

# **ULTIMATE** *TOW* **ELECTRIC** *BRAKE CONTROLLER*

## **Installation & Operating Instructions**



### **For peace of mind and ultimate tow control, tow with the Bendix Ultimate Tow Electric Brake Controller!**

When the road ahead is all you can think about, place your trust in the Bendix Ultimate Tow Electric Brake Controller. The Ultimate Tow uses its own unique braking algorithm which provides total control, comfort, and reliability even in the toughest of Australian conditions.

Bendix's remote head is compact and easy to install. With easy installation, your unit can be installed with just one hole, the remote head can fit in the smallest of knock out panels in your vehicle. It features a slim-line, OEM look with a built-in LED.

The Ultimate Tow allows you to adjust your braking force and operate the override function with ease. If you are worried about space behind the dash, Bendix has you covered, the Ultimate Tow's control module can be fitted up to 1.28m away from the remote head mounted in your dash. Mounting the control module is as simple as cable-tying it to a harness or mounting it with the screws provided.

Manufactured with a rugged cast alloy enclosure, the Ultimate Tow controller is dust and moisture resistant so that even in the harshest braking conditions heat is dissipated efficiently so you can keep going.

The true innovation lays within the operating systems of the Ultimate Tow controller. Designed, engineered, and tested in Australia for Australian driving conditions, it represents a quantum leap in brake control technology.

Your new Ultimate Tow controller comes fully programmed and tested from an Australian based facility. Boasting a 3-year warranty, you simply need to wire it up and hit the road, worry free.

### **FEATURES:**

- **Easy install**
- **Compact remote head to fit in the smallest knock out panels**
- **OEM-style dial with built-in LED**
- **Open circuit and trailer disconnection indicator**
- **Compact & rugged aluminium case for heat dissipation**
- **3-year warranty**
- **ALKO ESC Compatible**

# **ULTIMATE** **TOW** **ELECTRIC** **BRAKE CONTROLLER**



## IN THE BOX:

- 1 × Bendix Ultimate Tow Electric Brake Controller



- 2 × Nylon fabric fastening hook and loop straps



- 1 × Control dial



- 1 × Decal sheet (with 4 dash decal sizes)



- 1 × Control dial lead



- 1 × Instruction manual



- 1 × Fuse holder assembly



- 1 × Protection blocking diode

- 1 × Double-sided adhesive EVA foam mounting pad (78 × 61mm)

