INTEGRATED SOLUTIONS











Tripp Lite Integrated Solutions

Maximize the availability, manageability and efficiency of your IT equipment with reliable and cost-effective infrastructure solutions from a dependable partner.

- Provide reliable, efficient power with battery backup.
- Cool, organize, secure and connect critical systems.
- Manage power and equipment from any location.



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We Tailor Solutions to Fit Your Unique Requirements

Wherever you need to maximize availability, simplify management, optimize efficiency or reduce costs, Tripp Lite will help you get the job done. Tripp Lite manufactures over 2,500 IT infrastructure products, including UPS systems, racks, cooling, PDUs, KVM switches, remote management tools, cables and surge protectors, with many options for product customization. With such a wide selection to choose from, Tripp Lite can provide you with complete solutions for applications ranging from desktop to data center.

Tripp Lite has a reputation for making reliable products, but what most separates us from other top-tier manufacturers is our close relationship with our customers. As Tripp Lite has grown into a company with the global presence and resources to assist you with any challenge, we've held fast to our commitment to personalized service. When you choose us, we work hard to make you feel like you're our most important customer.

Through our free **Solution Integration Service**⁵⁶, our project engineers will help you build an open, vendor-neutral solution that's tailored to meet your unique requirements and designed to work with your existing systems. We'll listen to your concerns, assess your needs and provide practical advice to ensure that your project is a success. You'll benefit from the valuable insight of experienced colleagues who understand the challenges you face in the field every day.

INTEGRATED SOLUTION BENEFITS

Maximize Availability

 Avoid the high cost of downtime and lost productivity by supplying your equipment with conditioned power and reliable, scalable battery backup.

Simplify Management

 Monitor and control critical systems, power, cooling, infrastructure, environmental sensors, security and alarms from any location.

Optimize Efficiency

- Reduce energy use with high-efficiency UPS operation, including models with ENERGY STAR® qualification.
- Increase cooling efficiency with hot-aisle/cold-aisle configurations, hot air containment and close-coupled cooling.

Reduce Costs

- Upgrade infrastructure incrementally without scrapping your existing investments.
- Reduce operating costs with energy-efficient technology and right-sized equipment.
- Reduce service costs with simpler maintenance and more self-service options.



UPS SYSTEMS AND BATTERIES

EFFICIENT, RELIABLE POWER FROM DESKTOP TO DATA CENTER

- Provide conditioned power and expandable battery backup to protect and support a wide range of valuable equipment, from critical servers and network hardware to desktop computers and office equipment.
- Tripp Lite makes over 250 models of highly efficient on-line, line-interactive and standby UPS systems and external battery packs.
- Options include tower, low-profile or rackmount installation, LCD control panels, 3-phase input, high- and/or low-voltage output, remote management, pure sine wave output, data line protection, economy mode operation, hot-swappable power modules and built-in redundancy.



RACK AND COOLING SOLUTIONS

CONVENIENT, CONFIGURABLE SECURITY AND ORGANIZATION

- Quickly configure racks and cooling to maximize the performance, security and energy efficiency of servers and network hardware.
- Tripp Lite makes over 100 vendor-neutral, EIA-compliant rack enclosures, open frame racks, wall-mount cabinets, self-contained cooling solutions, cable managers and rack accessories.
- Tripp Lite solutions support data center best practices like close-coupled cooling and hot-aisle/cold-aisle configurations.





POWER DISTRIBUTION UNITS (PDUs)

NETWORK-GRADE POWER DISTRIBUTION

- Distribute power to servers and network equipment in high-density, high-availability environments.
- Tripp Lite makes over 120 basic, metered, monitored and switched rack PDUs in horizontal and vertical form factors, as well as 42U power distribution cabinets.
- Options include current monitoring, network interface, centralized management, automated alerts, remote outlet control, 3-phase input and automatic transfer switching.



LOCAL AND REMOTE DEVICE AND POWER MANAGEMENT

- Securely access hundreds of servers and other devices from any location through a single console (keyboard, mouse and monitor).
- Manage power, assets and infrastructure with remote management accessories and freely downloadable software tools.
- Tripp Lite makes over 50 models of KVM switches, rack consoles and IP console servers.
- KVM options include remote access (KVM over IP), built-in consoles with foldaway LCD monitors, support for multiple users and space-saving Cat5/UTP cabling.







