Lenovo RackSwitch G7052
Product Guide

The Lenovo RackSwitch G7052 is a low-cost, entry-level Layer 2 1/10 Gb Ethernet switch that is designed for the data center. Data center customers continue to deploy applications by using 1 GbE networking switches while 10 GbE continues to grow upstream in the network as clients require greater I/O bandwidth. The RackSwitch G7052 is an ideal solution for data center customers who need an economical 1 Gb and 10 Gb connectivity solution.

The RackSwitch G7052 (see the following figure) is a top-of-rack data center switch that delivers excellent non-blocking, wire speed performance at an attractive price point. It supports 48x 10/100/1000BASE-T RJ-45 ports and four 10 Gigabit Ethernet SFP+ ports standard, while typically using only 76 watts of power. The RackSwitch G7052 is also designed with rear-to-front airflow, which allows for flexible mounting of the switch in a rack cabinet and provides convenient cable management and significant savings in cooling costs.

Figure 1. Lenovo RackSwitch G7052

Did you know?

The RackSwitch G7052 is designed with performance in mind with latency at 3.3 microseconds.

The RackSwitch G7052 supports an optional external redundant power supply with the Lenovo RackSwitch G7000 Redundant Power Supply (RPS) option.

The RackSwitch G7052 is designed specifically for the data center environment with server-matching airflow, cost-effective Layer 2 switching, and ease of configuration management.

Networking Operating System software features deliver seamless, standards-based integration into existing upstream switches.

Key features

The RackSwitch G7052 switch is considered particularly suited for the following customers:

- Customers who want to use GbE in their infrastructure (servers and networking)
- Customers who are implementing a virtualized environment and require multiple GbE ports
- Customers who require investment protection for 10 GbE ports
- Customers who want to reduce total cost of ownership (TCO) and improve performance while maintaining high levels of availability and security
- Customers who want to avoid or minimize oversubscription, which can result in congestion and loss of performance
- Customers who want to implement a converged infrastructure with NAS or iSCSI

The switch offers the following key features and benefits:

- Increases network performance
  The RackSwitch G7052 provides up to 176 Gbps of switching throughput, supports four SFP+ 10 Gb uplink ports, and has a port to port latency of 3.3 microseconds.
- Lower power and exceptional cooling
  The RackSwitch G7052 typically uses only 76 W of power. Unlike side-cooled switches, which can cause heat recirculation and reliability concerns, the RackSwitch G7052 switch's rear-to-front cooling design reduces data center air conditioning costs by matching airflow to the server’s configuration in the rack.
- Fault tolerance
  These switches learn alternative paths automatically and perform faster convergence if there is a link, switch, or power failure. The switch uses technologies, such as Virtual Link Aggregation, L2 trunk failover, and Hot Links.
- Seamless interoperability
  RackSwitch switches interoperate seamlessly with other vendors' upstream switches.

The RackSwitch G7052 supports an optional external redundant power supply with the Lenovo RackSwitch G7000 Redundant Power Supply (RPS) option that is shown in the following figure.

Figure 2. Lenovo RackSwitch G7000 Redundant Power Supply

The G7000 RPS option has the following features:

- Form factor: 1U rack mount
- Power connections: Four DC connections in the rear of the rack to connect to the G7028 and G7052 switches; one AC inlet connector to connect to the power source (rack PDU or wall connector)
- Airflow: Rear-to-front cooling
- Power: Approximately 55 - 276 W, which varies depending upon operating conditions and number and types of switches connected
- Rack installation: Generic rack-mount kit (2-post); optional flexible 4-post mounting option for the server rack and the communications rack
- LEDs: System LEDs to indicate status

Components and connectors

The front panel of the RackSwitch G7052 is shown in the following figure.

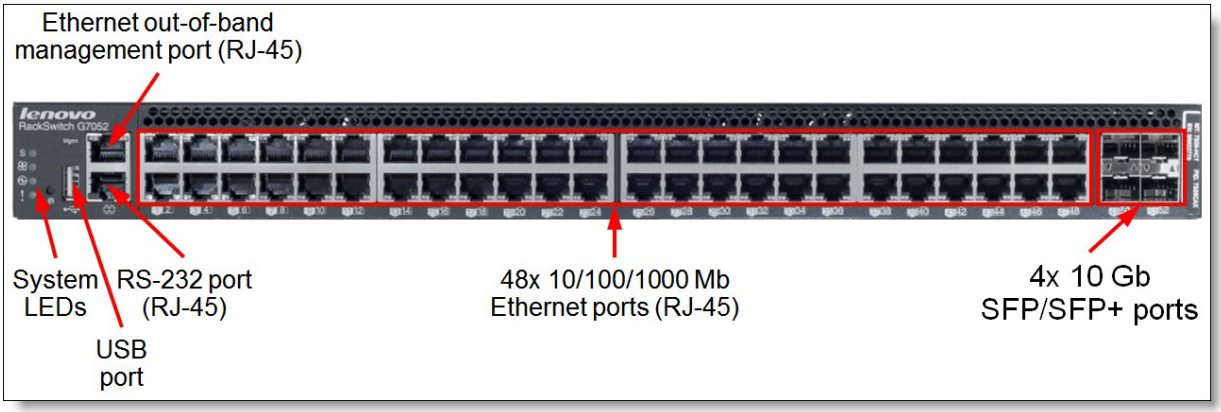

Figure 3. Front panel of the RackSwitch G7052

The front panel of the G7052 features the following components:

- LEDs that display the status of the switch module and the network.
- One RJ-45 RS-232 console port that provides another means to configure the switch module.
- A total of 48 1000BASE-T Ethernet ports for 10/100/1000 Mbps connections.
- Four SFP+ ports to attach SFP/SFP+ transceivers for 1 Gb or 10 Gb connections or DAC cables for 10 Gb Ethernet connections.
- One RJ-45 10/100/1000 Mb Ethernet port for out-of-band management.

The rear panel of the RackSwitch G7052 is shown in the following figure.

Figure 4. Rear panel of the RackSwitch G7052

The rear panel of the G7052 features the following components:

- One AC power connector (C14)
- Three fans with N+1 redundancy
- One DC power connector for power supply redundancy

The rear panel of the RackSwitch G7000 RPS option is shown in the following figure.

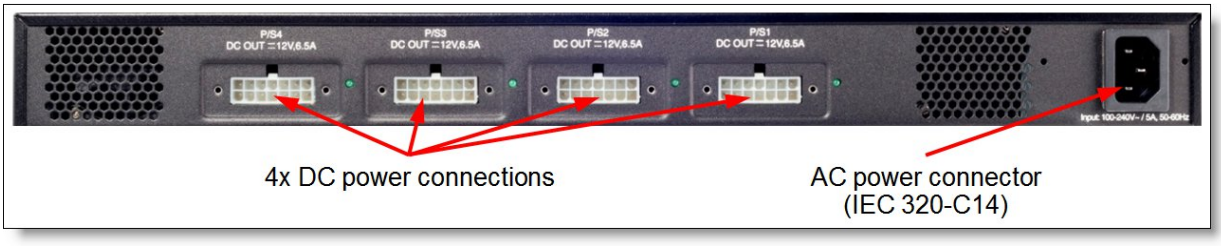

Figure 5. Rear panel of the RackSwitch G7000 RPS option

The rear panel of the G7000 RPS option features the following components:

- One AC power connector (C14)
- Four DC power connectors

System specifications

The following table lists the RackSwitch G7052 system specifications.

Table 1. System specifications

Component	Specification
Form factor	1U rack mount
Ports	• 48x Gigabit Ethernet (GbE) RJ-45 fixed ports • 4x SFP/SFP+ ports
SFP/SFP+ media types	10 Gb Ethernet SFP+: • 10 GbE short-range (SR) SFP+ transceivers • 10 GbE long-range (LR) SFP+ transceivers • 10 GbE SFP+ direct attach copper (DAC) cables 1/10 Gb Ethernet SFP+: • 1/10 GbE SX/SR SFP+ transceivers 1 Gb Ethernet SFP: • 1 GbE short-wavelength (SX) SFP transceivers • 1 GbE long-wavelength (LX) SFP transceivers • 1 GbE RJ-45 SFP transceivers
Port speeds	• 1 GbE RJ-45 fixed ports: 10/100/1000 Mbps autosensing • 10 GbE SFP+ transceivers: 10 Gbps • 1/10 GbE SFP+ transceivers: 1 Gbps or 10 Gbps • 1 GbE SFP transceivers: 1 Gbps
Data traffic types	Unicast, multicast, broadcast.
Software features	Lenovo Networking OS: Layer 2 switching, virtual local area networks (VLANs), VLAN tagging, spanning tree protocol (STP), link aggregation (trunk) groups (LAGs), virtual LAGs (vLAGs), Hot Links, Layer 2 failover, quality of service (QoS), IPv4/IPv6 management.
Performance	Non-blocking architecture with wire-speed forwarding of traffic: • Up to 176 Gbps aggregated throughput • As low as 3.3 microseconds switching latency • Up to 131 Million packets per second (Mpps) • Up to 12,288-byte jumbo frames
Scalability	• MAC address forwarding database entries: 8,000 • VLANs: 4,095 (512 active VLANs) • Per VLAN Rapid Spanning Tree (PVRST) instances: 128 • Multiple STP (MSTP) instances: 32 • Link aggregation groups: 16 • Ports in a link aggregation group: 8
Cooling	Three 2+1 redundant fixed fans. Rear (non-port side) to front (port side) airflow.
Power supply	One fixed 90 W AC (100 - 240 V) power supply (IEC 320-C14 connector). Optional external power supply unit (PSU) is available for redundancy (one PSU with 4x 90 W DC output for up to four G7028 or G7052 switches).
Hot-swap parts	SFP/SFP+ transceivers, SFP+ DAC cables.

