Bandwidth                                               | 96 Gbps     | 112 Gbps                  |
| Throughput for 64 bytes <sup>1</sup>                    | 71.4 MPPS   | 88.3 MPPS                 |
| Buffer memory                                           |             | 1.5 MB                    |
| RAM (DDR4)                                              |             | 2 GB                      |
| ROM (RAW NAND)                                          |             | 512 MB                    |
| MAC table                                               |             | 16384                     |
| ARP table <sup>2</sup>                                  |             | 4029                      |
| VLAN table                                              |             | 4094                      |
| L2 Multicast groups                                     |             | 4092                      |
| SQinQ rules                                             |             | 1320 ingress, 1320 egress |
| MAC ACL rules                                           |             | 2998                      |
| IPv4/IPv6 ACL rules                                     |             | 2998/1499                 |
| L3 IPv4 Unicast routes <sup>3</sup>                     |             | 13279                     |
| L3 IPv6 Unicast routes <sup>3</sup>                     |             | 3317                      |
| L3 IPv4 Multicast routes (IGMP Proxy, PIM) <sup>3</sup> |             | 4027                      |
| L3 IPv6 Multicast routes (IGMP Proxy, PIM) <sup>3</sup> |             | 1656                      |

<sup>1</sup> Values are given for one-way transmission.

<sup>2</sup> For each host in the ARP table, an entry is created in the routing table.

<sup>3</sup> IPv4/IPv6 Unicast/Multicast routes share hardware resources.

## Technical features (continued)

|                               | MES3300-08F | MES3300-16F                |
|-------------------------------|-------------|----------------------------|
| VRRP routes                   |             | 255                        |
| Maximum number of ECMP groups |             | 1024                       |
| ECMP routes                   |             | 8                          |
| VRF                           |             | 16 (including default VRF) |
| L3 interfaces                 |             | 2050                       |
| Link Aggregation Groups (LAG) |             | 32, up to 8 ports per LAG  |
| Quality of Service (QoS)      |             | 8 egress queues per port   |
| Jumbo frames                  |             | 10240 bytes                |
| Stacking                      |             | 8 devices                  |

## Features and capabilities

## Interface functions

- Head-of-line blocking (HOL) protection
- Back Pressure
- Auto MDI/MDIX
- Jumbo Frames
- Flow control (IEEE 802.3X)
- Port Mirroring (SPAN, RSPAN)
- Stacking

## MAC table functions

- Independent learning mode per VLAN
- MAC Multicast Support
- Configurable aging time of MAC addresses
- Static MAC Entries
- MAC Flapping logging

## VLAN functions

- Voice VLAN
- 802.1Q
- Q-in-Q
- Selective Q-in-Q
- GVRP
- Subnet-based VLAN

## L2 Multicast functions

- Multicast profiles
- Static Multicast groups
- IGMP Snooping v1,2,3
- Port/host-based IGMP Snooping Fast Leave
- Pim-Snooping
- IGMP proxy-report
- IGMP authorization via RADIUS
- MLD Snooping v1,2
- IGMP Querier
- MVR

## L2 functions

- Spanning Tree Protocol, IEEE 802.1d
- Rapid Spanning Tree Protocol, IEEE 802.1w
- Multiple Spanning Tree Protocol, IEEE802.1s
- PVSTP+
- RPVSTP+
- Spanning Tree Fast Link option
- STP Root Guard
- BPDU Filtering
- STP BPDU Guard

- Loopback Detection
- ERPS (G.8032v2)
- Flex-link
- Private VLAN
- L2PT (Layer 2 Protocol Tunneling)

## L3 functions

- Static IP routes
- Dynamic routing protocols RIPv2, OSPFv2, OSPFv3, IS-IS (IPv4 Unicast), BGP<sup>1</sup> (IPv4 Unicast, IPv4 Multicast)
- BFD (for BGP, OSPF, IS-IS)
- ARP (Address Resolution Protocol)
- Proxy ARP
- Policy-Based Routing (IPv4)
- VRRP
- Multicast dynamic routing protocols PIM SM, PIM DM, IGMP Proxy, MSDP
- ECMP Load Balancing
- IP Unnumbered
- GRE protocol
- VRF lite