CABLES AND CONNECTORS

DEPENDABLE NETWORK AND POWER CONNECTIONS

- Connect high-speed data networks and power outlets to switches, routers and servers in high-density environments.
- Tripp Lite makes hundreds of cables, adapters, extenders, splitters, switches and patch panels, all tested to meet or exceed the latest standards.
- Solutions include copper and fiber-optic network cables, display cables, over-Cat5 display extenders, high-speed storage cables, computer cables, audio/video cables and heavy-duty power cords.



SURGE PROTECTORS AND POWER STRIPS

CONVENIENT OUTLETS AND RELIABLE PROTECTION

- Add multiple outlets wherever you need them, with or without robust surge/noise protection for power and data lines.
- Tripp Lite makes nearly 200 models of surge protectors and power strips with up to 24 outlets per strip.
- High-quality components and rugged cases are built to last in demanding home, office, commercial and industrial applications.

CUSTOM PRODUCTS

RACKS, CABLES, PDUs AND UPS SYSTEMS BUILT TO YOUR SPECS

- With more than 2,500 products, Tripp Lite may already make exactly what you need, but we know that off-the-shelf products aren't always ideal for every application.
- Our in-house engineering team can deliver custom products quickly and efficiently, without delaying your project or breaking your budget.
- Contact us for custom products designed to match your technical specifications, cost requirements, facility, personnel and policies.



Data Center and MDF (Main Distribution Frame)

Typical Environment and Challenges

- 6 to 100+ rack enclosures hold servers, storage and network hardware. MDF racks organize network cabling.
- Supply reliable, efficient power and battery backup.
- Supplement perimeter cooling with close-coupled air conditioning to target hot spots.
- Organize high-density connections to high-speed networks.
- Centralize management of power, devices and infrastructure.
- Support enterprise security standards.
- Support hot-aisle/cold-aisle configurations.

RECOMMENDED TRIPP LITE SOLUTIONS

UPS SYSTEMS AND BATTERIES

- Rackmount Power: SmartOnline® and SmartPro® Single-Phase UPS Systems provide up to 20kVA of reliable, efficient power with expandable battery backup to keep equipment operating through blackouts and other power problems.
- Centralized Power: SmartOnline 3-Phase UPS Systems provide up 480kVA of reliable, efficient power with expandable battery backup and built-in N+1 redundancy to multiple racks.

RACK AND COOLING SOLUTIONS

- SmartRack® Enclosures come in 12U, 18U, 25U, 42U, 45U and 48U sizes, with a variety of depths, widths and custom options.
- SmartRack Thermal Duct Kits connect to SmartRack enclosures to isolate and remove hot air through an overhead duct to the HVAC/CRAC return air stream.
- **SmartRack Open Frame Racks** are available in 13U, 25U, 42U, 45U and 48U sizes, including 2-post, 4-post and heavy-duty models, with many custom options.
- **6 High-Capacity Cable Managers** organize and secure large quantities of network patch cables.
- **7** Cable Troughs and Cable Ladders route cables between racks and across aisles, separating power and data.
- **3 Row-Based Air Conditioning Units** provide up to 33,000 BTU (9.7 kW) of close-coupled cooling in a 42U rack form factor.

POWER DISTRIBUTION UNITS

- Network-Grade PDUs are available with or without current monitoring, remote monitoring/alerts, remote individual outlet control, automatic transfer switching and 3-phase input.
- Power Distribution Centers distribute single-phase and/or 3-phase power from 3-phase power sources to racks through add-on breakers and output cord sets (whips). They are available with or without a built-in bypass panel.

