

The Hall® Lithium Battery Charger (L3000) Instruction Manual



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Record the Model and Serial Numbers of the charger and date received. Retain for future reference.

Charger Model No. _____ Serial No _____ Date _____

Charger Model No. _____ Serial No _____ Date _____

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1.0 INTRODUCTION

It is recommended that personnel study this manual before attempting to operate, clean and/or disinfect the Hall® Lithium Battery Charger (L3000). The safe and effective use of this equipment requires the understanding of and compliance with all warnings, precautionary notices and instructions marked on the product, and included in this manual.



1.1 Intended Use

The Hall Lithium Battery Charger (L3000) is used to charge all approved Hall lithium batteries. All Hall lithium batteries may be charged prior to sterilization by placing the battery pack directly onto one of the four charging stations. The Hall Lithium Battery Charger (L3000) is not intended to be used in the patient areas.

1.2 Contraindications

None

1.3 Warnings and Precautions

DO NOT bypass this section. It contains warnings and precautions that must be thoroughly understood before operating any of the equipment. Lack of understanding or adherence to these warnings and precautions may result in injury or damage.



The words **WARNING**, **PRECAUTION**, and **NOTE** carry special meanings and they should be read carefully.

WARNING: A warning contains critical information regarding serious adverse reactions and potential safety hazards that can occur in proper use or misuse of the equipment. Failure to observe the information or procedures presented in a Warning may result in injury, death or other serious adverse reactions to the patient and/or surgical staff.









PRECAUTION: A precaution contains instructions for any special care to be exercised by the practitioner for the safe and effective use of the equipment. Failure to observe the information or procedures presented in a Precaution may result in damage to the equipment.



NOTE: Supplementary information may be given in a NOTE. This information has no critical effect on the patient or equipment.

1.3.1 General Warnings

1. This equipment is designed for use by medical professionals completely familiar with the required techniques and instructions for use of the equipment. Prior to using the device, read and follow all warning and precautionary notices and instructions marked on the product and included in this manual. 
2. Do not modify and do not open or attempt to service the battery charger or battery, as this may void the warranty. There are no user-serviceable parts inside. Removing the cover may introduce an electric shock hazard or other risks. If the system malfunctions, return it for service. 
3. Do not insert objects into battery charger for risk of electric shock. 
4. Do not use the battery charger in the presence of flammable anesthetics, gases, disinfecting agents, cleaning solutions, or any material susceptible to ignition due to electrical sparking.
5. Battery charger is not shipped sterile and should not be sterilized. Placing sterile batteries on battery charger will render them non-sterile. Charge batteries before sterilizing. Do not use the battery charger near the sterile field. Cross-contamination may occur. 
6. Use only CONMED approved equipment, attachments and accessories. They have been tested and certified to specific medical standards. Using unapproved accessories may result in improper operation, may negatively affect EMC performance and may result in non-compliance to medical standards.
7. This system may cause radio interference or may disrupt the operation of nearby equipment. Avoid stacking equipment. It may be necessary to take mitigation measures, such as re-orienting or relocating the Battery Charger or shielding the location. Use of this equipment near RF shielded rooms for magnetic resonance imaging shall be excluded.
8. Improper fuse size in the charger could result in fire. Replace only with time delay fuses as marked on the charger or listed in section “3.5.1 Hall Lithium Battery Charger (L3000)” in the Technical Specifications section. 
9. Do not expose the battery charger to moisture, operate in wet areas, or place liquids on or above the unit. Do not immerse for risk of electric shock. 

NOTE: Receipt of technical documentation from the manufacturer does not authorize individuals to perform repairs, adjustments, or alterations to the charger or accessories.

Only authorized service personal may perform repairs, adjustments or alterations on the charger and accessories. Any violation will void the manufacturer's warranty. Authorized service technicians are trained and certified only by the manufacturer.

1.3.2 Installation Warnings

1. Equipment grounding is vital to ensure safe operation. Plug the power cord of the battery charger into a properly earthed mains supply outlet whose voltage and frequency characteristics are compatible with those listed on the unit or in this manual. Do not use plug adapters or extension cords; such devices defeat the safety ground and could cause injury.

