



SPARX DOUBLE INSTRUCTION MANUAL

SparX Double

Professional Quality Auto-Darkening Helmet

WARNING

Read and Understand All Instructions Before Using the Equipment.

SAFETY WARNINGS

The auto-darkening helmet with improved High Definition Filter Optics, delivers a new generation of face and eye protection. Advanced integrated technology, such as LCD, optoelectronics detection, solar power, and microelectronics are coordinated to produce one of the safest, fastest and most reliable auto-darkening helmets available. The auto-darkening helmet can not only efficiently protect operator's eyes and face from sparks, spatters, and harmful radiation under normal welding conditions, but also make both hands free and strike arc accurately resulting in increased efficiency and improved quality welds. It may be widely used for various welding, cutting, spraying and arc gouging, etc.

- This auto-darkening helmet is not suitable for "overhead" welding, laser welding or oxyacetylene welding applications.
- This helmet will not protect against explosive devices or corrosive liquids. Machine guards or eye splash protection must be used when these hazards are presented.
- Impact resistant, primary eye protection, spectacles or goggles that meet current ANSI specifications must be worn at all times when using this welding helmet.

- Avoid work positions that could expose unprotected areas of the body to spark, spatter, direct and/or reflected radiation. Use adequate protection if exposure cannot be avoided.
- Do not make any modifications to either the ADF cartridge or helmet, other than those specified in this manual.
- Do not use any replacement parts other than those specified in this manual. Unauthorized modifications and replacement parts will void the warranty and expose the user to the risk of personal injury.
- Do not immerse this helmet in water because this model is not waterproof.
- Do not use any solvents on any ADF or helmet components.
- The recommended operating temperature range for this ADF cartridge is -10°C ~ 65°C (14°F ~ 149°F). Do not use this device beyond these temperature limits.

Failure to follow these warnings and/or failure to follow all of the operating instructions could result in severe personal injury.

CONTENTS

1. Operation instruction
2. Specifications
3. LED flash explanation on ADF
4. Screen icon explanation on remote control
5. Mode setting
6. Variable shade control
7. Sensitivity control
8. Delay control
9. Grinding or cutting selection
10. Battery indicator
11. Power supply and charge battery
12. Remote control pair with ADF
13. Headgear adjustments
14. Replace inner visor
15. Replace outer protection lens
16. True color
17. Maintenance
18. Trouble shooting
19. Warranty
20. Part list

1. OPERATION INSTRUCTION

Before use

- Check for light tightness and check the inside & outside protection lens are clean and that no dirt is covering the sensors on the front of the auto-darkening-filter (ADF) cartridge.
- Make sure the protection films on both inside & outside protection lens are removed.
- Inspect all operating parts for signs of wear or damage. Any scratched, cracked, or pitted parts should be replaced immediately.

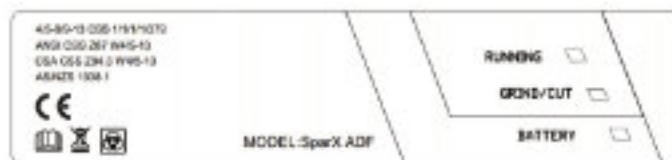
This ADF is fully controlled by a Remote control and connected with Bluetooth. All the adjustment of the ADF is operated on the Remote Control. ADF will change to the Function mode you set by the Remote Control.

