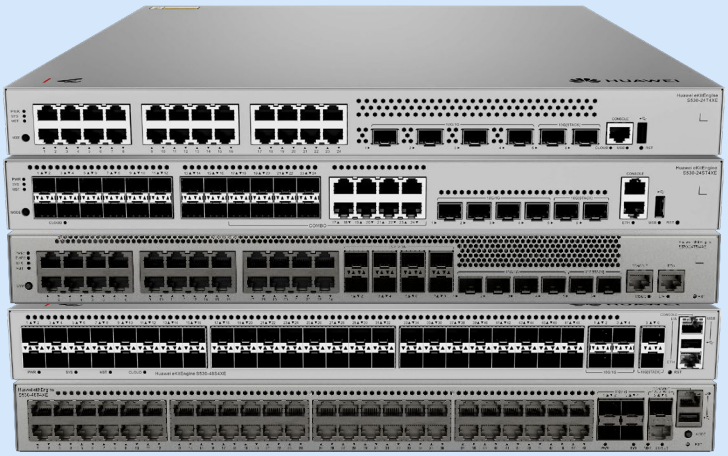
HUAWEI eKit

# HUAWEI eKitEngine S530 Series Switches Datasheet



## Enhanced Layer 3 Core Switches

Make SME Network Easier and Smarter

HUAWEI

# Product Overview

Huawei eKitEngine S530 series switches (S530 for short) are enhanced fully-managed gigabit switches designed for the small- and medium-sized business (SMB) market. They offer multiple models, such as those with twenty-four GE electrical ports, twenty-four GE optical/electrical hybrid ports, and forty-eight GE optical ports. These switches feature flexible Ethernet networking, diversified security control, rich management methods, higher performance, and extended service processing capabilities. Therefore, they can be widely used as core switches on a small campus network or access switches on a large or midsize campus network.

# Product Features and Highlights

## Intelligent Stack (iStack)

- eKitEngine S530 series switches support iStack. Multiple switches of the same series can be logically stacked into one virtual switch.
- Member devices in a stack implement redundancy to improve device reliability and use inter-device link aggregation to improve link reliability.
- iStack provides high network scalability. You can increase ports, bandwidth, and processing capacity of a stack by simply adding member switches to the stack.
- iStack simplifies device configuration and management. After a stack is set up, multiple physical switches are virtualized into one logical device. You can log in to any stack member switch to manage all the member switches in the stack.
- eKitEngine S530 series switches have two dedicated stack ports, which do not occupy service port bandwidth or require additional stack cards, making them suitable for multiple scenarios.

## Powerful Service Processing Capability

- eKitEngine S530 series switches support Layer 2 and Layer 3 multicast protocols, including Protocol Independent Multicast Sparse Mode (PIM SM), PIM Dense Mode (DM), PIM Source-Specific Multicast (SSM), and Internet Group Management Protocol (IGMP) snooping. These multicast protocols ensure high-quality HD video security and video conferencing services.
- eKitEngine S530 series switches support Layer 3 features, such as Open Shortest Path First (OSPF), Intermediate System to Intermediate System (IS-IS), Border Gateway Protocol (BGP), and Virtual Router Redundancy Protocol (VRRP). These protocols meet the needs of enterprise access and aggregation services, enabling a wider range of audio, video and data applications.

## Various Reliability Protection Mechanisms

- In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), eKitEngine S530 series switches support Smart Ethernet Protection (SEP) technology and the latest Ethernet Ring Protection Switching (ERPS) standard. SEP is a ring protection protocol specific to the Ethernet link layer, and applies to various ring network topologies, such as open ring topology, closed ring topology, and cascading ring topology. This protocol is reliable, easy to maintain, and implements fast protection switching within 50 ms. ERPS is defined in ITU-T G.8032, and it implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.
- eKitEngine S530 series switches support the Smart Link function, which implements backup of uplinks. One switch can connect to multiple upstream switches through multiple links, significantly improving reliability of access devices.
- eKitEngine S530 series switches support Ethernet OAM (IEEE 802.3ah/802.1ag) to quickly detect link faults.

