ENGLISH

RAMFAN®

MANUAL – EX50Li G3 40V$_{DC}$

Battery-Powered Multi-Purpose Blower

SAN DIEGO | LUXEMBOURG | NINGBO

SAFETY PRECAUTIONS ⚠

Warning
Read and understand all safety instructions in this manual. Failure to follow these instructions may result in electrical shock, fire, and/or serious injury.

Shock Hazard
Do not open electrical enclosures. Voltages hazards and/or damage circuits may result.

Power
This fan is designed for single-phase AC operation and charging from 85-264 VAC 50/60Hz and for battery operation using approved 40V battery packs. Connection to a power source outside the specified range can result in serious injury or damage to the fan.

Grounding
A grounded AC outlet is required for safety and EMI control. Never remove the ground pin or modify the plug. Extension cords must comply with grounding requirements.

Water Exposure

The fan, motor controller, battery interface, and approved battery system are designed for emergency-service use in wet environments. Do not submerge the fan. Do not use high pressure jets directly on the control panel, battery connectors, AC inlet, Magcode inlet or electronic enclosures. Doing so risks water ingress and potential damage to internal components.

Cord and Connector Protection

Inspect AC cord, battery connectors, Magcode connector, and protective caps before each use. Do not use the fan if connectors are damaged, contaminated, loose or missing protective covers.

Hot Surface
Heat sink and LED lights may become hot during operation or charging. Do not touch.

Personal Safety

Wear hearing and eye protection when operating near the fan. Keep body parts, loose clothing, straps, tools, and debris away from the inlet and outlet guards. Do not move the fan while it is running.

Hazardous Atmosphere
This blower is not intended for operation in explosive atmosphere.

Repair and Replacement
Service must be performed by a qualified technician authorized by Euramco Safety using OEM replacements parts.

Safety Check
After maintenance, repair, heavy impact, or suspected damage, inspect the fan and confirm proper operation before returning it to service.

TOOL OVERVIEW

The *RAMFAN*™ EX50Li G3 is a portable 18" (46cm) multi-purpose blower designed for fire and rescue operations. It is used for positive pressure ventilation, smoke removal, cooling, rehabilitation and ducted ventilation with approved accessories.

The EX50Li G3 is powered by one or two approved 40V lithium-ion battery packs or by onboard AC Power. The G3 motor and controller deliver 1.2 kW peak power in MAX mode for high-output ventilation when conditions require maximum performance.

The Fan includes a rugged frame for PPV, smoke ejector, ducted blower and hanging applications. The Fan may be tilted within the frame to direct airflow toward the intended opening or work area.

The EX50Li G3 includes:

- High-efficiency BLDC motor and electronic motor controller.
- Two approved 40V battery positions.
- Onboard charging for approved battery packs.
- Rear $48V_{DC}$ Magcode boost charging input for vehicle-mounted fast charging.
- PRO//Connect BLE interface for remote control and diagnostics.
- LED scene lights.
- Variable speed control with MAX mode.
- Optional integrated mister system.
- Optional Makita XGT compatibility on model EL5900MK.

TECHNICAL SPECIFICATIONS

RAMFAN EX50Li G3 18”/ 46 cm Battery-powered Multi-purpose Blower	
Order #	EL5900-2PK
AC input Voltage range	85-264 VAC 50/60Hz single phase
DC input Voltage	40V
Peak Power	1.2 kW
Motor Type	High-efficiency BLDC
Noise	< 90 dBA @ 3’ (1m)
Operating Temperature	-4ºF to 105 ºF (-20 ºC to 40 ºC)
Battery System	
RAMFAN battery Pack compatibility	RAMFAN 40V / 10Ah (#M5-40V) RAMFAN 40V / 6Ah (#R2-40V)
Makita compatibility	Makita 40V XGT (Order #EL5900MK)
Runtime (MAX mode)	AC Runtime: Unlimited Battery[1]: 45 minutes
Charging System	
On-tool AC Charging[2]	2A per battery simultaneously
Magcode Boost Charger[3]	4A per battery simultaneously
Charging Time	On-tool: Up to 6 hours Magcode Booster: Up to 3 hours
Communication	
Near Field Communication	Tap to connect
Remote connectivity	BLE via our *PRO//Connect* App[4]
Other	
IP Rating	IP66
Weight	55 lbs (25 kg) without batteries
Dimensions (h x w x d)	22 x 21 x 16 inches (56 x 53 x 41cm)
Airflow	