Component	Specification
Management ports	1x 10/100/1000 Mb Ethernet port (RJ-45); 1x RS-232 port (RJ-45); 1x USB port (for additional firmware, log, and configuration files storage).
Management interfaces	Industry standard command line interface (isCLI); SNMP v1 and v3. Optional Lenovo XClarity for discovery, inventory, monitoring and events.
Security features	Secure Shell (SSH); Secure Copy (SCP); user level security, Role-based Access Control (RBAC); LDAP, RADIUS, and TACACS+ authentication; access control lists (ACLs); port-based network access control (IEEE 802.1x).
Hardware warranty	Three-year customer-replaceable unit and onsite limited warranty with 9x5 next business day terms. Optional warranty service upgrades are available through Lenovo: 24x7 coverage, 2-hour or 4-hour response time, 1-year or 2-year warranty extensions, 1-year or 3-year Remote Technical Support (RTS).
Software maintenance	Three-year software support and subscription is included in the base warranty. Optional 1-year and 2-year warranty extensions include software support and subscription.
Mean Time Between Failures	204,577 hours with ambient operating temperature of 40° C
Dimensions	Height: 44 mm (1.7 in.); width: 439 mm (17.3 in.); depth: 382 mm (15.0 in.)
Weight	6.1 kg (13.5 lb).

Models

The following table lists the G7052 switch models.

Table 2. G7052 switch models

Description	Part number	Machine Type-Model	Feature code
Lenovo RackSwitch G7052 (Rear to Front)	7159CAX	7159-HCT	AT0A

The part number for the G7052 switch includes the following items:

- One Lenovo RackSwitch G7052
- Generic Rack Mount Kit (2-post)
- Power Cord Retention Clip
- Console Cable Kit:
  - RJ-45 (plug) to RJ-45 (plug) cable (1 m)
  - Mini-USB to RJ-45 (jack) cable (0.2 m)
  - DB-9 to RJ-45 (jack) adapter
- Warranty Flyer
- Important Notices Flyer
- Documentation CD-ROM

Configuration notes:

- Power cables are not included and must be ordered together with the switch (see "Power supplies and cables" for details).
- SFP/SFP+ transceivers and cables are not included and should be ordered together with the switch, if required (see "Transceivers and cables" for details).

Transceivers and cables

With the flexibility of the G7052 switch, customers can choose the following connectivity technologies:

- For 1 GbE links, customers can use RJ-45 UTP cables up to 100 meters. Customers that need longer distances can use the 1000BASE-SX transceivers in the SFP/SFP+ ports, which can drive distances up to 220 meters with 62.5 µ multi-mode fiber (OM1) and up to 550 meters with 50 µ multi-mode fiber (OM2), or the 1000BASE-LX transceivers that support distances up to 10 kilometers with single-mode fiber (1310 nm).
- For 10 GbE links (supported on SFP+ ports), customers can use direct-attached copper (DAC) SFP+ cables for in-rack cabling for distances up to 7 meters. These DAC cables have SFP+ connectors on each end, and they do not need separate transceivers.

  For longer distances, the 10GBASE-SR transceiver can support distances up to 300 meters over OM3 multimode fiber or up to 400 meters over OM4 multimode fiber. The 10GBASE-LR transceivers can support distances up to 10 kilometers on single mode fiber.

The supported SFP/SFP+ and DAC cable options are listed in the following table.

Table 3. Supported SFP/SFP+ transceivers and DAC cables

Description	Part number	Feature code	Maximum quantity supported
SFP transceivers - 1 GbE			
Lenovo 1000BASE-T (RJ-45) SFP Transceiver (no 10/100 Mbps support)	00FE333	A5DL	4
Lenovo 1000BASE-SX SFP Transceiver	81Y1622	3269	4
Lenovo 1000BASE-LX SFP Transceiver	90Y9424	A1PN	4
SFP+ transceivers - 10 GbE			
Lenovo Dual Rate 1/10Gb SX/SR SFP+ Transceiver	00MY034	ATTJ	4
Lenovo 10GBASE-SR SFP+ Transceiver	46C3447	5053	4
Lenovo 10GBASE-LR SFP+ Transceiver	90Y9412	A1PM	4
Optical cables for 1 GbE SFP SX and 10 GbE SFP+ SR transceivers			
Lenovo 0.5m LC-LC OM3 MMF Cable	00MN499	ASR5	4
Lenovo 1m LC-LC OM3 MMF Cable	00MN502	ASR6	4
Lenovo 3m LC-LC OM3 MMF Cable	00MN505	ASR7	4
Lenovo 5m LC-LC OM3 MMF Cable	00MN508	ASR8	4
Lenovo 10m LC-LC OM3 MMF Cable	00MN511	ASR9	4
Lenovo 15m LC-LC OM3 MMF Cable	00MN514	ASRA	4
Lenovo 25m LC-LC OM3 MMF Cable	00MN517	ASRB	4
Lenovo 30m LC-LC OM3 MMF Cable	00MN520	ASRC	4
SFP+ passive direct-attach cables - 10 GbE			
Lenovo 0.5m Passive SFP+ DAC Cable	00D6288	A3RG	4
Lenovo 1m Passive SFP+ DAC Cable	90Y9427	A1PH	4
Lenovo 1.5m Passive SFP+ DAC Cable	00AY764	A51N	4
Lenovo 2m Passive SFP+ DAC Cable	00AY765	A51P	4
Lenovo 3m Passive SFP+ DAC Cable	90Y9430	A1PJ	4
Lenovo 5m Passive SFP+ DAC Cable	90Y9433	A1PK	4
Lenovo 7m Passive SFP+ DAC Cable	00D6151	A3RH	4

Description	Part number	Feature code	Maximum quantity supported
SFP+ active direct-attach cables - 10 GbE			
Lenovo 1m Active DAC SFP+ Cable	00VX111	AT2R	4
Lenovo 3m Active DAC SFP+ Cable	00VX114	AT2S	4
Lenovo 5m Active DAC SFP+ Cable	00VX117	AT2T	4
Spare console cables			
Console Cable Kit Spare (RJ45/DB9)	90Y9462	A2MG	1

The network cables that can be used with the switch are listed in the following table.

