

FortiSwitch™ Rugged

High performance for harsh environments

FortiSwitch Rugged switches deliver all of the performance and security of the trusted FortiSwitch line, but with added reinforcement that makes them ideal for deployments in harsh outdoor environments.



Resilient, sturdy and capable of withstanding intense temperature fluctuations, FortiSwitch Rugged ensures the integrity and performance of mission-critical networks in even the most challenging of deployments.

Add Ruggedized FortiGate for Tough and Powerful Protection

Engineered to survive in hostile environments with an extreme temperature range, the combination of FortiGate Rugged network security appliances with the FortiSwitch Rugged provides a connected network security solution.

Simple Network Deployment

The Power over Ethernet (PoE) capability enables simple installation of cameras, sensors and wireless access points in the network, with power and data delivered over the same network cable.

There is no need to contract electricians to install power for your PoE devices, reducing your overall network TCO.



Highlights

- Mean time between failure greater than 25 years
- Fanless passive cooling
- DIN-rail or wall-mountable
- Power over Ethernet capable including PoE+
- Redundant power input terminals

Key Features and Benefits



| | |
|--------------------------------|--|
| Sturdy IP30 construction | Built to ingress protection 30 standards, the construction is designed to perform while enduring hostile conditions. |
| Passive cooling | With no fan and no moving parts, the mean time between failure is greater than 25 years. |
| Redundant power inputs | Maximizes network availability by eliminating the downtime associated with failure of a power input. |
| Power over Ethernet capability | Seamless integration of peripheral devices such as cameras, sensors and wireless access points into the network. |

CAPABILITIES: FORTILINK MODE VS. STANDALONE MODE

| | FSR-112D-POE AND FSR-124D* STANDALONE SWITCH | FSR-112D-POE AND FSR-124D* FORTILINK MODE (FORTIGATE) |
|---|---|--|
| Security | | |
| 802.1x Port Authentication | Yes | Yes |
| MAC Address-Based Authentication | No | Yes |
| MAC Black/White Listing | No | Yes |
| Layer 3,4 Stateful Firewall to Control Access | No | Yes |
| TACACS+/RADIUS Admin Access | Yes | Yes |
| DHCP Relay/DHCP Snooping | No | Yes |
| Virtual Domain | No | Yes |
| Routing | | |
| Layer 3, Dynamic Routing | No | Yes |
| Inter-VLAN Routing | No | Yes |
| Policy-Based Routing | No | Yes |
| DNS Server | No | Yes |
| Management | | |
| Auto Discovery of Multiple Switches | 1 | 16 (model dependent) |
| Software Upgrade of Switches | 1 switch | Central upgrade of each switch |
| VLAN Configuration | 1 switch | Central VLAN provisioning of entire switch network |
| Policy Control of Users and Devices | No | Yes |
| Syslog Collection | Yes | Yes (FortiGate syslog only) |
| Switch POE Control | Yes | Yes |
| LAG support from FortiSwitch to FortiGate | Yes | Yes |
| UTM Features | | |
| Firewall | No | Yes |
| IPS, AV, Application Control | No | Yes |

* For -D- models there is a dependency on the software version running on the FortiSwitch and on the FortiGate in order to use FortiLink mode.
FortiLink is only enabled on certain ports on FortiGate and FortiSwitch. Refer to FortiLink documentation.
Note: Please refer to FortiSwitch Admin Guide for details re: port connections supported for FortiLink functionality.

SOFTWARE FEATURES (STANDALONE MODE)