Note:

[1]Battery Runtime depends on speed, battery condition temperature and number of battery packs.

[2,3] Only available for #EL5900.

[4]Only available on Google Play and App store.

PRIOR TO USE

1. Read this manual before operating the fan.
2. Inspect the fan for visible damage. Do not start if frame, guards, connectors, batteries control panel, cord or heat sink appear damaged.
3. Confirm that inlet and outlet guards are securely installed.
4. Install approved battery packs and confirm they are fully seated.
5. Fully charge batteries before first use.
6. Create a department charging protocol. This fan is intended for emergency service use and should be returned to full charge after each use.
7. Confirm AC cord and plug are suitable for the county of operation and include a grounding circuit.
8. Pair the fan with *PRO//Connect* if remote control or diagnostics will be used.
9. For DC operation with AC power source disconnected, press and hold the wake button until the display turns on. The screen will indicate the current battery status and provide an estimated runtime. Press speed button for reaching MAX speed.

Thank you for purchasing the RAMFAN EX50Li G3 Battery-Powered Multi-Purpose blower design and manufacture in the USA by Euramco Group Inc.

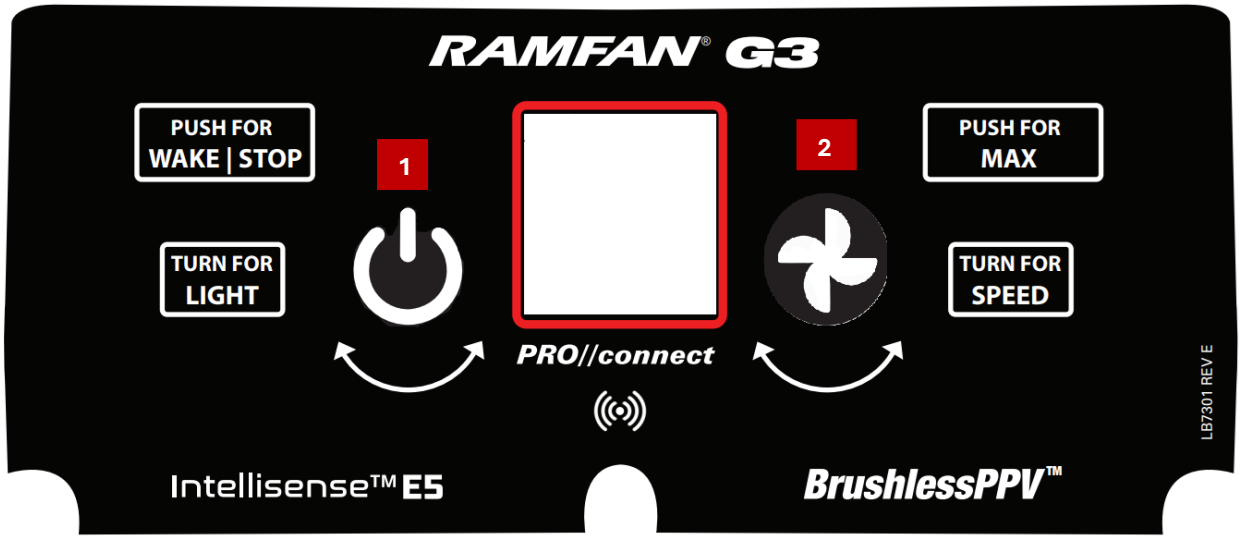
Explore our website and online catalog at www.ramfan.com and discover how RAMFAN can make a difference in the field!

