

- **Non-blocking architecture**
- **Advanced L2 features**
- **Support for Multicast (IGMP Snooping, MVR)**
- **Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)**
- **Uninterruptible power supply from a rechargeable battery¹**



MES1428



MES2428

The access switches provide end users connection to networks of large enterprises, small and mid-sized businesses and service providers via Fast and Gigabit Ethernet interfaces.

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

Uninterruptible power¹

The MES2428B switches can be equipped with a rechargeable battery to ensure power supply in case of the 220 V primary network connection loss. The switches are equipped with a power supply unit which allows the battery to be charged when 220 V power is available. Power supply redundancy system makes it possible to monitor the state of the primary network and notify of a power type switching.

Technical features

	MES1428	MES2428 	MES2428B
Interfaces			
10/100BASE-TX (RJ-45)	24	—	—
10/100/1000BASE-T (RJ-45)	—	24	24
Combo 10/100/1000BASE-T/ 100BASE-FX/1000BASE-X	4	4	4
Input dry contacts	—	—	—
Console port RS-232 (RJ-45)	—	1	—
Performance			
Bandwidth	12.8 Gbps	56 Gbps	56 Gbps
Throughput for 64-byte packets ²	9 MPPS	41.658 MPPS	41.658 MPPS
Buffer memory	—	512 KB	—
RAM (DDR3)	—	256 MB	—
ROM (SPI Flash)	—	32 MB	—
MAC table	—	8192	—
ARP table	—	1000	—
VLAN table	—	4094	—
L2 Multicast groups (IGMP Snooping)	—	509	—
SQinQ rules number	—	128 (ingress), 256 (egress)	
MAC ACL rules	—	381	
IPv4, IPv6 ACL rules	—	219/128	
L3 interfaces	—	20 VLANs, up to 5 of IPv4 addresses per VLAN, up to 300 of IPv6 GUA for all VLANs in summary	
Link Aggregation Groups (LAG)	—	8 groups, up to 8 ports in one LAG	
Quality of Service (QoS)	—	8 egress queues per port	
Jumbo frames	—	maximum packet size is 10000 bytes	

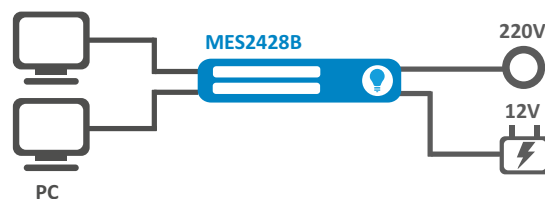
¹Only for MES2428B.

²Values are given for one-way transmission.

 — the device complies with CE requirements.

Technical features of redundant power supply* (MES2428B)

	Battery capacity, Ah	Battery life, h	Battery charge time, h
MES2428B	12	≈9	≈9
	17	≈15	≈13
	20	≈17	≈15



* Note:

- Specifications are given for environment temperature +25 °C;
- It is recommended to use batteries with a capacity of at least 12 Ah for MES2428B.

Features and capabilities

Interface features

- Head-of-line blocking (HOL) protection
- Auto MDI/MDIX
- Jumbo frames
- Flow Control IEEE 802.3X
- Port mirroring (SPAN, RSPAN)

MAC table

- 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 features

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

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 Root Guard
- STP Loop Guard
- STP BPDU Guard
- BPDU Filtering
- Spanning Tree Fast Link option
- Layer 2 Protocol Tunneling (L2PT)
- Loopback Detection (LBD)
- Port isolation
- Storm Control for different types of traffic (broadcast, multicast, unknown unicast)

L2 Multicast features

- Multicast profiles
- Static Multicast groups

- IGMP Snooping v1,2,3
- IGMP Snooping fast-leave
- IGMP proxy-report
- IGMP authorization via RADIUS
- MLD Snooping v1,2
- MLD Snooping fast-leave
- IGMP Querier
- MVR

Link Aggregation functions

- Link Aggregation Groups (LAG)
- LACP
- LAG Balancing Algorithm

Service functions

- Virtual Cable Testing (VCT)
- Optical transceiver diagnostics

IPv6

- IPv6 Host
- Dual-stack IPv4, IPv6

Security functions

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

Access control lists (ACL)

- L2-L3-L4 ACL (Access Control List)

Features and capabilities (continued)

- 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, policing)
- IEEE 802.1p Class of Service (CoS)
- Queue scheduling algorithms: Strict Priority/Weighted Round Robin (WRR)
- IEEE 802.1p priority for management VLAN
- ACL-based traffic classification
- ACL-based CoS/DSCP mark assignment
- CoS to DSCP remarking
- DSCP to CoS remarking
- ACL-based VLAN assignment

OAM

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

Monitoring functions

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

Main management functions

- Configuration file download and upload via TFTP/SFTP
- Automated backup of configuration file via TFTP/SFTP
- Simple Network Management Protocol (SNMP)
- Command Line Interface (CLI)
- Web interface
- Syslog
- Simple Network Time Protocol (SNTP)
- Traceroute
- 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 and TACACS+ (Terminal Access Controller Access Control System) clients
- Telnet client, SSH client
- Telnet server, SSH server
- Macro commands

- Input commands logging via TACACS+
- DHCP autoprovision
- DHCP Relay (support for IPv4)
- DHCP Relay Option 82
- PPPoE Circuit-ID tag adding
- Flash File System
- Debug commands
- Rate limit of traffic to CPU
- Password encryption
- Ping (support for IPv4/IPv6)
- IPv4/IPv6 static routes support
- Support for several versions of configuration files

