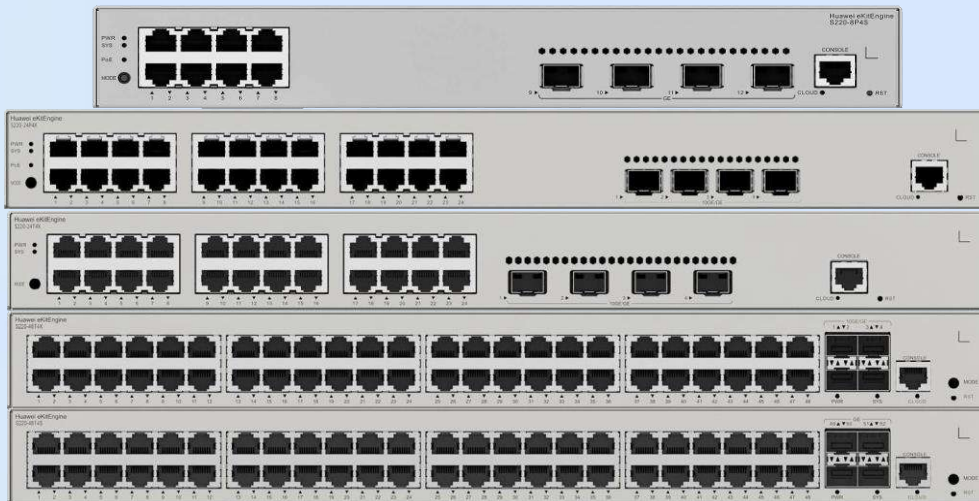




HUAWEI eKit

# Huawei eKitEngine S220 Series Switches Datasheet



GE/10GE Uplink | Noise-Free and Energy-Saving | Layer 2 Managed Switches

Make SME Network Easier and Smarter



# Product Overview

Huawei eKitEngine S220 series switches are Layer 2 GE/10GE switches designed for the small office and home office (SOHO)/small- and medium-sized business (SMB) market. They include eight models, such as those with 8 downlink GE electrical ports (PoE/non-PoE ports), 24 downlink GE electrical ports (PoE/non-PoE ports), 48 downlink GE electrical ports (PoE/non-PoE), and uplink GE/10GE ports. These switches provide many features, such as rich management methods (web-based management, CLI-based management, and app-based management), flexible Ethernet networking, and diversified security control. Therefore, they can be widely used in scenarios such as SOHO, enterprise office, budget hotels, factories, primary and secondary education, hospitals, and building security.

## 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 S220 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.

### Diversified Security Control

- eKitEngine S220 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 S220 series switches support port-based 802.1X authentication, MAC address authentication, and multi-mode authentication.
- eKitEngine S220 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 S220 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.

### Easy Operations and Maintenance

- eKitEngine S220 series switches can be managed and maintained using SNMPv1, SNMPv2c, SNMPv3, CLI, web system, or SSHv2.0.

### PoE Power Supply

PoE models of eKitEngine S220 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 S220 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 S220 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 S220-8T4S                                                                            | eKitEngine S220-8P4S                                                                                                 | eKitEngine S220-24T4X                                                                           | eKitEngine S220-24P4X                                                                                           |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Switching capacity                                           | 24 Gbps                                                                                         | 24 Gbps                                                                                                              | 128 Gbps                                                                                        | 128 Gbps                                                                                                        |
| Packet forwarding                                            | 18 Mpps                                                                                         | 18 Mpps                                                                                                              | 95 Mpps                                                                                         | 95 Mpps                                                                                                         |
| Fixed port                                                   | 8 x 10/100/1000BASE-T ports, 4 x GE SFP ports                                                   | 8 x 10/100/1000BASE-T ports(125W PoE+), 4 x GE SFP ports                                                             | 24 x 10/100/1000BASE-T ports, 4 x 10GE SFP+ ports                                               | 24 x 10/100/1000BASE-T ports(400W PoE+), 4 x 10GE SFP+ ports                                                    |
| (H x W x D)                                                  | 43.6 mm x 250 mm x 180 mm                                                                       | 43.6 mm x 320 mm x 210 mm                                                                                            | 43.6 mm x 442 mm x 220 mm                                                                       | 43.6 mm x 442 mm x 220 mm                                                                                       |
| Chassis height                                               | 1 U                                                                                             | 1 U                                                                                                                  | 1 U                                                                                             | 1 U                                                                                                             |
| Weight in full configuration (including packaging materials) | 2.22 kg                                                                                         | 3.05 kg                                                                                                              | 3.44 kg                                                                                         | 3.79 kg                                                                                                         |
| Power module type                                            | Built-in AC power module                                                                        | Built-in AC power module                                                                                             | Built-in AC power module                                                                        | Built-in AC power module                                                                                        |
| Rated voltage                                                | 100 V AC to 240 V AC, 50/60 Hz                                                                  | 100 V AC to 240 V AC, 50/60 Hz                                                                                       | 100 V AC to 240 V AC, 50/60 Hz                                                                  | 100 V AC to 240 V AC, 50/60 Hz                                                                                  |
| Maximum voltage                                              | <ul style="list-style-type: none"> <li>AC input: 90 V AC to 264 V AC, 45 Hz to 65 Hz</li> </ul> | <ul style="list-style-type: none"> <li>AC input: 90 V AC to 300 V AC, 47 Hz to 63 Hz</li> </ul>                      | <ul style="list-style-type: none"> <li>AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> </ul> | <ul style="list-style-type: none"> <li>AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> </ul>                 |
| Maximum power consumption                                    | 21.52 W                                                                                         | <ul style="list-style-type: none"> <li>Without PoE: 25.09 W</li> <li>Full PoE load: 166.65 W (PoE: 125 W)</li> </ul> | 35.04 W                                                                                         | <ul style="list-style-type: none"> <li>Without PoE: 44.35 W</li> <li>With PoE: 485.91 W (PoE: 400 W)</li> </ul> |

