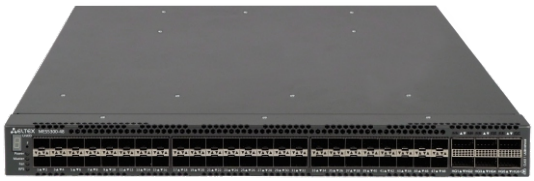
– **High performance up to 2.16 Tbps**
– **Non-blocking architecture**
– **L3 switches**
– **Stacking up to 8 devices**
– **Power supply redundancy**
– **Front-to-Back cooling**

MES5300-24



MES5300-48

MES5300-24, MES5300-48, MES5305-48 switches are high performance devices with 40GBASE-R and 100GBASE-R interfaces that can be used as aggregation switches in carrier networks and as Top-of-Rack or End-of-Row switches for data centers.

The devices ports support operation at rates of 1 Gbps (SFP), 10 Gbps (SFP+), 40 Gbps (QSFP+) and 100 Gbps (QSFP28). In the split mode of the HG interface, operation at speeds 1 Gbps, 10 Gbps and 25 Gbps is supported. The split mode allows splitting up to 6 HG interfaces, which gives 24 TWE interfaces in total.

The non-blocking architecture guarantees lossless packet forwarding at wire speed with minimum and predictable delays for all types of traffic.

The front-to-back cooling provides effective cooldown in modern data centers.

The redundant and hot-swappable fans and AC/DC power supplies along with advanced hardware monitoring functions provide high reliability and uninterrupted services.

The devices support EVPN/VXLAN technology to create networks with simple, high-performance and scalable data center architecture.

Technical features

	MES5300-24	MES5300-48	MES5305-48
Interfaces			
10/100/1000BASE-T (OOB)	1		
1000BASE-X (SFP)/10GBASE-R (SFP+)	24	48	
40GBASE-R4 (QSFP+)/100GBASE-R4 (QSFP28)	6		
USB 2.0	1		
Console port RS-232 (RJ-45)	1		
Performance			
Bandwidth	1.68 Tbps	2.16 Tbps	
Throughput for 64 bytes[1]	593.7 MPPS	552.15 MPPS	575.80 MPPS
Buffer memory	6 MB		10 MB
RAM (DDR4)	8 GB		
ROM (embedded uSSD)	8 GB		
MAC table	32768	32768	131072
ARP table[2]	16316	16375	32700

[1] Values are given for one-way transmission.
[2] For each host in the ARP table, an additional entry is created in the switching table. The number of ARP with EVPN license installed is 14276 for MES5300-24, 14327 or MES5300-48 and 30652 for MES5305-48.

Technical features (continued)

	MES5300-24	MES5300-48	MES5305-48
Performance			
VLAN table	4094		
L2 Multicast groups	4092		
SQinQ rules	1320 (ingress), 1320 (egress)		
MAC ACL rules	2998	2998	6063
IPv4/IPv6 ACL rules	2997/1499	2999/1500	6063/3035
L3 IPv4 Unicast routes[1]	16280	16284	28638
L3 IPv6 Unicast routes[1]	4070	4067	7156
L3 IPv4 Multicast routes[1]	8142	8142	14320
L3 IPv6 Multicast routes[1]	2033	2032	3579
VRRP routers	127		
Maximum size of ECMP groups	64		
VRF number	251 (including default VRF)		
L3 interfaces	2050		
Maximum number of VXLAN	2486	2488	4093
Link Aggregation Groups (LAG)	128, up to 8 ports per LAG		
Quality of Service (QoS)	8 egress queues per port		
Jumbo frames size	10240 bytes		
Stacking	up to 8 devices		

Features and capabilities

Interface features
– Head-of-line blocking (HOL) protection
– Back pressure
– Auto MDI/MDIX
– Jumbo frames
– Flow Control (IEEE 802.3X)
– Port Mirroring
– Stacking

MAC table features
– Independent learning mode in each VLAN
– MAC Multicast Support
– Configurable MAC address aging time
– Static MAC Entries
– MAC Flapping logging

VLAN functions
– Voice VLAN
– IEEE 802.1Q
– Q-in-Q
– Selective Q-in-Q
– GVRP

L2 Multicast functions
– Multicast profiles
– Static Multicast groups
– IGMP Snooping v1,2,3
– Port/host-based IGMP Snooping Fast Leave
– PIM-Snooping
– IGMP authorization via RADIUS
– MLD Snooping v1,2
– IGMP Querier

L2 functions
– STP (Spanning Tree Protocol, IEEE 802.1d)
– RSTP (Rapid Spanning Tree Protocol, IEEE 802.1w)
– MSTP (Multiple Spanning Tree Protocol, IEEE 802.1s)
– Spanning Tree Fast Link option
– STP Root Guard
– BPDU Filtering
– STP BPDU Guard
– Loopback Detection (LBD)
– ERPS (G.8032v2)
– Flex-link
– PVSTP+
– RPVSTP+

[1] IPv4/IPv6 Unicast/Multicast routes share hardware resouces.

