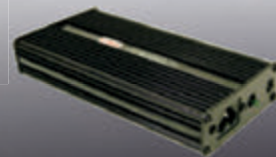


POWER ADAPTERS • CHARGERS • INVERTERS • CABLES & MORE



LIND

POWER SPECIALISTS FOR
MOBILE COMPUTING

WWW.LINDELECTRONICS.COM

MILITARY

LIND ELECTRONICS MOBILE POWER EQUIPMENT CATALOG

YOUR TRUSTED MOBILE POWER SOLUTIONS EXPERT

Lind Electronics is a proven leader in designing and producing mobile power solutions for all types of users in different industries. Lind's product lines include standard and custom AC/DC and DC/DC power adapters, battery chargers, dual USB adapters, Shut Down Timers, solar chargers and stock & custom cables. Lind Electronics works directly with users, installers and engineers in the Military, Public Safety, Healthcare and Forklift & Warehousing industries. The company's products are designed to perform repeatedly in all types of harsh and demanding applications and environments.

Lind's sales force will work with you to identify the right solution for your mobile power needs. Our staff is knowledgeable and experienced with industry specific mobile power applications. From initial Q&A to final build and delivery of your mobile device, let Lind's sales force develop a custom solution that will meet your mobile power requirements.

Lind's engineering team includes knowledgeable experts in electronic and component design. Our engineering staff develops innovative solutions designed to meet your specific mobile power requirements. And Lind's Technical Support reps provide expert service when troubleshooting issues that may occur with your Lind product.

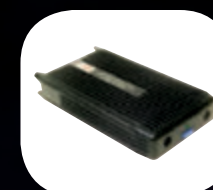
Lind's manufacturing and production teams build your product to spec and deliver your device quickly and efficiently. Each unit is built to meet exact engineering standards and quality checked to make sure it will function as intended for your exact needs.

From concept and design to delivery of your standard or custom products, turn to Lind Electronics for all of your mobile power needs.

MOBILE POWER SOLUTIONS FOR MILITARY

Lind Electronics provides standard and custom rugged portable and specialized solutions to all branches of the military. Lind offers AC/DC and DC/DC military spec products and battery charger solutions designed to meet various military power and environmental requirements. Custom mobile power and specialized cabling solutions may be engineered and manufactured for specific military applications.

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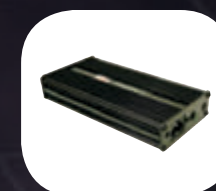
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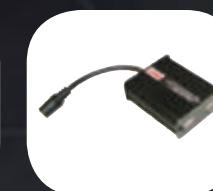
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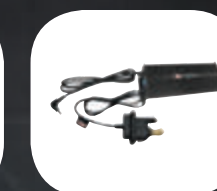
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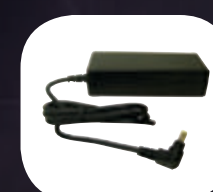
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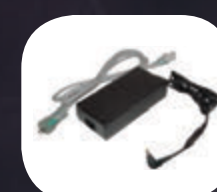
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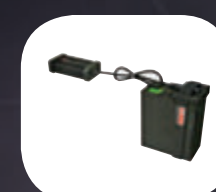
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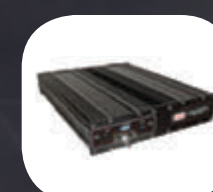
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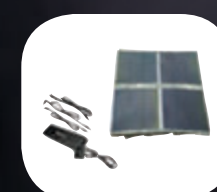
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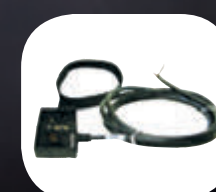
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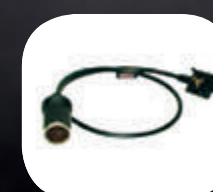
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AUTO POWER ADAPTERS

Power your PC laptop or notebook computer from your vehicle using a Lind Auto Power Adapter. These adapters are built to work with specific laptop brands and models to ensure the highest level of compatibility and performance when charging your mobile computer.

Lind's Auto Power Adapters are designed to accept input voltages from 11-16 volt DC or 12-32 volt DC power sources, including automobiles, military vehicles or batteries. Output voltages and connectors are available to power nearly all laptop computers currently in use. Custom input and output characteristics can be programmed into the adapters for special applications.

Special connector, packaging and mounting configurations are available (contact Lind). A limited 3-year warranty (most models) covers adapter failures and replacement of missing or damaged cables with snap-in connections.

SOME CABLE OPTIONS MAY INCLUDE:

Cigarette Lighter/
Auxiliary Port DC
Input Cable

Bare Wire/Flying
Leads DC Input
Cable

DC Output
Cable

FEATURES

- Low Input Voltage Disconnect
- High Input Voltage Disconnect
- Output Short Circuit Protection
- Output Overcurrent Protection
- Internal Over Temperature Protection
- LED on adapter indicates output power is present
- LED on cig plug indicates input power is present (most models)
- Output power up to 120W

TECHNICAL INFORMATION

- Power Input: Noted on label
- Power Output: Noted on label
- Input Fuse: Auto Mini (noted on label)
- Indicators: LED on automobile plug (input present); LED on adapter (output present)

AUTO /AIR POWER ADAPTERS

Charge your laptop from the ground or in the air using a Lind Auto/Air Power Adapter. These adapters charge laptops requiring 70 watts of power or less*.

Lind's Auto/Air Power Adapters are designed to accept input voltages from 11-16 volt DC or 12-32 volt DC power sources, including automobiles, military vehicles or batteries. Output voltages and connectors are available to power nearly all laptop computers currently in use. Custom input and output characteristics can be programmed into these adapters for special applications.

Special connector, packaging and mounting configurations are available (contact Lind). A limited 3-year warranty (most models) covers adapter failures and replacement of missing or damaged cables with snap-in connections.

- The power provided on commercial flights is limited to 75 watts and is subject to availability on aircraft. Contact your airline for in-seat power availability on your flight.



SOME CABLE OPTIONS MAY INCLUDE:

Airline In-seat
DC Input Cable



Cigarette Lighter/
Auxiliary Port
DC Input Cable



DC Output
Cable



FEATURES

- Low Input Voltage Disconnect
- High Input Voltage Disconnect
- Output Short Circuit Protection
- Output Overcurrent Protection
- Internal Over Temperature Protection
- LED on adapter indicates output power is present
- LED on cig plug indicates input power is present (most models)
- Output power up to 70W

TECHNICAL INFORMATION

- Dimensions (approx.): 4.1 x 2.4 x 1.3 inches (104 x 61 x 33 mm) excluding cables
- Weight (approx.): .58 pounds (.26 kg) excluding cables
- Input Voltage Range: 11 - 16Vdc or 12 - 32Vdc (depending on model)
- Output voltages available: 9 - 24Vdc (others available - contact Lind)
- Input Fuse: 3AG in input cable

MICRO POWER ADAPTERS

Grooved Exterior
Provides Heat
dissipation



LED indicates output
power is present

DC Output
Cable Jack

Lind's Micro Power Adapters are designed to charge devices requiring a maximum of 24 watts of power or less. Its compact and lightweight design makes the Micro Power Adapter easy to install in tight and narrow spaces.

The Micro Power Adapter provides special safety circuitry to protect both your laptop and the adapter. Power conversion circuits with extensive protection circuitry provide reliable and continuous power to your laptop.

Each Micro Power Adapter's electronics is shielded by an epoxy-sealed case to protect the internal circuits from damage caused by shock and/or vibration. Its durable construction withstands extensive wear and tear in any harsh mobile environment. And snap-in connections make replacing missing or damaged cables in the field easy and hassle-free.

SOME CABLE OPTIONS MAY INCLUDE:

Airline In-seat
DC Input Cable



Cigarette Lighter/
Auxiliary Port
DC Input Cable



DC Output
Cable



FEATURES

- Output Short Circuit Protection
- Output Overcurrent Protection
- Internal Over Temperature Protection
- Automatic Restart after Fault Removal (most models)
- Field Replaceable Cables (most models)
- LED Output Power Present Indicator on Adapter
- LED Input Power Present Indicator on Cig Plug (most models)
- Output power up to 24W

TECHNICAL INFORMATION

- Dimensions (approx.): 3.7 x 1.7 x .9 inches (94 x 43 x 23 mm) excluding cables
- Weight (approx.): .26 pounds (.12 kg) excluding cables
- Input Voltage Range: 11 - 16Vdc or 12 - 32Vdc (depending on model)
- Output Voltages Available: 3.3 - 24Vdc (others available - contact Lind)
- Input Fuse: 3AG in input cable

Grooved Exterior
Provides Heat
dissipation



AUTO/AIR AC POWER ADAPTERS

Lind's Auto/Air AC Power Adapters power your laptop from an automobile cigarette lighter socket, an AC wall outlet, or an airline in-seat power plug.*

The Auto/Air AC Power Adapters are designed to meet the power specifications of your computer. The available USB port charges devices such as cell phones, PDAs, digital cameras and more.

The unit provides protection against over-voltage, over-temperature, over-current and short circuits.

Lind's Auto/Air AC Power Adapters are built to work with most existing laptop brands and models. These adapters can also be designed for custom applications. Contact Lind to discuss solutions for your exact mobile power needs.

