RENOGY ANL Fuse

20A | 30A | 40A | 50A | 60A | 80A | 100A | 200A | 300A | 400A

RNG-SET-ANLxx
RPDxxANL-SET
RNG-ANL-FUSExx
RPDxxANL
RNG-ANL-FUSE-COVER

VERSION A0
March 31, 2025

USER MANUAL

Before Getting Started

The user manual provides important operation and maintenance instructions for RENOGY ANL Fuse Set w/ Fuse, RENOGY ANL Fuse Cover, and RENOGY ANL Fuse.

Read the user manual carefully before operation and save it for future reference. Failure to observe the instructions or precautions in the user manual can result in electrical shock, serious injury, or death, or can damage the ANL fuse or fuse set, potentially rendering it inoperable.

- Renogy ensures the accuracy, sufficiency, and the applicability of information in the user manual at the time of printing due to continual product improvements that may occur.
- Renogy assumes no responsibility or liability for personal and property losses, whether directly and indirectly, caused by the user's failure to install and use the product in compliance with the user manual.
- Renogy is not responsible or liable for any failure, damage, or injury resulting from repair attempts by unqualified personnel, improper installation, or inappropriate operation.
- The illustrations in the user manual are for demonstration purposes only. Details may appear slightly different depending on product revision and market region.
- Renogy reserves the right to change the information in the user manual without notice. For the latest user manual, visit renogy.com.

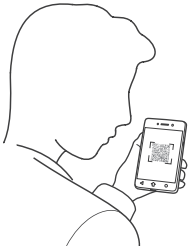
Disclaimer

RENOGY ANL Fuse Set w/ Fuse, ANL Fuse Cover, and ANL Fuse User Manual © 2025 Renogy. All rights reserved.

RENOGY and **RENOGY** are registered trademarks of Renogy.

- All information in the user manual is subject to copyright and other intellectual property rights of Renogy and its licensors. The user manual may not be modified, reproduced, or copied, in whole or in part, without the prior written permissions of Renogy and its licensors.
- The registered trademarks in the user manual are the property of Renogy. The unauthorized use of the trademarks is strictly prohibited.

Online Manual



User Manual

Table of Contents

1. Safety First 1

1.1. Symbols Used 1

1.2. Important Safety Instructions 1

2. General Information 2

2.1. Introduction 2

2.2. Key Features 2

2.3. SKU 2

3. Technical Specifications 3

3.1. Electrical Parameters 3

3.2. Dimensions 4

4. Get to Know ANL Fuse 5

5. Installation 6

5.1. Required Tools 6

5.2. Inspection 6

5.3. Wear Insulating Gloves 6

5.4. Installation Instructions 7

6. Components 8

7. Functional Characteristics 8

8. FAQ 9

Renogy Support 10

1. Safety First

Renogy accepts no liability for any damage caused by:

- Force majeure including fire, typhoon, flood, earthquake, war, and terrorism.
- Intentional or accidental misuse, abuse, neglect or improper maintenance, and use under abnormal conditions.
- Improper installation, improper operation, and malfunction of a peripheral device.
- Contamination with hazardous substances or radiation.
- Alterations to the product without express written consent from Renogy.

1.1. Symbols Used

The following symbols are used throughout the user manual to highlight important information.

WARNING: Indicates a potentially hazardous condition that could result in personal injury or death.

CAUTION: Indicates a critical procedure for safe and proper installation and operation.

NOTE: Indicates an important step or tip for optimal performance.

1.2. Important Safety Instructions

- The ANL fuses or fuse sets listed this manual shall only be deployed in DC systems operating at lower than 72V. Installation in higher-voltage systems violates safety standards and voids product warranties.
- Only use ANL fuses or fuse sets with current ratings that exactly match the system's rated current. Never install mismatched fuses. Substitution with non-identical fuses is prohibited under safety standards.
- Prior to installation, verify the ANL fuse and fuse set terminals exhibit no corrosion (white/green oxidation), pitting, or deformation. DO NOT use any damaged ANL fuses or fuse sets showing signs of erosion or wear.
- Verify the ANL fuse is intact with no signs of tripping, loose connections, or corrosion. DO NOT use any fuse exhibiting these defects.
- To guarantee your safety, wear insulating gloves during the fuse or fuse set installation.
- Risk of electric shock! Fuse or fuse set replacement requires full power disconnection. Never perform fuse or fuse set replacement on live circuits to eliminate shock hazards.
- Inspect and clean all fuse terminals and contact surfaces thoroughly before installation to ensure proper contact alignment.
- Handle fuses or fuse sets with care to avoid impact/dropping during installation. Never install damaged fuses that may cause premature tripping at rated current and other thermal runaway risks.
- Inspect and verify the ANL fuse and set terminals exhibit no corrosion (white/green oxidation), pitting, or deformation regularly.
- Always replace blown ANL fuses or fuse sets with identical models. Never use substitutes like copper wires to prevent hazardous failures.
- Troubleshooting your system is required before fuse or fuse set replacement. Use a multimeter to verify overload conditions or short-circuit faults.