Table 4. G7052 network cabling requirements

Transceiver	Standard	Cable	Connector
10 Gb Ethernet			
10Gb SR SFP+ (46C3447) 1/10Gb SFP+ (00MY034)	10GBASE-SR	Up to 30 m with fiber optic cables supplied by Lenovo (see Table 3); up to 300 m with OM3 multimode fiber or up to 400 m with OM4 multimode fiber	LC
10Gb LR SFP+ (90Y9412)	10GBASE-LR	1310 nm single-mode fiber cable up to 10 km	LC
Direct attach cable	10GSFP+Cu	SFP+ DAC cables up to 7 m (see Table 3)	SFP+
1 Gb Ethernet			
RJ-45 ports (fixed)	1000BASE-T	UTP Category 5, 5E, and 6 up to 100 meters	RJ-45
1Gb RJ-45 SFP (00FE333)	1000BASE-T	UTP Category 5, 5E, and 6 up to 100 meters	RJ-45
1Gb SX SFP (81Y1622) 1/10Gb SFP+ (00MY034)	1000BASE-SX	Up to 30 m with fiber optic cables supplied by Lenovo (see Table 3); 850 nm multimode fiber cable 50 µ (OM2) up to 550 m or 62.5 µ (OM1) up to 220 m	LC
1Gb LX SFP (90Y9424)	1000BASE-LX	1310 nm single-mode fiber cable up to 10 km	LC
Management ports			
Ethernet management port	1000BASE-T	UTP Category 5, 5E, and 6 up to 100 meters	RJ-45
RS-232 serial console port	RS-232	DB-9/RJ-45-to-RJ-45 (comes with the switch)	RJ-45

Software features

The G7052 switch has the following software features:

- Scalability and performance:
  - Media access control (MAC) address learning with automatic updates
  - Static and LACP (IEEE 802.3ad) link aggregation (trunks)
  - Broadcast/multicast storm control
  - IGMP snooping for limit flooding of IP multicast traffic
  - IGMP filtering to control multicast traffic for hosts participating in multicast groups
  - Configurable traffic distribution schemes over trunk links that are based on source or destination IP or MAC addresses, or both
  - Fast port forwarding for rapid STP convergence

- Availability and redundancy:
  - IEEE 802.1D STP for providing L2 redundancy
  - IEEE 802.1s Multiple STP (MSTP) for topology optimization
  - IEEE 802.1w Rapid STP (RSTP) (provides rapid STP convergence for critical delay-sensitive traffic, such as voice or video)
  - Per-VLAN Rapid STP (PVRST) enhancements
  - Layer 2 Trunk Failover to support active/standby configurations of NIC teaming on servers
  - Hot Links provides basic link redundancy with fast recovery for network topologies that require Spanning Tree to be turned off
- VLAN support:
  - Port-based and protocol-based VLANs
  - Up to 4095 VLANs supported per switch (512 active VLANs), with VLAN numbers 1 - 4095 (4095 is used for management connection only)
  - 802.1Q VLAN tagging support on all ports
  - 802.1x with Dynamic VLAN assignment
  - Full private VLANs
- Virtualization: Virtual Link Aggregation support
- Security:
  - VLAN-based, MAC-based, and IP-based access control lists (ACLs)
  - 802.1x port-based authentication
  - Multiple user IDs and passwords
  - User access control
  - Radius, TACACS+, and LDAP authentication and authorization
- Quality of Service (QoS):
  - Support for IEEE 802.1p, IP ToS/DSCP, and ACL-based (MAC/IP source and destination addresses, VLANs) traffic classification and processing
  - Traffic shaping and re-marking based on defined policies
  - Eight priority queues per port for processing qualified traffic
  - Weighted random early detection with explicit congestion notification (WRED/ECN)
  - CPU priority policies (CoPP)
  - IPv4/IPv6 ACL metering
- IP v4 Layer 3 functions:
  - Host management
  - IP filtering with ACLs; up to 512 ACLs supported
  - Support for DHCP client
  - Support for IGMP snooping and IGMP relay
- IP v6 Layer 3 functions:
  - IPv6 host management
  - IPv6 filtering with ACLs
- Manageability:
  - Industry-standard CLI (isCLI)
  - Simple Network Management Protocol (SNMP V1 and V3)
  - HTTP/HTTPS browser GUI
  - Telnet interface for CLI
  - SSH and SSH v2
  - Serial interface for CLI
  - Firmware image update (TFTP, FTP, or USB storage)
  - Lenovo XClarity (optional; sold separately) for discovery, inventory, monitoring and events

