



PREPARING A VEHICLE FOR TOWING YOUR NEW RV

Caravan Electrical Solutions have provided this information pack for new customers to better understand the electrical components & car connections required on their newly purchased RV. We have included detailed information on the 12 Pin and Anderson Plugs that will assist in ensuring that your car will be compatible with your new RV before pick-up and hand-over. Please provide this pack to your Auto Electrician.

For more information or clarification, email our support team

support@caravanelectricalsolutions.com.au

or
contact your dealership.

12 Pin Plug configurations

Caravan Electrical Solutions have wired the 12 Pin Plug on your RV as per the table below. Please ensure that you take this diagram to an Auto Electrician when setting up your vehicle to tow your new RV.

Trailer Plug Pin No.	Description	Cable Colour	Cable	Nom. Area (mm ²)
1.	Left Hand Indicator	Yellow	ECA3	1.13
2.	Reverse Signal (If Applicable)	Black	ECA3	1.13
3.	Earth Return	White	ECA5	3.25
4.	Right Hand Indicator	Green	ECA3	1.13
5.	Service Brakes	Blue	ECA5	3.25
6.	Stop Lights	Red	ECA3	1.13
7.	Clearance Marker Lights	Brown	ECA3	1.13
8.	Fridge Breaksafe charging*	RED		10
9.	Breakaway Remote	Purple	ECA4	1.85
10.	Earth Return	Black		10
11.	Spare			
12.	Ignition Sensor (If Required)	Pink	ECA4	1.85

Please note: Whilst there are no formal standards for the 12 Pin Plug configurations, CES believe that the above table offers the best solutions for both car and RV compatibility whilst towing. If you have any concerns regarding the above configurations, please contact CES to discuss this with a member of our friendly technical support team.

*Unless requested, RVs weighing less than 2 tonnes are not fit with a breakaway system.
Vans with a Trailsafe will only power the fridge on this circuit.
Compressor fridges do not draw power from this line.

Pin Layout by Number

- 1. Left-hand indicator:** Wired to the left-hand indicator of the tow vehicle.
- 2. Reverse signal (if applicable):** Wired to reverse lights of the tow vehicle.
- 3. Earth return:** Wired to the earth of tow vehicle.
- 4. Right-hand indicator:** Wired to the right-hand indicator of the tow vehicle.
- 5. Service brakes:** Wired to service brake controller of the tow vehicle.
- 6. Stoplights:** Wired to stop lights of the tow vehicle.
- 7. Clearance/Marker lights:** Wired to parker lights of the tow vehicle.
- 8. Fridge supply/Breaksafe Unit charging:** Wired to battery positive (+) of the tow vehicle. If an automatic fridge is being used, pin 12 will tell the fridge when to use 12v and a separate isolator will not be needed. Pin 8 runs the element on the fridge; this requires a 10mm² cable. A 30amp manual reset circuit breaker or fuse is recommended.

Fridge information:

Part Number	Current Draw (A) ¹ on 12v	12v Sensing Wire (Pin12)
RMDX21 Dometic	14·16	Not Required
RMDX25 Dometic	14·16	Required
RUA5208X Dometic	14·41	Required
RUA8408X Dometic	17·5	Required
N314-E Thetford	9·4	Required
N514-E Thetford	12·2	Required
N3185-E Thetford	14·6	Required

Thetford fridges with models ending in E and Dometic fridges ending in 5 or 6 need a sending wire on pin 12 even if not listed here.

¹Please note that the figures mentioned are maximums. These figures depend on how fridges are used (temperatures/door operation/internal thermal mass). Figures are taken from their respective manuals.

Note: Compressor fridges are not connected via the car and are connected to the house battery.

If a manual fridge is being installed, it is recommended that the supply on pin 8 is taken off an ignition switched isolating device.

Breaksafe charging on Pin 8 is connected on the RV side; no action is required as long as power is supplied to Pin 8.

Please note that the TrailSafe breakaway unit does not charge from this line.

- 9. Breakaway remote battery monitor:** To be wired to the Breakaway battery remote monitor that is located within the vehicle. This is recommended by road authorities in most states.