All product information in the publication is based on the most current information available at the time of printing. Euramco Group Inc. reserves the right to make changes at any time without notice.

RAMFAN PRODUCTS ARE WARRENTED AGAINST MANUFACTURE DEFECT. FAILURE TO PROPERLY MAINTAIN PRODUCT WILL INVALIDATE WARRANTY COVERAGE. PLEASE VISIT WWW.EURAMCO.COM FOR WARRANTY DETAILS.

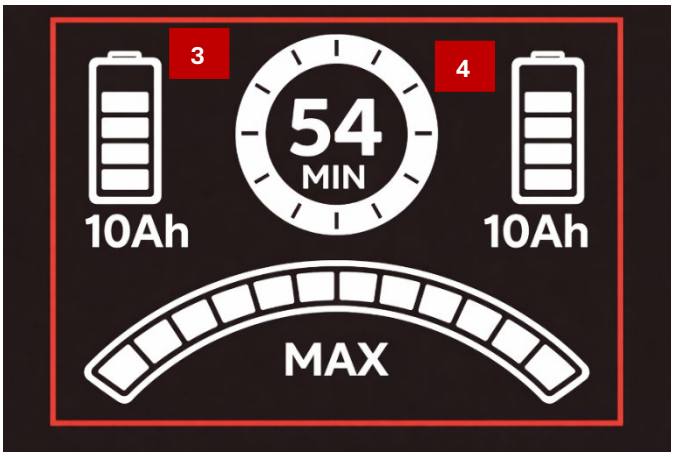
OPERATION

Control Panel Guide



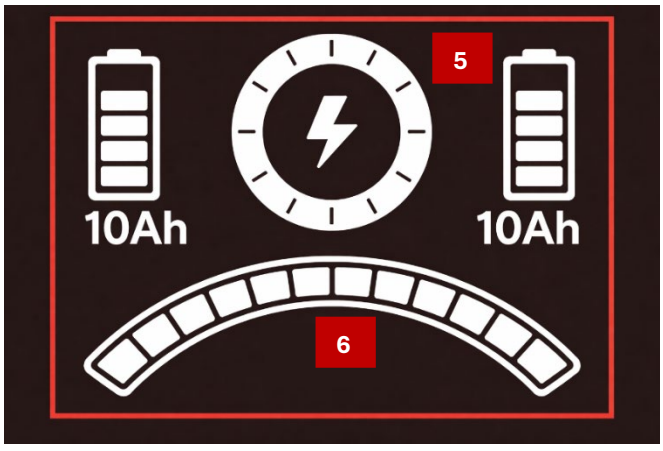
❶ Wake / Stop / LED scene light button

❷ Speed / MAX button



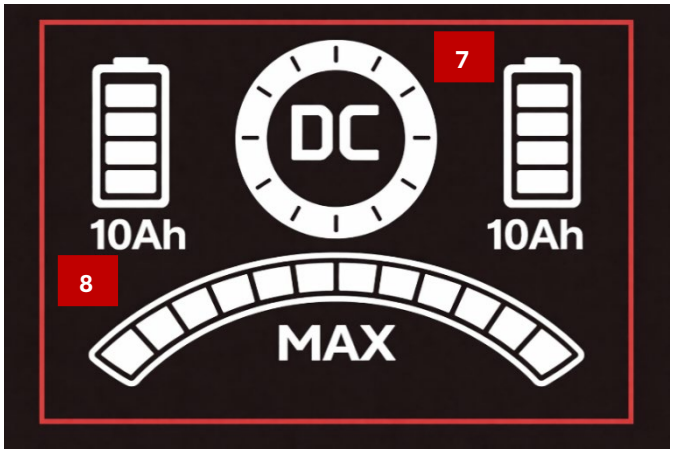
❸ Battery Level

❹ Remain Time[5]