## Link Aggregation functions

- Static LAG
- Dynamic LAG (LACP)
- LAG Balancing Algorithm
- MLAG (Multi-Switch Link Aggregation Group)

## IPv6 functions

- IPv6 Host
- Dual stack IPv4, IPv6

## Service functions

- VCT (Virtual Cable Testing)
- Optical transceiver diagnostics

## Security functions

- Protection against unauthorized DHCP servers (DHCP Snooping)
- DHCP Option 82
- IP Source Guard
- Dynamic ARP Inspection
- First Hop Security
- sFlow
- MAC-based authentication, Port Security, Static MAC entries
- Port-based authentication IEEE 802.1x
- Guest VLAN
- DoS attack prevention

<sup>1</sup> BGP protocol support is provided under the license.

## Features and capabilities (continued)

- Traffic segmentation
- DHCP clients filtering
- BPDU attack prevention
- NetBIOS/NetBEUI filtering

### ACL (Access Control Lists)

- L2-L3-L4 ACL (Access Control List)
- Time-Based ACL
- IPv6 ACL
- ACL based on:
  - Physical port number
  - IEEE 802.1p
  - VLAN ID
  - EtherType
  - DSCP
  - Protocol type
  - TCP/UDP port number
  - User Defined Bytes

### Quality of Service (QoS)

- QoS statistics
- Shaping, Policing
- IEEE 802.1p Class of Service (CoS)
- Storm Control for different types of traffic (broadcast, multicast, unknown unicast)
- Bandwidth management
- Scheduling algorithms: Strict Priority/Weighted Round Robin (WRR)
- Three marking colors
- ACL-based CoS/DSCP mark assignment
- ACL-based VLAN assignment
- Setting the IEEE 802.1p priority for management VLAN
- DSCP to CoS/CoS to DSCP remarking
- 802.1p, DSCP mark assignment for IGMP

### OAM

- 802.3ah Ethernet Link OAM
- 802.3ah Unidirectional Link Detection

### Management functions

- Configuration file download and upload via TFTP/SCP
- SNMP
- CLI (Command Line Interface)
- Web interface
- Syslog
- NTP (Simple Network Time Protocol)
- NTP (Network Time Protocol), NTP server, NTP peer-to-peer
- Traceroute
- LLDP (802.1ab) + LLDP MED
- LLDP (802.1ab)
- TACACS+
- Access control – privilege levels for users
- Management interface blocking
- Local authentication
- IP addresses filtering for SNMP
- RADIUS and TACACS+ (Terminal Access Controller Access Control System) clients
- SSH server, Telnet server
- SSH client, Telnet client
- SSL
- Macrocommands
- CLI commands logging
- System log

- DHCP autoprovision
- DHCP Relay (Option 82)
- DHCP Option 12
- DHCP server
- Debugging commands
- Rate limit of traffic to CPU
- Password encryption
- Password recovery
- Ping (IPv4/IPv6 support)