2. General Information

2.1. Introduction

A RENOGY ANL Fuse Set w/ Fuse contains a Renogy ANL fuse and an ANL Fuse Cover. The fuse set offers complete protection to your system, protects your charge controller, battery, inverter, and connecting wires from over-current, and ensures you get the longevity out of your system as expected. The ANL fuse is composed of high-quality alloy and brass copper materials and the clear protective non-conductive resistant cover is ideal for custom installation.

2.2. Key Features

- **Safeguard Your System**
  Ignition protection guarantees the safe use of the fuse in RVs, boats, or any other closed environments.
- **Multiple Specifications are Available**
  Offers multiple specifications of the ANL fuses to meet the requirement of different size systems. Optional specifications including 20A/30A/40A/60A/80A/100A/200A/300A/400A. The protective cover is compatible with all specifications.
- **High Quality and Easy to Use Design**
  The ANL fuse is composed of high-quality alloy and brass copper materials and works with a clear protective non-conductive resistant cover which is ideal for custom installation and can be easily added to your solar system.
- **Environment Friendly**
  The ANL fuse is RoHS compliant, which confirms that it's free from environmentally hazardous, difficult-to-dispose substances.

2.3. SKU

A Renogy ANL Fuse Set includes one ANL fuse and fuse cover. For stocked sets, you may replace blown fuses or covers separately. Refer to the tables below for the specific model number.

ANL Fuse Set w/ Fuse

20A ANL Fuse Set w/ Fuse	RNG-SET-ANL20
30A ANL Fuse Set w/ Fuse	RNG-SET-ANL30
40A ANL Fuse Set w/ Fuse	RNG-SET-ANL40
50A ANL Fuse Set w/ Fuse	RPD50ANL-SET
60A ANL Fuse Set w/ Fuse	RNG-SET-ANL60
80A ANL Fuse Set w/ Fuse	RPD80ANL-SET
100A ANL Fuse Set w/ Fuse	RNG-SET-ANL100
200A ANL Fuse Set w/ Fuse	RPD200ANL-SET
300A ANL Fuse Set w/ Fuse	RPD300ANL-SET
400A ANL Fuse Set w/ Fuse	RPD400ANL-SET

ANL Fuse

20A ANL Fuse	RNG-ANL-FUSE20
30A ANL Fuse	RNG-ANL-FUSE30

40A ANL Fuse	RNG-ANL-FUSE40
50A ANL Fuse	RPD50ANL
60A ANL Fuse	RNG-ANL-FUSE60
80A ANL Fuse	RPD80ANL
100A ANL Fuse	RNG-ANL-FUSE100

ANL Fuse Cover

ANL Fuse Cover	RNG-ANL-FUSE-COVER

3. Technical Specifications

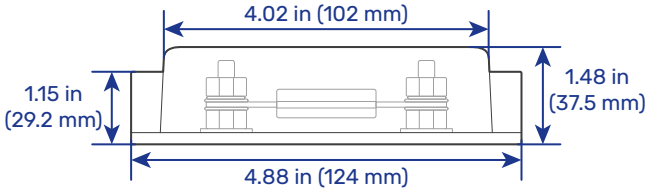
3.1. Electrical Parameters

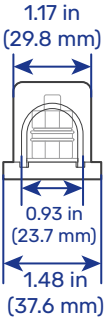
Product	Current Rating	Voltage Rating	Interrupt Capacity
RNG-SET-ANL20 RNG-ANL-FUSE20	≤ 20A	≤ 72V	40A
RNG-SET-ANL30 RNG-ANL-FUSE30	≤ 30A	≤ 72V	60A
RNG-SET-ANL40 RNG-ANL-FUSE40	≤ 40A	≤ 72V	80A
RPD50ANL-SET RPD50ANL	≤ 50A	≤ 72V	100A
RNG-SET-ANL60 RNG-ANL-FUSE60	≤ 60A	≤ 72V	120A
RPD80ANL-SET RPD80ANL	≤ 80A	≤ 72V	160A
RNG-SET-ANL100 RNG-ANL-FUSE100	≤ 100A	≤ 72V	200A
RPD200ANL-SET	≤ 200A	≤ 72V	400A
RPD300ANL-SET	≤ 300A	≤ 72V	600A
RPD400ANL-SET	≤ 400A	≤ 72V	800A

