

产品规格书

Specification

客 户 : ENERDAN GMBH

Customer

机种名称 : 锂离子电池充电器

Type

Li-ion battery charger

产品型号 : LBC046420040

Model

发行版本 : V1.0

Reversion

制作日期 : 2024/4/25

Date

基本规格 :

Basic spec

输 入 Input	:	100-240Vac
输 出 Output	:	42V4A
输入线材 Input cord	:	EU 2pin AC plug power supply cord
输出线材 Output cord	:	XLR 3PIN PIN1"+" PIN2"- (Customer provided)
包 装 盒 Individual box	:	Kraft box(Maroon)
适用电池 Ft for battery of	:	10S(each cell 4.2V)
软件编号 Software No.	:	

批准Approvalled by	审核Checked by	制作Prepared by
Roven Jiang		Duan Yousheng
客户承认Customer approval		
批准Approvalled by	审核Checked by	测试Tested by

变更记录/History

Rev.	描述/Description	签名/Sign	日期/Date
V1.0	首次发行/First issue	Duan Yousheng	2024/4/25

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一、简介 Introduction

该产品为交流转直流锂离子电池充电器，基本特性如下：

This unit is the AC to DC li-ion battery charger, basic characteristics are as below:

输入电压 Input voltage	输出电压 Output voltage	充电电流 Charge current	总输出功率 Max output power	适配电池 Fit for battery of
100-240Vac	42±0.2V	4±0.4A	168W	10S (each cell 4.2V)

二、环境特性 Environmental characteristics

序号 No	项目 Item	规格 Spec	备注 Remark
1	工作温度 Operation temp.	0 - 40 °C	
	存储温度 Storage temp.	-20 - 60 °C	
2	工作湿度 Operation humidity	5 - 65%	
	存储湿度 Storage humidity	5 - 65 %	
3	散热方式 Cooling mode	<input checked="" type="checkbox"/> 全封闭Full closed <input type="checkbox"/> 散热孔Heat dissipation hole <input type="checkbox"/> 内部灌胶 Glue inside <input type="checkbox"/> 带风扇With fan	<input type="checkbox"/> 金属外壳Metal shell <input checked="" type="checkbox"/> 塑胶外壳Plastic shell

三、输入特性 Input characteristics

序号 No.	项目 Item	规格 Spec	备注 Remark
1	输入电压范围 Input voltage range	90-264VAC	额定电压100-240Vac Rated voltage 100-240Vac
2	输入电压频率范围 Input voltage frequency range	47-63HZ	
3	空载功耗 Power consumption (no load)	≤2.0W	
4	满载输入电流 Input current (full load)	≤2.5A	
5	浪涌电流 Inrush current	≤70A	冷启动 Cold start
6	效率 Efficiency	≥90%	额定电压/满负载 Rating input/Full load
7	功率因数 Power factor	≥0.9	满负载 Full load

四、输出特性 Output characteristics

序号 No.	项目 Item	规格 Spec	备注 Remark
1	输出电压 Output voltage	42±0.2V	输出为脉冲电压, 脉冲宽度约为180ms output voltage is pulsating with width of about 180ms
2	纹波&噪声 Ripple & noise	≤300 mV	输出端并联一个104瓷片电容和一个10UF电解电容, 示波器带宽设置为20MHZ Connect a 104 ceramic capacitor and a 10UF electrolytic capacitor parallely to the output side and set the occilloscope bandwidth 20MHZ.

序号 No.	项目 Item	规格 Spec	备注 Remark
3	充电特性 Charge characteristics	600±200mA	电池电压：25V<V<30V Battery voltage: 25V<V<30V
		4.0±0.4A	电池电压：30V<V<40.8V Battery voltage: 30V<V<40.8V
		500±200mA	转红灯点 The point turn to red LED
		300±150mA	转绿灯点 The point turn to green LED
		>40.8V	恒流转恒压点 CC-CV point
4	LED灯指示 LED indicator	不亮灯 No light	AC关断时 Cut off AC
		亮红灯 Red light	充电中 Charging
		红灯闪 Red light flashing	异常时（短路、反接、过压、过流、过温） Abnormal state(sc, reversed polarity, ovp, ocp, otp)
		亮绿灯 Green light	充满 Fully charged

