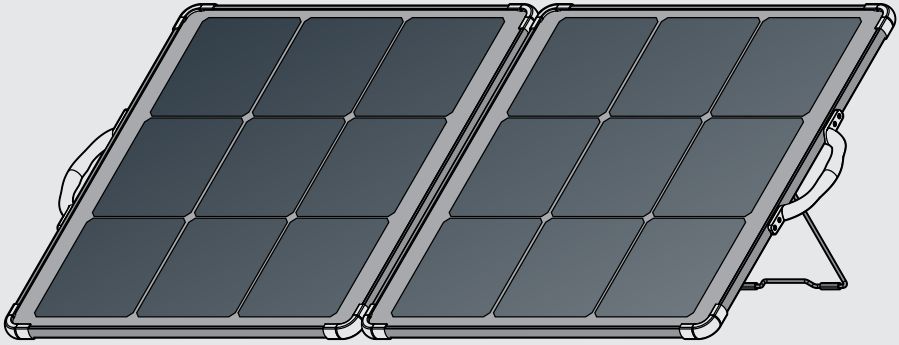
THE POWER OF REDARC®

Monocrystalline Folding Solar Panels

MODELS:

- SMFP1130
- SMFP1130-K
- SMFP1200
- SMFP1200-K



WARNINGS & SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS — This manual contains important safety instructions. Do not operate the system unless you have read and understood this manual. REDARC recommends that the Solar Panel referenced in this manual be installed by a suitably qualified person.

Disclaimer: REDARC accepts no liability for any injury, loss or property damage which may occur from the improper or unsafe installation or use of its products.

SAFETY MESSAGE CONVENTIONS

Safety messages in this manual include a signal word to indicate the level of the hazard as follows:

⚠ **WARNING:** Indicates a potentially hazardous situation which could result in death or serious injury to the operator or to bystanders.

⚠ **CAUTION:** Indicates a potentially hazardous situation which may result in moderate or minor injury to the operator or to bystanders.

NOTICE: Indicates a situation that may cause equipment damage.

⚠ WARNING

1. **RISK OF EXPLOSIVE GASES:** Working in vicinity of a Lead-Acid battery is dangerous. Batteries generate explosive gases during normal operation. For this reason, it is of utmost importance that you follow the instructions when installing and using the Solar Panel.
2. **RISK OF DAMAGE AND INJURY FROM IMPROPERLY SECURED PANELS:** Solar Panels are intended for stationary use only and must not be permanently mounted to a vehicle. Folding Solar Panels must be disconnected and securely stored when the vehicle is in motion.

⚠ CAUTION

1. Do NOT connect the Solar Panel directly to a Battery. A Solar Regulator must be used between the Solar Panel and the Battery.
2. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or have been instructed on how to use the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
3. Only use the Solar Panel for charging Lead Acid, Gel, Calcium content, AGM or Lithium Iron Phosphate batteries using a Solar Regulator suitable for the Battery's chemistry.
4. The Battery should be mounted in a well ventilated area, as far as possible from any ignition sources. NEVER smoke or allow a spark or flame in the vicinity of battery or engine. This may cause the battery to explode.
5. An unconnected Panel exposed to light may generate voltages up to its rated open-circuit voltage at the connectors. Ensure the solar cells are not exposed to light when making electrical connections to the Panel to reduce the chance of an electrical spark.

PERSONAL SAFETY PRECAUTIONS: To assist with the safe operation and use of the Solar Panel when connected (via a Regulator) to the battery:

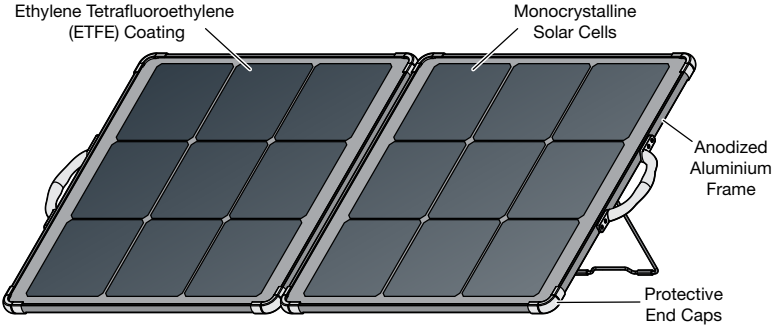
1. Wear complete eye protection and clothing protection. Avoid touching eyes while working near a battery.
2. If battery acid contacts your skin or clothing, remove the affected clothing and wash the affected area of your skin immediately with soap and water. If battery acid enters your eye, immediately flood the eye with running cold water for at least 10 minutes and seek medical assistance immediately.