3.2. Dimensions

Dimension tolerance: ±0.2 in (0.5 mm)

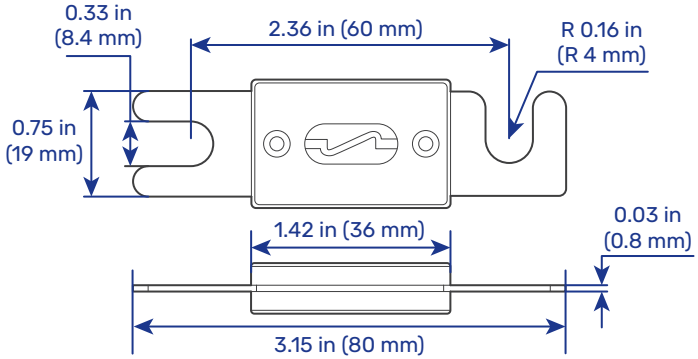
ANL Fuse Set w/ Fuse & ANL Fuse Cover

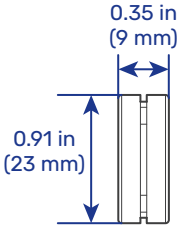




Weight **ANL Fuse Set w/ Fuse Weight:** 1.54 gr / 0.1 g
ANL Fuse Cover Weight: 1.23 gr / 0.08 g

