# GigaIO™ FabreX™ Gen4 & Gen3 Top of Rack Switch Specifications

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|---|---|
| **Form Factor** | 1U 19" rack-mountable chassis |
| **Architecture** | Fully disaggregated with dynamic composability |
| **Scalability** | Star, Mesh or Tree Topologies including multi-switch configurations. See Support Portal for supported Topologies |
| **Fail Over** | N+1 with multi-switch configurations |
| **Protocol** | Industry standard PCI Express protocol |
| **Management** | Open systems GigaIO™ FabreX™ OS with DMTF Redfish® Composable APIs<br>Onboard Intel Atom® Processor |
| **Port-Side** | 24 Ports of PCIe Gen 4.0 x4 Link or Gen 3.0 x4 Link Mini-SAS HD (SFF-8644) with Sideband Cable Management Interface (CMI)<br>Ports configurable as:<br>• Upstream ports to host root complex<br>• Downstream ports to resource endpoints<br>2 Ports of Gigabit Ethernet<br>2 Ports of USB 2.0<br>DisplayPort® (DP)<br>LEDs for Stack Bifurcation, Link Status and Activity on every port<br>Power Switch with status indication<br>Audio Alarm |
| **Power-Side** | IEC-320-C13 power receptacle; 100 to 240 VAC, 50 to 60 Hz<br>75 Watts typical, 100 Watts maximum |
| **Connections Support** | Groupings: x4 Link (single cable), x8 Link (two cables), or x16 Link (four cables) |

| **Bandwidth** | | Gen 4 Non-Blocking | | Gen 3 Non-Blocking | |
|---|---|---|---|---|---|
| | **Grouping** | **Half Duplex** | **Full Duplex** | **Half Duplex** | **Full Duplex** |
| | 24 x4 Link | x4 − 64 Gb/s | x4 − 128 Gb/s | x4 − 32 Gb/s | x4 − 128 Gb/s |
| | 12 x8 Link | x8 − 128 Gb/s | x8 − 256 Gb/s | x8 − 64 Gb/s | x8 − 256 Gb/s |
| | 6 x16 Link | x16 − 256 Gb/s | x16 − 512 Gb/s | x16 − 128 Gb/s | x16 −512 Gb/s |
| | | **Total − 1.54 Tb/s** | **Total − 3.07 Tb/s** | **Total − 768 Gb/s** | **Total − 1.54 Tb/s** |

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| **Latency** | 24 Ports Non-Blocking port-to-port latency of less than 110ns (Gen 4) and less than 170 ns (Gen 3) |
| **Environmental** | Operating Temperature: 0°C to 40°C (32°F to 104°F)<br>Storage Temperature: -25˚C to 70˚C (-13°F to 158°F)<br>Relative Humidity: 5% to 95% (non-condensing) |
| **Regulatory** | CE Mark / UL / CSA / CB<br>Compliance with EN-60950-1 (2005-13), EN-55022 (2010), EN 55024 (2010), EN 61000-6-2 (2005), Class A<br>FCC Class A<br>RoHS<br>WEEE compliant |
| **Dimensions** | 17.4"W (44.2 cm) x 1.75"H (4.5 cm) x 15"D (38 cm) |
| **Weight (net)** | 15lb (6.80 kg) with dual power supplies |

# GigaIO™ FabreX™ Gen4 & Gen3 Network Adapter Card Specifications

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| **Form Factor** | Low profile, half height PCIe card |
| **Modes** | Host or target |
| **Ports** | 4 Ports of PCIe Gen 4.0 x4 Link or Gen 3.0 x4 Link Mini-SAS HD (SFF-8644)<br>Support for Sideband Cable Management Interface (CMI)<br>Support for Copper cables and Active Optical Cable (AOC) |
| **Host Interface** | PCIe x16 edge connector |
| **Connections Support** | Groupings: x4 Link (single cable), x8 Link (two cables), or x16 Link (four cables) supported by Target and Host modes. Additionally, Host mode bifurcation supports 2 x4 (two cables) and 2 x8 (four cables) |

| **Bandwidth** | Grouping | Gen 4 Non-Blocking | | Gen 3 Non-Blocking | |
|---|---|---|---|---|---|
| | | **Half Duplex** | **Full Duplex** | **Half Duplex** | **Full Duplex** |
| | x4 Link | x4 – 64 Gb/s | x4 – 128 Gb/s | x4 – 32 Gb/s) | x4 – 64 Gb/s) |
| | X8 Link | x8 – 128 Gb/s | x8 – 256 Gb/s | x8 – 64 Gb/s) | x8 – 128 Gb/s) |
| | X16 Link | x16 – 256 Gb/s | x16 – 512 Gb/s | x16 – 128 Gb/s) | x16 – 256 Gb/s) |

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| **Indicators** | Per port status LED indicators. External port numbers 1 through 4 marked on the bracket |
| **Power** | 15 Watts typical, 20 Max. (Max. = all 4 ports with Active Optical Cable) |
| **Mounting** | Half height PCIe bracket - mounted<br>Full height PCIe bracket - included |
| **Environmental** | Operating temperature: 0°C to 50°C (32°F to 122°F)<br>Relative humidity: 5% to 95% (non-condensing) |
| **Regulatory** | CE Mark, EN55032, EN55024 Class A, FCC 15 Subpart B Class A, RoHS, WEEE |
| **Operating System Support** | CentOS, Ubuntu, Rocky |
| **Thermal Control** | Minimum Required Air Flow: 10 LFM<br>Onboard active-fan |
| **Dimensions** | 68.9mm x 167.65mm |

# GigaIO™ FabreX™ Gen4 & Gen3 Cable Specifications

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|---|---|---|
| **Type** | PCIe external cable Mini-SAS HD (SFF-8644) | |
| **Connections Support** | Groupings: x4 Link (single cable), x8 Link (two cables), or x16 Link (four cables) | |
| **Maximum Length** | Gen 4 – Copper Cables up to 3 meters | Gen 3 – Copper Cables up to 5 meters |
| | Active Optical Cable (AOC) up to 100 meters | |
| **Sideband Management** | Cable Management Interface (CMI) | |