五、保护特性

Protection characteristics

序号 No.	项目 Item	规格 Spec	备注 Remark
1	短路/反接保护 Output short/Reverse connection Protection	充电器保护闪红灯 The charger protect and flashes red light	故障移除后可恢复 Recovery after the fault removed
2	定时保护 Timing protection	2小时±20分钟 2hour ±20 minutes	电池电压在25-30V之间时启动定时A, 2小时后电池电压仍低于30V, 则停止充电, 闪红灯 Timing A will be started once the BAT is checked between 25-30V, and charging stop with red led flashing if bat can't be charged above 30V in 2 hour
		10±0.5 小时 10±0.5 hours	充电电流在3.3A以上时启动定时B, 10小时后充电电流仍然高于3.3A, 则停止充电, 闪红灯 Timing B will be started once the charging current is detected above 3.3A, and charging stop with red led flashing if charging current can't fall down below 3.3A in 10 hours,
		4±0.5 小时 4±0.5 hours	充电电流在3.0A以下后启动定时C, 4小时后如仍在充电则停止充电亮绿灯 Timing C will be started once the charging current is detected below 3.0A, but if the charging continues for more than 4 hours, the charging will stop immediately and the LED turn to green then;
3	过压过流保护 OVP and OCP	OVP:44±2V OCP:4.5A	当发生故障后, 闪红灯, 关闭输出; 当此故障解除后, 需重新插上AC电或重新连接电池才能恢复正常。 When the fault occurs, red light will flash and output will turn off; when the fault is removed, AC power must be reconnected or reconnected the battery then charging back to normal
4	过温保护 Over temperature protection	充电器保护闪红灯 The charger protect and flashes red light	异常移除后可恢复 Recovery after the fault removed
5	充饱关断 Shutdown point after charging full	130±100mA	电流达到关断点后停止充电亮绿灯 When the charging current reach to shutdown point, charging stop and green led turn on
6	电池倒灌保护 Reverse current protection	<2.0mA	充电器不接电时, 电池接上充电器不会打火, 且倒灌电流小于2.0mA When the charger is not powered on, the battery is connected to the charger without firing and the reverse current is less than 2.0 mA

六、安规认证&电磁兼容 Safety & EMC

序号 No.	项目 Item	规格 Spec	备注 Remark
1	安规认证 Safety	UL、GS、CE	UL: UL62368 GS、CE:EN60335
2	电磁兼容 EMC	CE	CE:EN55014/EN61000

七、安全、可靠性能 Reliability

序号 No.	项目 Item	规格 Spec	备注 Remark
1	绝缘阻抗 Insulation impedance	$\geq 20M\Omega$	输入端与输出端加500VDC电压,60S Add 500DC voltage from primary to secondary for 60sec.
2	绝缘耐压 Withstand voltage	$\geq 3KV_{ac}, \leq 5mA$	输入端与输出端加3KV _{ac} 电压,60S Add 3KV _{ac} voltage from primary to secondary for 60sec.
3	跌落特性 Drop test	80CM高度, 30mm硬木板, 跌三次 Drop onto 30mm thickness hard woodboard from 80cm height, for 3 times	跌落后产品功能无异常, 绝缘特性正常 After the test, the unit performance normal, insulation function normal
4	振动特性 Vibration and Shock	A.打开充电器外壳, 查看零件面和焊点面是否存在不良; B.能对电池组进行正常充电。 A. Open the housing, check if appearing any faulty component parts or soldering positions; B. can be a normal charging the battery.	参考IEC publ.68-2-6: ①振幅0.35mm; ②方向: X、Y、Z; ③频率: 10-55HZ; ④时间: 每方向30分钟; Refer to the standard of IEC publ: ①amplitude 0.35mm; ②direction: X、Y、Z; ③frequency:10-55HZ; ④time:30Mins each direction;
5	温度上升 Temperature rise	温度上升 $\leq 40^{\circ}C$ T rise $\leq 40^{\circ}C$	典型环境温度25 $^{\circ}C$ 满负载时, 人手可触及到的充电器表面 With full load, the unit surface under typical temperature 25 $^{\circ}C$.

八、机械结构 Mechanical

序号 No.	项目 Item	规格 Spec	备注 Remark
1	输入AC座 Inlet socket	AC 2Pin	输入连接座 Input Connector
2	输入AC线 AC power cord	欧规两插八字尾电源线 L:1.5M EU 2pin AC plug power supply cord L:1.5M	详见图1: AC线 See drawing 1
3	输出DC线 DC power cord	3PIN麦克风(客供) H03VV-F 2x0.5mm ² OD:5.0mm L:1.2M PIN1"+" PIN2"-" XLR 4PIN(Customer provided) H03VV-F 2x0.5mm ² OD:5.0mm L:1.2M PIN1"+" PIN2"-"	详见图2: DC线 See drawing 2
4	外观尺寸 Dimension	156.5x72.8x31.5mm	详见图3: 外观图 See drawing 3
5	摇摆特性 Swing characteristics	摇摆1000次负重200克 Load with 200g swing by 1000cycles	尾卡摇摆角度为±60°,20次/分钟,断线率 低于30%, 且无外观损伤。 SR bend in obverse at rate 20 time/min. and at an angle of ±60°. Disconnection rate of the wire shall be 30% or less.and no abnormality on appearance. DC头摇摆角度为±60°,20次/分钟,断线率 低于30%, 且无外观损伤。 DC cord bend in obverse at rate 20 time/min. and at an angle of ±60°. Disconnection rate of the wire shall be 30% or less.and no abnormality on appearance.
6	线材拉力特性 Cord pulling strength	承重6千克维持60S Load with 6kg for 60secs	目测无外观损坏 No damage on the cord

