

## Healthcare/Medical Solutions for Patient Care Vicinities

*Tripp Lite manufactures power protection, power supply and regulatory compliance solutions for use in hospitals and other healthcare facilities worldwide. Medical-grade UPS systems, power strips and surge protectors, mobile power solutions, isolation transformers and USB chargers support a wide range of equipment and applications both inside and outside patient care vicinities.*

- 120V and 230V Solutions
- Regulatory Compliance/Patient Safety Solutions (UL/IEC 60601-1, UL 1363A and More)
- OEM Integration



Medical-Grade UPS Systems, Power Strips and Surge Protectors, Mobile Power Solution

Isolation Transformers and USB Chargers. Medical-Grade UPS Systems, Power Strips and

Surge Protectors, Mobile Power Solutions, Isolation Transformers and USB Charge

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Isolation Transformers and USB Chargers. Medical-Grade UPS Systems, Power Strips

## Medical-Grade UPS Systems

**UL/IEC 60601-1 and  
UL 1778 Compliant**

- Approved for Use in Patient Care Vicinities
- Reduce Cumulative Shock Potential to Less than 100  $\mu$ A (Full Isolation)
- Lead Acid & Lithium Battery Technology

Medical-grade UPS systems provide medical-grade regulatory compliance for connected equipment. All models include built-in Faraday shielding that provides full line isolation and reduces the cumulative leakage current of connected equipment to less than 100  $\mu$ A for optimal safety in patient care vicinities. Full isolation also provides continuous noise filtering and enhanced common mode surge protection.

In addition to full isolation, medical-grade UPS systems provide battery backup during blackouts, allowing connected equipment to continue operating without interruption. UPS systems also improve generator backup by supporting equipment during the lag between power outages and generator startup. UPS systems automatically switch between utility power and battery backup in 2 to 5 ms, which is well within the fault tolerances of sensitive computer equipment. Automatic voltage regulation (AVR) keeps equipment working through voltage sags (brownouts) or high voltages indefinitely, without draining battery power. All models protect connected equipment against damaging surges and disruptive EMI/RFI line noise. SMART2500XLHG also provides pure sine wave output from battery.

Models SMART700HGL, SMART1200XLHGL, SMX700HGL and SMX1200XLHGL include a Lithium Iron Phosphate (LiFePO<sub>4</sub>) battery with a 10,000-cycle life (20-30 times the cycle life of traditional batteries) and a 5-year warranty.



SMART1200XLHG UPS System (back)

SMX1200XLHG UPS System (back)



UL 60601-1,  
1778

Model	Output Capacity	Nominal AC Voltage	UL/IEC Compliance	Typical Backup Runtime (Half/Full Load) <sup>(1)</sup>	Hospital-Grade AC Outlets	Communication Ports <sup>(2)</sup>	AC Input Cord Length	AC Input Plug or Inlet
<b>Medical-Grade UPS Systems (For use inside and outside patient care vicinities.)</b>								
SMART2500XLHG	2,200VA/1,920W	120 V	UL 60601-1 and 1778	13/4.4 min. +	4 (5-15/20R HG), 4 (C13)	Serial, USB, EPO	6 ft. <sup>(3)</sup>	5-20P/C20 <sup>(3)</sup>
SMART1200XLHG	1,000VA/750W	120 V	UL 60601-1 and 1778	28/10 min. +	4 (5-15R HG)	Serial and USB	6 ft.	5-15P HG
SMART1200XLHGL <sup>(4)</sup>	1,000VA/750W	120 V	UL 60601-1 and 1778	28/10 min. +	4 (5-15R HG)	Serial and USB	6 ft.	5-15P HG
SMART700HG	700VA/450W	120 V	UL 60601-1 and 1778	42/18 min.	4 (5-15R HG)	Serial and USB	6 ft.	5-15P HG
SMART700HGL <sup>(4)</sup>	700VA/450W	120 V	UL 60601-1 and 1778	42/18 min.	4 (5-15R HG)	Serial and USB	6 ft.	5-15P HG
OMNISMART350HG	330VA/225W	120 V	UL 60601-1 and 1778	46/18 min.	4 (5-15R HG)	Serial	6 ft.	5-15P HG
SMX1200XLHG	1,000VA/750W	230 V	IEC 60601-1	27.5/11 min. +	6 (C13)	Serial and USB	6 in.	C14 <sup>(5)</sup>
SMX1200XLHGL <sup>(4)</sup>	1,000VA/750W	230 V	IEC 60601-1	28/10 min. +	6 (C13)	Serial and USB	6 in.	C14 <sup>(5)</sup>
SMX700HG	700VA/450W	230 V	IEC 60601-1	36/14.5 min.	6 (C13)	Serial and USB	6 in.	C14 <sup>(5)</sup>
SMX700HGL <sup>(4)</sup>	700VA/450W	230 V	IEC 60601-1	42/18 min.	6 (C13)	Serial and USB	6 in.	C14 <sup>(5)</sup>
OMNIX350HG	350VA/225W	230 V	IEC 60601-1	37/15.5 min.	6 (C13)	USB	6 in.	C14 <sup>(5)</sup>

