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R02

AUTO DARKENING WELDING FILTER

SA 60

XA 74



SA 60, XA 74: EN 379:2003+A1:2009

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INTRODUCTION

The auto-darkening filter (ADF) is an electronic filter cassette that darkens from light state to a pre-selected dark shade when the welding arc is ignited. Select the appropriate shade before you start welding. This product is designed to help protect your eyes from harmful radiation including visible light, ultra-violet radiation (UV) and infra-red radiation (IR) resulting from certain welding processes. ADF offers permanent protection against UV/IR rays, heat and sparks in any state from the light to the dark.

SAFETY

- When fitted to a suitable face shield that meets the necessary and local safety standards, this ADF is suitable for welding, grinding, cutting, spraying and arc gouging. It is not suitable for laser welding and oxyacetylene welding/cutting processes.
- The ADF does not protect against explosive devices or corrosive liquids.
- Always use the protective lens on the ADF. Replace the protective lens when it becomes dirty/discolored/worn/cracked/scratched/pitted.
- Avoid heavy knocks on the ADF as it may break.
- If the ADF does not darken when the arc ignites, stop welding immediately. Inspect the ADF, check the batteries and change if necessary. If this does not help, contact a Kemppi representative or your supervisor.
- The ADF is not water-proof or water resistant. Do not immerse it in water. Protect the filter from contact with liquids and dirt.
- The recommended operating temperature range is -5°C...+55°C (23°F...131°F). Do not use the ADF beyond this

temperature range.

- Never place the ADF on a hot surface.
- Never open or tamper with the ADF.
- Do not make any modifications to the ADF, unless specified in this manual.
- Do not use other replacement parts than those specified in this manual. Unauthorized modifications and replacement parts void the warranty and may expose the wearer to unnecessary risk of personal injury.
- Clean the surface regularly. Do not use strong cleaning solutions or solvents. Always keep the sensors and solar cells clean. See Maintenance.
- Materials which may come into contact with the wearer's skin can cause allergic reactions.
- Failure to follow these safety instructions and/or failure to follow the operating instructions may cause voiding of the warranty and cause a risk of personal injury.

TROUBLESHOOTING

Problem	Probable cause and recommended actions
The ADF does not darken or flickers.	<ul style="list-style-type: none">• Front cover lens is soiled or damaged. Change the cover lens.• Sensors are soiled. Clean the sensors' surface.
Slow response	<ul style="list-style-type: none">• Operating temperature is too low. Do not use at temperatures below -5°C (23°F).• Add sensitivity.
Poor vision	<ul style="list-style-type: none">• Protective lens and/or the ADF is soiled. Change the lens.• There is insufficient ambient light.

TECHNICAL DATA

Model	SA 60	XA 74
CE classification	1/1/1/2	1/1/1/2
True color	Yes	Yes
Viewing area	102x60mm	102x74mm
Cassette size	161x95mm	161x95mm
Arc sensor	2	2
Shade range	5/8, 9-13	5/8, 9-13, 14-15
Light state	DIN 4	DIN 4
Power ON/OFF	Fully automatic	Fully automatic
Shade control	External	External
Switching time	0.1ms	0.1ms
UV/IR protection	Always	Always
Low battery indicator	Yes	Yes
Low amperage TIG rated	5A	5A
Power supply, replaceable	Solar cell, 1 x CR2450	Solar Cell, 1 x CR2450, PAPER battery
Certification	CE, AS/NZS, UKCA	CE, AS/NZS, UKCA
Compatible with	Gamma 100A, GTH3 SFA	Gamma GTH3 XFA

Compliance	<ul style="list-style-type: none"> • Regulation (EU) 2016/425 • Regulation 2016/425 on personal protective equipment as brought into UK law and amended
Standards compliance	<ul style="list-style-type: none"> • EN 379:2009-07 • AS/NZS 1338.1:2012
Type inspected by	<ul style="list-style-type: none"> • DIN CERTCO Gesellschaft für Konformitätsbewertung mbH, Notified body No. 0196, Alboinstr. 56D-12103 Berlin • AS/NZS; SAI Global Certification Services Pty Limited, Level 7, 45 Clarence Street, Sydney NSW 2000, Australia. • UKCA; TUV Rheinland UK Ltd., Approved body No. 2571, Friars Gate (Third Floor), 1011 Stratford Road, Shirley, Solihull, B90 4BN, UK.

ADF MARKING EXPLANATIONS

Eg. CE 4/5, 8/9-13 KMP 1/1/1/2/379

CE	CE marking (European Conformity)
UKCA	UKCA marking (UK Conformity)
4/5	Light state scale number
8/9	Lightest dark state scale number
13	Darkest state scale number (SA 60)
15	Darkest state scale number (XA 74)
KMP	Manufacturer identification
1	Optical class
1	Diffusion of light class
1	Variation in luminous transmittance class
2	Angle dependence
379	Number of the standard

ORDERING CODES

Model	SA 60	XA 74
ADF	SP012422	SP012421
Protection plate, inside, 5 pcs	SP012425	SP012424

OPERATION

Shade defines how dark the ADF gets when the arc ignites. To select the optimal shade, see the Shade guide table.