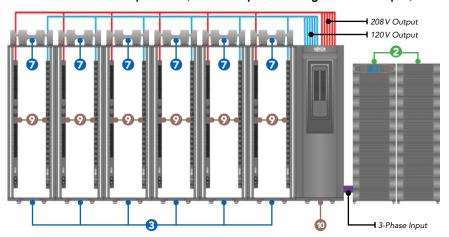
KVM, CONSOLE AND MANAGEMENT SOLUTIONS

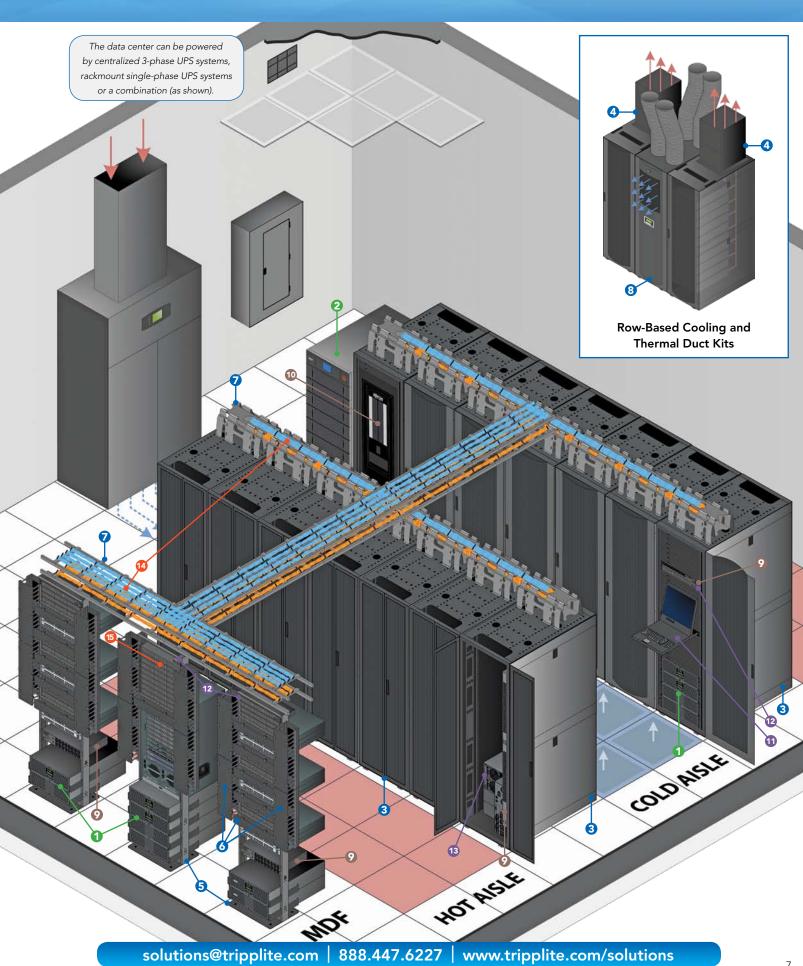
- (keyboard, mouse and monitor). Available features include
 IP remote access, Cat5 cabling, multiuser access and built-in
 LCD consoles that fold to store in 1U.
- **IP Console Servers** provide secure in-band and out-of-band remote access to serial- and network-connected devices.
- (3) UPS Network Management Cards enable standalone remote UPS monitoring and control via SNMP, Web, SSH or telnet, including centralized management via free PowerAlert® software. Connect optional environmental sensors to monitor temperature, humidity and dry contact devices.

CABLES AND CONNECTORS

- Network Cables (Copper and Fiber)
- Patch Panels (Copper and Fiber)

Centralized Backup Power (3-Phase Input and Single-Phase Output)





Server Room / Computer Room

Typical Environment and Challenges

- 1 to 6 rack enclosures hold servers, storage and network hardware.
- Supply reliable, efficient power and battery backup.
- Secure equipment and maximize system uptime.
- Supplement or replace facility HVAC with close-coupled cooling to target hot spots and increase efficiency.
- Organize rackmount equipment and high-density cabling.
- Simplify and centralize power and device management.
- Allow IT staff to manage equipment from any location to reduce labor and travel costs while improving uptime.
- Support enterprise security standards.
- Connect equipment to high-speed networks.

RECOMMENDED TRIPP LITE SOLUTIONS

UPS SYSTEMS AND BATTERIES

- Rackmount Power: SmartOnline and SmartPro Single-Phase UPS Systems provide up to 20 kVA of reliable, efficient power with expandable battery backup to keep equipment operating through blackouts and other power problems. Hot-swappable models prevent downtime during maintenance and repair by routing power connections through a detachable bypass PDU.
- Centralized Power: SmartOnline 3-Phase UPS Systems provide up 480 kVA of reliable, efficient power with expandable battery backup and built-in N+1 redundancy to multiple racks.

