

LED Bulb	LED Bulb	LED Bulb	LED Bulb
Switch Modes	Switch Modes	Switch Modes	Switch Modes
Lumens	Lumens	Lumens	Lumens
100° Beam Angle	100° Beam Angle	100° Beam Angle	100° Beam Angle
Color Temperature	Color Temperature	Color Temperature	Color Temperature
Beam Angle	Beam Angle	Beam Angle	Beam Angle
Body Material	Body Material	Body Material	Body Material
Depth Rating	Depth Rating	Depth Rating	Depth Rating
Length	Length	Length	Length
Body Diameter	Body Diameter	Body Diameter	Body Diameter
Head Diameter	Head Diameter	Head Diameter	Head Diameter
Weight without Battery	Weight without Battery	Weight without Battery	Weight without Battery

INCLUDED RECHARGEABLE BATTERY	INCLUDED RECHARGEABLE BATTERY	INCLUDED RECHARGEABLE BATTERY	INCLUDED RECHARGEABLE BATTERY
Lithium-ion Battery	Lithium-ion Battery	Lithium-ion Battery	Lithium-ion Battery
Burn Time at 100%	Burn Time at 100%	Burn Time at 100%	Burn Time at 100%
Voltage	Voltage	Voltage	Voltage
Milliamp hours	Milliamp hours	Milliamp hours	Milliamp hours
Watt hours	Watt hours	Watt hours	Watt hours
OPTIONAL BATTERIES	OPTIONAL BATTERIES	OPTIONAL BATTERIES	OPTIONAL BATTERIES
Alkaline Batteries	Alkaline Batteries	Alkaline Batteries	Alkaline Batteries
Burn Time at 100%	Burn Time at 100%	Burn Time at 100%	Burn Time at 100%



# INCLUDED IN THE BOX:

- Fusion light with Pressure Safety Valve
- Charging base
- USB cable
- Li-ion battery
- Alkaline Battery Cradle
- Wrist lanyard

**WARNING:** Read these instructions before use. Keep in a safe location for future reference.

**STOP:** If for any reason your light fails or malfunctions, please review the trouble shooting guide at [www.tovatec.com](http://www.tovatec.com).

**ADJUSTING THE LIGHT BEAM ANGLE - "ZOOM"** The newest line of lights from Tovatec allows the diver to adjust between a concentrated beam (for Technical diving) to a wide beam angle (for Photo or Video lighting) at any time. Simply slide the head of the torch forward and back to get the light beam you want. The beam ranges from 12-100°.

**"MULTI-MODE" MAGNETIC SWITCH** Fusion lights feature a magnetic switch with multiple modes. Because a magnet is used in the slide switch section, tiny naturally occurring iron particles (iron sand) can accumulate on the switch. After every dive, wash thoroughly in fresh running water to remove any iron sand as well as dirt and salt. The slide switch design allows water to enter switch area. It is important to push out salt water. Hold switch under hot fresh water and slide switch back and forth. Do not drop or place the flashlight on sand or dirt, since iron sand may stick or go into switch section.

The lights work at 100%, 50%, 30% and strobe Push the switch forward and release to move between modes.

**NOTE:** After about 5 seconds of use, you can switch directly from one of the "ON" modes to "OFF" by simply pushing the switch forward and release.

**CLEANING LENS COVER** Fusion lights feature removable light heads. Should your lens or LED become dirty, please remove (unscrew) the light head and clean both the lens and LED with a soft dry cloth. Screw the light head back on after cleaning.

**O-RING CARE** Inspect O-rings to be sure they are clean and free of dust, debris, hair, sand, etc. before using underwater. Lightly lubricate O-rings with silicone grease prior to use and maintain lubrication at all times.

**RECHARGEABLE BATTERIES** The burn-time of rechargeable batteries varies. Please refer to Table One for burn-times. Burn-time is affected by:

- Operating temperature - Do not use at highly elevated temperatures for extended periods of time.
- Storage temperature - Store in a cool and dry place at room temperature (20-25° Celsius/ 68-77° Fahrenheit).
- Time period the light was out of use. For extended storage, discharge a lithium-ion battery to about 40 percent (or approximately 1 hour on a fully charged battery) and store it in a cool, dry place. Warning: always take batteries out of light when storing longer than 30 days.
- Avoid completely discharging lithium ion batteries - Battery experts suggest that after 30 charges, you should allow lithium-ion batteries to almost completely discharge. Continuous partial discharges create a condition called digital memory, decreasing the accuracy of the device's power gauge. So let the battery discharge to the cut off point and then recharge. The power gauge will be recalibrated. For safety reasons, do not recharge deeply discharged lithium-ion batteries if they have been stored in that condition for several months.
- Use of used/low quality rechargeable batteries.

## RECHARGING LITHIUM ION BATTERIES

**WARNING: DO NOT RECHARGE THE BATTERY NEAR FLAMMABLE ITEMS AND/OR PRODUCTS.** Do not leave in the charger for more than 12 hours.

- Unscrew the end cap.
- Take out the battery and place into charging unit with correct polarity.
- A red LED indicates that the torch is charging.
- When charging is complete, the green LED switches on.
- Place the battery back into light, positive side first.
- Fully screw down the end cap.

**WARNING:** When using rechargeable lithium ion batteries use only Tovatec brand batteries or batteries sold by major manufacturers that have the same voltage, mAh and watt hour ratings as original batteries. Batteries must include over / under voltage protection circuit.

**ALKALINE & RECHARGEABLE ALKALINE BATTERIES** When using alkaline and rechargeable alkaline batteries use only major brand batteries. Batteries must not exceed 1.5 Volts. Always replace batteries in complete sets, do not mix old batteries with new batteries.

**BATTERY DISPOSAL** Rechargeable lithium ion batteries as well as alkaline and rechargeable alkaline batteries must all be disposed of or recycled in compliance with all applicable laws. Never throw into a fire, as batteries may explode. Keep batteries away from children

**PRESSURE SAFETY VALVE** Tovatec Fusion lights have been designed with pressure safety valves that provide an additional level of protection to the lights should battery out-gassing occur. This is a premium feature that we are pleased to include with all lights in the Fusion line.

## WARNINGS

- Remove the batteries if the light will not be used for long periods or during transport.
- If you anticipate extended periods of no use, recharge the battery every 3 months.
- Make sure the end cap is closed tightly before each dive.
- Never point the light directly into eyes.
- Never try to open or disassemble the Pressure Safety Valve.

## ROUTINE MAINTENANCE

- Rinse the outside of the torch in fresh water after every dive. NEVER disassemble the light.
- Periodically check the condition of the o-rings, lubricate on a regular basis and replace as needed.

**WARRANTY** We want you to be 100% satisfied with your purchase. If for any reason your light fails or malfunctions, you can return it within 12 months of consumer purchase for repair and/or replacement. Proof of Purchase from an authorized dealer within the past 12 months must be included with all warranty returns. Please return your light to the place of purchase if purchased outside of North America. Commercial and Rental use is not covered. Any lights or batteries that have been disassembled void warranty. Warranty is not transferable. For additional information, please contact [warranty@tovatec.com](mailto:warranty@tovatec.com).

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A Division of Innovative Scuba Concepts

# LED VIDEO/FLASHLIGHT Instruction Manual