ProtoMachines

Full Color LED Light
Operating/Safety Instructions
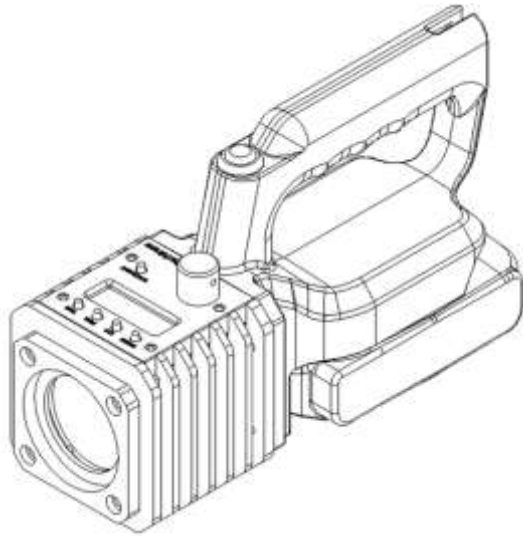
THANK YOU for choosing the ProtoMachines Full Color LED Light. It is the result of years of research and development and represents the cutting edge of full color LED technology. Please review this manual carefully to familiarize yourself with the design and operation of this device.

SPECIFICATIONS:

Input voltage:	18VDC
Input power:	32 watts
Ambient temperature:	50°F - 86°F (10°C - 30°C)
Weight:	1.6lb (0.7kg)
Dimensions:	8.2" x 4.9" x 3.0" LWH
Compatible batteries:	Makita BL1815 Makita BL1830

* Specifications subject to change without notice.
* Designated trademarks and brands are the property of their respective owners.

IMPORTANT SAFETY INSTRUCTIONS:

⚠️ **WARNING:**
When using any battery operated device, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury, including the following:

1. Read this instruction manual carefully and understand it fully before use.
2. Keep out of reach of children. This is not a toy.
3. Do not leave it switched on while unattended.
4. The heatsink may become very hot during and after extended usage.
   - Do not touch heatsink until it has cooled down.
   - Do not put heatsink on or near anything that may be damaged by heat or is flammable.
   - Do not block the heatsink fins or impede airflow. Overheating, possible burns or fire may result.
5. This device is not waterproof. Do not use it in damp or wet locations, Do not expose it to rain, snow or high humidity. Do not submerge.
6. This device uses an extremely powerful lithium-ion battery. A short-circuit can cause a large current flow, overheating, possible burns or fire.
   - Do not operate this device if it has received a sharp blow, been dropped, or damaged in any way.
   - Do not disassemble the device. There are no user serviceable parts inside. Incorrect reassembly may result in a risk of electric shock or fire.
   - Do not insert metal objects into the device or into the battery terminals.
7. To prevent accidents or excessive battery drain, always disconnect the battery pack after use, before storage or transport.
8. If any problem develops, consult your reseller or ProtoMachines for assistance.

⚠️ **WARNING:**
This is an extremely high powered LED light source. Please use common sense when operating this product.
- Do not stare directly into the beam.
- Do not aim at your eyes, or the eyes of other people or animals. Prolonged exposure may result in injury or blindness.

Please do not use this product if you do not understand these instructions and warnings. ProtoMachines will not be liable for any indirect, incidental, or punitive damages arising from use of this product.

OPERATION
Installing or removing the battery
- The LED Light is compatible with Makita BL1815 or BL1830 type batteries.
- Always switch off the light before inserting or removing the battery.
- To remove the battery, hold down the release button on the battery and slide the battery out the back of the LED Light.
- To insert the battery, align the tongue on the battery with the groove in the housing and gently slide it forward until it clicks into place.
- Do not use force when inserting or removing the battery. If it does not slide easily, make sure that the battery is properly aligned and that the battery groove is free of debris or obstructions. If the problem persists, consult your reseller or ProtoMachines for assistance.
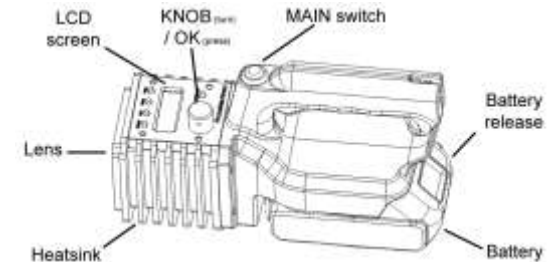
Turning on/off
Make sure a battery pack with adequate charge is installed. The battery level icon will give an estimation of remaining battery life.
- Press the MAIN power button to turn on the light.
- To turn off, press the MAIN power button again.

The heatsink may become very hot if the lamp has been on for a long period. **DO NOT TOUCH THE HEATSINK** until it has cooled down!

Mode selection (MODE)
The user interface is divided into 12 separate modes. Each mode stores its own color, brightness, and timer duration settings independent from the others.

To switch between modes, tap the **MODE** button to enter the mode selection screen and turn the **KNOB** to cycle

between the available modes. Once the desired mode is reached, tap the **OK** button to return to the main menu.

As a shortcut, **Custom modes 1-4** can be selected by double-tapping the **MODE**, **CLR**, **PWR**, or **TMR** buttons respectively. For instance double-tapping **CLR** will bring you instantly to **Custom mode 2**.

W   **WHITE PRESETS mode**
Use this mode to select from preset shades of white.

C   **COLOR PRESETS mode**
Use this mode to choose from several preset colors such as red, yellow, green, etc.