2. STANDARDS

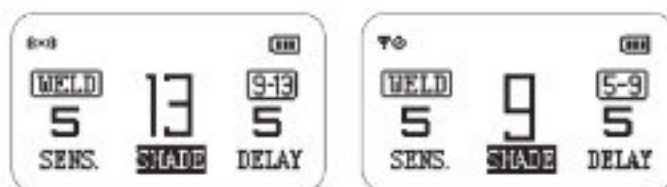
Specifications of ADF (SparX)	
1. CE Classification	1/1/1/1
2. True Color	Yes
3. LCD viewing area	100 x 60 mm (3.94" x 3.28")
4. Light State Shade	DIN 4
5. Dark Variable Shades	DIN 5-9 / 9-13
6. Switching Time (light to dark)	0.08ms
7. Delay Time (dark to light)	Adjustable (level 1-5 for 0.1-0.9s)
8. Sensitivity	Adjustable (level 1-5 for low-high)
9. Arc Sensors	4
10. Grinding Function	Yes
11. Cutting Function	Yes, shade 5
12. Power Supply	Solar cell and Li-ion rechargeable battery
13. ADF battery operating time	>300h
14. Charging time	2.5h
15. Battery Life	≥ 500
16. Operating temperature	-10°C ~ 65°C (14°F ~ 149°F)
17. Inside PC lens	104.5 x 64 x 1 mm
18. Outside PC lens	118 x 97 x 1 mm
19. Inner visor	Clear Visor, DIN 1
20. Standards	CE EN379, ANSI Z87.1, CSA Z94.3, AS/NZS
21. Warranty	2 years
Specifications of Remote	
1. Display	OLED
2. Power Supply	Li-ion rechargeable battery
3. ADF battery operating time	>300h
4. Charging Time	2.5h
5. Battery Life	-10°C ~ 65°C (14°F ~ 149°F)

3. Low power/Charging (Red/Green)
 - a. LED will become red when ADF is out of power
 - b. LED will be green and will flash while charging
 - c. LED will be green and normally on when charging is finished

The representation of the LEDs on the ADF:

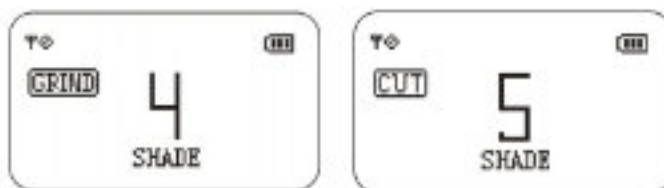


4. SCREEN ICON EXPLANATION



Picture 1

Picture 2



Picture 3

Picture 4

1 Battery Status	2 Connection Signal Indication	3 Welding Indication	4 Shade Range 5-9	5 Shade Range 9-13
6 Sensitivity Indication: 1 (low) to 5 (high)	7 Delay Indication: 1 (short 0.1s) to 5 (long 0.9s)	8 Shade Reading	9 Cutting Mode Indication	10 Grinding Mode Indication

3. LED FLASH EXPLANATION ON ADF

There are 3 LEDs on the ADF showing the working status of the ADF.

1. Running (green)
 - a. LED will flash once every 2 sec while pairing with Remote Control
 - b. After successfully paired, LED will flash when ADF receives control signal from Remote Control
2. Grinding/Cutting (orange)
 - a. LED flash when ADF works in grinding/cutting mode

5. MODE SETTING

- ADF has 4 function modes
 1. Welding mode (shade range 5-9)
 2. Welding mode (shade range 9-13)
 3. Grinding mode
 4. Cutting mode
- Long press the button (8) on the remote control for 2 sec and release, the ADF mode will be changed circularly during these 4 modes. LCD display will show the picture from 1 to 4 circulation.

- At welding mode 3 functions can be adjusted
 1. Sensitivity
 2. Shade
 3. Delay
- At welding mode, short-press the button on the remote control less than 1 sec and release, the function will be changed circularly during shade, sensitivity and delay time.

6. VARIABLE SHADE CONTROL

If the shade is in the range 5-9 or range of 9-13, clockwise rotate the button on the remote control, shade number will be increased; or anticlockwise rotate the button on the remote control, shade number will be reduced.

Note

- Choose an optimum shade number for the required welding process or application (see table 1)
- If the ADF does not darken when striking arc, stop welding immediately and contact our representative

7. SENSITIVITY CONTROL

The responsiveness to different light levels in various welding processes can be adjusted in the range 1-5 (from low to high). Sensitivity can only be adjusted at welding mode.

