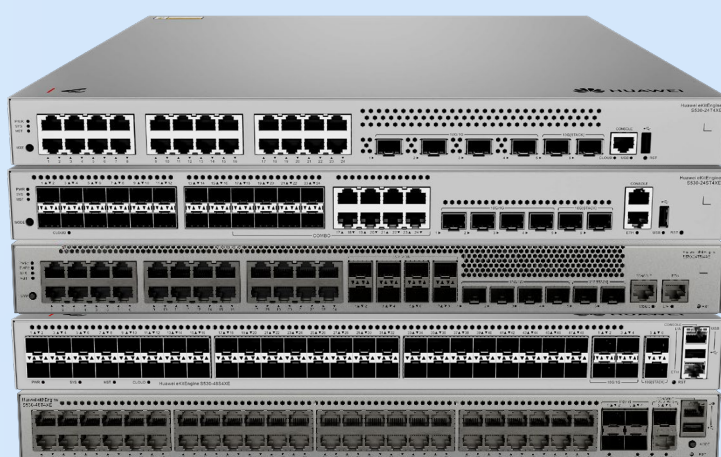




HUAWEI eKit

# HUAWEI eKitEngine S530 Series Switches Datasheet



## Enhanced Layer 3 Core Switches

Make SME Network Easier and Smarter



## 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	176 Gbps	176 Gbps	208 Gbps
Packet forwarding rate	132 Mpps	132 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 180 W AC power module 240 W DC power module Pluggable power module, 1+1 backup	80 W AC power module 180 W AC power module 240 W DC power module Pluggable power module, 1+1 backup	Built-in AC power module, 1+1 backup
Rated voltage	<ul style="list-style-type: none"> <li>• AC input: 100 V AC to 240 V AC, 50/60 Hz</li> <li>• High-voltage DC input: 240 V DC</li> <li>• DC input: -48 V DC to -60 V DC</li> </ul>	<ul style="list-style-type: none"> <li>• AC input: 100 V AC to 240 V AC, 50/60 Hz</li> <li>• High-voltage DC input: 240 V DC</li> <li>• DC input: -48 V DC to -60 V DC</li> </ul>	<ul style="list-style-type: none"> <li>• AC input: 100 V AC to 240 V AC, 50/60 Hz</li> <li>• High-voltage DC input: 240 V DC</li> </ul>
Maximum voltage	<ul style="list-style-type: none"> <li>• AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> <li>• High-voltage DC input: 190 V DC to 290 V DC</li> <li>• DC input: -38.4 V DC to -72 V DC</li> </ul>	<ul style="list-style-type: none"> <li>• AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> <li>• High-voltage DC input: 190 V DC to 290 V DC</li> <li>• DC input: -38.4 V DC to -72 V DC</li> </ul>	<ul style="list-style-type: none"> <li>• AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> <li>• High-voltage DC input: 190 V DC to 290 V DC</li> </ul>
Maximum power	<ul style="list-style-type: none"> <li>• 33.10 W (with two 80</li> </ul>	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) <ul style="list-style-type: none"> <li>45.75 W (with two 180 W AC power modules)</li> </ul>	power modules)	
Noise	<ul style="list-style-type: none"> <li>Sound power at normal temperature: 47 dB (A)</li> <li>Sound power at high temperature: 51 dB (A)</li> <li>Sound pressure at normal temperature: 35 dB (A)</li> </ul>	<ul style="list-style-type: none"> <li>Sound power at normal temperature: 38.1 dB (A)</li> <li>Sound power at high temperature: 59.5 dB (A)</li> <li>Sound pressure at normal temperature: 26.1 dB (A)</li> </ul>	<ul style="list-style-type: none"> <li>Sound power at normal temperature: 41.9 dB (A)</li> <li>Sound power at high temperature: 58.6 dB (A)</li> <li>Sound pressure at normal temperature: 29.9 dB (A)</li> </ul>
Long-term operating temperature	<ul style="list-style-type: none"> <li>-5°C to +50°C (0 m to 1800 m)</li> <li>1800 m to 5000 m: The operating temperature decreases by 1°C for every increase of 220 m in altitude.</li> </ul>	<ul style="list-style-type: none"> <li>-5°C to +50°C (0 m to 1800 m)</li> <li>1800 m to 5000 m: The operating temperature decreases by 1°C for every increase of 220 m in altitude.</li> </ul>	<ul style="list-style-type: none"> <li>-5°C to +50°C (0 m to 1800 m)</li> <li>1800 m to 5000 m: The operating temperature decreases by 1°C for every increase of 220 m in altitude.</li> </ul>