Certifications vary by model. Go to [www.tripplite.com](http://www.tripplite.com) for more information, including weights, dimensions and updates. (1) Backup runtimes vary with load, battery condition and other factors. Increase runtimes for "+" models by connecting optional external battery packs. Refer to [www.tripplite.com](http://www.tripplite.com) for compatible battery packs. (2) Serial ports are RS-232/D89. USB and serial ports work with PowerAlert software (free download) or compatible third-party software. SMART2500XLHG has an accessory slot that supports Tripp Lite's optional network management card that provides a network interface for remote management via SNMP, Web, SSH or telnet. (3) Detachable 6 ft. AC input cord with 5-20P plug connects to C20 inlet with locking clamp. (4) Includes Lithium Iron Phosphate (LiFePO<sub>4</sub>) battery with 20-30 times the cycle life of traditional batteries. (5) Connects to a user-supplied AC input cord and plug compatible with the facility's wall outlets.

## Medical-Grade Power Strips

**UL 60601-1 and 60950-1  
or 1363A Compliant**

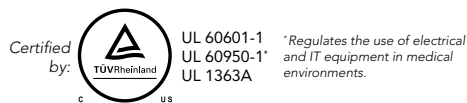
- Approved for Use in Patient Care Vicinities
- Reduce Shock Potential of Connected Equipment
- Provide Power Distribution
- Include Hospital-Grade Plug and Outlets
- Antimicrobial Protection

**Tripp Lite's HGULTRA Series** UL 60601-1 compliant power strips provide safe, convenient AC power in a durable metal housing, ideal for use anywhere outlets and space are limited. Multiple hospital-grade outlets permit operation of additional equipment in locations that do not have additional wall outlets available, including inside patient care vicinities.

A patented protection circuit guards against shock hazards by preventing power from reaching the unit's outlets in the presence of a fault. This protection circuit automatically resets itself and restores power once the fault threat is gone. With a switchless design that prevents accidental shutoff, built-in outlet safety covers and a 6 ft. or 15 ft. power cord, HGULTRA Series power strips are the perfect replacements for all non-compliant power strips.

**Tripp Lite's OEM Series** power strips are designed to be permanently mounted to carts, IV poles, racks, tables, pedestals and similar equipment in order to supply power to the plug-connected components of movable medical equipment assemblies. Equipped with long power cords and multiple hospital-grade outlets, OEM-series power strips provide versatile power distribution inside and outside patient care vicinities.

To promote patient and staff safety, Tripp Lite's medical-grade power strips have a patented antimicrobial coating to help reduce the risk of healthcare-acquired infections.



