– **Advanced L2 functions**
– **Stacking support**
– **Multicast support (IGMP Snooping, MVR)**
– **Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)**
– **Uninterrupted power from storage battery**[1]
– **Surge protection**


MES1124M


MES2124P

The switches provide end users connection to the networks of large enterprises, small and medium-sized businesses and service provider networks using Fast and Gigabit Ethernet interfaces.
The access switches support physical stacking, VLANs and multicast groups, as well as advanced security features.

Uninterrupted power

MES1124MB and MES2124MB switches have the ability to connect storage battery in order to provide uninterrupted power in case of 220 V primary network failure.

The switches are equipped with the power supply unit that allows charging the storage battery if the 220 V is available. The power system provides monitoring of power supply line and notifies on power sources switching.

Surge protection

MES switches are equipped with efficient protection technology against voltage surges (up to 6 kV) caused by lightning discharges.

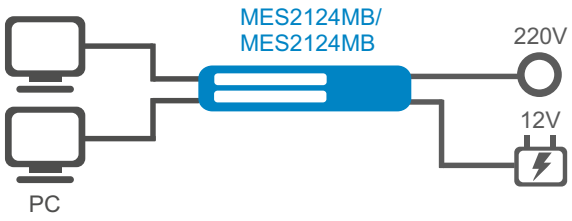
Technical features

	MES1124M	MES1124MB	MES1124M rev.B	MES2124M	MES2124MB	MES2124P	MES2124F
Interfaces							
10/100BASE-T (RJ-45)	24	24	24	–	–	–	–
10/100/1000BASE-T (RJ-45)	–	–	–	24	24	–	–
10/100/1000BASE-T (RJ-45) PoE/PoE+	–	–	–	–	–	24	–
100BASE-FX/1000BASE-X (SFP)	–	–	–	–	–	–	24
10/100/1000BASE-T/1000BASE-X/ 100BASE-FX Combo	4						
Console port RS-232 (RJ-45)	1						
Performance							
Bandwidth	12.8 Gbps	12.8 Gbps	12.8 Gbps	56 Gbps	56 Gbps	56 Gbps	56 Gbps
Throughput for 64-bytes[2]	9 MPPS			41 MPPS			
Buffer memory	1 MB						
RAM (DDR2)	128 MB					256 MB	128 MB
ROM (SPI Flash)	16 MB						
MAC table	16384						
VLAN table	4094						
L2 Multicast groups (IGMP Snooping)	1000						
SQinQ rules	168 (ingress) / 96 (egress)						
ACL rules	248						
Link Aggregation Groups (LAG)	16, up to 8 ports per LAG						
Quality of Service (QoS)	4 queues per port						
Jumbo frames size	10240 bytes						
Stacking	3					8	3

[1] Only for MB models.
[2] Values are given for one-way transmission.

Storage battery specification[1]

Battery capacity, Ah	Battery life, h	Battery charge time, h
≈12	≈ 4	9
≈17	≈ 6	13
≈20	≈ 7	15



Features and capabilities

Interfaces features
– Head-of-line blocking (HOL) protection
– Back Pressure
– Auto MDI/MDIX
– Jumbo frames
– Flow control (IEEE 802.3X)
– Port mirroring
– VLAN mirroring

MAC table features
– Independent learning mode per VLAN
– MAC Multicast Support
– Configurable aging time of MAC addresses per VLAN
– Static MAC Entries
– MAC change events monitoring per ports
– MAC flapping events monitoring per ports

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

L2 features
– STP (Spanning Tree Protocol, IEEE 802.1d)
– RSTP (Rapid Spanning Tree Protocol, IEEE 802.1w)
– MSTP (Multiple Spanning Tree Protocol, IEEE 802.1s)
– STP Multiprocess
– STP Root Guard
– STP Loop Guard
– STP BPDU Guard
– BPDU Filtering
– Spanning Tree Fast Link option
– Layer 2 Protocol Tunneling (L2PT)
– Private VLAN
– ERPS (G.8032v2)
– EAPS
– VLAN-based Loopback Detection (LBD)
– Port Isolation
– Flex Link (Dual homing)
– Storm Control for different traffic types (broadcast, multicast, unknown unicast)

Link Aggregation features
– Link Aggregation Groups (LAG)
– LACP
– LAG Balancing Algorithms

IPv6 features
– IPv6 Host
– IPv6 and IPv4 Dual stack

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

Service features
– Virtual Cable Testing (VCT)
– Optical transceiver diagnostics
– Green Ethernet

Security features
– DHCP Snooping
– DHCP Option 82
– IP Source Guard
– Dynamic ARP Inspection
– sFlow
– MAC-based authentication, Port Security, 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
– PPPoE Intermediate agent
– SSH server operation algorithm selection

Access Control Lists (ACL)
– L2-L3-L4 ACL
– Time-based ACL
– IPv6 ACL
– ACL-ONLY with increased switch resources
– ACL based on:
  – Physical port number
  – IEEE 802.1p
  – VLAN ID
  – EtherType
  – DSCP
  – Protocol type
  – TCP/UDP port number
  – User Defined Bytes

[1] Only for MB models.
Current firmware version — 1.1.48.14.

