Auto-Darkening Welding Helmet
User Manual

FOR PROFESSIONALS WHO WANT PROTECTION, COMFORT AND EXTRA PERFORMANCE.

4 ARC SENSORS
LARGE VIEWING AREA
HIGH IMPACT RATING
STICK, MIG & TIG
2 YEAR WARRANTY

WIA
VIEWFX

Trusted by the best
# Table of Contents

**SECTION 1 - WELDING HELMET SAFETY PRECAUTIONS - READ BEFORE USING** ........................................... 1  
1-1. Symbol Usage ........................................................................................................................................ 1  
1-2. Arc Welding Hazards ......................................................................................................................... 1-2  
1-3. Lens Shade Selection Table ............................................................................................................... 3  

**SECTION 2 - SPECIFICATIONS** ............................................................................................................ 4  

**SECTION 3 - OPERATING INSTRUCTIONS** ........................................................................................ 5  
3-1. Helmet Controls .................................................................................................................................... 5  
3-2. Reset Button and Low Battery Indicator .............................................................................................. 5  
3-3. Lens Delay Control ............................................................................................................................... 6  
3-4. Variable Shade Control (o. 9-13) .......................................................................................................... 6  
3-5. Sensitivity/Grind Mode Control ........................................................................................................... 7  

**SECTION 4 - ADJUSTING THE HEADGEAR** ........................................................................................ 8  

**SECTION 5 - REPLACING THE LENS COVERS** .................................................................................... 9  
5-1. Replacing the Outside Lens Cover ...................................................................................................... 9  
5-2. Replacing the Inside Lens Cover ....................................................................................................... 10  

**SECTION 6 - REPLACING THE BATTERIES** ......................................................................................... 11  

**SECTION 7 - INSTALLING OPTIONAL MAGNIFYING LENS** .............................................................. 11  

**SECTION 8 - MAINTENANCE** .............................................................................................................. 12  

**SECTION 9 - TROUBLESHOOTING** .................................................................................................... 13  

**SECTION 10 - PARTS LIST** .................................................................................................................. 14  

**SECTION 11 - LIMITED WARRANTY** .................................................................................................... 15
1. Welding Helmet Safety Precautions
- Read Before Using

Protect yourself and others from injury - read, follow, and save these important safety precautions and operating instructions.

1-1. Symbol Usage

DANGER! Indicates a hazardous situation which, if not avoided will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

This group of symbols means Warning! Watch out! ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazards. Consult symbols and related instructions below for necessary actions to avoid hazards.

NOTICE: Indicates statements not related to personal injury.

> Indicates special instructions.

1-2. Arc Welding Hazards

Only Qualified Persons Should Install, Operate, Maintain & Repair this Unit.

ARC RAYS can Burn Eyes & Skin.

Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

- Wear a welding helmet fitted with a proper shade of filter to protect your face and eyes when welding or watching. Refer to Lens Shade Selection table in Section 1-4.
- Wear approved safety glasses with side shields under your helmet.
- Use protective screens or barriers to protect others from flash, glare, and sparks; warn others not to watch the arc.
- Wear body protection made from durable, flame resistant material (leather, heavy cotton wool). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuff-less trousers, high shoes, and a cap.
- Before welding, adjust the auto-darkening lens sensitivity setting to meet the application.
- Stop welding immediately if the auto-darkening lens does not darken when the arc is struck. See the Owner’s Manual for more information.
Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

- Use impact resistant safety spectacles or goggles and ear protection at all times when using this welding helmet.
- Do not use this helmet while working with or around explosives or corrosive liquids.
- Do not weld in the overhead position while using this helmet.
- Inspect the auto-lens frequently. Immediately replace any scratched, cracked, or pitted cover lenses or auto-lenses.

Noise from some processes or equipment can damage hearing.

- Wear approved ear protection if noise level is high.

Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.