ANL Fuse

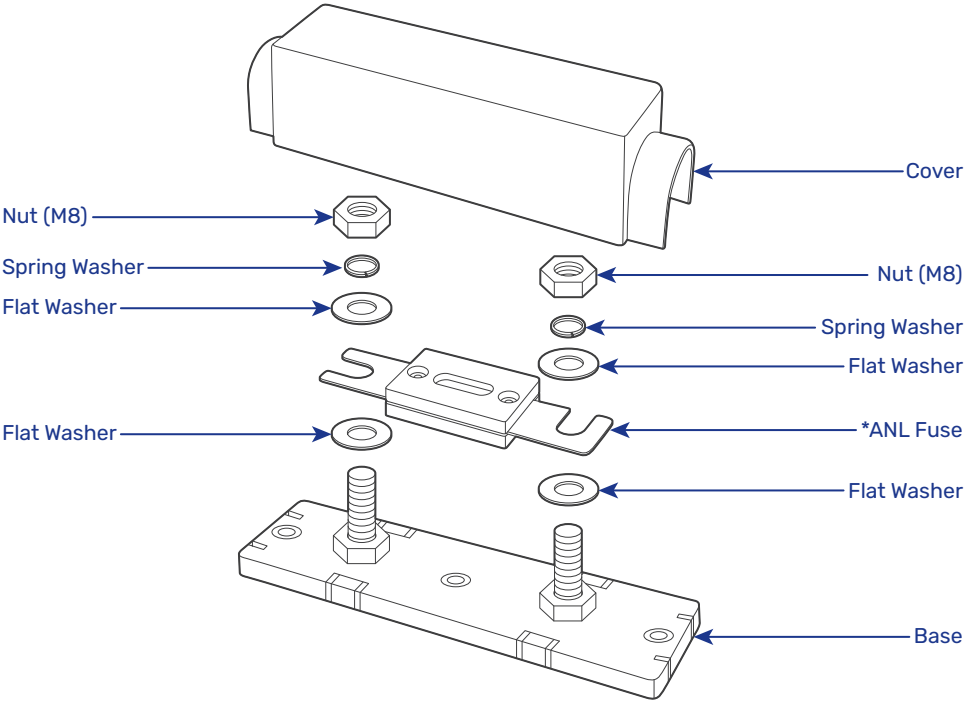


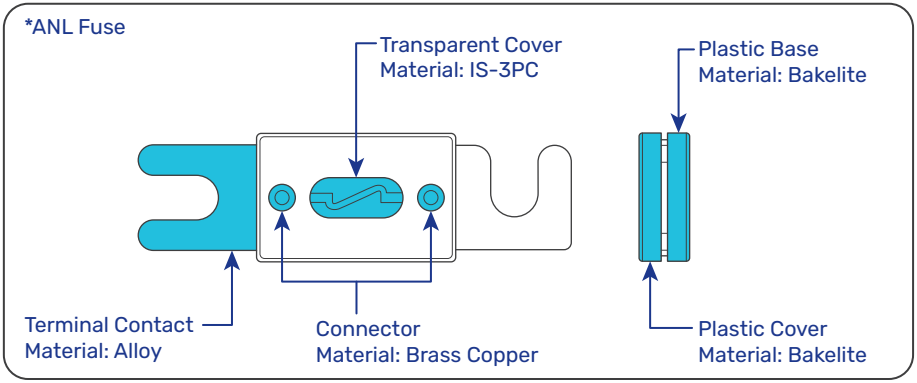


Weight 0.31 gr / 0.02 g

4. Get to Know ANL Fuse

This manual takes an ANL Fuse Set w/ Fuse as an example. A Renogy ANL Fuse Set includes one ANL fuse and fuse cover.

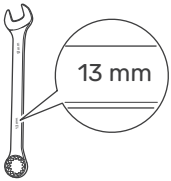




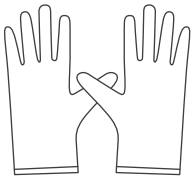
5. Installation

5.1. Required Tools

Prior to installing and configuring the ANL fuse, prepare the recommended tools.

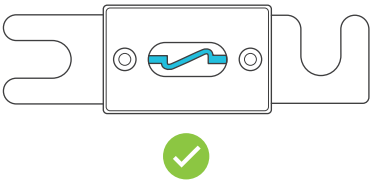


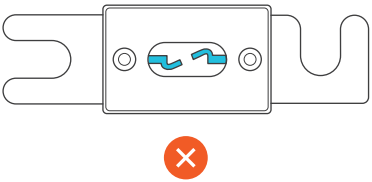
Wrench (17/32 in)


Insulating Gloves

5.2. Inspection

Prior to installation, verify ANL fuse and set terminals exhibit no corrosion (white/green oxidation), pitting, or deformation. Verify the ANL fuse is intact with no signs of tripping, loose connections, or corrosion. DO NOT use any fuse or fuse set exhibiting these defects.

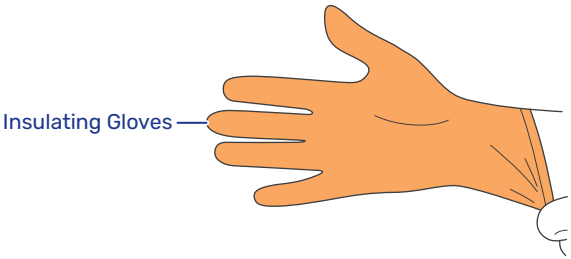




Inspect and verify the ANL fuse and set terminals exhibit no corrosion (white/green oxidation), pitting, or deformation regularly.

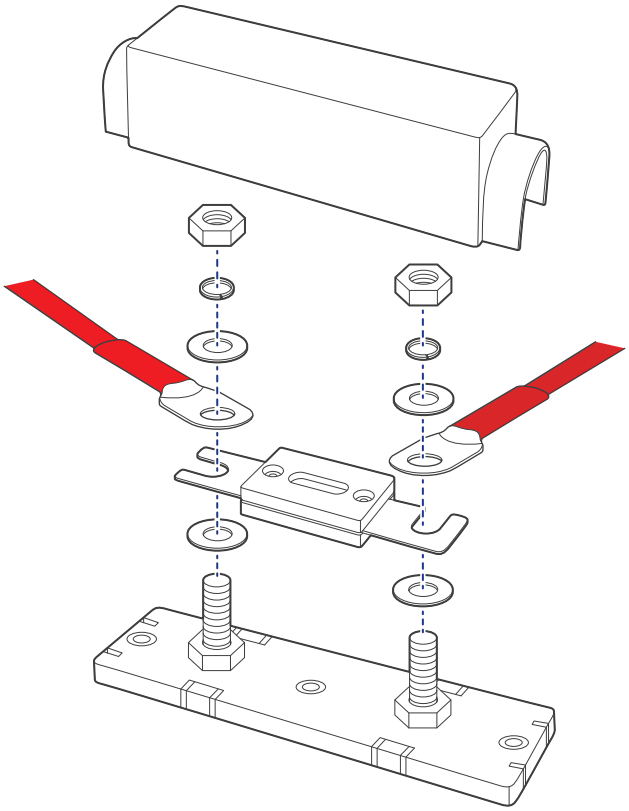
5.3. Wear Insulating Gloves

To guarantee your safety, wear insulating gloves during the fuse installation.

