– **Bandwidth up to 56 Gbps**
– **Non-blocking architecture**
– **L3 switches**
– **Stacking up to 8 devices**
– **Hot-swappable redundant power supplies**
– **Passive cooling**
– **Multicast support (IGMP Snooping, MVR)**
– **Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)**

MES2300DI-28 industrial switch is designed to organize secure fault-tolerant data transmission networks at sites where it is necessary to meet requirements for ensuring resistance to temperature.

The MES2300DI-28 industrial switch has 10/100/1000BASE-T Gigabit ports, as well as 10/100/1000BASE-T/1000BASE-X/100BASE-FX combo ports for optical cable connection.

The switch features are passive cooling and hot-swappable power supply redundancy.

Technical features

Interfaces	
10/100/1000BASE-T (RJ-45)	24
10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo	4
Console port RS-232 (RJ-45)	1
USB 2.0	1
Performance	
Bandwidth	56 Gbps
Throughput for 64 bytes[1]	41.6 MPPS
Buffer memory	1.5 MB
RAM (DDR4)	2 GB
ROM (RAW NAND)	512 MB
MAC table	16384
ARP table[2]	2039
VLAN table	4094
L2 Multicast groups	2048
SQinQ rules	988 ingress, 988 egress
MAC ACL rules	1966
IPv4/IPv6 ACL rules	1975/988
L3 IPv4 Unicast routes[1]	4064
L3 IPv6 Unicast routes[1]	1014

[1] Values are given for one-way transmission.
[2] For each host in the ARP table, an additional entry is created in the switching table.
[3] IPv4/IPv6 Unicast/Multicast routes share hardware resouces.

Technical features (continued)

Performance	
L3 IPv4 Multicast (IGMP Proxy, PIM) routes[1]	2029
L3 IPv6 Multicast (IGMP Proxy, PIM) routes[1]	505
VRRP routers	255
Maximum size of ECMP groups	8
VRF number	16 (including default VRF)
L3 interfaces	2032
Link Aggregation Groups (LAG)	32, up to 8 ports per LAG
Quality of Service (QoS)	8 egress queues per port
Jumbo frames size	10240 bytes
Stacking	up to 8 devices

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)
— Stacking

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
— IEEE 802.1Q
— Q-in-Q
— Selective Q-in-Q
— GVRP

L2 Multicast functions
— Multicast profiles
— Static Mullticast groups
— IGMP Snooping v1,2,3
— Host/port-based IGMP Snooping Fast Leave
— 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, IEEE 802.1s)
— PVSTP+
— RPVSTP+
— Spanning Tree Fast Link option
— STP Root Guard
— BPDU Filtering
— STP BPDU Guard
— LBD (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[2] (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 IPv6, IPv4

Service functions
— VCT (Virtual Cable Tester)
— Optical transceiver diagnostics
— Green Ethernet

[1] IPv4/IPv6 Unicast/Multicast routes share hardware resources.
[2] BGP protocol support is provided under the license.

Features and capabilities (continued)

Security functions
- Protection against unauthorized DHCP servers (DHCP Snooping)
- DHCP option 82
- IP Source Guard
- Dynamic ARP Inspection
- 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

Access Control Lists (ACL)
- L2-L3-L4 ACL (Access Control List)
- Time-Based ACL
- 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)
- QoS statisticsc
- 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 traffic classification
- ACL-based CoS/DSCP assignment
- Setting the 802.1p priority for management VLAN
- DSCP to CoS, CoS to DSCP remarking
- ACL-based VLAN assignment
- 802.1p DSCP mark assignment for IGMP