- 2 × Self-tapping mounting screws



- 1 × 15A blade fuse

# **ULTIMATE** **TOW** **ELECTRIC** **BRAKE CONTROLLER**

## Specifications

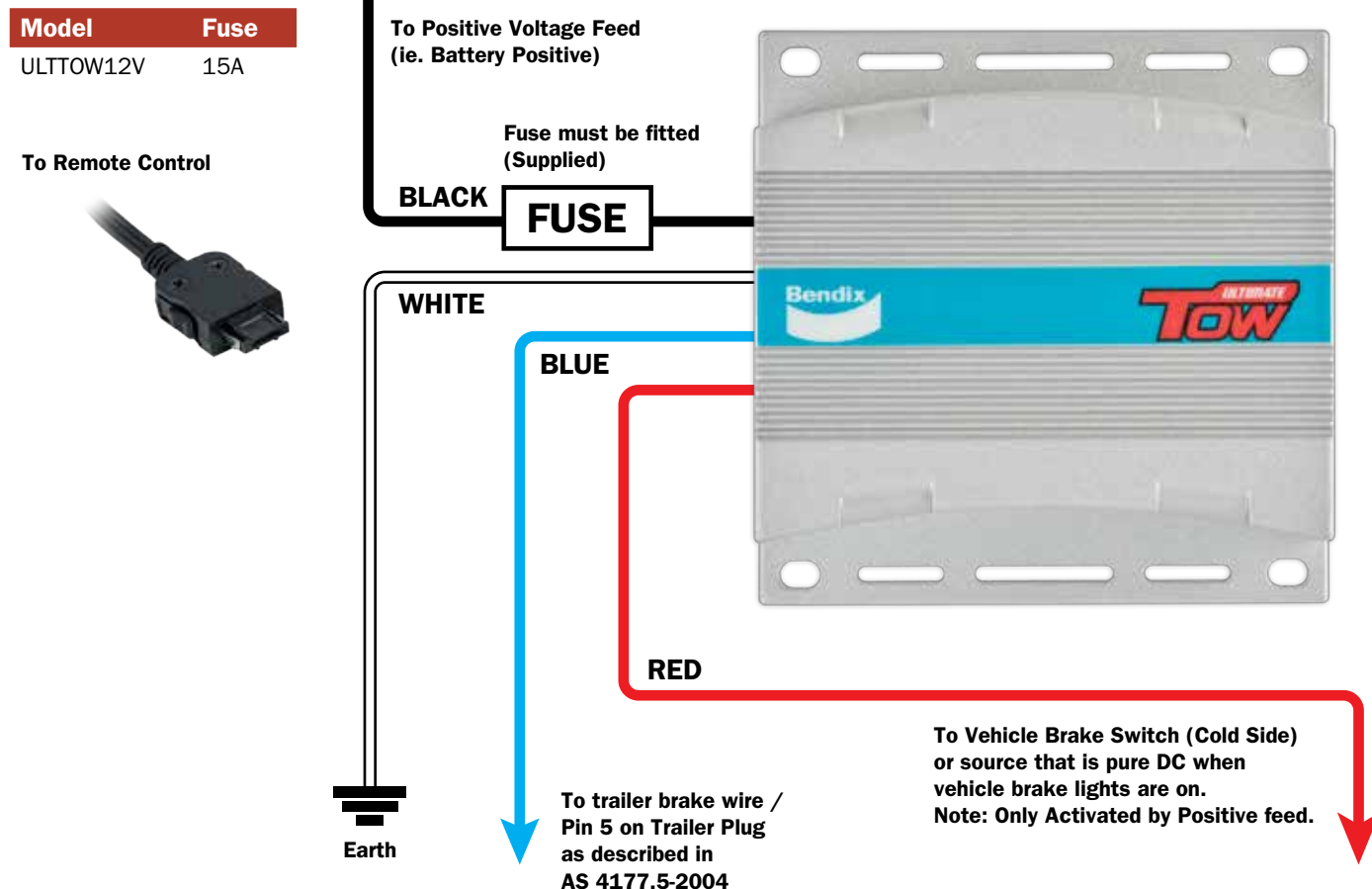
Minimum Input Voltage	9 VDC
Nominal Input Voltage	12 VDC
Maximum Input Voltage	15 VDC
Suitable For 12V Trailer Brakes	Yes
No Current Load	30 mA
Maximum Load	2 Axle /14A avg
Weight	200g
Dimensions	L x W x H: 30mm x 57mm x 90mm

Note: Ultimate Tow is load activated and cannot be tested without load. At no load, the output reading of high voltage will register. The output voltage is PULSED, so it cannot be measured with a voltmeter or test light.

## INSTALLATION:

1. Disconnect the vehicle's NEGATIVE battery terminal.
2. Determine a suitable mounting location inside the cabin.
3. Hold the brake controller in the selected position and mark the hole location through the holes in the flanges of the unit.
4. Using a suitable drill bit, drill holes in the marked locations.
5. Secure the brake controller in position with self-tapping screws. Take care to not strip the holes by over-tightening the screws or use the nylon fabric fastening hook and loop straps, or double-sided adhesive pad to secure.
6. Drill a hole for the 8.5mm remote control shaft in a suitably sized mounting panel in the dash with a wall thickness of less than 4mm.
7. Affix decal, washer and retaining nut over shaft and tighten. Turn shaft fully counter-clockwise and affix the dial on the shaft with firm, even pressure with the indicator facing the minimum position.
8. Plug the remote control lead into the brake controller.
9. Connect brake wiring as per wiring instructions and follow Set-up and Operation procedures.
10. Reconnect the NEGATIVE battery terminal.