Sensitivity defines how easily the ADF photo-sensors respond to arc light and trigger the darkening of the filter. Use low sensitivity for high welding currents and welding in bright lighting conditions, such as lamp light or sunlight. Use high sensitivity for low welding currents, welding in poor lighting conditions and when using a steady arc process, such as TIG welding process.

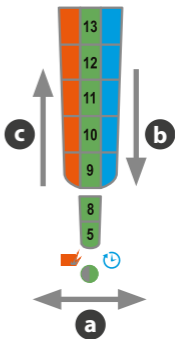
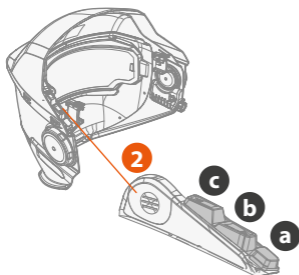
Delay defines how long the ADF stays in the dark state to protect the eyes from the afterglow, when the arc is switched off. Use MIN delay time for tack welding and production welding with short welds. Use MAX delay time for welding at high amperage, where there is a strong afterglow from the weld.

Before use

- Make sure the protective lens is clean. Remove the protective film.
- Make sure the sensors on the front of the ADF are clean.

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1. USB port for ADF power and remote control.
2. Battery holder (1 x CR2450).
 - a ADF mode selector (short press) to move between sensitivity/shade/delay adjustments.
 - b Scroll down (to decrease the sensitivity/shade/delay value).
 - c Scroll up (to increase the sensitivity/shade/delay value).
3. Sensitivity: 5 levels.
4. Shade: Shades 5/8, 9-13. Select shade 5/8 with a long press of the **b** button.
5. Delay: 5 levels.
6. Low battery indicator.
 - Blinking slowly: the battery charge level is 20%.
 - Blinking rapidly: the battery charge level is 5%



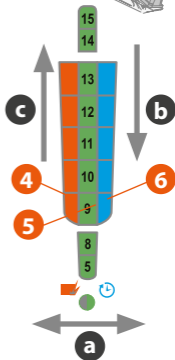
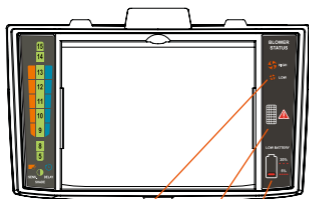
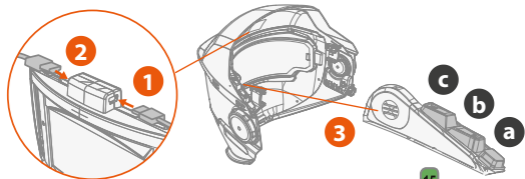
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1. USB port for ADF back up power and remote control.
2. USB port for ADF power and PFU 210e indicators.
3. Battery holder (1 x CR2450).
 - a Work light on/off (long press) and ADF mode selector (short press) to move between sensitivity/shade/delay adjustments.
 - b Scroll down (to decrease the sensitivity/shade/delay value).
 - c Scroll up (to increase the sensitivity/shade/delay value).
4. Sensitivity: 5 levels.
5. Shade: Shades 5/8, 9-13, 14-15. Select shades 5/8 or 14-15 with a long press of the **b/c** button.
6. Delay: 5 levels.

Blower unit status

- Blower status: normal or high blower speed.
- Filter status: When illuminated, change the filter.
- Low battery indicator.
 - Blinking slowly: the battery charge level is 20%.
 - Blinking rapidly: the battery charge level is 5%.

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MAINTENANCE

Clean the ADF regularly (for example, when you change the protective lens). You can either wipe the surface with a clean, dry piece of cloth, clean it with a piece of smooth cloth moistened with pure alcohol, or clean it with commercial disinfectant. If used properly, the ADF requires no further maintenance during its lifetime.

The period of use depends on various factors such as use, cleaning, storage and maintenance.

Storage

Operating temperature: -5°C...+55°C (23°F...131°F). Storage temperature: -20°C...+50°C (-4°F...122°F). Store the ADF in a dry, cool and dark place. If the ADF is not to be used for a prolonged period of time, remove the battery.

Disposal of the product

Do not dispose of the product with household waste. Follow the local laws and regulations on safe and ecological disposal of electronic devices.



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Declarations of Conformity – Overensstemmelseserklæringer –
Konformitäts-erklärungen – Declaraciones de conformidad –
Vaatimustenmukaisuusvakuutuksia – Déclarations de conformité
– Sigurnosne upute – Dichiarazioni di conformità – Verklaringen van
overeenstemming – Samsvarserklæringer – Deklaracje zgodności –
Declarações de conformidade – Instrucțiuni de siguranță – Заявления
о соответствии – Försäkran om överensstämmelse – Güvenlik
talimatları – 符合性声明

SHADE GUIDE TABLE

	MMA (E-Hand)	MIG, Ss	MIG, AI	TIG	MAG, (CO ₂)	
15 A				9		
20 A	9			10		
30 A						
40 A	10			11	10	
60 A		10	10			
80 A	11			12	11	
100 A						
125 A		11	11	12		
150 A						
175 A	12	12		13	13	
200 A			12			12
225 A						14
250 A				13		
275 A	13	13		14	14	
300 A						
350 A						15
400 A			14	14		
450 A	14	14		15		
500 A					15	