| Item                            | eKitEngine S220-8T4S                                                                                                                                        | eKitEngine S220-8P4S                                                                                                                                    | eKitEngine S220-24T4X                                                                                                                                                                                       | eKitEngine S220-24P4X                                                                                                                                                                                           |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Noise                           | <ul style="list-style-type: none"> <li>Sound power at normal temperature: 44.5 dB (A)</li> <li>Sound pressure at normal temperature: 32.5 dB (A)</li> </ul> | <ul style="list-style-type: none"> <li>Sound power at normal temperature: 47 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: 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: 49.3 dB (A)</li> <li>Sound power at high temperature: 63 dB (A)</li> <li>Sound pressure at normal temperature: 37.3 dB (A)</li> </ul> |
| Long-term operating temperature | -5 °C to +50 °C                                                                                                                                             | -5 °C to +50 °C                                                                                                                                         | -5 °C to +50 °C                                                                                                                                                                                             | -5 °C to +50 °C                                                                                                                                                                                                 |
| Storage temperature             | -40 °C to +70 °C                                                                                                                                            | -40 °C to +70 °C                                                                                                                                        | -40 °C to +70 °C                                                                                                                                                                                            | -40 °C to +70 °C                                                                                                                                                                                                |
| Relative humidity               | 5% to 95% (non-condensing)                                                                                                                                  | 5% to 95% (non-condensing)                                                                                                                              | 5% to 95% (non-condensing)                                                                                                                                                                                  | 5% to 95% (non-condensing)                                                                                                                                                                                      |
| Service port surge protection   | Common mode: $\pm 7$ kV                                                                                                                                     | Common mode: $\pm 7$ kV                                                                                                                                 | Common mode: $\pm 7$ kV                                                                                                                                                                                     | Common mode: $\pm 7$ kV                                                                                                                                                                                         |
| Power port surge protection     | <ul style="list-style-type: none"> <li>Differential mode: <math>\pm 6</math> kV</li> <li>Common mode: <math>\pm 6</math> kV</li> </ul>                      | <ul style="list-style-type: none"> <li>Differential mode: <math>\pm 6</math> kV</li> <li>Common mode: <math>\pm 6</math> kV</li> </ul>                  | <ul style="list-style-type: none"> <li>Differential mode: <math>\pm 6</math> kV</li> <li>Common mode: <math>\pm 6</math> kV</li> </ul>                                                                      | <ul style="list-style-type: none"> <li>Differential mode: <math>\pm 6</math> kV</li> <li>Common mode: <math>\pm 6</math> kV</li> </ul>                                                                          |
| Heat dissipation mode           | Air cooling, intelligent fan speed adjustment                                                                                                               | Air cooling, intelligent fan speed adjustment                                                                                                           | Air cooling, intelligent fan speed adjustment                                                                                                                                                               | Air cooling, intelligent fan speed adjustment                                                                                                                                                                   |

| Item                                                         | eKitEngine S220-48T4X                             | eKitEngine S220-48P4X                                        | eKitEngine S220-48P4S                                     | eKitEngine S220-48T4S                          |
|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------|
| Switching capacity                                           | 176 Gbps                                          | 176 Gbps                                                     | 104 Gbps                                                  | 104 Gbps                                       |
| Packet forwarding                                            | 131 Mpps                                          | 131 Mpps                                                     | 77 Mpps                                                   | 77 Mpps                                        |
| Fixed port                                                   | 48 x 10/100/1000BASE-T ports, 4 x 10GE SFP+ ports | 48 x 10/100/1000BASE-T ports(380W PoE+), 4 x 10GE SFP+ ports | 48 x 10/100/1000BASE-T ports(380W PoE+), 4 x GE SFP ports | 48 x 10/100/1000BASE-T ports, 4 x GE 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 220 mm                                    | 43.6 mm x 442 mm x 220 mm                                 | 43.6 mm x 442 mm x 220 mm                      |
| Chassis height                                               | 1 U                                               | 1 U                                                          | 1 U                                                       | 1 U                                            |
| Weight in full configuration (including packaging materials) | 3.59 kg                                           | 4.29 kg                                                      | 4.29 kg                                                   | 3.59 kg                                        |