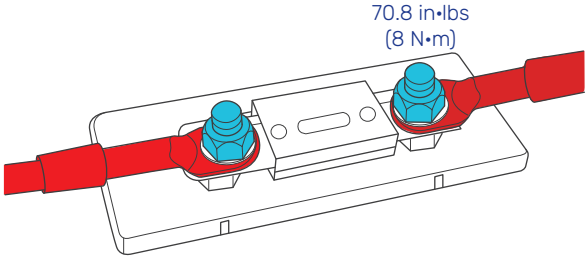


5.4. Installation Instructions

Install all components in the exact order shown in the illustration below. Ring terminals sized for M8 studs (M8-M10 acceptable).

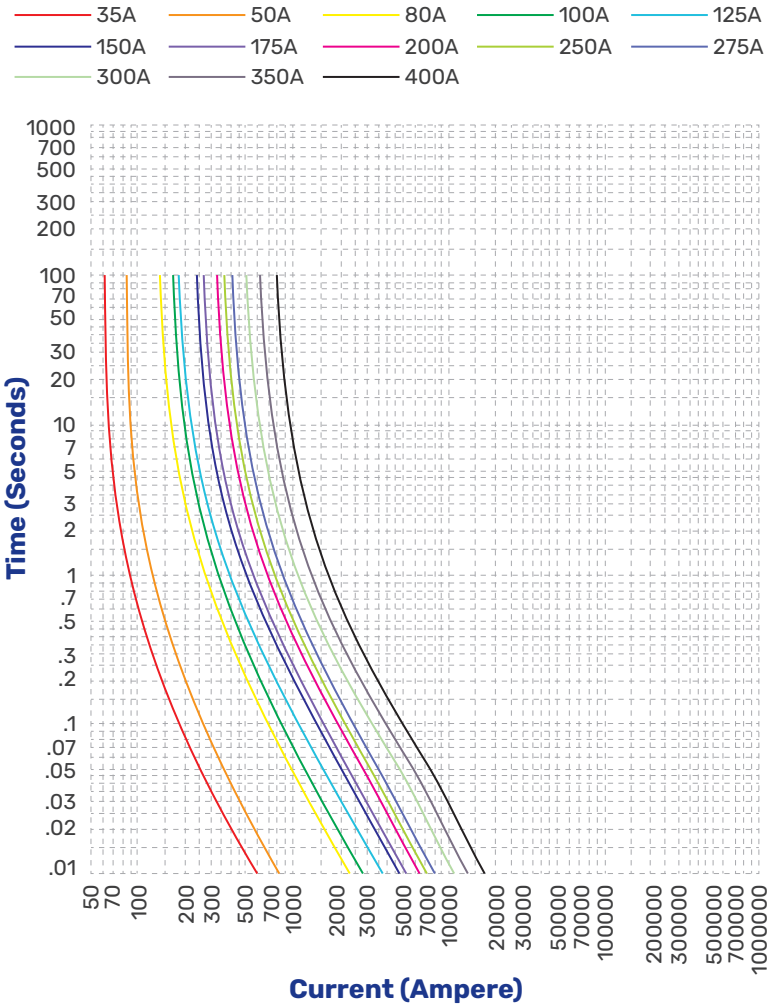


Tighten the nuts to 70.8 in•lbs (8 N•m).



6. Components

Time-current curves – average melt:



7. Functional Characteristics

A fuse does not blow when the current reaches its rated current. It is designed to pass its rated current without opening. A fuse will take varying times to blow under different conditions. A fuse will pass significantly more than its rated current for a very short time. The time periods for other fuses will be slightly different.