RACK AND COOLING SOLUTIONS

- 3 SmartRack Enclosures come in 12U, 18U, 25U, 42U, 45U and 48U sizes, with a variety of depths, widths and custom options.
- 4 SmartRack Thermal Duct Kits connect to SmartRack enclosures to isolate and remove hot air through an overhead duct to the HVAC/CRAC return air stream.
- **SmartRack Open Frame Racks** are available in 13U, 25U, 42U, 45U and 48U sizes, including 2-post, 4-post and heavy-duty models, with many custom options.
- 6 High-Capacity Cable Managers organize and secure large quantities of network patch cables.
- Cable Troughs and Cable Ladders route cables between racks and across aisles, separating power and data to limit electromagnetic interference.
- **3** Row-Based Air Conditioning Units provide up to 33,000 BTU (9.7 kW) of close-coupled cooling in a 42U rack form factor. They are completely self-contained and can be fully installed by IT staff. Precise cooling adjustments eliminate inrush spikes, save energy and reduce operating costs.
- Portable Air Conditioning Units provide up to 12,000 BTU (3.5kW) of close-coupled, plug-and-play cooling. They are completely self-contained, can be fully installed by IT staff and do not require special outlets, ductwork, water tanks or drains. They can cool a small room or focus cool air on an overheating rack or device through a flexible output duct. An optional network accessory enables remote management.

POWER DISTRIBUTION UNITS

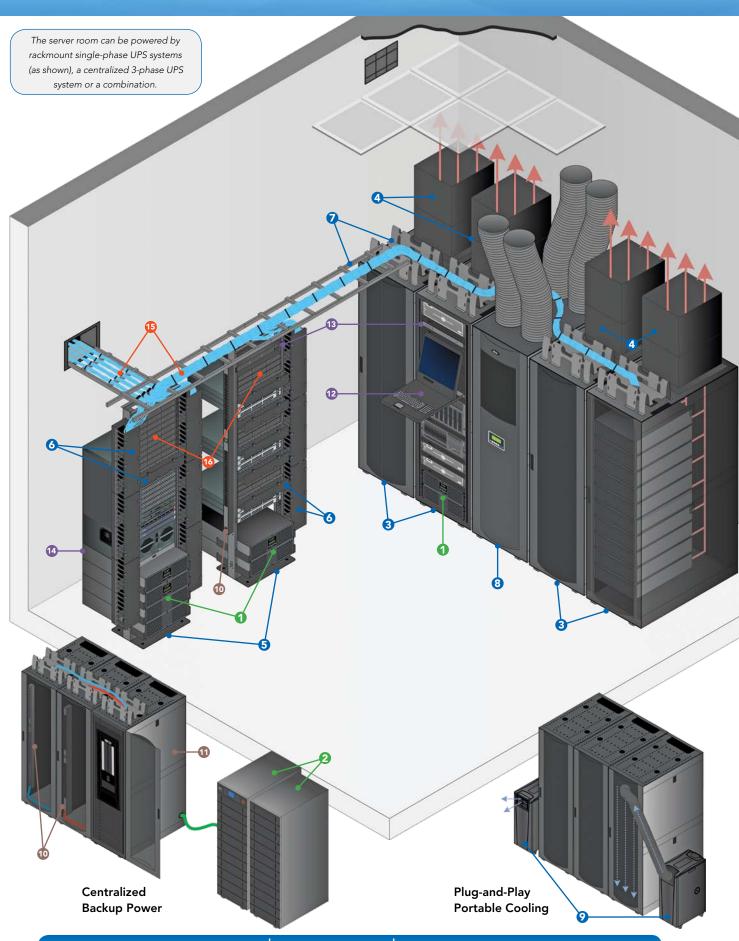
- •• Network-Grade PDUs provide reliable rack power distribution. They are available with or without current monitoring, remote monitoring/alerts, remote individual outlet control, automatic transfer switching and 3-phase input.
- Power Distribution Centers distribute single-phase and/or 3-phase power from 3-phase power sources to racks through add-on breakers and output cord sets (whips). They are available with or without a built-in bypass panel.

KVM, CONSOLE AND MANAGEMENT SOLUTIONS

- (keyboard, mouse and monitor). Available features include IP remote access, Cat5 cabling, multiuser access and built-in LCD consoles that fold to store in 1U.
- 13 IP Console Servers provide highly secure in-band (primary network) and out-of-band (fail-safe) remote access to serial-and network-connected devices, including servers, routers and network switches. Access diverse server and device platforms using a network or dial-up connection through SSH-encrypted tunnels with remote authentication, multi-level access rights management, detailed logging and compliant audit trails. Real-time alerts, service processor access and convenient management tools correct problems before they impair productivity. Compact models do not require rack space.
- UPS Network Management Cards enable standalone remote UPS monitoring and control via SNMP, Web, SSH or telnet, including centralized management via free PowerAlert software. Connect optional environmental sensors to monitor temperature, humidity and dry contact devices.