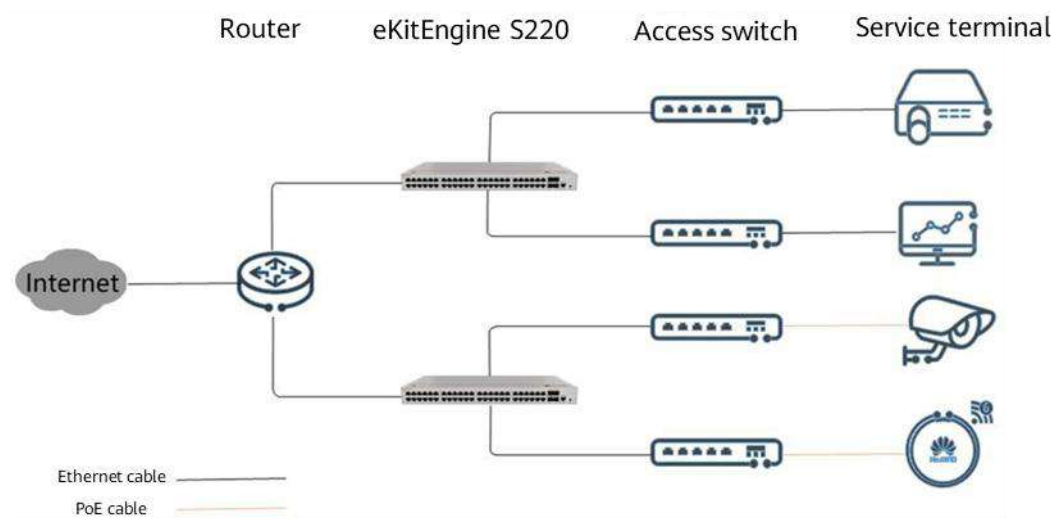
| Item                            | eKitEngine S220-48T4X                                                                                                                                                                                             | eKitEngine S220-48P4X                                                                                                                                                                                           | eKitEngine S220-48P4S                                                                                                                                                                                           | eKitEngine S220-48T4S                                                                                                                                                                                             |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power module type               | Built-in AC power module                                                                                                                                                                                          | Built-in AC power module                                                                                                                                                                                        | Built-in AC power module                                                                                                                                                                                        | Built-in AC power module                                                                                                                                                                                          |
| Rated voltage                   | 100 V AC to 240 V AC, 50/60 Hz                                                                                                                                                                                    | 100 V AC to 240 V AC, 50/60 Hz                                                                                                                                                                                  | 100 V AC to 240 V AC, 50/60 Hz                                                                                                                                                                                  | 100 V AC to 240 V AC, 50/60 Hz                                                                                                                                                                                    |
| Maximum voltage                 | <ul style="list-style-type: none"> <li>AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> </ul>                                                                                                                   | <ul style="list-style-type: none"> <li>AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> </ul>                                                                                                                 | <ul style="list-style-type: none"> <li>AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> </ul>                                                                                                                 | <ul style="list-style-type: none"> <li>AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> </ul>                                                                                                                   |
| Maximum power consumption       | 44.3 W                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Without PoE: 64.7 W</li> <li>With PoE: 462.8 W (PoE: 380 W)</li> </ul>                                                                                                   | <ul style="list-style-type: none"> <li>Without PoE: 63.7 W</li> <li>With PoE: 462.8 W (PoE: 380 W)</li> </ul>                                                                                                   | 43.3 W                                                                                                                                                                                                            |
| Noise                           | <ul style="list-style-type: none"> <li>Sound power at normal temperature: 46.6 dB (A)</li> <li>Sound power at high temperature: 54.3 dB (A)</li> <li>Sound pressure at normal temperature: 34.6 dB (A)</li> </ul> | <ul style="list-style-type: none"> <li>Sound power at normal temperature: 49.3 dB (A)</li> <li>Sound power at high temperature: 63 dB (A)</li> <li>Sound pressure at normal temperature: 37.3 dB (A)</li> </ul> | <ul style="list-style-type: none"> <li>Sound power at normal temperature: 49.3 dB (A)</li> <li>Sound power at high temperature: 63 dB (A)</li> <li>Sound pressure at normal temperature: 37.3 dB (A)</li> </ul> | <ul style="list-style-type: none"> <li>Sound power at normal temperature: 46.6 dB (A)</li> <li>Sound power at high temperature: 54.3 dB (A)</li> <li>Sound pressure at normal temperature: 34.6 dB (A)</li> </ul> |
| Long-term operating temperature | -5 °C to +50 °C                                                                                                                                                                                                   | -5 °C to +50 °C                                                                                                                                                                                                 | -5 °C to +50 °C                                                                                                                                                                                                 | -5 °C to +50 °C                                                                                                                                                                                                   |
| Storage temperature             | -40 °C to +70 °C                                                                                                                                                                                                  | -40 °C to +70 °C                                                                                                                                                                                                | -40 °C to +70 °C                                                                                                                                                                                                | -40 °C to +70 °C                                                                                                                                                                                                  |
| Relative humidity               | 5% to 95% (non-condensing)                                                                                                                                                                                        | 5% to 95% (non-condensing)                                                                                                                                                                                      | 5% to 95% (non-condensing)                                                                                                                                                                                      | 5% to 95% (non-condensing)                                                                                                                                                                                        |
| Service port surge protection   | Common mode: $\pm 7$ kV                                                                                                                                                                                           | Common mode: $\pm 7$ kV                                                                                                                                                                                         | Common mode: $\pm 7$ kV                                                                                                                                                                                         | Common mode: $\pm 7$ kV                                                                                                                                                                                           |
| Power port surge protection     | <ul style="list-style-type: none"> <li>Differential mode: <math>\pm 6</math> kV</li> <li>Common mode: <math>\pm 6</math> kV</li> </ul>                                                                            | <ul style="list-style-type: none"> <li>Differential mode: <math>\pm 6</math> kV</li> <li>Common mode: <math>\pm 6</math> kV</li> </ul>                                                                          | <ul style="list-style-type: none"> <li>Differential mode: <math>\pm 6</math> kV</li> <li>Common mode: <math>\pm 6</math> kV</li> </ul>                                                                          | <ul style="list-style-type: none"> <li>Differential mode: <math>\pm 6</math> kV</li> <li>Common mode: <math>\pm 6</math> kV</li> </ul>                                                                            |
| Heat dissipation mode           | Air cooling, intelligent fan speed adjustment                                                                                                                                                                     | Air cooling, intelligent fan speed adjustment                                                                                                                                                                   | Air cooling, intelligent fan speed adjustment                                                                                                                                                                   | 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                                                                                                                                                                                                                          |
|                    | VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports                                                                                                                                                  |
|                    | VLAN stacking                                                                                                                                                                                                                       |
| Ethernet switching | 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 and IGMPv1/v2/v3 snooping                                                                                                                                                                                              |
| Reliability        | Link Aggregation Control Protocol (LACP)                                                                                                                                                                                            |
|                    | Link Layer Discovery Protocol (LLDP)                                                                                                                                                                                                |
| QoS/ACL            | Traffic rate limiting in the inbound and outbound directions of a port                                                                                                                                                              |
|                    | IPv4/IPv6 access control list (ACL)                                                                                                                                                                                                 |
|                    | 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 source/destination port number, protocol, or VLAN |
|                    | Queue-based rate limiting and traffic shaping on ports                                                                                                                                                                              |
| 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                                                                                                                                                                                                       |

