

- Bandwidth up to 72 Gbps
- Non-blocking architecture
- L3 switches
- Passive cooling
- Multicast support (IGMP Snooping, MVR)
- Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)



The MES3500I-8P8F industrial switches are designed to organize secure fault-tolerant data transmission networks at sites where it is necessary to meet requirements for ensuring resistance to various types of impacts: temperature, mechanical effects, vibration, etc. These switches have 10/100/1000BASE-T Gigabit ports with PoE/PoE+ support. The MES3500I-8P8F switches have 100BASE-FX/1000BASE-X ports for installing SFP transceivers and 1000BASE-X/10GBASE-R ports for installing SFP and SFP+ transceivers.

### Technical features

Interfaces		
10/100/1000BASE-T PoE/PoE+ (RJ-45)		8
100BASE-FX/1000BASE-X (SFP)		8
1000BASE-X (SFP)/10GBASE-R (SFP+)		2
USB 2.0		1
Console port RS-232 (RJ-45)		1
Performance		
Bandwidth		72 Gbps
Throughput for 64 bytes <sup>1</sup>		53.57 MPPS
Buffer memory		1.5 MB
RAM (DDR4)		2 GB
ROM (RAW NAND)		512 MB
MAC table		16384
ARP table <sup>2</sup>		4029
VLAN table		4094
L2 Multicast groups		4092
SQinQ rules		1320 (ingress), 1320 (egress)
MAC ACL rules		2998
IPv4/IPv6 ACL rules		2998/1499
L3 IPv4 Unicast <sup>3</sup>		13279
L3 IPv6 Unicast <sup>3</sup>		3317
L3 IPv4 Multicast (IGMP Proxy, PIM) <sup>3</sup>		4027
L3 IPv6 Multicast (IGMP Proxy, PIM) <sup>3</sup>		1656
VRRP routers		255
Maximum size of ECMP groups		1024
ECMP routes		8
VRF number		16 (including default VRF)

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

<sup>2</sup> For each host in the ARP table, an additional entry is created in the switching table.

<sup>3</sup> IPv4/IPv6 Unicast/Multicast routes share hardware resources.

## Technical features (continued)

Performance	
L3 interfaces	2050
Link Aggregation Groups (LAG)	32, up to 8 ports per LAG
Quality of Service (QoS)	8 egress queues per port
Jumbo frames	10240 bytes

## Features and capabilities

### Interface features

- Head-of-line blocking (HOL) protection
- Back Pressure
- Auto MDI/MDIX
- Jumbo Frames
- Flow Control (IEEE 802.3X)
- Port Mirroring (SPAN, RSPAN)

### MAC address functions

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

### VLAN functions

- Voice VLAN
- 802.1Q
- Q-in-Q
- Selective Q-in-Q
- GVRP

### L2 Multicast functions

- Multicast profiles
- Static Multicast groups
- IGMP Snooping v1,2,3
- Host/port-based IGMP Snooping Fast Leave
- Pim-Snooping
- IGMP proxy-report
- 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, IEEE802.1s)
- PVSTP+
- RPVSTP+
- Spanning Tree Fast Link option
- STP Root Guard
- BPDU Filtering
- STP BPDU Guard
- Loopback Detection
- ERPS (G.8032v2)
- Flex-link
- Private VLAN
- L2PT (Layer 2 Protocol Tunneling)

### L3 functions

- Static IP routes
- Dynamic routing protocols RIPv2, OSPFv2, OSPFv3, IS-IS (IPv4 Unicast), BGP<sup>1</sup> (IPv4 Unicast, IPv4 Multicast)
- BFD protocol (for BGP)
- ARP (Address Resolution Protocol)
- Proxy ARP
- Policy-Based Routing (IPv4)
- VRRP
- Multicast dynamic routing protocols PIM SM, PIM DM, IGMP Proxy, MSDP
- ECMP Load Balancing
- IP Unnumbered
- VRF lite

### Link Aggregation functions

- LAG (Link Aggregation Groups)
- LACP
- LAG Balancing Algorithm
- MLAG (Multi-Switch Link Aggregation Group)

### IPv6 functions

- IPv6 Host
- Dual-stack IPv4, IPv6

### Service functions

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

### Security functions

- Protection against unauthorized DHCP servers (DHCP Snooping)
- DHCP option 82
- IP Source Guard
- Dynamic ARP Inspection
- First Hop Security
- sFlow
- MAC-based authentication, MAC address limitation, static MAC entries
- Port-based authentication 802.1x
- Guest VLAN
- DoS attack prevention
- Traffic segmentation
- DHCP clients filtering
- BPDU attack prevention
- NetBIOS/NetBEUI filtering

<sup>1</sup> BGP protocol support is provided under the license.

