ARB CAN Connect

USER GUIDE

Revision Date: July 1, 2024

Features

CAN bus signal listener - Modern vehicles contain a lot of advanced electronics and control most of their lighting using a wired network called CAN bus. It is convenient and often necessary to listen/read the CAN bus in order to reliably control driving lights and other aftermarket lighting such as bull bar parker lights, fog lights, DRLs (Daytime Running Lights), indicators lights, and also reverse lights and brake lights.

12V switched outputs - The ARB CAN Connect is plugged into a vehicle CAN bus where it will listen for pre-programmed signals associated with the vehicles lighting. It is equipped with 11 x 12V outputs that are capable of powering 12V low wattage lights such as LED parkers and indicators, or a 12V signal for higher wattage driving lights. Refer to the specification table above for individual output rating.

High beam signal - The included wiring harness provides the following 12V output signals. It plugs directly into the ARB driving light wiring harness high beam connector.

- High beam,
- Parker (clearance).

Bull bar wiring harness (sold separately) - Compatible bull bar wiring harnesses are available that plug directly into bar light clusters, providing the following output signals:

- Parker,
- DRL,
- Left Indicators (including hazards),
- Right Indicators (including hazards),
- Fog,
- Brake,
- Reverse.

Vehicle specific adapter harness (sold separately) - Connection to a CAN bus requires the use of a vehicle specific ARB CAN bus adaptor wiring harness (sold separately). The adaptor harnesses have been developed to provide easy, safe and reliable connection to the vehicle CAN bus. Please contact your nearest ARB store for further information.

Vehicle selection using smartphone app – The ARB CAN Connect **MUST** be configured with the relevant signals for each vehicle application using the ARB CAN Connect App. Search for “ARB CAN Connect” on Apple App Store or Google Play. Download and install the app, it will guide you through selecting your vehicle application.

Very low power consumption – The ARB CAN Connect operates in sync with the vehicle CAN bus, active and responsive when the CAN bus is active, and asleep when the CAN bus is inactive shortly after a vehicle is turned off. The inactive current draw exceeds OEM quiescent current standards, virtually eliminating battery drain.

Indicator/turn signal Fault detection - The device contains an indicator tell-tail feature and will beep when any of the connected ARB indicator lamps are faulty. For non-ARB lamp installation, if necessary, this feature can be disabled with the ARB CAN Connect App.

For installation of non-ARB products, the current limits listed in the specification table must be followed.

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Specifications

Supply Voltage: 9 – 16V DC	Plug and play CAN bus vehicle connection*2
Max Current Draw: 12A	CAN bus listen only mode (no transmission)
Standby Current Draw: 0.1mA	Vehicle selection using smartphone App
Input reverse polarity protection	LED status indicator:
Output over current protection	- Power only (not receiving CAN): Solid
11 Switched Outputs for ARB Bull Bar lighting.	- Receiving CAN messages: Flash @ 5Hz
Switched Output Current Ratings*1:	- Identifying CAN signals: Flash @ 1Hz
- Brake: 0.5A	
- Reverse: 0.5A	Dimensions: 91mm x 75mm x 21mm
- Parker: 1.0A	Operating Temperature: 0 – 40°C
- Spare Output 1 (future function): 0.5A	
- Spare Output 2 (future function): 0.5A	
- High Beam: 0.5A	
- LINXBUS: 0.5A	
- Left Indicator: 1.8A	
- Right Indicator: 1.8A	
- DRL: 1.8A	
- Fog: 1.8A	

*1 for connection with non-ARB products, observe the individual output current ratings

*2 Vehicle specific CAN bus adapter harness required.

Supplied Parts

- ARB CAN Connect module
- ARB CAN Connect wiring harness

Module Installation

WARNINGS

The ARB CAN Connect must be installed in a clean and dry environment, e.g. inside the vehicle cabin. The device is not suitable for outside installation.

Ensure all electrical connectors and wiring loom are secured away from sharp edges, moving parts and hot surfaces.

The module should be installed in the vehicle cabin within reach of the CAN bus connection point. This connection point varies with each vehicle application and as such the ideal location is described in the fitting instructions of each vehicle specific ARB CAN bus adaptor wiring harness (sold separately). Follow and complete those instructions first.

The module should be secured to the vehicle harness using cable ties, or though its mounting tabs using fasteners, to avoid vibration and rattles.