H   **HUE/SATURATION mode**
Use this mode to choose a color by it's hue and saturation.

R   **RGB mode**
Use this mode to choose a color by its individual red/green/blue components.

1...**8**   **CUSTOM modes**
These modes are user configurable to any of the supported colorspaces.

Color selection (CLR)
This device supports choosing colors using one of four different colorspaces. The color menus are context sensitive, meaning the options will depend on the active colorspace. Please determine the active colorspace (displayed in lower left corner of LCD screen) and refer to the appropriate sub-section below:

WHITE – To choose a different shade of white, tap the **CLR** button and turn the **KNOB** to cycle through the available choices. Once you have found the shade you want, tap the **OK** button to return to the main screen.

COLOR - To choose a different preset color, tap the **CLR** button and turn the **KNOB** to cycle through the available choices. Once you have found the color you want, tap the **OK** button to return to the main screen.

HUE – Allows choosing the hue and saturation of a color. To choose a color, tap the **CLR** button to enter the hue selection screen. Turn the **KNOB** to cycle between the available hues. After you have found the desired hue, tap the **OK** button to advance to the saturation selection screen. Turn the **KNOB** to cycle between 0-100% saturation. Once you have reached the desired saturation, tap the **OK** button once again to return to the main screen.

RGB – Allows choosing a color by setting the relative intensities of its RGB components. To begin selection, tap the **CLR** button and then turn the **KNOB** to adjust the red intensity. Once you have found the desired intensity, tap the **OK** button to advance to setting the green intensity. Repeat for blue intensity. Tap the **OK** button once again to return to the main screen.

NOTE – The colorspace for **Custom modes 1-8** can be changed for each mode. To set the colorspace of the current mode, press and hold the CLR button for at least 2 seconds before releasing. This will bring up the colorspace selection screen. Turn the **KNOB** to cycle between the available colorspaces and press the **OK** button to make your selection.

Power level (PWR)
To change the power output for the current mode, tap the **PWR** button to enter the power adjustment screen. Turning the **KNOB** clockwise will increase the output in 0.1 stop increments, while turning it counter-clockwise will reduce output in 0.1 stop increments. The power level is adjustable from 1.0 to 9.0 (min to max respectively). Once your selection is complete, tap the **OK** button to return to the main screen.

Timer duration (TMR)
Each mode can be set to stay on for a specific amount of time. This feature allows the delivery of an accurate and repeatable amount of light. The duration is similar in concept to the "shutter speed" on a camera. The longer the duration, the more light is delivered, and the brighter your exposure will be.

To change the exposure countdown timer for the current mode, tap the **TMR** button to enter the timer adjustment screen. Turn the **KNOB** clockwise to increase the duration, or counter-clockwise to reduce the duration. The duration is adjustable in 1 second increments between 0-100 and in 10 second increments between 100-999 seconds. Turning the **KNOB** fully counter-clockwise to the ∞ (infinity) symbol disables the countdown timer, meaning the light stays on until it is manually shut off. Once your selection is complete, tap the **OK** button to return to the main screen.

NOTE: The new timer value will not become active until the next time the lamp is switched on using the **MAIN** power button.

Backlight operation (BACKLIGHT)
The LCD is backlit for use in dark environments. By default, the backlight is set to **AUTOMATIC** mode. It will turn on automatically when it detects user input, and it will switch off when it becomes idle. To enable/disable the backlight, tap the **BACKLIGHT** button at any time to toggle the backlight on/off.

The backlight can also be set to **MANUAL** mode where it turns on for a fixed amount of time each time the **BACKLIGHT** button is pressed. To change backlight operation to **MANUAL** mode, press and hold the **BACKLIGHT** button for at least 2 seconds before

releasing. This will bring up the backlight screen. Turn the **KNOB** to select between **MANUAL** and **AUTOMATIC** mode. Once your selection is complete, tap the **OK** button to return to the main screen.

CARE AND MAINTENANCE:
Cleaning
If the LED Light becomes dirty or needs cleaning, the exterior surfaces can be wiped clean with a soft dry cloth. Never use water, solvents, or chemicals as this may damage the device. Never use paper towels or other abrasive materials on the front lens, control panel, or LCD screen as this may scratch the finish.

Storage and transport
Always disconnect the battery when not in use or prior to transport. Although the LED Light will automatically enter standby mode when inactive, the electronics will still consume a tiny amount of electricity and may drain the battery over time.

If the LED Light is switched on in a confined space (such as in a bag or the trunk of a car), the lack of ventilation and cooling may lead to overheating, possible burns or fire.

Always store the LED Light in a cool and dry location away from direct sunlight.

LIMITED WARRANTY
Before using this product, please read this warranty carefully. By using your ProtoMachines LED Light, you agree to this warranty. If you do not accept this warranty, do not use your ProtoMachines LED Light.

The ProtoMachines LED Light is warranted to the original purchaser to be free from manufacturing and component defects for one (1) year from the date of purchase. This limited warranty is the sole and exclusive remedy, offered in lieu of all other warranties, expressed or implied. ProtoMachines has sole discretion to determine manufacturer's defects and will (at its option) repair or replace it, or refund the purchase price. Repair may use new or refurbished parts. Replacement may be with a new or refurbished unit.

ProtoMachines will not be liable for any indirect, incidental, or punitive damages arising from use of this product.

This warranty does not cover normal wear and tear, or damage to or from any non-ProtoMachines product used in connection with this product. This warranty does not apply to damage caused by accident, abuse, misuse, modification of the product, or external causes such as acts of nature.