- Monitoring:
    - Switch LEDs for port status and switch module status indication
    - Remote Monitoring (RMON) agent to collect statistics and proactively monitor switch performance
    - Port mirroring for analyzing network traffic passing through the switch
    - Change tracking and remote logging with the syslog feature

Ethernet standards

The G7052 switch supports the following IEEE standards:

- IEEE 802.1D Spanning Tree Protocol (STP)
- IEEE 802.1s Multiple STP (MSTP)
- IEEE 802.1w Rapid STP (RSTP)
- IEEE 802.1p Class of Service (CoS) prioritization
- IEEE 802.1Q Tagged VLAN (frame tagging on all ports when VLANs are enabled)
- IEEE 802.1x port-based authentication
- IEEE 802.3 10BASE-T Ethernet
- IEEE 802.3u 100BASE-TX Fast Ethernet
- IEEE 802.3ab 1000BASE-T copper twisted-pair Gigabit Ethernet
- IEEE 802.3z 1000BASE-SX short range fiber optics Gigabit Ethernet
- IEEE 802.3z 1000BASE-LX long range fiber optics Gigabit Ethernet
- IEEE 802.3ad Link Aggregation Control Protocol
- IEEE 802.3x Full-duplex Flow Control
- IEEE 802.3ae 10GBASE-SR short range fiber optics 10 Gb Ethernet
- IEEE 802.3ae 10GBASE-LR long range fiber optics 10 Gb Ethernet
- 10GSFP+Cu SFP+ Direct Attach copper

Power supplies and cables

The RackSwitch G7052 has one fixed 90 W AC (100 - 240 V) power supply with an IEC 320-C14 connector.

Lenovo offers the optional Lenovo RackSwitch G7000 Redundant Power Supply for those customers who require redundant power. The optional power supply can support up to four Lenovo RackSwitch G7028 or G7052 switches.

The part numbers to order the G7000 Redundant Power Supply (RPS) and additional DC cables are listed in the following table.

Table 5. G7000 RPS and DC cable options

Description	Part number	Feature code
Lenovo RackSwitch G7000 Redundant Power Supply	00AY123	A4BZ
Lenovo RackSwitch G7000 1.8m DC to DC RPS Power Cable	00AY121	A4C0

The part number for the G7000 Redundant Power Supply (00AY123) includes the following items:

- One Lenovo RackSwitch G7000 Redundant Power Supply (rear-to-front airflow)
- Two 1.8 m DC to DC power cables
- Generic Rack Mount Kit (2-post)
- Power Cord Retention Kit
- Warranty Flyer
- Important Notices Flyer
- Documentation CD-ROM

The G7000 RPS option comes standard with two 1.8 m DC to DC power cables. More DC-to-DC power cables (part number 00AY121; each part number contains one cable) can be ordered, if needed.

The G7052 switch and G7000 RPS option ship standard without any AC power cables. The part numbers and feature codes to order the AC power cables are listed in the following table.

Table 6. AC power cable options

Description	Part number	Feature code
Rack power cables		
1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	39Y7937	6201
1.8m, 10A/100-250V, 2xC13PM to IEC 320-C14 Rack Power Cable	None*	6568
2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	None*	6311
2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable	39Y7938	6204
4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	39Y7932	6263
Country-specific line cords		
Argentina 10A/250V C13 to IRAM 2073 2.8m line cord	39Y7930	6222
Australia/NZ 10A/250V C13 to AS/NZ 3112 2.8m line cord	39Y7924	6211
Brazil 10A/125V C13 to NBR 6147 2.8m line cord	39Y7929	6223
China 10A/250V C13 to GB 2099.1 2.8m line cord	39Y7928	6210
Denmark 10A/250V C13 to DK2-5a 2.8m line cord	39Y7918	6213
European 10A/230V C13 to CEE7-VII 2.8m line cord	39Y7917	6212
India 10A/250V C13 to IS 6538 2.8m line cord	39Y7927	6269
Israel 10A/250V C13 to SI 32 2.8m line cord	39Y7920	6218
Italy 10A/250V C13 to CEI 23-16 2.8m line cord	39Y7921	6217
Japan 12A/125V C13 to JIS C-8303 2.8m line cord	46M2593	A1RE
Korea 12A/250V C13 to KETI 2.8m line cord	39Y7925	6219
South Africa 10A/250V C13 to SABS 164 2.8m line cord	39Y7922	6214
Switzerland 10A/250V C13 to SEV 1011-S24507 2.8m line cord	39Y7919	6216
Taiwan 10A/250V C13 to CNS 10917-3 2.8m line cord	00CG265	A53E
Taiwan 15A/125V C13 to CNS 10917-3 2.8m line cord	00CG267	A53F
United Kingdom 10A/250V C13 to BS 1363/A 2.8m line cord	39Y7923	6215
United States 10A/125V C13 to NEMA 5-15P 4.3m line cord	39Y7931	6207
United States 10A/250V C13 to NEMA 6-15P 2.8m line cord	46M2592	A1RF

* Available for factory-built custom configurations and solutions only.

