



APEX™ LED HEADLAMP

Operating Instructions
Notice d'utilisation et d'entretien
Bedienungsanleitung

www.princetontec.com

ENGLISH

Battery Installation

- 4 AA • Alkaline (LR6)
- Lithium (LR91) • Rechargeable Nicad or NiMH

Release battery tray using the headband tool or coin.

Slide the battery tray out of the battery pack.

Observe proper battery polarity when installing the batteries.

WARNING

- Never mix fresh and used batteries.
- Never mix different battery brands or chemistry types.
- Always remove drained batteries immediately.
- Remove batteries during long periods of storage.

Princeton Tec cares about the environment and recommends recycling batteries. For more information about battery recycling, please go to: www.batteryrecycling.com

Improper installation of the batteries will damage the light and void the warranty.

Lithium batteries hold a charge better in extreme cold weather and are lighter in weight than Alkaline or rechargeable batteries. Rechargeable Nicad or NiMH batteries may result in reduced brightness in some modes due to lower voltage.

The battery pack has a waterproof seal. It is important to keep this seal free from dirt and harsh chemicals in order to preserve waterproof integrity. Inspect the seal every time batteries are changed. If dirt is present, wipe gently with a damp cotton swab and mild soap until dirt is removed.

NOTE: Some battery types can emit hydrogen gas, which can create an explosion potential in sealed devices if it is not vented or removed. The Apex battery pack is equipped with a platinum catalyst to remove this gas. Upon severe impact, the catalyst could fracture and enter the battery pack. If you notice a rattling sound in the battery pack cap or gray particles in the battery pack, do not use the headlamp. See the warranty and return policy for more information.

Battery Power Meter

Multicolored LED

Color	Battery Capacity*
Green	> 40 % of total
Yellow	≤ 40 % of total
Red	~ 20 minutes of run time remaining

*Capacity percentage is the minimum expected remaining power needed to operate the Maxbright LED in high mode at 0° C.

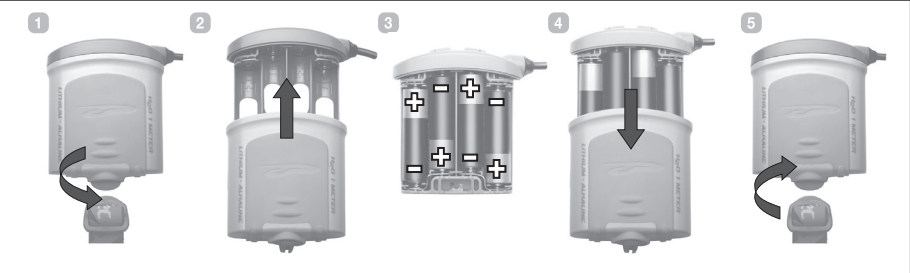
The purpose of the battery power meter is to give you a general idea of the remaining burn time. Switching modes can create an abrupt change in battery voltage which may cause the indicator to change color. Once the color turns yellow, the burn time remaining depends on the typical discharge curve for the type of batteries you are using. After the light has been turned off, the battery voltage might temporarily increase, causing the battery power meter to temporarily display an artificially higher setting.

When the light is off, the battery power meter will continue to blink for 24 hours to indicate the current status of the batteries. After 24 hours with no activity, the battery power meter will turn off to conserve battery power. When the light is turned on again, it will resume functioning.

Low Battery Signaling During Use

In addition to displaying red on the battery power meter, when there are approximately 20 minutes of run time remaining, the Apex will blink three times in rapid succession.

Battery Installation / Mise en place des piles / Einlegen der Batterien



Operation / Fonctionnement / Betrieb

OFF = press & hold (1-2 seconds)

Maxbright LED

press 1x = High
press 2x = Low

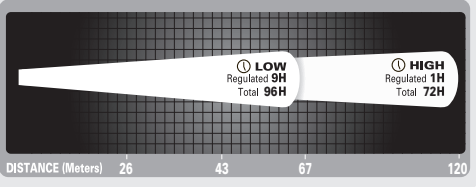
3 watt Maxbright LED Spotlight

4 Ultrabright LEDs

press 1x = High
press 2x = Low
press 3x = Flash

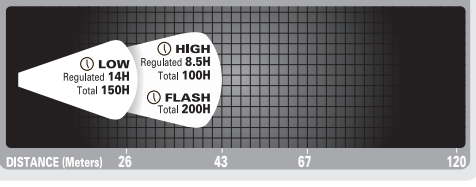
Wide Beam 4 Ultrabright LEDs

Alkaline Batteries



Regulated 9H Total 96H | Regulated 1H Total 72H

DISTANCE (Meters) 26 43 67 120



Regulated 14H Total 150H | Regulated 8.5H Total 100H | FLASH Total 200H

DISTANCE (Meters) 26 43 67 120

Burn time is the total time that the headlamp produces a minimum of 0.25 lux at 2 meters. 0.25 lux is about the equivalent of a full moon on a clear night. Regulated burn time is less than overall burn time.