DC Output
Cable Jack

USB Cable
Jack

SOME CABLE OPTIONS MAY INCLUDE:

DC Input Cable Options
(Auxiliary Port - Top;
Airline In-seat - Bottom)



AC Input
Cable



DC Output
Cable



FEATURES

- Powers electronic devices from a standard auto cigarette lighter, airline seat, or AC wall outlet
- Provides up to 90W of output power
- Provides protection against over-voltage, over-temperature, over-current, and short circuits
- Black PC/ABS plastic case
- The USB port can charge additional devices using a USB cable (cable not included)
- Blue LED indicates Output Present

TECHNICAL INFORMATION

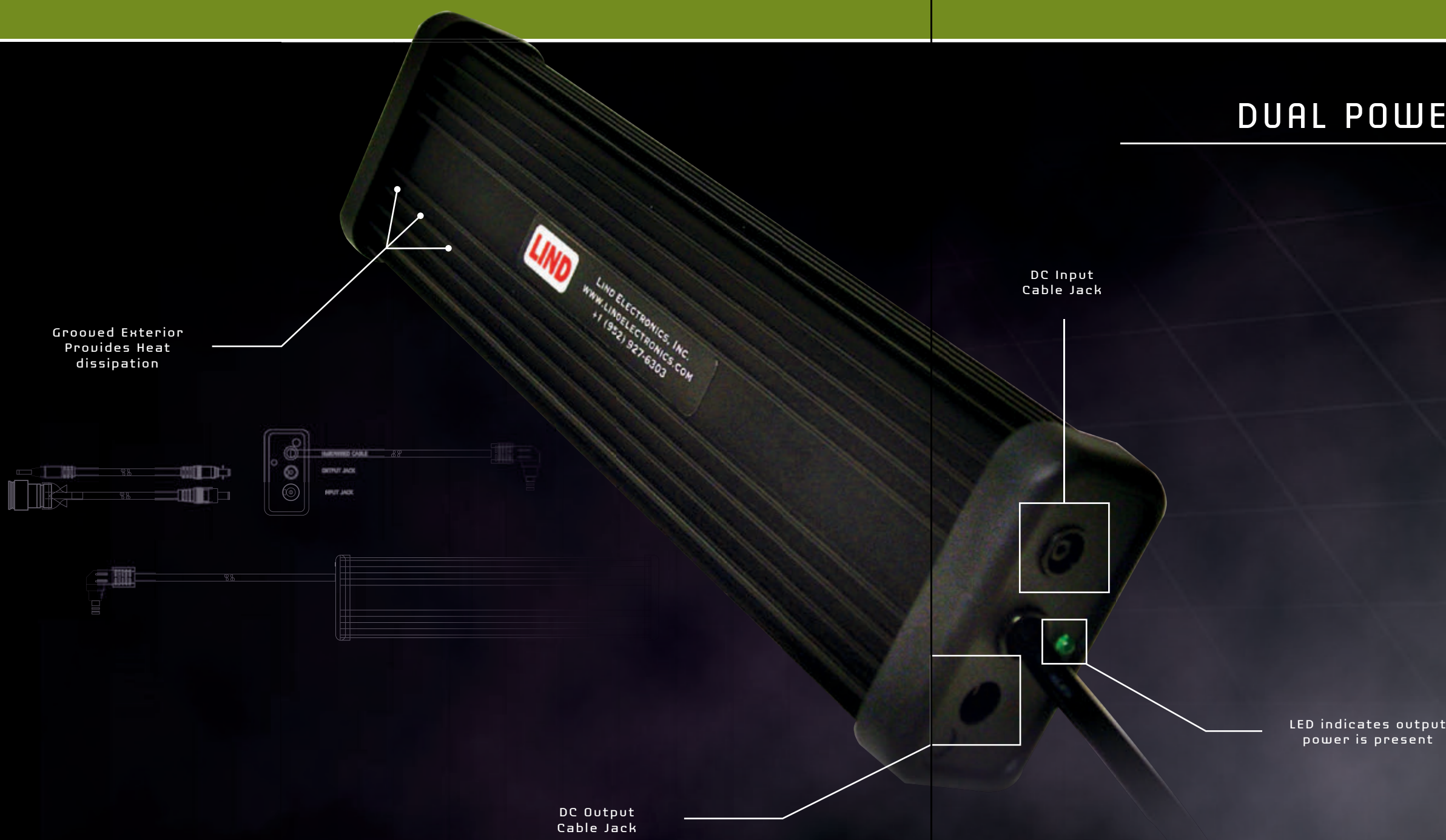
- Input Voltage: 100 - 240 Vac (50 - 60 Hz @ 2.5A) or 11.5 - 16 Vdc
- Output Voltage: 16 or 20V models available
- Output Current: 5.6A Max. (16V models) or 4.5A Max. (20V models)
- USB Power Port: 5Vdc, .6A Max.
- Weight (approx.): .7 pounds (.32 kg) excluding cables
- Dimensions (approx.): 5.6 x 3.0 x 1.0 inches (142 x 76 x 25 mm) excluding cables

DUAL POWER ADAPTERS

Lind's Dual Power Adapters are designed to power both a laptop and portable printer at the same time using a single power source. These adapters fit a wide range of PC notebook models and portable printers.

The Dual Power Adapter incorporates the highest degree of circuit protection for both your laptop and the adapter. Its electronics are shielded by a rugged epoxy-sealed case to protect the internal circuits from damage caused by shock and/or vibration.

The Dual Power Adapter's electronics are shielded by an epoxy-sealed case to protect the internal circuits from damage caused by shock and/or vibration. Its durable construction withstands extensive wear and tear in any harsh mobile environment. And snap-in connections make replacing missing or damaged cables from anywhere in the field easy and hassle-free.



SOME CABLE OPTIONS MAY INCLUDE:

<p>Cigarette Lighter/ Auxiliary Port DC Input Cable</p> 	<p>Bare Wire / Flying Leads DC Input Cable</p> 	<p>DC Output Cable</p> 
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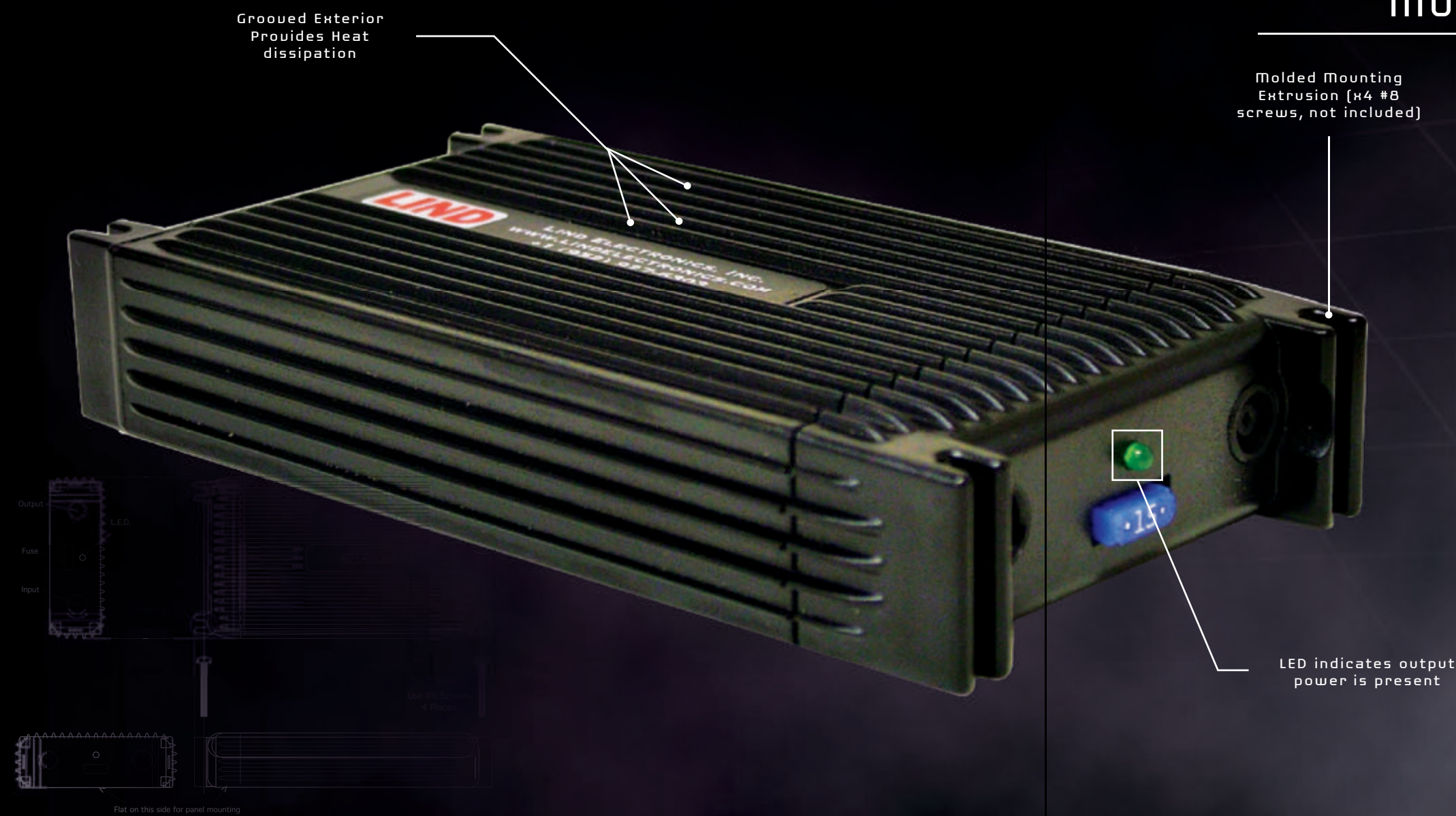
FEATURES

- Low Input Voltage Disconnect
- High Input Voltage Disconnect
- Output Short Circuit Protection
- Output Overcurrent Protection
- Internal Over Temperature Protection
- LED Output Power Present Indicator on Adapter
- LED Input Power Present Indicator on Cig Plug (most models)
- Output Power up to 120W

TECHNICAL INFORMATION

- Input Voltage Range: 11 - 16Vdc or 12 - 32Vdc (depending on model)
- Output Voltages Available: 10 - 24Vdc (others available - contact Lind)
- Input Fuse: Auto Mini in adapter or 3AG in input cable

MOUNTABLE POWER ADAPTERS



The Lind Mountable Power Adapters (80 - 120 watt series only) are designed to mount the adapter to a flat surface area without the use of clamps, brackets or tie wraps. Slotted screw holes are molded in each corner to make mounting the adapter to your military vehicles fast and easy.

Power is adjusted, conditioned and regulated from the power source to the correct DC voltage required for proper laptop operation.

The Mountable Power Adapter's electronics are shielded by an epoxy-sealed case to protect the internal circuits from damage caused by shock and/or vibration. Its durable construction withstands extensive wear and tear in any harsh mobile environment. And snap-in connections make replacing missing or damaged cables from anywhere in the field easy and hassle-free.

