

- 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	

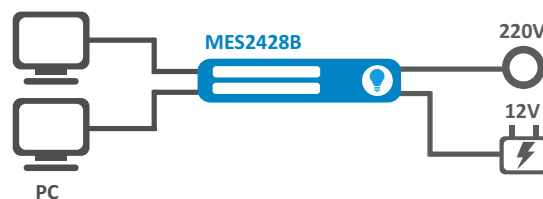
¹Only for MES2428B.

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)
- IPv6 ACL

Features and capabilities (continued)

- 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

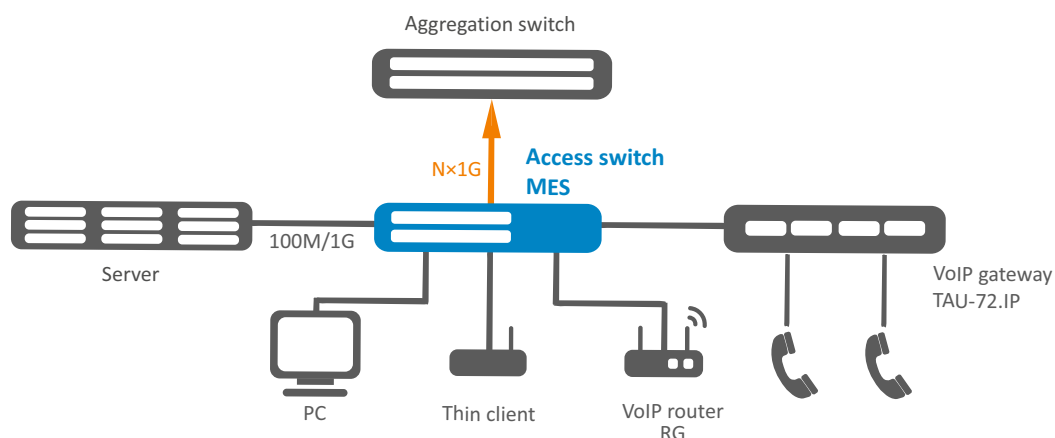
- Automatic switching to 12 V rechargeable battery when the primary power supply (220V) fails, and vice versa
- 12 V battery charging when operating from 220 V primary power supply
- Power supply type monitoring (SNMP)
- Notification of switching from one type of power to another
- Battery connection 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 ^{CE}	MES2428 DC ^{CE}	MES2428B
Physical specifications and environmental parameters					
Power supply	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		

^{CE} — 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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About ELTEX

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