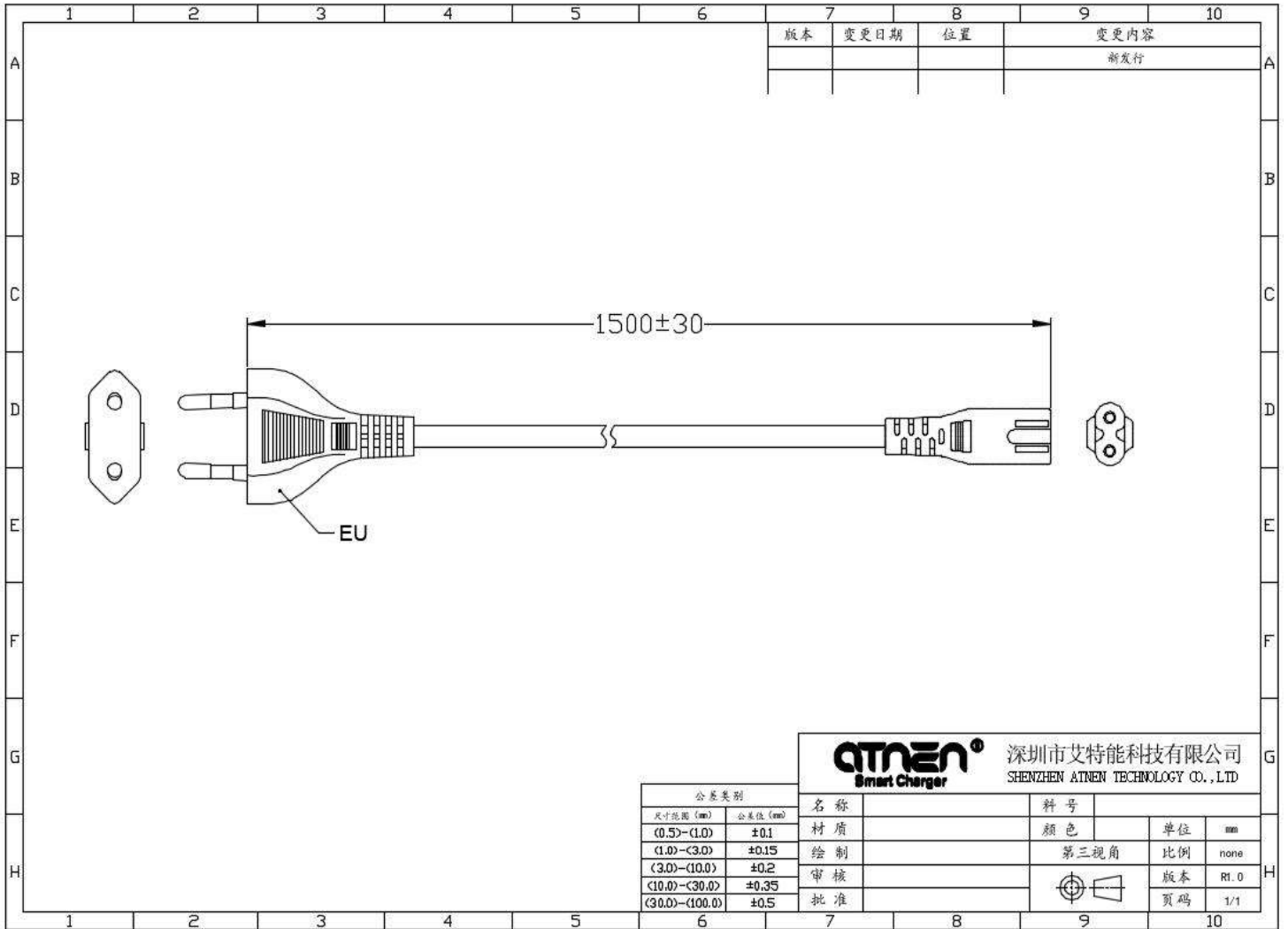


图1：AC线

drawing 1: AC power cord

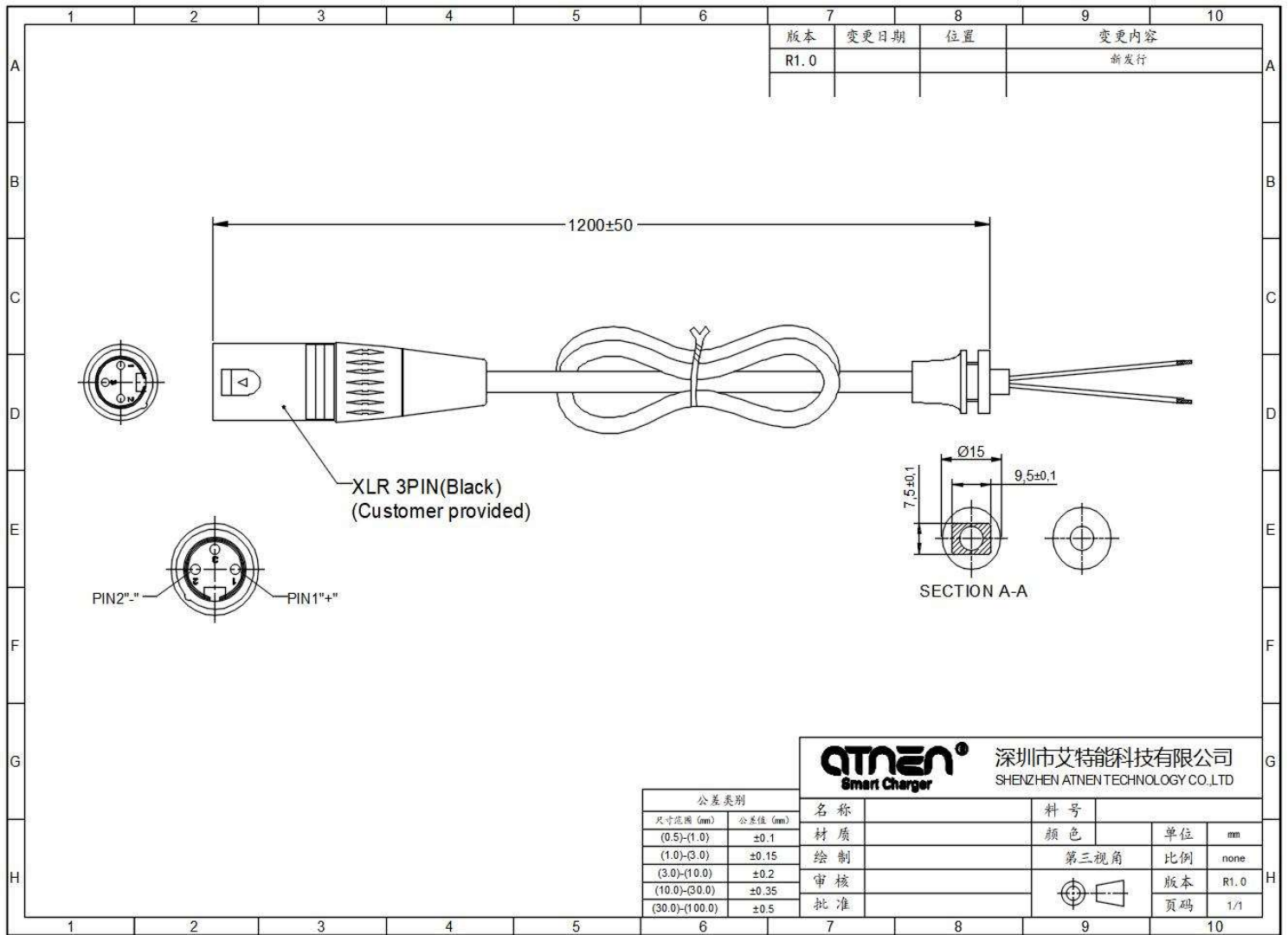


图2：DC线
drawing 2: DC power cord

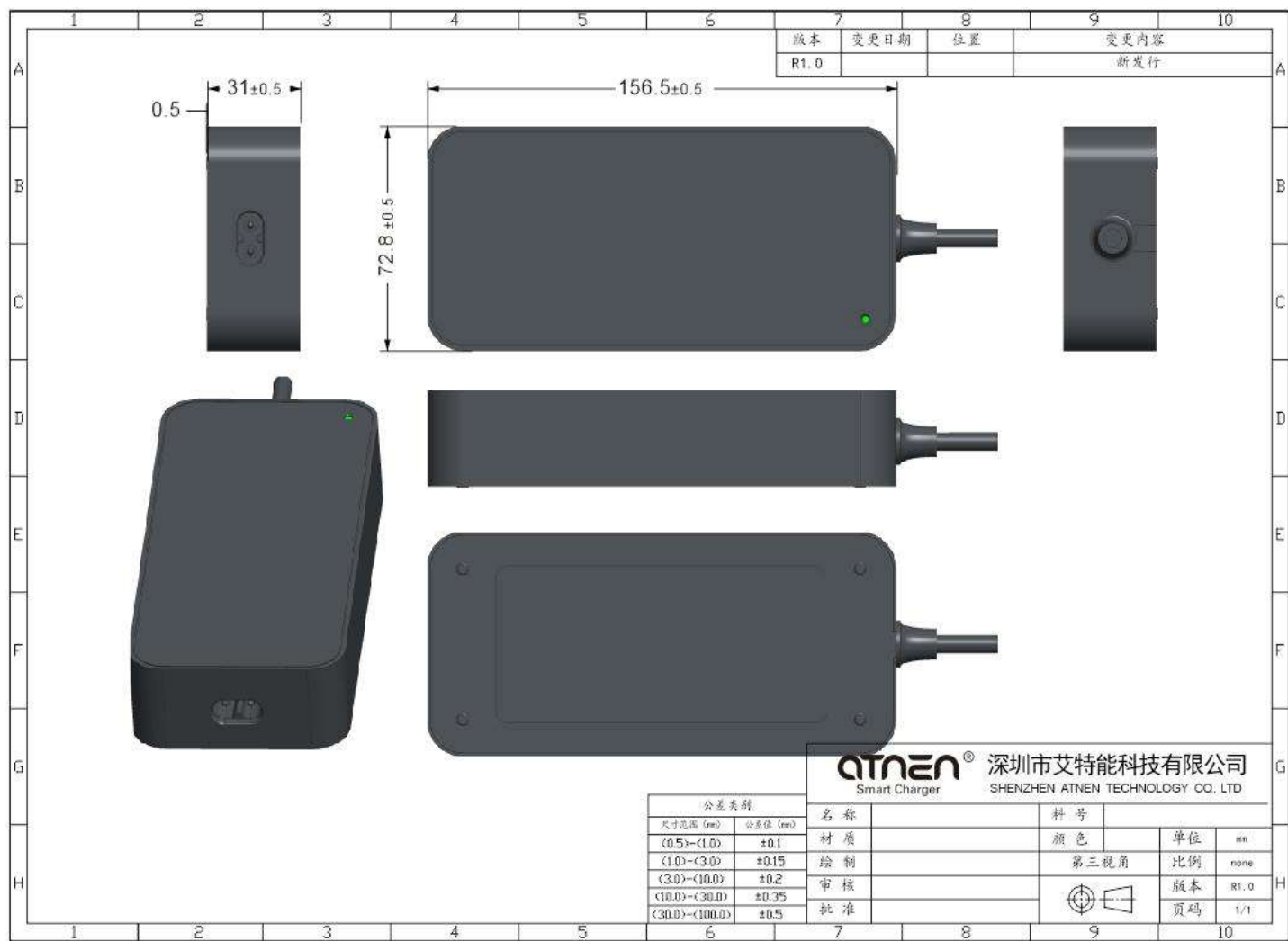


图3：外观图

drawing 3: dimension

九、外包装

1、标签 Label


110.0 mm


50.0 mm

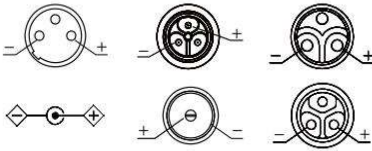
Li-ion Battery Charger

Model: LBC046420040

Input: 100-240V~, 2.5A(Max.)
50-60Hz

Output: 42.0V  4.0A

- Red light when charging 
- Green light when fully charged



Power by Enerpower

CAUTION

Use only in dry locations. Risk of injury. Risk of electric shock and fire. Read instruction manual before use.

VORSICHT

Nur an einem trockenen Ort verwenden. Gefahr von Verletzungen. Gefahr von Stromschlag und Feuer. Bitte vor dem Einsatz das Benutzerhandbuch durchlesen.

ATTENTION

À utiliser dans un endroit sec uniquement. Risque de blessure. Risque d'électrocution et de feu. Voir le manuel d'instruction avant utilisation.



LISTED
E522063

I.T.E&AV power supply



www.tuv.com
ID 0217009562
T5AL/250V



Manufacturer: Shenzhen Atnen Technology Co., Ltd.

