



## **Data Sheet HTK-5028-24G4SFP**

## HTK-5028-24G4SFP - 24Port Gigabit Layer 2+ Managed Switch with 4 Combo SFP Ports

### Product Appearance:



## **Product Overview:**

HTK5028-24G4SFP is a Layer 2+ Managed Gigabit Switches support both IPv4 and IPv6 protocols and software Layer 3 static routing capability, and provide up to 24 10/100/1000Mbps Gigabit Ethernet ports, 4 Gigabit Combo SFP slots.

The HTK5028-24G4SFP is programmed for advanced switch management functions such as 802.1Q VLAN and Q-in-Q VLAN, Multiple Spanning Tree protocol (MSTP), loop and BPDU guard, IGMP snooping, and MLD snooping. Also, the Link Layer Discovery Protocol (LLDP) is the Layer 2 protocol included to help discover basic information about neighboring devices on the local broadcast domain.

## **Highlights:**

- Support L2+ Switching features including 802.1Q VLAN, Mirroring, Port isolation, IGMP , Snooping, DHCP Snooping, LLDP, IP Source Guard, ARP inspection, ACLs etc.
- Support spanning tree STP(802.1D) and RSTP(802.1W) and MSTP(802.1s).
- Support enhanced management through WEB, CLI, TELNET, SSH, SNMP.
- Support cable diagnosis
- Support dual firmware backup mechanism
- Support G.8032 quick ring protocol. Self-recovery time <20ms.
- Support IEEE1588 v2, transparent clock(TC)
- Support DDM, SFP digital diagnostics monitoring
- Support IPV4 and IPV6 software based static routing functions
- Support memory and CPU

## Hardware Specification:

Model	HTK-5028-24G4SFP
Copper Ports	24-10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports
Fiber Ports	4* Gigabit SFP Combo interfaces
Console Ports	1 x RS-232-to-RJ45 serial port (115200, 8, N, 1)
Switch Architecture	Store-and-Forward
Switch Fabric	56Gbps/128Gbps/non-blocking
Throughput	41.66Mpps @64 bytes
Address Table	16K entries
Share Data Buffer	4 Mb
Jumbo Frame	9600 Bytes
SDRAM	1Gb
Flash Memory	128Mb
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Reset Button	>2 sec.: Factory default and reset
Power Supply	100~240V AC, 50/60Hz, 4A (max.)
LED Indicators	<p><b>Power: Green</b> Solid on- power work normal, off- power disconnected</p> <p><b>System: Green</b> Blink -work normally, solid on- soft work abnormal, fast Blink – soft upgrade</p> <p>10/100/1000T RJ45 Interfaces (Port 1 to Port24): 1000 LNK/ACT (Green) Blink - port connected with data transmission; Solid on- port connected without data transmission</p> <p><b>100/1000Mbps SFP Interfaces (Port 22 to Port 24): Green</b> Blink - port connected with data transmission; Solid on- port connected without data transmission</p>

EMC	Surge Immunity: 4KV Per: IEC61000-4-5 ESD Protection: ESD Level 4 Per: IEC61000-4-2 EFT Level 4 Per: IEC61000-4-4
Dimension	440x290x44.5mm
Weight	3.5kg
Working Temperature	-10 °C to 45°C
Storage Temperature	-20°C to 70 °C
MTBF	50,000hrs

## Layer 2 functions:

Port configuration	Auto-negotiation Flow Control Port Mirror: TX/RX/BOTH; Many-to-1 monitor CPU Mirror Traffic statistics
Link Aggregation	Static link aggregation LACP (Dynamic Trunk/Static Trunk) Algorithm based on Source/Destination MAC Algorithm based on Source/Destination IP
MAC Table	Aging Time Static MAC address Dynamic MAC address management
VLAN	4094 Active VLANs 4094 VID 802.1Q Tag VLAN Port VLAN Protocol VLAN MAC VLAN

	<p>Voice VLAN 802.1ad Q-in-Q tunneling Private VLAN (Protected port) GARP/GVRP</p>
ACL	<p>256ACLs L2, L3 e L4 Time-based ACL IP ACL MAC ACL MAC-IP ACL User-Defined ACL ICMPv6</p>
Spanning tree	<p>802.1D Spanning Tree Protocol (STP) 802.1w Rapid Spanning Tree Protocol (RSTP) 802.1s Multiple Spanning Tree Protocol (MSTP) Loop Guard Root Guard TC-BPDU Guard BPDU Guard BPDU Filter</p>
Ring Protection	<p>&lt;20ms G.8032 ERPS Ring Fast Ring</p>
Multicast	<p>256 groups IGMP v1/v2/v3 Snooping, Fast Leave MLD Snooping Multicast VLAN IGMP filter MVR Multicast Routing</p>
QOS	<p>8 mapping IDs to 8 level priority queues CoS port-based CoS 802.1p-based CoS DSCP-based Scheduling algorithms SP, WRR, SP+WRR Storm Control (Broadcast, Multicast, Unknown Unicast) Bandwidth control per port</p>