## WIRING DIAGRAM

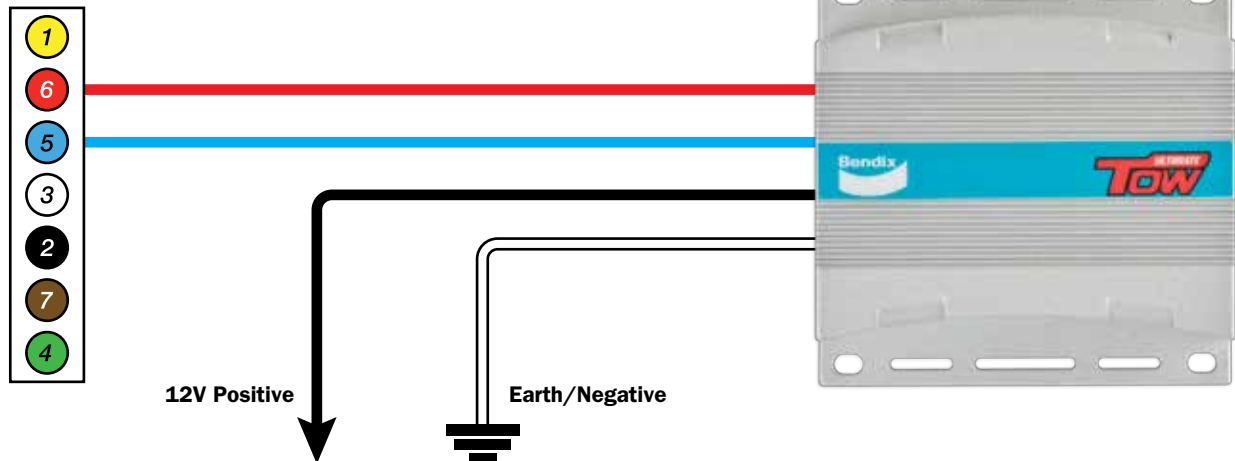


**Note: If you cannot attach to the vehicle brake switch. Follow the alternative wiring diagrams.**

## ALTERNATIVE WIRING DIAGRAM: FOR CONNECTIONS IN VEHICLES WITH NO ASSISTED SAFETY SYSTEMS

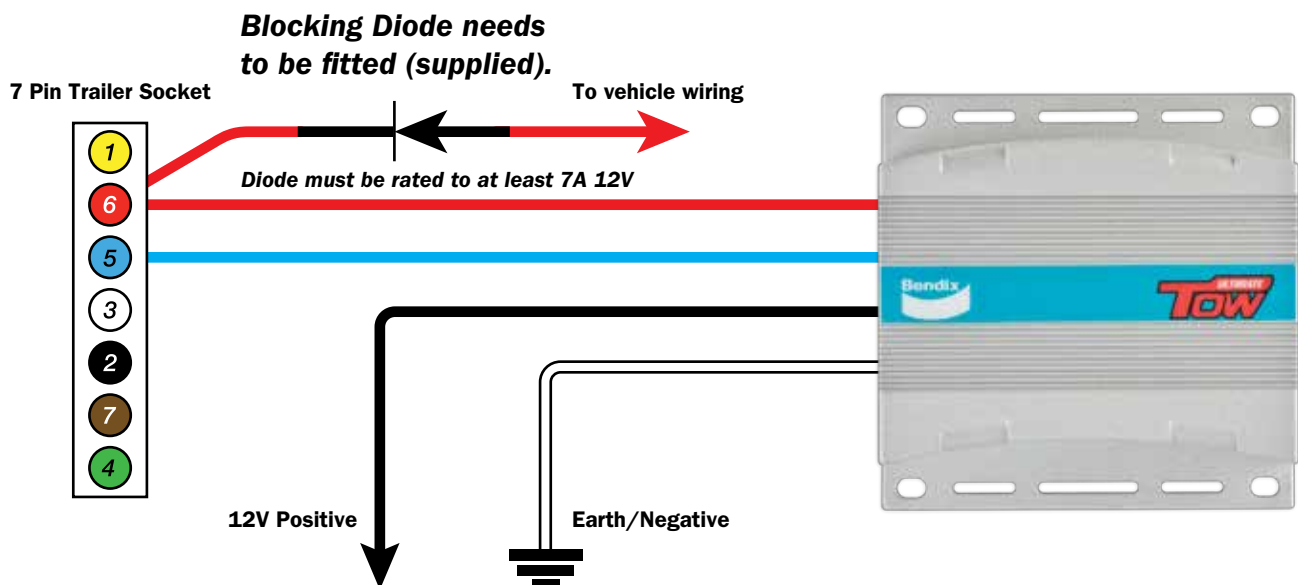
When computerized systems prevent attaching the red wire to the brake switch directly. Please follow the appropriate wiring diagram below for your situation.

7 Pin Trailer Socket



**Note: Not all wiring shown. Do not alter wires that are not shown. Wiring must be connected as per AS 4177.5-2004.**

## ALTERNATIVE WIRING DIAGRAM: FOR CONNECTIONS TO VEHICLES WITH ASSISTED SAFETY SYSTEMS



**Note: Not all wiring shown. Do not alter wires that are not shown. Wiring must be connected as per AS 4177.5-2004.**

### Wire Guide

White Wire	Negative Battery
Blue Wire	Brake
Black Wire	Positive Battery Fuse : 12V 20A / 24V 15A
Red Wire	Brake Switch

- Please note: an external fuse must be fitted (not supplied).
- The control unit is activated by a positive feed brake switch only. (Please check the polarity of your vehicles brake switch before connection)



**PLEASE ENSURE THAT A FUSE IS FITTED ON THE BLACK WIRE (POSITIVE BATTERY)  
(Optionally a 20A fuse may also be fitted to the BLUE brake wire)**