- Keep your head out of the fumes. Do not breathe the fumes.
- If inside, ventilate the area and/or use local forced ventilation at the arc to remove welding fumes and gases. The recommended way to determine adequate ventilation is to sample for the composition and quantity of fumes and gases to which personnel are exposed.
- If ventilation is poor, wear an approved air-supplied respirator.
- Read and understand the Safety Data Sheets (SDSs) and the manufacturer’s instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.
- Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Always have a trained watch person nearby. Welding fumes and gases can displace air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.
- Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapors to form highly toxic and irritating gases.
- Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.
# 1-3. Lens Shade Selection Table

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>ELECTRODE SIZE (MM)</th>
<th>ARC CURRENT IN AMPS</th>
<th>MIN PROTECTIVE SHADE NO.</th>
<th>SUGGESTED SHADE NO. (COMFORT)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shielded Metal Arc Welding (SMAW)</td>
<td>Less than 2.4mm</td>
<td>Less than 60</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>2.4-4.0mm</td>
<td>60-160</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>4.0-6.4mm</td>
<td>160-250</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Gas Metal Arc Welding (GMAW)</td>
<td>Less than 60</td>
<td>7</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Flux Cored Arc Welding (FCAW)</td>
<td>60-160</td>
<td>10</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>160-300</td>
<td>10</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Gas Tungsten Arc Welding (TIG)</td>
<td>Less than 50</td>
<td>8</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>50-150</td>
<td>8</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>150-300</td>
<td>10</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Arc Carbon Arc Cutting (CAC-A)</td>
<td>Light</td>
<td>Less than 500</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Heavy</td>
<td>500-800</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Plasma Arc Cutting (PAC)</td>
<td>Less than 20</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-40</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40-60</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60-80</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>80-300</td>
<td>8</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>300-400</td>
<td>9</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400-600</td>
<td>10</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Plasma Arc Welding (PAW)</td>
<td>Less than 20</td>
<td>6</td>
<td>6-8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-100</td>
<td>8</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100-400</td>
<td>10</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400-600</td>
<td>11</td>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

*Start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives a sufficient view of the weld zone without going below the minimum.*
## Section 2 - Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartridge Dimensions</td>
<td>115 x 132 x 10mm</td>
</tr>
<tr>
<td>Viewing Field</td>
<td>97 x 60mm</td>
</tr>
<tr>
<td>Reaction Time</td>
<td>1/15,000 second</td>
</tr>
<tr>
<td>Available Shades</td>
<td>Darkened State: 9-13, Light State: 4 Provides Continuous UV and IR Protection</td>
</tr>
<tr>
<td>Sensors</td>
<td>4 Independent</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-5°C to +55°C  &gt; When stores in extremely cold temperatures, warm helmet to ambient temperature before welding.</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-10°C to +70°C  &gt; When stores in extremely cold temperatures, warm helmet to ambient temperature before welding.</td>
</tr>
<tr>
<td>Power Supply</td>
<td>CR2450 Lithium Battery x 2 (Part No. 217043)</td>
</tr>
<tr>
<td>Weight</td>
<td>550g</td>
</tr>
<tr>
<td>Standards</td>
<td>AS/NZS 1338.1 (Auto-Darkening) and AS/NZS 1337.1B (High Impact)</td>
</tr>
<tr>
<td>Warranty</td>
<td>2 Years</td>
</tr>
<tr>
<td>Sensitivity Control Light Levels</td>
<td>Adjusts for Varying Ambient Light and Welding Arc</td>
</tr>
<tr>
<td>Delay Control</td>
<td>Slows Lens Dark-to-Light State Between 0.1 and 1.0 Seconds</td>
</tr>
<tr>
<td>Automatic Power Off</td>
<td>Shuts Lens Off 15-20 Minutes After Welding Stops</td>
</tr>
<tr>
<td>Low Battery Indicator</td>
<td>Red Light illuminates to Indicate 2-3 Days Remaining</td>
</tr>
<tr>
<td>Grind Mode</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Section 3 - Operating Instructions

3-1. Helmet Controls

1. Sensitivity/Grind Mode Control  
   (See Section 3-5)
2. Low Battery Indicator  
   (See Section 3-2)
3. Reset Button  
   (See Section 3-2)
4. Lens Delay Control  
   (See Section 3-3)
5. Variable Shade Control  
   (See Section 3-4)

> The Auto-Darkening lens turns on (darkens) automatically when welding begins and turns off 15-20 minutes after welding stops.

