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Loom Solar Fusion

Loom Solar Fusion 3kW On-Grid Solar Inverter User Manual

Brand: [Loom Solar](#) | Model: [Fusion 3kW, 1Phase](#)

1. INTRODUCTION

This user manual provides essential information for the safe and efficient operation, installation, and maintenance of your Loom Solar Fusion 3kW, 1Phase On-Grid Solar Inverter. Please read this manual thoroughly before installation and operation, and keep it for future reference.



Figure 1: Loom Solar Fusion 3kW On-Grid Solar Inverter, front view.

2. SAFETY INFORMATION

Safety is paramount when dealing with electrical equipment. Adhere to all local and national electrical codes. Only qualified personnel should perform installation and maintenance.

- **Intelligent AFCI (Arc-fault Circuit Interrupter) Protection:** The inverter is equipped with AFCI protection that cuts off DC arcs within 0.5 seconds to prevent potential fire hazards.
- **AC/DC Surge Protection:** Integrated lightning protection safeguards the inverter and connected systems from electrical surges.
- **IP65 Protection:** The inverter's robust design ensures it is dustproof, waterproof, and anti-salt fog, providing durability in various environmental conditions.
- Always disconnect all power sources (DC and AC) before performing any service or maintenance.
- Do not attempt to open or repair the inverter yourself. Refer to qualified service personnel.



Superior Safety



Surge Protection

3. PRODUCT FEATURES

The Loom Solar Fusion 3kW On-Grid Solar Inverter is designed with advanced technology to provide reliable and efficient solar power conversion for residential applications.

- **High Efficiency:** Achieves an industry-leading conversion efficiency of 98% through advanced power electronics technologies.
- **Remote Monitoring:** Supports remote monitoring via GPRS/Wifi Kit, WLAN, and Ethernet, allowing you to track performance from anywhere.
- **Wide MPPT Voltage Range:** Features an extra-wide Maximum Power Point Tracking (MPPT) voltage range for optimized energy harvesting.
- **Robust Design:** Built to withstand extreme weather conditions including high temperatures, snow, sandstorms, and rain.
- **Smart Design:** Easy to install with an intuitive LED display for local monitoring.



Figure 2: Key features of the Loom Solar On-Grid Solar Inverter.

4. SETUP AND INSTALLATION

Installation of the Loom Solar Fusion inverter should only be performed by certified and qualified solar professionals. Improper installation can lead to equipment damage, personal injury, or voiding of warranty.

- **Site Selection:** Choose a well-ventilated area, protected from direct sunlight and excessive moisture. Ensure adequate clearance around the inverter for heat dissipation.
- **Mounting:** Securely mount the inverter to a sturdy wall or frame using appropriate hardware.
- **Electrical Connections:** Connect the DC input from the solar panels and the AC output to the grid according to the wiring diagram provided in the full installation guide (not included in this manual). Ensure all connections are tight and correctly polarized.
- **Grounding:** Properly ground the inverter as per local electrical codes.

5. OPERATING INSTRUCTIONS

Once installed and connected, the Loom Solar Fusion inverter operates largely automatically. It will convert DC power from your solar panels into AC power for your home and the grid.

- **Initial Startup:** After all connections are verified, switch on the DC isolator and then the AC breaker. The inverter will perform self-tests and begin operation.
- **LED Display:** The front panel features an LED display that provides real-time operational status, power output, and error codes. Refer to the full manual for a detailed explanation of display messages.

- **Remote Monitoring:** For detailed performance tracking, connect the inverter to your network using the GPRS/Wifi Kit, WLAN, or Ethernet. Download the Loom Solar mobile application to monitor your system remotely.



Figure 3: Remote monitoring via the Loom Solar mobile application.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your solar inverter.