If a TrailSafe has been fit to your vehicle, you may opt for the Trailcheck, which connects wirelessly via Bluetooth. In this case, the use of pin 9 would not be required. If the Trailcheck is unsuitable, a wired 12VDC battery voltage level indicator, such as 08160 from Vanline Electronics, can be used with reduced functionality.

With an RV Electronics Breaksafe, an RM6000 should be used.

- 10. Earth return:** Wired to the earth of tow vehicle, preferably to battery
- 11. Spare:** This is free for future additions unless used on your van by request.
- 12. Ignition sensing wire:** This is an ignition fed signal that activates the 12-volt circuit in the fridge automatically as well as letting some appliances in the van know the engine is on (if requested). For an automatic/electronic absorption (3-way) fridge to operate on 12-volt, this pin must have 12-volt power. This needs to be sourced from an ignition source so that it is live only when the engine is running. Positive pressure fan systems, auto retraction systems for satellites, steps and some DC-DC chargers will use this line also.



Anderson Plugs

Grey Anderson Plug:

Your RV will be fitted with a Grey Anderson plug next to the 12-pin plug. This is used to charge the house battery from the car's alternator. This is recommended to be supplied through an ignition switched isolating device. Minimum 8mm² cable is to be used, running through a 30 amp fuse.

Please note, some modern 4x4 have a Variable Voltage or Temperature Compensating alternator (smart alternators), which alter their output depending on the requirements of the load. If the tow vehicle is fit with this technology, it is recommended that a DC to DC charger is installed. This charger should not be greater than 27amps.

A fully compatible DC-DC charger, the MiniBoost, is available; speak with your RV Dealer for more information.



If a third-party DC-DC charger is going to be used please contact us before purchase as not all are compatible. If already fit to the car, contact us with the details of the existing installation to find out if it will be compatible.

Red Anderson Plug:

Your RV may also be fitted with a Red Anderson plug. This is used to power AL-KO Electronic Stability Control. It should be wired directly to the towing vehicle's battery using a 6mm cable through a 30amp fuse or circuit breaker.

Please note: AL-KO ESC is not a standard fitment; your RV plans/specifications will determine if the Red Anderson plug is required. If you are getting stability control and are unsure of the brand, check with your dealer as only AL-KO ESC requires additional wiring.

When wiring a car for use with an RV that has ALKO ESC installed, a compatible brake controller must be used.

For an up to date, comprehensive list of compatible controllers, please check the AL-KO ESC technical page:

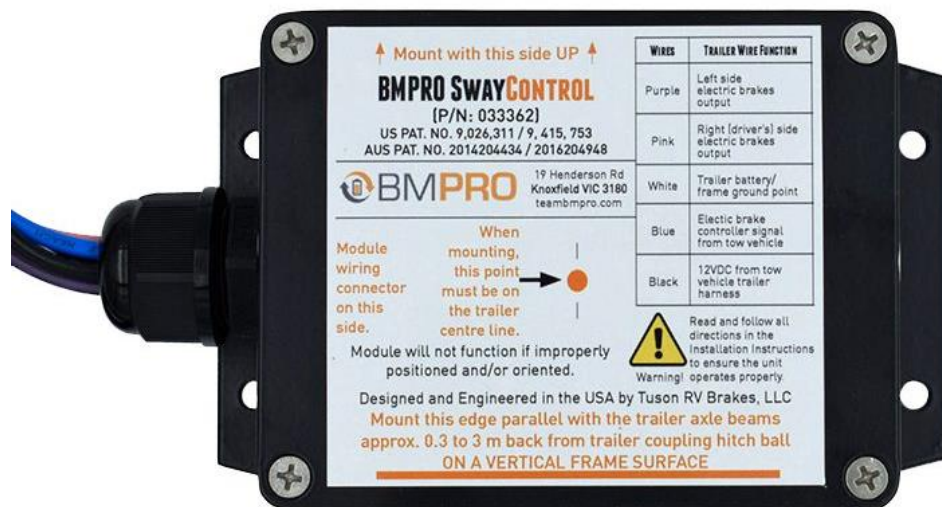
<https://www.alko.com.au/al-ko-esc-technical-literature/>

