

- Non-blocking architecture
- Advanced L2 functions
- Multicast support (IGMP Snooping, MVR)
- Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)

**MES3708P** industrial switch manufactured by ELTEX is designed for placement inside lighting poles (or other) with a diameter of the internal cavity of at least 185 mm, and for the organisation of protected fault-tolerant data transmission networks in facilities where it is necessary to meet the requirements for ensuring resistance to temperature, mechanical and other impacts.

The switch has 10/100/1000BASE-T ports with PoE/PoE+ technology support and 1000BASE-X/100BASE-FX ports for optical cable connection.



## Technical features

Interfaces	
10/100/1000BASE-T PoE/PoE+ (RJ-45)	8
100BASE-FX/1000BASE-X (SFP)	2
Console port RS-232 (RJ-45)	1
Performance	
Bandwidth	20 Gbps
Throughput for 64 bytes <sup>1</sup>	14.88 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	128 (ingress), 256 (egress)
MAC ACL rules	381
IPv4/IPv6 ACL rules	219/128
L3 interfaces	20 vlan, up to 5 IPv4 addresses for each VLAN, up to 300 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	10000 bytes

<sup>1</sup>Values are given for one-way transmission.

## 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)

### MAC table functions

- Independent learning mode per VLAN
- MAC Multicast Support
- Configurable aging time of MAC addresses
- Static MAC Entries
- MAC Change logging on ports
- MAC Flapping

### VLAN functions

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

### L2 Multicast functions

- Multicast profiles
- Multicast static groups
- IGMP Snooping v1,2,3
- IGMP Snooping fast-leave
- Support for IGMP authorization via RADIUS
- MLD Snooping v1,2
- MLD Snooping fast-leave
- 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 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)

### Link Aggregation functions

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

### Service functions

- Virtual Cable Testing (VCT)
- Optical transceiver diagnostics

### IPv6

- IPv6 Host
- IPv4, IPv6 Dual-stack

### 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 attack prevention
- Traffic segmentation
- DHCP client filtering
- BPDU attack 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
- ACL based on:
  - Switch port
  - 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)
- Queue scheduling algorithms: Strict Priority/Weighted Round Robin (WRR)
- ACL-based traffic classification
- ACL-based CoS/DSCP mark assignment
- 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)

## Features and capabilities (continued)

### Main management functions

- Configuration file download and upload via TFTP/SFTP
- Automatic 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+ clients (Terminal Access Controller Access Control System)
- Telnet client, SSH client
- Telnet server, SSH server
- Macro commands
- Input commands logging via TACACS+
- DHCP auto configuration
- DHCP Relay (support for IPv4)
- DHCP Relay Option 82
- PPPoE Circuit-ID tag adding
- Flash File System
- Debug commands
- CPU traffic limiting
- Password encryption
- Password recovery
- Ping (support for IPv4/IPv6)
- IPv4/IPv6 static routers support
- 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

- 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

## Physical specifications


### Physical specifications and environmental parameters

Power supply	100–240 V AC, 50–60 Hz
Input current	1.7–0.5 A
Maximum power consumption (including PoE)	150 W
PoE budget	120 W
Heat dissipation	30 W
Dying Gasp support	no
Ethernet 10/100/1000BASE-T ports overvoltage protection	yes
Operating temperature	from -40 to +60 °C
Storage temperature	from -50 to +85 °C
Operating humidity (without condensing)	no more than 90 %
Cooling	passive
Case	metal case, IP55
Mounting	hanging mounting rail with a diameter of maximum 8 mm
Form factor	19", 1U
Dimensions (W × H × D)	152 × 550 × 85 mm
Weight	4.2 kg

## Ordering information

Name	Description
MES3708P	Industrial switch MES3708P, 8 ports of 10/100/1000BASE-T PoE/PoE+, 2 ports of 100BASE-FX/1000BASE-X, L2, 100–240 V AC, 50–60 Hz
Related software	
ECCM-MES3708P	ECCM-MES3708P option of Eltex ECCM system to manage and monitor networks element Eltex: 1 network element MES3708P

### Contact us

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

  
eltex@eltex-co.ru

  
www.eltex-co.com

### 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.