TOOLIOM LY800 G

TOOLIOM LY800 G Auto Darkening Welding Helmet User Manual

Model: LY800 G

1. Safety Information

Always prioritize safety when operating welding equipment. This welding helmet is designed to protect your eyes and face from harmful radiation, sparks, and spatter during welding, cutting, and grinding operations. Failure to follow safety instructions can result in serious injury.

- **Eye Protection:** This helmet provides protection against ultraviolet (UV) and infrared (IR) radiation, even in the light state. However, always ensure the auto-darkening function is working correctly before use.
- **Impact Protection:** The helmet offers limited protection against impact. Always wear appropriate primary eye protection (safety glasses) underneath the helmet.
- **Ventilation:** Ensure adequate ventilation in your work area to avoid inhaling hazardous fumes and gases produced during welding.
- **Flammable Materials:** Keep flammable materials away from the welding area.
- **Inspection:** Before each use, inspect the helmet for any damage, cracks, or loose parts. Replace damaged components immediately.
- **Temperature Range:** Do not use the helmet outside its specified operating temperature range.

2. Product Overview

The TOOLIOM LY800 G Auto Darkening Welding Helmet offers a panoramic viewing experience with three auto-darkening lenses and six arc sensors. It is designed for TIG, MIG, CUT, and Grind applications, featuring Type-C charging and solar power capabilities for extended use.

Figure 2.1: Front view of the TOOLIOM LY800 G Auto Darkening Welding Helmet.

Key Features:

- 180° Panoramic Darkening Field of View with three auto-darkening lenses.

- Six arc sensors for reliable arc detection.
- Rechargeable lithium battery with Type-C charging and solar power.
- Adjustable sensitivity, delay, and shade settings.
- WELD/CUT/GRIND mode selection.
- Comfortable, adjustable headgear with sweat-absorbing cap.

3. Components and Controls

Lens Module Features:

Figure 3.1: Lens module with key indicators and sensors.

1. **Low Battery Indicator:** Illuminates when the battery level is low, indicating a need for charging.
2. **Test Knob:** Used to test the auto-darkening function of the lens.
3. **Arc Sensor:** Detects the welding arc and triggers the auto-darkening function. This helmet features six

sensors for enhanced reliability.

4. **Solar Panel:** Provides supplemental power and recharges the internal battery during operation.

External Controls:

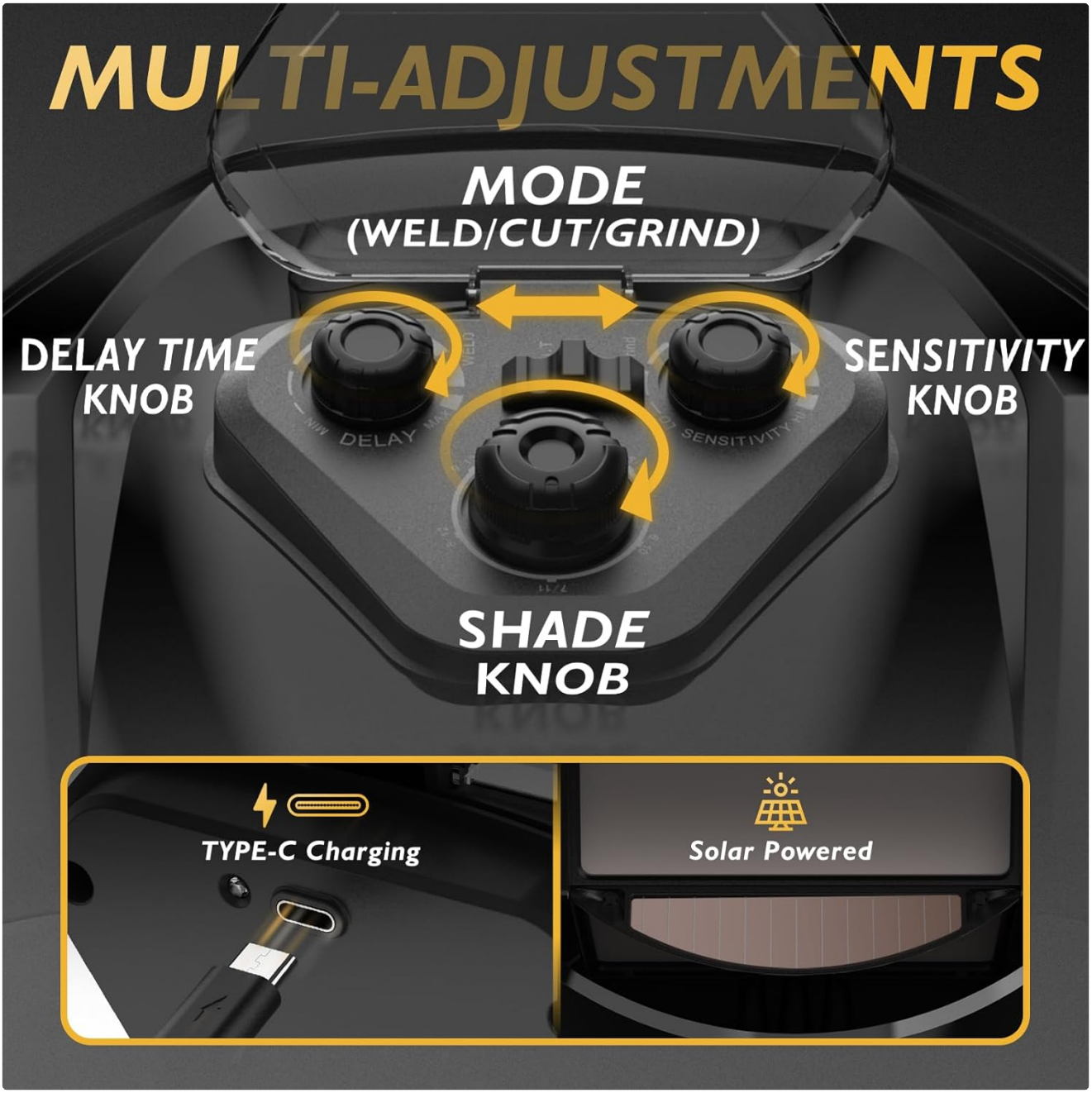

Figure 3.2: External control panel for adjustments.

- **Mode Switch (WELD/CUT/GRIND):** Selects the operating mode.
- **Delay Time Knob:** Adjusts the time it takes for the lens to return to its light state after welding stops.
- **Sensitivity Knob:** Adjusts the sensitivity of the arc sensors to ambient light and arc intensity.
- **Shade Knob:** Adjusts the darkness level of the lens in WELD/CUT modes.

4. Setup and Adjustment

Headgear Adjustment:

Proper adjustment of the headgear is crucial for comfort and stability during use.

Figure 4.1: Headgear adjustment points.

1. **Fit Adjustment:** Rotate the knob at the back of the headgear to tighten or loosen the fit around your head.
2. **Top Strap Adjustment:** Adjust the top strap to position the helmet correctly on your head, ensuring the viewing area is at eye level.
3. **Angle Adjustment:** Use the side knobs to adjust the angle of the helmet when in the down position. This allows for optimal viewing and comfort.
4. **Distance Adjustment:** Adjust the distance between your face and the lens for clear vision and to prevent fogging.

5. Operating Instructions

Charging the Battery:

The helmet is powered by a rechargeable lithium battery, supplemented by a solar panel.

Figure 5.1: Type-C charging port and solar panel.

- **Type-C Charging:** Connect a standard Type-C USB cable to the charging port on the helmet. A full charge ensures maximum battery life.
- **Solar Charging:** The integrated solar panel continuously charges the battery when exposed to light, extending operational time.
- **Low Battery:** If the low battery indicator illuminates, recharge the helmet promptly.

Mode Selection:

Use the mode switch to select the appropriate function for your task.

- **GRIND Mode (DIN 4):** For grinding operations. The auto-darkening function is deactivated, and the lens remains in a light shade (DIN 4) for clear visibility while protecting against sparks and debris.