SOME CABLE OPTIONS MAY INCLUDE:

Cigarette Lighter/
Auxiliary Port
DC Input Cable

Bare Wire / Flying Leads
DC Input Cable

DC Output
Cable

FEATURES

- Low Input Voltage Disconnect
- High Input Voltage Disconnect
- Output Short Circuit Protection
- Output Overcurrent Protection
- Internal Over Temperature Protection
- LED Output Power Present Indicator on Adapter
- LED Input Power Present Indicator on Cig Plug
- Output power up to 120W

TECHNICAL INFORMATION

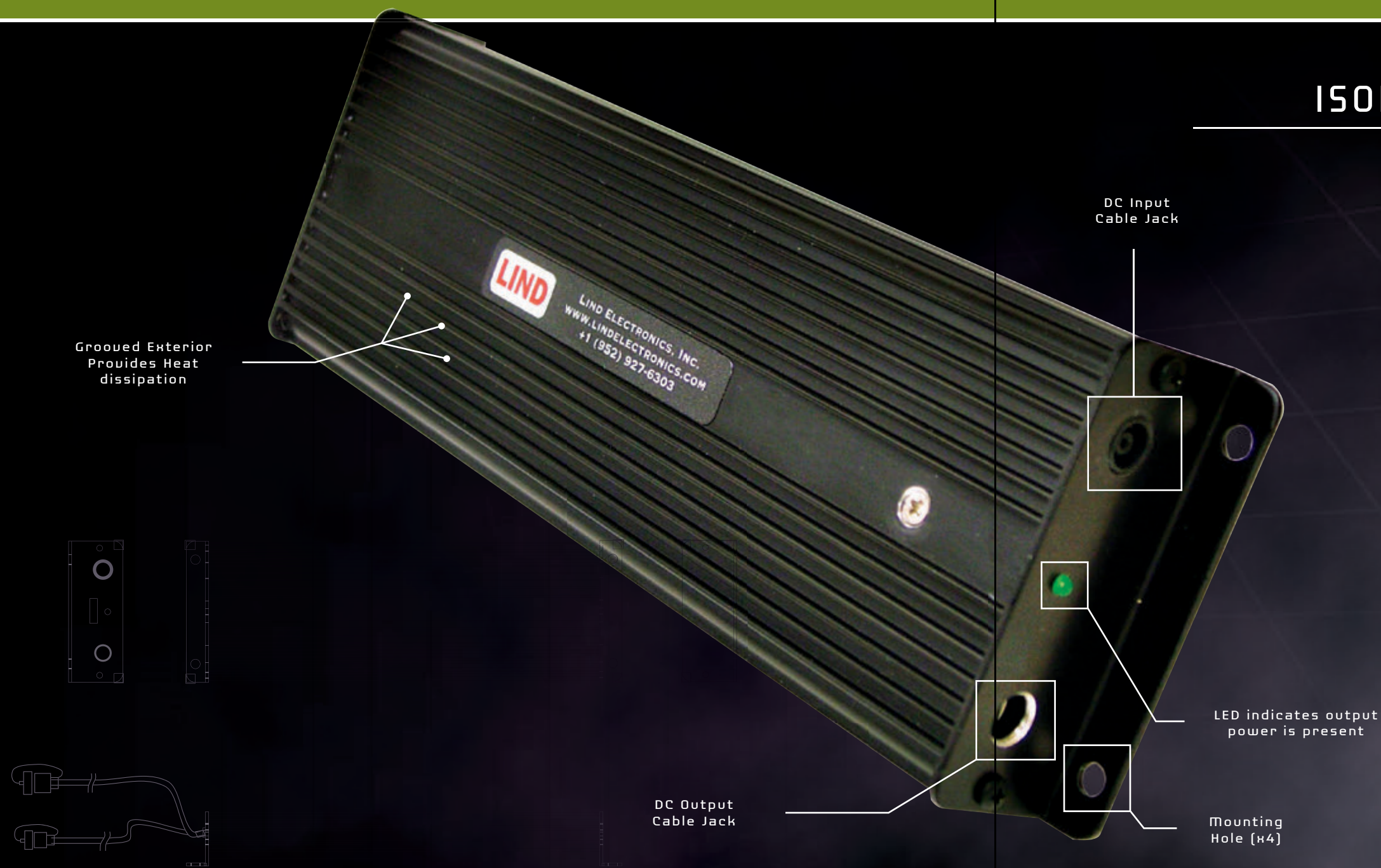
- Dimensions (approx.): 5.61 x 3.05 x 1.03 inches (143 x 78 x 26 mm) excluding cables
- Weight (approx.): .86 pounds (.39 kg) excluding cables
- Input Voltage Range: 11 - 16Vdc or 12 - 32Vdc (depending on model)
- Output Voltages Available: 10 - 24Vdc (others available - contact Lind)
- Input Fuse: 15A ATO Mini in adapter

ISOLATED SERIES POWER ADAPTERS

The Lind Isolated Output Series DC/DC Power Adapters provide a regulated DC output to power laptops, thin clients, monitors and other devices from a DC voltage source.

The Isolated Output Power Adapter's electronics are shielded by an epoxy-sealed case to protect the internal circuits from damage caused by shock and/or vibration. Its durable construction withstands extensive wear and tear in any harsh mobile environment. And snap-in connections make replacing missing or damaged cables from anywhere in the field easy and hassle-free.

Lind's Dual Output Power Adapters are built to work with most existing laptop brands and models. These adapters can also be designed for custom applications. Contact Lind to discuss solutions for your exact mobile power needs.



SOME CABLE OPTIONS MAY INCLUDE:

Bare Wire / Flying Leads
DC Input Cable



DC Output Cable



FEATURES

- Rugged aluminum housing
- Flanged endplates for easy mounting
- Wide range of input voltages available
- Output power up to 100W
- Low Input Voltage Disconnect
- High Input Voltage Disconnect
- Output Short Circuit Protection
- Output Overcurrent Protection

TECHNICAL INFORMATION

- Input Voltage Ranges: 11 - 32, 20 - 60, or 72 - 110Vdc
- Output Voltages Available: 10 - 24Vdc (others available - contact Lind)
- Output Power: Models up to 100 Watts.
- 500 Vdc Input/Output Isolation (2500 Vdc on 72 - 110Vin models)
- 500 Vdc Input - Chassis Isolation (2500 Vdc on 72 - 110Vin models)
- 100Vdc Output - Chassis Isolation

DC/DC POWER MODULE

The Lind DC/DC Power Module provides a regulated DC voltage output to power laptops and other devices from any 9 - 42Vdc power source. Voltage spikes or surges occurring on the input voltage line are filtered by the adapter to eliminate the possibility of damage to the laptop caused by supply voltage variations.

Power is adjusted, conditioned and regulated from the power source to the correct DC voltage required for proper laptop operation.

The DC/DC Power Module's electronics are shielded by an aluminum case to protect the internal circuits from damage caused by shock and/or vibration. Its durable construction withstands extensive wear and tear in any harsh mobile environment.



Grooved Exterior Provides Heat dissipation

Input (x2) & Output (x2) Screw Terminals

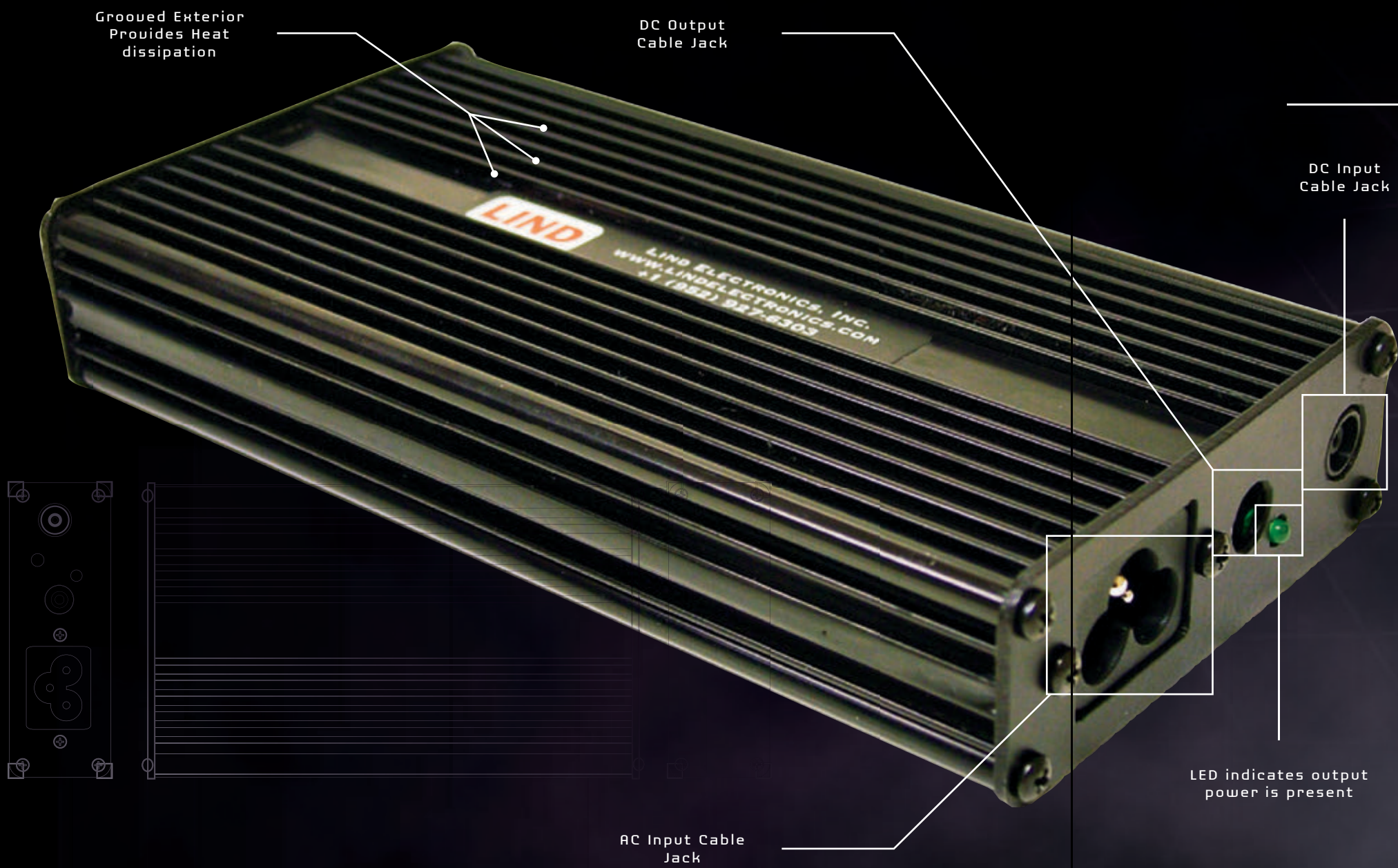
Mounting Hole (x4)

FEATURES

- Low Input Voltage Disconnect
- High Input Voltage Disconnect
- Output Short Circuit Protection
- Output Overcurrent Protection
- Internal Over Temperature Protection
- Automatic Restart 10 seconds after Fault Removal
- Terminal block input and output connections
- Output power up to 120W

TECHNICAL INFORMATION

- Input Voltage Range: 11 - 16Vdc, 12 - 32Vdc, or 9 - 42Vdc (depending on model)
- Output Voltages Available: 10 - 24Vdc (others available - contact Lind)
- Temperature Range: -20° C to +40° C operating; -40° C to +85° C storage
- Input Fuse: External input fuse required



RUGGED AC/DC COMBO ADAPTER

The Lind Rugged AC/DC Combo Adapter is designed to power rugged laptops from either an AC or DC power source.