1.3.3 Precautions - Charger


















Rx ONLY









1. United States Federal law restricts sale of this device to or on the order of a physician.
2. Prior to use, inspect all equipment for proper operation.
3. Do not handle the battery charger by the cord. Do not pull on the power cord or accessory cord to remove it from the battery charger or the power outlet.
4. Do not excessively bend or kink the battery charger power cord or accessory cord. Always inspect cords for signs of excessive wear or damage. If wear or damage is found, discontinue use and replace immediately.
5. Do not impede air flow at the cooling vents. Do not drape or cover charger.
6. Thoroughly clean the battery charger as needed (See Section “**3.1 Cleaning Battery Charger**”).
7. The service interval is required to keep the Lithium Battery Charger at its optimum operating performance. (See Section “**3.0 CHARGER SYSTEM MAINTENANCE**”).
8. Failure to follow this routine maintenance schedule may result in damage to the battery charger and may invalidate the product warranty.

1.3.4 Precautions - Battery Packs

1. Do not attempt to charge battery types other than approved Hall Lithium Batteries.
2. Battery packs must be cooled to room temperature prior to charging. Failure to do so results in increased charging times.

1.4 Symbol Definitions

	Consult instructions for use.
	Precaution or warning notice.
	Fuse location. Warning - For continued protection against risk of fire, replace only with the same type and rating fuse.
	Alternating Current.
	Protective earth (ground).
	Electrical hazard. Dangerous voltages are present. Never attempt to repair the equipment. Only trained service personnel may remove the cover, or obtain access to the system components.
	No user service recommended. Refer servicing to qualified CONMED service personnel.
	Indicates product component should not be sterilized.
	Do not immerse
	Warning: Burn potential. Caustic materials.
	Prescription Only. Federal Law restricts this device to sale by or on the order of a physician.
	Temperature limitation.
	Humidity limitation.
	Pressure limitation.
	Waste Electronics and Electrical Equipment (WEEE) Symbol. Regarding European Union end-of-life of product.

	Catalog Number
	Serial Number
	Manufacturer
	Date of Manufacture
	UL Classification Mark
	UL Recognized Components
	Authorized representative in the European Union.
 <p>Batteries contain materials which must be recycled or disposed of properly. The disposal of batteries as municipal waste is prohibited. Dispose or recycle in accordance with your local, state and governmental regulations. In the U.S. call 1-800-237-0169, or outside the U.S. contact your local CONMED representative for additional information on battery disposal or recycling.</p>	

1.5 Environmental Directives

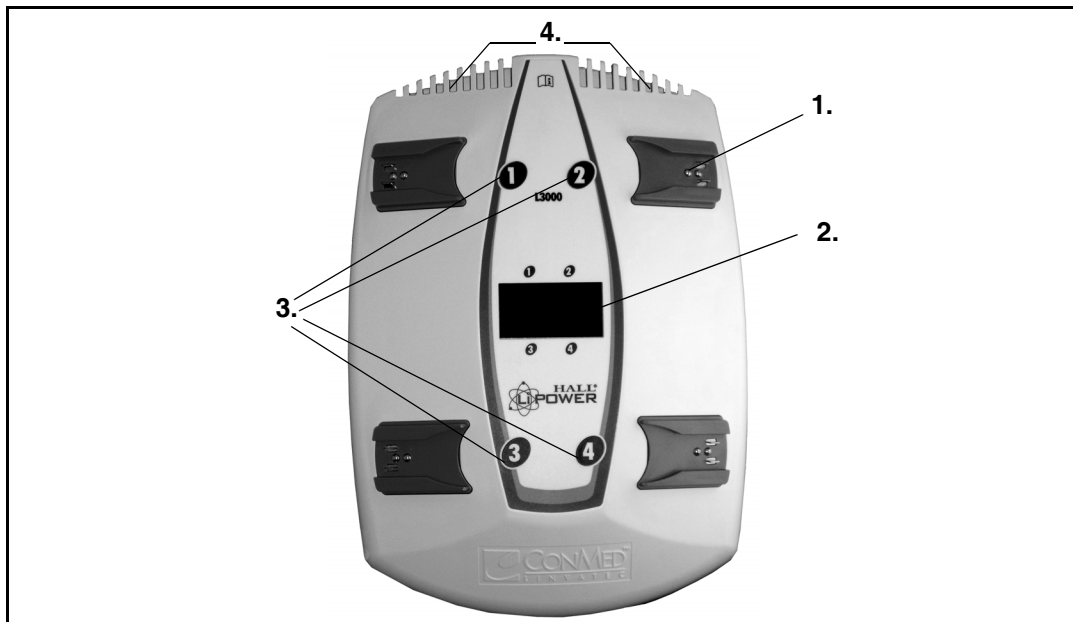
WEEE Directive [2002/96/EC] on Waste Electrical and Electronic Equipment. This statement only applies to European countries with regard to the Waste Electrical and Electric Equipment (WEEE) European Directive.