- eKitEngine S530 series switches support two power modules to implement 1+1 redundancy. AC and DC power modules can be used together, allowing for flexible configuration of AC or DC power modules based on service requirements.

## Diversified Security Control

- eKitEngine S530 series switches support multiple security authentication modes, such as MAC address authentication, 802.1X authentication, and portal authentication, and dynamically deliver user policies (VLAN, QoS, and ACL). Especially, these switches support port-based 802.1X, MAC address, and hybrid authentications and VLANIF interface-based portal authentication.
- eKitEngine S530 series switches support comprehensive defense against DoS attacks and user-targeted attacks. DoS attacks are targeted at switches and include SYN flood, Land, Smurf, and ICMP flood attacks. User-targeted attacks include bogus DHCP server attacks, IP/MAC address spoofing, DHCP request flood, and changing of the DHCP CHADDR value.
- eKitEngine S530 series switches can generate and maintain DHCP snooping binding entries and discard invalid packets that do not match the binding entries. DHCP snooping trusted and untrusted ports can be specified to ensure that users connect only to the authorized DHCP server.
- eKitEngine S530 series switches support strict ARP entry learning, which prevents ARP spoofing from exhausting ARP entries and ensures Internet access of authorized users.

## Easy O&M

- eKitEngine S530 series switches support an easy operations and maintenance (O&M) solution that provides zero-touch deployment, replacement of faulty devices without additional configuration, batch configuration, and batch remote upgrade. The solution facilitates device deployment, upgrade, service provisioning, and other management and maintenance operations, greatly reducing O&M costs. eKitEngine S530 series switches can be managed and maintained using SNMPv1, SNMPv2c, SNMPv3, command-line interface (CLI), web system, or SSHv2.0. Additionally, they support remote network monitoring (RMON), multiple log hosts, port traffic statistics collection, and network quality analysis, facilitating network optimization and reconstruction.
- eKitEngine S530 series switches support multiple management modes, such as HUAWEI eKit App, SME Network Center (SNC), web system, CLI, and SNMP.

## Mature IPv6 Technologies

- Based on the mature and stable VRP platform, eKitEngine S530 series switches support IPv4/IPv6 dual stack and IPv6 routing protocols.
- eKitEngine S530 series switches can be deployed on IPv4-only or IPv6 networks or networks where IPv4 and IPv6 coexist, meeting the requirements for IPv4-to-IPv6 transition.

## Smart Upgrade

- Based on Huawei Online Upgrade Repository (HOUP), eKitEngine S530 series switches support smart upgrade. They obtain the version upgrade path from the HOUP and download the new system software. The upgrade process is highly automated as it supports one-click upgrade. In addition, the upgrade policy of the HOUP is used to standardize the upgrade path, which greatly reduces the risk of upgrade failure.
- Smart upgrade greatly simplifies device upgrade operations, making it possible for customers to upgrade versions by themselves. This feature helps customers reduce considerable maintenance costs. In addition, the upgrade policy of the HOUP is used to standardize the upgrade path, which greatly reduces the risk of upgrade failure.

## Cloud Management

- HUAWEI eKit App allows users to configure, monitor, and inspect switches on the cloud, reducing onsite

deployment and O&M manpower costs and decreasing network operational expenditure (OPEX).

- eKitEngine S530 series switches support both cloud management and on-premises management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI).