Uninterruptible power supply¹

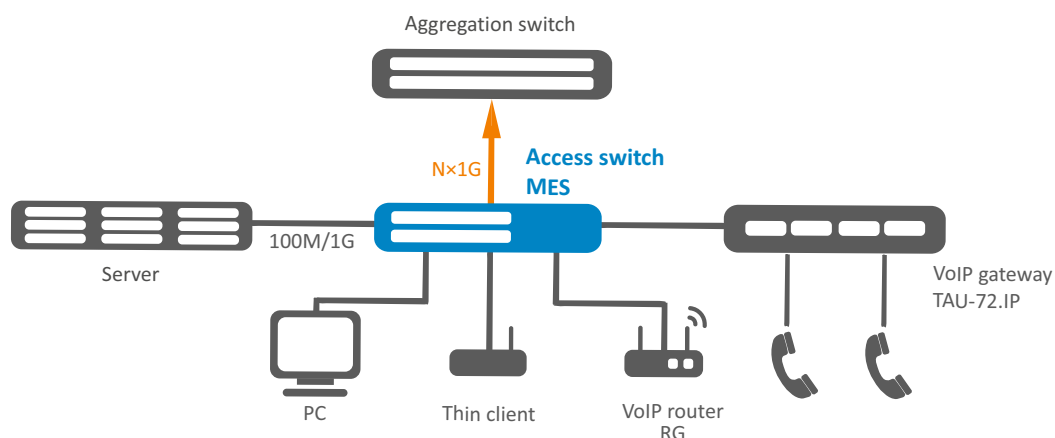
- Automatic switching to 12 V rechargeable battery when the primary power supply (220V) fails, and vice versa
- 12 V battery charging when operating from 220 V primary power supply
- Power supply type monitoring (SNMP)
- Notification of switching from one type of power to another
- Battery connection indication
- Low battery alarm
- Short circuit protection

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 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 ICMv4
- 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

¹Only for MES2428B.

Use case



Physical parameters

	MES1428 AC	MES1428 DC	MES2428 AC 	MES2428 DC 	MES2428B
Physical specifications and environmental parameters					
Power supply ¹	110–250 V, 50–60 Hz	18–72 V	110–250 V, 50–60 Hz	18–72 V	100–240 V AC, 50–60 Hz; 12 V DC
Input current	0.15–0.1 A	0.6–0.15 A	0.3–0.1 A	1.2–0.3 A	0.7–0.2 A; 2.0 A
Maximum power consumption	10 W	11 W	18 W	18 W	45 W
Maximum power consumption (without battery charge)	—	—	—	—	20 W
Heat dissipation	10 W	11 W	18 W	18 W	23 W
Hardware support for Dying Gasp	yes	no	yes	no	no
Operating temperature	from -20 to +50 °C				
Storage temperature	from -40 to +70 °C				
Operating humidity	no more than 80 %				
Cooling	passive				
Form factor	19", 1U				
Dimensions (W × H × D)	430 × 44 × 178 mm				
Weight	2.26 kg		2.35 kg		

¹MES1428 AC and MES2428 AC can use a DC power supply with a range of 120–370 V.

 — the device complies with CE requirements.

Ordering information

Name	Description
MES1428 AC	Ethernet switch MES1428, 24 ports of 10/100BASE-TX, 4 ports of Combo 10/100/1000BASE-T/100BASE-FX/1000BASE-X, L2, 110–250 V AC
MES1428 DC	Ethernet switch MES1428, 24 ports of 10/100BASE-TX, 4 ports of Combo 10/100/1000BASE-T/100BASE-FX/1000BASE-X, L2, 18–72 V DC
MES2428 AC	Ethernet switch MES2428, 24 ports of 10/100/1000BASE-T, 4 ports of Combo 10/100/1000BASE-T/100BASE-FX/1000BASE-X, L2, 110–250 V AC
MES2428 DC	Ethernet switch MES2428, 24 ports of 10/100/1000BASE-T, 4 ports of Combo 10/100/1000BASE-T/100BASE-FX/1000BASE-X, L2, 18–72 V DC
MES2428B	Ethernet switch MES2428B, 24 ports of 10/100/1000BASE-T, 4 ports of Combo 10/100/1000BASE-T/100BASE-FX/1000BASE-X, L2, 100–240 V AC, 12 V DC

Related software

ECCM-MES1428_AC	ECCM-MES1428_AC option of Eltex ECCM management system for ELTEX network elements management and monitoring: 1 network element MES1428_AC
ECCM-MES1428_DC	ECCM-MES1428_DC option of Eltex ECCM management system for ELTEX network elements management and monitoring: 1 network element MES1428_DC
ECCM-MES1428B	ECCM-MES1428B option of Eltex ECCM management system for ELTEX network elements management and monitoring: 1 network element MES1428B
ECCM-MES2428_AC	ECCM-MES2428_AC option of Eltex ECCM management system for ELTEX network elements management and monitoring: 1 network element MES2428_AC
ECCM-MES2428_DC	ECCM-MES2428_DC option of Eltex ECCM management system for ELTEX network elements management and monitoring: 1 network element MES2428_DC
ECCM-MES2428B	ECCM-MES2428B option of Eltex ECCM management system for ELTEX network elements management and monitoring: 1 network element MES2428B

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