The WEEE symbol on the product or its packaging indicates that this product must not be disposed of with other waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of Waste Electrical and Electronic Equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your medical equipment at the end of its useful life for recycling, please contact CONMED.

1.6 Product Photographs

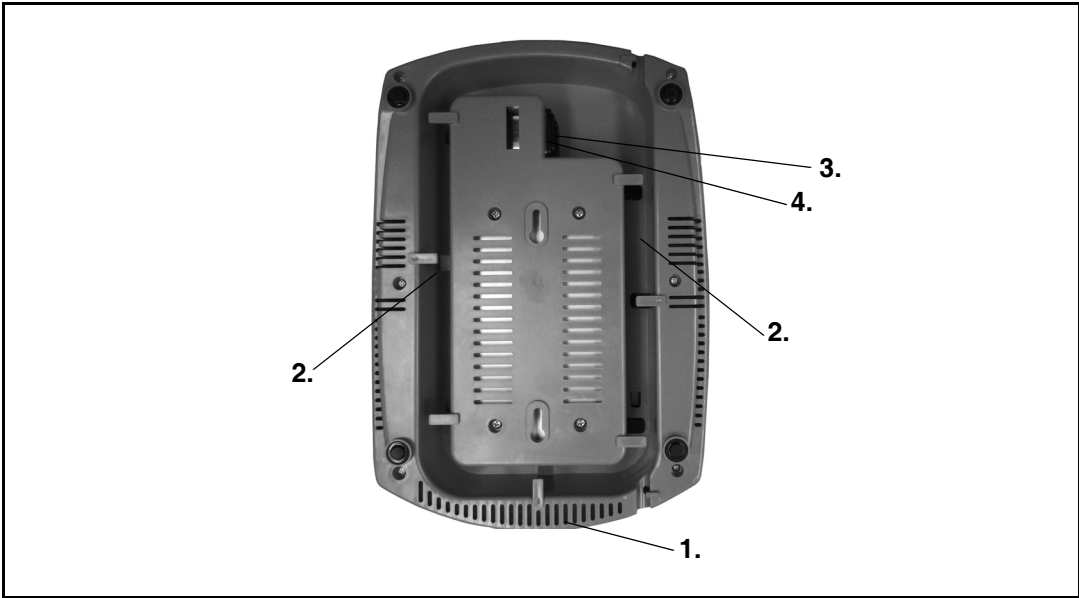
The pictures in this manual are for reference only. Items shown may not represent the actual product. However, procedural steps are identical, unless otherwise specified. When necessary, the actual pictures will be represented.



1.7 Battery Charger

1.7.1 Front Panel

1. **Battery Charging Station (4)** - Used for charging all Hall Lithium batteries
2. **Display** - Provides status indicators and information.
3. **Display Selection Buttons** - Used to display additional information when pressed.
4. **Cooling Vent** - Allows for airflow.



1.7.2 Bottom Panel

1. **Cooling Vent** - Allows for air flow.

PRECAUTION: Do not impede air flow at the cooling vents. Do not cover or drape.

2. **Cord Wrap** - Used for storing excess cord.

3. **Mains Receptacle** - Accepts the supplied hospital grade power cord to provide AC power.

4. **Fuse Holder** - Contains two fuses. To replace fuses see section “3.3 Fuse Replacement”.



2.0 BATTERY CHARGER INSTALLATION

2.1 Charger Mounting Options

The Hall Lithium Battery Charger (L3000) can be set on a table top or wall mounted. When installing the battery charger on drywall, screw into studs not wallboard. When installing into solid masonry or brick, use suitable wall plugs and screws.

Walls may contain hidden wiring, gas lines or fluid piping. Assure none of these are present before drilling or screwing.

NOTE: Leave 4 inches between chargers.

For Table Top Mounting:

1. Plug the power cord into the mains receptacle on the bottom of the charger and a properly earthed mains supply outlet.