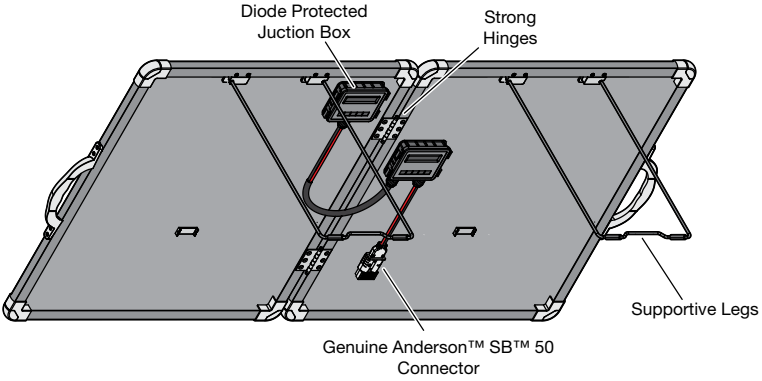
NOTICE

1. The Solar Panel will achieve best results when proper battery maintenance is regularly performed. This includes but is not limited to checking water and specific gravity levels of the battery.
2. Do not use mirrors or other devices to artificially concentrate sunlight on the Panel.
3. All Panels used in series, parallel, or series-parallel should be positioned to receive identical amounts of light to reduce risk of Panel damage.
4. Partially shaded or partially obscured Solar Panels will have reduced output, and can potentially damage the Solar Panel.

PRODUCT OVERVIEW

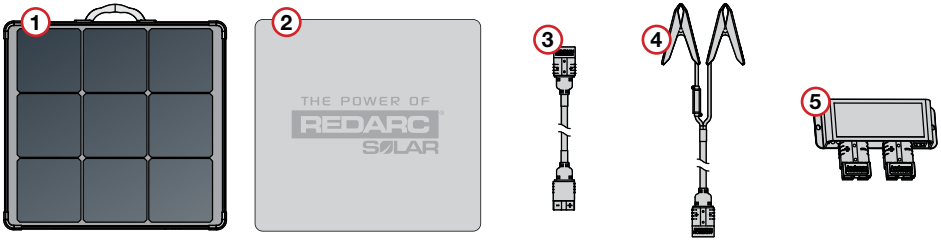
REDARC Monocrystalline Folding Solar Panels are designed to provide a solar charging solution for your auxiliary battery. With an adjustable lightweight leg design, the Panels can be conveniently angled towards the sun. The Solar Panels feature an ETFE protective coating and a genuine Anderson™ SB™ 50 connector for convenience of plug-and-play portability.