Figure 5.2: Helmet in Grind Mode.

- **CUT Mode (DIN 5-9):** For cutting operations. The auto-darkening function is active, and the shade level can be adjusted between DIN 5 and DIN 9.

Figure 5.3: Helmet in Cut Mode.

- **WELD Mode (DIN 9-13):** For welding operations (TIG, MIG, etc.). The auto-darkening function is active, and the shade level can be adjusted between DIN 9 and DIN 13.

Figure 5.4: Helmet in Weld Mode.

Adjusting Settings:

- **Shade Adjustment:** Rotate the Shade knob to select the appropriate darkness level (DIN 9-13 for Weld, DIN 5-9 for Cut). Refer to welding shade charts for recommended settings based on amperage and material.
- **Sensitivity Adjustment:** Rotate the Sensitivity knob to adjust how easily the sensors detect the arc. Higher sensitivity is suitable for low amperage TIG welding or when the arc is partially obscured. Lower sensitivity helps prevent false triggering from ambient light.
- **Delay Time Adjustment:** Rotate the Delay Time knob to set how long the lens remains dark after the arc stops. A shorter delay is suitable for tack welding, while a longer delay is better for high amperage welding to protect against afterglow.

True Color Technology:

This helmet incorporates True Color Technology for a clearer and more natural view of your workpiece, enhancing visibility and reducing eye strain.

Figure 5.5: True Color Technology vs. Traditional Lens.

UV/IR Protection:

The helmet's advanced protective film effectively blocks harmful UV and IR light rays, safeguarding your eyes from long-term damage.

Figure 5.6: UV/IR and Blue Light Blocking.

6. Maintenance

Cleaning:

- **Helmet Shell:** Clean the helmet shell with a mild soap and water solution. Avoid harsh solvents.
- **Protective Lenses:** Clean the inner and outer protective lenses with a soft, clean cloth and a mild lens cleaning solution. Do not use abrasive materials.
- **Auto-Darkening Filter (ADF):** Gently wipe the ADF with a soft, dry cloth. Do not immerse the ADF in water or cleaning solutions.

Lens Replacement:

Replace the outer and inner protective lenses regularly, especially if they become scratched, pitted, or dirty, to maintain optimal visibility and protection. Replacement lenses are included in the package.

Battery Care:

- Charge the battery regularly, even if the helmet is not in frequent use, to maintain battery health.
- Store the helmet in a cool, dry place away from direct sunlight.

7. Troubleshooting

Problem	Possible Cause	Solution
Lens does not darken when arc is struck.	Low battery; Sensors blocked; Sensitivity too low; Mode set to GRIND.	Recharge battery; Clean sensors; Increase sensitivity; Switch to WELD/CUT mode.
Lens remains dark after arc stops.	Delay time set too long.	Decrease delay time.
Poor visibility through lens.	Protective lenses dirty/scratched; ADF dirty.	Clean or replace protective lenses; Gently clean ADF.
Helmet feels uncomfortable or unstable.	Headgear not properly adjusted.	Adjust headgear straps and knobs for a secure and comfortable fit.

8. Specifications

Feature	Specification
Model Number	LY800 G
Viewing Area	Panoramic 180°
Arc Sensors	6
Light State Shade	DIN 4
Dark State Shade	Adjustable DIN 5-9 (CUT), DIN 9-13 (WELD)
Switching Time	≤1/10000s
Delay Time	Adjustable (Short to Long)
Sensitivity	Adjustable (Low to High)
Power Supply	Rechargeable Lithium Battery (included) + Solar Cell
Charging Method	Type-C USB, Solar Powered
Weight	Approximately 2.79 pounds
Compliance	ANSI Z87.1 (as indicated on product images)

9. Warranty and Support

For warranty information and customer support, please refer to the documentation included with your purchase or visit the official TOOLIOM website. If you encounter any issues or have questions regarding the operation or

maintenance of your welding helmet, please contact TOOLIOM customer service for assistance.