	<p>SWRR, DWRR for Scheduling          Flow Redirect          Precedence          TOS          Rate Limiting ( Ingress/Egress )          Stri Priority</p>
Security Features	<p>Port Security          MAC address filter          ARP Association (Manual, ARP scanning, DHCP snooping)          ARP Protection          AAA          DAI          DoS (Denial of Service)          Classification of packages based on: End.MAC, IP End, TCP / UDP Ports,          Protocol Type;          802.1x Authentication (port-based e MAC-based)          TACACS/TACACS+ Authentication          RADIUS Authentication          DHCP Filter          Guest VLAN          SSLv2/SSLv3/TLSv1          SSHv1/SSHv2          Restriction of WEB access based on: IP Address, And. MAC and Port;          Port Isolation          Loopback detection</p>
Management	<p>SNMP v1/v2c/v3 with Full Private MIBs          RMON 4 groups          WEB (HTTP/HTTPS)          CLI (Telnet, Console, SSHv1/v2)          Firmware upgrade via console/web/TFTP          Configuration Backup/Reload          Dual Firmware          LLDP          Configuration Export/Import          CDP Aware          OAM (IEEE802.3ah)</p>

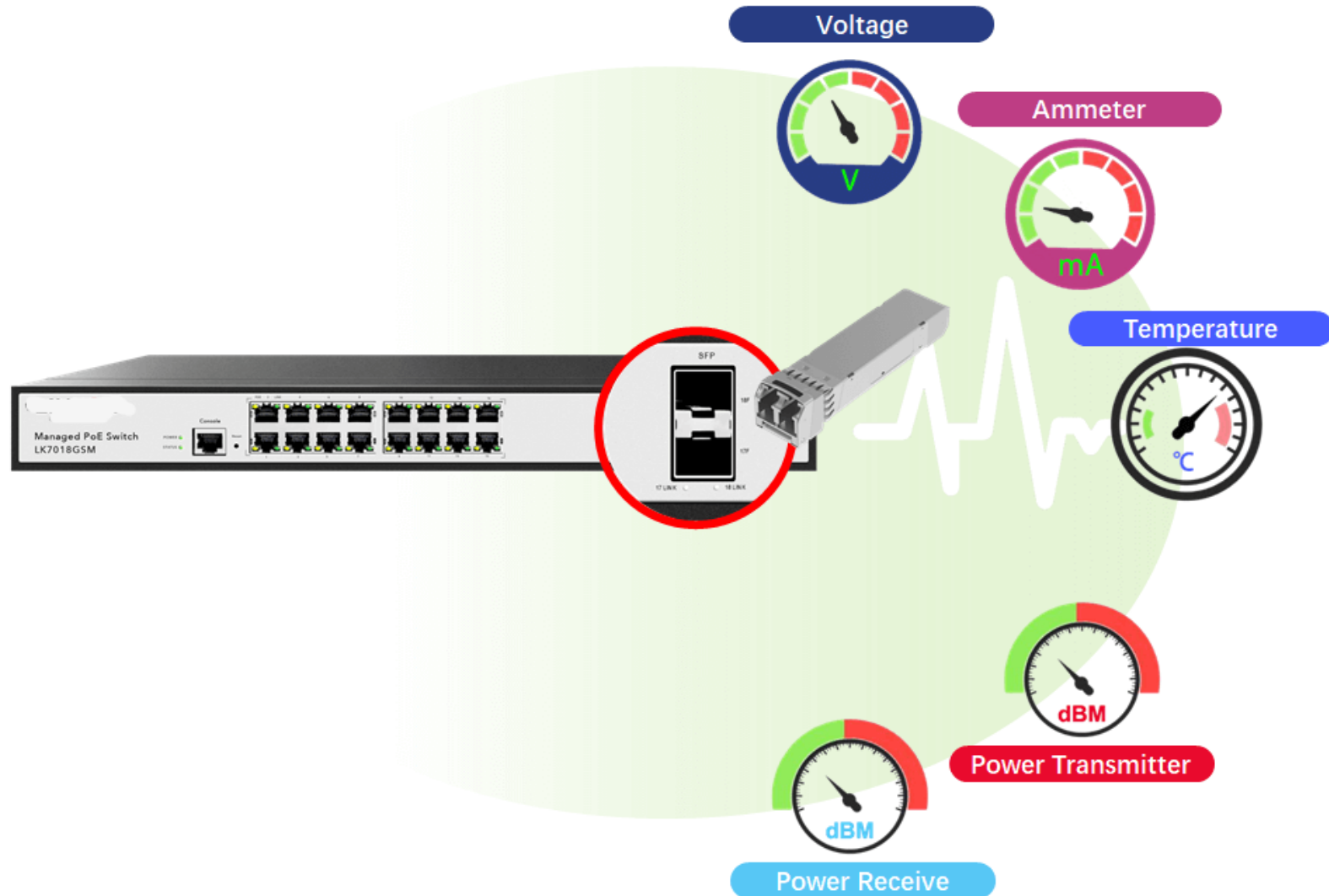
	CFM (IEEE802.1ag) SFlow
Synchronization, IEEE1588	Support IEEE1588v2 transparent clock
Other Features	DNS Client DHCP Relay DHCP Client DHCP Snooping DHCP Option 66 DHCP Option 67 DHCP Option 82 NTP/SNTP Client UPNP UDLD
Maintenance	Cable Diagnostics Ping SFP DDM (Digital Diagnostics Monitoring) Thermal protection System log (Local and Remote) Memory and CPU Monitoring

