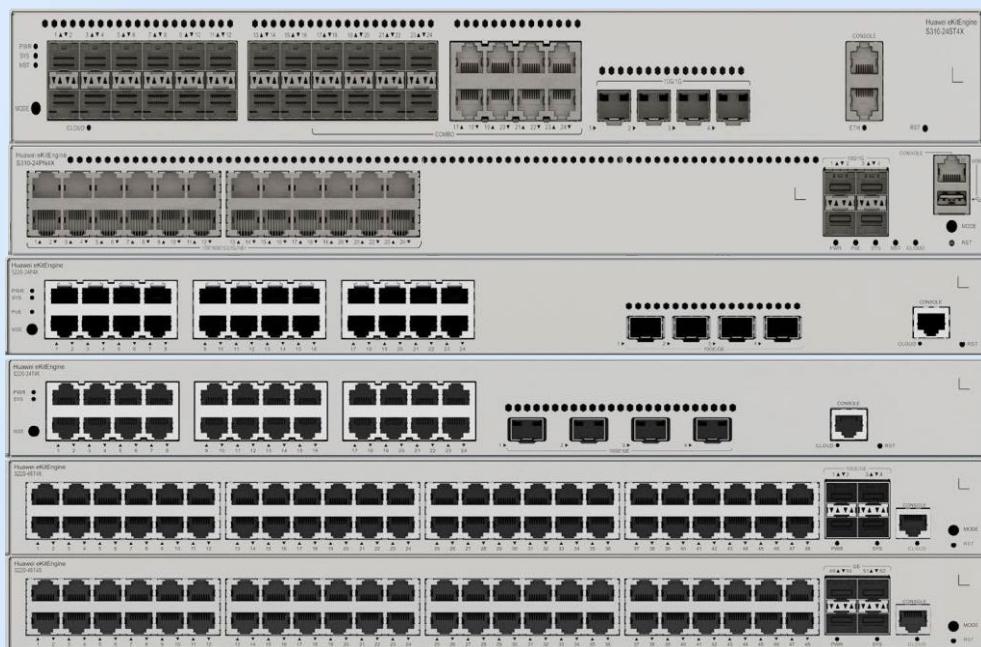




Huawei eKitEngine S310 Series Switches Datasheet



Diversified O&M | Intelligent Stacking

Make SME Network Easier and Smarter



Product Features and Highlights

Flexible Ethernet Networking

- In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), eKitEngine S310 series switches support the latest Ethernet Ring Protection Switching (ERPS) standard in the industry. ERPS is defined in ITU-T G.8032. It provides millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.
- eKitEngine S310 series switches support the Smart Link function, which implements backup of uplinks. One switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

Diversified Security Control

- eKitEngine S310 series switches support multiple security authentication modes including MAC address authentication and 802.1X authentication, and dynamically deliver user policies (VLAN, QoS, and ACL). eKitEngine S310 series switches support port-based 802.1X authentication, MAC address authentication, and multi-mode authentication.
- eKitEngine S310 series switches provide a series of mechanisms to defend 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 spoofing attacks, DHCP request flood attacks, and attacks with variable DHCP CHADDR values in packets.
- eKitEngine S310 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 S310 series switches support strict ARP entry learning, which prevents ARP spoofing from exhausting ARP entries and ensures Internet access of authorized users.

Easy Operations and Maintenance

- eKitEngine S310 series switches can be managed and maintained using SNMPv1, SNMPv2c, SNMPv3, 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 S310 series switches support the MUX VLAN function. MUX VLAN contains a principal VLAN and multiple subordinate VLANs. Subordinate VLANs can be classified into group VLANs and separate VLANs. Subordinate VLANs can communicate with the principal VLAN. Ports on a subordinate group VLAN can communicate with each other, whereas ports on a subordinate separate VLAN cannot communicate with each other. Additionally, eKitEngine S310 series switches support VLAN-based Spanning Tree (VBST).

Intelligent Stack (iStack)

- eKitEngine S310 series switches support iStack. Multiple switches that support stacking can be logically stacked into one virtual switch.
- Member switches in a stack implement redundancy backup 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 also 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.
- Some models of S310 series switches support two dedicated stack ports, which free uplink ports and do not need to be configured.

PoE Power Supply

PoE models of eKitEngine S310 series switches provide the following capabilities:

- Fast PoE: PoE switches can supply power to PDs within seconds upon power-on, which is different from common switches that supply power to PDs in 1 to 3 minutes after power modules are installed. When a PoE switch restarts due to a power failure, it continues to supply power to PDs immediately after being powered on without waiting until it completes the restart. This greatly shortens the power-off time of PDs.

- Perpetual PoE: When a PoE switch restarts (for example, during software upgrade), it continues to supply power to downstream PDs, ensuring uninterrupted PoE power supply.