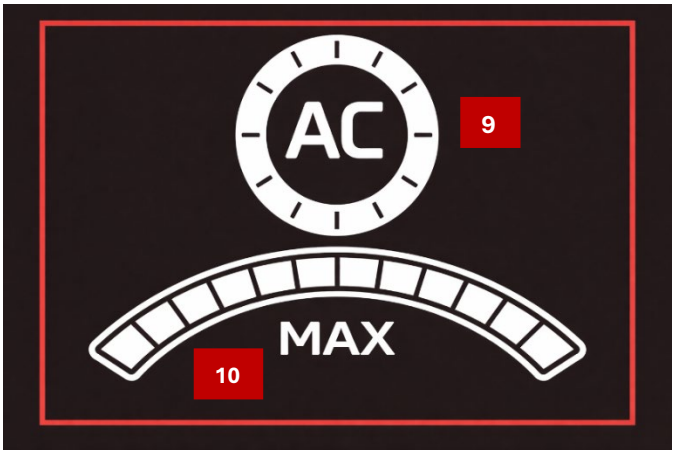
❺ Charging Mode

❻ RPM Level



❼ DC mode

❽ Battery Capacity in use



❾AC Mode

❿ MAX speed enable

⓫ Transport Mode enable.

Note

[5]*ONLY AVAILABLE WHEN USING RAMFAN BATTERIES.*

Positioning the Fan

1. Place the fan on a stable surface.
2. Aim the fan toward the desired opening or ventilation target.
3. For PPV, place the fan at the distance and angle that delivers the most volume into the selected vent entrance.
4. For ducted use, fully extend ducting and avoid sharp bends.
5. Do not operate the fan if its unstable or at risk of movement.

Batteries (DC operation)

The standard EX50Li G3 uses approved RAMFAN 40V/10Ah and 40V/6Ah lithium-ion battery packs. The EL5900MK variant is configured for approved Makita 40V XGT battery packs.

Use only approved battery packs in good condition. Do not use damaged, wet, swollen, overheated, modified, or non-approved battery packs.

Battery Installation

1. Turn the fan off.
2. Inspect battery pack, connector, gasket and holder. If any damage is noticed, **DO NOT USE.**
3. Insert the battery into the holder until fully seated.
4. Confirm the battery is locked or retained according to the battery holder design.
5. Repeat for the second battery if available.

Operation on Battery Power

1. Install one or two approved battery packs.
2. Wake the fan using the control panel.
3. Confirm battery status on the display.
4. Start the fan using the speed control. Turn clockwise to reach desire speed.
5. Reduce speed when full output is not required to extend runtime.
6. Stop the fan before moving it. Long press left control for 1 second to stop fan.

Battery Operation Notes

1. The fan may operate with one or two approved 40V battery packs.
2. Two battery packs are recommended for best performance, longer runtime, and lower current draw per pack.
3. Runtime increased when speed is reduced.
4. Battery packs may be swapped during operation if the fan configuration allows safe removal and replacement.
5. If one battery becomes depleted, the fan may reduce output or shut down depending on the operating mode and condition of remaining battery pack.
6. Do not store batteries near gasoline, diesel fuel, flammable vapors, or combustible materials.
7. When not in use, storage batteries in cool, dry places.

AC Operation

1. Connect the AC cord to the fan and then to a grounded AC power source.
2. Confirm status indication on the control panel.
3. Start the fan and adjust speed as required.
4. While running on AC power, installed batteries do not charge unless the fan is stopped and charging mode is active.
5. Disconnect AC power only after stopping the fan unless operational conditions require automatic switchover.

The fan will automatically switch from battery power to AC when both sources are available. If AC is removed and sufficient battery charge remains, the fan will seamlessly switch to continue running on battery power.