Features and capabilities (continued)

Quality of Service (QoS) and rate limiting
– Shaping, policing
– IEEE 802.1p Class of Service (CoS)
– Bandwidth management
– Strict Priority/Weighted Round Robin (WRR) scheduling algorithms
– Three marking colors
– ACL-based traffic classification
– ACL-based CoS/DSCP assignment
– DSCP to CoS remarking
– CoS to DSCP remarking
– ACL-based VLAN assignment

Management functions
– Download and upload of configuration file via TFTP/SCP
– SNMP (Simple Network Management Protocol)
– CLI (Command Line Interface)
– Web interface
– Syslog
– SNTP (Simple Network Time Protocol)
– Traceroute
– LLDP (IEEE 802.1ab) + LLDP MED
– Configuration of user privilege level
– Management interface blocking
– Local authentication
– IP addresses filtering for SNMP
– RADIUS and TACACS+ (Terminal Access Controller Access Control System) clients
– SSH, Telnet server
– SSH, Telnet client
– SSL
– Macrocommands
– CLI commands logging via TACACS+
– System log
– DHCP autoprovision
– DHCP Relay (IPv4 support)
– DHCP Option 12
– DHCP Relay Option 82
– PPPoE Circuit-ID tag
– Flash File System
– Debugging commands
– Rate limit of traffic to CPU
– Password encryption
– Password recovery
– Ping (IPv4/IPv6 support)
– IPv4/IPv6 static routes for management network
– 2 configuration files

Monitoring functions
– Interface statistics
– RMON/SMON
– IP SLA
– CPU utilization monitoring per task and per traffic type
– RAM utilization monitoring
– Temperature monitoring
– TCAM monitoring

OAM
– IEEE 802.3ah Ethernet OAM
– Dying Gasp (only for MES1124M rev. B)
– IEEE 802.1ag Connectivity Fault Management (CFM)
– IEEE 802.3ah Unidirectional Link Detection (UDLD)

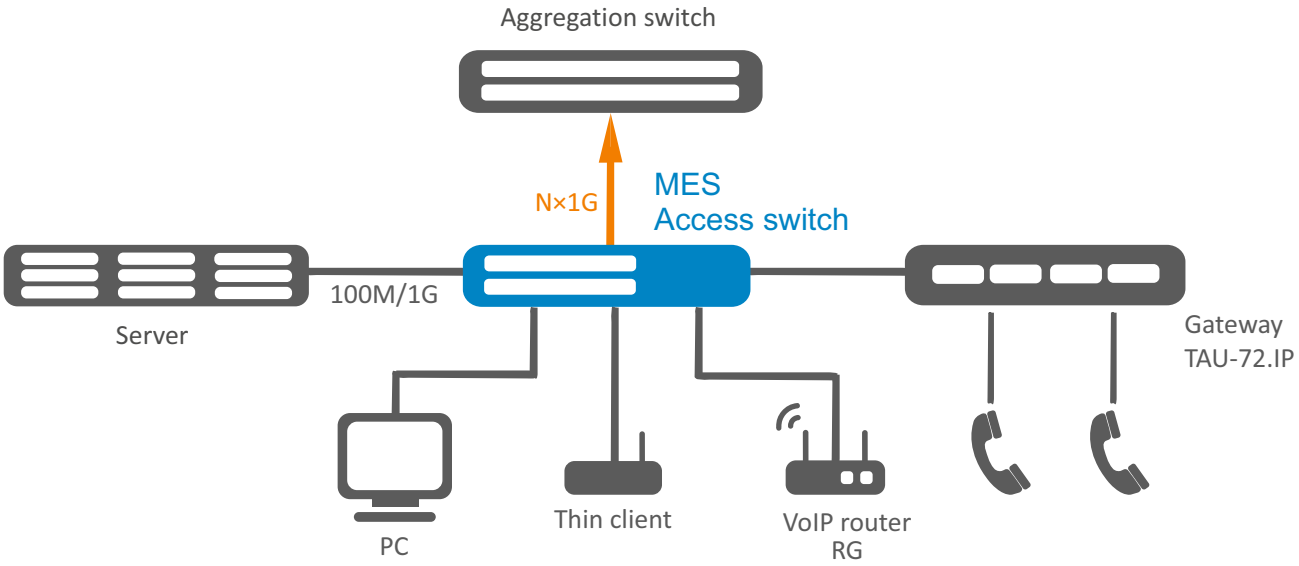
Uninterrupted power[1]
– Automatic switching to storage battery (12 V) in case of 220 V primary network failure and switching back
– Storage battery charging (12 V) during primary network operation (220 V)
– Power source type monitoring (including SNMP)
– Notifications on power source switching
– Battery connection indication
– Low battery alarm
– Short circuit failure protection