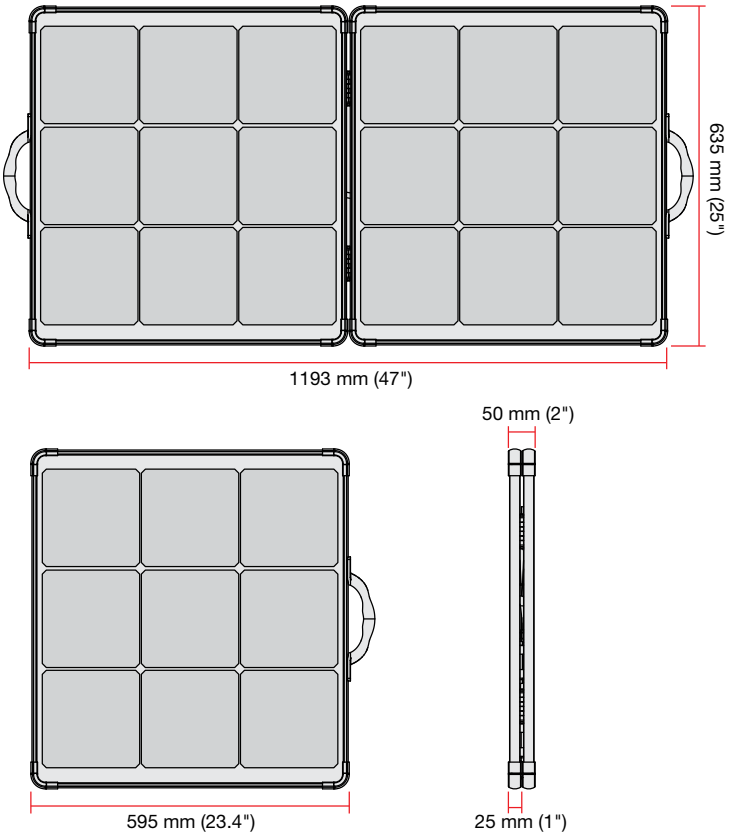


KIT CONTENTS

1. Monocrystalline Folding Solar Panel
2. Padded carry bag
3. 5 m (16.4') Anderson™ to Anderson™ extension cable (SRC0018) — Kit only
4. 1.5 m (4.9') Anderson™ to Battery Clip cable (SRC0009) — Kit only
5. Solar Regulator — Kit only



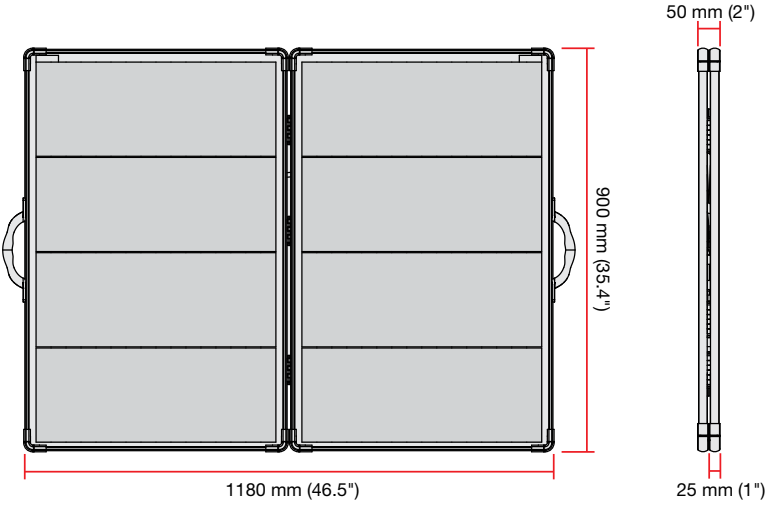
130 W SOLAR PANEL SPECIFICATIONS

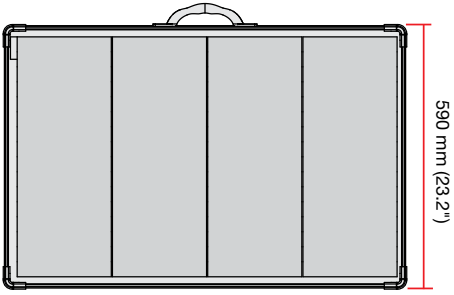


Product Number	SMFP1130
Maximum Power	130 W
Cell Type	Monocrystalline
Cable Length	300 mm (11.8")
Connection Type	50 A Anderson™ SB™ 50
Regulator Size (kit only)	10 A
Frame	Anodized Aluminium
Maximum Power Voltage	20.5 V
Maximum Power Current	6.1 A
Open Circuit Voltage	24.0 V

Short Circuit Current	6.5 A
Maximum Power Tolerance	±3%
Operating Temperature	–40°C to +85°C (–40°F to +185°F)
Dimensions (Folded)	595 × 635 × 50 mm (23.4" × 25" × 2")
Dimensions (Open)	1193 × 635 × 25 mm (47" × 25" × 1")
Weight	5.6 kg (12.3 lbs)
Compliance	CE, UKCA, RCM
Standard Test Conditions	AM1.5 1000 W/m² 25°C (77°F)