2. Measure the length of the power cord to ensure correct distance from wall plug to battery charger.
3. Use the cord wrap on the bottom of the charger to eliminate any excess power cord. To avoid tripping hazard, ensure the cord is not too tight or too loose.

For Wall Mounting:

1. Determine the best wall location for mounting the battery charger. Choose a location close to an electrical outlet.
2. Use a stud finder to locate the stud intended to support the battery charger.
3. Mark the stud location center.
4. Mark the charger mounting hole center distance at 5.5”(14.0cm).
5. Install #8(M4.2) panhead type screw to approximately 1/4”(6mm) from wall.

PRECAUTION: Suitable anchors must be capable of withstanding 35lbs (16kg) minimum.



6. Mount the charger to the screws by slight push down and verify it is secure. Readjust the screws as necessary.
7. Plug the power cord into the mains receptacle on the bottom of the charger and a properly earthed mains supply outlet.



8. Use the cord wrap on the bottom of the charger to eliminate any excess power cord. The cord can exit from either the top or the bottom. To avoid tripping hazard, ensure the cord is not too tight or loose.

2.2 Charging Battery Packs

To charge a Hall Lithium battery pack, perform the following:

1. Slide the Hall Lithium battery pack on one of the battery charging stations. Up to four Hall Lithium battery packs may be placed on each charger. Ensure the Hall Lithium battery pack is seated completely in the station. A charging symbol displays when Hall Lithium battery packs are completely seated. See Section “3.2 Troubleshooting” for more information if no charging symbol displays.



2. Charging of the Hall Lithium battery pack begins automatically. During the charge cycle, the Charging symbol is displayed. See table below.
3. When the Hall Lithium battery pack is charged, a Charge Complete symbol is displayed. It normally takes approximately 30 minutes to obtain a complete charge.
4. To remove the Hall Lithium battery pack from the charger, simply slide it off in the reverse direction.
5. After charging, sterilize the battery packs. Refer to the information insert supplied with the Hall Lithium battery pack for sterilization guidelines and parameters.

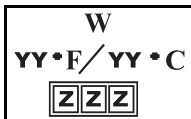


2.3 Additional Battery Information During Charging

1. Press any station number button (1-4) to display additional information while a battery is installed on any charging station.



2. Additional battery information will be displayed for any station as follows:





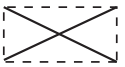
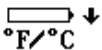


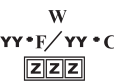


W = Battery Station Number
YY= Maximum Lifetime battery temperature
ZZZ = Number of cycles on Battery

3. To terminate use of the charger it must be disconnected from AC Mains power. The power cord can be unplugged from the wall or from the charger.

2.4 Charger Symbols Defined

The charger symbols designate the following:

Charger ready when no battery installed in any station.	
Indicates battery is being charged when displayed for any station.	
Indicates battery is fully charged when displayed for any station.	
Indicates a battery failure. See Section “3.2 Troubleshooting” for more information.	
Indicates a charger failure.	
Indicates a cooling requirement.	
Indicates a battery station failure.	
Indicates battery failure caused by over temperature exposure.	
Indicates additional Battery Information Station number, Maximum Temperature, Cycle Count. See Section “2.3 Additional Battery Information During Charging” for more information	

3.0 CHARGER SYSTEM MAINTENANCE

Regular and proper maintenance of your Hall Lithium Battery Charger (L3000) is the best way to protect your investment. It is essential you have the equipment serviced as scheduled to retain optimum performance and reliability. Proper maintenance ensures safer, less problematic product performance over time. CONMED recommends the Hall Lithium Battery Charger (L3000) be returned to the factory for routine maintenance every 36 months.

Recommended care and handling of the battery charger includes proper day-to-day operation and cleaning, which are extremely important to ensure safe and efficient operation.

Your authorized CONMED service department is the most knowledgeable about the Hall Lithium Battery Charger (L3000) and provides competent and efficient service. Service at CONMED at the recommended service interval is mandatory to keep your product warranties in effect. Any services and/or repairs done by an unauthorized repair facility may result in reduced performance of the instruments or instrument failure which may compromise patient/user safety.

Regularly inspect charger and batteries for cracks or damage. Do not use if damage is observed.