Rack installation

The G7052 switch and G7000 RPS option include a 2-post rack mount kit.

For 4-post rack installations, the G7052 switch and G7000 RPS support the optional adjustable 19-inch, 4-post rail kit and the air inlet duct (optional for the 4-post rail kit) that are listed in the following table.

Table 7. Rack installation options

Description	Part number	Feature code
Lenovo RackSwitch Adjustable 19-inch 4 Post Rail Kit	00D6185	A3KP
Air Inlet Duct for 382 mm RackSwitch	00D6062	A3HG

Physical specifications

The G7052 switch features the following approximate dimensions and weight:

- Height: 44 mm (1.7 in.)
- Width: 440 mm (17.3 in.)
- Depth: 382 mm (15.0 in.)
- Weight: 6.1 kg (13.5 lb)

The G7000 RPS option features the following approximate dimensions and weight:

- Height: 44 mm (1.7 in.)
- Width: 440 mm (17.3 in.)
- Depth: 382 mm (15.0 in.)
- Weight: 5.4 kg (11.9 lb)

Operating environment

The G7052 switch is supported in the following operating environment:

- Temperature: 0 - 40 ºC.
- Relative humidity: Non-condensing, 10 - 90%
- Altitude: 2,000 m (6,561 feet)
- Acoustic noise: Less than 65 dB
- Input volt-amperes (VA)
    - Typical: 76 VA
    - Maximum: 85 VA
- Heat dissipation
    - Typical: 240 BTU/hour
    - Maximum: 270 BTU/hour

The G7000 RPS option is supported in the following operating environment:

- Temperature: 0 - 40 ºC.
- Relative humidity: Non-condensing, 10 - 90%
- Altitude: 2,000 m (6,561 feet)
- Acoustic noise: Less than 65 dB
- Input volt-amperes (VA)
    - Typical: 245 VA
    - Maximum: 413 VA
- Heat dissipation: 1,239 BTU/hour (maximum)

Warranty and maintenance

The RackSwitch G7052 comes with a limited 3-year hardware warranty with Next Business Day (NBD), 9x5, Customer Replaceable Unit (CRU) warranty service and includes a 3-year software license, which provides entitlement to upgrades over that period. The following optional warranty and maintenance upgrades are available for the RackSwitch G7052 through Lenovo service upgrade offerings:

- Warranty service upgrades (3, 4, or 5 years):
  - 24x7 onsite repair with 2-hour target response time
  - 24x7 onsite repair with 4-hour target response time
  - 9x5 onsite repair with 4-hour target response time
- Maintenance (post-warranty) service offerings (1 or 2 years):
  - 24x7 onsite repair with 2-hour target response time
  - 24x7 onsite repair with 4-hour target response time
  - 9x5 onsite repair with 4-hour target response time
  - 9x5 onsite repair with next business day target response time
- Remote Technical Support (RTS) services (1 or 3 years)
  RTS provides comprehensive technical call center support. RTS can reduce problem resolution time, which decreases the cost to address technical problems and increases uptime.

Lenovo service upgrade offerings are country-specific; that is, each country might have its own service types, service levels, response times, and terms and conditions. Not all covered types of Lenovo service upgrade offerings might be available in a particular country.

For more information about the Lenovo service upgrade offerings that are available in your country, see the Lenovo Services Product Selector at this website:
https://www-304.ibm.com/sales/gss/download/spst/servicepac

The options that are installed in the switch assume the switch's base warranty and any Lenovo warranty service upgrade for the switch.

Regulatory compliance

The switch conforms to the following regulations:

- Safety certifications:
  - UL60950-1
  - CAN/CSA 22.2 No.60950-1
  - TUV/GS to EN 60950-1
  - IEC60950-1, all country deviations
  - CNS 14336-1
  - Argentina Smark to IEC60950-1
  - GB4943.1-2011
  - EAC
  - NOM-019
- Electromagnetic compatibility certifications:
  - FCC 47CFR Part 15 Class A
  - EN 55022 Class A
  - ICES-003 Class A
  - VCCI Class A
  - AS/NZS CISPR 22 Class A
  - CISPR 22 Class A
  - EN 55024
  - KCC Class A
  - CE
- Environmental: Reduction of Hazardous Substances (ROHS) Directive 2011/65/EU

Network connectivity

The following table lists the network switches that are offered by Lenovo that can be used in RackSwitch G7052 network connectivity solutions.

Table 8. Network switches

Description	Part number
1 Gb Ethernet switches	
Lenovo RackSwitch G7028 (Rear to Front)	7159BAX
Lenovo RackSwitch G8052 (Rear to Front)	7159G52
10 Gb Ethernet switches	
Lenovo RackSwitch G8124E (Rear to Front)	7159BR6
Lenovo RackSwitch G8264 (Rear to Front)	7159G64
Lenovo RackSwitch G8272 (Rear to Front)	7159CRW
Lenovo RackSwitch G8296 (Rear to Front)	7159GR6
10 Gb Converged switches	
Lenovo RackSwitch G8264CS (Rear to Front)	7159DRX
40 Gb Ethernet switches	
Lenovo RackSwitch G8332 (Rear to Front)	7159BRX

For more information, see the list of Product Guides in the Top-of-rack Switches category:
http://lenovopress.com/servers/options/switches

Storage connectivity

The RackSwitch G7052 can be used for external NAS and iSCSI SAN storage connectivity.