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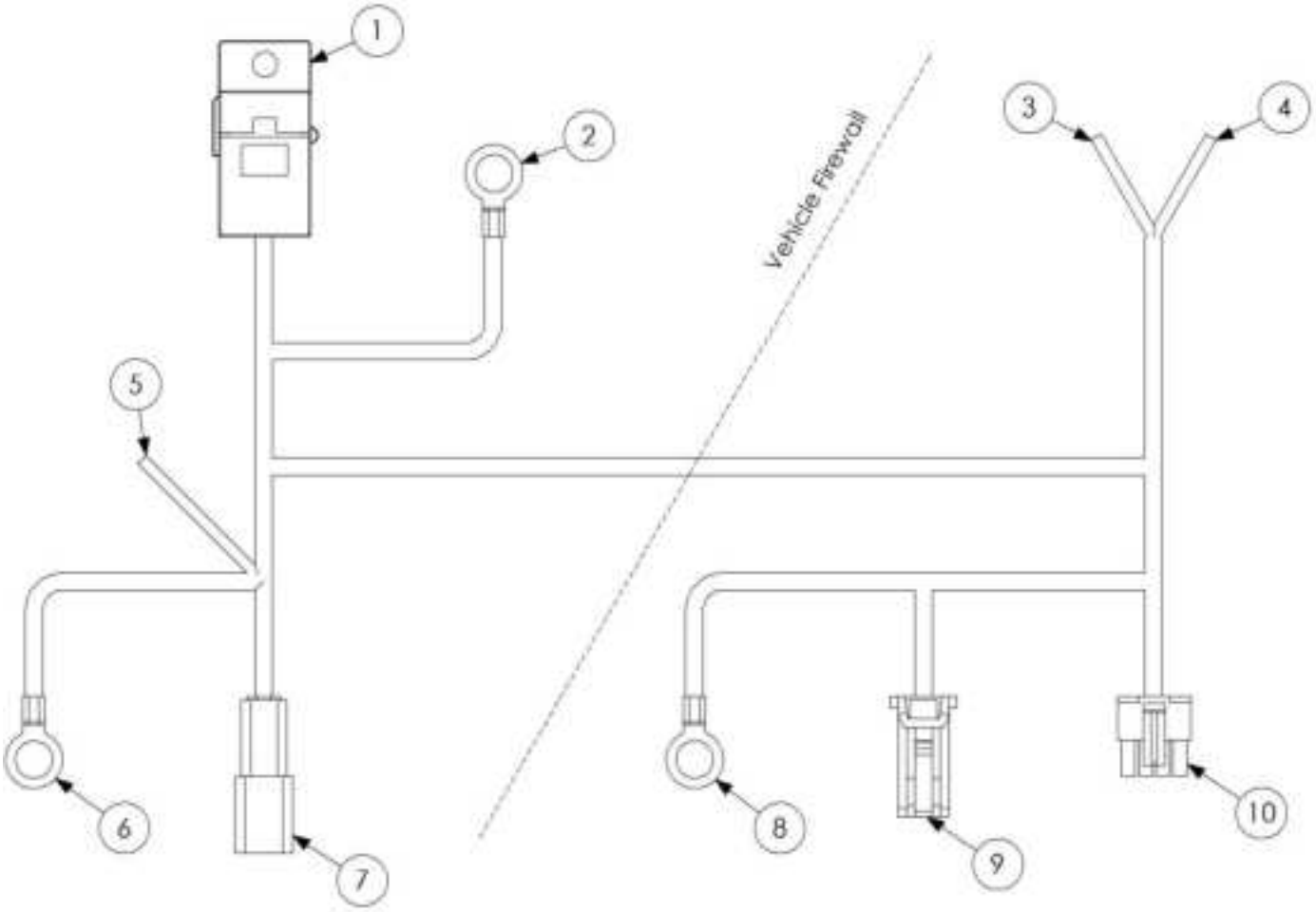
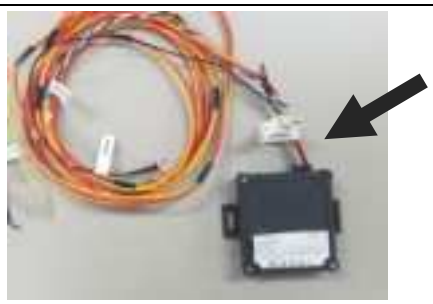
Harness Installation

This diagram outlines the key connection in the harness labelled from ① to ⑩ to aid with these instructions.