3.1 Cleaning Battery Charger

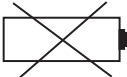


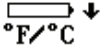

1. Disconnect the power cord from the electrical power source and from the bottom of the charger.
2. Wipe the Hall Lithium Battery Charger (L3000) with a clean, soft cloth dampened with a mild, pH-balanced detergent of your choosing. Ensure you follow the manufacturer's instructions for the cleaning product that you select and that it is approved for use on plastics. Failure to follow these guidelines may cause damage to the Hall Lithium Battery Charger (L3000). Repeat cleaning if necessary until clean.
3. After cleaning the Hall Lithium Battery Charger (L3000), wipe it again with a lint-free towel moistened with distilled or sterilized water.
4. Wipe dry with a clean, soft cloth.
5. At least once a week, thoroughly clean the contact points on the Hall Lithium Battery Charger (L3000) stations. Use a cotton swab and a non-abrasive cleaning product that is approved for use with metal. Do not use products such as bleach or other corrosive chemicals.

WARNING: Do not use Ethylene oxide sterilization.



3.2 Troubleshooting

Table 1: Troubleshooting

Symptom	Possible Cause	Corrective Action
Battery charger not functioning. (No start screen)	<ul style="list-style-type: none"> Power cord unplugged or faulty. Blown fuse. Battery charger faulty. 	<ul style="list-style-type: none"> Plug in power cord. Replace power cord. Replace fuse. See Section “3.3 Fuse Replacement”. Return for service.
Charging symbol did not appear.	<ul style="list-style-type: none"> Battery pack is not completely seated in the station on the charger. Battery contacts are dirty, corroded or loose. Charger contacts are dirty, corroded or loose. 	<ul style="list-style-type: none"> Verify that the battery pack is completely seated in the station on the charger. Inspect all equipment for debris build-up on electrical connections. If found, clean and reseal battery. Return for service if loose connections are found. Inspect all equipment for debris build-up on electrical connections. If found, clean and reseal battery. Return for service if loose connections are found.
	<ul style="list-style-type: none"> Battery failure. 	<ul style="list-style-type: none"> Remove battery and reseal battery. If fail condition continues, the battery is defective. Replace the associated battery and dispose of properly.
	<ul style="list-style-type: none"> Battery Charging Station failure. 	<ul style="list-style-type: none"> Remove battery and reseal battery. If fail condition continues, the Station is defective. Return charger for service. Use any other available station.
	<ul style="list-style-type: none"> Charger System failure. 	<ul style="list-style-type: none"> If fail condition displayed return charger for service.
	<ul style="list-style-type: none"> Battery Hot. 	<ul style="list-style-type: none"> Remove Battery and let cool to room temperature Charger will charge battery when temperature is in normal range.
	<ul style="list-style-type: none"> Battery failure. Battery cells have been exposed to temperature greater than maximum recommended for safe use. 	<ul style="list-style-type: none"> Remove battery and reseal battery. If fail condition continues the battery is defective. Replace the associated battery and dispose of properly.

3.3 Fuse Replacement

1. Disconnect the mains power by disconnecting the detachable power cord from the electrical power source.
2. If wall mounted, remove Hall Lithium Battery Charger (L3000) from wall mount location by lifting the charger upwards off the mounting hardware.
3. Turn Hall Lithium Battery Charger (L3000) over and remove detachable power cord from the mains receptacle/fuse holder.



4. Open fuse holder drawer with a small blade tool to remove both fuses as shown.



5. Replace both fuses at the same time. Do not mix old and new fuses. Replace with correct value, as stated on the battery charger or in Section “**3.5 Technical Specifications**” of this manual, and that corresponds to the local voltage.
6. Reinstall fuse holder drawer and snap closed.

3.4 Leakage Test

The purpose of this test is to measure the amount of 50/60 cycle leakage from the transformer primary to the circuitry of the battery charger. The AC leakage from any exposed metal part to earth ground and from all exposed metal parts having a return to chassis must not exceed 100 microamps.

Test Equipment Required:

ED&D Leakage Current Tester, Model LT-601 or equivalent.

Procedure:

1. Plug the power cord into the back of the battery charger. Plug the battery charger power cord into the test instrument test receptacle.
2. Turn the battery charger on and allow to warm up a minimum of two (2) minutes.
3. Measure the leakage current.
4. Turn the battery charger and test equipment off. Disconnect all test equipment from the battery charger.
5. If leakage exceeds limits, the unit may have a faulty line cord or power transformer and should not be placed into service until the problem has been resolved.