Address: Room 301&401, Building D, No.17, Innovation Industrial Park, Xintian Community,
Guanhu Street, Longhua District, Shenzhen, 518110 China

Date code:xyyy

Made in China

激光雕刻/Laser engraving

2、说明书 Instructions

210.00 mm

148.00 mm

BEDIENUNGSANLEITUNG
USER MANUAL
MANUALE D'USO
MANUEL DE L'UTILISATEUR

Produkt	Product	Prodotto	Produit
 ATNEN Ladegerät (alle Modelle)	 ATNEN Battery Charger (All Models)	 ATNEN Caricabatteria (Tutti i modelli)	 Chargeur de batterie ATNEN (Tous les modèles)
<p>Bitte verbinden Sie zunächst das Ladegerät mit dem Akku bzw. Verbraucher. Bitte schließen Sie das Ladegerät in die Steckdose an - die rote Leuchte blinkt konstant (wenn kein Akku angeschlossen ist, leuchtet es Grün = Stand-By). Die Leuchte wechselt zu Grün (konstant), sobald der Akku aufgeladen ist. Bitte das Netzkabel von der Steckdose am Ende des Ladevorganges stets entfernen Störung – das Ladegerät blinkt. Es kann auf folgende Möglichkeiten hindeuten: Akku ist tiefentladen Die Ladepolarität passt nicht zum Akku Die Belegung der Verbindungstücke des Ladegerätes passen nicht zu dem vom Akku.</p>	<p>First connect the charger to the battery or device. Plug the charger into the socket - the red light flashes constantly (if no battery is connected, it lights up green = standby). The lamp changes to green (constant) as soon as the battery is charged. Always remove the power cord from the wall outlet at the end of the charging process. Trouble - the charger is flashing. It can indicate the following options: The battery is deeply discharged The charging voltage does not match the battery The assignment of the connectors of the charger do not match that of the battery.</p>	<p>Collegare innanzitutto il caricabatterie alla batteria o al dispositivo. Inserire il caricabatterie nella presa: la luce rossa lampeggia costantemente (se non è collegata alcuna batteria, si accende in verde = standby). La spia diventa verde (costante) non appena la batteria è carica. Rimuovere sempre il cavo di alimentazione dalla presa a muro al termine del processo di ricarica. Problema: il caricabatterie lampeggia. Può indicare le seguenti opzioni: la batteria è completamente scarica La tensione di carica non corrisponde alla batteria. L'assegnazione dei connettori del caricabatterie non corrisponde a quella della batteria.</p>	<p>Connectez d'abord le chargeur à la batterie ou à l'appareil. Insérez le chargeur dans la prise: le LED rouge clignote en permanence (si aucune batterie n'est connectée, il s'allume en vert = veille). Le LED devient vert (fixe) dès que la batterie est chargée. Retirez toujours le cordon d'alimentation de la prise murale à la fin du processus de charge. Problème: le chargeur clignote. Il peut indiquer les options suivantes: La batterie est complètement déchargée. La tension de charge ne correspond pas à la batterie. L'affectation des connecteurs du chargeur ne correspond pas à celle de la batterie.</p>

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ENERdan GmbH | Max-Planck-Straße 7, D-12489 Berlin, Germany | enerdan.de | enerprof.de
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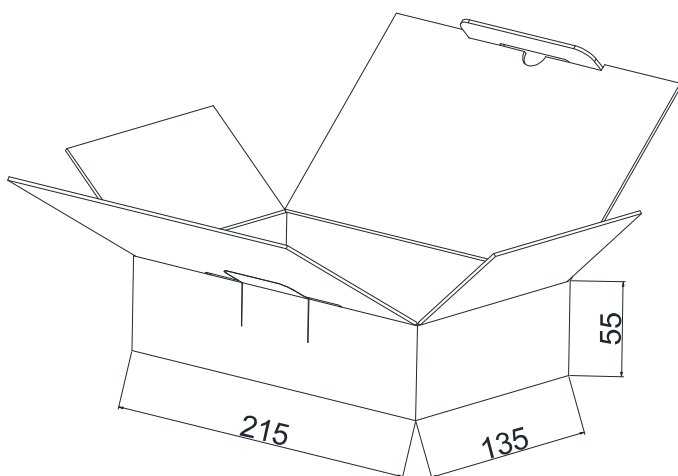
LED-Anzeige / LED Indicator / Indicatore LED / Indicateur LED	
keine Leuchte No light Senza luce Pas de lumière	nicht angeschlossen Not connected Non connesso Pas connecté
Rotes Licht Red light Luce rossa Lumière rouge	Lädt auf Charging In carica Mise en charge
Blinkend Rot Flashing red Rosso lampeggiante Rouge clignotant	Problem (s. unten) Problem (see below) Problema (vedi sotto) Problème (voir ci-dessous)
Grünes Licht Green light Luce verde Lumière verte	Voil aufgeladen Fully charged Carica completa Charge complete