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	<ul style="list-style-type: none"> <li>AC power port: ±6 kV in differential mode, ±6 kV in common mode</li> <li>DC power port: ±2 kV in differential mode, ±4 kV in common mode</li> </ul>	<ul style="list-style-type: none"> <li>AC power port: ±6 kV in differential mode, ±6 kV in common mode</li> <li>DC power port: ±2 kV in differential mode, ±4 kV in common mode</li> </ul>	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	224 Gbps	216 Gbps
Packet forwarding rate	168 Mpps	161 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 D)	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 240 W DC power module Pluggable power module, 1+1 backup	80 W AC power module 180 W AC power module 240 W DC power module Pluggable power module, 1+1 backup
Rated voltage	<ul style="list-style-type: none"> <li>AC input: 100 V AC to 240 V AC, 50/60 Hz</li> <li>High-voltage DC input: 240 V DC</li> <li>DC input: -48 V DC to -60 V DC</li> </ul>	<ul style="list-style-type: none"> <li>AC input: 100 V AC to 240 V AC, 50/60 Hz</li> <li>High-voltage DC input: 240 V DC</li> <li>DC input: -48 V DC to -60 V DC</li> </ul>
Maximum voltage	<ul style="list-style-type: none"> <li>AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> <li>High-voltage DC input: 190 V DC to 290 V DC</li> <li>DC input: -38.4 V DC to -72 V DC</li> </ul>	<ul style="list-style-type: none"> <li>AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> <li>High-voltage DC input: 190 V DC to 290 V DC</li> <li>DC input: -38.4 V DC to -72 V DC</li> </ul>
Maximum power consumption	104.70 W (with two 180 W AC power modules)	<ul style="list-style-type: none"> <li>55.12 W (with two 80 W AC power modules)</li> <li>64.51 W (with two 180 W AC power modules)</li> </ul>
Noise	<ul style="list-style-type: none"> <li>Sound power at normal temperature: 43.8 dB (A)</li> <li>Sound power at high temperature: 59.5 dB (A)</li> <li>Sound pressure at normal temperature: 31.8 dB (A)</li> </ul>	<ul style="list-style-type: none"> <li>Sound power at normal temperature: 41.9 dB (A)</li> <li>Sound power at high temperature: 58.6 dB (A)</li> <li>Sound pressure at normal temperature: 29.9 dB (A)</li> </ul>
Long-term operating temperature	<ul style="list-style-type: none"> <li>-5°C to +50°C (0 m to 1800 m)</li> <li>1800 m to 5000 m: The operating temperature decreases by 1°C for every increase of 220 m in altitude.</li> </ul>	<ul style="list-style-type: none"> <li>-5°C to +50°C (0 m to 1800 m)</li> <li>1800 m to 5000 m: The operating temperature decreases by 1°C for every increase of 220 m in altitude.</li> </ul>
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	<ul style="list-style-type: none"> <li>AC power port: ±6 kV in differential mode, ±6 kV in</li> </ul>	<ul style="list-style-type: none"> <li>AC power port: ±6 kV in differential mode, ±6 kV in</li> </ul>

Item	eKitEngine S530-48S4XE	eKitEngine S530-48T4XE
	common mode <ul style="list-style-type: none"> <li>DC power port: <math>\pm 2</math> kV in differential mode, <math>\pm 4</math> kV in common mode</li> </ul>	common mode <ul style="list-style-type: none"> <li>DC power port: <math>\pm 2</math> kV in differential mode, <math>\pm 4</math> kV in common mode</li> </ul>
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 tracer, 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](mailto:support_e@huawei.com)

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