| | FSR-112D-POE AND FSR-124D* |
|---|----------------------------|
| Layer 2 | |
| Jumbo Frames | Yes |
| Auto-negotiation for port speed and duplex | Yes |
| IEEE 802.1D MAC Bridging/STP (will interoperate) | Yes |
| IEEE 802.1w Rapid Spanning Tree Protocol (RSTP, will interoperate) | Yes |
| IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) | Yes |
| IEEE 802.1p Mapping to Priority Queue | Not supported |
| Edge Port / Port Fast | Yes |
| IEEE 802.1Q VLAN Tagging | Yes |
| Private VLAN | Not supported |
| IEEE 802.3ad Link Aggregation with LACP | Yes |
| Unicast/Multicast traffic balance over trunking port (dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac) | Yes (MAC only) |
| IEEE 802.1AX Link Aggregation | Yes |
| IEEE 802.3x Flow Control and back-pressure | Yes |
| IEEE 802.3 10Base-T | Yes |
| IEEE 802.3u 100Base-TX | Yes |
| IEEE 802.3z 1000Base-SX/LX | Yes |
| IEEE 802.3ab 1000Base-T | Yes |
| 802.3ae 10 Gigabit Ethernet | Not supported |
| 802.3 CSMA/CD Access Method and Physical Layer Specifications | Yes |
| IEEE 802.3af-2003/2009 POE | Yes |
| IEEE 802.3at POE+ | Yes |
| Layer 3 | |
| Static Routing (Management Access only) | Yes |
| Security | |
| Port Mirroring | Yes |
| Admin Authentication Via RFC 2865 RADIUS | Yes |
| Supports Fortified Access (FortiLink) mode | Yes |
| 802.1x authentication with port-based assignment | Yes |
| Management | |
| Telnet / SSH | Yes |
| HTTP / HTTPS | Yes |
| SNMP v1/v2c | Yes |
| SNTP | Yes |
| LLDP (802.1ab, Link Layer Discovery Protocol) (receive only) | Yes |
| Standard CLI and web GUI interface | Yes |
| Software download/upload: TFTP/FTP/GUI | Yes |
| RFC and MIB Support** | |
| RFC 2571 Architecture for Describing SNMP Framework | Yes |
| DHCP Client | Yes |
| RFC 854 Telnet Server | Yes |
| RFC 2865 RADIUS | Yes |
| RFC 1643 Ethernet-like Interface MIB | Yes |
| RFC 3176 sFlow | Not supported |
| RFC 1213 MIB-II | Yes |
| RFC 1354 IP Forwarding Table MIB | Yes |
| RFC 2572 SNMP Message Processing and Dispatching | Yes |
| RFC 1573 SNMP MIB II | Yes |
| RFC 1157 SNMPv1/v2c | Yes |
| RFC 2030 SNTP | Yes |

* Note: Check release notes for software feature availability.