| Feature                    | Description                                                                          |
|----------------------------|--------------------------------------------------------------------------------------|
|                            | Limitation on the number of learned MAC addresses                                    |
|                            | IEEE 802.1X authentication and limit on the number of users on an interface          |
|                            | Multiple authentication modes including AAA, RADIUS, HWTACACS and NAC authentication |
|                            | SSH v2.0                                                                             |
|                            | HTTPS                                                                                |
|                            | CPU protection                                                                       |
|                            | Blacklist and whitelist                                                              |
|                            | DHCP client and DHCP snooping                                                        |
| Management and maintenance | Cloud management based on NETCONF/YANG                                               |
|                            | Virtual cable test (VCT)                                                             |
|                            | Remote configuration and maintenance by using Telnet                                 |
|                            | SNMPv1/v2/v3                                                                         |
|                            | Web system-based management                                                          |
|                            | HTTPS                                                                                |
|                            | LLDP/LLDP-MED                                                                        |
|                            | System logs and alarms based on severities                                           |
|                            | IEEE 802.3az: Energy Efficient Ethernet (EEE)                                        |
|                            | Port mirroring                                                                       |
|                            | Deployment through the registration query center                                     |

## Typical Networking



## More Information

For more information about Huawei switches, visit <https://e.huawei.com/> 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/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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