**Tekware WH011**

# TEKWARE Eclipse Auto-Darkening Welding Helmet User Manual

Model: WH011-Eclipse

## 1. Introduction

Thank you for choosing the TEKWARE Eclipse Auto-Darkening Welding Helmet. This manual provides essential information for the safe and effective use, setup, operation, and maintenance of your welding helmet. Please read this manual thoroughly before using the product and retain it for future reference.


*Image 1.1: TEKWARE Eclipse Auto-Darkening Welding Helmet. This image displays the front view of the black welding helmet with its large viewing screen and external adjustment knobs.*

## 2. Safety Information

Your safety is paramount. Always adhere to the following safety guidelines when using the welding helmet:

- This helmet is designed to protect your eyes and face from sparks, spatter, and harmful ultraviolet (UV) and infrared (IR) radiation under normal welding conditions.
- The auto-darkening filter provides continuous UV/IR protection up to shade DIN16, even in the event of an electric failure.
- Do not use this helmet for laser welding or overhead applications where extreme impact is a risk.

- Regularly inspect the helmet and lens for any damage. Replace damaged parts immediately.
- Ensure the helmet is properly adjusted to your head for a secure and comfortable fit, preventing accidental dislodgement during work.
- Avoid exposing the helmet to extreme temperatures or moisture.


*Image 2.1: Illustration of the welding helmet blocking harmful light. This image shows the helmet with arrows indicating protection against Ultraviolet, Infrared, and other harmful rays during welding.*

## 3. Package Contents

Verify that all items are present in your package:

- 1 x Welding Hood
- 1 x Adjustable Headband
- 1 x User's Manual (this document)
- 2 x Replacement Outside Shield Lenses
- 2 x Replacement Inside Shield Lenses

- 1 x Replacement Battery CR2450
- 1 x Helmet Storage Bag

## 4. Product Features

The TEKWARE Eclipse Welding Helmet is equipped with advanced features for enhanced performance and user comfort:

- **Ultra-Large Viewing Area:** 93mm × 43mm (3.66 inches × 1.69 inches) for an expansive view of the work area.
- **True Color 4C Lens Technology:** Provides better clarity and a real-color view, improving visibility of the weld puddle.
- **4 Arc Sensors:** Ensures rapid and reliable auto-darkening response.
- **Wide Shade Range:** Adjustable from DIN 4 (light state) to DIN 5-9/9-13 (dark states), suitable for various welding processes.
- **External Adjustment Knobs:** Allows for convenient adjustment of shade, sensitivity, and delay without removing the helmet.
- **Solar Powered with Battery Backup:** Utilizes solar cells for primary power and includes a replaceable CR2450 battery for backup.
- **Durable Construction:** Made from high polyamide material, offering durability, light weight, corrosion resistance, and flame retardant properties.
- **Adjustable Headgear:** Features a comfortable, adjustable headband with a double-banded design and high-density sponge padding for extended wear.


*Image 4.1: Comparison of Traditional vs. True Color 4C Lens Technology. This image illustrates the difference in color perception, showing how True Color technology provides a more natural and clear view compared to the green tint of traditional lenses.*


*Image 4.2: Welding Helmet Construction and Headgear. This image highlights the high polyamide material of the helmet and the adjustable, cushioned headgear designed for comfort and protection.*

## 5. Setup

### 5.1 Headgear Adjustment

Proper adjustment of the headgear is crucial for comfort and stability. The headgear features a four-direction adjustment function.

1. **Assemble Headgear:** Ensure all washers, clips, and stops are correctly installed according to the diagram in the manual. Incorrect assembly can affect the helmet's flip-up/down mechanism.
2. **Size Adjustment:** Use the knob at the back of the headgear to adjust the circumference to fit your head snugly.
3. **Distance Adjustment:** Adjust the distance between the helmet and your face to ensure a comfortable fit and optimal viewing angle.
4. **Tilt Adjustment:** Adjust the tilt of the helmet to position the viewing area correctly for your line of sight.
5. **Stop Unit:** The headgear includes a stop unit to limit how far the hood flips up and down. Adjust this to prevent the helmet from falling into the weld position when walking.

### 5.2 Battery Installation and Test

The helmet is powered by solar cells and a replaceable CR2450 battery.

1. Locate the battery compartment, typically on the inside of the auto-darkening filter cartridge.
2. Insert the CR2450 battery, ensuring correct polarity.
3. Press the 'TEST' button on the filter cartridge. The lens should momentarily darken and then return to its light state. If it does not darken, check the battery installation or replace the battery.
4. Ensure the solar panel is exposed to sufficient light for optimal performance.

## 6. Operating Instructions

The TEKWARE Eclipse helmet offers versatile functionality for various applications.