1. Disconnect the vehicle battery, negative and then positive terminal. 2. The fuse holder ① and driving light high beam ⑦ (labelled DL HB Connector)are not housed for ease of passing the harness through the firewall. Use a plastic tube and pass it from the engine bay through the vehicle firewall grommet into the cabin. 3. From inside the vehicle, tape fuse holder ① terminal and high beam ⑦ terminal onto the plastic pipe and pull the pipe with wires into the engine bay.	
4. Inside the vehicle cabin route and connect the 8 pin plug ⑩ into the ARB CAN Connect module.	

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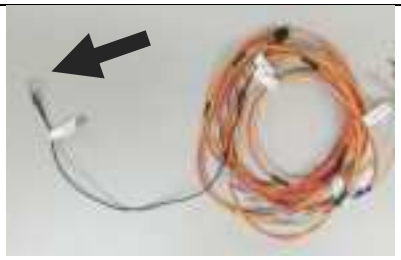
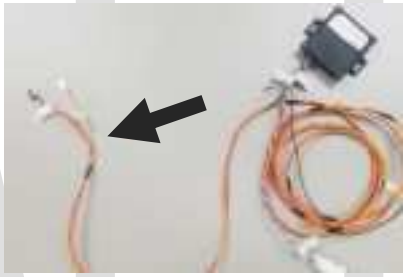
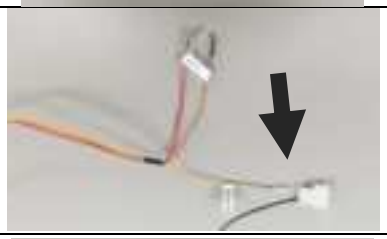
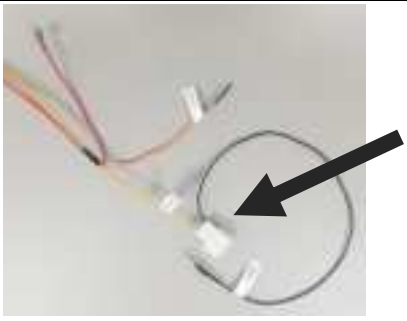
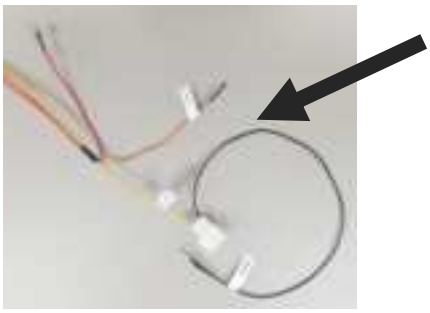
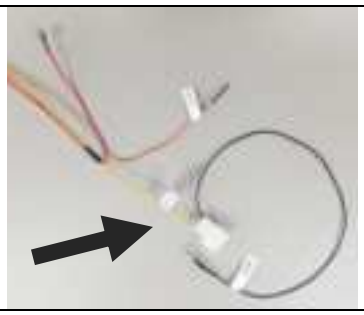
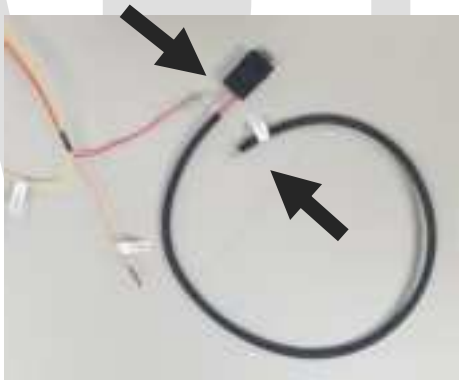
5. As described in the ARB CAN bus adaptor harness instructions (various), connect the Ground ⑧ onto a suitable body ground point. 6. Connect the CAN bus Plug & Play connector ⑨ into the ARB CAN bus adaptor harness (sold separately).	 
7. The two wires labelled LINX ③ and Spare1 ④ are used for other applications. Refer to appropriate instructions for use of these wires. 8. Cable tie and secure the remaining harness between the module and the firewall.	
9. Route all components in the engine bay to the vehicle battery and ARB driving light loom (sold separately). NOTE: Spare terminals are supplied for these wires. The wire length can be reduced for a neater installation.	
10. Locate the supplied loom with 2-way connector and ring terminal.	
11. Plug the DL HB terminal into the 2-way connector housing ⑦.	
12. For driving light applications, connect the DL HB Connector ⑦ into the ARB driving light loom.	