**Patented Patient-Protection Technology**

**Antimicrobial Protection**

**PSCLAMP** mounts strips safely, securely and quickly. New fast-mount design!

**PS-415-HGULTRA**      **PS-615-HG-OEM**      **PS-415-HG-OEM**

**PS-410-HGOEMCC**

**HGOUTLETCVR** safety covers require a tool to remove, meeting code requirements.

**PSHGCOVERKIT**

**Visit [triplite.com](http://triplite.com) for our full selection, including power strips rated to 20A.**

Model	Nominal AC Voltage	UL Compliance	Surge Protection Rating	Hospital-Grade AC Outlets	AC Input Cord Length	AC Input Plug Type
<b>Medical-Grade Power Strips (For use inside and outside patient care vicinities.)</b>						
<b>PS-406-HGULTRA</b>	120 V	UL 60601-1 and 60950-1	–	4 (5-15R HG) <sup>(1)</sup>	6 ft.	5-15P HG
<b>PS-415-HGULTRA</b>	120 V	UL 60601-1 and 60950-1	–	4 (5-15R HG) <sup>(1)</sup>	15 ft.	5-15P HG
<b>SPS415HGULTRA</b>	120 V	UL 60601-1 and 60950-1	1,410 joules	4 (5-15R HG) <sup>(1)</sup>	15 ft.	5-15P HG
<b>OEM-Series Medical-Grade Power Strips (For use inside and outside patient care vicinities. Must be permanently mounted inside patient care vicinities.)</b>						
<b>PS-607-HG-OEM</b>	120 V	UL 1363A	–	6 (5-15R HG) <sup>(1)</sup>	7 ft.	5-15P HG
<b>PS-615-HG-OEM</b>	120 V	UL 1363A	–	6 (5-15R HG) <sup>(1)</sup>	15 ft.	5-15P HG
<b>PS-415-HG-OEM</b>	120 V	UL 1363A	–	4 (5-15R HG)	15 ft.	5-15P HG
<b>PS-410-HGOEMCC</b>	120 V	UL 1363A	–	4 (5-15R HG) <sup>(2)</sup>	3 to 10 ft. (Coiled Cord)	5-15P HG
<b>PS410HGOEMX<sup>(3)</sup></b>	120 V	UL 1363A	–	4 (5-15R HG)	10 ft.	5-15P HG
<b>Accessories (For use inside and outside patient care vicinities.)</b>						
<b>HGOUTLETCVR</b>	Pack of 4 reusable, self-locking HG outlet safety covers. Covers block outlet access and require a tool to remove, meeting code requirements.					
<b>PSHGCOVERKIT</b>	Replacement duplex outlet covers for Tripp Lite medical-grade power strips and surge protectors. Includes 6 replacement covers and attachment hardware.					
<b>PSCLAMP</b>	Power strip mounting clamp for IV poles, beds, carts, etc. Adjusts to fit diameters from 1 to 2.25 in. Includes cord manager and removable drip shield.					

Certifications vary by model. Go to [www.triplite.com](http://www.triplite.com) for more information, including weights, dimensions and updates. (1) Includes integrated safety covers. (2) Includes 4 reusable, self-locking HG outlet safety covers. (3) Includes built-in cord manager and removable drip shield.



## Medical-Grade Power for Mobile Carts and Telemedicine

**UL/IEC 60601-1 and  
UL 1778 Compliant**

- Approved for Use in Patient Care Vicinities
- Reduce Cumulative Shock Potential to Less than 100 µA (Full Isolation)



Mobile power retrofit kits provide the inverter/charger and controller in one mobile power solution. The user can upgrade new or existing mobile medical carts for a fraction of the cost of buying new powered carts, providing medical-grade compliance for connected equipment. They can also be used as telemedicine power systems.

The user-replaceable battery provides up to 12 hours of mobile power. When the power module is plugged into a wall outlet, it quickly recharges the battery for faster cart rotation between shifts. Included PowerAlert® software prevents computer data loss if battery power runs out before recharging. The retrofit kit is compatible with most popular carts by AFC, Anthro, Datalux, GCX, Hergo, Jaco, Knurr, Stinger and others.

