

Product Datasheet

28-Port 10G Uplink L3 Managed Industrial Ethernet Switch TNDE-58028FM



OVERVIEW

The TNDE-58028FM is a 10G uplink L3 managed Ethernet fiber switch independently developed by TNDE. It has 24*10/100/1000Base-T adaptive RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Each port can support wire-speed forwarding.

The TNDE-58028FM has L3 full network management function, supports IPV4/IPV6 management, dynamic routing and forwarding, complete security protection mechanism, complete ACL/QoS policy, and rich VLAN functions for easy management and maintenance. It supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS (<20ms) to improve link backup and network reliability, and can quickly recover when a one-way network failure occurs. Communication ensures uninterrupted communication for important applications. Port management, routing address management, port flow control, VLAN division, IGMP, security policy, and other application business configurations are performed according to application needs through network management methods such as Web, CLI, SNMP, and Telnet. It meets high-density network application environments and is suitable for establishing economical, efficient, and reliable communication networks in medium and large-scale scenarios such as hotels, campuses, parks, supermarkets, scenic spots, hospitals, and banks.

FEATURE

■ Gigabit access, Gigabit access, uplink 1/10G SFP+ fiber port

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
- ◇ Support Gigabit RJ45 port and 1/10G SFP+ fiber port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ Strong business processing capability

- ◇ Support ERPS ring network and STP/ RSTP/ MSTP to eliminate layer 2 loops and realize link backup.
- ◇ Support IEEE802.1Q VLAN, Users can flexibly divide VLAN, Voice VLAN, and QinQ configuration according to their needs.
- ◇ Support static and dynamic aggregation to effectively increase link bandwidth, realize load balancing, link backup, and improve link reliability.
- ◇ Support QoS, port-based, 802.1P-based, and DSCP-based three priority modes and four queue scheduling algorithms: Equ, SP, WRR, and SP+WRR.

- ◇ Support ACL to filter data packets by configuring matching rule processing operations and time permissions, and provide flexible security access control policies.
- ◇ Support IGMP V1/V2/V3 multicast protocol, IGMP Snooping meets multi-terminal high-definition video surveillance and video conference access requirements.

■ Security

- ◇ Port isolation and storm control.
- ◇ IP+MAC+port+VLAN quadruple flexible combination binding function.
- ◇ 802.1X authentication provides authentication functions for LAN computers and controls the authorization status of controlled ports according to the authentication results.

■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, Link, and L/A.
- ◇ Self-developed power supply, high redundancy, providing a long term and stable power output.
- ◇ Low power consumption, no fan, galvanized steel metal shell, and excellent heat dissipation to ensure the stable operation of the switch.

■ Easy operation and maintenance management

- ◇ Support CPU monitoring, memory monitoring, Ping detection, and cable length detection.
- ◇ HTTPS, SSLV3, SSHV1/V2, and other encryption methods are more secure in management.
- ◇ RMON, system log, and port traffic statistics are convenient for network optimization and transformation.
- ◇ LLDP is convenient for the network management system to query and judge the communication status of the link.
- ◇ Support diverse management and maintenance methods such as Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), Telnet, etc

TECHNICAL SPECIFICATION

Model	TNDE--IPS38028FM
Interface Characteristics	
Fixed Port	1*Console RS232 port (115200, N, 8, 1) 4*1/10G uplink SFP+ fiber ports (Data) 24*10/100/1000Base-T RJ45 ports (Data)
Ethernet Port	Port 1-24 support 10/100/1000Base-T auto-sensing, full/ half duplex MDI/ MDI-X self-adaption
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP (≤100 meter) 100BASE-TX: Cat5 or later UTP (≤100 meter) 1000BASE-T: Cat5e or later UTP (≤100 meter)

Optical Fiber Port	Gigabit SFP /10G SFP+ optical fiber interface, default matching optical modules (optional order single-mode / multi-mode, single fiber / dual fiber optical module. LC)
SFP Port Compatible	10/100/1000T, 100X, 100FX, 100BX, 1000X, 1000SX, 1000LX, 1000ZX or 1000CWDM SFPs
Optical Cable/ Distance	Multi-mode: 850nm / 0 ~ 500M, 0 ~ 300M (10G); single mode: 1310nm / 0 ~ 40KM, 1550nm / 0 ~ 120KM.
Chip Parameter	
Network Management Type	L3
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T IEEE802.3u 100Base-TX, IEEE802.3ab 1000Base-T IEEE802.3z 1000Base-X IEEE802.1q IP priority IEEE802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	128Gbps (non-blocking)
Forwarding Rate@64byte	95.23Mpps
CPU	800MHz
DRAM	1GB
MAC	16K
Buffer Memory	12MB
Jumbo Frame	12K
LED Indicator	Power: PWR (yellow), system: SYS (yellow), network: Link/Act (yellow), Fiber port: L/A (green)
Reset Switch	Yes, support one key to restore factory settings
Power	
Total PWR / Input Voltage	60W (AC100-240V)