This adapter features a power-on LED and universal switching for 110 - 240 Vac input voltage. The unit comes with a 36-inch output cable to charge rugged laptops; a 36-inch cigarette lighter input cable to power direct from an automobile; and a 72-inch AC input cord to power direct from a standard AC power source (NOTE: other cable input options available - contact Lind).

The Rugged AC/DC Combo Adapter's electronics are shielded by an aluminum case to protect the internal circuits from damage caused by shock and/or vibration. Its durable construction withstands extensive wear and tear in any harsh mobile environment.

SOME CABLE OPTIONS MAY INCLUDE:

Cigarette Lighter/
Auxiliary Port
DC Input Cable



AC Input
Cable



DC Output
Cable



FEATURES

- Designed to power rugged laptops in different industries and applications
- Adapter housed in rugged aluminum extrusion for added durability
- Epoxy potted and sealed to protect against shock, moisture and high humidity
- RoHS, WEEE Certified

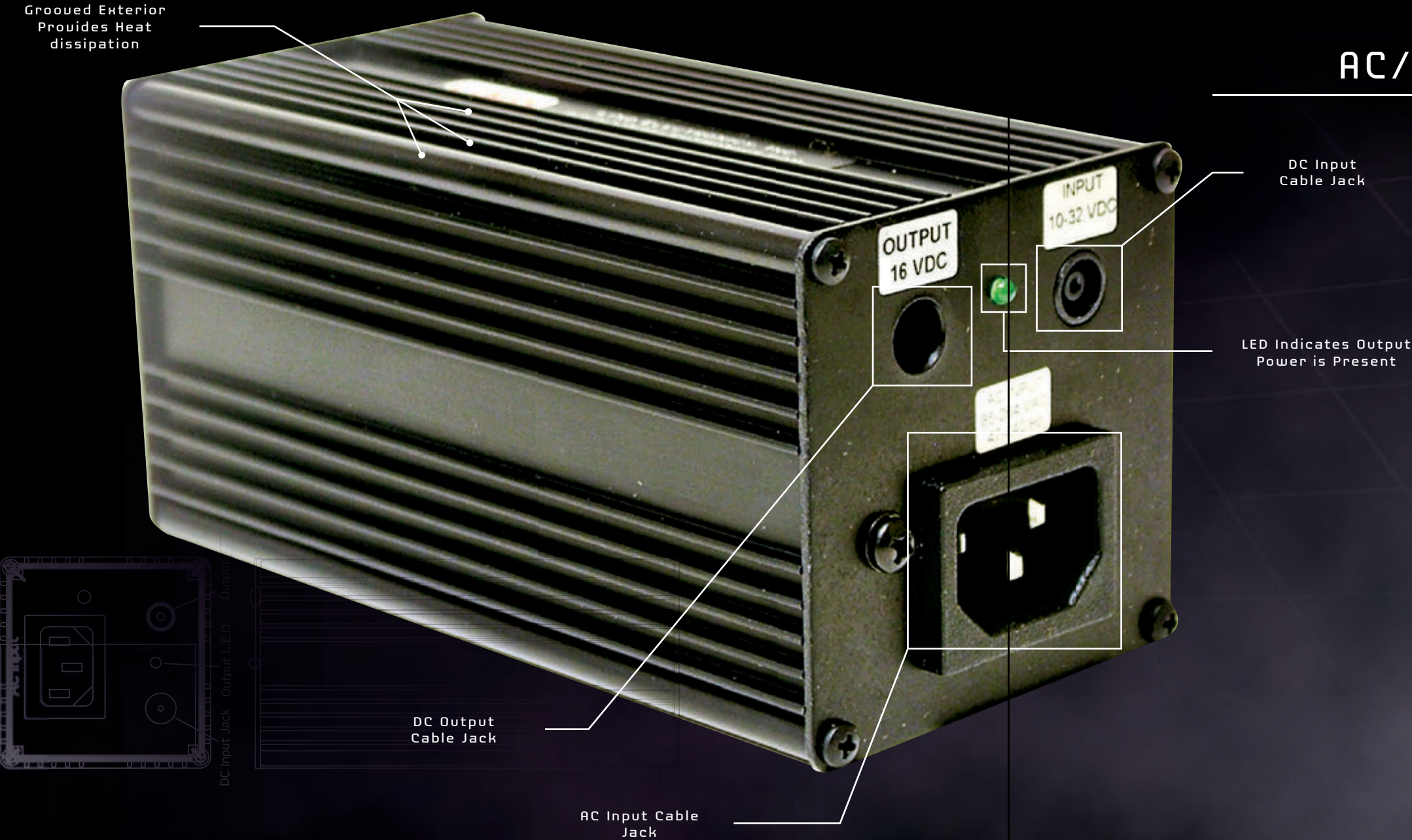
TECHNICAL INFORMATION

- Input Voltage Range: 110 - 240 Vac; 11 - 16 Vdc
- Output Voltage: 16.0 Vdc
- Total Load Current: 5.6 Adc
- Weight (approx.): .675 pounds (.306kg) without cables
- Dimensions (approx.): 5.6 x 3.0 x .97 inches (142 x 76 x 24 mm)

Grooved Exterior
Provides Heat
dissipation

AC/DC & AC/DC/DC ADAPTERS

Lind's Ruggedized AC/DC and AC/DC/DC Combo Power Adapters can power and charge your laptop from an AC or DC voltage source. The adapter's electronics are shielded by an aluminum case to protect the internal circuits from damage caused by shock and/or vibration.



SOME CABLE OPTIONS MAY INCLUDE:

AC Input
Cable



DC Input Cable Options
(Bare Wire Input - Top;
Military Battery - Bottom)



DC Output
Cable



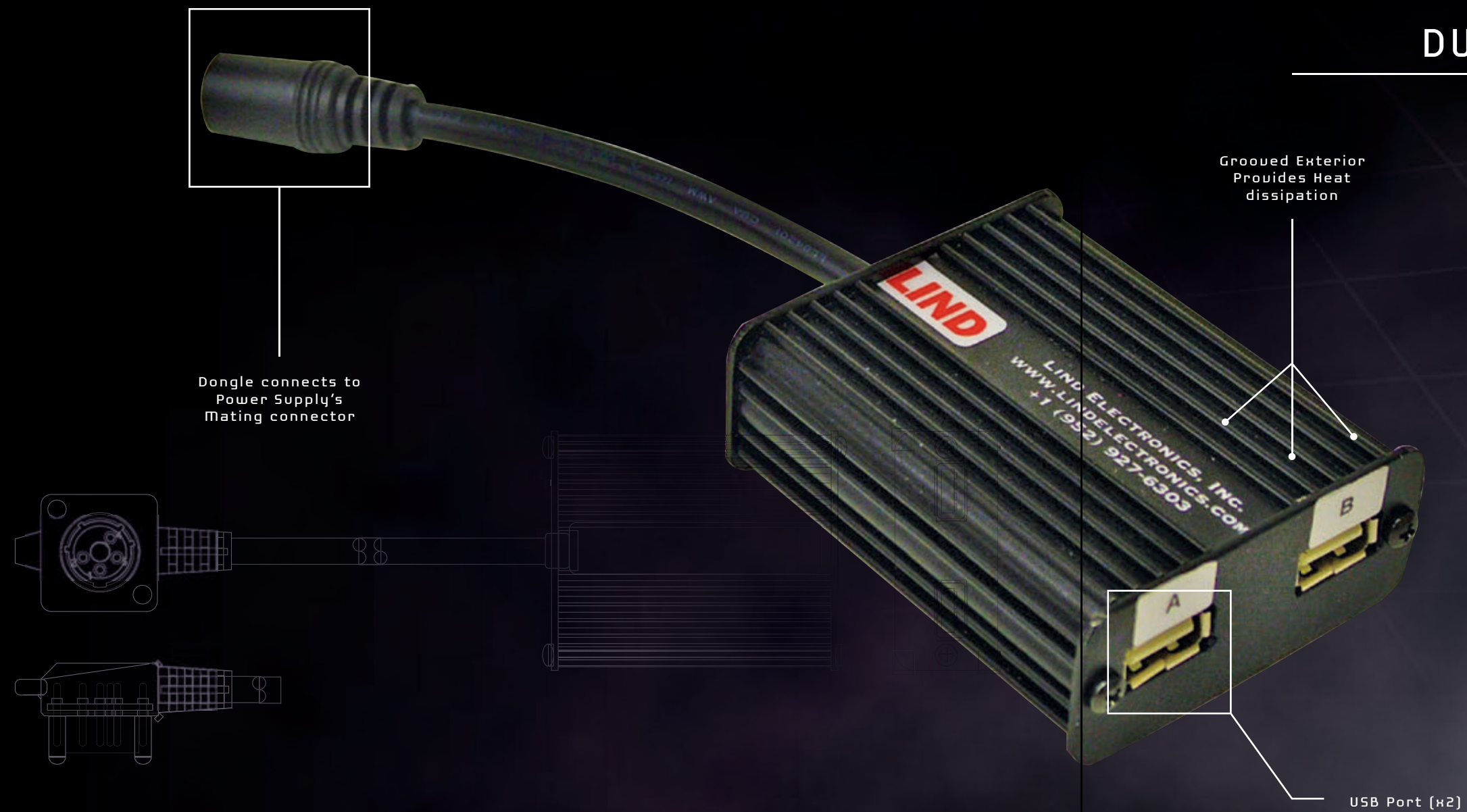
FEATURES

- Withstands extreme shock and vibration
- Operation over wide temperature range
- Epoxy sealed to resist moisture and humidity
- Output overvoltage and overcurrent protection
- Replaceable input and output cables on most models
- The combo adapter can accept power from AC or DC voltage sources
- Optional 400 Hz AC adapters available
- Output power up to 120 watts

PROTECTION FEATURES

- Output short circuit protected
- Output Current Limit
- Internal overtemperature shut down (DC input only)
- Low Input Voltage Cut Off (DC input only)
- Automatic reset of safety Cut Offs

DUAL USB POWER ADAPTERS



The Lind Dual USB Power Adapters allow you to charge low-power devices via USB using one of three different input cable options: a NATO Slave connector; an input cable with a BA-5590 or BB-2590 military battery connector; or a cigarette lighter connector.