NAS storage connectivity

The following external NAS storage systems are offered by Lenovo and support 1 Gb and 10 Gb Ethernet that can be used in RackSwitch G7052 NAS storage connectivity solutions:

- Lenovo Storage N3310
- Lenovo Storage N4610

For more information, see the list of Product Guides in the Network-Attached Storage category: http://lenovopress.com/storage/nas

iSCSI storage connectivity

The following table lists the external SAN storage systems that are offered by Lenovo and support 1 Gb and 10 Gb iSCSI that can be used in RackSwitch G7052 iSCSI storage connectivity solutions.

Table 9. External storage systems

Description	Part number
Lenovo Storage S2200	
Lenovo Storage S2200 LFF Chassis FC/iSCSI Single Controller, Rack Kit, 9x5NBD	64114B1
Lenovo Storage S2200 LFF Chassis FC/iSCSI Dual Controller, Rack Kit, 9x5NBD	64114B2
Lenovo Storage S2200 SFF Chassis FC/iSCSI Single Controller, Rack Kit, 9x5NBD	64114B3
Lenovo Storage S2200 SFF Chassis FC/iSCSI Dual Controller, Rack Kit, 9x5NBD	64114B4
Lenovo Storage S3200	
Lenovo Storage S3200 LFF Chassis FC/iSCSI Single Controller, Rack Kit, 9x5NBD	64116B1
Lenovo Storage S3200 LFF Chassis FC/iSCSI Dual Controller, Rack Kit, 9x5NBD	64116B2
Lenovo Storage S3200 SFF Chassis FC/iSCSI Single Controller, Rack Kit, 9x5NBD	64116B3
Lenovo Storage S3200 SFF Chassis FC/iSCSI Dual Controller, Rack Kit, 9x5NBD	64116B4
IBM Storwize	
IBM Storwize V3500 3.5-inch Dual Control Storage Controller Unit	6096CU2
IBM Storwize V3500 2.5-inch Dual Control Storage Controller Unit	6096CU3
IBM Storwize V3700 3.5-inch Storage Controller Unit	6099L2C
IBM Storwize V3700 2.5-inch Storage Controller Unit	6099S2C
IBM Storwize V3700 2.5-inch DC Storage Controller Unit	6099T2C
IBM Storwize V5000 LFF Control Enclosure	6194L2C
IBM Storwize V5000 SFF Control Enclosure	6194S2C
IBM Storwize V7000 2.5-inch Storage Controller Unit	6195SC5

For more information, see the list of Product Guides in the following categories:

- Lenovo Storage
  https://lenovopress.com/storage/san/lenovo
- IBM Storage
  https://lenovopress.com/storage/san/ibm

Rack cabinets

The following table lists the rack cabinets that are offered by Lenovo that can be used in RackSwitch G7052 solutions.

Table 10. Rack cabinets

Description	Part number
11U Rack Office Enablement Kit	201886X
25U S2 Standard Rack	93072RX
25U Static S2 Standard Rack	93072PX
42U S2 Standard Rack	93074RX
42U 1100mm Enterprise V2 Dynamic Rack	93634PX
42U 1100mm Enterprise V2 Dynamic Expansion Rack	93634EX
42U 1200mm Deep Dynamic Rack	93604PX
42U 1200mm Deep Static Rack	93614PX
42U Enterprise Rack	93084PX
42U Enterprise Expansion Rack	93084EX

For more information, see the list of Product Guides in the Rack cabinets category:
http://lenovopress.com/servers/options/racks

Power distribution units

The following table lists the power distribution units (PDUs) that are offered by Lenovo that can be used in RackSwitch G7052 solutions.

Table 11. Power distribution units

Description	Part number
0U Basic PDUs	
0U 24 C13 16A 3 Phase PDU with IEC 309 P+N+Gnd line cord	46M4122
0U 24 C13 30A 3 Phase PDU with NEMA L21-30P line cord	46M4125
0U 24 C13 30A PDU with NEMA L6-30P line cord	46M4128
0U 24 C13 32A PDU with IEC 309 P+N+Gnd line cord	46M4131
0U 12 C19/12 C13 32A 3 Phase PDU with IEC 309 3P+N+Gnd line cord	46M4143
0U 12 C19/12 C13 60A 3 Phase PDU with CS8365L 3P+Gnd line cord	46M4140
Switched and Monitored PDUs	
1U 9 C19/3 C13 Switched and Monitored DPI PDU (without line cord)	46M4002
1U 9 C19/3 C13 Switched and Monitored 60A 3Ph PDU with IEC 309 3P+Gnd cord	46M4003
1U 12 C13 Switched and Monitored DPI PDU (without line cord)	46M4004
1U 12 C13 Switched and Monitored 60A 3 Phase PDU with IEC 309 3P+Gnd line cord	46M4005
0U 24 C13 Switched and Monitored 30A PDU with NEMA L6-30P line cord	46M4116
0U 24 C13 Switched and Monitored 32A PDU with IEC 309 P+N+Gnd line cord	46M4119
0U 12 C19/12 C13 Switched and Monitored 32A 3Ph PDU with IEC 309 3P+N+G cord	46M4137
0U 12 C19/12 C13 Switched and Monitored 50A 3Ph PDU with CS8365L 3P+Gnd cord	46M4134