Testing Current (% of amp rating)	Blow Time Limit
150% (Rating < 225A)	1 hour at minimum
160% (Rating > 225A)	6 seconds at minimum

220%	60 seconds at maximum
250%	0.8s to 10s
400%	0.2s to 2s

8. FAQ

- **Can the fuse be replaced individually, or does the entire fuse set require replacement?**
  The fuse alone is replaceable (no full device replacement needed). Replace the fuse set only when the fuse holder/terminals are damaged.
- **What size are the posts on this fuse set holder?**
  The posts are 5/16“ studs (metric equivalent: M8). Ring lugs sized for M8-M10 are recommended.
- **How do you size an ANL fuse?**
  Always prioritize the recommended fuse size in the manual of your charge controller, battery charger, or inverter.
  Alternatively, you can size a fuse based on the current going through the fuse. For details, see Size Fuses or Circuit Breakers for a Solar Power System at Renogy Learning Center.
- **Does the fuse or fuse set come with a fuse cable?**
  No. You need to purchase a fuse cable separately.
- **How to size a fuse cable for the ANL fuse or fuse set?**
  Always prioritize the recommended cable size in the manual of your charge controller, battery charger, or inverter. Alternatively, you can refer to the table below for copper cable ampacities with different gauge sizes for up to 13 feet (4 m) cables. Cables longer than 13 feet (4 m) may require thicker gauge wires to prevent excessive voltage drop in undersized wiring.

Cable Gauge Size	Ampacity	Cable Gauge Size	Ampacity
14 AWG (2.08 mm²)	25A	1 AWG (42.41 mm²)	145A
12 AWG (3.33 mm²)	30A	1/0 AWG (53.49 mm²)	170A
10 AWG (5.26 mm²)	40A	2/0 AWG (67.43 mm²)	195A
8 AWG (8.37 mm²)	55A	3/0 AWG (85.01 mm²)	225A
6 AWG (13.3 mm²)	75A	4/0 AWG (107.22 mm²)	260A
4 AWG (21.15 mm²)	95A	300 kcmil (152.1 mm²)	320A
3 AWG (26.67 mm²)	115A	400 kcmil (202.8 mm²)	380A
2 AWG (33.62 mm²)	130A	500 kcmil (253.5 mm²)	430A

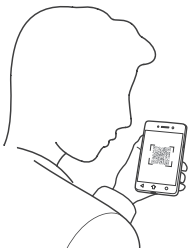
The above values are from the NEC Table 310.16 for copper cables rated at 194°F (90°C), operating at an ambient temperature of no more than 86°F (30°C). Please note that wire gauge standards may vary due to factors such as temperature and installation conditions. In actual applications, it is recommended to refer to the latest NEC standards.

Renogy Support

To discuss inaccuracies or omissions in this quick guide or user manual, visit or contact us at:

renogy.com/support/downloads

contentservice@renogy.com



Questionnaire Investigation

To explore more possibilities of solar systems, visit Renogy Learning Center at:

renogy.com/learning-center

For technical questions about your product in the U.S., contact the Renogy technical support team through:

renogy.com/contact-us

1(909)2877111

For technical support outside the U.S., visit the local website below:

Canada | ca.renogy.com	China | www.renogy.cn
Australia | au.renogy.com	Japan | jp.renogy.com
Other Europe | eu.renogy.com	Germany | de.renogy.com
United Kingdom | uk.renogy.com	

Renogy Empowered

Renogy aims to empower people around the world through education and distribution of DIY-friendly renewable energy solutions.

We intend to be a driving force for sustainable living and energy independence.

In support of this effort, our range of solar products makes it possible for you to minimize your carbon footprint by reducing the need for grid power.

Live Sustainably with Renogy

Did you know? In a given month, a 1 kW solar energy system will...

- Save 170 pounds of coal from being burned
- Save 300 pounds of CO_2 from being released into the atmosphere
- Save 105 gallons of water from being consumed

Renogy Power PLUS

Renogy Power Plus allows you to stay in the loop with upcoming solar energy innovations, share your experiences with your solar energy journey, and connect with like-minded people who are changing the world in the Renogy Power Plus community.

YouTube @RenogySolar @renogyofficial @Renogy

Renogy reserves the right to change the contents of this manual without notice.

Manufacturer: RENOGY New Energy Co.,Ltd
Address: No.66, East Ningbo Road Room 624-625 Taicang German Overseas Students Pioneer Park JiangSu 215000 CN

EC REP
eVatmaster Consulting GmbH
Raiffeisen Street2 B11, 63110
Rodgau, Hessen, Germany
contact@evatmaster.com

UK REP
EVATOST CONSULTING LTD
Office 101 32 Threadneedle Street,
London, United Kingdom, EC2R 8AY
contact@evatost.com

RENOGY.COM

RENOGY