This adapter provides regulated DC output for charging mobile phones, MP3 players, digital cameras, and other mobile devices using a USB cable (not included).

The Dual USB Power Adapter's electronics are shielded by an aluminum case to protect the internal circuits from damage caused by shock and/or vibration. Its durable construction withstands extensive wear and tear in any harsh mobile environment. And snap-in connections make replacing missing or damaged cables from anywhere in the field easy and hassle-free.

SOME CABLE OPTIONS MAY INCLUDE:

NATO Slave DC Input Cable



Military Battery DC Input Cable



Cigarette Lighter/ Auxiliary Port DC Input Cable



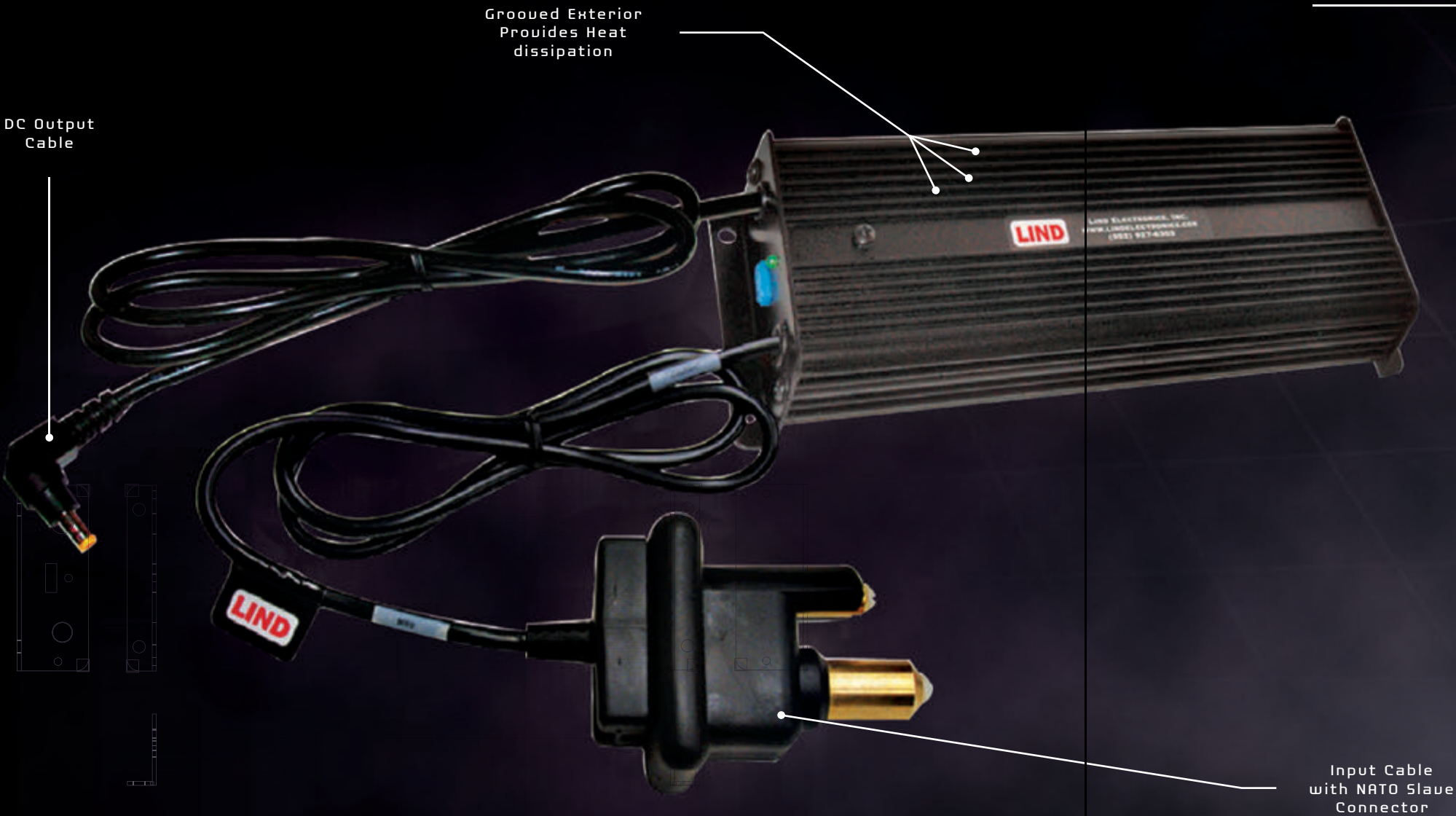
FEATURES

- Simultaneously power up to 2 USB devices
- 3 input cable options
- Output Current Limit Protection
- Regulated DC output for charging USB devices
- Rugged aluminum extrusion
- Epoxy sealed components

TECHNICAL INFORMATION

- Power Input: 12 - 32Vdc
- Power Output: 5V, 500ma each
- Dimensions (approx.): 2.80 x 2.28 x .98 inches (71 x 58 x 25 mm) excluding cables
- Weight (approx.): .6 pounds (.27 kg) excluding cables

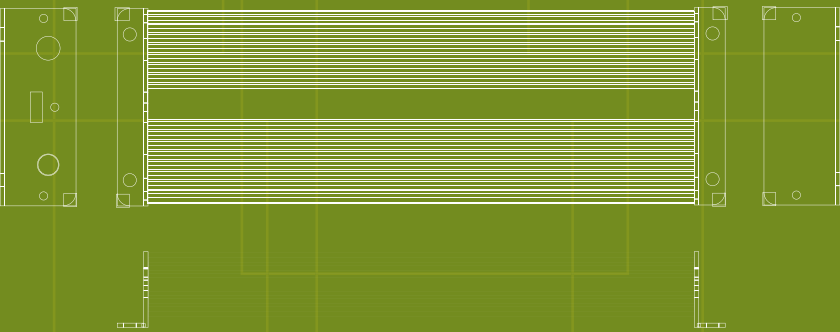
MIL-STD POWER ADAPTERS



Lind's MIL-STD Power Adapters offer a rugged design for meeting electrical and environmental standards MIL-STD461E, MIL-STD1275B and MIL-STD810F.

The adapter's electronics are shielded by an aluminum case to protect the internal circuits from damage caused by shock and/or vibration. Its durable construction withstands extensive wear and tear in any harsh mobile environment.

The input power is provided via a NATO Slave connector, BA-5590 battery, cigarette lighter input cable or other specific connection. Standard or custom cable lengths may be made to order upon request (contact your Lind Sales Representative for more information).



DC INPUT SPECIFICATIONS

- Input: 11 to 32 Vdc
- EMI/RFI Characteristics: Meets MIL-STD461E (or F), CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103
- Input Transient Protection: Meets MIL-STD1275D, Voltage Surge +100 Vdc, Voltage Spike +/-250 Vdc
- Load Dump Protection: Meets ISO 7637
- Reverse Polarity: Auto Recovery
- Output power up to 100W (120W for certain models)

DC OUTPUT SPECIFICATIONS

- Output Voltage: 12-24 Vdc (Factory Set - Identified on unit label)
- Short Circuit Protection: Auto Recovery
- Isolation Voltage: Input to Output Non-isolated, 100 Vdc Output to Case

REPLACEMENT AC ADAPTERS

The Lind Replacement AC Adapter is designed to replace missing or damaged AC power supplies provided with your original laptop. These adapters meet or exceed the laptop manufacturer's original specifications.

Each unit features a power-on LED and universal switching for 100 - 240 Vac input voltage. The device comes with a 48 inch long attached output cable supplied with a 60 inch long AC input cord.

Tips are available for most models to plug the Lind Replacement AC Power Adapter into your laptop. 90, 120 and 150 watt output versions of these adapters are available.



AC CABLE INCLUDED:

AC Input
Cable



FEATURES

- Universal AC Input Range
- Various DC output connectors available
- Up to 90 watt, 120 watt & 150 watt models available
- UL Listed and CE Marked
- Various AC cords available
- RoHS compliant

MED-GRADE REPLACEMENT AC ADAPTERS



Lind's Medical-grade Replacement AC Adapters meet or exceed the laptop manufacturer's original specifications. These adapters are IEC medical-grade certified to perform in the most demanding military medical applications and environments.

Each unit features a power-on LED and universal switching for 100 - 240 Vac input voltage. The device comes with a 48 inch long attached output cable supplied with a 60 inch long AC input cord.

Tips are available for most models to plug the Lind Medical-grade Replacement AC Adapter into your laptop.