3.5 Technical Specifications

3.5.1 Hall Lithium Battery Charger (L3000)

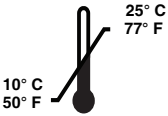
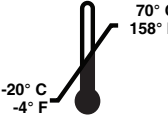




Medical electrical equipment complies with and was tested with respect to electric shock, fire, electromagnetic compatibility, mechanical and other specified hazards only, in accordance with UL60601-1, CAN/CSA C22.2 No. 601.1-M90, IEC60601-1:1988, +A1:1991 +A2:1995, ES60601-1:2005 + A1: 2009 +A2: 2010, CAN/CSA C22.2 No.60601-1-08 and IEC60601-1:2005 + C1:2006 + C2:2009.



Tested to IEC60601-1-2: 2007, IEC60601-1-2:2014, as follows: 1) The system may not cause harmful interference: 2) The system will accept interference, including interference that might cause undesired operation. If interference occurs, separate the instruments. For more information, contact customer service.

Hall Lithium Battery Charger (L3000)	
Classification:	Class 1, No applied Part, Normally outside patient area.
Protection Against Ingress of Water:	IPX0, Ordinary, no protection
Mode of Operation:	Continuous operation
Input Voltage:	100-240 VAC
Frequency:	50-60 Hz
Line (Touch) Leakage	< 100 µa, normal condition < 300 µa, single fault condition
Power Consumption:	500 VA
Fuses:	T5AL, 250V
Dimensions:	10.0" (W) x 4.5" (H) x 14.0" (D) 25.4 cm (W) x 11.43 cm (H) x 34.8 cm (D)
Weight:	5.3 lbs. (2.4 kg)
Mains Cord	
North American Mains Cord Specifications:	UL and CSA Certified. Male Plug: NEMA 5-15P Hospital Grade with Green Dot, 15A/125V Cord: UL style SJT, 18AWG X 3 conductor, color coding black, white, green. Cord Length: 10 ft. max. Female Plug: IEC320/C13 EN60320, 10A/125V
International Mains Cord Specifications:	Country/Region Certified Male Plug: 10A/250V Cord: H05VV-F3G1.0 or country/region recognized equivalent, 1mm ² X 3 conductor, color coding brown, light blue, green/yellow stripe or country/region requirement. Cord Length: 3.6m max. Female Plug: IEC320/C13 EN60320, 10A/250V

3.5.2 System Environmental Requirements

Environmental Conditions	Operating	Storage and Transport
Temperature:		
Relative Humidity:		
Atmospheric Pressure:		

Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

Portable RM communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the CONMED Hall Lithium Battery Charger (L3000), including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

Use of this equipment near high frequency surgical equipment, and RF shielded rooms for magnetic resonance imaging shall be excluded. Otherwise, degradation of the performance of this equipment could result.

Table 1: Guidance and Manufacturer’s Declaration - Electromagnetic Emissions

The CONMED Hall Lithium Battery Charger (L3000) is intended for use in the electromagnetic environment specified below. The customer or the user of the Hall Lithium Battery Charger (L3000) should assure it is used in such an environment.		
Emissions Test	Compliance	Electromagnetic environment -guidance
RF Emissions CISPR 11	Group 1	The Hall Lithium Battery Charger (L3000) uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF Emissions CISPR 11	Class A	The emissions characteristics of this equipment make it suitable for used in industrial areas and hospitals (CISPR 11 Class A). If it is used in residential environment (for which CISPR 11 class B is normally required) this equipment might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.
Harmonic Emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	

Table 2: Guidance and Manufacturer's Declaration - Electromagnetic Immunity

<p align="center">The CONMED Hall Lithium Battery Charger (L3000) is intended for use in the electromagnetic environment specified below. The customer or the user of this Hall Lithium Battery Charger (L3000) should assure that it is used in such an environment.</p>			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic environment guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 15 kV air	± 8 kV contact ± 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transients/bursts IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line to line ± 2 kV lines to earth	± 1 kV line to line ± 2 kV lines to earth	Mains power quality should be that of a typical commercial or hospital environment.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_t (>95% dip in U_t) for 0.5 cycle 40% U_t (60% dip in U_t) for 5 cycles 70% U_t (30% dip in U_t) for 25 cycles <5% U_t (>95% dip in U_t) for 5 seconds	<5% U_t (>95% dip in U_t) for 0.5 cycle 40% U_t (60% dip in U_t) for 5 cycles 70% U_t (30% dip in U_t) for 25 cycles <5% U_t (>95% dip in U_t) for 5 seconds	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Hall Lithium Battery Charger (L3000) requires continued operation during power mains interruptions, it is recommended that the Hall Lithium Battery Charger (L3000) be powered from an uninterruptable power supply or battery.
<p>NOTE: U_t is the a.c. mains voltage prior to application of the test level.</p>			