CABLES AND CONNECTORS

- 15 Network Cables (Copper and Fiber)
- Patch Panels (Copper and Fiber) provide reliable network interconnections in minimal rack space. Using patch panels as part of a structured cabling system lowers maintenance costs and reduces installer errors.



Network Closet / IDF (Intermediate Distribution Frame)

Typical Environment and Challenges

- 1 to 3 open frame racks hold network/telecommunications equipment and cabling for a branch office or part of a large building or campus. Also known as a wiring closet or intermediate distribution frame (IDF).
- Supply reliable, efficient power and battery backup.
- Organize high-density connections to high-speed networks.
- Simplify and centralize power and device management.
- Allow IT staff to manage equipment from any location to reduce labor and travel costs while improving uptime.
- Maintain consistent temperature regardless of facility HVAC operation.
- Target hot spots with close-coupled cooling.

RECOMMENDED TRIPP LITE SOLUTIONS

UPS SYSTEMS AND BATTERIES

SmartOnline and SmartPro Single-Phase UPS Systems provide up to 20kVA of reliable, efficient power with expandable battery backup to keep equipment operating through blackouts and other power problems. Hot-swappable models prevent downtime during maintenance and repair by routing power connections through a detachable bypass PDU.

RACK AND COOLING SOLUTIONS

- 2 SmartRack Open Frame Racks are available in 13U, 25U, 42U, 45U and 48U sizes, including 2-post, 4-post and heavy-duty models, with many custom options.
- **3 High-Capacity Cable Managers** organize and secure large quantities of network patch cables. Horizontal models and vertical models with toolless mounting are available.
- Cable Ladders route cables between racks and across aisles, separating power and data cables to limit electromagnetic interference that can increase errors and reduce performance.
- (3.5 kW) of close-coupled, plug-and-play cooling. They are completely self-contained, can be fully installed by IT staff and do not require special outlets, ductwork, water tanks or drains. They can cool a small room or focus cool air on an overheating rack or device through a flexible output duct. An optional network accessory enables remote management.

POWER DISTRIBUTION UNITS

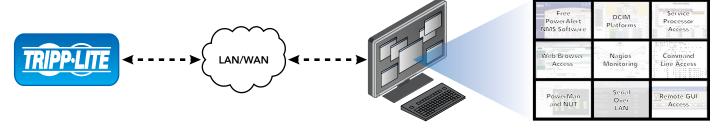
Network-Grade PDUs provide reliable rack power distribution. They are available with or without current monitoring, remote monitoring/alerts, remote individual outlet control, automatic transfer switching and 3-phase input.

KVM, CONSOLE AND MANAGEMENT SOLUTIONS

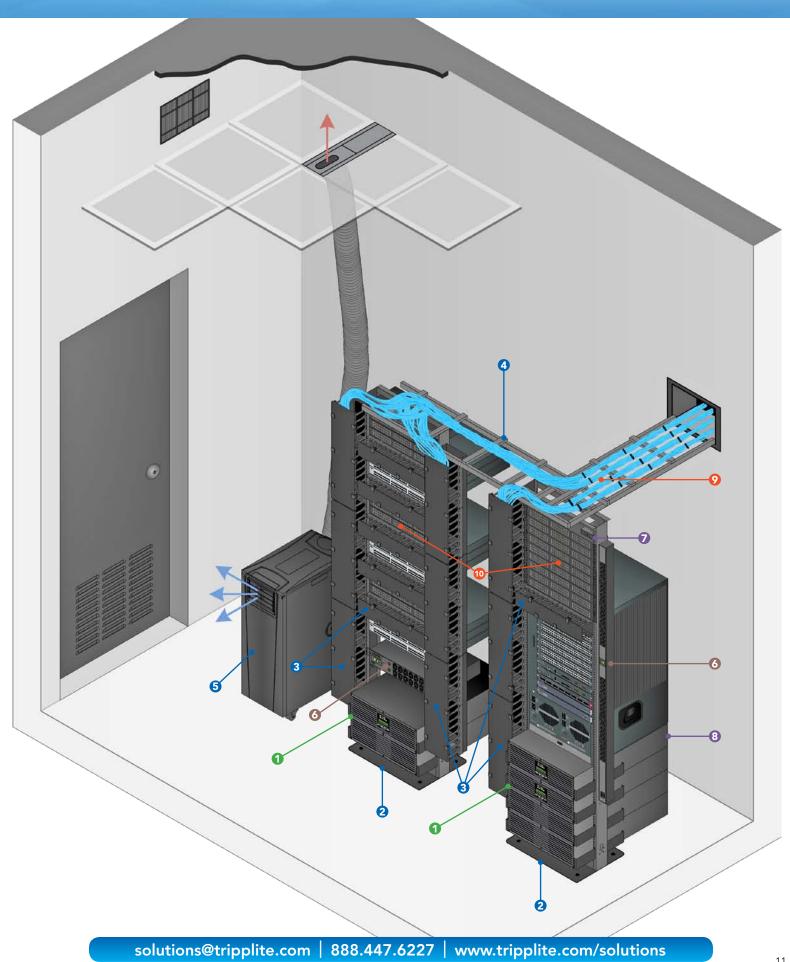
- **P Console Servers** provide highly secure in-band (primary network) and out-of-band (fail-safe) remote access to serial-and network-connected devices, including servers, routers and network switches. Access diverse server and device platforms using a network or dial-up connection through SSH-encrypted tunnels with remote authentication, multi-level access rights management, detailed logging and compliant audit trails. Real-time alerts, service processor access and convenient management tools correct problems before they impair productivity. Compact models do not require rack space.
- UPS Network Management Cards enable standalone remote UPS monitoring and control via SNMP, Web, SSH or telnet, including centralized management via free PowerAlert software. Connect optional environmental sensors to monitor temperature, humidity and dry contact devices.