AC CABLE INCLUDED:

AC INPUT
Cable



FEATURES

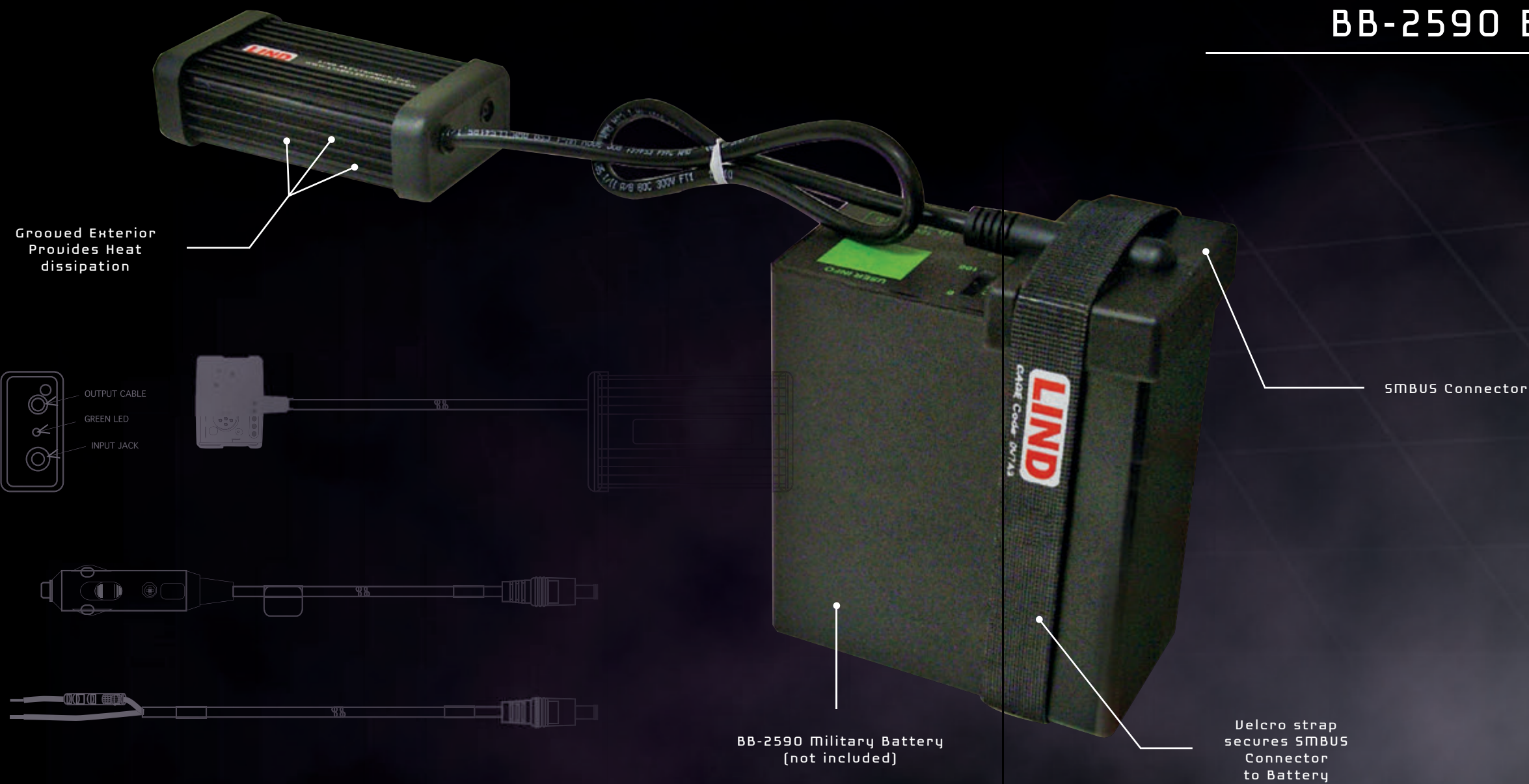
- Universal AC Input Range
- Various DC output connectors available
- Up to 130 watts output
- UL Listed and CE Marked
- IEC 60601 Medical Grade Certification
- Low Leakage
- Power Factor Corrected
- RoHS compliant

BB-2590 BATTERY CHARGER

The Lind BB-2590 Battery Charger is designed to charge a single BB-2590 military battery,* with or without the SMBUS. The charger automatically conditions and regulates voltage provided from the military vehicle to the correct DC voltage and current required to charge the BB-2590 battery.

The unit is housed in a rugged case for durability. The charger will run off of DC sources supplying 11-32Vdc, such as a 12V or 24V vehicle system or solar panel.

The BB-2590 Battery Charger charges a BB-2590 battery at a 3A rate. The green LED indicator flashes while charging, and becomes solid when the charge is complete. The device will charge both 2590 batteries and 2590 batteries with SMBUS.



SOME CABLE OPTIONS MAY INCLUDE:

DC Input Cable Options
(Bare Wire Input - Top;
Military Battery - Bottom)



Nato Slave DC
Input Cable



Solar Charge System



FEATURES

- Low Input Voltage Disconnect
- High Input Voltage Disconnect
- Output Short Circuit Protection
- Output Overcurrent Protection
- Internal Over Temperature Protection
- LED on adapter indicates output power is present
- LED on cig plug indicates input power is present (most models)
- Output power up to 120W

TECHNICAL INFORMATION

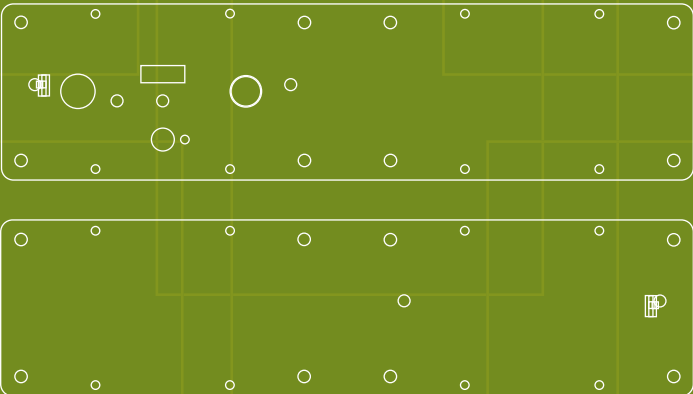
- Input Voltage Range: 11 - 16Vdc or 12 - 32Vdc (depending on model)
- Output voltages available: 10 - 24Vdc (others available - contact Lind)
- Input Fuse: Auto Mini in adapter or 3AG in input cable

DC BACKUP UNINTERRUPTIBLE
POWER SUPPLY (UPS) SYSTEM

The Lind DC Backup UPS System is a reliable DC power source that will operate electronic equipment for a short time when emergency power is needed. When 12 or 24Vdc input power is unavailable, the internal battery in this backup system can provide DC output power for up to 1 hour depending on the power requirements of the load.

The Lind DC Backup UPS System automatically provides backup power when the main power source is interrupted. The unit's ruggedized construction makes it well suited for most mobile military environments.

The Lind DC Backup UPS System's compact design occupies minimal space for easy transport in a flight bag or military vehicle.



FEATURES

- Up to 1 hour of backup time depending on load
- Automatically reverts to backup during input power loss
- Charges battery and powers output at the same time
- Battery charges even with output turned off
- Regulated output with on/off switch
- Can be used with 12Vdc or 24Vdc input systems
- Charging and output status indicators

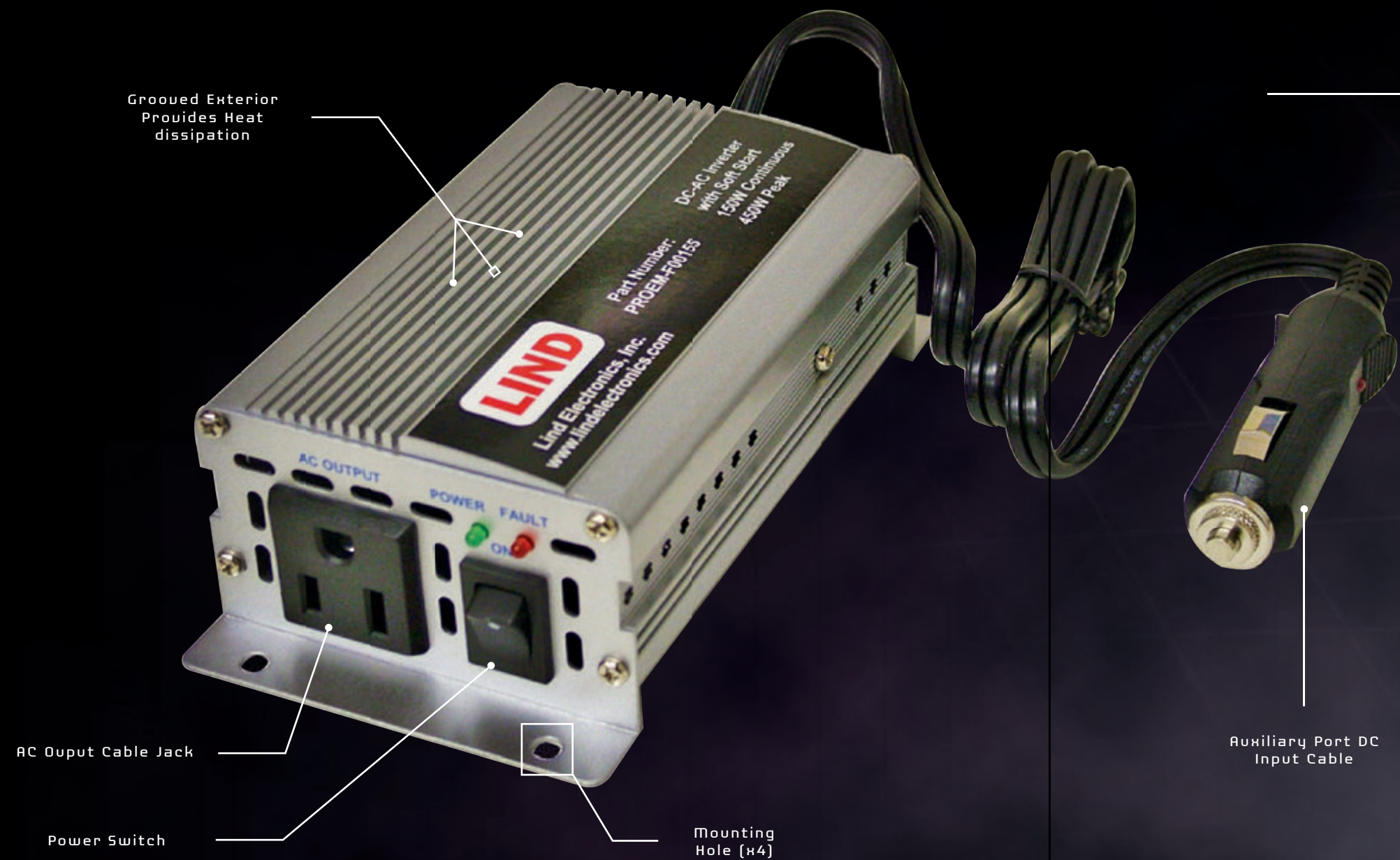
TECHNICAL INFORMATION

- Input Voltage: 12 - 32 Vdc
- Max. Input Current: 10 amps
- Output Voltage: 9 - 24Vdc factory set
- Output Power: 60 watts maximum
- Input Protection: 15 amp replaceable fuse
- Operating Temperature: +5° to +35°C
- Battery Type: Internal NiMH (replaceable)
- Battery Capacity: Approx. 60 watt hours

MODIFIED SINE WAVE INVERTERS

Modified Sine Wave Inverters convert power supplied from a 12 or 24Vdc power source to AC power for operating more conventional AC-powered devices. These inverters are well-suited for powering lights, televisions, power tools, microwave ovens, and other basic electrical devices.

The Modified Sine Wave Inverters are available in either 150 watt and 300 watt DC/AC versions (contact Lind for more information).



