— **Bandwidth up to 128 Gbps**
— **Non-blocking switching fabric**
— **Advanced L2 functions**
— **4 × 10G ports in basic configuration**
— **L3 switches**
— **Multicast (IGMP Snooping, MVR)**
— **Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)**
— **Hot-swappable redundant power modules**
— **Dual ventilation system**
— **Front-to-back cooling**
— **Up to 8 devices in a stack**

MES3400 is a new generation switches that can be used in ISP networks as aggregation or transport switches. 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, hot-swappable redundant power modules.

The switches support physical stacking, Virtual Local Area Networks (VLAN), multicast groups and advanced security functions.

Technical features

	MES3400-24	MES3400-24F
Interfaces		
1000BASE-X/100BASE-FX (SFP)	—	24
10/100/1000BASE-T (RJ-45)	24	—
1000BASE-X (SFP)/10GBASE-R (SFP+)	4	4
Console port RS-232 (RJ-45)	1	
Performance		
Bandwidth	128 Gbps	
Throughput on 64-byte packets[1]	95.2 MPPS	
Buffer memory	2 MB	
RAM (DDR3)	1 GB	
ROM (SPI Flash)	64 MB	
MAC table	32768	
ARP table	1000	
VLAN table	4094	
L2 Multicast groups (IGMP Snooping)	4094	
L3 Multicast groups (IGMP Proxy)	2048	
SQinQ rules	2048 (ingress[2])/1024 (egress)	
MAC ACL rules	765	
IPv4/IPv6 ACL rules	640/320	
L3 IPv4 Unicast routes	2048	

[1] Values are given for one-way transmission.
[2] MAC-based VLAN and SQinQ share hardware resources.

Technical features (continued)

	MES3400-24	MES3400-24F
L3 IPv6 Unicast routes	512	
VRRP routers	32	
L3 interfaces	20 VLANs, up to 5 IPv4 addresses on a single VLAN, up to 512 IPv6 GUA for all VLANs in summary	
Link Aggregation Groups (LAG)	64 groups, up to 8 ports per LAG	
Quality of Service (QoS)	8 egress queues per port	
Jumbo frames	maximum packet size is 12288 bytes	
Stacking	up to 8 devices	

Features and capabilities

Interface functions
- Head-of-line blocking (HOL) protection
- 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 change events monitoring per ports
- MAC Flapping

VLAN support
- Voice VLAN
- IEEE 802.1Q
- Q-in-Q
- Selective Q-in-Q
- GVRP
- MAC-based VLAN
- Protocol-based VLAN

L2 Multicast functions
- Multicast profiles
- Static Multicast groups
- IGMP Snooping v1,2,3
- IGMP Snooping fast-leave
- IGMP Proxy-report
- IGMP authorization via RADIUS
- IGMP Querier
- MVR

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)
- Rapid-PVST+
- STP Root Guard
- STP Loop Guard
- STP BPDU Guard
- BPDU Filtering
- Spanning Tree Fast Link option
- Loopback Detection (LBD)
- Port isolation
- Storm Control for different traffic types (broadcast, multicast, unknown unicast)
- Layer 2 Protocol Tunneling (L2PT)
- ERPS (G.8032v2)

L3 Multicast functions
- IGMP proxy (RFC 4605)
- IGMP proxy fast-leave

L3 functions
- Static IPv4, IPv6 routes
- Dynamic routing protocols RIPv1/2, OSPFv2/3
- VRRP

Link Aggregation functions
- LAG
- LACP
- LAG Balancing Algorithm

Service functions
- Virtual Cable Test (VCT)
- Optical transceiver diagnostics

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

Security functions
- DHCP Snooping
- DHCP Option 82
- MAC-based authentication, Port Security, static MAC addresses
- IEEE 802.1x port-based authentication
- Guest VLAN
- DoS attacks prevention
- Traffic segmentation
- DHCP clients filtering
- BPDU attacks prevention
- PPPoE Intermediate Agent
- IP Source Guard
- Dynamic ARP Inspection
- DHCPv6 Snooping
- IPv6 Source Guard
- IPv6 ND Inspection
- IPv6 RA Guard

Features and capabilities (continued)

ACL (Access Control List)

— L2-L3-L4 ACL (Access Control List)
— IPv6 ACL
— ACL based on:
  — Switch port
  — IEEE 802.1p priority
  — VLAN ID
  — EtherType
  — DSCP
  — IP protocol type
  — TCP/UDP port number
  — User Defined Bytes