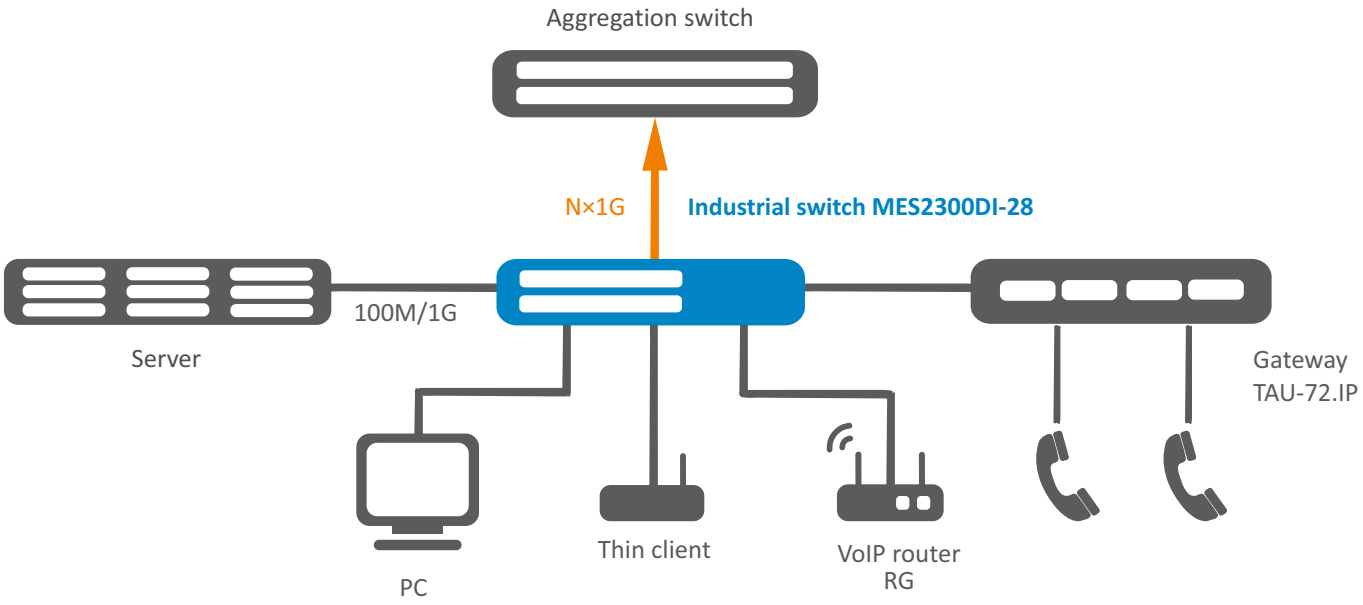
OAM
- 802.3ah Ethernet Link OAM
- 802.3ah Unidirectional Link Detection

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
- LLDP (IEEE 802.1ab)
- Access control — privilege levels for users
- Management ACL
- Management interface blocking
- Local authentication
- IP addresses filtering for SNMP
- RADIUS, TACACS+ (Terminal Access Controller Access Control System) clients
- Telnet server, SSH server
- Telnet client, SSH client
- SSL
- Macrocommands
- CLI command logging
- System log
- DHCP autoprovision
- DHCP Relay (IPv4 support)
- DHCP Option 12
- Debbugging 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
- 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 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 3289 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 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 2571-2574 SNMP
- RFC 826 ARP
- RFC 854 Telnet

Use case



Physical parameters

Physical features and ambient parameters	
Power supply	100–240 V AC, 50–60 Hz; 36–72 V DC Power supply options: • 1 AC/DC power supply • 2 hot-swappable AC/DC power supplies
Input current	0.2–0.4 A for AC 0.3–0.8 A for DC
Maximum power consumption	31 W
Heat dissipation	31 W
Dying Gasp support	no
Operating temperature	from -40 to +60 °C
Storage temperature	from -50 to +70 °C
Operating humidity	no more than 80 %
Housing	metal, IP30
Cooling	passive
Form factor	19", 1U
Dimensions (W × H × D)	430 × 44 × 305 mm
Weight	4.95 kg

Ordering information

Name	Description
MES2300DI-28	MES2300DI-28 industrial switch, 24 × 10/100/1000BASE-T, 4 × 10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo ports, L3
	Related products
PM160-220/12	PM160-220/12 power module, 220 V AC, 160 W
PM100-48/12	PM100-48/12 power module, 48 V DC, 100 W
	Related software
ECCM-MES2300DI-28	ECCM-MES2300DI-28 option of Eltex ECCM management system for ELTEX network elements management and monitoring: 1 network element MES2300DI-28

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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.