# Product Specifications

| Item | eKitEngine S530-24T4XE | eKitEngine S530-24ST4XE | eKitEngine S530-24T8J4XE |
|---|---|---|---|
| Switching capacity | 168 Gbps | 168 Gbps | 208 Gbps |
| Packet forwarding rate | 125 Mpps | 125 Mpps | 155 Mpps |
| Fixed port | 24 x 10/100/1000BASE-T ports, 4 x 10GE SFP+ ports, 2 x 10GE dedicated stack ports | 24 x GE SFP ports (8 of which are 10/100/1000BASE-T combo ports), 4 x 10GE SFP+, 2 x 10GE dedicated stack ports | 24 x 10/100/1000BASE-T ports, 8 x 2.5GE/GE/100M SFP ports, 4 x 10GE SFP+ ports, 2 x 10GE stack ports |
| Chassis dimensions (H x W x D) | 43.6 mm x 442 mm x 420 mm | 43.6 mm x 442 mm x 420 mm | 43.6 mm x 442 mm x 420 mm |
| Chassis height | 1 U | 1 U | 1 U |
| Weight in full configuration (including packaging materials) | 7.3 kg (16.09 lb) | 7.4 kg (16.31 lb) | 6.98 kg (15.39 lb) |
| Power module type | 80 W AC power module<br>180 W AC power module<br>240 W DC power module<br>Pluggable power module, 1+1 backup | 80 W AC power module<br>180 W AC power module<br>240 W DC power module<br>Pluggable power module, 1+1 backup | Built-in AC power module, 1+1 backup |
| Rated voltage | • AC input: 100 V AC to 240 V AC, 50/60 Hz<br>• High-voltage DC input: 240 V DC<br>• DC input: –48 V DC to –60 V DC | • AC input: 100 V AC to 240 V AC, 50/60 Hz<br>• High-voltage DC input: 240 V DC<br>• DC input: –48 V DC to –60 V DC | • AC input: 100 V AC to 240 V AC, 50/60 Hz<br>• High-voltage DC input: 240 V DC |
| Maximum voltage | • AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz<br>• High-voltage DC input: 190 V DC to 290 V DC<br>• DC input: –38.4 V DC to –72 V DC | • AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz<br>• High-voltage DC input: 190 V DC to 290 V DC<br>• DC input: –38.4 V DC to –72 V DC | • AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz<br>• High-voltage DC input: 190 V DC to 290 V DC |
| Maximum power | • 33.10 W (with two 80 | 48.70 W (with two 80 W AC | 53.12 W |

| Item | eKitEngine S530-24T4XE | eKitEngine S530-24ST4XE | eKitEngine S530-24T8J4XE |
|---|---|---|---|
| consumption | W AC power modules)<br>• 45.75 W (with two 180 W AC power modules) | power modules) | |
| Noise | • Sound power at normal temperature: 47 dB (A)<br>• Sound power at high temperature: 51 dB (A)<br>• Sound pressure at normal temperature: 35 dB (A) | • Sound power at normal temperature: 38.1 dB (A)<br>• Sound power at high temperature: 59.5 dB (A)<br>• Sound pressure at normal temperature: 26.1 dB (A) | • Sound power at normal temperature: 41.9 dB (A)<br>• Sound power at high temperature: 58.6 dB (A)<br>• Sound pressure at normal temperature: 29.9 dB (A) |
| Long-term operating temperature | • –5°C to +50°C (0 m to 1800 m)<br>• 1800 m to 5000 m: The operating temperature decreases by 1°C for every increase of 220 m in altitude. | • –5°C to +50°C (0 m to 1800 m)<br>• 1800 m to 5000 m: The operating temperature decreases by 1°C for every increase of 220 m in altitude. | • –5°C to +50°C (0 m to 1800 m)<br>• 1800 m to 5000 m: The operating temperature decreases by 1°C for every increase of 220 m in altitude. |
| Storage temperature | –40°C to +70°C (–40°F to +158°F) | –40°C to +70°C (–40°F to +158°F) | –40°C to +70°C (–40°F to +158°F) |
| Relative humidity | 5% RH to 95% RH, non-condensing | 5% RH to 95% RH, non-condensing | 5% RH to 95% RH, non-condensing |
| Power port surge protection | • AC power port: ±6 kV in differential mode, ±6 kV in common mode<br>• DC power port: ±2 kV in differential mode, ±4 kV in common mode | • AC power port: ±6 kV in differential mode, ±6 kV in common mode<br>• DC power port: ±2 kV in differential mode, ±4 kV in common mode | AC power port: ±6 kV in differential mode, ±6 kV in common mode |
| Heat dissipation mode | Air cooling, intelligent fan speed adjustment | Air cooling, intelligent fan speed adjustment | Air cooling, intelligent fan speed adjustment |

