

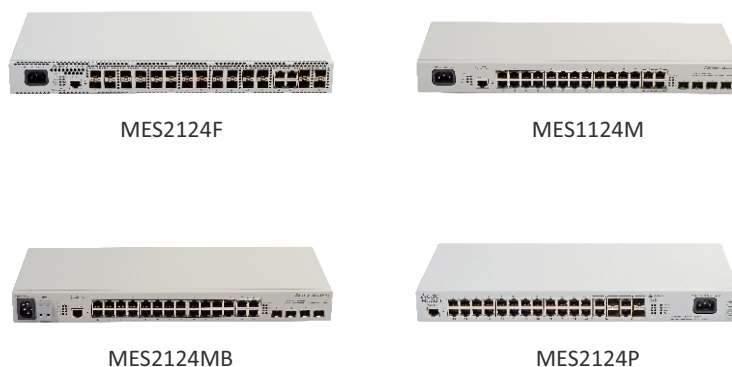
- Advanced L2 functions
- Stacking support
- Multicast support (IGMP Snooping, MVR)
- Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)
- Uninterruptible power supply from battery¹
- Surge protection

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.

Surge protection

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



Uninterruptible power supply¹

MES1124MB and MES2124MB switches have the ability to connect storage battery in order to provide uninterruptible power in case of 220V supply line failure.

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

Technical features

	MES1124M	MES1124MB	MES1124M rev.B	MES2124M	MES2124MB	MES2124P	MES2124F
Common parameters							
Packet processor	Marvell 98DX1035 (AlleyCat2-FE)			Marvell 98DX3035 (AlleyCat2-GE)			
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	4	4	4	4	4	4
Console port	RS-232/RJ-45						
Performance							
Bandwidth	12.8 Gbps	12.8 Gbps	12.8 Gbps	56 Gbps	56 Gbps	56 Gbps	56 Gbps
Throughput for 64-byte packets	9 MPPS			41 MPPS			
MAC table				16K			
The number of active VLANs				4K			
ACL table				512			
Jumbo frames size	Maximum packets size is 10240 bytes						
Buffer memory				8 Mb			
RAM (DDR2)				128 MB		256 MB	128 MB
ROM (SPI Flash)				16 MB			
L2 Multicast groups (IGMP Snooping)				1K			
Link Aggregation Groups (LAG)	16, up to 8 ports per LAG						
Quality of Service (QoS)	4 queues per port						
Max. number of units in stack	3	3	3	3	3	8	3

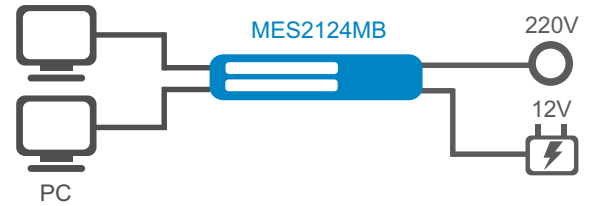
¹ Only for MB models

Technical features

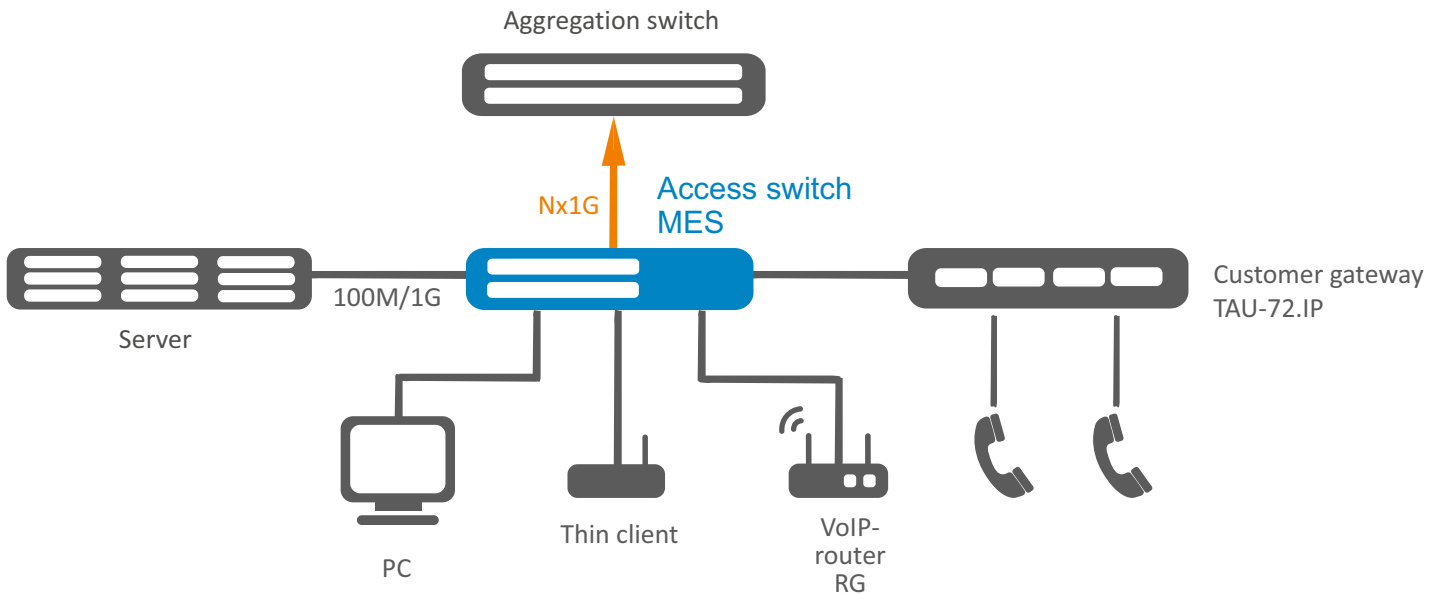
	MES1124M	MES1124MB	MES1124M rev.B	MES2124M	MES2124MB	MES2124P	MES2124F
Maximum power consumption	25W	25W	25W	30W	30W	400W	40W
Maximum power consumption while battery charging	–	45W	–	–	50W	–	–