Sway Controllers

BMPRO SwayControl

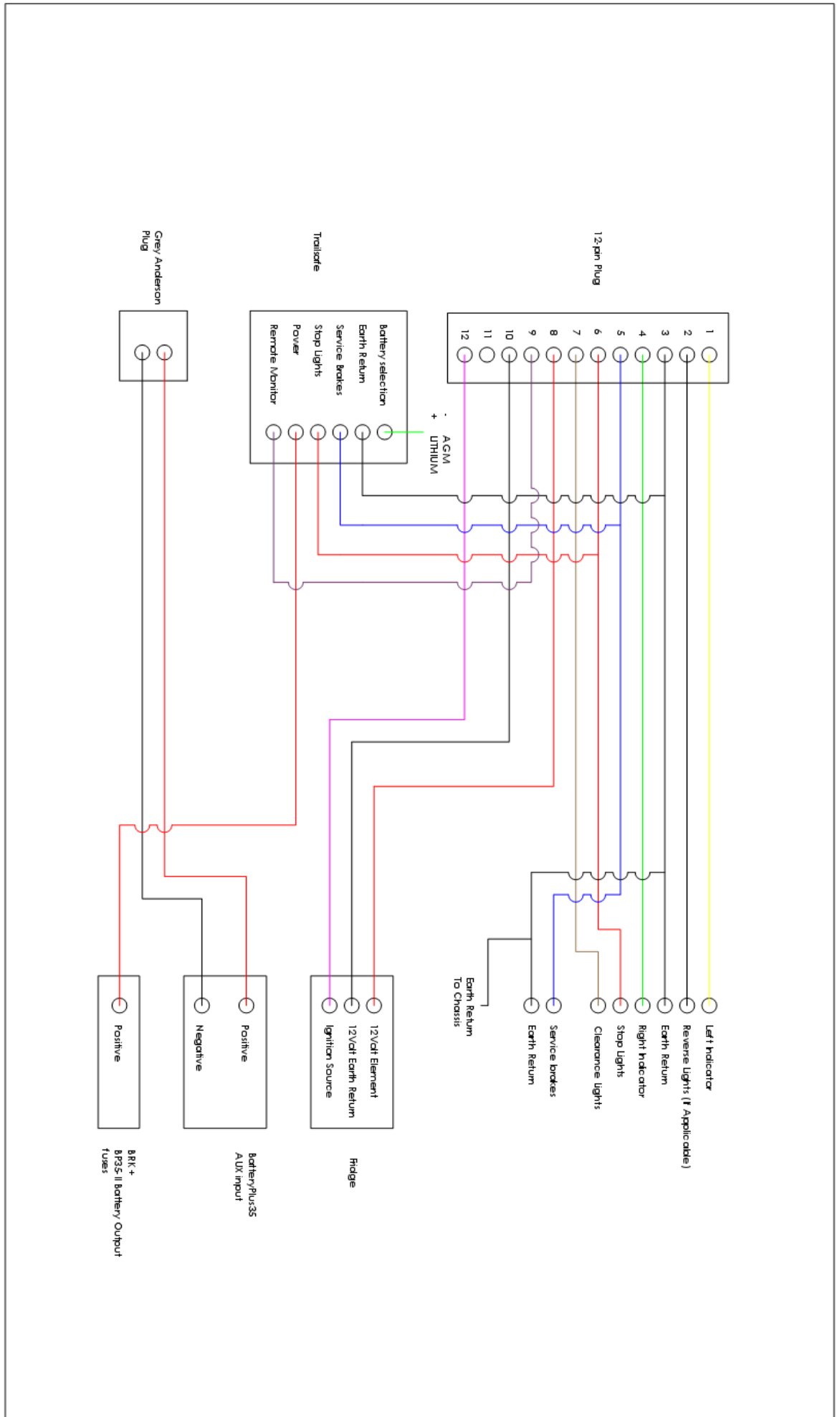
The BMPRO SwayControl draws its power from the house battery. There is no additional wiring required from the car. BMPRO SwayControl switches itself on when it detects brake activation, and the status light at the front of the van registers green. This should be checked when hitching for travel.