1. Reset Button

Press Reset button to check if the lens is working properly.

When the Reset button is pressed, the lens should darken twice and return to the clear state. Do not use the helmet if the lens does not function as described. (See Section 9, Troubleshooting).

2. Low Battery Indicator

The low battery indicator lights when 2-3 days of battery life remain.

If battery power is low, replace battery (See Section 6).
3-3. Lens Delay Control

1. Lens Delay Control
The lens delay control is used to adjust the time for the lens to switch to the clear state after welding.

The delay is particularly useful in eliminating bright rays present in higher amperage applications where the molten puddle remains bright momentarily after welding.

Lens delay adjusts from min (0.10 second) to max (1.0 second).

3-4. Variable Shade Control (No. 9-13)

1. Variable Shade Control (No. 9-13)
Use the control to adjust the lens shade in the darkened state. Use the table in section 1-4 to select the proper shade control setting based on your welding process.

Start at shade 12 and adjust lighter to suit the welding application and your personal preference.
3-5. Sensitivity/Grind Mode Control

1. Weld Mode
Use control to make the lens more responsive to different light levels in various welding processes.

Use a Mid-Range or 30-50% sensitivity setting for most applications.

It may be necessary to adjust helmet sensitivity to accommodate different lighting conditions or if lens is flashing On and Off.

Adjust helmet sensitivity as follows:

> Adjust helmet sensitivity in lighting conditions helmet will be used in.
  • Turn sensitivity control to lowest setting.
  • Press Reset button to turn helmet On. Helmet lens will darken twice and then clear.
  • Face the helmet in the direction of use, exposing it to the surrounding light conditions.
  • Gradually turn sensitivity setting clockwise until the lens darkens, then turn sensitivity control counterclockwise until slightly past setting where lens clears. Helmet is ready for use. Slight readjustment may be necessary for certain applications or if lens is flashing on and off.

Grind Mode
> Do not weld in the Grind Mode; the lens will not darken.

To use the Grind mode, turn the Sensitivity control clockwise to the far right position (Grind). To resume welding, return the control to the desired sensitivity setting.

RECOMMENDED SENSITIVITY SETTINGS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stick Electrode</td>
<td>Mid-Range</td>
</tr>
<tr>
<td>Short Circuiting (MIG)</td>
<td>Low/Mid-Range</td>
</tr>
<tr>
<td>Pulsed &amp; Spray (MIG)</td>
<td>Mid-Range</td>
</tr>
<tr>
<td>Gas Tungsten Arc (TIG)</td>
<td>Mid/High-Range</td>
</tr>
<tr>
<td>Plasma Arc Cutting/Welding</td>
<td>Low/Mid-Range</td>
</tr>
<tr>
<td>Grind Mode</td>
<td>Grind Position - Far Right (Clockwise)</td>
</tr>
</tbody>
</table>
There are four headgear adjustments: headgear top, tightness, angle adjustment, and distance adjustment.

1. Headgear Top
Adjusts headgear for proper depth on the head to ensure correct balance and stability.

2. Headgear Tightness
To adjust, press the knob and turn left or right to desired tightness.

   - If adjustment is limited, it may be necessary to remove the comfort cushion.

3. Distance adjustment
Adjusts the distance between the face and the lens. To adjust, loosen both outside tension knobs and press inward to free from adjustment slots. Move forward or back to desired position and re-tighten. (Both sides must be equally positioned for proper vision.)

4. Angle Adjustment
Four pins on the right side of the headband top provide adjustment for the forward tilt of the helmet. To adjust, loosen the right outside tension adjustment knob then lift on the control arm tab and move it to the desired position. Re-tighten tension adjustment knob.