Mögliche Problemursachen / Possible causes of problem
Possibili cause del problema / Causes possibles du problème

<p>Umgekehrte Polarität / Reversed polarity / Polarità invertita / Polarité inversée Akku nicht erkannt / Battery not recognised / Batteria non riconosciuta / Batterie non reconne Akku defekt / Defective battery / Batteria difettosa / Batterie défectueuse Verbindungsstück defekt / Defective connector / Connettore difettoso / Connecteur défectueux</p>	<p>Vertrieben von Distributed by Distribuito da Distribué par ENERdan GmbH Max-Planck-Straße 7, D-12489 Berlin, Germany enerdan.de enerprof.de Tel: +49 (0) 30 5770 344 35 Fax: +49 (0) 30 5770 344 39 sales@enerdan.de</p>
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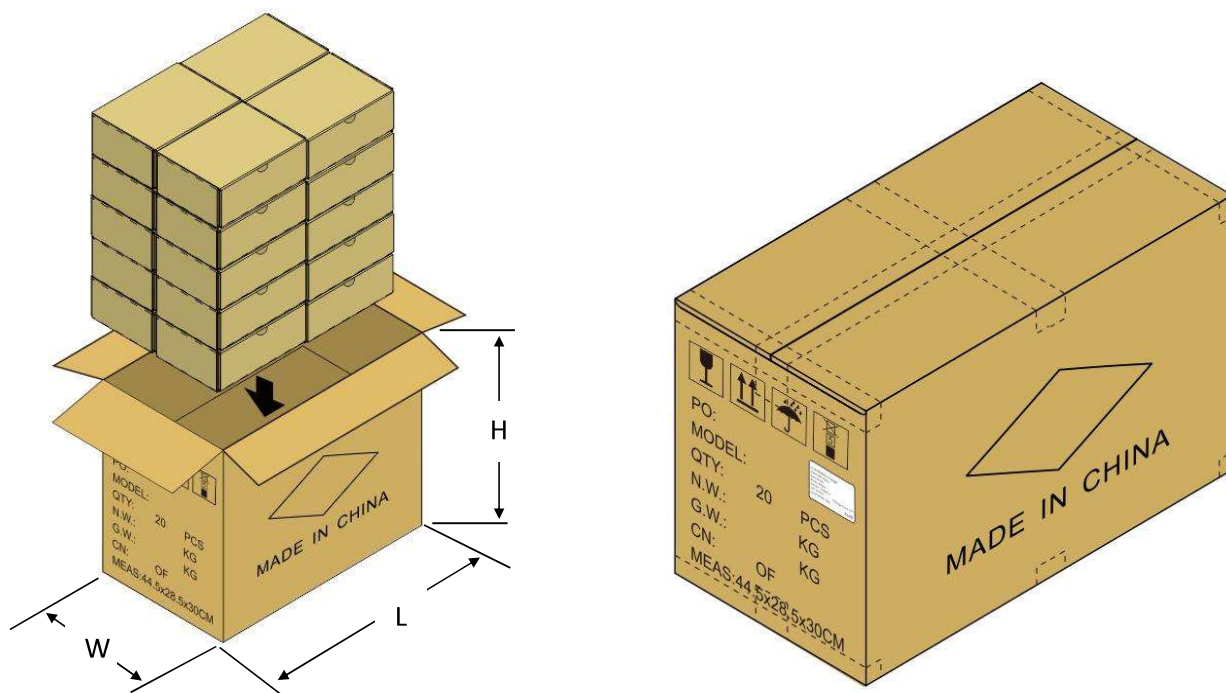
Sicherheitshinweise	Safety Instructions	Istruzioni di sicurezza	Consignes de sécurité
<p>• Bitte lassen Sie während des Ladevorganges das Ladegerät und die Akkus niemals unbeaufsichtigt. Akkus und Gerät könnten hohe Temperaturen entwickeln und dadurch Brande auslösen! • Bitte laden Sie ausschließlich Li-Ion/LiPo Akkupacks mit diesem Gerät. Bitte laden Sie niemals andere oder normale Batterien, gleich welchen Typs, mit diesem Ladegerät. Batterien können beim Laden explodieren und dabei schwere gesundheitliche Schäden hervorrufen! • Bitte halten Sie die Akkupacks oder das Ladegerät niemals auf einem Autozitz, Holztischflächen, Teppichen usw. Dadurch entsteht die Gefahr von Feuer. • Bitte außerhalb der Reichweite von Kindern aufbewahren und betreiben. • Öffnen Sie niemals das Gehäuse des Geräts und nehmen Sie nie eigenmächtig Reparaturen vor. Einige innere Komponenten stehen unter Hochspannung. Achtung: Verletzungsgefahr durch Stromschlag! • Halten Sie das Produkt fern von Wasser oder anderen Flüssigkeiten. Feuchtigkeit am Gerät kann zu Brand oder Stromschlägen führen! • Falls Rauch oder ein ungewöhnlicher Geruch aus dem Ladegerät kommt, ziehen Sie bitte sofort den Netzstecker aus der Steckdose! Es besteht die Gefahr von Feuer und elektrischem Schlag!</p>	<p>• Please never leave the charger and the batteries unattended whilst charging. The batteries and the device could reach high temperatures and by this cause fire! • Please charge only Li-Ion/LiPo rechargeable battery packs in this device. Please do never charge normal batteries of any type with this charger. Batteries may explode during charging and thereby cause serious injury! • Do not place batteries or the charger on a car seat, wood surface or carpet etc. while charging. Doing so creates the risk of fire. • Keep out of children's reach. • Never try to open the case of the charger or attempt your own repairs. High voltage internal components create the risk of electrical shock when exposed. • Keep the product away from water or other liquids. Moisture on the device may cause fire or electric shock! • Should you ever notice smoke or an unusual smell coming from the charger, unplug the AC adapter from the power socket immediately. There is a risk of fire or electric shock! • The Charger may not charge batteries completely which have not been used for a long time. Several cycles of charging and discharging will improve battery's performance.