MAX Speed

MAX mode commands the fan to peak output and may draw up to 1.2 kW. Use MAX mode for short-duration high-output ventilation when conditions require maximum performance. Long press both knobs or use *PRO//Connect* app for enabling MAX mode.

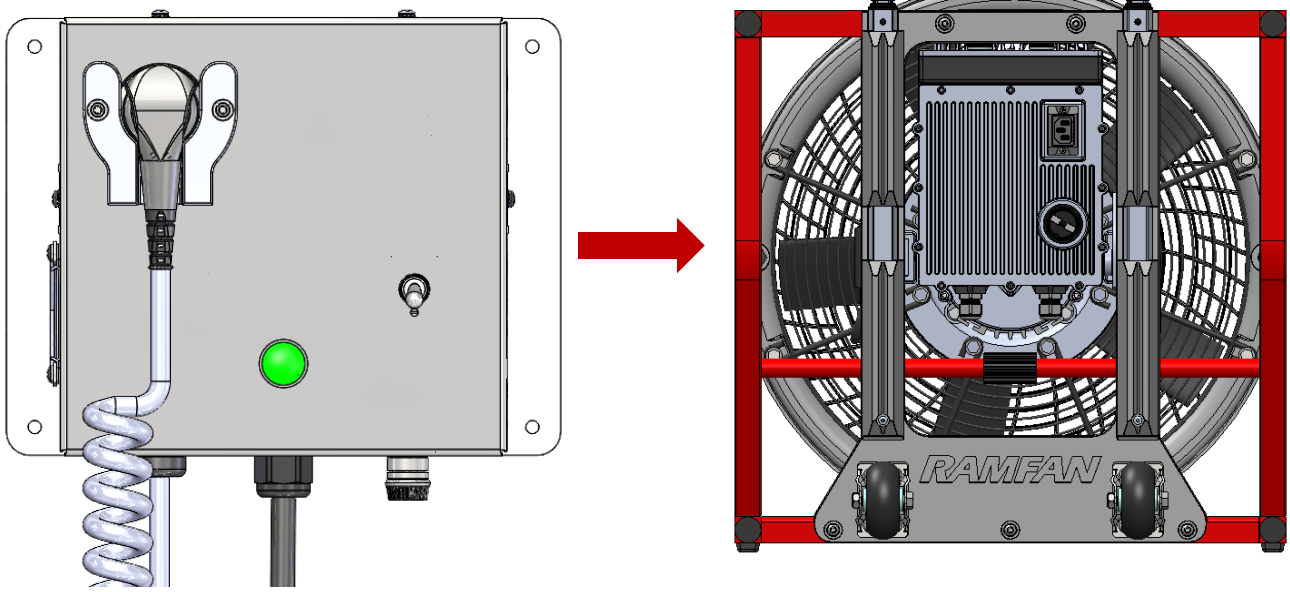
Battery runtime will be the shortest in MAX mode. High battery current may increase battery temperature and may reduce output if battery or controller protection limits are reached.

Scene Lights

Use the control panel or *PRO//Connect* app to switch LED scene lights LOW, HIGH, or OFF.

CHARGING

The EX50Li G3 can charge installed approved 40V battery packs using on-tool charging from AC power or, on G3 models, the 48V Magcode boost charging input for when charging is desired.



Magcode booster charger (EL-7300)

AC Charging

1. Turn the fan off.
2. Connect the fan to a suitable grounded AC power source.
3. Confirm battery status indication.
4. Allow batteries to charge until the indicator shows full charge.
5. Keep the fan connected to AC during in-service storage when department protocols allow.