Quality of service (QoS) and rate limiting

— Port rate limiting (shaping)
— Rate limiting according to sr-TCM and tr-TCM policing algorithms
— IEEE 802.1p Class of Service (CoS)
— Queue scheduling algorithms: Strict Priority (SP)/Weighted Round Robin (WRR)
— IEEE 802.1p priority tagging for VLAN management
— ACL-based traffic classification
— ACL-based CoS/DSCP marking
— DSCP to CoS remarking
— CoS to DSCP remarking
— ACL-based VLAN assignment

OAM

— IEEE 802.3ah, Ethernet OAM
— IEEE 802.3ah Unidirectional Link Detection (UDLD)

Time synchronization

— SNTP (Simple Network Time Protocol)

Main management functions

— Download and upload of configuration file via TFTP/SFTP
— Automated backup of configuration file via TFTP/SFTP
— Simple Network Management Protocol (SNMP)
— Command Line Interface (CLI)
— Web interface
— Syslog
— LLDP (IEEE 802.1ab) + LLDP MED
— Two 802.1Q headers traffic control
— Commands Authorization using TACACS+ server
— IPv4/IPv6 ACL support for device control
— Switch access management — privilege levels for users
— Management interface blocking
— Local authentication
— IP addresses filtering for SNMP
— RADIUS, TACACS+ clients
— Telnet server and client
— SSH server and client
— Macro commands
— Input commands logging via TACACS+ protocol
— DHCP auto configuration
— DHCP Relay (IPv4 support)
— DHCP Relay Option 82
— DHCP server
— PPPoE Circuit-ID tag adding
— Flash File System
— Debug commands
— CPU traffic limiting
— Password encryption
— Ping (IPv4/IPv6 support)
— Traceroute
— IPv4/IPv6 static routing
— Support for several versions of configuration file