It will turn itself off after not detecting movement for some time.



AL-KO ESC

AL-KO Stability control is powered by the red Anderson plug. When connected, it is switched on. During travel on very rough roads, it can be advisable to disconnect this to deactivate the sway controller. Refer to the AL-KO website for more information on this and a list of compatible brake controllers.



PART NUMBER	N/A		
DESCRIPTION	Trailer Plug Wiring BP35-11 / Trailsafe		
CUSTOMER	DATE:	REVISION:	
CES	25/06/20	A	
DRAWN:	SCALE AT A4:	UNITS:	
JASON ARTER	N/A	N/A	



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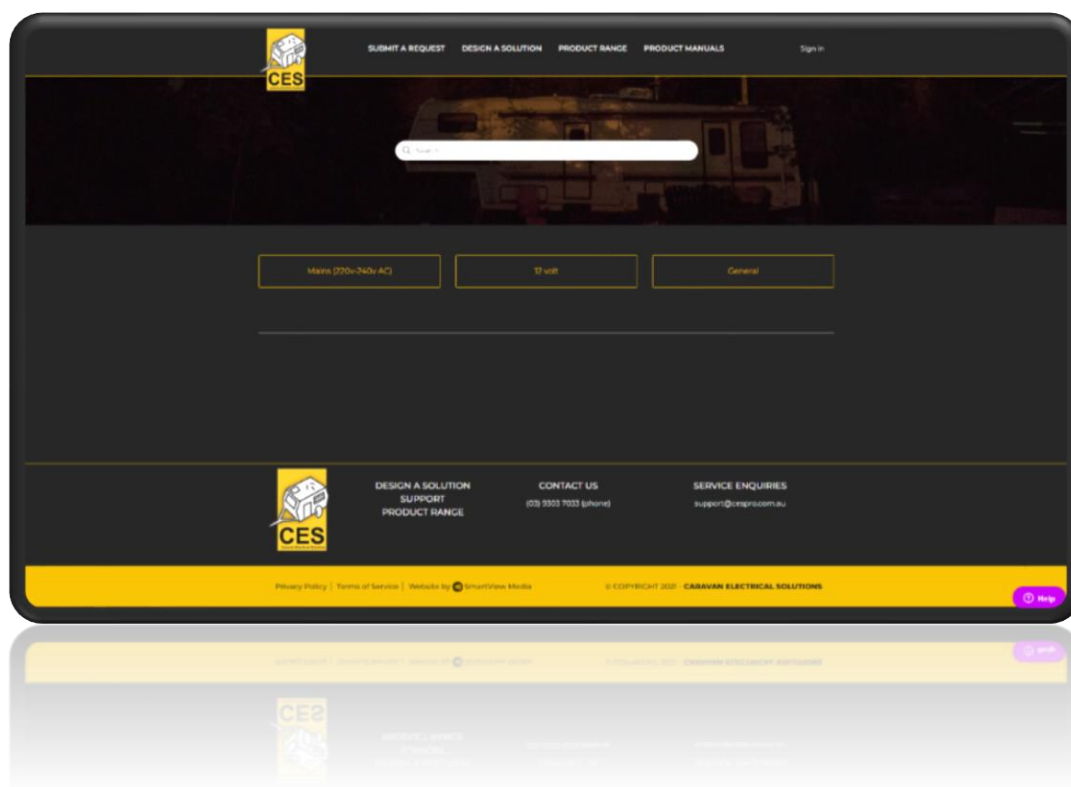
When you pick up your van

Remember to go to our website where you can view usage guides, how-to and troubleshooting guides, along with diagrams and manuals.

cespro.com.au

On our Help centre, you can access the manuals for your Battery Management System direct from the website, anywhere you have internet.

You can even download or print them to keep them on hand when you're offline.



For assistance with the wiring of your car or if you have any questions about our systems, please contact our friendly support team.

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