## Features and capabilities (continued)

### Access Control Lists (ACL)

- L2-L3-L4 ACL (Access Control List)
- Time-Based ACL
- IPv6 ACL
- ACL based on:
  - Switch port
  - 802.1p
  - VLAN ID
  - EtherType
  - DSCP
  - Protocol type
  - TCP/UDP port number
  - User Defined Bytes

### Quality of Service (QoS)

- QoS statistics
- Shaping, Policing
- IEEE 802.1p Class of Service
- Storm control for different traffics (broadcast, multicast, unknown unicast)
- Bandwidth management
- Strict Priority and Weighted Round Robin (WRR) scheduling algorithms
- Three marking colors
- ACL-based CoS/DSCP assignment
- ACL-based VLAN assignment
- Setting the 802.1p priority for management VLAN
- DSCP to CoS, CoS to DSCP remarking
- 802.1p DSCP mark assignment for IGMP

### OAM

- 802.3ah Ethernet Link OAM
- 802.3ah Unidirectional Link Detection

### Management functions

- Configuration file download and upload via TFTP/SCP
- SNMP
- CLI (Command Line Interface)
- Web interface
- Syslog
- SNTP (Simple Network Time Protocol)
- Traceroute
- LLDP (802.1ab) + LLDP MED
- Access control — privilege levels for users
- Management interface blocking
- Local authentication
- IP addresses filtering for SNMP
- RADIUS, TACACS+ (Terminal Access Controller Access Control System) clients
- SSH server, Telnet server
- SSH client, Telnet client
- SSL
- Macrocommands
- CLI command logging
- System log
- DHCP autoprovision
- DHCP Relay (Option 82)
- DHCP Option 12
- Debugging commands
- Rate limit of traffic to CPU
- Password encryption
- Password recovery
- Ping (IPv4/IPv6)

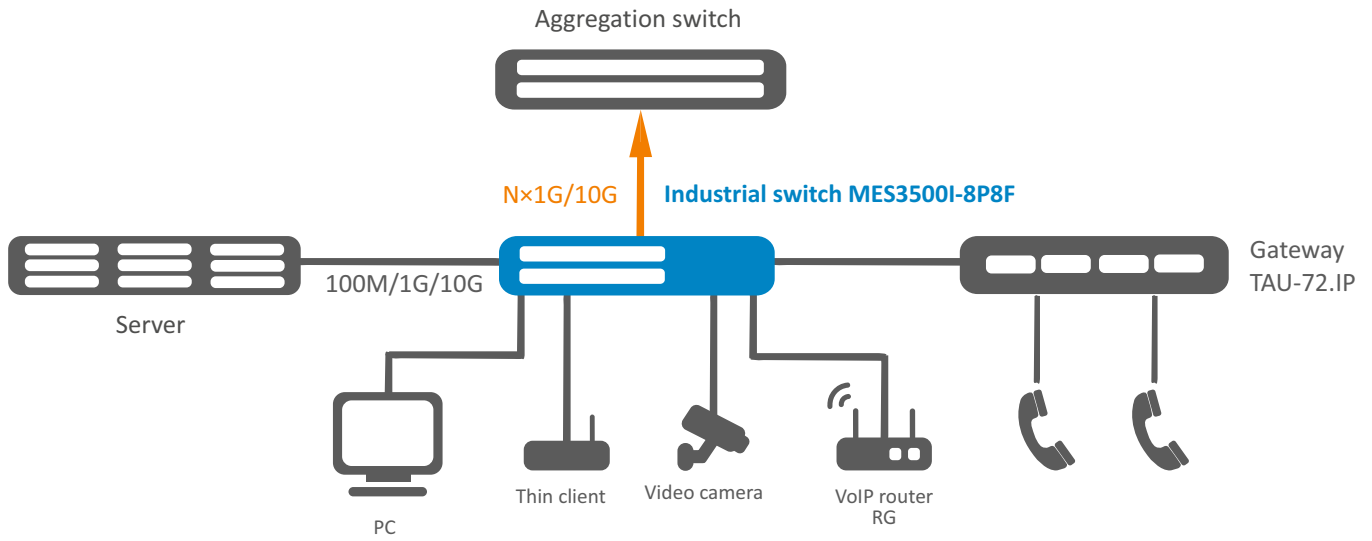
### Monitoring functions

- Interface statistics
- RMON/SMON remote monitoring
- IP SLA
- Task and traffic type-based CPU utilization monitoring
- RAM 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 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 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 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 for Multi-Part messages support
- 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, RFC2572, RFC2573, RFC2574 SNMP
- RFC 826 ARP
- RFC 854 Telnet
- IEC 61850

## Use case



## Physical parameters

### Physical features and ambient parameters

Power supply	with PoE enabled: 45–57 V DC with PoE disabled: 20–57 V DC
Input current	with PoE enabled: 6–4.5 A with PoE disabled: 1.3–0.4 A
Maximum power consumption (with PoE enabled)	290 W
PoE budget	240 W (recommended supply voltage for the 802.3at standard is 54–56 V DC)
Heat dissipation	50 W
Dry contacts	Alarm relay output 1 A, 24 V DC with normal closed (NC — Normal Closed) and normal open (NO — Normal Open) contacts
Dying Gasp	no
Operating temperature	from -40 to +70 °C
Storage temperature	from -50 to +85 °C
Operating humidity	from 5 to 95 % (without condensing)
Cooling	passive
Housing	metal, IP30
Mounting	DIN rail for wall mounting (optional)
Dimensions (W × H × D)	150 × 175 × 124 mm
Weight	2.8 kg

### Ordering information

Name	Description
MES3500I-8P8F	MES3500I-8P8F industrial switch, 8 ports of 10/100/1000BASE-T (PoE/PoE+), 8 ports of 100BASE-FX/1000BASE-X (SFP), 2 ports of 1000BASE-X (SFP)/10GBASE-R (SFP+), L3, 48–57 V DC with PoE (20–57 V DC without PoE)
<b>Related products</b>	
DRS-270-56 rev.C	DRS-270-56 rev.C power module, 115–240 V AC, 270 W
<b>Related software</b>	
ECCM-MES3500I-8P8F	ECCM-MES3500I-8P8F option of Eltex ECCM management system for Eltex network elements management and monitoring: 1 network element MES3500I-8P8F

### Contact us

### About Eltex



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**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.