| Item | eKitEngine S530-48S4XE | eKitEngine S530-48T4XE |
|---|---|---|
| Switching capacity | 216 Gbps | 216 Gbps |
| Packet forwarding rate | 160 Mpps | 160 Mpps |
| Fixed port | 48 x GE SFP ports, 4 x 10GE SFP+ ports, 2 x 10GE dedicated stack ports | 48 x 10/100/1000BASE-T ports, 4 x 10GE SFP+ ports, 2 x 10GE dedicated stack ports |
| Chassis dimensions (H x W x | 43.6 mm x 442 mm x 420 mm | 43.6 mm x 442 mm x 420 mm |

| Item | eKitEngine S530-48S4XE | eKitEngine S530-48T4XE |
| --- | --- | --- |
| D) | | |
| Chassis height | 1 U | 1 U |
| Weight in full configuration (including packaging materials) | 7.9 kg (17.42 lb) | 7.19 kg (15.85 lb) |
| Power module type | 180 W AC power module<br>240 W DC power module<br>Pluggable power module, 1+1 backup | 80 W AC power module<br>180 W AC power module<br>240 W DC power module<br>Pluggable power module, 1+1 backup |
| Rated voltage | • AC input: 100 V AC to 240 V AC, 50/60 Hz<br>• High-voltage DC input: 240 V DC<br>• DC input: –48 V DC to –60 V DC | • AC input: 100 V AC to 240 V AC, 50/60 Hz<br>• High-voltage DC input: 240 V DC<br>• DC input: –48 V DC to –60 V DC |
| Maximum voltage | • AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz<br>• High-voltage DC input: 190 V DC to 290 V DC<br>• DC input: –38.4 V DC to –72 V DC | • AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz<br>• High-voltage DC input: 190 V DC to 290 V DC<br>• DC input: –38.4 V DC to –72 V DC |
| Maximum power consumption | 104.70 W (with two 180 W AC power modules) | • 55.12 W (with two 80 W AC power modules)<br>• 64.51 W (with two 180 W AC power modules) |
| Noise | • Sound power at normal temperature: 43.8 dB (A)<br>• Sound power at high temperature: 59.5 dB (A)<br>• Sound pressure at normal temperature: 31.8 dB (A) | • Sound power at normal temperature: 41.9 dB (A)<br>• Sound power at high temperature: 58.6 dB (A)<br>• Sound pressure at normal temperature: 29.9 dB (A) |
| Long-term operating temperature | • –5°C to +50°C (0 m to 1800 m)<br>• 1800 m to 5000 m: The operating temperature decreases by 1°C for every increase of 220 m in altitude. | • –5°C to +50°C (0 m to 1800 m)<br>• 1800 m to 5000 m: The operating temperature decreases by 1°C for every increase of 220 m in altitude. |
| Storage temperature | –40°C to +70°C (–40°F to +158°F) | –40°C to +70°C (–40°F to +158°F) |
| Relative humidity | 5% RH to 95% RH, non-condensing | 5% RH to 95% RH, non-condensing |
| Power port surge protection | • AC power port: ±6 kV in differential mode, ±6 kV in | • AC power port: ±6 kV in differential mode, ±6 kV in |

| Item | eKitEngine S530-48S4XE | eKitEngine S530-48T4XE |
| --- | --- | --- |
| | common mode<br>• DC power port: ±2 kV in differential mode, ±4 kV in common mode | common mode<br>• DC power port: ±2 kV in differential mode, ±4 kV in common mode |
| Heat dissipation mode | Air cooling, intelligent fan speed adjustment | Air cooling, intelligent fan speed adjustment |