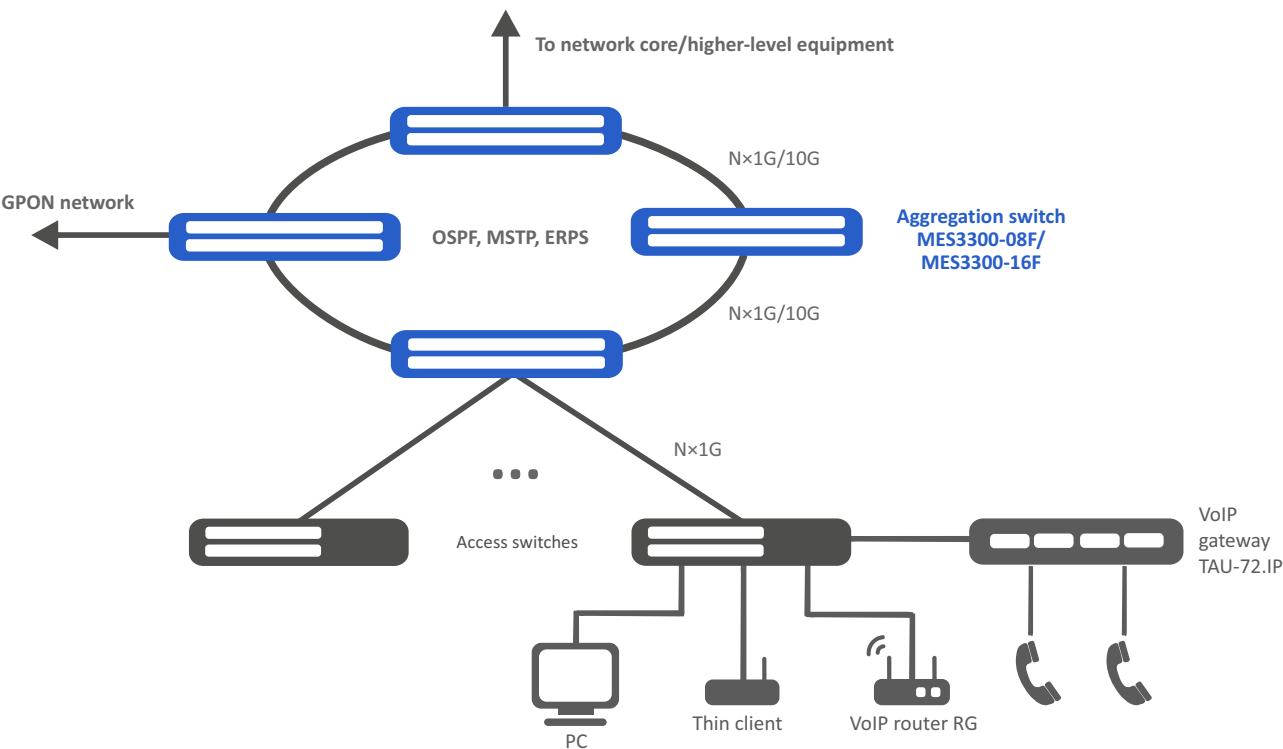
### Monitoring functions

- Interface statistics
- RMON
- IP SLA
- CPU utilization monitoring per task and per traffic type
- RAM utilization monitoring
- Temperature monitoring
- TCAM utilization monitoring

### MIB/IETF

- RFC 1065, 1066, 1155, 1156, 2578 MIB Structure
- RFC 1212 Concise MIB Definitions
- RFC 1213 MIB II
- RFC 1215 MIB Traps Convention
- RFC 1493, 4188 Bridge MIB
- RFC 1157, 2571-2576 SNMP MIB
- RFC 1901-1908, 3418, 3636, 1442, 2578 SNMPv2 MIB
- RFC 1271, 1757, 2819 RMON MIB
- RFC 2465 IPv6 MIB
- RFC 2466 ICMPv6 MIB
- RFC 2737 Entity MIB
- RFC 4293 IPv6 SNMP Mgmt Interface MIB
- Private MIB
- RFC 3289 DIFFSERV MIB
- RFC 2021 RMONv2 MIB
- RFC 1398, 1643, 1650, 2358, 2665, 3635 Ether-like MIB
- RFC 2668 802.3 MAU MIB
- RFC 2674, 4363 802.1p MIB
- RFC 2233, 2863 IF MIB
- RFC 2618 RADIUS Authentication Client MIB
- RFC 4022 MIB for TCP
- RFC 4113 MIB for UDP
- RFC 2620 RADIUS Accounting Client MIB
- RFC 2925 Ping & Traceroute MIB
- RFC 768 UDP
- RFC 791 IP
- RFC 792 ICMPv4
- RFC 2463, 4443 ICMPv6
- RFC 4884 Extended ICMP for Multi-Part messages support
- RFC 793 TCP
- RFC 2474, 3260 Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 headers
- RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)
- RFC 2571, RFC2572, RFC2573, RFC2574 SNMP
- RFC 826 ARP
- RFC 854 Telnet
- IEC 61850

