

USER GUIDE

ANTON
BAUER®

Titon

Lithium-ion Battery



Original Instructions:

English

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Important information on the safe installation and operation of this product. Read this information before operating the product. For your personal safety, read these instructions. Do not operate the product if you do not understand how to use it safely. Save these instructions for future reference.

Warning Symbols Used in these Instructions

Important information on the safe installation and operation of this product. Read this information before operating the product. For your personal safety, read these instructions. Do not operate the product if you do not understand how to use it safely. Save these instructions for future reference.



WARNING! Where there is a risk of personal injury or injury to others, comments appear supported by the warning triangle symbol. Where there is a risk of damage to the product, associated equipment, process or surroundings, comments appear supported by the word 'Caution'.



ELECTRIC SHOCK Where there is a risk of electric shock, comments appear supported by the hazardous voltage warning triangle.

Intended Use

The Anton/Bauer Titon Series Lithium-ion battery is specifically designed and optimized to be charged with current Anton/Bauer chargers. The Titon battery Series are compatible with Anton/Bauer chargers and have been tested on industry recognized competitive chargers as well. For optimal performance and enhanced battery longevity, we recommend using Anton/Bauer chargers.

Electrical Connection



WARNING! Risk of electric shock. Do not remove cover, no user servicable parts inside the product.



WARNING! Risk of electric shock. Always check cables for signs of damage. Damaged cables can cause personal injury and/or damage the equipment.



CAUTION! Do not exceed the current output limit of the product when powering auxiliary devices.



WARNING! RISK OF ELECTRICAL SHOCK: Refer servicing to qualified service personnel.

Operation



WARNING! Special precautions and handling instructions are contained in this user guide and should be strictly adhered to for safe and reliable operation.



WARNING! Never use flammable or combustible materials and solvents around batteries or chargers.



CAUTION! The product should not be used outside the operating temperature limits. Refer to the product technical specifications for the operating limits for the product.



WARNING! Protect the product from water, moisture and dust. The presence of electricity near water can be dangerous.



WARNING! When cleaning the product, use a soft damp cloth only. Do not wet the exposed metal parts of the battery. Do not use solvents, detergents or scouring agents.



CAUTION! All Lithium-ion batteries have a finite life. If the battery exhibits noticeably shortened run-time the battery should be replaced immediately. Shortened run-time is indicative of at least one cell, which has reached end of life. Under no Circumstances attempt to "recondition" this battery by repeated charging and discharging.



WARNING! This battery contains specialized electronic circuits, which are designed to protect the Lithium-ion cells from overcharge, over discharge and overcurrent. Redundant protection devices are designed to operate if the battery voltage is abnormally high or low and if the temperature of the battery exceeds operating specifications.



WARNING! Do not drop, puncture or crush this battery. Do not use the battery if the case is damaged or broken. Do not open or attempt to service this battery if damaged.



WARNING! These electronic devices can be damaged if the battery is subject to abuse or damage. Do not use a battery that has been subjected to excessive mechanical shock or water damage.

Maintenance



WARNING! The fitting of non-approved parts or accessories, or the carrying out of non-approved alterations or servicing can be dangerous and could affect the safety of the product. It may also invalidate the terms and conditions of the product warranty.



WARNING! RISK OF ELECTRICAL SHOCK: Never attempt to service this battery. Refer servicing to qualified service personnel.



WARNING! Never attempt to open this battery. The electronic circuits inside the battery can be damaged causing malfunction and/or potential hazard to person and property.



WARNING! Never attempt to replace the cells in this battery - it cannot be rebuilt or refurbished. At the end of its useful life contact the Anton/Bauer Customer Support Group

Weekly, or as needed - Clean the device, associated components, and accessories as needed with a damp, non-saturated cloth or paper towel. Do not wet the exposed metal part of the battery charge terminals. Do not use solvents or scouring agents. Examples of approved solvents are Cidex® and Windex®. Consult Anton/Bauer Customer Support Group for approved list of cleaning agents.