** MIBs have been tested with Solarwinds NPM tool.

SPECIFICATIONS

| | FSR-112D-POE | FSR-124D |
|--------------------------------------|--|--|
| Ethernet | | |
| Ethernet interface | 8x GE RJ45 (including 8x PoE/PoE+ capable ports), 4x GE SFP slots PoE is 802.3af PoE+ is 802.3at | 16x GE RJ45, 4x GE SFP slots 8 shared media interfaces (GE RJ45 / GE SFP slots) |
| Console interface | DB9 connector | DB9 connector |
| Operating mode | Store and forward, L2/L3 wire-speed/non-blocking switching engine | Store and forward, L2/L3 wire-speed/non-blocking switching engine |
| MAC addresses | 8K | 8K |
| Copper RJ45 Ports | | |
| Speed | 10/100/1000 Mbps | 10/100/1000 Mbps |
| MDI/MDIX auto-crossover | Support straight or cross wired cables | Support straight or cross wired cables |
| Auto-negotiating | 10/100/1000 Mbps speed auto-negotiation; Full and half duplex | 10/100/1000 Mbps speed auto-negotiation; Full and half duplex |
| PoE+ (PSE) | IEEE 802.3at, up to 30 W per RJ45 GE port (up to 8 PoE+ ports) | N/A |
| SFP (pluggable) Ports | | |
| Port types supported | Gigabit fiber multimode, fiber single mode, fiber long-haul single mode 1000Base(SX/LX/ZX) | Gigabit fiber multimode, fiber single mode, fiber long-haul single mode 1000Base(SX/LX/ZX) |
| Fiber port connector | LC typically for fiber (depends on module) | LC typically for fiber (depends on module) |
| Power | | |
| Power input | Redundant input terminals | Redundant input terminals |
| Input voltage range | 44–57V DC (for PoE model), 12–57 V (non-PoE model), 44–49V input voltage can support PoE (802.3af) on all ports, 50–57V input voltage can support PoE+ (802.3at) on all ports. | 44–57V DC |
| Reverse power protection | Yes | |
| Switch power | With 8x PoE+ sources, the switch itself draws 10.4 W | 25.434 W (Maximum) |
| Heat dissipation | The switch dissipates 69.6 BTU/h with 8x PoE+ devices attached | 117.49 BTU/h |
| Indicators | | |
| Power status indication | Indication of power input status | Indication of power input status |
| PoE indication | PoE port status | N/A |
| Ethernet port indication | Link and speed | Link and speed |
| Environmental and Compliances | | |
| Operating temperature range | -40–167°F (-40–75°C) cold startup at -40°C/°F | -40–185°F (-40–85°C) |
| Storage temperature range | -40–185°F (-40–85°C) | -40–185°F (-40–85°C) |
| Humidity (non-condensing) | 5–95% RH | 10–95% |
| EMI | Radiated Emission: CISPR 22, EN55022 Class B Conducted Emission: EN55022 Class B | Radiated Emission: CISPR 22, EN55022 Class B Conducted Emission: EN55022 Class B |
| EMS | ESD: IEC61000-4-2 Radiated RF (RS): IEC61000-4-3 EFT: IEC61000-4-4 Surge: IEC61000-4-5 Conducted RF (CS): IEC61000-4-6 | ESD: IEC61000-4-2 Radiated RF (RS): IEC61000-4-3 EFT: IEC61000-4-4 Surge: IEC61000-4-5 Conducted RF (CS): IEC61000-4-6 |
| RoHS and WEEE | RoHS (Pb free) and WEEE compliant | Compliant |
| MTBF | > 30 years | > 30 years |
| Cooling | Fanless | Fanless |
| Mechanical | | |
| Ingress protection | IP30 | IP40 |
| Installation option | DIN-Rail mounting, wall mounting | Rack mount |
| Dimensions | | |
| Length x Width x Height | 3.8 x 4.15 x 6.06 inches (96.4 x 105.5 x 154 mm) | 17.40 x 13.86 x 1.73 inches (442 x 352 x 44 mm) |
| Weight | 2.7 lbs (1230 g) | 12.78 lbs (5.80 kg) |
| Warranty | | |
| Fortinet warranty | Limited lifetime* | |

* Fortinet Warranty Policy: <http://www.fortinet.com/doc/legal/EULA.pdf>

ORDER INFORMATION

| Product | SKU | Description |
|--|--------------|---|
| FortiSwitch Rugged 112D-POE | FSR-112D-POE | Ruggedized L2 PoE Switch — 8x GE RJ45 (including 8x PoE/PoE+ capable ports), 4x GE SFP slots, FortiGate switch controller compatible. |
| FortiSwitch Rugged 124D | FSR-124D | Ruggedized L2 Switch — 16x GE RJ45, 4x GE SFP slots, 8x shared media pairs (including 8x GE RJ45, 8x GE SFP slots), FortiGate switch controller compatible. |
| Accessories | | |
| 1 GE SFP LX transceiver module | FG-TRAN-LX | 1 GE SFP LX transceiver module for all systems with SFP and SFP/SFP+ slots. |
| 1 GE SFP RJ45 transceiver module | FG-TRAN-GC | 1 GE SFP RJ45 transceiver module for all systems with SFP and SFP/SFP+ slots. |
| 1 GE SFP SX transceiver module | FG-TRAN-SX | 1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots. |
| 1 GE SFP SX transceiver, MMF, -40–85°C operation | FR-TRAN-SX | 1 GE SFP SX transceiver module, -40–85°C, over MMF, for all systems with SFP and SFP/SFP+ slots. |
| 1 GE SFP LX transceiver, SMF, -40–85°C operation | FR-TRAN-LX | 1 GE SFP LX transceiver module, -40–85°C, over SMF, for all systems with SFP and SFP/SFP+ slots. |
| 1 GE SFP ZX transceiver, 90 km range, -40–85°C operation | FR-TRAN-ZX | 1 GE SFP ZX transceiver module, -40–85°C, 90 km range, for all systems with SFP and SFP/SFP+ slots. |



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