- Short press the button (8) on the remote control and select SENS and clockwise rotate the button on the remote control, sensitivity will be increased; or anticlockwise rotate the button on the remote control, sensitivity will be reduced. After the icon 6 mentioned is displayed on the screen, number can be changed in the range of 1 to 5.
 - a. Turn to level 1 (low): The sensitivity changes to be lower.
 - Suitable for high amperage welding and welding in bright light conditions (lamp light or sun light).
 - b. Turn to level 5 (high): The sensitivity changes to be higher.
 - Suitable for low amperage welding and using in poor light conditions.
 - Suitable for using with steady arc process such as TIG welding.
 - Under normally use, a higher sensitivity setting is recommended.

8. DELAY CONTROL

The length of time delay for the ADF returns to light state after welding can be adjusted in the range 1-5 (for 0.1~0.9s). The time delay is for protection of welder's eyes from strong residual rays after welding.

- Short press the button (8) on the remote control and select DELAY and clockwise rotate the button on the remote control, delay time will be increased; or anticlockwise rotate the button on the remote control, delay time will be reduced. After the icon 7 mentioned is displayed on the screen, number will be changed in the range of 1 to 5.
 - a. Turn to level 1 (0.1s): The time the ADF lighten after welding to be shorter. The shortest time is about 0.1s depending upon welding point temperature and shade set. This setting is ideal for track welding or production welding with short welds.
 - b. Turn to level 5 (0.9s): The time the ADF lighten after welding to be longer. The longest time is about 0.9s depending upon welding point temperature and shade set. This setting is ideal for welding at high amperage where there is an after-glow from the weld.

9. GRINDING SELECTION

Select grinding mode by pressing the button on the remote control, picture 3 mentioned will show on the remote control and the orange light on ADF will flash.

Note

- Do not weld in the grinding mode, the ADF will not darken.

10. CUTTING SELECTION

Select cutting mode by long pressing the button on the remote control for 2 sec and release, picture 4 will show on the remote control and the orange light on ADF will flash.

Note

- Do not weld in the cutting mode.

11. BATTERY INDICATOR

Icon 1 mentioned indicates the remote control battery status. Charge the battery when it is low, otherwise, the remote control will be out of work.

Charge the battery of ADF when the light on ADF becomes red. Otherwise, switching time will become slower and shade accuracy will be compromised.

12. POWER SUPPLY AND CHARGING

The power of the auto-darkening helmet is provided by solar cells and rechargeable lithium battery. Charge battery with Micro-USB cable when battery is low (5&6)



Picture 5

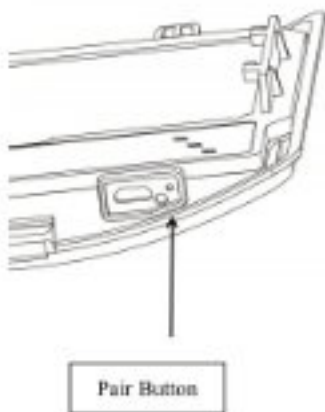


Picture 6

13. REMOTE CONTROL PAIR WITH ADF

ADF and remote control is paired one to one when assembled on the helmet and do not need to be paired again. Icon 2 mentioned will show . One remote control can only control one ADF which has been paired.

A new remote control can be paired with a new ADF. Put the new ADF and new remote control together. Long press the pair button on the ADF (picture 7) with a fine needle for more than 3 sec and release. Then long press the pair button on the remote control (picture 8) with a fine needle for more than 3 sec and release. Running LED on ADF will flash once every 2 sec and will stop flashing when successfully paired. The icon 2 mentioned will show ; if icon 2 shows it means failed pair and needs to be paired again.



Picture 7



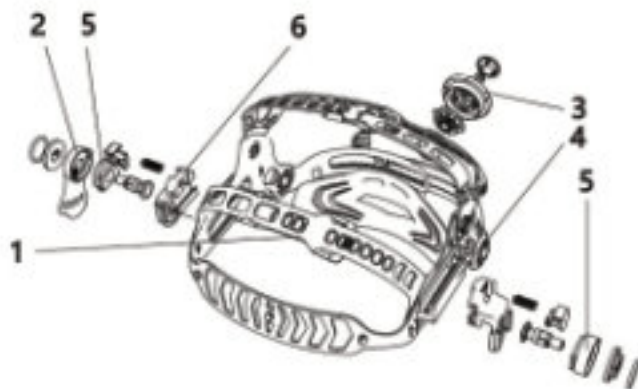
Picture 8

13. HEADGEAR ADJUSTEMENTS

Because the shapes of heads vary from person to person, the work positions and the observing angles are different. Operator may adjust the headband in 5 parameters:

1. Select eye level by headband adjusting buttons (1)
2. Select view angle by segmental positioning plate (2)

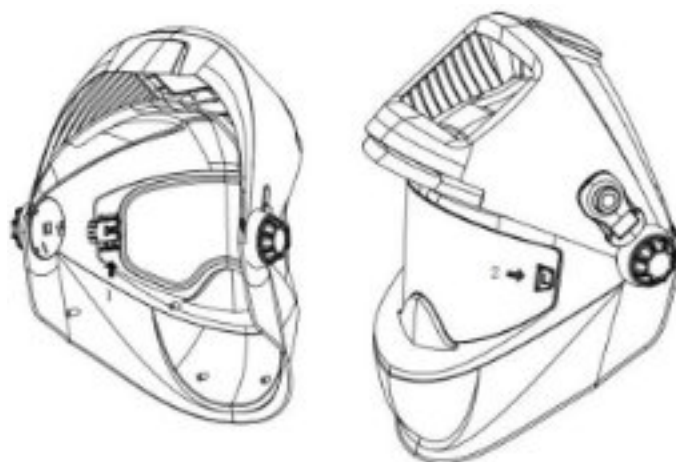
3. Adjust head size perimeter by pushing and turning the headband tightness adjusting knob (3)
4. Select eyes distance from ADF by adjusting headgear screws to 1 of the 5 slots on the headgear slider (4). Make sure both sides are equally positioned for proper vision.
5. Select the height of the headgear by adjusting the block washers (5) up or down on the block washer adjustment (6).



14. REPLACE INNER VISOR

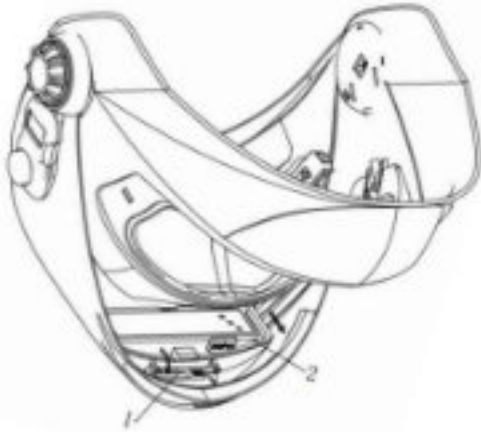
The large inner visor is a protection lens and must be replaced if broken, damaged or covered with welding spatter to the extent that vision is impaired.

- Flip up the outer cover
- Push the plugs inside the helmet up, see position 1. The inner visor will be released from the helmet; pull the inner visor out, see position 2.
- Insert the visor, it is necessary to locate the button into the corresponding hole in the helmet, then push the plugs inside the helmet down and lock the visor
- The user must always make sure the visor is fitted properly and is locked well and there are no visible gaps.



15. REPLACE OUTER PROTECTION LENS

- The outer protection lens is a protection lens and must be replaced if broken, damaged or covered with welding spatter to the extent that vision is impaired.
- Flip up the outer cover.
- Unlock the ADF by pulling the lock structure inside the flip up cover (position 1). Take the ADF out (position 2), replace with a new outer protection lens. Insert the ADF back in the flip up cover, lock the ADF by pushing the lock structure.
- The user must always make sure the outer protection lens is fitted properly and is locked well.



16. TRUE COLOR

The auto-darkening helmet is a true color welding helmet. With advanced true color technology the users can weld with improved clarity due to new complex coating technology, grinding with precision while in grinding mode and finally see the job performance in the light state in the full spectrum of colors. No need to remove the helmet to see clearly! Results are: enhanced weld quality, increased efficiency and improved safety because the user can see more.