FEATURES

- Energy-efficient Output: 120Vac @ 60 Hz / 220Vac @ 50 Hz
- Convection-cooled: 150 W; Fan-cooled: 300 W
- Low Battery Alarm: 10.5 Vdc (12 Vdc Input)
- Low Battery Alarm: 21 Vdc (24 Vdc Input)
- Low Battery Shut Down: 10 Vdc (12 Vdc Input)
- Low Battery Shut Down: 20 Vdc (24 Vdc Input)
- Alarm & Thermal Shut Down: 55° C

PURE SINE WAVE INVERTERS

Pure Sine Wave Inverters convert power supplied from a 12 or 24Vdc power source to AC power used for operating more critical AC-powered devices.

These inverters provide an output voltage wave form with very low distortion and clean power (similar to that supplied by a utility). The units are designed to power sensitive electrical or electronic devices such as laptop computers, laser printers and other specialized communications equipment.

The Pure Sine Wave Inverters offer higher efficiency ratings than Modified Sine Wave Inverters. These units are available in either 150 watt and 300 watt DC/AC versions (contact Lind for more information).



FEATURES

- 90% efficient at full load, 95% efficient at 1/3 load
- Output: 120 Vac @ 60 Hz / 220 Vac @ 50 Hz
- Fan cooled
- Low Battery Alarm: 10.5 Vdc (12 Vdc Input)
- Low Battery Alarm: 21 Vdc (24 Vdc Input)
- Low Battery Shut Down: 10 Vdc (12 Vdc Input)
- Low Battery Shut Down: 20 Vdc (24 Vdc Input)
- Regulation: + or - 6%

FEATURES [CONTINUED]

- Total Harmonic Distortion (max.): 4%
- Alarm & Thermal Shut Down: 55° C

SOLAR CHARGE SYSTEM

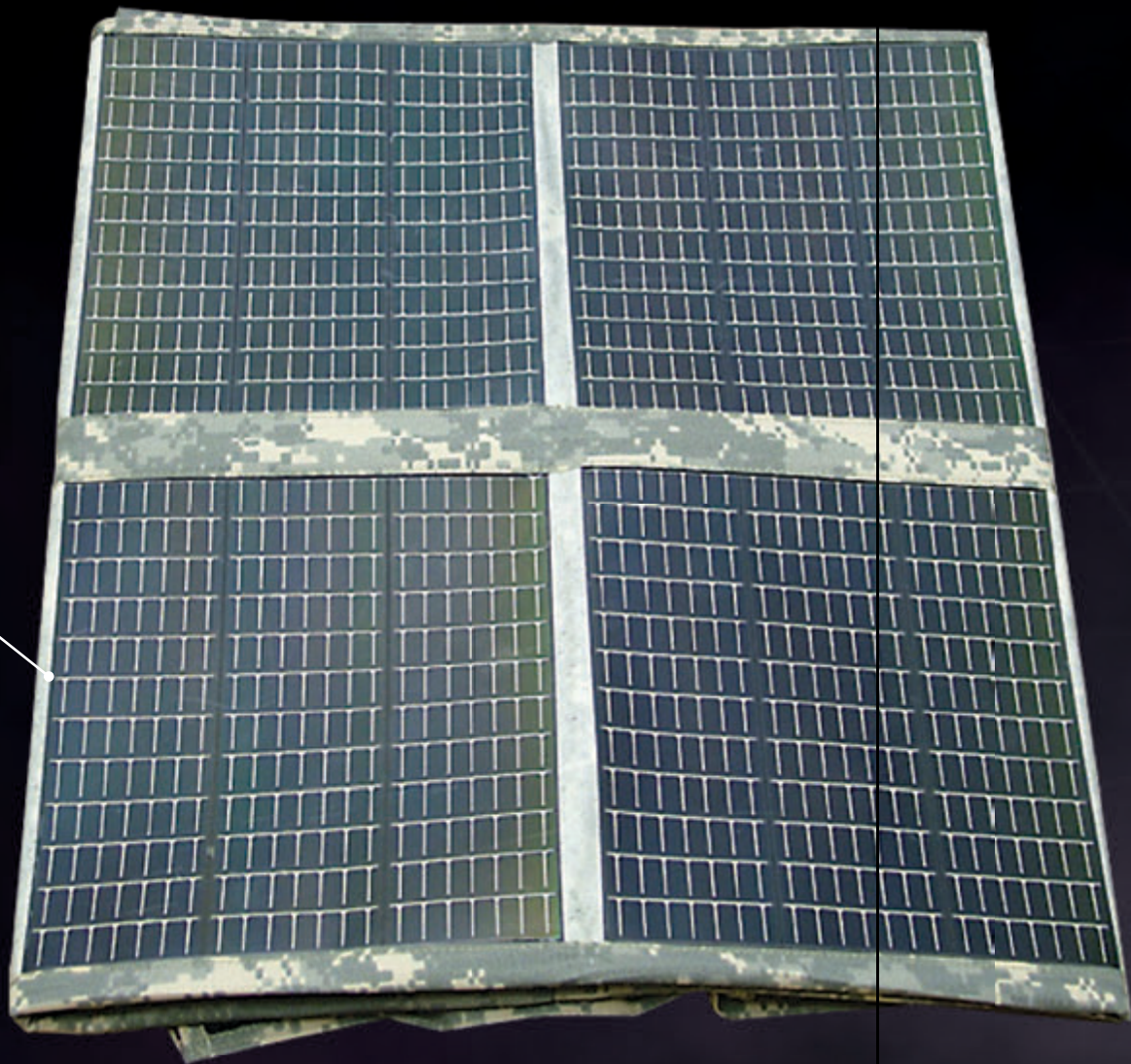
The Lind Solar Charge System is used with the BB-2590 rechargeable battery (not included) to power your mobile devices where primary power sources are limited or unavailable.

The system consists of a combination charge/controller DC output module, foldable solar panel and related cabling for complete connection between the battery, laptop and solar panel.

The charge/controller uses the power obtained from the solar panel to recharge the BB-2590 battery. The power drawn from the battery operates the laptop.

The green LED is on when the DC output is on. The yellow LED flashes while the battery pack is being charged. And the system is on continuously when the battery is charged and off when no input power is present.

Foldable Solar Panel



SOME CABLE OPTIONS MAY INCLUDE:

Adapter with SMBUS Connector for hookup to Military Battery



DC Output Cables



FEATURES

- Lightweight portable solar power solution for powering laptops or other mobile devices
- Recharges military BB-2590 Li-Ion battery while powering the laptop
- Can be powered from solar panel (60W typ.), 12V or 24V vehicle electrical systems
- Over-temperature shut down with auto reset
- Over current shut down with auto reset after 10 seconds if input is present

TECHNICAL INFORMATION

- Input Voltage (from 60W solar panel): 15.6Vdc @ 3.6 amps typical with full illumination
- Input Voltage (from vehicle): 12-32Vdc
- Output Voltage: 10 - 28V Factory set, as required by load
- Output Current: As required by load
- Output Power: Up to 120W for the mobile device
- Charge Time: 5 hours from complete discharge, at no load and full with power from 60W solar panel

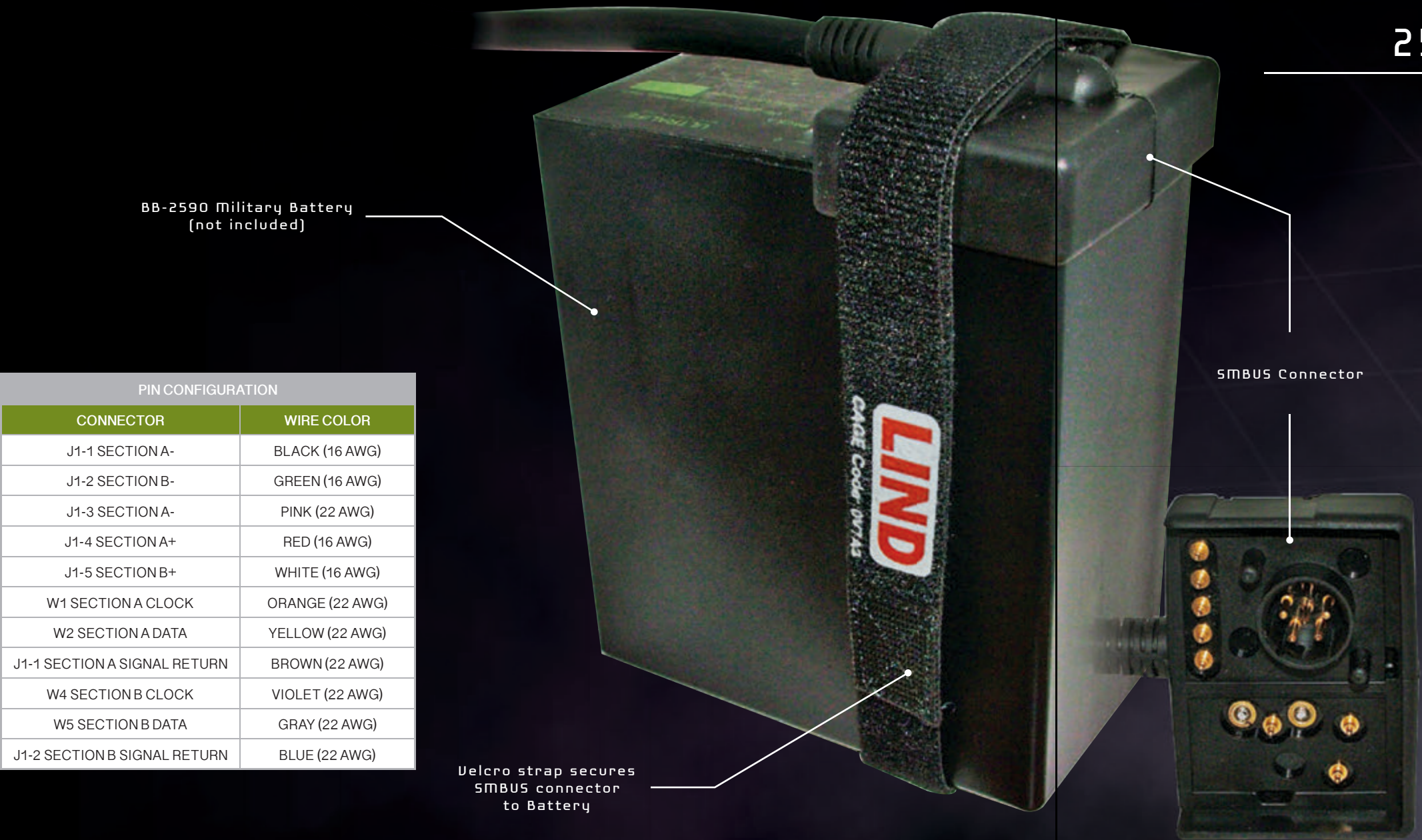
2590 SMBUS BATTERY CABLES

Lind 2590 SMBUS Battery Cables are designed to interface with BB-2590 batteries,* with or without the SMBUS. These Lind cables are also compatible with other -xx90 military batteries.