   - When using the back distance adjustment positions, only the back three angle adjustment pins can be used.
Section 5 - Replacing the Lens Covers

5-1. Replacing the Outside Lens Cover

Never use the auto-darkening lens without the inside and outside lens covers properly installed. Welding spatter will damage the auto-darkening lens and void the warranty.

1. Front Lens Holder
2. Release Point
3. Lens Cover
4. Gasket

Remove front lens holder by pressing release points and pulling the holder away from the helmet.

Remove lens cover and gasket from the holder. Replace lens cover and reinstall gasket and lens in holder. Reinstall holder in helmet.

Be sure the flat side of lens cover gasket faces the lens cover holder.

Be sure the flat side of gasket faces the lens cover holder.
5-2. Replacing the Inside Lens Cover

Never use the auto-darkening lens without the inside and outside lens covers properly installed. Welding spatter will damage the auto-darkening lens and void the warranty.

Remove front lens holder (See Section 5-1). Remove auto-darkening lens assembly by pressing it gently from inside the helmet. (Assembly comes out front of the helmet).

1. Lens Assembly
2. Inside Lens Cover

Remove the inside lens cover by prying the cover up at either thumbnail opening at each side of the cover. Slide cover out of either side of the frame. Replace lens cover and reinstall the assembly in the helmet by reversing the above procedure.

> Be sure that the cover lens is sealed properly (flat) to prevent fogging.
Section 6 - Replacing the Batteries

To replace the batteries, remove the auto-darkening lens assembly (See Section 5-2).

1. Battery Tray
After removing the lens assembly, slide the battery holding trays out and remove the old batteries. Replace with the 217043 lithium type batteries (2 required).

   > Be sure Positive (+) side of the battery faces up (toward inside of the helmet)

Reinstall the battery trays. To test, press the Reset button. The lens should flash dark twice. Reinstall the lens assembly.

   > Left and right battery trays are not interchangeable. The auto-darkening helmet will not work if the battery trays are installed on the wrong sides.

Section 7 - Installing Optional Magnifying Lens

1. Optional Magnifying Lens
Starting at the top, slide magnifying lens into the helmet retaining brackets. Align the magnifying lens with the auto-darkening lens assembly. Reverse procedure to remove magnifying lens.

   > To prevent lens fogging, install flat side of magnifying lens toward auto-darkening lens.
Section 8 - Maintenance

**NOTICE:** Never use solvents or abrasive cleaning detergents.

**NOTICE:** Do not immerse the lens assembly in water.

The helmet requires little maintenance, however for best performance clean after each use. Using a soft cloth dampened with a mild soap and water solution, wipe the cover lenses clean. Allow to air dry. Occasionally, the filter lens and sensors should be cleaned by gently wiping with a soft, dry cloth.
# Section 9 - Troubleshooting