17. MAINTENANCE

The auto-darkening helmet needs little maintenance. Use a clean, soft piece of cloth moistened with soft soap/pure alcohol/commercial disinfectant to wipe the inside and the outside of the helmet. Dry storage.

Note

- Do not immerse the helmet or ADF in water directly.

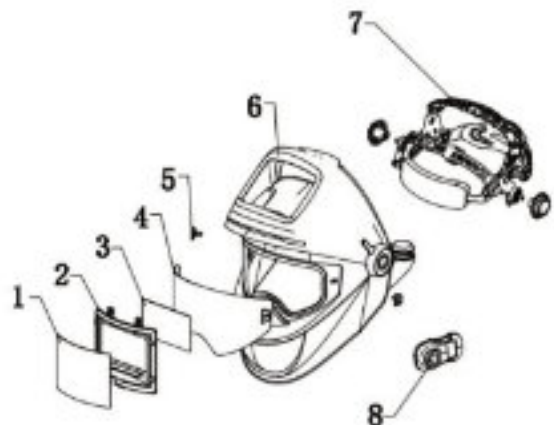
18. TROUBLE SHOOTING

Trouble	Remedy
The ADF does not darken when welding.	<ul style="list-style-type: none"> • Stop welding or cutting immediately. • Make sure the sensors are facing the arc and no obstructions. • Check whether the mode is on WELDING not GRINDING. • Review sensitivity recommendations and adjust sensitivity if possible. • Replace the battery if necessary.
The ADF stays dark after welding or there is no arc present.	<ul style="list-style-type: none"> • Adjust the sensitivity to the lower level (level 1) • If the welding place is extremely bright, it is recommended to reduce the surrounding light level.
The ADF switching during welding.	<ul style="list-style-type: none"> • Increase the sensitivity if possible. • Make sure the sensors are facing the arc and no obstructions. • Increase delay to 0.1-0.3 seconds may also reduce switching.
Inconsistent shade number on the corner of ADF.	<ul style="list-style-type: none"> • It is a natural feature and will not be dangerous for the eyes. • In order to get a maximum comfort, try to keep a view angle at around 90°.

19. WARRANTY

The auto-darkening filters are warranted for 2 years from the date of purchase. The duration of use depends on various factors such as use, cleaning storage and maintenance. Frequently inspections and replacement are recommended if it is damaged.

20. PARTS LIST



Number	Description	Article number
1	Outer protection lens	13.01.013
2	SparX ADF	13.06.100
3	Inner protection lens	13.01.104
4	Large inner visor	13.02.411
5	Lock sliders	13.01.043
6	Sweatband (deluxe)	13.02.212
7	Headgear	13.01.011
8	Remote control	13.06.105

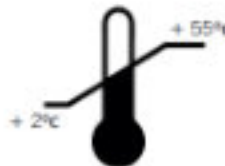
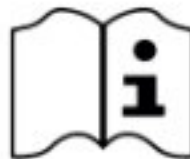
21. RECOMMENDED SHADE NUMBERS

WELDING PROCESS	CURRENT AMPERES																							
	0,5	1	2,5	5	10	15	20	30	40	50	60	100	125	150	175	200	225	250	275	300	350	400	450	500
Covered Electrode					Shade 9		Shade 10		Shade 11			Shade 12			Shade 13		14							
MIG Plate Welding							Shade 10		Shade 11			Shade 12			Shade 13		14							
MIG Sheet Metal							Shade 10		Shade 11			Shade 12		Shade 13		Shade 14		15						
TIG			Shade 9		Shade 10		Shade 11			Shade 12		Shade 13		Shade 14										
MAG							Shade 10		Shade 11		Shade 12		Shade 13			Shade 14		Shade 15						
Arc Gouging									Shade 10		11		12		13		14		15					
Plasma Cutting									Shade 11		Shade 12			Shade 13										
Plasma Welding	4	5	6	7	8	9	10	11	12	13			14			15								

DIN EN 379: 2003 + A1:2009

DIN EN 175: 1997-08

DIN EN 166: 2002-04



ATTENTION

if any of these conditions is not kept or followed, the warranty is automatically invalid.