Periodic cleaning of both the charger terminals and battery terminals will ensure continued reliable operation. Clean the terminals occasionally with a pencil eraser or lightly scrape the surface with a blunt instrument to help reduce the likely hood of build up causing poor communication or charging.

Contact Anton/Bauer Customer Support Group with additional inquires as to maintenance.

Storage



CAUTION! Keep batteries cool or at room temperatures whenever possible. Sustained elevated temperatures are the primary reason for premature failure of Lithium-Ion batteries.



CAUTION! Charge batteries at room temperature. In warm climates keep chargers in air conditioned rooms for best performance.



CAUTION! Although Lithium-ion has good selfdischarge characteristics, batteries should be stored for long term storage in a fully charged condition.



CAUTION! Batteries should always be stored in a fully charged state and kept cool. If batteries must be stored for a long period (over 30 days), the battery electronics will enter a “deep sleep” mode. The battery will “wake up” when placed on a charger. It is always a good idea to submit the battery to a discharge/charge cycle from time to time during storage.



Air Transportation Regulation

1. US Code of Federal Regulations Title 49 Subtitle B.
2. International Air Transport Associations (IATA) Dangerous Goods Regulation (DGR).
3. International Civil Aviation Organization (ICAO) regulations apply to all Lithium-Ion battery transport.

Since the interpretation and application of regulations may vary with the aviation company, the transport of the Anton/Bauer Titon Series battery may be disallowed even when the conditions described above are satisfied. Anton/Bauer therefore strongly recommends that you consult with your transportation company prior to transporting the battery pack.

Introduction

The Anton/Bauer Titon Series batteries contain a proprietary IP that increases run-time and lengthens life cycle, eliminating the negative effects incurred when running digital technology with traditional battery circuitry. All with Anton/Bauer's balanced, high-quality cells that deliver a long performance life.

This user guide covers the safe and reliable operation of the Titon Series batteries.

Important

Special precautions and handling instructions are contained in this user guide and should be strictly adhered to for safe and reliable operation. Contact Anton/Bauer Customer Support Group with any questions regarding this product.

Anton/Bauer Battery Compatibility

Anton/Bauer Titon Series batteries are compatible with all LP Performance and Performance Series chargers. For questions on product compatibility please contact the Anton/Bauer Customer Support Group.

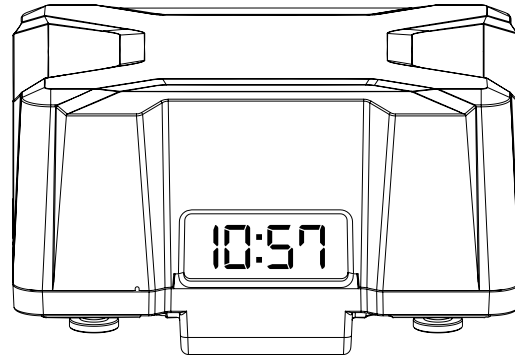
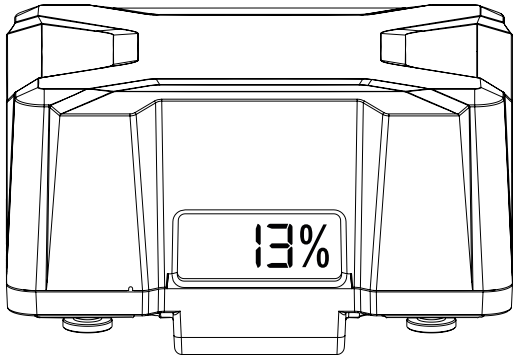
LP Performance Series Charger	Titon GM 90	Titon GM 150	Titon VM 90	Titon VM 150
LP4 GM 84750126	✓	✓		
LP2 GM 84750125	✓	✓		
LP4 VM 84750128			✓	✓
LP2 VM 84750127			✓	✓

Performance Series Charger	Titon GM 90	Titon GM 150	Titon VM 90	Titon VM 150
QUAD GM 84750119	✓	✓		
DUAL GM 84750120	✓	✓		
QUAD VM 84750121			✓	✓
DUAL VM 84750122			✓	✓