**Table 2 Continued: Guidance and Manufacturer's Declaration -
Electromagnetic Immunity**

The CONMED Hall Lithium Battery Charger (L3000) is intended for use in the electromagnetic environment specified below. The customer or the user of the Hall Lithium Battery Charger (L3000) should assure it is used in such an environment.


Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic environment guidance
			Portable and mobile RF communications equipment should be no closer to any part of the Hall Lithium Battery Charger (L3000), including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
			Recommended Separation Distance
Conducted RF	3 Vrms	3 Vrms	$d = 1.2 \sqrt{P}$
IEC 61000-4-6	150 kHz to 80 MHz	150 kHz to 80 MHz	
Radiated RF	3 V/m	3 V/m	$d = 1.2 \sqrt{P}$ 80 MHz to 800 MHz
IEC 61000-4-3	80 MHz to 2.7 GHz		$d = 2.3 \sqrt{P}$ 800 MHz to 2.5 GHz
			<p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey ^a, should be less than the compliance level in each frequency range ^b.</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol.</p> <div align="center">  </div>
NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.			
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and/or people.			
<p>a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Hall Lithium Battery Charger (L3000) is used exceeds the applicable RF compliance level above, the Hall Lithium Battery Charger (L3000) should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the Hall Lithium Battery Charger (L3000).</p>			
<p>b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.</p>			

Table 3: Proximity Field From Wireless Transmitters

Test frequency (MHz)	Band (MHz)	Service	Modulation	Maximum power (W)	Distance (m)	Immunity Test Level (V/m)
385	380 – 390	TETRA 400	Pulse modulation 18 Hz	1.8	0.3	27
450	430 – 470	GMRS 460, FRS 460	FM ± 5 kHz deviation 1 kHz sine	2	0.3	28
710	704 – 787	LTE Band 13, 17	Pulse modulation 217 Hz	0.2	0.3	9
745						
780						
810	800 – 960	GSM 800/900, TETRA 800, IDEN 820, CDMA 850, LTE Band 5	Pulse modulation 18 Hz	2	0.3	28
870						
930						
1,720	1,700 – 1,990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation 217 Hz	2	0.3	28
1,845						
1,970						
2,450	2,400 – 2,570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation 217 Hz	2	0.3	28
5,240	5,100 – 5,800	WLAN 802.11 a/n	Pulse modulation 217 Hz	0.2	0.3	9
5,500						
5,785						

NOTE: If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

3.6 Accessories

REF	Description
C7104	AC Power Cord, 115 VAC, 10 ft.
C7105	AC Power Cord, 230 VAC, 3 meters

4.0 CUSTOMER SERVICE

4.1 Assistance and Repair

If you need technical assistance regarding the use or application of this product, or you encounter a problem that requires servicing or repair, contact CONMED Customer Service at 1-800-237-0169 or your CONMED Sales Representative. Outside the U.S. contact your local CONMED Representative.

Report any events involving injuries or malfunctions to the CONMED Regulatory Product Support.

Products returned for repair must have an authorized Service Request (SR) number prominently displayed on the box and included on all paperwork. Refer to this number if making inquiries about the repair status. Please call CONMED Customer Service and provide the following information to obtain an S.R. number prior to returning any product for repair:

- Product Number
- Serial/Lot Number
- Reason for Return
- Original Invoice Number
- Date of Purchase
- Detailed description of the problem

CONMED
Attn.: Customer Service Dept.
11311 Concept Boulevard
Largo, Florida 33773-4908 USA

Customer Service

(within U.S.)	Phone:	1-800-237-0169
	FAX:	(727)-399-5256
(outside U.S.)	Phone:	+1 (727)-392-6464
	FAX:	+1 (727)-397-4540

CONMED Regulatory Product Support

(within U.S.)	Phone:	1-800-325-5900
(outside U.S.)	Phone:	+1 (727)-392-6464



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