Note

1.Charging not available in #EL5900MK (Makita 40V XGT or any other Makita 40V battery).
2. Charging only compatible with RAMFAN 40V/10Ah and 40V/6Ah.
*3. Battery packs **DO NOT** charge while the fan is running.*

Charging Safety

1. Charge only in the approved temperature range for the battery system.
2. Do not charge damage or wet batteries.
3. Do not cover the heat sink during charging.
4. Do not charge near flammable materials, including flammable vapors in or near the fan storage compartment.
5. Inspect AC and battery connectors regularly.
6. If charging does not begin or fault is indicated, remove the fan from service and contact RAMFAN customer support.

Magcode Boost Charging

The EX50Li G3 includes a rear pro magnetic charging input on the heat sink area for faster vehicle-based charging.

The input is designed for RAMFAN-approved fire apparatus mounted Magcode boost charger(sold separately). The vehicle charger accepts 12VDC or 24VDC from vehicle low-voltage electrical system and converts it to 48VDC for the fan. This removes heat-producing component from fan controller, allowing high current charging for faster charge times. The Magcode booster charger is also available with an AC input option supporting 100-240 VAC 50/60Hz.

IMPORTANT COMPATIBILITY WARNING!

*Many European firefighting vehicles use Magcode connectors that output 12VDC or 24VDC. The RAMFAN EX50Li G3 Magcode input requires **48VDC** from approved RAMFAN boost charger. Do not connect the EX50Li G3 Magcode input to a standard 12V or 24V Magcode output.*

Magcode Charge Rate

The EX50Li G3 Magcode boost charging system charges installed RAMFAN 40V battery packs up to 4A per battery with simultaneous charging of both battery packs when two approved packs are installed.

Actual charge time depends on battery state of charge, battery temperature, charger temperature and battery condition.

Magcode Charging Procedure

1. Turn off the fan OFF.
2. Confirm batteries are installed and fully seated.
3. Inspect Magcode connector and fan input for dirt, metal debris, water or damage.
4. Connect the Magcode pro magnetic connector to the rear charging input.
5. Confirm the charging indicator on control panel display, battery fuel gauge and Magcode booster green LED blinking.
6. Allow charging to be completed.
7. Disconnect the Magcode connector before removing the fan from the vehicle mount or operating the fan away from the apparatus.

PRO//CONNECT REMOTE CONTROL AND DIAGNOSTICS

The EX50Li G3 includes *PRO//Connect* connectivity for remote control and diagnostics via local BLE connectivity. *PRO//Connect* mobile app is an IoT platform that enables Bluetooth (BLE) connections with various equipment types. (e.g fans, batteries) for control, monitoring and diagnostics.

***PRO//Connect* mobile app may be used to:**

1. Start and stop the fan when authorized by department procedure.
2. Adjust fan speed.
3. Control Scene lights
4. View RAMFAN 40V battery State of Charge
5. View operating status and fault indications
6. Support diagnostics and service review.