*Image 6.1: External Adjustment Knobs. This image shows the side of the helmet with clearly labeled external knobs for adjusting delay, sensitivity, and shade, allowing for adjustments without removing the helmet.*

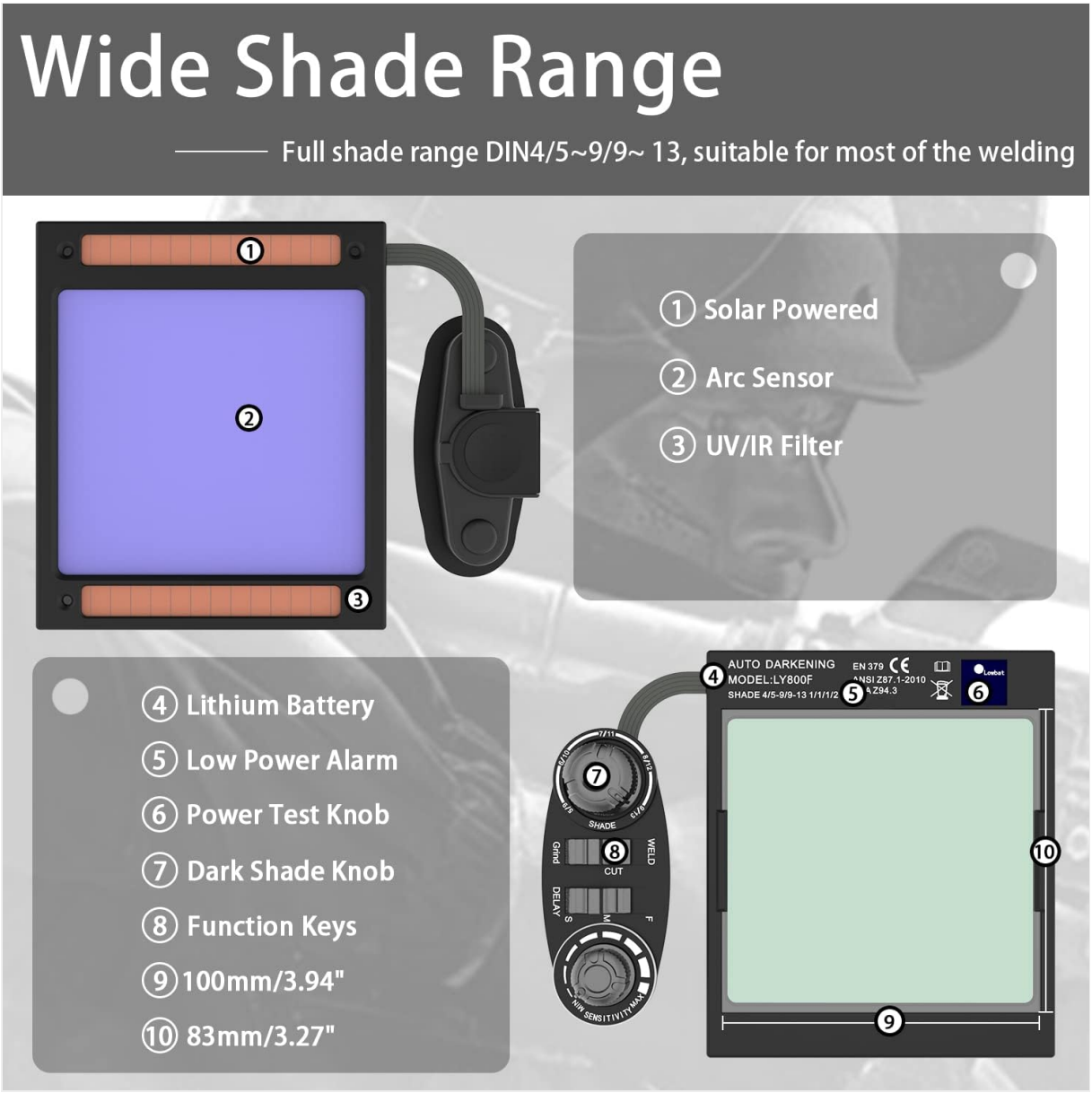


*Image 6.2: Wide Shade Range and Filter Components. This image details the auto-darkening filter cartridge, highlighting its solar panel, arc sensors, UV/IR filter, lithium battery, low power alarm, test button, dark shade knob, function keys, and viewing area dimensions.*

### 6.1 Function Modes

Use the external switch to select the desired mode:

- **WELD:** For all standard welding processes (MIG, TIG, MMA). The auto-darkening function is active.
- **CUT:** For plasma cutting applications. The auto-darkening function is active.
- **GRIND:** For grinding operations. The auto-darkening filter remains in its light state (DIN 4) to provide clear vision while protecting against impacts. The auto-darkening function is deactivated in this mode.

