

THE POWER OF

REDARC®

BCDC Wiring Kit

Wiring Kit for Selected REDARC
DCDC Battery Chargers

MODEL:

- **BCDCWK-001**
- **BCDCWK-002**
- **BCDCWK-003**
- **BCDCWK-004**
- **BCDCWK-005**
- **BCDCWK-006**

BCDC Wiring Kit

Wiring Kit for Selected REDARC DCDC Battery Chargers

The BCDC Wiring Kit range is designed to connect a REDARC BCDC Battery Charger to the auxiliary battery and start battery in your vehicle.

There are six different variants of the BCDC Wiring Kits. These kits are compatible with a large range of BCDC Battery Chargers and installation locations.

See '[BCDC Wiring Kit Range/Compatible BCDC Models](#)' (page 3) for more information about individual kits.

BCDC Wiring Kit Range/Compatible BCDC Models

BCDCWK-001

Suitable for BCDC1220, BCDC1220-IGN and BCDC1225D **engine bay** installations where the auxiliary battery and start battery are in close proximity in the engine bay (less than 0.6 m/2' apart).

BCDCWK-002

Suitable for BCDC1220, BCDC1220-IGN and BCDC1225D **engine bay** installations where the auxiliary and start are more than 0.6 m (2') and less than 3.5 m (11') apart; typically, at opposite ends of the engine bay.

BCDCWK-003

Suitable for BCDC1220, BCDC1220-IGN, BCDC1225D and BCDCN1225* **vehicle rear** installations where the auxiliary battery is up to 8.5 m (28') away from the start battery. Typically, located at the opposite end of the vehicle from the engine bay, in the tray of the ute/pickup truck or at the rear of a wagon.

BCDCWK-004

Suitable for BCDC1240D and BCDC1250D **engine bay** installations where the auxiliary battery and start battery are in close proximity to each other in the engine bay (less than 0.6 m/2' apart). This kit contains cables with a wider diameter, and higher rated fuses suitable for higher current.

BCDCWK-005

Suitable for BCDC1240D and BCDC1250D **engine bay** installations where the start and auxiliary batteries are more than 0.6 m (2') and less than 3.5 m (11') apart; typically, at opposite ends of the engine bay. This kit contains cables with a wider diameter and higher rated fuses suitable for higher current.

BCDCWK-006

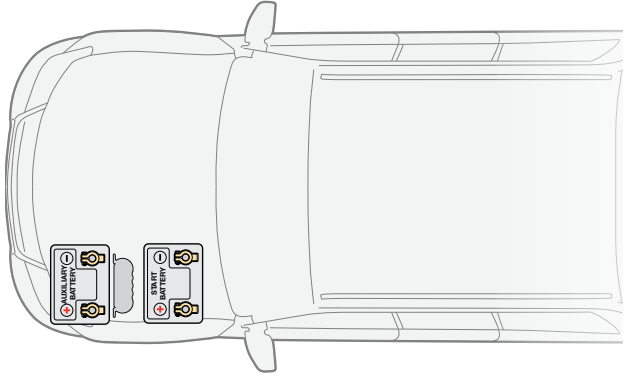
Suitable for BCDC1240D, BCDC1250D and BCDCN1240* **vehicle rear** installations, where the auxiliary battery is distanced up to 8.5 m (28') away from the start battery. Typically, at the opposite end of the vehicle from the engine bay, in the tray of the ute/pickup truck or at the rear of a wagon. This kit contains cables with a wider diameter and higher rated fuses to allow for higher current.

See "[BCDC Wiring Kit Specifications](#)" (page 17) for BCDC Wiring Kit specifications.

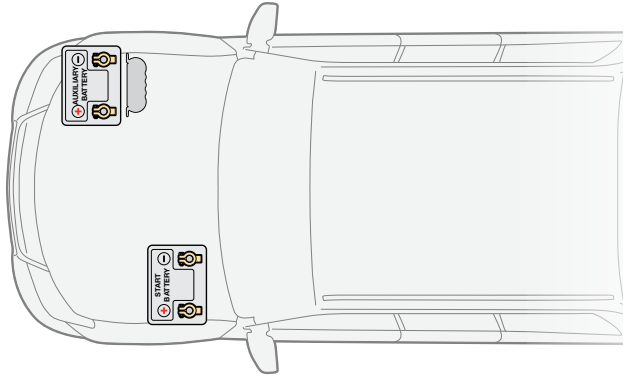
***NOTE:** BCDC Core models (BCDCN1225, BCDCN1240) are suitable for in-cabin installations only (Do NOT install in an engine bay or in harsh environments).

Auxiliary Battery Location

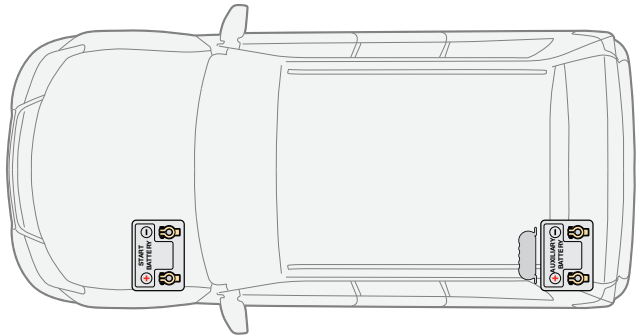
Use **BCDCWK-001** and **BCDCWK-004** for **engine bay** installations where the auxiliary battery and start battery are in close proximity.



Use **BCDCWK-002** and **BCDCWK-005** for installations across the **engine bay**.



Use **BCDCWK-003** and **BCDCWK-006** for **vehicle rear** installations, typically at the rear end of the vehicle.



NOTE: BCDC Core models (BCDCN1225, BCDCN1240) are suitable for in-cabin installations only (Do NOT install in an engine bay or in harsh environments).

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WARNINGS AND SAFETY INFORMATION

Save these instructions — this manual contains important safety instructions.

Do not perform the installation unless you have read and understood this manual.

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, if not avoided, **could result in death or serious injury to the operator or bystanders and could result in damage to the equipment.** Carefully read the message and follow instructions precisely.

⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, **may result in moderate or minor injury to the operator or to bystanders.** Read the message and follow instructions precisely.

⚠ WARNING

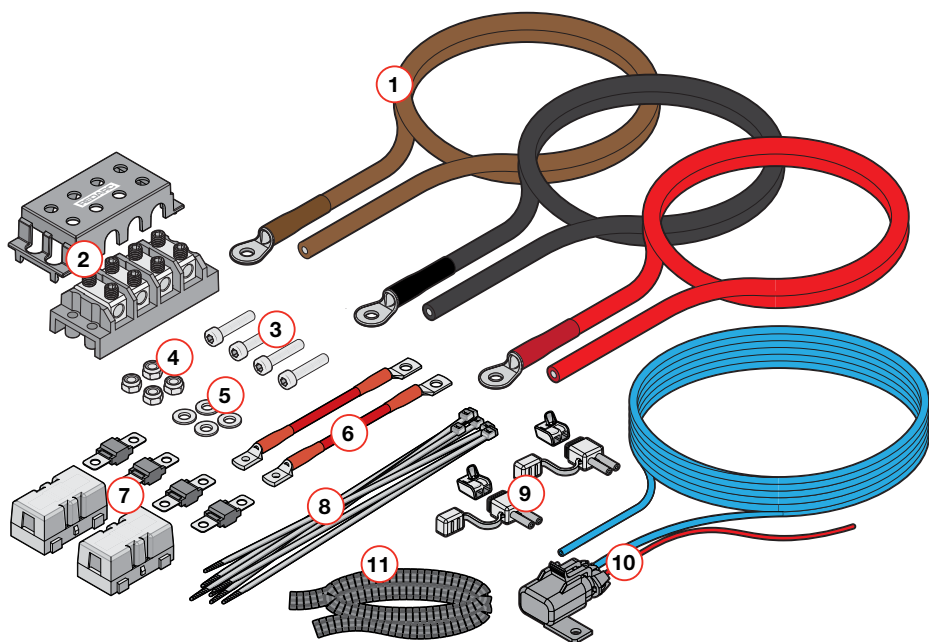
- Do not install Wiring Kit when the vehicle ignition is on. There is a risk of personal injury and damage to the vehicle and auxiliary battery.
- Working in vicinity of a lead-acid battery can be dangerous. Batteries generate explosive gases during normal operation. Carefully read all instructions and follow them precisely.
- NEVER smoke or allow a spark or flame in vicinity of battery or engine. This can cause the battery to explode.
- Ensure the vehicle is turned off, is prevented from moving and the start battery is disconnected before commencing any installation. If not, there is a risk of personal injury, damage to the vehicle and or parts being fitted.
- Working in the vicinity of any battery can be dangerous.

⚠ CAUTION

- The Battery Charger and Wiring Kit should not be used or installed 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 equipment by a suitably qualified person. Children should be supervised to ensure that they do not play with the equipment.
- Only use the Battery Charger for charging Standard Automotive Lead Acid, Gel/AGM, Calcium or Lithium Iron Phosphate type 12 V batteries.
- Do not alter or disassemble the Battery Charger under any circumstances. Any faulty units must be returned to REDARC for repair. Incorrect handling or reassembly may result in a risk of electric shock or fire and may void the warranty.
- Avoid touching eyes while working near a battery (PPE).
- Use Personal Protective Equipment (PPE). Wear complete eye protection and clothing protection.



1 BCDC WIRING KIT PARTS



1. Brown, Black and Red Cable*

Supplied with 1 of each cable.

2. Terminal Block with plastic cover

Supplied with 1 Terminal Block

3. M5 x 25 mm Socket Head Screw

Supplied with 4 screws.

4. M5 Nylon Locking Nuts

Supplied with 4 nuts.

5. M5 Flat Washer

Supplied with 4 washers.

6. 150 mm (6") Red Cable (shorter)

Supplied with 2 short cables.

7. Fuse Kit*

Supplied with 4 MIDI Fuses (2 spares) and 2 MIDI Fuse holders.

8. Cable ties*

9. Wago® Connector and Boot

Supplied with 2 Wago® Connectors and Boots.

10. Blue Cable*

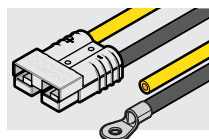
Supplied with 1 long cable (blue), 1 short cable (red with blue stripes) and 2 A MINI Blade Fuse.

11. 1.1 m (39") Protective Conduit

Supplied with 1 conduit which may be cut to length and used where required.

*See "BCDC Wiring Kit Specifications" (page 17) for exact length of the cables, type of fuses and quantity of cable ties of each BCDC Wiring Kit.

Optional Accessory: Anderson Solar Cable (sold separately) suitable for BCDC Dual Input Chargers (BCDC1225D, BCDC1240D and BCDC1250D).



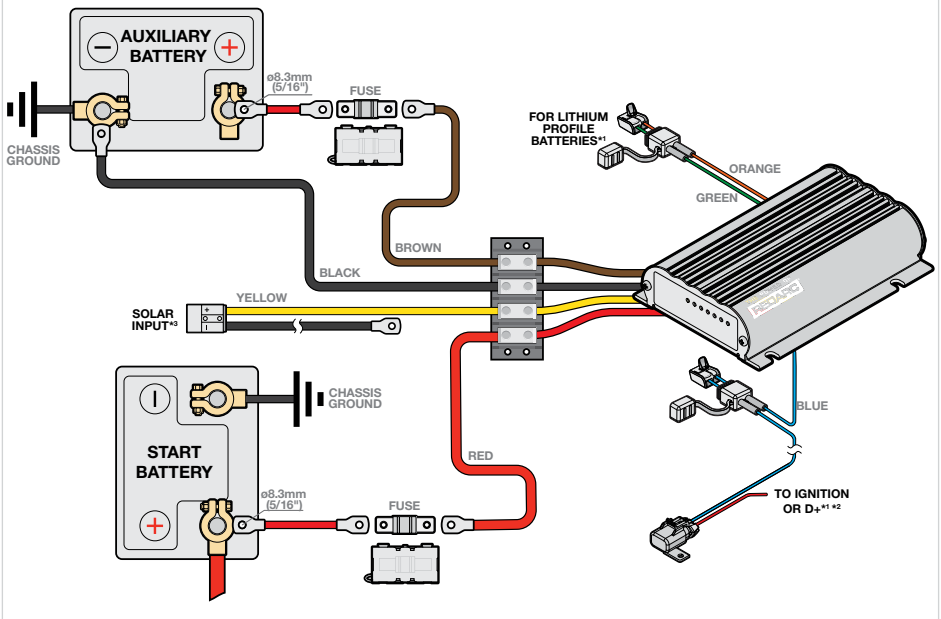
2 BASIC SETUP

The BCDC Wiring Kit allows users to connect their BCDC to the auxiliary and start batteries via a Terminal Block.

The terminal block provides connection between the BCDC and the rest of the installation (see [Figure 2.1](#)) allowing a change in cable diameter without the need for soldering or complicated lug terminals.

NOTE: Only REDARC's BCDC1225D, BCDC1240D and BCDC1250D Dual Input Battery Chargers have the Yellow Cable for solar panel connection. The BCDC Wiring Kit does not include a Yellow Cable for solar connection.

Figure 2.1: Basic Setup Using BCDC Wiring Kit



*1 Refer to BCDC manual for connection instructions.

*2 Refer to the vehicle manufacturer for Ignition or D+ connection points.

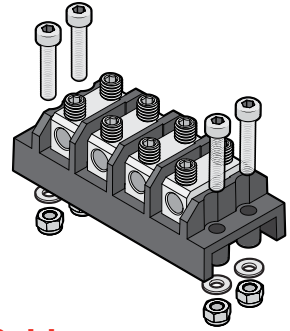
*3 Optional Accessory: Anderson Solar Cable (sold separately) suitable for BCDC Dual Input Chargers (BCDC1225D, BCDC1240D and BCDC1250D).

3 INSTALLATION

3.1 Securing the Terminal Block

Find a secure location for the Terminal Block between the auxiliary battery and BCDC. Ensure that the BCDC wiring lengths reach location before fitting the Terminal Block.

Secure the Terminal Block to a fixed structure using the four M5 Screws, M5 Flat Washers and Nylon Nuts supplied. Alternative fasteners may be required depending on the installation.



3.2 Precautions Before Connecting Cables

▲ CAUTION

Ensure all cables are clear from any moving parts or sharp edges and are not exposed to excessive heat.

IMPORTANT: Each terminal slot must have the same coloured cable, do not mix or crossover the coloured wires.

Protective conduit can be used in areas where a cable may have exposure to abrasion or heat.

3.3 Connecting BCDC Wires into the Terminal Block

Ensure the main power cables from the BCDC, Brown, Black, Yellow, and Red are stripped back to 14 mm (0.55") before routing to the Terminal Block.

Unscrew the grub screws in the Terminal Block using a 4 mm (5/32") hex-head tool to allow each wire to be fitted. Insert the stripped end of the cable into the Terminal Block and tighten the grub screw. Torque to 6.8–7 Nm (60–62 lb-in) to clamp the wire securely. Repeat on the Brown, Black, Yellow and Red wires from the BCDC.

NOTE*: For an Auxiliary Battery requiring a higher voltage charging profile, combine the Orange wire to the Black or Red cable — see 'Profile Select' in your BCDC Instruction Manual.

NOTE: Only REDARC's BCDC1225D, BCDC1240D and BCDC1250D Dual Input Battery Chargers will have the Yellow Cable for solar connection.

Figure 3.3.1: Inserting Wires

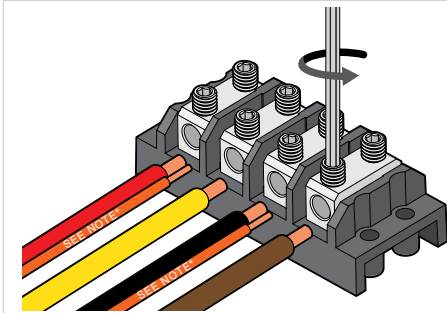
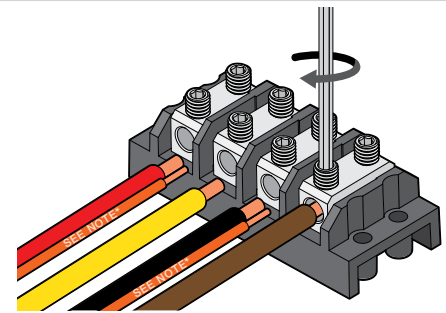


Figure 3.3.2: Securing the Wires



4 WIRING CONNECTIONS

4.1 Connecting the Brown Cable

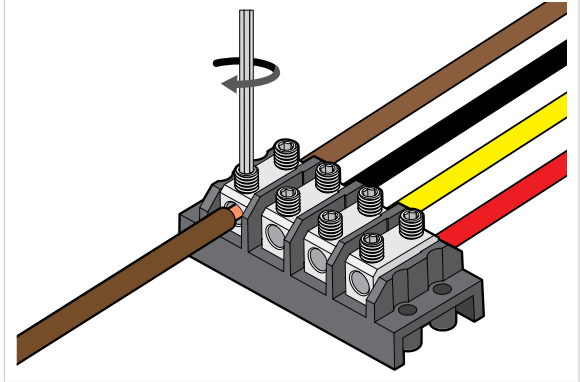
Before making any connections, layout and run the Brown Cable, MIDI fuse and the short Red Cable from the auxiliary battery to the Terminal Block. Trim any excess of the Brown Cable to suit your setup and strip back to 14 mm (0.55").

Secure the Brown Cable to the Terminal Block using a 4 mm (5/32") hex-head tool ensuring that the cable is installed in the same terminal slot as the Brown Cable from the BCDC.

Using supplied cable ties, secure the cable to existing vehicle wiring where possible every 200 mm (8").

Connect the Brown Cable to the auxiliary battery using the MIDI fuse and the short Red Cable.

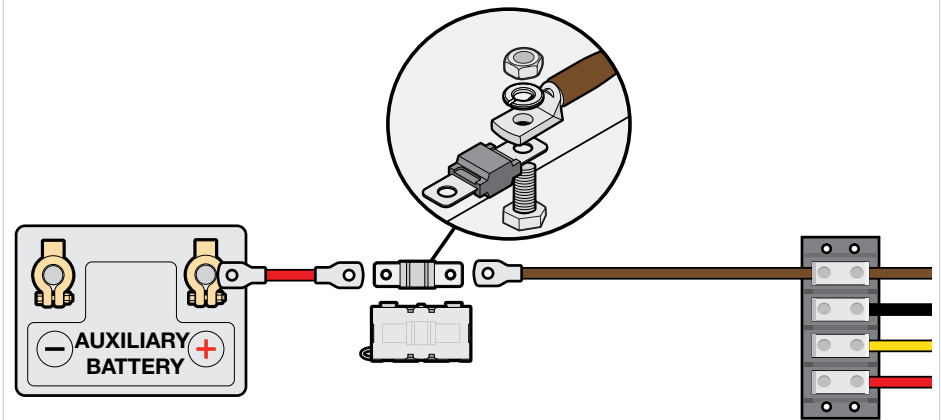
Figure 4.1.1: Securing Brown Cable to Terminal Block



Assemble one MIDI fuse into the supplied holder, see [Figure 4.1.2](#). On one side of the MIDI fuse, fit the short Red Cable (smaller lug end).

Next, fit the lug end of the Brown Cable to the other side. Secure both lugs with the supplied nuts, torque to 2 Nm (17.7 lb-in) and close the cover. Connect the other end of the short red wire to the auxiliary battery positive post.

Figure 4.1.2: Securing Brown and Red Cable MIDI Fuse

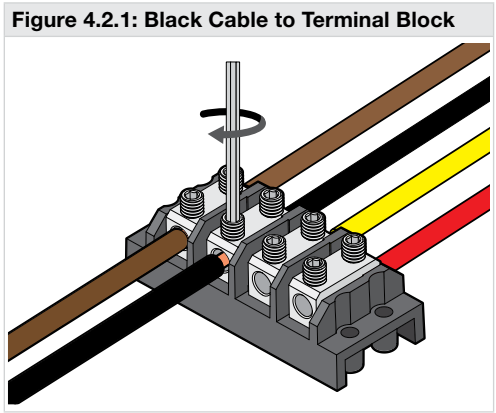


4.2 Connecting the Black Cable

Connect the Black Cable Lug to the negative input of the auxiliary battery (or chassis connection point) and run the black cable to the terminal block.

Trim any excess cable and strip back to 14 mm (0.55") before routing the cable to the terminal block.

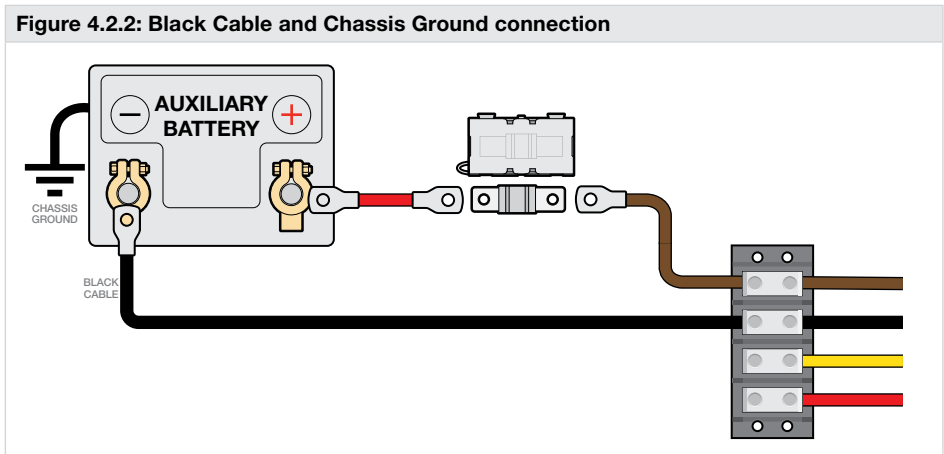
Secure the Black Cable using a 4 mm (5/32") hex-head tool, ensuring that the cable is installed in the same terminal slot as the Black Cable from the BCDC.



AUXILIARY BATTERY CHASSIS CONNECTION

The auxiliary battery negative must be connected to the same potential as the vehicle electrical system chassis. An appropriate cable gauge capable of carrying the sum of all the connected auxiliary loads, and the auxiliary battery charge current should be chosen.

The Chassis Ground cable is not supplied with the BCDC Wiring Kit as it is expected that this would form part of the auxiliary battery installation.



4.3 Connecting the Long Red Cable

Before making any connections, layout and run the long Red Cable, MIDI fuse and the short Red Cable from the start battery to the Terminal Block. Trim any excess of the long Red Cable to suit your setup and strip back to 14 mm (0.55").

Secure the long Red Cable to the Terminal Block using a 4 mm (5/32") hex-head tool, ensuring that the cable is installed in the same terminal slot as the red cable from the BCDC.

Using supplied cable ties, secure the cable to existing vehicle wiring where possible every 200 mm (8").

Once all connections to the Terminal Block have been made, place the plastic cover on top and secure with a cable tie.

Connect the long Red Cable to the start battery using the MIDI fuse and the short Red Cable.

On one side of the MIDI Fuse, fit the short Red Cable (smaller lug end) and the lug end of the long Red Cable to the other side (see [Figure 4.3.2](#)). Secure both lugs with the supplied nuts, torque 2 Nm (17.7 lb-in) and close the cover. Connect the other end of the short Red Cable to the start battery positive terminal (see [Figure 4.3.2](#)).

Check the operation of the system.

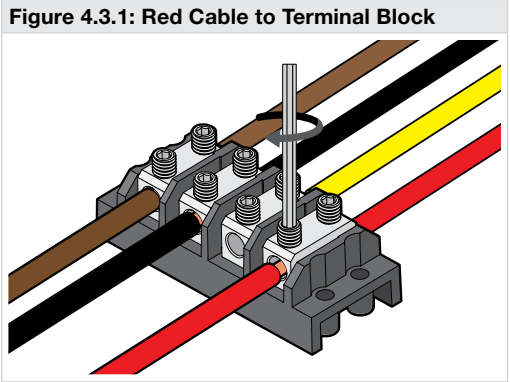


Figure 4.3.1: Red Cable to Terminal Block

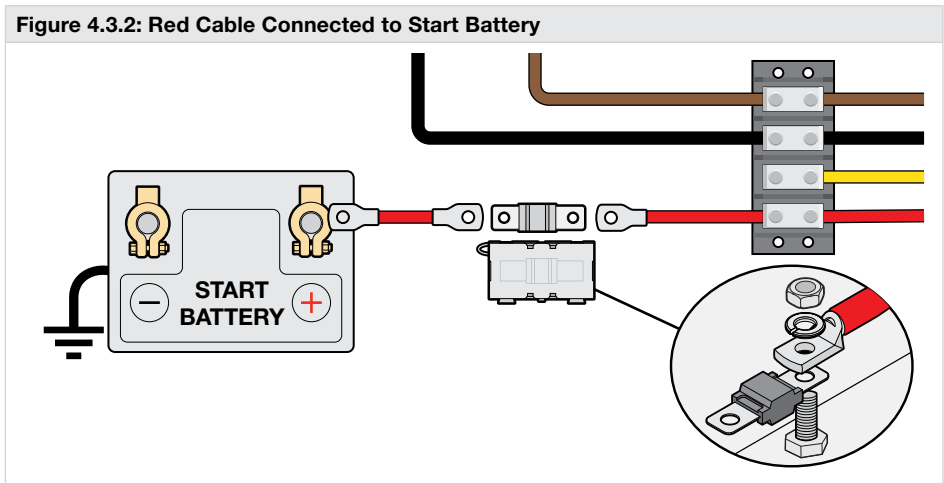


Figure 4.3.2: Red Cable Connected to Start Battery

5 BLUE WIRE CONNECTION

The Wago® Connector and Boot is used to connect the blue wire from the BCDC to the supplied Blue Wire with attached Mini Blade Fuse with cover and connected Red/Blue Wire.

The Blue Wire allows your battery charger to know if the vehicle's ignition is switched on, indicating when the vehicle is in use rather than sitting idle with the ignition and engine switched off.

Vehicles with a variable voltage alternator or with an Idle-stop alternator are required to connect the blue wire to a suitable ignition point as directed in your battery charger's instruction manual.

If your vehicle is equipped with a 'Stop-Start' system, where the engine may turn off automatically when you slow down to a stop, the blue wire must be connected to an 'Engine On/Engine Running' signal. This is intended to maintain charging whilst the engine is running, and quickly reduce charging when the engine stops.

NOTE: For standard alternator vehicles the blue wire is not required.

BLUE WIRE INSTALLATION

Connect Red Wire with Blue stripes to ignition point or engine on/off signal for stop start vehicles and strip back any excess Blue wire before inserting into the Wago® Connector.

Using the Wago® Connector and Boot, feed the blue wire from the BCDC into one of the legs of the Boot and the supplied Blue Wire into the other leg. The legs of the Boot can be trimmed to permit different gauges of wires. Trim the blue wires to remove any excess if necessary to suit your setup, ensuring that the wire is stripped back 12 mm (0.5").

With the levers of the Wago® Connector lifted to the 'open' position, fit one wire into each slot and close the levers to clamp the blue wires. After both wires are secured in the Wago® Connector, push the assembly into the Boot and close the lid.

Add electrical tape around the wire entry in the legs for additional protection against water ingress, and around the main body to secure the lid.

Figure 5.1: Connecting Blue Wires into the Wago® Connector

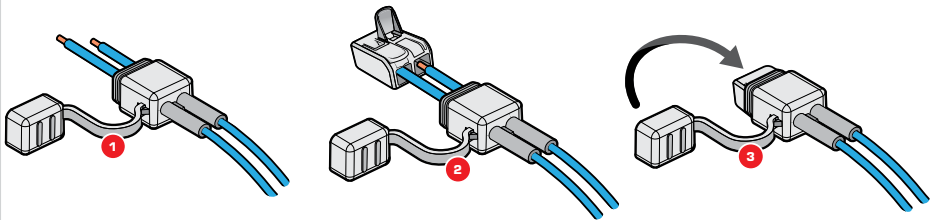
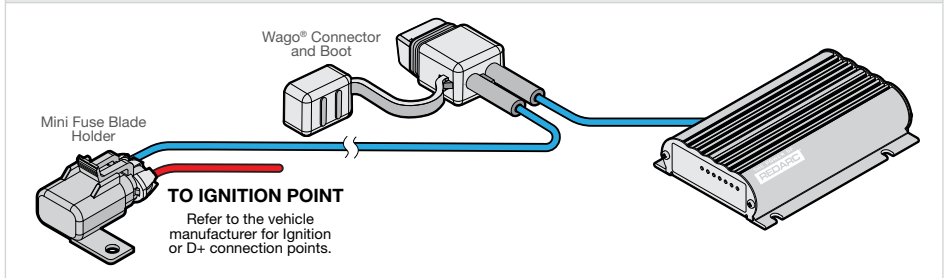


Figure 5.2: Blue Wire Diagram



6 LITHIUM PROFILE CONNECTIONS

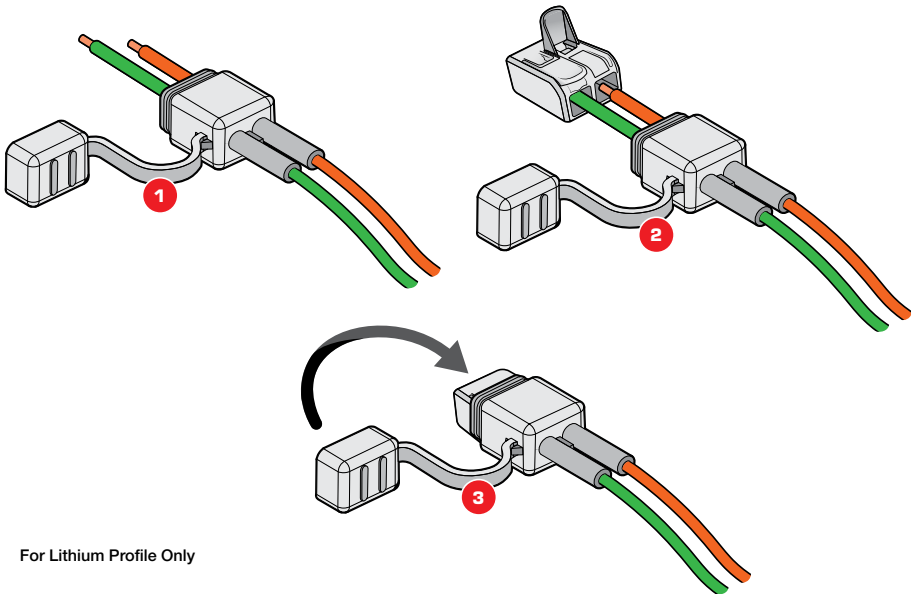
For Auxiliary Batteries requiring Lithium Profile use the second supplied Wago® Connector and Boot to secure the green and orange wire from the BCDC.

Feed the green and orange wire from the BCDC through the legs of the Boot, see [Figure 6.1](#). The legs of the Boot can be trimmed to permit different gauges of wires. Trim the orange and green wires to remove any excess if necessary to suit your setup, ensuring that the wire is stripped back 12 mm (0.5").

With the levers of the Wago® Connector lifted to the 'open' position, fit one wire into each slot and close the levers to clamp the green and orange wires. After both wires are secured in the Wago® Connector, push the assembly into the Boot and close the lid.

Add electrical tape around the wire entry in the legs for additional protection against water ingress, and around the main body to secure the lid.

Figure 6.1: Connecting Wires into Wago® Connector and Boot



7 BCDC WIRING KIT SPECIFICATIONS

BCDCWK-001

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse type*	Cable tie quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
600 mm (23.6")	7.7 mm ² (8 AWG)	600 mm (23.6")	7.7 mm ² (8 AWG)	600 mm (23.6")	7.7 mm ² (8 AWG)	3.5 m (11'5")	0.52 mm ² (20 AWG)	40 A	16

BCDCWK-002

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse type*	Cable tie quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
2.5 m (8'2")	13.3 mm ² (6 AWG)	2.5 m (8'2")	13.3 mm ² (6 AWG)	3.5 m (11'5")	13.3 mm ² (6 AWG)	3.5 m (11'5")	0.52 mm ² (20 AWG)	40 A	15

BCDCWK-003

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse type*	Cable tie quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
600 mm (23.6")	7.7 mm ² (8 AWG)	600 mm (23.6")	7.7 mm ² (8 AWG)	8.5 m (27'9")	13.3 mm ² (6 AWG)	8.5 m (27'9")	0.52 mm ² (20 AWG)	40 A	45

BCDCWK-004

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse type*	Cable tie quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
600 mm (23.6")	13.3 mm ² (6 AWG)	600 mm (23.6")	7.7 mm ² (8 AWG)	600 mm (23.6")	13.3 mm ² (6 AWG)	3.5 m (11'5")	0.52 mm ² (20 AWG)	60 A	16

BCDCWK-005

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse type*	Cable tie quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
2.5 m (8'2")	21.2 mm ² (4 AWG)	2.5 m (8'2")	13.3 mm ² (6 AWG)	3.5 m (11'5")	21.2 mm ² (4 AWG)	3.5 m (11'5")	0.52 mm ² (20 AWG)	60 A	15

BCDCWK-006

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse type*	Cable tie quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
600 mm (23.6")	13.3 mm ² (6 AWG)	600 mm (23.6")	7.7 mm ² (8 AWG)	8.5 m (27'9")	21.2 mm ² (4 AWG)	8.5 m (27'9")	0.52 mm ² (20 AWG)	60 A	45

*The fuse provided with the blue cable is a 2A MINI Blade Fuse.

WARRANTY

LIMITED WARRANTY

For full warranty terms and conditions, visit the Warranty page of the REDARC website. Refer to the web address and contact details applicable to your region.

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