Smart Upgrade

- Based on Huawei Online Upgrade Platform (HOUP), eKitEngine S310 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, this feature supports system software pre-loading, which greatly shortens the upgrade time and reduces the service interruption time.
- 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 OPEX.
- eKitEngine S310 series switches support both cloud management and on-premise 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 S310-24T4S | eKitEngine S310-24P4S | eKitEngine S310-24T4X |
|--|--|---|---|
| Switching capacity | 56 Gbps | 56 Gbps | 128 Gbps |
| Packet forwarding | 42 Mpps | 42 Mpps | 96 Mpps |
| Fixed port | 24 x 10/100/1000BASE-T ports, 4 x GE SFP ports | 24 x 10/100/1000BASE-T ports (PoE+), 4 x GE SFP ports | 24 x 10/100/1000BASE-T ports, 4 x 10GE SFP+ ports |
| Chassis dimensions (H x W x D) | 43.6 mm x 442 mm x 220 mm | | |
| Chassis height | 1 U | | |
| Weight in full configuration (including packaging materials) | 3.44 kg | 3.79 kg | 3.44 kg |
| Power module type | Built-in AC power module | | |
| Rated voltage | 100 V AC to 240 V AC, 50/60 Hz | | |
| Maximum voltage | AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz | | |
| Maximum power consumption | 34.04 W | Without PoE: 47.1 W With PoE: 491.66 W (PoE: 400 W) | 35.04 W |
| Noise | Sound power at normal temperature: 47 dB (A) Sound power at high temperature: 51 dB (A) Sound pressure at normal temperature: 35 dB (A) | Sound power at normal temperature: 49.3 dB (A) Sound power at high temperature: 63 dB (A) Sound pressure at normal temperature: 37.3 dB (A) | Sound power at normal temperature: 47 dB (A) Sound power at high temperature: 51 dB (A) Sound pressure at normal temperature: 35 dB (A) |
| Long-term operating temperature | -5°C to +50°C (0 m to 1800m) When the altitude ranges between 1800 m and 5000 m, the operating temperature reduces by 1°C each time the altitude increases by 220 m. | | |
| Storage temperature | -40°C to +70°C | | |
| Relative humidity | 5% to 95% (non-condensing) | | |
| Heat dissipation mode | Air cooling, intelligent fan speed adjustment | | |

| Item | eKitEngine S310-24P4X | ekitEngine S310-24ST4X | ekitEngine S310-24PN4X |
|--|---|---|--|
| Switching capacity | 128 Gbps | 128 Gbps | 200 Gbps |
| Packet forwarding | 96 Mpps | 96 Mpps | 144 Mpps |
| Fixed port | 24 x 10/100/1000BASE-T ports (PoE+), 4 x 10GE SFP+ ports | 24 x GE SFP ports, 8 of which are dual-purpose 10/100/1000 or SFP, 4 x 10GE SFP+ ports | 24 x 10/100/1000/2.5GBASE-T ports(PoE+), 4 x 10GE SFP+ ports |
| Chassis dimensions (H x W x D) | 43.6 mm x 442 mm x 220 mm | | 43.6 mm x 442 mm x 420 mm |
| Chassis height | 1 U | | |
| Weight in full configuration (including packaging materials) | 3.79 kg | 3.55 kg | 6.89 kg |
| Power module type | Built-in AC power module | | |
| Rated voltage | 100 V to 240 V AC, 50/60 Hz | AC input: 100 V AC to 240 V AC; 50/60 Hz High-voltage DC input: 110 V DC to 250 V DC | AC input: 100 V AC to 240 V AC, 50/60 Hz High-voltage DC input: 240 V DC |
| Maximum voltage | AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz | AC input: 90 V AC to 264 V AC; 47 Hz to 63 Hz High-voltage DC input: 88 V DC to 300 V DC | AC input: 90 V AC to 290 V AC; 45 Hz to 65 Hz High-voltage DC input: 190 V DC to 290 V DC |
| Maximum power consumption | Without PoE: 44.35 W With PoE: 485.91 W (PoE: 400 W) | 41.7 W | Without PoE: 77.70 W Full PoE load: 517.30 W (PoE: 400 W) |
| Noise | Sound power at normal temperature: 49.3 dB (A) Sound power at high temperature: 63 dB (A) Sound pressure at normal temperature: 37.3 dB (A) | Sound power at normal temperature: 38.1 dB (A) Sound pressure at normal temperature: 26.1 dB (A) | Sound power at normal temperature: 47.9 dB (A) Sound pressure at normal temperature: 34.22 dB (A) |
| Long-term operating temperature | -5°C to +50°C | | |
| Storage temperature | -40°C to +70°C | | |
| Relative humidity | 5% to 95% (non-condensing) | | |
| Heat dissipation mode | Air cooling, intelligent fan speed adjustment | | |