CABLES AND CONNECTORS

- Network Cables (Copper and Fiber)
- Network Patch Panels (Copper and Fiber)



Tripp Lite provides a wide range of remote management solutions for installations of all sizes.



Back Office and Front Office

Typical Environment and Challenges

- Back Office: 1 to 3 racks hold workgroup servers, network-attached storage, network hardware and telecommunications systems.
- Front Office: Work area includes desktop computers, LCD monitors, peripherals and office equipment.
- Supply reliable power with battery backup.
- Provide supplemental cooling in areas that were not designed to house IT equipment.

- Manage power and equipment remotely.
- Support PCI-DSS security requirements for credit/debit card processing.
- Protect equipment from damaging surges.
- Prevent data loss and corruption.
- Control multiple computers from a single console.
- Provide additional power outlets away from wall outlets.

RECOMMENDED TRIPP LITE SOLUTIONS

UPS SYSTEMS AND BATTERIES

- Network/Server UPS Systems provide reliable, efficient, manageable power with expandable battery backup to keep critical systems operating 24x7. A variety of models are shallow enough to fit in wall-mount rack cabinets.
- ② Desktop UPS Systems provide reliable power for computers and electronics. Options include automatic voltage regulation (AVR), LCD status screens, data line protection, energy-saving Green Outlet™ technology, free PowerAlert data-saving software and space-saving tower or low-profile cases.

RACK AND COOLING SOLUTIONS

- 3 SmartRack Wall-Mount Rack Cabinets house EIA-compliant 19-inch rack equipment and provide convenient storage for other hardware that should be off the floor, out of the way and secure. Sizes range from 5U to 26U, with a variety of depths.
- 4 Portable Air Conditioning Units provide up to 12,000 BTU (3.5 kW) of close-coupled, plug-and-play cooling. They are completely self-contained, can be fully installed by IT staff and do not require special outlets, ductwork, water tanks or drains. They can cool a small room or focus cool air on an overheating rack or device through a flexible output duct. An optional network accessory enables remote management.
- **SmartRack Enclosures** come in 12U, 18U, 25U, 42U, 45U and 48U sizes, with a variety of depths, widths and custom options.
- SmartRack Thermal Duct Kits connect to SmartRack enclosures to isolate and remove hot air through an overhead duct to the HVAC return air stream.

POWER DISTRIBUTION UNITS

- Hot-Swap PDUs prevent downtime by adding hot-swap capability to compatible UPS system up to 3 kVA.
- Network-Grade PDUs provide reliable rack power distribution. They are available with or without current monitoring, remote monitoring/alerts, remote individual outlet control and automatic transfer switching.