PoE[2]
– IEEE 802.3af PoE (up to 15.4 W per port) and IEEE 802.3at PoE+ (up to 30 W per port)
– Automatic and configurable accounting and distribution of PoE power per port

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 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 to support for Multi-Part messages
– RFC 793 TCP
– RFC 2474, 3260 DS field in the IPv4 and IPv6 header
– RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)
– RFC 2571, 2572, 2573, 2574 SNMP
– RFC 826 ARP
– RFC 854 Telnet

[1] Only for MB models.
[2] For MES2124P.

Use case



Physical parameters

	MES1124M	MES1124MB	MES1124M rev. B	MES2124M	MES2124MB	MES2124P	MES2124F
Power supply	110–250 V AC, 50–60 Hz; 36–72 V DC	110–250 V AC, 50–60 Hz; 12 V DC	110–250 V AC, 50–60 Hz; 36–72 V DC	110–250 V AC, 50–60 Hz; 36–72 V DC	110–250 V AC, 50–60 Hz; 12 V DC	170–265 V AC, 50–60 Hz	110–250 V AC, 50–60 Hz
Maximum power consumption	25 W	45 W	25 W	30 W	50 W	400 W	40 W
Maximum power consumption excluding battery charge	–	25 W	–	–	30 W	–	–
PoE budget	–	–	–	–	–	350 W	–
Dying Gasp	No	No	Yes	No	No	No	No
Operating temperature	from -15 to +50 °C						
Storage temperature	from -40 to +70 °C						
Operating humidity	80% max						
Cooling	Passive	Passive	Passive	Passive	Passive	Active, 2 fans	Active, 2 fans
Form factor	19", 1U						
Dimensions (W × H × D), mm	430 × 44 × 160	430 × 44 × 160	430 × 44 × 160	430 × 44 × 180	430 × 44 × 180	430 × 44 × 203	430 × 44 × 206.5
Weight	2.15 kg			2.60 kg		3.15 kg	2.85 kg

Ordering information

Name	Description
MES1124M AC	Ethernet switch MES1124M, 24 × 10/100BASE-T, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo, L2, 110–250 V AC, 50–60 Hz
MES1124M DC	Ethernet switch MES1124M, 24 × 10/100BASE-T, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo, L2, 36–72 V DC
MES1124M rev. B AC	Ethernet switch MES1124M rev. B, 24 × 10/100BASE-T, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo, L2, 110–250 V AC, 50–60 Hz
MES1124M rev. B DC	Ethernet switch MES1124M rev. B, 24 × 10/100BASE-T, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo, L2, 36–72 V DC
MES1124MB AC	Ethernet switch MES1124MB, 24 × 10/100BASE-T, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo, L2, 110–250 V AC, 50–60 Hz, 12 V DC
MES2124M AC	Ethernet switch MES2124M, 24 × 10/100BASE-T, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo, L2, 110–250 V AC, 50–60 Hz
MES2124M DC	Ethernet switch MES2124M, 24 × 10/100BASE-T, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo, L2, 36–72 V DC
MES2124MB AC	Ethernet switch MES2124MB, 24 × 10/100BASE-T, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo, L2, 110–250 V AC, 50–60 Hz, 12 V DC
MES2124P AC	Ethernet switch MES2124P, 24 × 10/100/1000BASE-T PoE/PoE+, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo, L2, 170–265 V AC, 50–60 Hz
MES2124F	Ethernet switch MES2124F, 24 × 100BASE-FX/1000BASE-X, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo, L2, 110–250 V AC, 50–60 Hz
Related software	
MES1124M AC	ECCM-MES1124M_AC option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES1124M_AC
MES1124M DC	ECCM-MES1124M_DC option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES1124M_DC
MES1124MB AC	ECCM-MES1124MB_AC option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES1124MB_AC
MES2124M AC	ECCM-MES2124M_AC option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES2124M_AC
MES2124M DC	ECCM-MES2124M_DC option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES2124M_DC
MES2124MB AC	ECCM-MES2124MB_AC option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES2124MB_AC
MES2124P AC	ECCM-MES2124P_AC option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES2124P_AC
MES2124F	ECCM-MES2124F option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES2124F

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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.