| Item | ekitEngine S310-24T8J4X | eKitEngine S310-48T4S | eKitEngine S310-48T4X |
|--------------------------------|--|--|---|
| Switching capacity | 168 Gbps | 104 Gbps | 176 Gbps |
| Packet forwarding | 126 Mpps | 77 Mpps | 131 Mpps |
| Fixed port | 24 x 10/100/1000BASE-T ports, 8 x 2.5GE SFP ports, 4 x 10GE SFP+ ports | 48 x 10/100/1000BASE-T ports, 4 x GE SFP ports | 48 x 10/100/1000BASE-T ports, 4 x 10GE SFP+ ports |
| Chassis dimensions (H x W x D) | 43.6 mm x 442 mm x 420mm | | 43.6 mm x 442 mm x 420 mm |
| Chassis height | 1 U | | |
| Weight in full configuration | 6.57 kg | 3.59 kg | 3.59 kg |

| | | | |
|---------------------------------|--|---|---|
| (including packaging materials) | | | |
| Power module type | Built-in AC power module | | |
| Rated voltage | 100 V AC to 240 V AC, 50/60 Hz | | |
| Maximum voltage | AC input: 90 V AC to 290 V AC, 45 Hz to 65Hz | | |
| Maximum power consumption | 49.52W | 52.05 W | 44.3 W |
| Noise | Sound power at normal temperature: 41.9 dB (A) Sound power at high temperature: 58.6 dB (A) Sound pressure at normal temperature: 29.9 dB (A) | Sound power at normal temperature: 46.6 dB (A) Sound power at high temperature: 54.3 dB (A) Sound pressure at normal temperature: 34.6 dB (A) | Sound power at normal temperature: 46.6 dB (A) Sound power at high temperature: 54.3 dB (A) Sound pressure at normal temperature: 34.6 dB (A) |
| Long-term operating temperature | -5°C to +50°C (0 m to 1800 m) When the altitude ranges between 1800 m and 5000 m, the operating temperature reduces by 1°C each time the altitude increases by 220 m. | | |
| Storage temperature | -40°C to +70°C | | |
| Relative humidity | 5% to 95% (non-condensing) | | |
| Heat dissipation mode | Air cooling, intelligent fan speed adjustment | | |

| Item | ekitEngine S310-48P4X | ekitEngine S310-48P4S | eKitEngine S310-48S4X |
|--|---|---|---|
| Switching capacity | 176 Gbps | 104 Gbps | 176 Gbps |
| Packet forwarding | 131 Mpps | 77 Mpps | 131 Mpps |
| Fixed port | 48 x 10/100/1000BASE-T ports (PoE+), 4 x 10GE SFP+ ports | 48 x 10/100/1000BASE-T ports (PoE+), 4 x GE SFP ports | 48 x GE SFP ports, 4 x 10GE SFP+ ports |
| Chassis dimensions (H x W x D) | 43.6 mm x 442 mm x 220 mm | | |
| Chassis height | 1 U | | |
| Weight in full configuration (including packaging materials) | 4.29 kg | 4.29 kg | 3.74 kg |
| Power module type | Built-in AC power module | | |
| Rated voltage | 100 V to 240 V AC, 50/60 Hz | | |
| Maximum voltage | AC input: 90 V AC to 290 V AC, 45 Hz to 60 Hz | | |
| Maximum power consumption | Without PoE: 64.7 W With PoE: 462.8 W (PoE: 380 W) | Without PoE: 63.7 W With PoE: 462.8 W (PoE: 380 W) | 84.1W |
| Noise | Sound power at normal temperature: 49.3 dB (A) Sound power at high temperature: 63 dB (A) Sound pressure at normal temperature: 37.3 dB (A) | Sound power at normal temperature: 49.3 dB (A) Sound power at high temperature: 63 dB (A) Sound pressure at normal temperature: 37.3 dB (A) | Sound power at normal temperature: 45.6 dB (A) Sound power at high temperature: 58.6 dB (A) Sound pressure at normal temperature: 33.6 dB (A) |
| Long-term operating temperature | -5°C to +50°C | | |
| Storage temperature | -40°C to +70°C | | |
| Relative humidity | 5% to 95% (non-condensing) | | |
| Heat dissipation mode | Air cooling, intelligent fan speed adjustment | | |