Titon Series LCD

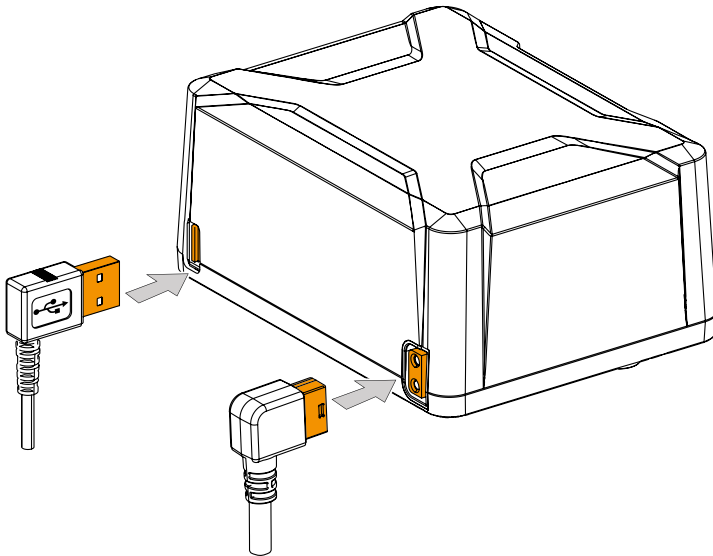
Every Titon Series battery has an easy to read LCD which conveniently reports battery information in one of two ways.

1. When the battery is sitting idle (no load is applied) the LCD will show remaining capacity as percentage of full.
2. When the battery is powering an item (a load is applied), the LCD will display remaining run-time in Hours/Minutes.



PowerTap® and USB

The Titon Series features an Integrated PowerTap® and USB ports on the side of the battery to power camera accessories. The PowerTap® allows for convenient deployment of up to 10 Amps of DC current for various parallel devices. The USB port supplies a regulated 5 volts and maximum 2 Amps current and may be used for charging mobile devices.



PowerTap cable available separately

Charging

Mount any Titon Series battery to any open position on an Anton/Bauer charger and the charger will automatically determine the appropriate charge routine and execute it.

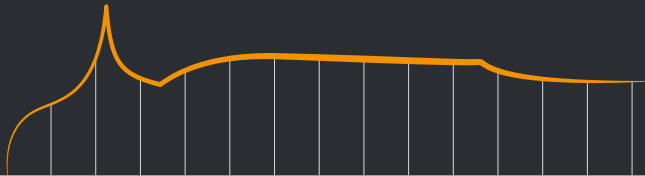


In some cases a battery may be discharged to a very low voltage level causing the battery to be unrecognizable to the charger when first attached.

Stage 1

Stage 2

Stage 3



Three Stage Charging Methodology

In general, Anton/Bauer chargers (Gold Mount and V-Mount) will deliver a three stage charge routine to each battery.



Anton/Bauer recommends that batteries remain on the charger and plugged into AC mains power for best results. The Lifesaver mode will keep them 100% charged.

Stage 1

Will deliver a high rate charge matched to the capabilities of the battery (typically a one or two hour rate, depending on battery type). During this stage, six separate cutoff methods are in operation, simultaneously, ensuring the fastest, safest charge for that battery.