13. For driving light applications with parker light signal, join the DL Parker wire ⑤ to the ARB driving light loom.	
14. Route and connect the Ground ⑥ onto a suitable body ground point in the engine bay.	
15. Locate the supplied loom with fuse holder and ring terminal.	
16. Connect fuse terminal into fuse holder ①. The fuse will require removal for this. 17. Connect the Battery 12V eye terminal ② onto the battery positive terminal. 18. Find suitable mounting location for the fuse holder and mounting accordingly.	
19. Take the supplied Ø7mm corrugated tube and insert engine bay wires into the tube. 20. Cable tie and secure the harness in the engine bay. 21. Reconnect the vehicle battery, positive and then negative terminals.	

Vehicle Selection with ARB CAN Connect App

IMPORTANT!

This vehicle selection step must be completed during every installation.

Using a smartphone or tablet, download and install the “ARB CAN Connect” app from the Apple App Store or Google Play.

Turn the vehicle ignition on and the ARB CAN Connect should also turn on, and the status LED should be flashing.

Open the ARB CAN Connect app and follow the app instructions to configure ARB CAN Connect for your vehicle. Note that the module may beep during configuration.

Test the installation and vehicle selection process by toggling ON and OFF your high beams, parking lights, etc and checking that any accessories connected to ARB CAN Connect, such as driving lights or bull bar parker lights, are switching ON and OFF correctly.

Trouble Shooting

The ARB CAN Connect has a green status LED. The LED behaviour can be used for troubleshooting as follows.

LED behaviour	Status	Solutions
LED Solid ON	Indicates that power is connected but a CAN bus is not detected.	Check that the vehicle ignition ON for the vehicle CAN bus to be active. Check the installation of the CAN bus adaptor harness, and CAN bus plug and play connector.
Fast Flash (approx. 5 per sec)	Indicates that the CAN bus is connected and active, but the CAN signals are unknown.	If you expect the connected accessories (such as driving lights) to be ON but they aren’t, then the vehicle selection with ARB CAN Connect App may not have been completed successfully. Complete or retry the vehicle selection.
Slow Flash (approx. 1 per sec)	Indicates the known CAN signals such as driving lights ON are being received.	This usually mean everything should be working correctly.

Why is the ARB CAN Connect beeping?

The ARB CAN Connect module features a buzzer that beeps to alert the driver of indicator faults (also known as tell-tale). Check all vehicle and ARB indicator lamps for faults and rectify accordingly. The ARB Bull bar loom must be installed as per instructions for this system to work correctly, please check loom installation against instructions.

Warranty

Refer to arb.com.au for the “ARB Products and ARB Servies Warranty Policy”.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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Compliance Information

This device complies with international standards CE, UKCA, RCM, FCC, UN-ECE R10, RoHS, REACH

USA

FCC Statement
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution
Changes or modifications not expressly approved by ARB Corporation for compliance could void the user's authority to operate the equipment.

EU DECLARATION OF CONFORMITY

1. This declaration relates to this product:
   - 1.1 Product name: ARB CAN Connect
   - 1.2 Model No.: CANDEC

2. Manufacturer
   - 2.1 Company: ARB Corporation Limited
   - 2.2 Address: 42-44 Garden St, Kilsyth, Victoria, Australia

3. This declaration of conformity is issued under the sole responsibility of the manufacturer.

4. The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

4.1 Directives	4.2 Applied Harmonized Standards
2014/53/EU	ETSI EN 300 328 V2.2.2: 2019
2014/30/EU	ETSI EN 301 489-17 V3.2.4: 2019
2014/35/EU	ETSI EN 301 489-1 V2.2.3: 2019
	EN 62368-1:2014+A11:2017
	IEC 62368-1:2014(Second Edition)

5. The technical file for this product is kept at the manufacturer’s address listed above.

6. Signed for and on behalf of: ARB Corporation Ltd
   - 6.1 Signature

   - 6.2 Name: John Clark
   - 6.3 Position: General Manager of Engineering
   - 6.4 Place and date of issue: Kilsyth, May 2023

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.