Features and capabilities (continued)

L3 functions
– Static routing
– Dynamic routing protocols RIPv2, OSPFv2, OSPFv3, IS-IS, BGP[1] (IPv4 Unicast, IPv4 Multicast)
– Address Resolution Protocol (ARP)
– VRRP
– PIM SM, PIM DM, IGMP Proxy, MSDP
– BFD
– IP Unnumbered
– VRF lite

EVPN/VXLAN[2]
– L2VPN services
– L3VPN services

Link Aggregation functions
– Link Aggregation Groups (LAG)
– LACP
– LAG Balancing Algorithm
– Multi-Switch Link Aggregation Group (MLAG)

IPv6 functions
– IPv6 Host
– Dual-stack IPv6, IPv4

Service functions
– Optical transceiver diagnostics
– Green Ethernet

Security function
– DHCP Snooping
– DHCP Option 82
– IP Source Guard
– Dynamic ARP Inspection
– sFlow
– MAC-based authentication, MAC address limitation, static MAC entries
– Port-based authentication IEEE 802.1x
– Guest VLAN
– DoS attack prevention
– Traffic segmentation
– DHCP clients filtering
– BPDU attack prevention
– NetBIOS/NetBEUI filtering

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

Quality of Service (QoS) and rate limiting
– QoS statistics
– Shaping, Policing
– IEEE 802.1p Class of Service
– Protection against broadcast storm
– Bandwidth management
– Strict Priority/Weighted Round Robin (WRR) scheduling algorithms
– Three marking colors
– ACL-based CoS/DSCP 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 and firmware download and upload via TFTP/SCP
– SNMP
– Command Line Interface (CLI)
– Web interface
– Syslog
– SNTP (Simple Network Time Protocol)
– Traceroute
– LLDP (802.1ab) + LLDP MED
– Access control – privilege levels
– Management ACL
– Management interface blocking
– Local authentication
– IP address filtering for SNMP
– RADIUS/TACACS+ (Terminal Access Controller Access Control System)
– SSH server
– Telnet server
– SSL
– Macrocommands
– CLI command logging
– System log
– DHCP auto provisioning
– DHCP Relay (Option 82)
– DHCP Option 12
– DHCP server
– Debugging commands
– CPU traffic limiting mechanisms
– Password encryption

[1] BGP protocol support is provided under license.
[2] EVPN protocol support is provided under license.

Features and capabilities (continued)

– Password recovery
– Ping (IPv4/IPv6)

Monitoring functions

– Interface statistics
– Remote monitoring RMON/SMON
– Task- and traffic-based CPU utilization monitoring
– Temperature monitoring
– TCAM monitoring
– IPFIX

MIB

– 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 IEEE 802.3 MAU MIB
– RFC 2674, 4363 IEEE 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 3298 MIB for Diffserv
– 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 DS field in the IPv4 and IPv6 headers
– RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)
– RFC 2571-2574 SNMP
– RFC 826 ARP
– IEC 61850

Physical parameters

	MES5300-24	MES5300-48	MES5305-48
Physical parameters and environmental features			
Power supply	100–240 V AC, 50–60 Hz 36–72 V DC Power supply options: • 1 AC/DC power supply • 2 hot-swappable AC/DC power supplies	176–264 V AC, 50–60 Hz 36–72 V DC Power supply options: • 1 AC/DC power supply • 2 hot-swappable AC/DC power supplies	
Input current	1.2–0.5 A for AC 3–1.5 for DC	0.6–1.0 A for AC 2–4.5 for DC	0.5–1.0 A for AC 2–5 for DC
Maximum power consumption	no more than 118 W	no more than 157 W	no more than 150 W
Heat dessipation	118 W	157 W	150 W
Dying Gasp support	no		
Operating temperature	from 0 to +45 °C		
Storage temperature	from -50 to +70 °C		
Operating humidity	no more than 80 %		
Cooling	Front-to-Back, 4 fans		
Dimensions (W × H × D)	440 × 44 × 309 mm	440 × 44 × 425 mm	440 × 44 × 425 mm
Weight	6.11 kg	8.7 kg	

Ordering information

Name	Description
MES5300-24	Ethernet switch MES5300-24, 1×10/100/1000BASE-T (OOB), 24×1000BASE-X (SFP)/10GBASE-R (SFP+), 6×40GBASE-R4 (QSFP+)/100GBASE-R4 (QSFP28), 1×USB 2.0, L3
MES5300-48	Ethernet switch MES5300-48, 1×10/100/1000BASE-T (OOB), 48×1000BASE-X (SFP)/10GBASE-R (SFP+), 6×40GBASE-R4 (QSFP+)/100GBASE-R4 (QSFP28), 1×USB 2.0, L3
MES5305-48	Ethernet switch MES5305-48, 1×10/100/1000BASE-T (OOB), 48×1000BASE-X (SFP)/10GBASE-R (SFP+), 6×40GBASE-R4 (QSFP+)/100GBASE-R4 (QSFP28), 1×USB 2.0, L3
Related sortware	
ECCM-MES5300-24	ECCM-MES5300-24 option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES5300-24
ECCM-MES5300-48	ECCM-MES5300-48 option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES5300-48
ECCM-MES5305-48	ECCM-MES5305-48 option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES5305-48

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About Eltex

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.