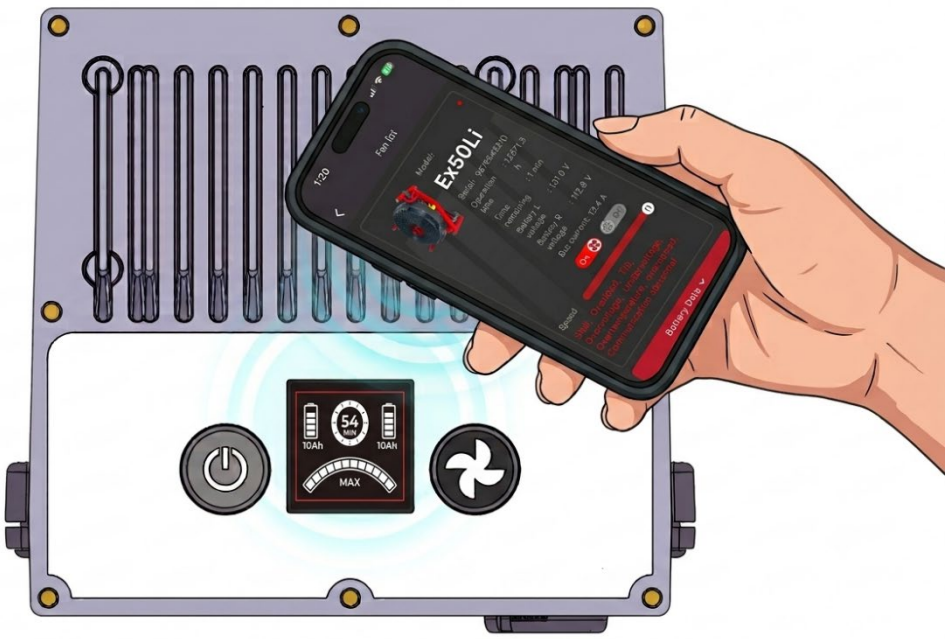
Download for free

GOOGLE PLAY & APP STORE

PRO//connect App

Pairing and Use

1. Confirm the fan is powered by battery or AC source.
2. Open the PRO//Connect mobile app.
3. Tap and hold mobile device near to the left side of the fan control panel until connection is made.
4. Confirm pairing using the fan serial number.
5. Verify that remote commands are operating correctly before deployment.



Remote Control Safety

1. Only trained personnel should operate the fan remotely.
2. Maintain visual awareness of the fan and operating area whenever possible.
3. Do not use remote operation to start the fan if personnel, loose objects or equipment are near the inlet or outlet.
4. Physical control at the fan should remain the primary method when firefighters are working directly around the unit.
5. If remote control is lost, use the fan control panel.

MAINTENANCE AND CARE

Before maintenance, verify the fan is OFF, unplugged from AC power source, disconnected from MagCode charging, and batteries are removed.

Do not dissemble the fan for routine maintenance. Do not loosen or tighten screws on the control panel, controller housing, or heat sink unless instructed by RAMFAN customer service. These screws may be torqued to maintain water ingress protection.

Routine Care

- Inspect fan guards, frame, battery holders, connectors, control panel AC inlet, Magcode inlet and heat sink after each use.
- Clean accumulated dust, soot, mud and debris from guards, impeller, frame and heat sink.
- Use mild biodegradable detergent when needed.
- Do not direct pressure-washer spray at the control panel, gaskets, battery connectors, AC inlet, MagCode inlet or electronic enclosure.
- Replace damaged cables, connectors, labels, guards, feet or battery holders before returning the fan to services.
- Contact RAMFAN customer support for replacement parts and service instructions.

Maintenance Schedule

Item	After Each Use	Every 3-months	Every 6-months	Every Year
Fan Guards (Inlet/ outlet) – Visual Check	X			
Fan Guards (Inlet/ outlet) – Cleaning Check			X	
Impeller – Visual Check	X			
Impeller – Cleaning Check			X	
Control Box Gaskets – Visual Check	X	X		
Control Box Gaskets – Cleaning check				X
Electrical cables and connectors - Inspection	X	X		
MagCode intlet and connector cap - Inspection	X	X		
Battery Packs and Battery Holders gaskets – Inspection	X	X		
Battery Pack gaskets – replace if needed				X
Rubber Feet - Inspection	X			X

Clean more frequently when used in high-sediment, sandy, muddy or corrosive environments.

Inspect immediately after any drop, impact or suspected water ingress. Damage to gaskets or connectors may compromise water ingress protection and may result in non-warrantable failure.