Stage 2

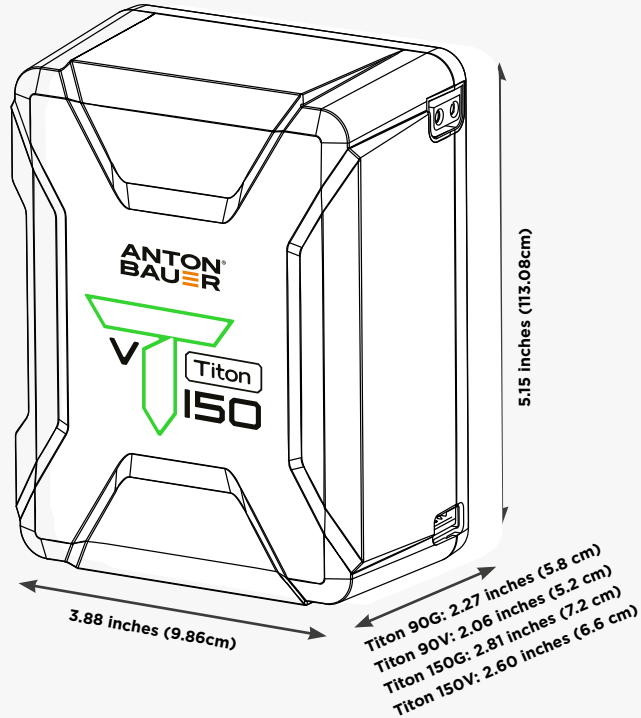
Charging is a BALANCING or “stabilizing” mode which calculates each battery pack type to offset any imbalance of the battery’s cells, created by unequal self-discharge or any capacity mismatch of the individual cells in the pack. This stage can vary in duration from zero to as much as 16 hours, depending on the condition of the battery. The Stage Two charge reduces current automatically as the battery charges maintaining the cells at a safe voltage level. A battery will typically leave Stage Two in 2-4 hours under average operating conditions.

Stage 3

Charging is the Anton/Bauer exclusive Lifesaver® maintenance mode. This patented pulse routine keeps batteries fully charged, free from self-discharge - indefinitely - without damaging heat associated with a so-called “trickle charge”. The Stage Three programming monitors the self-discharge of the battery, providing charge only when the battery self-discharges to about 95% of its capacity.

Dimensions

Titon 90G / 90V / 150G / 150V



Physical Data

	Titon 90G	Titon 90V	Titon 150G	Titon 150V
 Capacity	92Wh Nominal	92Wh Nominal	144Wh Nominal	144Wh Nominal
 Height	5.15 inches (13.08 cm)	5.15 inches (13.08 cm)	5.15 inches (13.08 cm)	5.15 inches (13.08 cm)
 Length	2.27 inches (5.8 cm)	2.06 inches (5.2 cm)	2.81 inches (7.2 cm)	2.60 inches (6.6 cm)
 Width	3.88 inches (9.86 cm)	3.88 inches (9.86 cm)	3.88 inches (9.86 cm)	3.88 inches (9.86 cm)
 Weight	1.76 lbs (0.8kg kg)	1.76 lbs (0.8 kg)	2.4 lbs (1.1 kg)	2.4 lbs (1.1 kg)



Environmental Data - All Variants

Operating temperature range

Charge 0°C to +45°C (-32°F to +113°F)

Discharge -20°C to +60°C (-4°F to 140°F)



Electrical Data

90 Wh: **Max. Discharge Rate** 163W or 10A

Output Voltage Nominal 14.2V Operating 10.0-16.3V

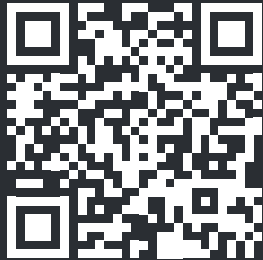
150 Wh: **Max. Discharge Rate** 168W or 10A

Output Voltage Nominal 14.4V Operating 10.0-16.8V

Technical Support

At Vitec Production Solutions we take great pride in the quality of our products and we also recognize that your experience with our products will be even more positive and productive with strong, effective support to back them up. Vitec Production Solutions Service Centers are there to

provide technical support for customers and partners, via telephone or email. For more information, including complete contact details, please go to: www.vitecsupport.com



www.vitecsupport.com

FCC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense. This equipment has been approved by one or more agencies. All changes and/or modifications not expressly approved by Anton/Bauer could void the users' warranty and authority to operate this equipment. There are no serviceable parts in this equipment.



This warranty for the product specified in this document (“Product”) is given by Vitec Production Solutions (“Anton/Bauer”), 14 Progress Drive, Shelton, Connecticut 06484. If you (the purchaser of the Product from Anton/Bauer, or the person for whom the Product was purchased, if it was a gift) have any questions regarding Product applications, Product specification, or to obtain warranty service on this or any Anton/Bauer product, contact the company at the address above.