<table>
<thead>
<tr>
<th>TROUBLE</th>
<th>REMEDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto lens not on – Auto-lens will not darken momentarily when the Reset button is pressed.</td>
<td>Check batteries and verify they are in good condition and installed properly. Also, check battery surfaces and contacts and clean if necessary. Check battery for proper contact and gently adjust contact points if necessary. This is particularly important if the helmet has been dropped. Verify left and right battery trays are installed on the correct sides.</td>
</tr>
<tr>
<td>Not switching – Auto-lens stays light and will not darken when welding.</td>
<td>Stop welding immediately. Press the reset button if lens is Auto-On type. If lens is Manual On type, make sure the lens is turned On. If power is on, review the sensitivity recommendations and adjust sensitivity. Clean lens cover and sensors of any obstructions. Make sure the sensors are facing the arc; angles of 45 degrees or more may not allow the arc light to reach the sensors.</td>
</tr>
<tr>
<td>Not switching – Auto-lens stays dark after the weld arc is extinguished, or the auto-lens stays dark when no arc is present.</td>
<td>Fine-tune the sensitivity setting by making small adjustments to the control by turning it toward the “min” setting. In extreme light conditions, it may be necessary to reduce the surrounding light levels.</td>
</tr>
<tr>
<td>Sections of the auto-lens are not going dark, distinct lines separate the light and dark areas.</td>
<td>Stop welding immediately. The auto-lens may be cracked which can be caused by the impact of dropping the helmet. Weld spatter on the auto lens may also cause cracking. (The lens may need to be replaced; most cracked lenses are not covered by warranty).</td>
</tr>
<tr>
<td>Switching or Flickering – The auto-lens darkens then lightens while the welding arc is present.</td>
<td>Review the sensitivity setting recommendations and increase the sensitivity if possible. Be sure the arc sensors are not being blocked from direct access to the arc light. Check the lens cover for dirt and spatter that may be blocking the arc sensors. Increasing Lens Delay 0.1–0.3 second may also reduce switching.</td>
</tr>
<tr>
<td>Inconsistent or lighter auto-lens shading in the dark-state, noticeable on the outside edges and corners.</td>
<td>Referred to as an angle of view effect, auto-darkening lenses have an optimum viewing angle. The optimum viewing angle is perpendicular or 90 degrees to the surface of the auto-lens. When that angle of view varies in the dark-state, welders may notice slightly lighter areas at the outside edges and the corners of the lens. This is normal and does not represent any health or safety hazard. This effect may also be more noticeable in applications where magnifying lenses are used.</td>
</tr>
</tbody>
</table>
FIGURE 10-1. AUTO-DARKENING WELDING HELMET

1. Cover Lens Frame (235651)
2. Gasket Cover Lens (235654)
3. Outside Cover Lens (235655P)
4. Inside Cover Lens (216327P)
5. Replacement Auto-Darkening Lens (235652)
6. Ratchet Headgear Assembly (770246)
7. Magnifying Lens 1.5x (212238P)
   Magnifying Lens 2.0x (212240P)
   Magnifying Lens 2.5x (212242P)

**Not Shown.** Lithium Battery (217043)
Section 11 - Limited Warranty

LIMITED WARRANTY

Welding Industries of Australia (WIA) warrants to the original retail purchaser that the WIA ViewFX auto-darkening welding helmet purchased (Product) will be free from defects in materials and workmanship for a period of 2 years from the date of purchase of the Product by the customer. If a defect in material or workmanship becomes evident during that period, Welding Industries of Australia will, at its option, either:

- Repair the Product (or pay for the costs of repair of the Product); or
- Replace the Product.

In the event of such a defect, the customer should return the Product to the original place of purchase, with proof of purchase, or contact Welding Industries of Australia on 1300 300 884.

Any handling and transportation costs (and other expenses) incurred in claiming under this warranty are not covered by this warranty and will not be borne by Welding Industries of Australia. Welding Industries of Australia will return the replacement Product (if found faulty) or the original product (if not faulty) freight free to the customer.

This warranty covers the auto-darkening lens only, and does not extend to the helmet shell, headgear or accessories included in the original purchase package.

The obligation of Welding Industries of Australia under this warranty is limited to the circumstances set out above and is subject to:

- The customer being able to evidence the acquisition of the Product, the purchase price paid for the Product and the relevant defect in materials or workmanship;
- The Product not having been altered, tampered with or otherwise dealt with by any person in a manner other than as intended in respect of the relevant Product; and
- The Product not having been used or applied in a manner that is contrary to customary usage or application for the relevant Product or contrary to any stated instructions or specification of Welding Industries of Australia.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. The benefits given by this warranty are in addition to other rights and remedies which may be available to the customer under any law in relation to goods and services to which this warranty relates.

Warranty provided by:
Welding Industries of Australia (ABN 63 004 235 063)
A Division of ITW Australia Pty Ltd
5 Allan Street, Melrose Park, South Australia, 5039
Email: info@welding.com.au
Telephone: 1300 300 884
welding.com.au