Power Consumption	Standby<25W, Full Load<45W
Power Supply	Built-in power supply, AC 100~240V 50-60Hz 0.65A
Power Input Interface	Dual input power port design, AC power supply priority, support anti-reverse protection, power-off automatic switching DC connection. 2*DC12-48V power input ports; Alarm switch, 1*AC power input port
Physical Parameter	
Operation TEMP / Humidity	-20~+55°C; 5%~90% RH Noncondensing
Storage TEMP / Humidity	-40~+75°C; 5%~95% RH Noncondensing
Dimension (L*W*H)	440*290*44.5mm
Net /Gross Weight	<3.4kg / <4.2kg
Installation	Desktop type ,19-inch 1U cabinet installation
Certification & Warranty	
Lightning protection/ protection level	Lightning protection: 4KV 8/20us, Protection level: IP30
Mechanical Properties	IEC60068-2-6 (anti vibration) IEC60068-2-27 (anti shock) IEC60068-2-32 (free fall)
Certification	CSA; CE mark, commercial; UL 60950; FCC Part 15 Class B; RoHS
Warranty	5 years, lifelong maintenance.
Network Management Features	
Interface	IEEE802.3x flow control (Full duplex) Port exception protection mechanism Jumbo frame configuration, max 12000byte Port real-time flow management (Flow Interval) Optical module DDMI real-time digital diagnosis Broadcast storm suppression based on port rate Port EEE Green Ethernet Energy-Saving configuration and status view Limit the rate of packet traffic on incoming and outgoing ports, the mini granularity 16Kbps and max 1Gbps

Layer 3 routing	ARP protocol, max 1000 entries IPv4/IPv6 VRRP, the max group is 255 Pingv6, Telnetv6, TFTPv6, DNSv6, ICMPv6 IPv4/IPv6 VLANIF interface supports up to 128 IPv4 Equal Cost Routing, NG protocol, max1000 entries IPv4/IPv6 static route/default route supports up to 128 entries L3 network management function, IPv4/IPv6 dual-stack management IPv4 dynamic routing, RIPv1/v2, OSPFv2, BGP4+, 4000 routing entries IPv6 dynamic routing OSPFv3, BGP+, RIPv6, IPv6 management, 1000 routing entries L3 routing and forwarding, support communication between different network segments and different VLAN
VLAN	Voice VLAN, QinQ configuration, IEEE802.1q VLAN based on MAC, VLAN based on the protocol 4K VLAN based on port, Port configuration of Access, Trunk, Hybrid.
Port Aggregation	LACP dynamic aggregation, Static aggregation Max 14 aggregation groups and 8 ports per group.
Spanning Tree	STP BPDU Guard, BPDU filtering and BPDU forwarding STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
ERPS Ring Network Protocol	ERPS ring network, Recovery time less than 20ms, ITU-T G.8032
Multicast	MLD Snooping, Multicast VLAN User quick log out, MVR (Multicast VLAN Registration) IGMP Snooping v1/v2/v3 and 1024 multicast groups at most
Port Mirroring	Bidirectional traffic mirroring for basic ports Supports 1-to-multiple mirroring, supports up to 4 port sessions
QoS	Flow-based Rate Limiting, Flow-based redirection Flow-based Packet Filtering, Priority Mark/ Remark 802.1p/DSCP priority mapping, 8*Output queues of each port Diff-Serv QoS, Queue Scheduling Algorithm (SP, WRR, SP+WRR)
ACL	Port-based Issuing ACL, ACL based on port and VLAN L2 to L4 packet filtering, matching the first 80-byte message. Provide ACL based on MAC, Destination MAC address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range, and VLAN, etc.
Security	Port broadcast message suppression SSL ensures data transmission security

	Port isolation, Host data backup mechanism Limit the number of MAC addresses learned Anti-DoS attack, ARP intrusion detection function Quadruple binding function of IP+MAC+VLAN+port IP source address protection, MAC address black hole User hierarchical management and password protection SSH 2.0 provides a secure encrypted channel for user login AAA & RADIUS certification, ARP message rate limiting function IEEE802.1X authentication/ centralized MAC address authentication
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	System work log, Link Layer Discovery Protocol NTP clock, Cable length detection, SNMP V1/V2/V3 Ping detection, Web network management (HTTPS) TNDE-NMS platform cluster management (LLDP+SNMP) One click recovery, View CPU real-time utilization status FTP, TFTP, Xmodem, SFTP file upload and download management Console/ AUX Modem/ Telnet/ SSH2.0 CLI command line configuration
System	Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, Mac OS X) installed on each computer in the network Cat5 and above Ethernet cable

ORDERING INFORMATION

Model	Description	Built-in Power Supply
TNDE-58028FM	L3 managed Ethernet fiber switch with 24*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. It built-in power supply and 1U/19" cabinet installation.	60W
Note: Industrial Ethernet switch does not match SFP module by default.		

PACKING LIST

	CONTENT	QTY	UNIT
	28-Port 10G uplink L3 managed industrial Ethernet switch	1	SET
	AC Power Cable	1	PC

Packing List	Mounting Kits (Hanging Ear)	1	SET
	User Guide	1	PC
	Warranty Card	1	PC

Note: Product is OME from China under request of TNDE. Specifications are subject to change without notice