- **Cleaning:** Periodically clean the inverter's exterior with a soft, dry cloth. Ensure ventilation openings are free from dust and debris. Do not use liquid cleaners.
- **Visual Inspection:** Regularly check for any visible damage to the casing, cables, or connections.
- **Performance Monitoring:** Utilize the remote monitoring system to track the inverter's performance and identify any anomalies early.
- **Professional Check-up:** It is recommended to have a qualified technician perform a comprehensive inspection and maintenance check annually.

7. TROUBLESHOOTING

This section provides general guidance for common issues. For complex problems, contact Loom Solar customer support.

Problem	Possible Cause	Solution
Inverter not producing power	No sunlight, DC isolator off, AC breaker off, grid outage, error code displayed.	Check sunlight conditions. Ensure DC isolator and AC breaker are ON. Verify grid status. Check inverter display for error codes and consult the full manual.
Low power output	Partial shading on panels, dirty panels, suboptimal weather, system fault.	Clear any shading. Clean solar panels. Monitor weather conditions. If issue persists, contact support.
Error message on display	Internal fault, grid issue, connection problem.	Note down the error code. Refer to the detailed error code section in the comprehensive manual or contact Loom Solar support.

8. SPECIFICATIONS

Attribute	Value
Recommended Uses For Product	Home
Power Source	Solar Powered
Wattage	3000 Watts
Model Name	Fusion 31
Max. Input Power	3000W + 10%
Max. DC I/P (Vdc)	550V
Max. MPPT Voltage Range	70-550V
Max. Input Current	20A
Rated AC Power	3000W
Rated Grid Frequency	50Hz (±5%)
Rated Grid Voltage	230V
Rated Output Current	14.3 Amp
Power Factor	0.8
Ingress Protection	IP65
Operating Ambient Temperature	-25°C ~ +65°C

9. WARRANTY

The Loom Solar Fusion 3kW On-Grid Solar Inverter comes with a **5 Years Warranty**, ensuring peace of mind and reliable performance.

To log a complaint or register your warranty, please visit the official Loom Solar warranty registration portal:

[Register Your Warranty Here](#)

10. SUPPORT

For any technical assistance, queries, or support regarding your Loom Solar Fusion inverter, please contact us:

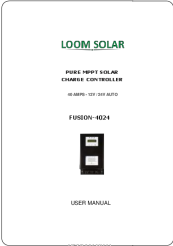





Customer Support Contact: 8447921124

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Website: www.loomsolar.com

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Related Documents - Fusion

	<p>Loom Solar FUSION-4024 MPPT Solar Charge Controller User Manual</p> <p>User manual for the Loom Solar FUSION-4024 MPPT Solar Charge Controller. Learn about its features, specifications, installation, operation, and troubleshooting for efficient solar energy management.</p>
	<p>Fusion Apollo MS-RA800 Installation Instructions</p> <p>This document provides installation instructions for the Fusion Apollo MS-RA800 marine stereo, covering safety information, required tools, installation steps, connection details, and network setup.</p>
	<p>Fusion Apollo MS-RA800 Installation Manual</p> <p>This document provides installation instructions for the Fusion Apollo MS-RA800 marine stereo system, covering safety precautions, required tools, mounting guidelines, wiring, and network setup.</p>
	<p>CAML 10051 WM-LV Lithium Battery Operation Manual</p> <p>Operation manual for the CAML 10051 WM-LV Lithium Battery by Loom Solar, detailing technical specifications, product overview, installation guide, and maintenance procedures.</p>
	<p>Fusion Apollo MS-RA800 Käyttöopas: Käyttöohjeet ja ominaisuudet</p> <p>Tämä käyttöopas tarjoaa kattavat ohjeet Fusion Apollo MS-RA800 -äänijärjestelmän käyttöön ja ominaisuuksiin. Opi asentamaan, käyttämään ja optimoimaan laitteen suorituskykyä.</p>
	<p>Fusion MS-NRX50 Installation Instructions Garmin</p> <p>Detailed installation instructions for the Garmin Fusion MS-NRX50 marine audio remote control, including safety information, connection considerations, mounting steps, and specifications.</p>