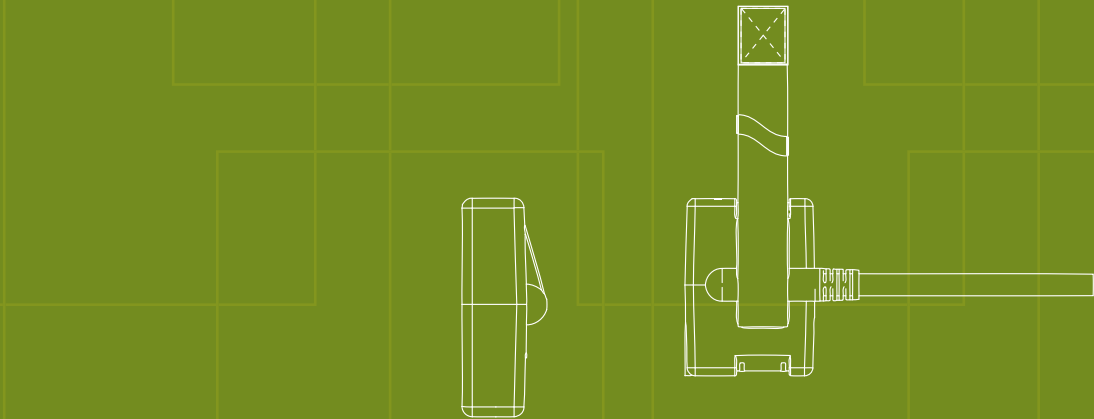
Many optional configurations are possible, including:

- Preconfigure for 12V or 24V
- On-board charge enable available
- With or without charge enable
- With or without SMBUS connections
- Various cable lengths and types available
- On-board diode isolation available

**NOTE: BB-2590 military battery not included*



PIN CONFIGURATION	
CONNECTOR	WIRE COLOR
J1-1 SECTION A-	BLACK (16 AWG)
J1-2 SECTION B-	GREEN (16 AWG)
J1-3 SECTION A-	PINK (22 AWG)
J1-4 SECTION A+	RED (16 AWG)
J1-5 SECTION B+	WHITE (16 AWG)
W1 SECTION A CLOCK	ORANGE (22 AWG)
W2 SECTION A DATA	YELLOW (22 AWG)
J1-1 SECTION A SIGNAL RETURN	BROWN (22 AWG)
W4 SECTION B CLOCK	VIOLET (22 AWG)
W5 SECTION B DATA	GRAY (22 AWG)
J1-2 SECTION B SIGNAL RETURN	BLUE (22 AWG)



FEATURES

- Compatible with BB-2590 w/SMBUS, BA-5390, BB-2590, BB-390 and BA-5590 military batteries
- Velcro strap secures the connector to the battery to ensure a solid connection between the connector spring loaded pins and the battery contacts
- Access to BB-390 thermister contacts
- Splash resistant SMBUS connector housing
- Low profile design
- Lightweight

TECHNICAL INFORMATION

- Max. Current: 13A
- Cable Length: 36" Standard
- Cable Jacket: PVC, Black
- Connector Material: Santoprene, Black
- Temperature Rating: -20° to 70° C
- Weight: .5 pound
- RoHS Compliant

NATO SLAVE CONNECTOR CABLE

The Lind NATO Slave Connector plugs into a military HUMVEE's NATO slave receptacle. The connector is available in either a fused or non-fused design.

NOTE: Other cable configurations and lengths available. Contact your Lind Sales Representative for more information.



RIGHT-ANGLE NATO SLAVE CONNECTOR CABLE

The Lind Right Angle NATO Slave Connector allows you to connect 12 - 32Vdc Lind adapters to the NATO receptacles installed on military HUMVEE vehicles. This connector is available in either a fused or non-fused design.

NOTE: Other cable configurations and lengths available. Contact your Lind Sales Representative for more information.



HIGH-AMPERAGE NATO SLAVE CONNECTOR

The Lind-designed High Amperage NATO Slave Connector can conduct up to 50 amps. The High Amperage NATO Slave Connector offers lightweight heavy-duty construction and provides easy screwdriver lug wire terminals for cable connections. Can accept up to 2 AWG copper strand wire. Easy to tighten compression fit wire strain relief connectors.

NOTE: Other cable configurations and lengths available. Contact your Lind Sales Representative for more information.



BA-5590 TO MP205 CONNECTOR CABLE

Use the BA-5590 to MP205 Cable to power a Lind DC/DC Adapter from a BA-5590 military battery.

NOTE: Other cable configurations and lengths available. Contact your Lind Sales Representative for more information. BA-5590 military battery pictured not included with cable purchase.



BA-5590 TO AUXILIARY PORT CONNECTOR CABLE

The BA-5590 to Auxiliary Port Connector allows you to connect a BA-5590 military battery to a female cigarette lighter/auxiliary port socket.

NOTE: Other cable configurations and lengths available. Contact your Lind Sales Representative for more information.



BA-5590 TRIPLE INPUT CONNECTOR CABLE

The Lind BA-5590 Triple Input Connector allows you to hook up 3 BA-5590 batteries simultaneously to use as a single output. This results in more wattage provided for operating mobile devices that require more power.

NOTE: Other cable configurations and lengths available. Contact your Lind Sales Representative for more information.



Lind's DC/DC Power Adapters have many features that make each model a superior adapter. Here is a descriptive explanation of these features (features vary by model – contact Lind Electronics for a particular model's features).

AUTOMATIC RESTART OF ADAPTER

After approximately 10 seconds the adapter will restart if the fault is no longer present (no manual intervention is required).

EMI

Standard Lind adapters are designed to meet the radiated limits of EN55022 and susceptibility limits of EN55024, meeting E-mark and the EMC Directive.

FLEXIBILITY

Many adapter thresholds and features can be adjusted per individual customer requirements.

HIGH INPUT VOLTAGE CUT OFF

If the input rises above a preset threshold the adapter will turn itself off to protect itself and the powered device from damage. The adapter will automatically restart when the input voltage returns to its normal operating range.

HIGH OUTPUT VOLTAGE LIMIT

The adapter limits the output voltage to a safe level to prevent damage to the laptop in rare instances where the adapter has an internal failure.

INPUT POWER LIMIT

The input power is limited to reduce stress on the input fuse and wiring. Soft-start circuitry also reduces the stress to the system at adapter start-up.

ISOLATION

Some models have input to output isolation of 500Vdc for those customers requiring this feature.

LED INDICATOR

The adapter has an LED (light emitting diode) indicator that is lit when output voltage is present. Certain models also have the LED flash to indicate the fault condition when the adapter is in shut down mode.

LOW INPUT VOLTAGE CUT OFF (LIVCO)

The adapter will shut off if the input voltage goes too low. This helps prevent the vehicle battery from being discharged to a point where it will no longer start the vehicle. The adapter will automatically turn on again when the battery voltage rises back above a preset threshold (such as after the vehicle has been started and the engine is running). The low voltage shut down feature has a delay to allow the adapter to handle momentary dips that typically occur during vehicle startup. A faster shut down occurs if a large dip in the battery voltage takes place.

OUTPUT OVERLOAD PROTECTION

Lind adapters have current limiting circuitry that limits the amount of power fed into a faulty load (such as a faulty laptop or shorted output cable). The adapter has a short delay that allows it to operate during a momentary fault or current pulse. If the overload persists the unit will turn the output off, wait 10 seconds and attempt to restart. If the fault is still present the adapter will repeat the 10 second off period before trying to restart.

OVER-TEMPERATURE SHUT DOWN

If the adapter gets too hot it will shut down to prevent damage to itself. The adapter will stay off until it has cooled to a safe temperature and then automatically restart.

REVERSE INPUT PROTECTION

Most Lind adapters have a cigarette plug designed to prevent mis-wiring. In certain hard-wired applications, if the adapter input wiring is reversed the unit will blow its input fuse to protect the adapter and the powered device.

RUGGED

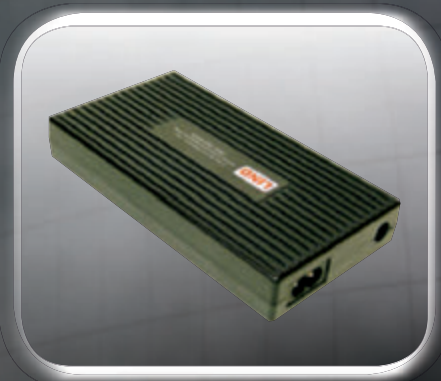
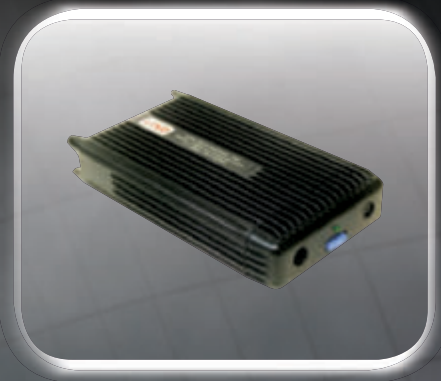
The electronics in most Lind adapters are epoxy sealed in a thermally conductive potting material. The epoxy seal helps evenly distribute heat generated by the adapter and makes the unit resistant to shock, vibration and moisture.

SHUT DOWN TIMING DELAY

Lind's Shut Down Timers and Timer Series (T) Laptop Power Adapters detect a vehicle's battery voltage and, based on preset thresholds, determine when the vehicle is running in order to turn themselves on. The Shut Down Timer and Timer Series Adapters determine when the vehicle engine is turned off. These units will then wait for a preset period of time before turning off all connected devices. This feature is designed to prevent vehicle battery drain.

WIDE INPUT OPERATING RANGE

Many Lind adapters can operate from 12Vdc or 24Vdc battery systems. This allows the customer to buy one unit to operate with either system.



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