</p>	<p>• Non lasciare mai il caricabatterie e le batterie incustodite durante la ricarica. Le batterie e il dispositivo potrebbero raggiungere temperature elevate e quindi provocare un incendio! • Caricare solo pacchi batteria ricaricabili Li-Ion / LiPo in questo dispositivo, non caricare mai batterie normali di alcun tipo con questo caricabatterie! • Le batterie possono esplodere durante la ricarica e quindi causare gravi lesioni! • Non posizionare le batterie o il caricabatterie su un seggiolino per auto, su una superficie di legno o su un tappeto, ecc. Durante la ricarica, ciò crea il rischio di incendio. • Tenere lontano dalla portata dei bambini. • Non tentare mai di aprire la custodia del caricabatterie o di tentare le riparazioni: i componenti interni ad alta tensione creano il rischio di scosse elettriche o di esplosi. • Tenere il prodotto lontano da acqua o altri liquidi: l'umidità sul dispositivo può causare incendi o scosse elettriche! • In caso di fumo o odore insolito proveniente dal caricabatterie, scollegare immediatamente l'alimentatore CA dalla presa di corrente: vi è il rischio di incendio o scossa elettrica! • Il caricabatterie potrebbe non caricare completamente le batterie che non sono state utilizzate per molto tempo: diversi cicli di carica e scarica miglioreranno le prestazioni della batteria.</p>	<p>• Ne laissez jamais le chargeur et les batteries sans surveillance pendant la charge. Les piles et l'appareil peuvent atteindre des températures élevées et provoquer ainsi un incendie! • Chargez uniquement les batteries rechargeables Li-Ion / LiPo dans cet appareil. Ne chargez jamais des batteries normales des quelque nature que ce soit avec ce chargeur: les batteries peuvent exploser pendant la charge et provoquer ainsi des blessures graves! • Ne placez pas les piles ou le chargeur sur un siège d'auto, sur une surface en bois ou sur un tapis, etc. pendant la charge: cela crée un risque d'incendie. • Tenez hors de portée des enfants. • N'essayez jamais d'ouvrir le boîtier du chargeur ou de faire des réparations. Les composants internes à haute tension créent un risque de choc électrique ou d'explosion. • Gardez le produit à l'écart de l'eau ou d'autres liquides: l'humidité sur l'appareil peut provoquer un incendie ou un choc électrique! • En cas de fumée ou d'odeur inhabituelle provenant du chargeur, débranchez immédiatement l'alimentateur de la prise de courant: il existe un risque d'incendie ou de choc électrique! • Le chargeur peut ne pas charger complètement les batteries qui n'ont pas été utilisées depuis longtemps: plusieurs cycles de charge et de décharge amélioreront les performances de la batterie.</p>

3、主体盒 Individual box



Kraft box(Maroon)

4、主体箱 Carton box



5、包装方式 Packing way

	长 Length	宽 Width	高 Height
尺寸 Size (cm)	44.5cm	28.5cm	30cm
公差 Tolerance	±5mm	±5mm	±5mm
数量 QTY(pcs)	20		
毛重 G.W.(Kg)			