Certified by:



UL 60601-1  
UL 1778

Model	Nominal AC Voltage	Wattage	UL/IEC Compliance	Battery Capacity	Typical Runtime <sup>(1)</sup>	AC Outlets	Comm. Port	AC Input Cord Length	AC Input Inlet
<b>Medical-Grade Mobile Power Retrofit Kits (For use inside and outside patient care vicinities.)</b>									
HCRK	120V	300W	UL 60601-1 and 1778	90 Ah	Up to 12 hours	3 (5-15R)	USB	1 to 10 ft. (Coiled Cord)	5-15P HG
HCRK-54	120V	300W	UL 60601-1 and 1778	54 Ah	Up to 6 hours	3 (5-15R)	USB	1 to 10 ft. (Coiled Cord)	5-15P HG
HCRK-36	120V	300W	UL 60601-1 and 1778	36 Ah	Up to 4 hours	3 (5-15R)	USB	1 to 10 ft. (Coiled Cord)	5-15P HG
HCRK-INT	230V	300W	IEC 60601-1	90 Ah	Up to 12 hours	1 (C13)	USB	8 in.	C14 <sup>(2)</sup>

Certifications vary by model. Go to [www.tripplite.com](http://www.tripplite.com) for more information, including weights, dimensions and updates. (1) Typical runtime between charges for common mobile medical cart applications. Runtimes vary with equipment load, charge level, battery condition and other factors. (2) Connects to a user-supplied AC input cord and plug compatible with the facility's wall outlets.

Model	AC Input Voltage	AC Output Voltage	UL/IEC Compliance	AC Outlets	Comm. Port	AC Input Inlet
<b>OEM Series Medical-Grade Mobile Power Kits (For use as components by OEM manufacturers only.)</b>						
HC150SL	120V	120V	UL 60601-1 and 1778	1 (C13)	USB	C14 <sup>(3)</sup>
HC350SNR	120V	120V	UL 60601-1 and 1778	1 (C13)	USB	C14 <sup>(3)</sup>
HC150ATD	90-264V	120V	UL 60601-1 and 1778	1 (C13)	USB	C14 <sup>(3)</sup>
HCINT150SL	230V	230V	IEC 60601-1	1 (C13)	USB	C14 <sup>(3)</sup>
HCINT350SNR	230V	230V	IEC 60601-1 and 62040-1	1 (C13)	USB	C14 <sup>(3)</sup>

(3) Connects to a user-supplied AC input cord and plug compatible with the facility's wall outlets.

## Medical-Grade Isolation Transformers

**UL/IEC 60601-1 Compliant**

- Approved for Use in Patient Care Vicinities
- Reduce Cumulative Shock Potential to Less than 100 µA (Full Isolation)

Medical-grade isolation transformers provide medical-grade regulatory compliance for connected equipment and are ideal for equipment that does not require battery backup. Faraday shielding provides full line isolation and reduces the cumulative leakage current of connected equipment to less than 100 µA for optimal safety in patient care vicinities, along with continuous noise filtering and enhanced common mode surge protection.

Dual-voltage models support 115V or 230V at 50/60 Hz, selectable by input power module fuse installation (both fuses are included with the unit as accessories). Smaller toroid design provides low impedance line isolation, with pass through, step up or step down capabilities.



IS1800HG Isolation Transformer (front and back)

IS1000HGDV Dual-Voltage Isolation Transformer (front)

Model	Output Capacity	Nominal AC Voltage	UL/IEC Compliance	Hospital-Grade AC Outlets	Cord Length	AC Input Plug or Inlet
<b>Medical-Grade Isolation Transformers (For use inside and outside patient care vicinities.)</b>						
IS1800HG	1,800W	120V	UL 60601-1	6 (5-15/20R HG)	10 ft.	5-20P HG
IS1800HGDV	1,800W	115/230V	IEC 60601-1	8 (C13)	–	C20 <sup>(1)</sup>
IS1000HG	1,000W	120V	UL 60601-1	4 (5-15R HG)	10 ft.	5-15P HG
IS1000HGDV	1,000W	115/230V	IEC 60601-1	8 (C13)	–	C14 <sup>(1)</sup>
IS600HGDV	600W	115/230V	IEC 60601-1	6 (C13)	–	C14 <sup>(1)</sup>
IS500HG	500W	120V	UL 60601-1	4 (5-15R HG)	10 ft.	5-15P HG
IS300HGDV	300W	115/230V	IEC 60601-1	4 (C13)	–	C14 <sup>(1)</sup>
IS250HG	250W	120V	UL 60601-1	2 (5-15R HG)	10 ft.	5-15P HG

(1) Connects to a user-supplied AC input cord and plug compatible with the facility's wall outlets.