Description	Part number
Ultra Density Enterprise PDUs (9x IEC 320 C13 + 3x IEC 320 C19 outlets)	
Ultra Density Enterprise C19/C13 PDU Module (without line cord)	71762NX
Ultra Density Enterprise C19/C13 PDU 60A/208V/3ph with IEC 309 3P+Gnd line cord	71763NU
C13 Enterprise PDUs (12x IEC 320 C13 outlets)	
DPI C13 Enterprise PDU+ (without line cord)	39M2816
DPI Single Phase C13 Enterprise PDU (without line cord)	39Y8941
C19 Enterprise PDUs (6x IEC 320 C19 outlets)	
DPI Single Phase C19 Enterprise PDU (without line cord)	39Y8948
DPI 60A 3 Phase C19 Enterprise PDU with IEC 309 3P+G (208 V) fixed line cord	39Y8923
Front-end PDUs (3x IEC 320 C19 outlets)	
DPI 30amp/125V Front-end PDU with NEMA L5-30P line cord	39Y8938
DPI 30amp/250V Front-end PDU with NEMA L6-30P line cord	39Y8939
DPI 32amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8934
DPI 60amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8940
DPI 63amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8935
Universal PDUs (7x IEC 320 C13 outlets)	
DPI Universal 7 C13 PDU (with 2 m IEC 320-C19 to C20 rack power cord)	00YE443
DPI Universal Rack PDU with US LV and HV line cords	39Y8951
DPI Universal Rack PDU with CEE7-VII Europe line cord	39Y8952
DPI Universal Rack PDU with Denmark line cord	39Y8953
DPI Universal Rack PDU with Israel line cord	39Y8954
DPI Universal Rack PDU with Italy line cord	39Y8955
DPI Universal Rack PDU with South Africa line cord	39Y8956
DPI Universal Rack PDU with UK line cord	39Y8957
DPI Universal Rack PDU with AS/NZ line cord	39Y8958
DPI Universal Rack PDU with China line cord	39Y8959
DPI Universal Rack PDU (Argentina)	39Y8962
DPI Universal Rack PDU (Brazil)	39Y8960
DPI Universal Rack PDU (India)	39Y8961
NEMA PDUs (6x NEMA 5-15R outlets)	
DPI 100-127V PDU with Fixed NEMA L5-15P line cord	39Y8905
Line cords for PDUs that ship without a line cord	
DPI 32a Line Cord (IEC 309 3P+N+G)	40K9611
DPI 32a Line Cord (IEC 309 P+N+G)	40K9612
DPI 63a Cord (IEC 309 P+N+G)	40K9613
DPI 30a Line Cord (NEMA L6-30P)	40K9614
DPI 60a Cord (IEC 309 2P+G)	40K9615
DPI Australian/NZ 3112 Line Cord	40K9617

For more information, see the list of Product Guides in the Power Distribution Units category:
http://lenovopress.com/servers/options/pdu

Uninterruptible power supply units

The following table lists the uninterruptible power supply (UPS) units that are offered by Lenovo that can be used in RackSwitch G7052 solutions.

Table 12. Uninterruptible power supply units

Description	Part number
RT1.5kVA 2U Rack or Tower UPS (100-125VAC)	55941AX
RT1.5kVA 2U Rack or Tower UPS (200-240VAC)	55941KX
RT2.2kVA 2U Rack or Tower UPS (100-125VAC)	55942AX
RT2.2kVA 2U Rack or Tower UPS (200-240VAC)	55942KX
RT3kVA 2U Rack or Tower UPS (100-125VAC)	55943AX
RT3kVA 2U Rack or Tower UPS (200-240VAC)	55943KX
RT5kVA 3U Rack or Tower UPS (200-240VAC)	55945KX
RT6kVA 3U Rack or Tower UPS (200-240VAC)	55946KX
RT8kVA 6U Rack or Tower UPS (200-240VAC)	55948KX
RT11kVA 6U Rack or Tower UPS (200-240VAC)	55949KX
RT8kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC)	55948PX
RT11kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC)	55949PX

For more information, see the list of Product Guides in the Uninterruptible Power Supply Units category: http://lenovopress.com/servers/options/ups

Lenovo Financial Services

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Related publications and links

For more information about the RackSwitch G7052, see the following publications that are available at the RackSwitch G7028/G7052 InfoCenter:
http://publib.boulder.ibm.com/infocenter/systemx/documentation/topic/com.lenovo.rackswitch.g7052.doc/rs_g7052.html

- *RackSwitch G7052 Installation Guide*
- *RackSwitch G7028/G7052 Application Guide*
- *RackSwitch G7028/G7052 Industry Standard CLI Command Reference*

Related product families

Product families related to this document are the following:

- 1 Gb Ethernet Switches
- Top-of-Rack Switches

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