THIS PRODUCT MUST BE REGISTERED WITH ANTON/BAUER WITHIN 30 DAYS OF PURCHASE TO ASSURE WARRANTY COVERAGE. REGISTER ONLINE AT:

www.antonbauer.com

Warranty registration, including the serial numbers of Anton/Bauer chargers used with this battery, must be supplied to Anton/Bauer. Anton/Bauer will warranty the Product only against defects in material and workmanship for the period as follows from the date of purchase, in accordance with the terms set forth below, and then, only if the Product is used exclusively in conjunction with compatible Anton/Bauer chargers. If this battery or product is returned to Anton/Bauer for warranty service it will be required that you provide model names and serial numbers of compatible Anton/Bauer chargers with which this product was used.

MAXX II Warranty 24 months: Anton/Bauer will repair or replace the Product at Anton/Bauer’s option and cost.

This warranty shall be effective only if Anton/Bauer receives notice of such defects in materials or workmanship during the period of the warranty. The liability of Anton/Bauer hereunder is expressly limited to a claim for repair or replacement of the Product or as otherwise stated herein at Anton/Bauer’s sole discretion. Notice of any claim under this warranty shall be delivered to Anton/Bauer during the period of the warranty and the Product shall be returned with its packaging promptly, at your expense, to an Anton/Bauer Customer

Support Center or to the address above. Upon receipt of the Product and a record of your compliance with the conditions of this warranty, Anton/Bauer will repair or replace the Product and return it to you, or issue a credit, as applicable. You are responsible for all shipping and handling charges to and from authorized facility.

THIS WARRANTY DOES NOT APPLY TO AND IS VOID IN THE CASE OF DEFECTS OR DAMAGE RESULTING FROM ACCIDENTS, DISASTER, NEGLIGENCE, MISUSE, IMPROPER INSTALLATION, IMPROPER OR UNAUTHORIZED SERVICE OR MAINTENANCE, UNAUTHORIZED REPLACEMENT PARTS OR ATTACHMENTS; OR DYSFUNCTION OR MALFUNCTION OF, OR CAUSED BY, ANY OTHER PRODUCT OR DEVICE.

Misuse includes any use of the Product in other than its intended application, including the use of this Product with any charging device or accessory not manufactured by and/or specified by Anton/Bauer. This warranty does not cover, and Anton/Bauer assumes no responsibility for, any equipment or devices used in conjunction with the Product.

ANTON/BAUER DISCLAIMS ANY LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY WRITTEN OR IMPLIED WARRANTY OF THE PRODUCT. UNDER NO CIRCUMSTANCES WILL ANTON/BAUER BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

This Warranty is to be construed and enforced in accordance with the law of the State of Connecticut, including the provisions of the Uniform Commercial Code as adopted and from time to time amended in the State of Connecticut, and not the Convention for the International Sale of Goods. This choice of Connecticut law is exclusive of any Connecticut law that would require reliance on any law foreign to Connecticut.

Should any action of law or in equity be brought by any person under this Warranty, such action shall be brought only in the United States District Court for the District of Connecticut, or in any Superior Court in Fairfield County, Connecticut, USA. Some states do not allow limitations on how long a warranty lasts, so the time period limitation herein may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may have other legal rights which may vary from state to state. Use of unauthorized equipment in conjunction with Anton/Bauer products constitutes misuse under our warranties and may limit or void those warranties. Anton/Bauer does not authorize, condone, recommend, or otherwise assume any liability or responsibility resulting from the use of any battery, charger, or accessory made by Anton/Bauer with any battery, charger or accessory not manufactured, produced or sold by Anton/Bauer. Anton/Bauer only authorizes the use of original Anton/Bauer products with this Product. Use only original Anton/Bauer equipment with this Product.

**ANTON[®]
BAUER**

WHERE **POWERING**
CREATIVITY **HAS NEVER BEEN EASIER.**

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