**The Remote Brake Controller has four (4) coloured wires- BLACK, RED, BLUE and WHITE.**

- The BLACK wire is the positive voltage power supply line. A fuse must be fitted (refer to table above for size).
- The RED wire must be connected to a point that receives a DC Voltage equal to that of the supply voltage when the brakes are on. Generally, for most vehicles we strongly recommend that you connect the RED wire to the cold side of the brake light switch. If this is not an option for your vehicle, then any point that receives a straight DC voltage should be applicable. For example- top rear tail light, brake light relay or the wire connecting to the stop lights on the trailer plug.
- The BLUE brake wire must be connected directly to the trailer brake wire.
- The WHITE ground wire must be connected to a grounded metal part of the dashboard, vehicle fire wall or directly to the negative battery terminal.

NOTE: Vehicles that use the same globe/supply for rear and tail lights cannot have the RED wire to the stop light/tail lights directly. Please use the alternatives listed above.



**Important:** A brake control unit that is not properly grounded may operate intermittently or not at all.

- Make sure all connections are secure.
- Do not connect the Black "BATTERY" wire to the fuse panel or tie into any accessory wiring. Connecting to the existing wiring may damage the vehicles wiring and cause trailer brake failure.
- Do not reverse Black "BATTERY" wire and White "GROUND" connections. Even a momentary incorrect connection can damage the brake control unit.

**In the unlikely event of RF Interference, you may wish to try one of the following :**

1. Refrain from using the vehicle chassis as a conduit for the earth return for the brake coils. Facilitate a separate ground wire. (See point 3 below)
2. Mount the brake controller and route all cables for the input and output of the brake controller away from antennas and RF Equipment.
3. Use a short as possible bifilar (or twisted) wire to feed the Ultimate Tow and brake coils ( both active and return).
4. Add a ferrite clamp over the RED, BLUE, BLACK & WHITE wires.

**DASH LABEL MOUNTING INSTRUCTIONS:**

1

Installation on  
standard blank  
switch plate



2

Drill 1 x 8.5mm hole



3

Apply dash sticker



4

Insert shaft of dial and  
fasten with supplied  
nut until tight



5

Press on dial with  
firm even pressure



# ULTIMATE **TOW** ELECTRIC BRAKE CONTROLLER

## SET-UP & OPERATION

### Setting the braking force:

To set the brake intensity, simply rotate the dial until the required braking level is achieved. A clockwise dial rotation will increase the braking and a counter-clockwise will decrease it.




### Using the override feature:

To activate the override function, simply push on the adjustment dial. Releasing the dial disables the function.

NOTE: when the override is active, the braking force is still determined by the dial position.

The override function works to apply the trailer brakes without applying the vehicle brakes. This feature can be used when the tow vehicle begins to sway or enter a tail wag situation. Please consult towing professionals or towing training schools for advice on how to use this feature correctly. In the event of an emergency situation, do not rely on the override button for additional braking force. If additional braking force is required turn the dial clockwise and return your hand to the wheel in a quick and timely manner.

## LED STATUS INDICATION

LED Indication	Status
	<b>BLUE (Constant On)</b> Trailer connected / brakes connected / all systems OK
	<b>BLUE (Flashing)</b> Either: <ul style="list-style-type: none"><li>• Brake pedal pressed, controller actively braking</li><li>• Override has been pressed</li></ul> Note: Unit will flash 3-4 times after pressing the brake or using the override then return to solid state.
	<b>OFF</b> No power or trailer is disconnected from vehicle

## WARRANTY CONDITIONS:

This product comes with a 3 year warranty.

The customer is entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage.

The customer is also entitled to have the products repaired or replaced if the products fail to be of acceptable quality and the failure does not amount to a major failure.

Bendix warrants that its products will, under normal use and service, be free of defects in material and workmanship for a period of 3 years from the date of the original purchase by the customer as marked on the customer's original invoice.

Please refer to our website for full warranty and return information which can be found at [www.bendix.com.au](http://www.bendix.com.au)

FOR MORE INFORMATION ABOUT THESE PRODUCTS  
Freecall the Bendix Brake Advice Centre on  
1800 819 666 (8am-5pm Monday to Friday EST)  
or +61 3 5327 0211 from overseas.  
Visit our website [bendix.com.au](http://bendix.com.au) / [bendix.co.nz](http://bendix.co.nz) or  
email us, [brakeadvicecentre@bendix.com.au](mailto:brakeadvicecentre@bendix.com.au)

*Put your foot down  
with confidence™*