200 W SOLAR PANEL SPECIFICATIONS





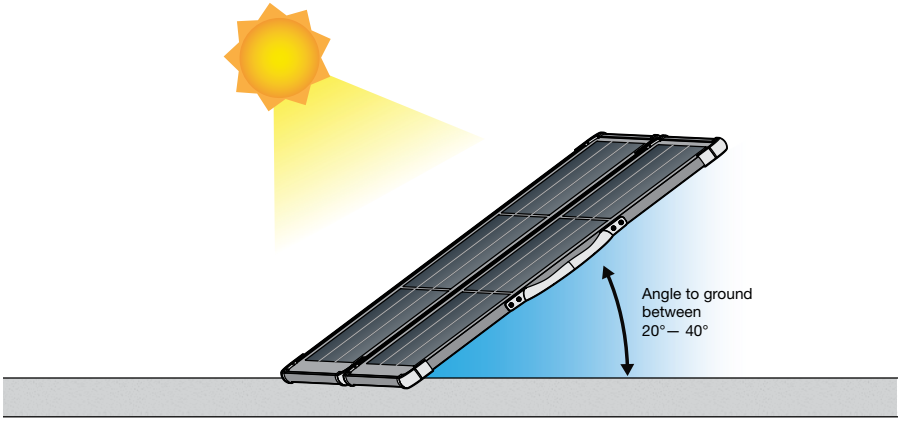
Product Number	SMFP1200
Maximum Power	200 W
Cell Type	Monocrystalline
Cable Length	300 mm (11.8")
Connection Type	50 A Anderson™ SB™ 50
Regulator Size (kit only)	20 A
Frame	Anodized Aluminium
Maximum Power Voltage	18.2 V
Maximum Power Current	11.0 A
Open Circuit Voltage	21.45 V

Short Circuit Current	11.65 A
Maximum Power Tolerance	±3%
Operating Temperature	–40°C to +85°C (–40°F to +185°F)
Dimensions (Folded)	590 × 900 × 50 mm (23.2" × 35.4" × 2")
Dimensions (Open)	1180 × 900 × 25 mm (46.5" × 35.4" × 1")
Weight	6.2 kg (13.7 lbs)
Compliance	CE, UKCA, RCM
Standard Test Conditions	AM1.5 1000 W/m² 25°C (77°F)

SOLAR OPTIMISATION

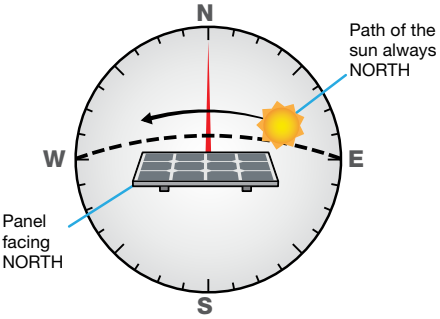
ANGLE TO THE SUN

REDARC Solar Panels will perform at their peak when the monocrystalline cells are angled directly towards the sun (this is not always achievable). REDARC recommends having the Solar Panel/s angled between 20° and 40° from the ground to ensure the best total output from your Panel across the course of the day, no matter what season.

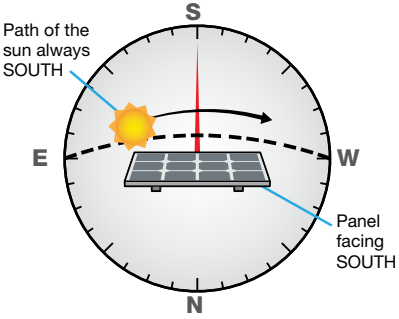


In the **southern hemisphere**, the sun is always in the northern half of the sky, facing your Panel NORTH ensures the best angle to the sun for a Solar Panel across the course of the day.

In the **northern hemisphere**, the sun is always in the southern half of the sky, facing your Panel SOUTH ensures the best angle to the sun for a Solar Panel across the course of the day.



SOUTHERN HEMISPHERE



NORTHERN HEMISPHERE

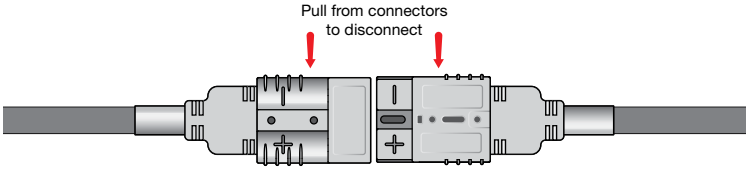
INSTALLATION

WIRING PRECAUTIONS

- Ensure that all connections are made using REDARC recommended connectors and cables or other suitably rated connectors and cables.
- Ensure that total system current does not exceed the maximum current rating for either the cables or any connectors that are subject to the total current of the system (refer to the specifications of your Solar Panel for more information).
- Ensure that appropriate fuses are used when connecting to a battery.
- REDARC recommends when using a regulator that it is installed as close as possible to the battery(s).
- Ensure the cable length from the Solar Panel to the regulator does not exceed 10 m (33').
- If your regulator has a dedicated solar input (negative) terminal ensure that the negative ground from your solar panel is only connected here and is not connected to chassis ground.

USING THE SOLAR PANEL

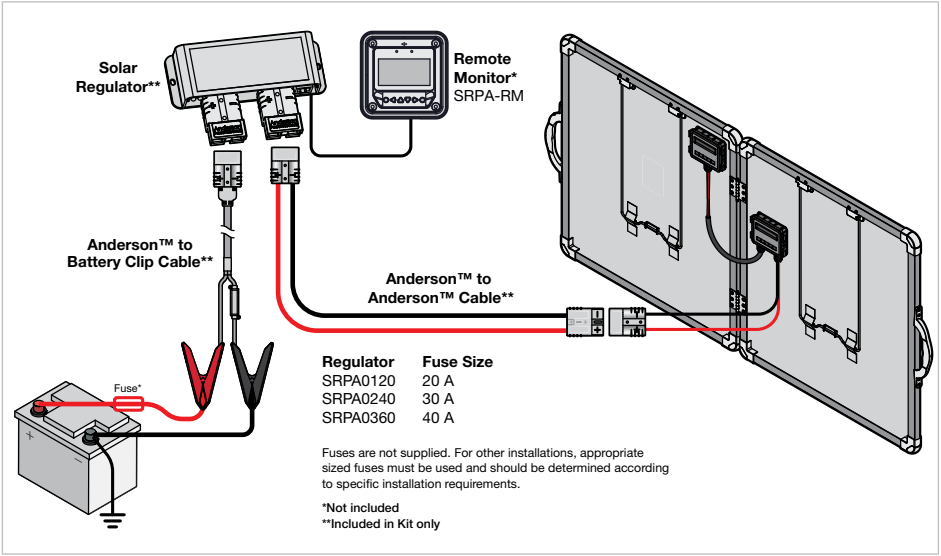
- **Do not use in the rain.**
- Do not use the Solar Panel in windy/gusty conditions.
- Not recommended for use when subjected to salt and spray conditions.
- Beware of pinch points when operating the legs on the folding panel.
- Take care when connecting and disconnecting the Anderson™ connector to avoid damage to the cables and junction box. Always pull from the connector and not from the cable.



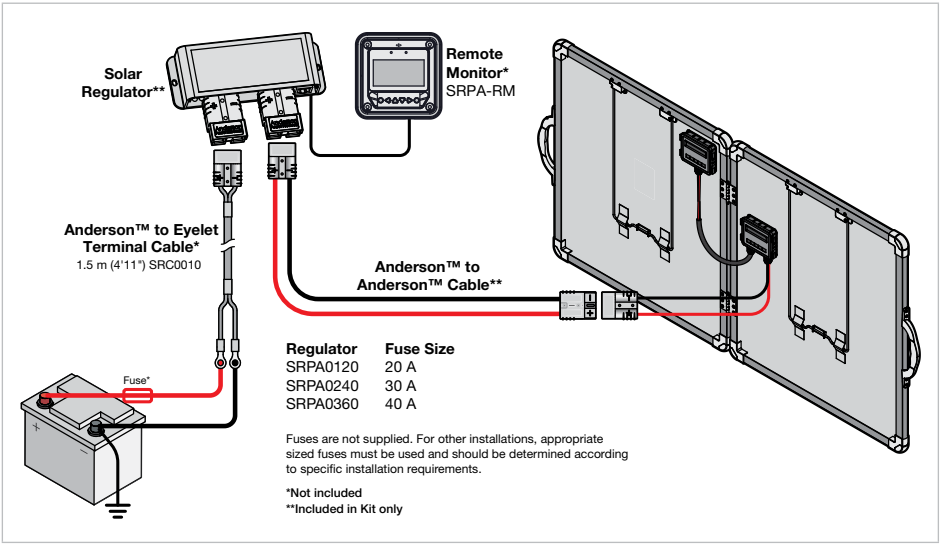
CLEANING AND STORING THE SOLAR PANEL

- Prevent scratches and increase charging performance by keeping the Solar Panel free from dust, dirt or sand.
- DO NOT use a high pressure hose to clean the Solar Panel. Use a damp cloth to clean Panel surfaces.
- DO NOT use any chemical cleaning agents as it may damage the solar cell surface and degrade performance.
- Allow your Solar Panel to dry before folding away to prevent the likelihood of corrosion.
- Ensure your Panel is stored securely to prevent damage during transit.

SYSTEM WIRING — ANDERSON™ TO BATTERY CLIP CABLE



SYSTEM WIRING — ANDERSON™ TO BATTERY EYELET TERMINAL CABLE



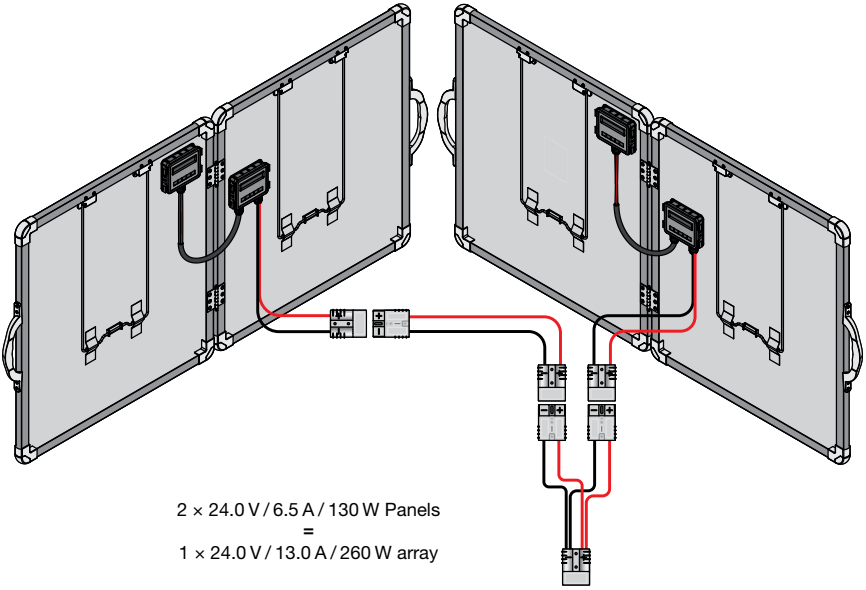
PARALLEL CONNECTIONS

NOTICE:

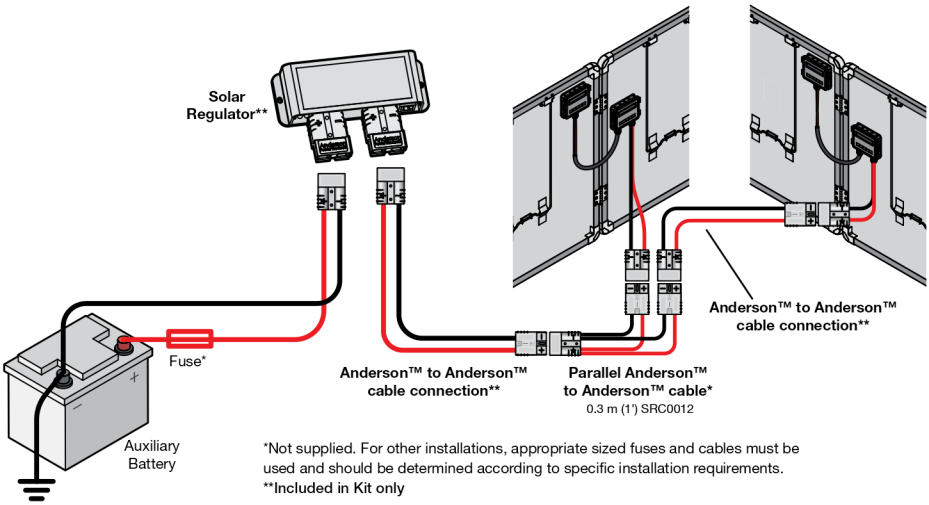
- **DO NOT connect the Solar Panels in series.**
- Ensure that the system components are rated for the sum of the short circuit currents of each panel connected in parallel.
- Connecting two panels that do not have identical ratings may cause damage to the panels.
- Panels connected in parallel that are subjected to different levels of sunlight may be damaged.

Connecting two identical Panels (of the same wattage) in parallel will multiply the total output current by 2 and keep the system voltage at the same level. Parallel connections can be made using the REDARC Parallel Anderson™ to Anderson™ cable (SRC0012) and the REDARC 1.5 m Anderson™ to Anderson™ cable (SRC0008).

Parallel Connection



WIRING PANELS IN PARALLEL



*Not supplied. For other installations, appropriate sized fuses and cables must be used and should be determined according to specific installation requirements.
**Included in Kit only

WARRANTY

LIMITED WARRANTY

For full warranty terms and conditions, visit the Warranty page of the REDARC website:
www.redarcelectronics.com/warranty

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