Storage battery specification¹

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



Use case



¹ Only for MB models

Features and capabilities

Interfaces functions

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

MAC table functions

- 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

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
- IGMP authorization via RADIUS
- MLD Snooping v1,2
- 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)
- STP Multiprocess
- STP Root Guard
- STP Loop Guard
- STP BPDU Guard
- BPDU Filtering
- Spanning Tree Fast Link option
- Layer 2 Protocol Tunneling
- Private VLAN
- ERPS (G.8032v2)
- EAPS
- Loopback Detection (LBD) per VLAN
- Port Isolation
- Flex Link (Dual homing)
- Storm Control for different traffic types (broadcast, multicast, unknown unicast)

Link Aggregation functions

- Static LAG
- Dynamic LAG (LACP)
- LAG Balancing Algorithms

IPv6 functions

- IPv6 Host
- Dual-stack

Service functions

- Virtual Cable Testing (VCT)
- Optical transceiver diagnostics
- Green Ethernet

Security functions

- 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
- Protection against non-authorized DHCP servers
- DHCP clients filtering
- BPDU attack prevention
- NetBIOS/NetBEUI filtering
- PPPoE Intermediate agent
- SSH server operation algorithm selection

ACL (Access Control Lists)

- 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

Quality of Service (QoS) and rate limiting

- Shaping, policing
- IEEE 802.1p Class of Service (CoS)
- Storm Control
- Bandwidth management
- Scheduling algorithms:
 - Strict Priority/Weighted Round Robin (WRR)
- Three marking colors
- ACL-based traffic classification
- ACL-based CoS/DSCP assignment
- DSCP to CoS remarking
- CoS to DSCP remarking
- ACL-based VLAN assignment

Features and capabilities

OAM

- IEEE 802.3ah Ethernet OAM
- Dying Gasp
- IEEE 802.1ag Connectivity Fault Management (CFM)
- IEEE 802.3ah Unidirectional Link Detection (UDLD)

Management functions

- Download and upload of configuration file via TFTP/SCP
- SNMP
- Command Line Interface (CLI)
- 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 server
- SSL
- Macrocommands
- CLI commands logging via TACACS+
- 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
- CPU utilization monitoring per task and per traffic type
- RAM utilization monitoring
- Temperature monitoring
- TCAM utilization monitoring

PoE¹

- 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

Uninterruptible power supply²

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

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 271, 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 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, RFC2572, RFC2573, RFC2574 SNMP
- RFC 826 ARP


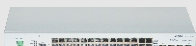

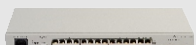

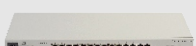


¹ For MES2124P

² Only for MB models

Physical specifications

	MES1124M	MES1124MB	MES1124M rev.B	MES2124M	MES2124MB	MES2124P	MES2124F
Power supply	220 VAC 50 Hz / 48 VDC						
Maximum power consumption	≤ 25 W	≤ 45 W	≤ 25 W	≤ 30 W	≤ 50 W	≤ 400 W	≤ 40 W
PoE budget	–	–	–	–	–	350 W	–
Dying Gasp hardware support	No	No	Yes	No	No	No	No
Operating temperature	from -15°C to +50°C						
Storage temperature	from -40° to +70°C						
Operating humidity	80% max						
Cooling	Passive					Active, 2 fans	
Dimensions (WxDxH), mm	430x158x44			430x178x44		430x203x44	443x206.5x44
Weight	2.15 kg			2.60 kg		3.15 kg	2.85 kg


Ordering information

Name	Description	Image
MES1124M AC	Ethernet switch MES1124M, 24 ports of 10/100BASE-T ports, 4 Combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, L2, 220VAC	
MES1124M DC	Ethernet switch MES1124M, 24 ports of 10/100BASE-T ports, 4 Combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, L2, 48VDC	
MES1124MB AC	Ethernet switch MES1124MB, 24 ports of 10/100BASE-T ports, 4 Combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, L2, 220VAC,12VDC	
MES2124M AC	Ethernet switch MES2124M, 24 ports of 10/100/1000BASE-T ports, 4 Combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, L2, 220VAC	
MES2124M DC	Ethernet switch MES2124M, 24 port of 10/100/1000BASE-T, 4 Combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, L2, 48 VDC	
MES2124MB AC	Ethernet switch MES2124MB, 24 ports of 10/100/1000BASE-T, 4 Combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, L2, 220VAC,12VDC	
MES2124P AC	Ethernet switch MES2124P, 24 ports of 10/100/1000BASE-T PoE/PoE+, 4 Combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, L2, 220VAC	
MES2124F	Ethernet switch MES2124F, 24 ports of 100BASE-FX/1000BASE-X, 4 Combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, L2, 220 VAC	

Related software

EMS-MES-access	EMS-MES-access option of Eltex.EMS system for Eltex network elements control and monitoring: 1 network element - access switch
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Contact us


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


eltex@eltex-co.ru


www.eltex-co.ru

About Eltex

Eltex company is a leading Russian developer and manufacturer of telecommunication equipment with 25 years of history. Integrity of solutions and seamless integration capability into Customer infrastructure is a priority area of company development.