Battery Type	LEDs		Power Level		Output Distance (m)	Overall Burn Time (Hours)	Regulated/Constant Burn Time (Hours)
	Maxbright	4 Ultrabright	High	Low			
Alkaline	●		●		120	72	1
	●			●	67	96	9
		●	●	●	26	100	8.5
		●		●	14	150	14
Lithium	●		●		120	24	4.5
	●			●	67	36	12
		●	●	●	26	76	14
		●		●	14	108	50

* The times listed in this table assume you start with fresh batteries and use only one power level.

* Les durées mentionnées dans le présent tableau sont calculées sur la base de l'utilisation de piles neuves et d'un seul mode d'éclairage.

* Bei den in der folgenden Tabelle aufgeführten Zeiten wird vorausgesetzt, dass Sie neue Batterien und lediglich eine Leuchtstärke verwenden.

You can then decide to stay at your current light level or switch to a lower light level, which may cause battery voltage to rise enough that the battery power meter transitions back to yellow. When the battery power meter returns to red, the light will blink again to alert you.

Circuitry

The Apex uses a sophisticated circuit to control the light. Under normal circumstances, the metal heatsink will sufficiently cool the electronics and protect the LEDs from damage. Should the internal temperature of the light get too hot, a backup temperature protection circuit will activate and gradually decrease the light output until the temperature is within the specified limits.

The Apex will automatically turn off after 12 hours of inactivity. Any button press during the 12 hour period will reset the auto-off timer.

Never attempt to disassemble the lamp housing. It is sealed to protect the components from water and there are no user-serviceable parts inside. Disassembly will void your warranty!

To keep the heatsink at peak performance, keep the heatsink and plastic cover free of obstructions (mud and dirt). Do not remove the heatsink cover—it is there to protect you from the high temperature of the heatsink during operation. If the heatsink cover is damaged or broken under normal use, do not use the headlamp. See the warranty and return policy for more information.

Power Consumption

The Apex uses a current-controlled circuit that maintains constant light output as long as the batteries have sufficient voltage. Constant burn time is dependant on the battery type, LEDs, and light level selected.

The Ultrabright LEDs provide the maximum level of wide-angle flood light for task work and the Maxbright will provide a tightly focused spotlight for distance illumination.

Trouble Shooting

If the Apex fails to light:

- Check the batteries for proper installation.
- Inspect the cable for damage.

If the Apex does not seem to change brightness levels:

- The battery voltage may be too low to switch to a brighter setting. This condition is normal for a regulated LED/current-controlled circuit. You are most likely to experience this issue in the Maxbright LED mode. Install new batteries and recheck the modes.

- In extreme heat conditions the internal temperature of the light may be too hot and the LED temperature protection circuit may have activated. Allow the light to cool and try again.

Lifetime Warranty

Due to international regulations, Princeton Tec's lifetime warranty can only be offered to customers in the USA. Princeton Tec offers a 10 year warranty to our customers outside the USA.

FULL WARRANTY – Princeton Tec warrants this product to be free from defects in workmanship and materials under normal use for as long as you own this product. This warranty covers all of the component parts of the product except batteries. This warranty does not cover deterioration due to normal wear or damage due to misuse, alteration, negligence, accidents, or unauthorized repair. Princeton Tec will repair or replace parts which are defective in workmanship or materials.

Your authorized Princeton Tec Dealer and Princeton Tec are the only facilities authorized to repair the product. After (3) unsuccessful attempts to repair the product, you have the right to elect replacement of the product or a refund of the purchase price less allowance for use of the product. **NO INCIDENTAL OR CONSEQUENTIAL DAMAGES ARE INCLUDED IN THIS WARRANTY.** (Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Princeton Tec reserves the right to change product specifications without notice.

Return Policy

If your light fails to operate, follow these simple steps:

- 1) Check batteries. Replace if necessary.
- 2) Contact Princeton Tec customer service at 800-257-9080 to request an RMA# in order to send your light for repair or replacement. No warranties will be accepted without an RMA#.
- 3) If the light continues to function improperly, return it without batteries to: **Princeton Tec, 5198 Rt. 130 Bordentown, NJ 08505.** Postage due and freight collect items will not be accepted.

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