KVM, CONSOLE AND MANAGEMENT SOLUTIONS

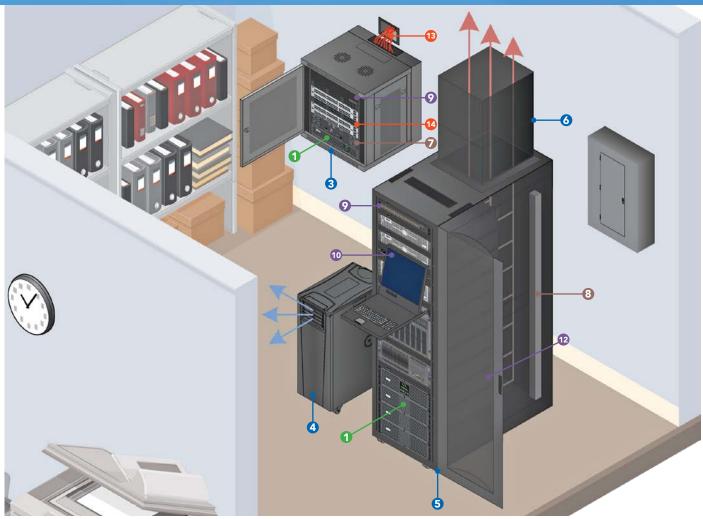
- IP Console Servers provide highly secure in-band (primary network) and out-of-band (fail-safe) remote access to serialand network-connected devices.
- Rackmount Console KVM Switches control multiple servers from a built-in console with a keyboard, touchpad and color LCD monitor that folds and stores in 1U. Available features include IP remote access and space-saving Cat5/UTP cabling.
- Desktop KVM Switches control 2 or 4 computers from a single console (keyboard, mouse and monitor). Available features include audio support and NIAP-certified security. Accessing multiple computers through a KVM eliminates the cost, energy and space required for additional equipment.
- (2) UPS Network Management Cards enable standalone remote UPS monitoring and control via SNMP, Web, SSH or telnet, including centralized management via free PowerAlert software. Connect optional environmental sensors to monitor temperature, humidity and dry contact devices.

CABLES AND CONNECTORS

- Network Cables (Copper and Fiber)
- Network Patch Panels (Copper and Fiber)
- **(5) Display Mounts** support a wide range of displays and HDTVs.
- Computer, Power and Display Cables connect computers, storage, displays, peripherals and power. Solutions include cables, adapters, extenders, splitters and switches that support a variety of standards, including USB, FireWire®, DVI, HDMI, VGA, DisplayPort, SCSI, SATA, RS-232 serial and AC power.

SURGE PROTECTORS AND POWER STRIPS

Surge Protectors provide convenient outlets and surge/noise protection for anything with a plug. All models protect against damaging surges and electromagnetic (EMI/RFI) line noise on the AC power line. Select models also provide data line protection. Premium Isobar® models block interference between devices connected to the same strip.





Wall-Mount Rack Cabinet

Typical Environment and Challenges

- Wall-mount cabinet houses network hardware in a location not designed for IT installations.
- Organize equipment and cabling in limited space.
- Provide reliable power and battery backup.

- Provide remote device and power management.
- Protect equipment from unauthorized access.
- Comply with PCI-DSS security requirements.

RECOMMENDED TRIPP LITE SOLUTIONS

UPS SYSTEMS AND BATTERIES

• Network/Server UPS Systems provide reliable, efficient power to keep equipment operating through power problems. A variety of models are shallow enough to fit in patch-depth, switch-depth and server-depth wall-mount rack cabinets.

RACK AND COOLING SOLUTIONS

- SmartRack Wall-Mount Rack Enclosure Cabinets house EIA-compliant 19-inch rack equipment and provide convenient storage for other hardware that should be off the floor, out of the way and secure. They protect equipment in remote locations and open-access areas from tampering, theft, vandalism and rough handling. Cabinets feature steel construction, ample ventilation, locking doors and removable side panels. Sizes range from 5U to 26U, with a variety of available depths (see below). Server-depth models are deep enough to hold 1U "pizza box" servers. Optional fan kits provide active ventilation. Optional caster kits adapt wall-mount models to floor-standing applications.
 - 2 Low-Profile Switch-Depth Models extend 18 or 22 inches from the wall (22 inches with a hinged wall bracket). They're ideal for network switch gear and other devices up to 16.5 or 20.5 inches deep.
 - **3** Very Low-Profile Patch-Depth Models extend 13 inches from the wall. They're ideal for patch panels and other equipment up to 13 inches deep.
 - Ultra Low-Profile Switch-Depth and Server-Depth Models extend 10 inches from the wall. They're ideal for switches up to 20 inches deep or servers up to 32 inches deep (depends on model; equipment mounts vertically).
 - **Server-Depth Models** extend 33.5 inches from the wall. They're ideal for servers up to 32.5 inches deep.
 - 6 Roll-Away Server-Depth Models include casters and levelers for convenient roll-away placement. They also include a side-mount bracket and extend 24 inches from the wall. They're ideal for servers and other equipment up to 32.5 inches deep.
- High-Capacity Cable Managers organize and secure large quantities of network patch cables. Horizontal and vertical models are available.