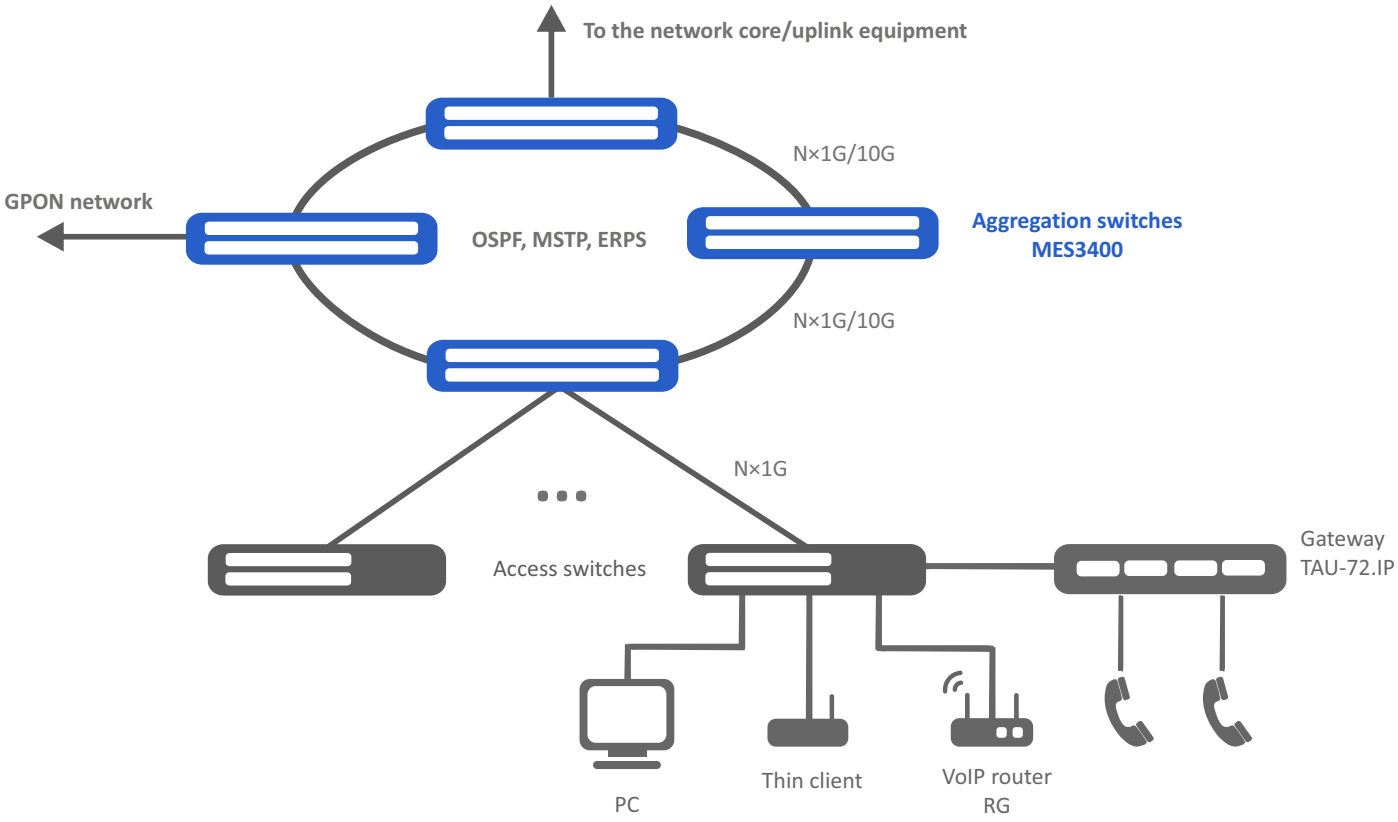
Monitoring functions

— Interface statistics
— CPU utilization monitoring per task and per queue
— RAM usage monitoring
— Temperature monitoring
— TCAM monitoring

MIB/IETF standards

— 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 2465 IPv6 MIB
— RFC 2737 Entity MIB
— RFC 4293 IPv6 SNMP Mgmt Interface MIB
— Private 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 3289 MIB for Diffserv
— RFC 2620 RADIUS Accounting Client MIB
— RFC 768 UDP
— RFC 791 IP
— RFC 792 ICMPv4
— RFC 2463, 4443 ICMPv6
— 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, RFC 2572, RFC 2573, RFC 2574 SNMP
— RFC 826 ARP
— RFC 854 Telnet
— IEC 61850

Use case



Physical parameters

	MES3400-24	MES3400-24F
Power supply	100–240 V AC, 47–63 Hz (for PM165-220/12, PM160-220/12, PM65-220/12[1]); 36–72 V DC for PM100-48/12 Power supply options: • 1 AC/DC power supply • 2 AC/DC hot-swappable power supplies	
Maximum power consumption	37 W	55 W
Heat dissipation	37 W	55 W
Input current	0.2–0.5 A for AC 0.4–0.9 A for DC	0.6–0.3 A for AC 1.4–0.6 A for DC
Hardware support for Dying Gasp	no	
Operating temperature range	from -10 to +45 °C	
Storage temperature range	from -40 to +70 °C	
Cooling	active, front-to-back, 4 fans	
Maximum acoustic noise level from front/rear panel	54.2 dB/54.2 dB	53.6 dB/54.2 dB
Operating humidity	no more than 80 %	
Form factor	19", 1U	
Dimensions (W × H × D)	430 × 44 × 275 mm	430 × 44 × 275 mm
Weight	4.63 kg	4.69 kg

[1] For the PM65-220/12 power module, it is permissible to use a DC power source with a voltage range of 120–370 V DC.

Ordering information

Name	Description
MES3400-24	MES3400-24 Ethernet aggregation switch, 24 ports of 10/100/1000BASE-T (RJ-45), 4 ports of 1000BASE-X (SFP)/10GBASE-R (SFP+), L3
MES3400-24F	MES3400-24F Ethernet aggregation switch, 24 ports of 100BASE-FX/1000BASE-X (SFP), 4 ports of 1000BASE-X (SFP)/10GBASE-R (SFP+), L3
Related products	
PM65-220/12	PM65-220/12 power module, 100–240 V AC, 65 W
PM160-220/12	PM160-220/12 power module, 100–240 V AC, 160 W
PM165-220/12	PM165-220/12 power module, 100–240 V AC, 165 W
PM100-48/12	PM100-48/12 power module, 36–72 V DC, 100 W
Related software	
ECCM-MES3400-24	ECCM-MES3400-24 option of Eltex ECCM management system to control and monitor Eltex network elements: 1 network element MES3400-24
ECCM-MES3400-24F	ECCM-MES3400-24F option of Eltex ECCM management system to control and monitor Eltex network elements: 1 network element MES3400-24F

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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.