## Tripp Lite Helps You Achieve Medical-Grade Compliance (UL 60601-1 or UL 1363A)

### Why is compliance with medical-grade standards so important?

Patient safety depends on it! UL 60601-1 and UL 1363A are safety standards required for all electrical devices that could potentially come into contact with patients or staff in patient care vicinities – an enormous category that encompasses everything from lamps and televisions to computers and diagnostic equipment. Just having a hospital-grade plug isn't enough to achieve medical-grade compliance. Medical-grade UPS systems, power strips and surge protectors, mobile power solutions, isolation transformers and USB chargers combine hospital-grade plugs and outlets with special shock-prevention measures to achieve full medical-grade compliance.

### How can Tripp Lite help you achieve medical-grade compliance?

Tripp Lite's medical-grade UPS systems, power strips and surge protectors, mobile power solutions, isolation transformers and USB chargers provide UL 60601-1 or UL 1363A compliance, including medical, diagnostic-imaging, pharmaceutical, lab and EMS equipment, mobile cart and telemedical equipment, computer/information systems equipment and telecom/security equipment. Tripp Lite offers the broadest range of medical-grade power protection and power supply solutions available.

Regulatory Compliance Quick Reference		
Standard	Description	Application
UL 60601-1	Shock-prevention measure required for all devices that can potentially come in contact with patients and staff.	Patient care vicinities
UL 1363A	Basic safety standard for power strips integrated as components of a larger system where they supply power to equipment in a movable assembly that is rack, table or pedestal-mounted.	Mobile applications inside and outside patient care vicinities
UL 1363	Basic safety standard for power strips that stand alone and are NOT designed as components of a larger system.	Lab applications and administrative areas
UL 1449	Surge protector safety standard for units used outside of patient care vicinities.	Administrative areas and business offices

TRIPP LITE MEDICAL-GRADE COMPLIANCE SUCCESS STORY

### Tampa General Hospital

#### The Goal

Ken Lange, Senior Electrical Engineer for Tampa General Hospital, was managing a project to put computer stations (a computer and a monitor) next to 200 patient beds. However, the combined cumulative leakage of each computer station was too high. Lange needed to ensure that the stations were connected to highly reliable power sources that were UL 60601-1 compliant (reducing leakage current below 100 microamps). Ultimately, the stations' compliance would be verified by the authority that monitors compliance in Tampa General Hospital's area – the Florida Agency for Health Care Administration (AHCA).

#### The Solution

Lange turned to Tripp Lite's medical-grade isolation transformers to power his computer stations. The isolation transformers not only reduced leakage current and ensured UL 60601-1, NEC and AHCA compliance, they also satisfied several other needs. The isolation transformers protected the computers from potential damage and disruption caused by transient surges and line noise. Additionally, their compact, durable all-metal cabinet (and the use of a wall-mount bracket) allowed Lange to reduce the profile of his equipment and conserve valuable floor space within patient rooms.

**Tripp Lite's medical-grade solutions ensure regulatory compliance throughout healthcare facilities – both inside and outside patient care vicinities!**



Go to [www.triplite.com](http://www.triplite.com), email [medical@triplite.com](mailto:medical@triplite.com) or call 773.869.1282 for more information.

## The First USB Wall Charger Certified for Patient Care Vicinities

### UL 60601-1 Compliant

- Approved for Use in Patient Care Vicinities

U280-001-W2-HG is the first medical-grade USB wall charger certified safe for patient care vicinities. This new solution is currently the only USB charger on the market safe for use in all areas of a hospital, clinic or other medical facility.

This USB charger is ideal for patient, guest or staff use. It features one USB Type-A port with 2.5A of power for fast, efficient charging of smartphones, tablets, MP3 players or USB devices used in healthcare applications. It is compact and can be installed in patient rooms, nursing stations and treatment rooms, or sold in hospital gift shops for visitor and patient use.



UL 60601-1

Model	AC Input	Charging Output	UL Compliance	Charging Port
U280-001-W2-HG	120V, 50/60 Hz	2.5A / 13W	UL 60601-1	1 USB Type-A

Tripp Lite provides regulated power, battery backup and regulatory code compliance to support a wide range of healthcare applications.



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