POWER DISTRIBUTION UNITS

8 Network-Grade PDUs provide reliable rack power distribution. "Basic" models distribute power to multiple devices from a UPS system, generator or utility (mains) source. They are built for heavy-duty applications, data center reliability and horizontal or vertical rack installation. "Metered" models add digital load meters for local current monitoring, which facilitates load balancing and helps prevent overloads. "Monitored" models have digital load meters and add an Ethernet network interface to enable remote management and automated alerts that help IT managers prevent accidental overloads and downtime. "Switched" models have digital load meters, a network interface and add remote individual outlet control. Individual outlet control helps solve problems faster by remotely rebooting malfunctioning devices. Select PDU model also include dual inputs and an automatic transfer switch to provide redundant power to single-cord devices.

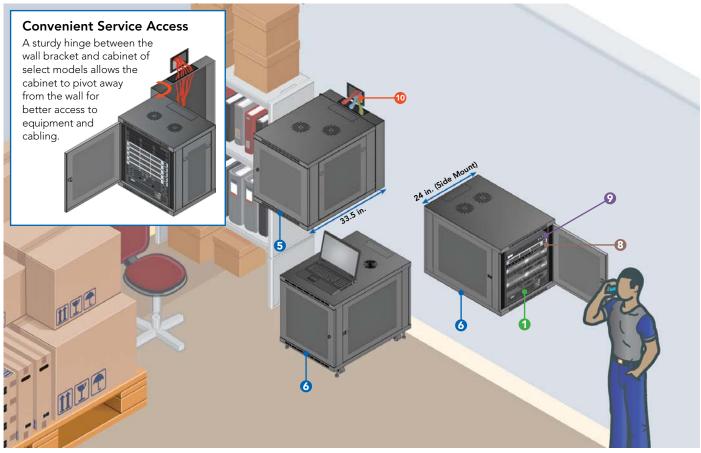
KVM, CONSOLE AND MANAGEMENT SOLUTIONS

P Console Servers provide highly secure in-band (primary network) and out-of-band (fail-safe) remote access to serial-and network-connected devices, including servers, routers and network switches. Access diverse server and device platforms using a network or dial-up connection through SSH-encrypted tunnels with remote authentication, multi-level access rights management, detailed logging and compliant audit trails. Real-time alerts, service processor access and convenient management tools correct problems before they impair productivity. Compact models do not require rack space.

CABLES AND CONNECTORS

- •• Network Cables and Power Cords provide reliable network and power connections. They connect Ethernet jacks and power outlets to servers, switches and routers in wired and wireless network environments. Solutions include Cat 5e/6 network patch cables, fiber and space-saving power cords. Cables are tested to ensure trouble-free operation and compatibility with the latest standards.
- Patch Panels (Copper and Fiber) provide reliable network interconnections in minimal rack space. Using patch panels as part of a structured cabling system lowers maintenance costs and reduces installer errors.





Personalized Service from a Reliable Partner

When you choose Tripp Lite, our experienced project engineers help you customize a solution to fit your unique requirements. Through our **Solution Integration Service**, we assess your situation and provide actionable recommendations to ensure that your solution will provide the ideal mixture of availability, manageability, efficiency and affordability to meet your goals.

We'll provide a road map with detailed project requirements, bills of material, specifications, installation considerations and ongoing support options, including preventive maintenance, extended warranties, on-site service and rapid repair and replacement. We'll also provide clear alternatives that allow you to strike a workable balance between technical and budgetary considerations.

Tripp Lite will help you:

- **DEFINE** objectives and technical requirements.
- **EVALUATE** the installation site, including existing systems and infrastructure.
- EXAMINE systems to ensure they're correctly powered, protected and configured.
- AUDIT power capacity requirements and right-size systems before consolidation, virtualization and other projects.
- PLAN airflow management and cooling for low-, mediumor high-density deployments.
- **PREPARE** for future infrastructure growth and evolving IT requirements.
- INTEGRATE components with existing systems.



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