### 6.2 Shade Control

The shade level can be adjusted using the external 'SHADE' control knob.

- **Light State:** DIN 4
- **Dark State:** Adjustable from DIN 5-9 to DIN 9-13. Select the appropriate shade level based on the welding process and current being used. Refer to standard welding shade charts for guidance.

### 6.3 Sensitivity Control

The 'SENSITIVITY' control knob adjusts how sensitive the sensors are to the welding arc. Turn the knob to

adjust the sensitivity:

- **High Sensitivity:** Suitable for low amperage TIG welding or when the arc is partially obstructed.
- **Low Sensitivity:** Recommended for high amperage welding or when working near other welders to prevent false triggering.

### 6.4 Delay Time Control

The 'DELAY' control knob adjusts the time it takes for the lens to return from the dark state to the light state after the arc stops. This helps protect eyes from afterglow and allows the weld puddle to cool slightly.

- **Short Delay (0.1s):** For tack welding or short welds.
- **Long Delay (0.8s):** For high amperage welding or when working with hot materials.


*Image 6.3: Applications of the Welding Helmet. This image displays various welding and grinding scenarios, including Plasma Weld, MIG Weld, Arc Weld, TIG Weld, and Grinding, illustrating the helmet's versatility.*

## 7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your welding helmet.

### 7.1 Cleaning

- **Helmet Shell:** Clean the helmet shell with a mild soap and water solution. Avoid harsh solvents.

- **Lenses:** Gently wipe the inner and outer protective lenses with a soft, clean cloth. Do not use abrasive cleaners or solvents that could damage the lens coating.
- **Auto-Darkening Filter:** The filter cartridge should only be cleaned with a soft, dry cloth. Do not immerse in water or cleaning solutions.

### 7.2 Battery Replacement

When the low power alarm activates or the lens fails to darken during the test, replace the CR2450 battery. Refer to section 5.2 for battery installation.

### 7.3 Shield Lens Replacement

Replace the inner and outer protective shield lenses when they become scratched, pitted, or too dirty to clean effectively. Spare lenses are included in your package.

## 8. Troubleshooting

If you encounter issues with your TEKWARE Eclipse welding helmet, refer to the following common problems and solutions:

| Problem | Possible Cause | Solution |
|---|---|---|
| Lens does not darken when arc is struck. | • Battery low or incorrectly installed.<br>• Sensitivity set too low.<br>• Sensors obstructed or dirty.<br>• Operating temperature too low. | • Check/replace CR2450 battery.<br>• Increase sensitivity setting.<br>• Clean sensors and outer protective lens.<br>• Ensure operating temperature is within -10°C to 65°C. |
| Lens remains dark after arc stops. | Delay time set too long. | Decrease delay time setting. |
| Inconsistent darkening or flashing. | • Sensitivity set too high.<br>• Sensors partially obstructed.<br>• Other light sources interfering. | • Decrease sensitivity setting.<br>• Ensure sensors are clear and unobstructed.<br>• Adjust working position to minimize interference from other light sources. |
| Headgear is loose or uncomfortable. | Incorrect headgear adjustment or assembly. | Refer to section 5.1 for proper headgear adjustment and assembly. Ensure all components are correctly aligned. |

If the problem persists after attempting these solutions, please contact TEKWARE customer support.

## 9. Specifications

Detailed technical specifications for the TEKWARE Eclipse Auto-Darkening Welding Helmet:

- **Material:** High Polyamide (PP)
- **Screen Type:** Liquid-Crystal
- **Cartridge Size:** 110mm × 90mm (4.33 inches × 3.54 inches)
- **Active Viewing Area:** 93mm × 43mm (3.66 inches × 1.69 inches)
- **Light Shade:** DIN 4
- **Dark Shade:** DIN 5~9 / DIN 9~13 (Adjustable)
- **Switching Time:** ≤1/10000 Seconds
- **Delay Time:** 0.1 0.8s (Adjustable)
- **Arc Sensors:** 4
- **UV/IR Protection:** DIN 16 (Permanent)
- **Power Supply:** Solar Cell + Replaceable CR2450 Battery (Included)
- **Operating Temperature:** -10℃ 65℃ (14℉ 149℉)
- **Storage Temperature:** -20℃ 70℃ (-4℉ 158℉)
- **Product Weight:** Approximately 500g (1.10 lbs)
- **Model Number:** WH011-Eclipse
- **UPC:** 794304794979

## 10. Warranty and Support

For warranty information or technical support, please contact TEKWARE customer service. Keep your purchase receipt as proof of purchase.

**Manufacturer:** TEKWARE

**Contact:** Refer to the TEKWARE official website or your retailer for support contact details.