TROUBLESHOOTING

Condition	Possible Cause	Action
Fan will not start	Batteries not seated	Reinstall batteries.
	Batteries depleted	Charge or replace batteries.
Fan will not start on AC	No AC power / bad power cord	Check source and cord.
Fan stops during operation	Battery depleted or protection active	Charge batteries, reduce speed, inspect fault.
Fan output reduced	High temperature protection	Allow fan or batteries to cool down.
Battery will not charge	Battery too hot or too cold	Move to approved charge temperature.
	Damaged battery or connector	Remove from service
MagCode charging not active	Incorrect charger output	Use only approved 48V RAMFAN MagCode boost Charger.
	Battery fully charged	Disconnect battery.
	MagCode booster charger fault	Unplugged MagCode and reset charger.
PRO//Connect unavailable	Fan not powered or not paired	Wake fan and repeat pairing.
Unusual noise or vibration	Loose guard, debris or damage	Stop fan and inspect.
Fault indicator active	Electrical or battery fault	Remove from service and contact support.
		Turn Speed knob to exit fault message.

If the fan is not operating properly, makes unusual sounds or vibrations, shows a fault or has visible damage, remove it from service and contact customer service.

ACCESSORIES AND COMPATIBILITY

Approved accessories may include:

	Accessory	Order
1.	Vehicle Mount Kit	#EL610K
2.	Integrated Rehabilitation Mister	#EL8111
3.	HI-Expansion Foam Adapter	#HI-500
4.	**Convert to a Smoke Ejector** 4.1 Door bar and Hagar Kit 4.2 Hanger Kit (Already own a door bar)	 #EL7095K #EL8095
5.	**Convert to Confined Space Rescue Fan** 5.1 18”/46cm duct (16.4’/5m length) 5.2 18”/46cm duct (32.8’/10m length)	 #FDT-185MSR #FDT-181MSR
6.	Shoulder Strap	#EL6013
7.	Rubber Feet (set of 4 + Screws)	#FZ-TPRRF6
8.	**Mister Adapters** 8.1 Double Female NH 1” Adapters 8.2 1” BSP to STORZ	 #WF20-0252 #GX-8020

WARRANTY AND CUSTOMER SUPPORT

RAMFAN products are warranted against defects in material and workmanship according to the applicable product warranty.

Warranty may be void if the product is operated or used in a manner for which it was not intended, modified without authorization, repaired using non-OEM parts, improperly maintained, damaged by liquid ingress, connected to an incorrect power source, or used with non-approved batteries, chargers or accessories.

Lithium – ion batteries are subject to a limited-service life. Capacity reduction due to age, cycle count, storage condition, depth of discharge or misuse is not considered a manufacturing defect.

For service warranty, parts, or technical support, contact RAMFAN customer support or your authorized dealer.

UNITED STATES Customer Service

Euramco Safety
2746 Via Orange Way
Spring Valley, CA 91978
Phone: +1 619 670 9590
Email: theteam@euramco.com

Customers outside the United States should contact their authorized RAMFAN dealer.

DECLARATION OF CONFORMITY

DECLARATION OF CONFORMITY.
Battery PPV Fans, 18"/46cm.

Year of Manufacture. 2026

Manufacturer.
Euramco Group.
2746 Via Orange Way.
Spring Valley, CA. 91978 USA.

Equipment Description.

EX50Li	Brushless Battery Powered PPV, 40V.
EX150Li	Brushless Battery Powered PPV, 52V.
EX50Li 18V	Brushless Battery Powered PPV, 18V.

Standards to which Conformity is Declared.

2006/42/EC	Machinery Directive.
2014/35/EU	Low Voltage Directive.
2014/30/EU	EMC Directive.
2011/65/EU	RoHS – Reduction of Hazardous Substances
UN 3481	Lithium-Ion Batteries when *P*acked with Equipment.

Euramco Safety, Inc. hereby declares that the equipment described above conforms to the relevant Essential Health and Safety Requirements of the *E*uropean Machinery Directive 2006/42/EC and the additional Directives and Standards listed above.

Euramco Group

Wayne Allen
President and CEO

Euramco Group | 2746 Via Orange Way, Spring Valley CA 91978 USA | Ph: +1-619-670-9590 | www.Euramco.com
EU Rep. Euramco Safety SARL | 68 Avenue de la Liberte, L-1930 Luxembourg | Ph: +1-619-670-9590