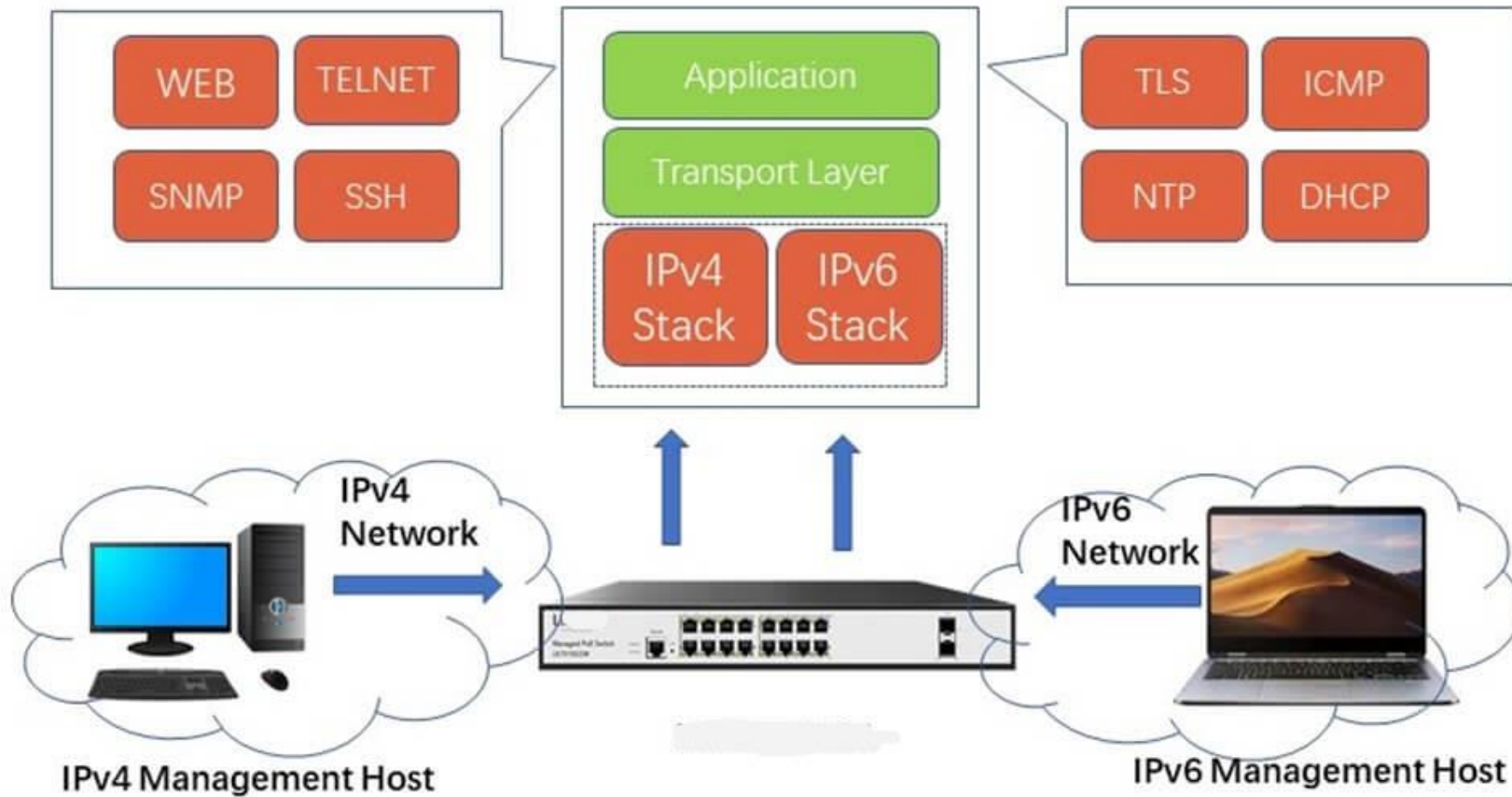
### **Layer 3 functions:**

Static Routing	IPv4 Unicast: Static Routing(Software Base) IPv6 Unicast: Static Routing(Software Base)
IPV6	IPv6 neighbor discovery (ND) Path maximum transmission unit (MTU) discovery Internet Control Message Protocol (ICMP) version 6 TCPv6/UDPv6; Ping6; Telnet(v6); Http/Https Interface IPV6; ACL IPV6



## Digital Diagnostic Monitor (DDM)





## Solution Diagram:

