

THE POWER OF

REDARC®

BCDC Alpha® Wiring Kit

Wiring Kit for BCDC Alpha Battery Chargers

MODELS:

- BCDCWK-101
- BCDCWK-102
- BCDCWK-103
- BCDCWK-104
- BCDCWK-105
- BCDCWK-106
- BCDCWK-107
- BCDCWK-108

BCDC ALPHA WIRING KIT RANGE

The BCDC Alpha Wiring Kit range is designed to connect a REDARC BCDC Alpha Battery Charger to the auxiliary and start battery in your vehicle. There are eight different variants of the BCDC Alpha Wiring Kits, which are compatible with a large range of installation locations.

BCDC ALPHA 25 WIRING KITS

The Wiring Kits designed for the BCDC Alpha 25 include cable and fuse sizes for the maximum current rating of the Battery Charger (30 A).

BCDCWK-101* — Suitable for installations where the cable distance between the Main Unit and either battery is no more than 1.5 m (5').

BCDCWK-102* — Suitable for installations where the cable distance between the start battery and Main Unit is no more than 2.5 m (8'2.5"), and the auxiliary battery and Main Unit is no more than 1.5 m (5').

BCDCWK-103 — Suitable for installations where the auxiliary battery is located in the middle of the vehicle (within 4.5 m (14'9") of cable length from the start battery).

BCDCWK-104 — Suitable for rear of vehicle installations where the auxiliary and start battery are at opposite ends of the vehicle (within 6.5 m (21'4") of cable length apart).

BCDC ALPHA 50 WIRING KITS

The Wiring Kits designed for the BCDC Alpha 50 include cable and fuse sizes for the maximum current rating of the Battery Charger (55 A).

BCDCWK-105* — Suitable for installations where the cable distance between the Main Unit and either battery is no more than 1.5 m (5').

BCDCWK-106* — Suitable for installations where the cable distance between the start battery and Main Unit is no more than 2.5 m (8'2.5"), and the auxiliary battery and Main Unit is no more than 1.5 m (5').

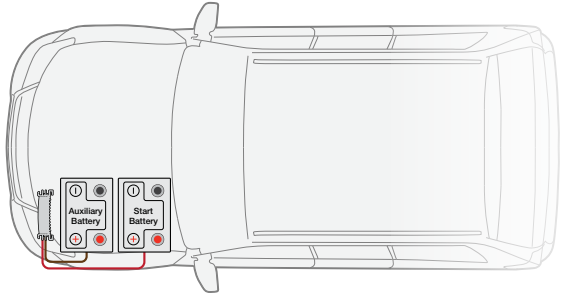
BCDCWK-107 — Suitable for installations where the auxiliary battery is located in the middle of the vehicle (within 4.5 m (14'9") of cable length from the start battery).

BCDCWK-108 — Suitable for rear of vehicle installations where the auxiliary and start battery are at opposite ends of the vehicle (within 6.5 m (21'4") of cable length apart).

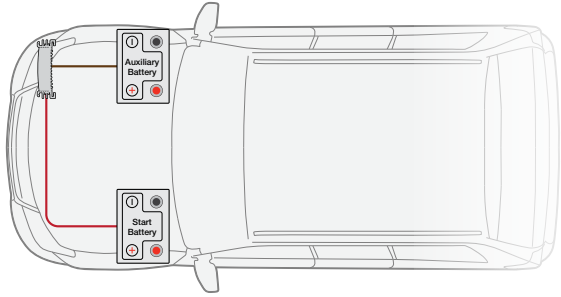
***NOTE:** Only suitable for engine bay compatible BCDC Alpha battery chargers.

AUXILIARY BATTERY LOCATION

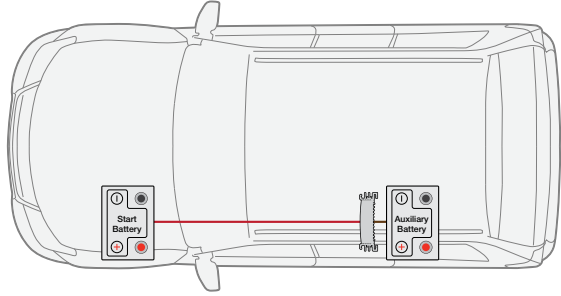
Use **BCDCWK-101** and **BCDCWK-105** for installations where the auxiliary and start battery are in **close proximity**.



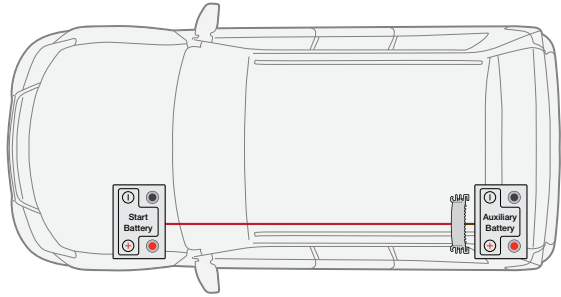
Use **BCDCWK-102** and **BCDCWK-106** for across **engine bay** installations.



Use **BCDCWK-103** and **BCDCWK-107** for installations where the auxiliary battery is located in the **middle of the vehicle**.



Use **BCDCWK-104** and **BCDCWK-108** for rear of **vehicle** installations, typically at the back of the vehicle.



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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 BCDC Alpha Wiring Kit 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 charger.
- Do not install the Wiring Kit when the vehicle ignition is on. There is a risk of personal injury and damage to the vehicle and auxiliary battery.
- NEVER** smoke or allow a spark or flame in vicinity of battery or engine. This can cause the battery to explode.
- Ensure 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.

▲ CAUTION

- Ensure all cables are clear from any moving parts or sharp edges and are not exposed to excessive heat.
- Do **NOT** alter or disassemble the Battery Charger under any circumstances. All 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 unit warranty.
- The Battery Charger and Wiring Kit should not be used 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 Battery Charger.
- Only use the Battery Charger for charging Standard Automotive Lead Acid, Calcium Content, Gel, AGM, SLI, Deep Cycle, Heated Lithium or Lithium Iron Phosphate type 12V batteries.
- Do not crush or puncture the Battery Charger.
- Keep the Battery Charger and Wiring Kit away from major heat sources, high voltage, and avoid exposed sunlight for long periods of time.

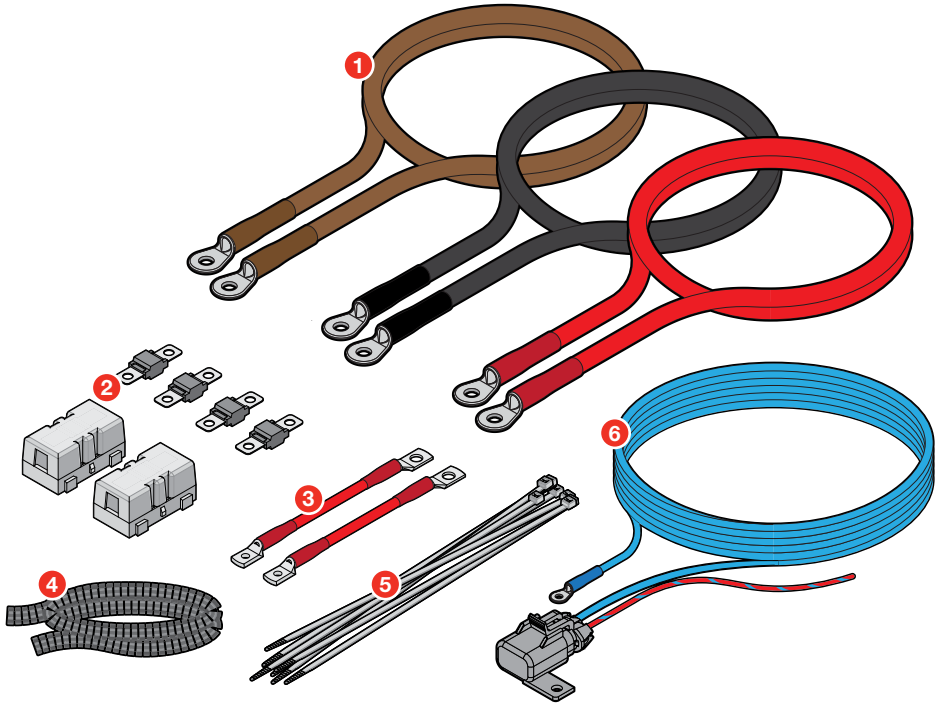
PERSONAL SAFETY PRECAUTIONS: To assist with the safe operation and use of the Battery Charger when connected to the battery:

- Wear complete eye protection and clothing protection. Avoid touching eyes while working near a battery.
- 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.



PRODUCT OVERVIEW

KIT CONTENTS



1. Brown, Black and Red Cable*

Supplied with 1 of each cable.

2. Fuse Kit*

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

3. 150 mm (6") Red Cable

Supplied with 2 short red cables.

4. 1 m (3'3") Protective Conduit

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

5. Cable Ties*

6. Blue Cable*

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

*See 'Specifications' (page 12) for exact length of the cables, type of fuses and quantity of cables ties of each BCDC Alpha Wiring Kit.

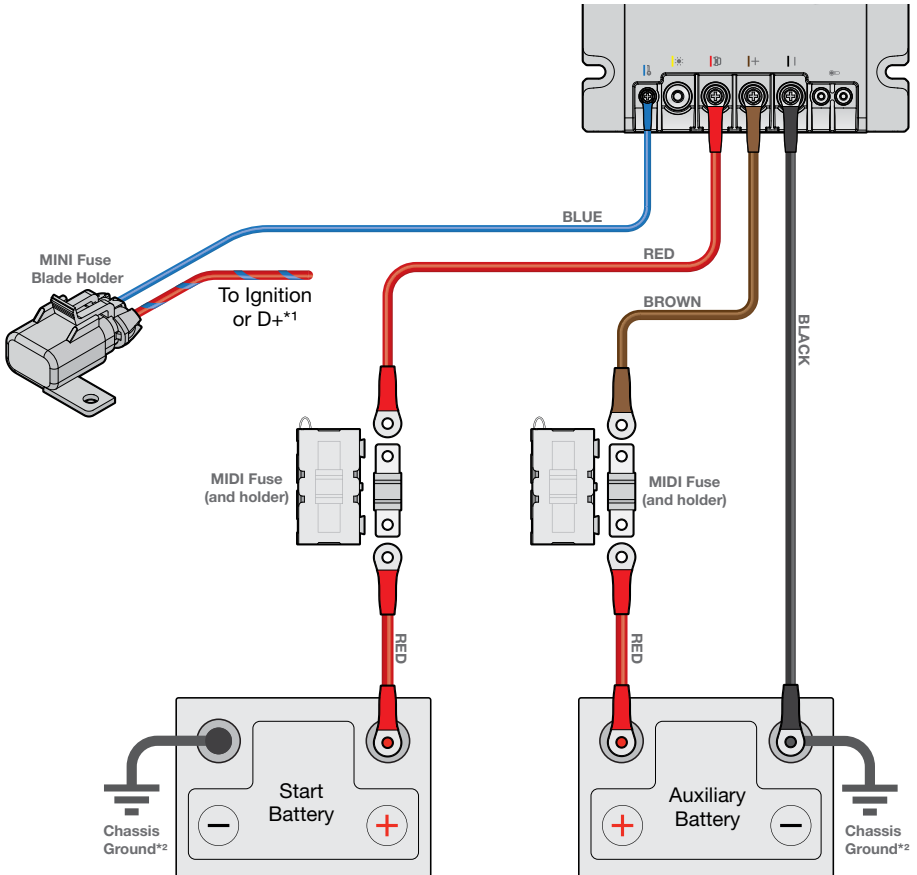
BASIC SETUP

The BCDC Alpha Wiring Kit allows users to connect their BCDC Alpha to the auxiliary and start battery. Pre-terminated lug terminals allows for easy installation between your BCDC Alpha and the rest of your system.

NOTE: REDARC's BCDC Alpha Battery Chargers have solar charge and temperature sensor input terminals, the BCDC Alpha Wiring Kit does not include cables for these connections. A temperature sensor cable is provided with the BCDC Alpha Battery Charger.

NOTE: The chassis ground cable is not supplied with the BCDC Alpha Wiring Kit.

FIGURE 1



*1 For vehicle ignition connection, connect to the ignition switched fuse in either the engine bay or internal fuse box for the radio. Refer to the vehicle manufacturer for this connection point.

*2 All chassis ground connections must share a common electrical ground.

INSTALLATION

CONSIDERATIONS PRIOR TO INSTALLATION

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

IMPORTANT: Each cable must be connected to the correct terminal stud on the BCDC Alpha.

MOUNTING THE BCDC ALPHA

Before making any connections, confirm the mounting location of the BCDC Alpha. Mounting instructions can be found in the BCDC Alpha Instruction Manual.

BLUE CABLE REQUIREMENTS

Determine if the **Blue** Cable is required for your setup prior to installation. Refer to the vehicle manufacturer and the BCDC Alpha Instruction Manual to determine the type of alternator your vehicle has and if a vehicle ignition connection is required.


NOTE: For standard alternator vehicles, the **Blue** Cable is not required.

CABLE MANAGEMENT AND ROUTING

Before making any connections, route the BCDC Alpha cables in accordance with 'Cable Management and Routing' (page 11). During installation, ensure there is adequate space around the BCDC Alpha to allow for strain-relief and cable management.

LUG CONNECTIONS TO BCDC ALPHA

Use the M5 Hex Head Phillips Bolts provided with the BCDC Alpha to secure the **Brown, Black** and **Red** Cables to the Main Unit.

Connect the **Brown** Cable to the auxiliary terminal stud (\pm). Connect the **Black** Cable to the common ground terminal stud (—). Connect the **Red** Cable to the start battery terminal stud (). Torque to 4 N·m (2.9 ft·lbf).


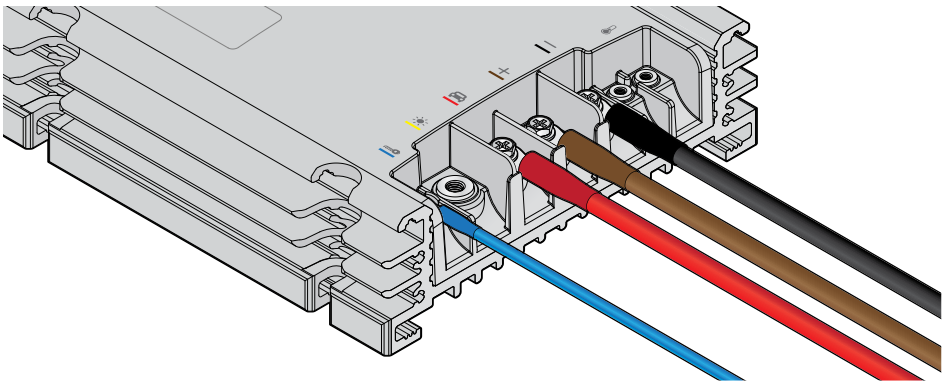
Connect the **Blue** Cable (if required) to the vehicle ignition terminal stud (). Use the M3 Hex Head Phillips Bolt provided with the BCDC Alpha to secure, torque to 1 N·m (0.74 lbf·ft).

FIGURE 2



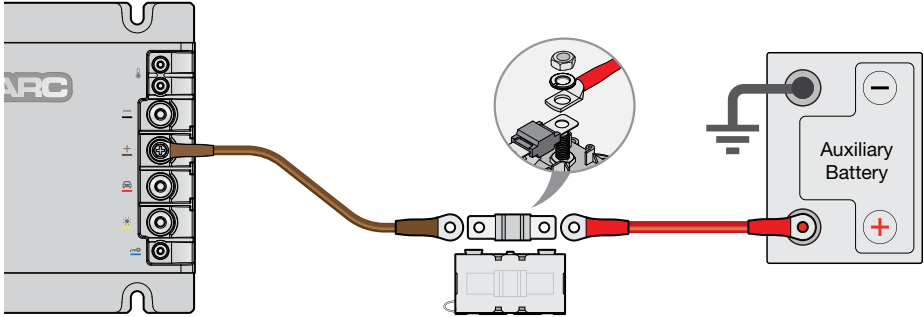
BROWN CABLE CONNECTION

Connect the **Brown** Cable to the auxiliary battery using a MIDI Fuse with Holder and a short Red Cable.

Assemble one MIDI Fuse into the supplied Holder (refer to [Figure 3](#)). On one side of the MIDI Fuse, fit the short Red Cable (smaller lug end). On the other side of the MIDI Fuse, fit the **Brown** Cable Lug. Secure both sides with the supplied Nuts, torque to 4 N·m (2.9 lbf·ft) and close the cover over.

Connect the other end of the short Red Cable to the auxiliary battery positive (+) terminal.

FIGURE 3



BLACK CABLE CONNECTION

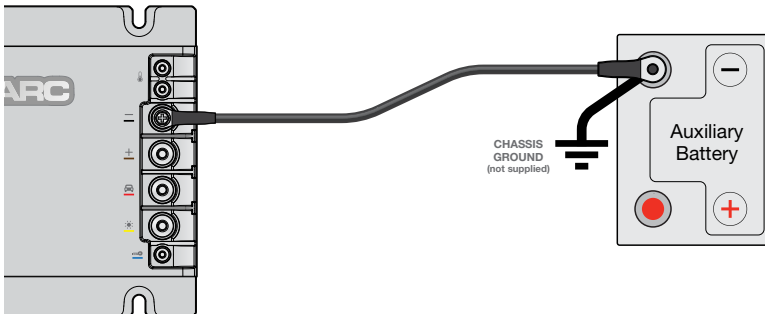
Secure the **Black** Cable Lug to the auxiliary battery negative (-) terminal or to a ground point, such as a ground stud on the metal of the bodywork.

AUXILIARY BATTERY CHASSIS CONNECTION

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

NOTE: The chassis ground cable is not supplied with the BCDC Alpha Wiring Kit.

FIGURE 4



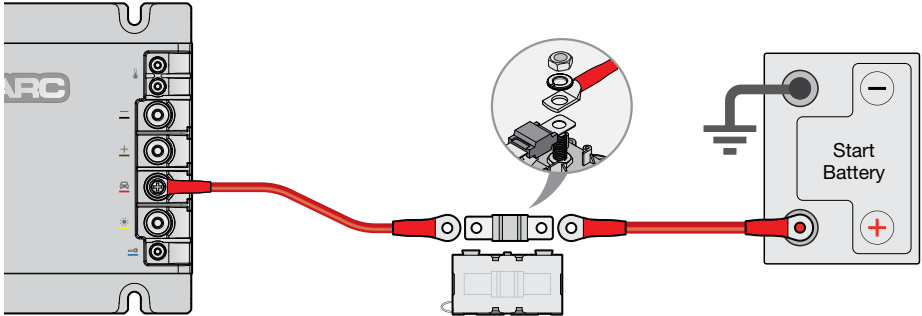
RED CABLE CONNECTION

Connect the **Red Cable** to the start battery using a MIDI Fuse with Holder and a short Red Cable.

Assemble one MIDI Fuse into the supplied Holder (see **Figure 5**). On one side of the MIDI Fuse, fit the short Red Cable (smaller lug end). On the other side of the MIDI Fuse, fit the **Red Cable Lug**. Secure both sides with the supplied Nuts, torque to 4 N·m (2.9 lbf·ft) and close the cover over.

Connect the other end of the short Red Cable to the start battery positive (+) terminal.

FIGURE 5



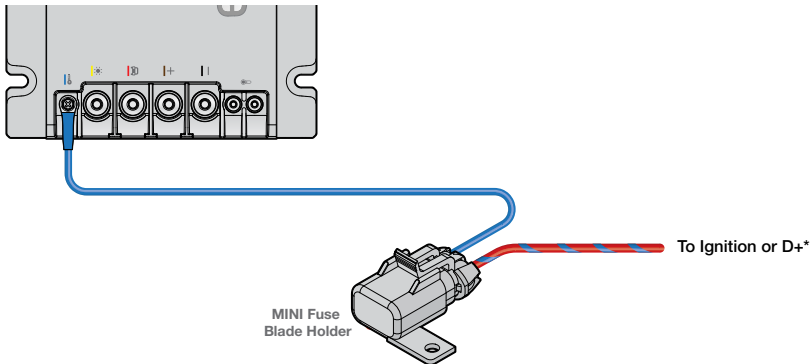
BLUE CABLE CONNECTION

NOTE: For standard alternator vehicles the **Blue Cable** is not required.

The **Blue Cable** with attached MINI Fuse is used to connect the Main Unit to an ignition point for installations that require a vehicle ignition connection.

If a vehicle ignition connection is required, ensure the **Blue Cable** is connected and secured to the vehicle ignition terminal on the Main Unit using the M3 Hex Head Phillips Bolt. Run and connect the **Red/Blue Cable** to an ignition point or engine on/off signal for stop start vehicles.

FIGURE 6



* For vehicle ignition connection, connect to the ignition switched fuse in either the engine bay or internal fuse box for the radio. Refer to the vehicle manufacturer for this connection point.

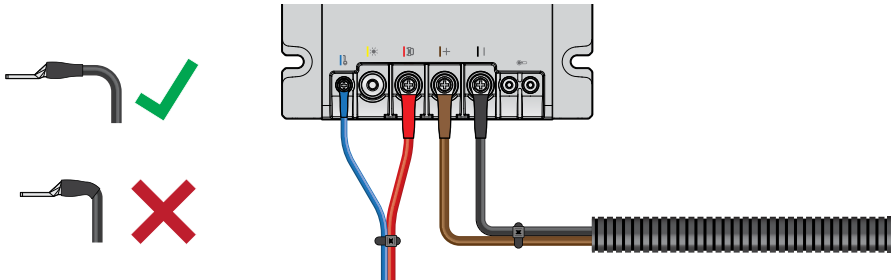
CABLE MANAGEMENT AND ROUTING

ROUTE AND SECURE THE CABLES

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

- If required, neatly coil any excess cable and secure with a cable tie.
- Secure cables to existing vehicle wiring where possible every 200 mm (8") using the supplied cable ties.
- Use the protective conduit in areas where the cables may have exposure to abrasion or heat.
- Allow for strain-relief for cables connected to the Main Unit, ensuring cables are not pulled or stretched tightly. This can cause damage to the cables and affect the performance of the BCDC Alpha.

FIGURE 7



GENERAL MAINTENANCE

Periodically check that all connections are firm, and that all cables are adequately managed. Parts of the system may have moved as a result of repeated vibration, particularly if the vehicle has been travelling on uneven/corrugated road surfaces.

SPECIFICATIONS

BCDCWK-101

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse Type*	Cable Tie Quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
1.5 m (5')	7.7 mm ² (8 AWG)	1.5 m (5')	7.7 mm ² (8 AWG)	1.5 m (5')	7.7 mm ² (8 AWG)	3.5 m (11'5")	0.5 mm ² (20 AWG)	40 A	15

BCDCWK-102

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse Type*	Cable Tie Quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
1.5 m (5')	7.7 mm ² (8 AWG)	1.5 m (5')	7.7 mm ² (8 AWG)	2.5 m (8'2.5")	7.7 mm ² (8 AWG)	3.5 m (11'5")	0.5 mm ² (20 AWG)	40 A	15

BCDCWK-103

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse Type*	Cable Tie Quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
600 mm (24")	7.7 mm ² (8 AWG)	600 mm (24")	7.7 mm ² (8 AWG)	4.5 m (14'9")	13.3 mm ² (6 AWG)	6.5 m (21'4")	0.5 mm ² (20 AWG)	40 A	45

BCDCWK-104

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse Type*	Cable Tie Quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
600 mm (24")	7.7 mm ² (8 AWG)	600 mm (24")	7.7 mm ² (8 AWG)	6.5 m (21'4")	13.3 mm ² (6 AWG)	6.5 m (21'4")	0.5 mm ² (20 AWG)	40 A	45

BCDCWK-105

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse Type*	Cable Tie Quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
1.5 m (5')	13.3 mm ² (6 AWG)	1.5 m (5')	7.7 mm ² (8 AWG)	1.5 m (5')	13.3 mm ² (6 AWG)	3.5 m (11'5")	0.5 mm ² (20 AWG)	60 A	15

BCDCWK-106

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse Type*	Cable Tie Quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
1.5 m (5')	13.3 mm ² (6 AWG)	1.5 m (5')	7.7 mm ² (8 AWG)	2.5 m (8'2.5")	13.3 mm ² (6 AWG)	3.5 m (11'5")	0.5 mm ² (20 AWG)	60 A	15

BCDCWK-107

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse Type*	Cable Tie Quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
600 mm (24")	13.3 mm ² (6 AWG)	600 mm (24")	7.7 mm ² (8 AWG)	4.5 m (14'9")	21.2 mm ² (4 AWG)	6.5 m (21'4")	0.5 mm ² (20 AWG)	60 A	45

BCDCWK-108

Brown Cable		Black Cable		Red Cable		Blue Cable		Fuse Type*	Cable Tie Quantity
Length	Gauge	Length	Gauge	Length	Gauge	Length	Gauge		
600 mm (24")	13.3 mm ² (6 AWG)	600 mm (24")	7.7 mm ² (8 AWG)	6.5 m (21'4")	21.2 mm ² (4 AWG)	6.5 m (21'4")	0.5 mm ² (20 AWG)	60 A	45

*The fuse provided with the Blue Cable is a 2 A MIDI Blade Fuse.

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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