| Item | eKitEngine S310-48HP4X | eKitEngine S310-48PN4X | eKitEngine S310-24U4X |
|--|--|---|--|
| Switching capacity | 176 Gbps | 320 Gbps | 128 Gbps |
| Packet forwarding | 131 Mpps | 238 Mpps | 95 Mpps |
| Fixed port | 48 x 10/100/1000BASE-T ports (PoE+), 4 x 10GE SFP+ ports | 48 x 10/100/1000/2.5GBASE-T ports(PoE+), 4 x 10GE SFP+ ports | 24 x 10/100/1000BASE-T ports (PoE++), 4 x 10GE SFP+ ports |
| Chassis dimensions (H x W x D) | 43.6 mm x 442 mm x 220 mm | | |
| Chassis height | 1 U | | |
| Weight in full configuration (including packaging materials) | 8.04 kg | 7.43 kg | 7.99 kg |
| Power module type | 1000 W AC power modules delivered by default | Built-in AC power module | 600 W AC power modules delivered by default |
| Rated voltage | 100 V to 240 V AC, 50/60 Hz | | |
| Maximum voltage | AC input: 90 V AC to 290 V AC, 45 Hz to 60 Hz | | |
| Maximum power consumption | Without PoE: 74.66 W With PoE: 991.74 W (PoE: 846 W) | Without PoE: 115.2 W With PoE: 510.5 W (PoE: 360 W) | Without PoE: 51.6 W(with 2 x 600W AC power module); 54.7 W(with 2 x 1000W AC power modules); 65.3 W(with 2 x 1000W DC power modules); Full PoE load: 2428.11 W (PoE: 2268 W, with 3 x 1000 W AC power modules) |
| Noise | Sound power at normal temperature:67 dB(A) Sound power at high temperature: 76.6 dB(A) Sound pressure at normal temperature:55 dB(A) | Sound power at normal temperature:51.4 dB(A) Sound power at high temperature: 59 dB(A) Sound pressure at normal temperature:37.72 dB(A) | Three 600 W AC PoE power modules with 30% load: 38 dBA Three 1000 W AC PoE power modules with 30% load: 37.9 dBA Three 1000 W DC PoE power modules with 30% load: 36.5 dBA |
| Long-term operating temperature | -5°C to +50°C | | |
| Storage temperature | -40°C to +70°C | | |
| Relative humidity | 5% to 95% (non-condensing) | | |
| Heat dissipation mode | Air cooling, intelligent fan speed adjustment | | |

Service Features

| Feature | Description |
|-------------------|---|
| MAC address table | Automatic MAC address learning and aging |
| | 16K MAC address entries at maximum |
| | Static, dynamic, and blackhole MAC address entries |
| | Source MAC address filtering |
| | Limitation on the number of MAC addresses learned by an interface |

| | |
|----------------------------|---|
| VLAN features | 4094 VLANs |
| | Voice VLAN |
| | MUX VLAN |
| | VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports |
| | VLAN stacking |
| Ethernet switching | Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protective switchover |
| | G.8032 Ethernet Ring Protection Switching (ERPS) |
| | STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s) |
| | BPDU protection, root protection, and loop protection |
| | BPDU tunnel |
| Multicast | IGMPv1/v2/v3 snooping and MLD snooping |
| IP routing | Static routing and policy-based routing (PBR)、OSPFv2、OSPFv3 |
| | 512 FIBv4 entries at maximum |
| IPv6 features | 512 FIBv6 entries at maximum |
| | Neighbor discovery (ND) |
| | PMTU |
| | IPv6 ping, IPv6 traceroute, and IPv6 telnet |
| | |
| Reliability | Link Aggregation Control Protocol (LACP) |
| | Virtual Router Redundancy Protocol (VRRP) |
| | Bidirectional Forwarding Detection (BFD) |
| | Link Layer Discovery Protocol (LLDP) |
| QoS/ACL | Traffic rate limiting in the inbound and outbound directions of 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 the 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 |
| | Rate limiting in each queue and traffic shaping on ports |
| | Network Slicing (VLAN) |
| | |
| Security features | Hierarchical user management and password protection |
| | 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 |
| | 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 |
| | SSH v2.0 |
| | HTTPS |
| | CPU defense |
| | Blacklist and whitelist |
| | DHCPv6 client, DHCPv6 server, DHCPv6 relay, DHCPv6 snooping |
| | DHCPv4 client, DHCPv4 server, DHCPv4 relay, DHCPv4 snooping |
| | |
| Management and maintenance | iStack |
| | Cloud management based on NETCONF/YANG |
| | Virtual cable test (VCT) |
| | Remote configuration and maintenance by using Telnet |
| | SNMPv1/v2/v3 |
| | RMON |
| | Web system-based management |
| | HTTPS |
| | LLDP/LLDP-MED |
| | System logs and alarms based on severities |
| | 802.3az: Energy Efficient Ethernet (EEE) |

| | |
|------------------|--|
| | Port mirroring |
| | Deployment through the registration query center |
| Interoperability | VBST, working with PVST, PVST+, and RPVST |

More Information

For more information about Huawei 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 branches: <https://e.huawei.com/en/about/service-hotline>
- Enterprise technical support website: <https://support.huawei.com/enterprise/en/index.html>
- Service email address for enterprise users: support_e@huawei.com

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