## Service Features

| Feature | Description |
| --- | --- |
| MAC address table | Compliance with IEEE 802.1D |
| | Automatic MAC address learning and aging |
| | 32K MAC address entries |
| | Static, dynamic, and blackhole MAC address entries |
| | Source MAC address filtering |
| | Interface-based MAC address learning limiting |
| VLAN features | 4K VLANs |
| | Voice VLAN |
| | MUX VLAN |
| | VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports |
| | Basic QinQ and selective QinQ |
| Reliability | Smart Link with millisecond-level protection on the active and standby links |
| | ERPS (G.8032) |
| | STP (IEEE 802.1D), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s) |
| | BPDU protection, root protection, and loop protection |
| | BPDU tunnel |
| | Link Layer Discovery Protocol (LLDP) |
| Multicast | PIM DM, PIM SM, and PIM SSM |
| | MLD v1/v2, and MLD snooping |
| | IGMPv1/v2/v3, IGMPv1/v2/v3 snooping, and IGMP fast-leave |
| | Multicast forwarding in a VLAN and multicast replication between VLANs |

| Feature | Description |
| --- | --- |
| | Multicast load balancing among member ports of a trunk |
| | Port-based multicast traffic statistics |
| | Multicast VLAN |
| IP routing | Static routing and policy-based routing (PBR) |
| | Up to 512 FIBv6 entries |
| | RIP, RIPng, OSPF, OSPFv2, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+, VRRP, VRRP6 and ECMP |
| IPv6 features | Neighbor discovery (ND) |
| | Path MTU (PMTU) |
| | IPv6 ping, IPv6 tracert, IPv6 Telnet, and DHCPv6 server |
| QoS/ACL | Inbound and outbound traffic rate limiting on a port |
| | Packet redirection |
| | Port-based traffic policing and two-rate three-color CAR |
| | Eight queues on each port |
| | DRR, SP, and DRR+SP queue scheduling algorithms |
| | Re-marking of 802.1p and DSCP priorities for packets |
| | Packet filtering on Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, or VLAN |
| | Queue-based traffic shaping and rate limiting on ports |
| Security features | DHCP client, DHCP server, and DHCP snooping |
| | DHCPv6 relay and DHCPv6 client |
| | Defense against DoS, ARP, and ICMP attacks |
| | Binding of the IP address, MAC address, port ID, and VLAN ID |
| | Port isolation, port security, and sticky MAC |
| | Blackhole MAC address entries |
| | MAC address authentication |
| | Limitation on the number of learned MAC addresses |
| | IEEE 802.1X authentication and limit on the number of users on a port |
| | Multiple authentication modes including AAA, RADIUS, HWTACACS and NAC authentication |

| Feature | Description |
| --- | --- |
| | SSH v2.0 |
| | Hypertext Transfer Protocol Secure (HTTPS) |
| | CPU protection |
| | Blacklist and whitelist |
| | Hierarchical user management and password protection |
| Management and maintenance | iStack |
| | Cloud management based on NETCONF or YANG |
| | Virtual cable test (VCT) |
| | Remote configuration and maintenance using Telnet |
| | SNMPv1/v2/v3 |
| | RMON |
| | Web system |
| | Network management system (NMS) |
| | LLDP/LLDP-MED |
| | System logs and multi-level alarms |
| | IEEE 802.3az Energy Efficient Ethernet (EEE) |
| | Port mirroring |
| Interoperability | VLAN-based Spanning Tree (VBST), working with PVST, PVST+, and RPVST |
| | Link-type Negotiation Protocol (LNP), similar to the Dynamic Trunking Protocol (DTP) |
| | VLAN Central Management Protocol (VCMP), similar to the VLAN Trunk Protocol (VTP) |

# More Information

For more information about Huawei eKitEngine switches, visit https://e.huawei.com/en/ or contact Huawei's local sales office.

Alternatively, you can contact us through one of the following methods:

- Global service hotline: https://e.huawei.com/en/about/service-hotline
- Enterprise technical support website: https://support.huawei.com/enterprise/
- Service email address for enterprise users: support_e@huawei.com



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