Use case



Physical parameters

|                              | MES3300-08F                                                                                                                                                                            | MES3300-16F                          |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Power supply                 | AC: 100–240 V, 50–60 Hz<br>DC: 36–72 V<br>Power supply options: <ul style="list-style-type: none"><li>• 1 AC/DC power supply;</li><li>• 2 hot-swappable AC/DC power supplies</li></ul> |                                      |
| Input current                | 0.2–0.4 A for AC<br>0.3–0.7 A for DC                                                                                                                                                   | 0.2–0.4 A for AC<br>0.3–0.8 A for DC |
| Maximum power consumption    | 29 W                                                                                                                                                                                   | 37 W                                 |
| Heat dissipation             | 29 W                                                                                                                                                                                   | 37 W                                 |
| Dying Gasp hardware support  | no                                                                                                                                                                                     |                                      |
| Operating temperature        | from -10 to +45 °C                                                                                                                                                                     |                                      |
| Storage temperature          | from -50 to +70 °C                                                                                                                                                                     |                                      |
| Operating humidity           | no more than 80 %                                                                                                                                                                      |                                      |
| Cooling                      | Front-to-Back, 2 fans                                                                                                                                                                  | Front-to-Back, 4 fans                |
| Maximum acoustic noise level | from the front panel, max < 53.9 dB<br>from the rear panel, max < 54.2 dB                                                                                                              |                                      |
| Form factor                  | 19", 1U                                                                                                                                                                                |                                      |
| Dimensions (W × H × D)       | 430 × 44 × 305 mm                                                                                                                                                                      | 430 × 44 × 305 mm                    |
| Weight                       | 4.64 kg                                                                                                                                                                                | 4.89 kg                              |

## Ordering information

| Name                    | Description                                                                                                                                                                                                         |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MES3300-08F</b>      | MES3300-08F Ethernet switch, 1 port of 10/100/1000BASE-T (OOB), 4 ports of 1000BASE-X/100BASE-FX (SFP), 4 combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, 4 ports of 10GBASE-R (SFP+)/1000BASE-X (SFP), L3  |
| <b>MES3300-16F</b>      | MES3300-16F Ethernet switch, 1 port of 10/100/1000BASE-T (OOB), 12 ports of 1000BASE-X/100BASE-FX (SFP), 4 combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, 4 ports of 10GBASE-R (SFP+)/1000BASE-X (SFP), L3 |
| Related products        |                                                                                                                                                                                                                     |
| <b>PM160-220/12</b>     | PM160-220/12 power module, 100–240 V AC, 160 W                                                                                                                                                                      |
| <b>PM100-48/12</b>      | PM100-48/12 power module, 36–72 V DC, 100 W                                                                                                                                                                         |
| <b>PM65-220/12</b>      | PM65-220/12 power module, 12 V AC/DC, 65 W                                                                                                                                                                          |
| Related software        |                                                                                                                                                                                                                     |
| <b>ECCM-MES3300-08F</b> | ECCM-MES3300-08F option of Eltex ECCM management system for ELTEX network elements management and monitoring: 1 network element MES3300-08F                                                                         |
| <b>ECCM-MES3300-16F</b> | ECCM-MES3300-16F option of Eltex ECCM management system for ELTEX network elements management and monitoring: 1 network element MES3300-16F                                                                         |

## Contact us

## About Eltex



+7 (383) 274 10 01  
+7 (383) 274 48 48



eltex@eltex-co.ru



eltex-co.com

**Eltex Enterprise** is a leading Russian developer and manufacturer of communication equipment with 30 years of history. Complete solutions and their seamless integrability into the Customer's infrastructure are the priority growth areas of the company.