ELBC 2000 Electric Brake Controller
Hard Wired

Elecbrakes is a proportional electric brake controller. Mounting to the trailer the ELBC 2000 provides the latest in electric brake controller technology. Connecting to the in-vehicle controller via Bluetooth Elecbrakes removes the need to hard wire the tow vehicle with a brake controller. Multiple braking programs allows the driver to set up brake responses according to change in load or driving conditions. Fully encased in resin the ELBC 2000 electronics are water, dust and shock proof.

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Parts
01. Mounting Orientation

Elecbrakes can be mounted in various locations on the trailer. When mounting, allow access to the trailer wiring loom or plug to connect to the electrical circuits. Ensure that the unit is mounted on a flat surface avoiding inclines.

- Side face of chassis rail or draw bar
- Top Face of chassis rail or draw bar
- Bottom face of chassis rail or draw bar

Avoid mounting on inclines.
02. Attaching the Unit to the Trailer

What you’ll need:
- Drill
- 2-3mm drill bit
- No. 2 Phillips driver
- Tape measure
- Marker
- Lubricant

The leader is used to connect to the trailer loom or plug by splicing wires or joining in the trailers plug. Measure the length of the leader to gauge where to mount the unit. Use template provided to mark centre of holes required.

What you’ll need:
- Drill
- 2-3mm drill bit
- No. 2 Phillips driver
- Tape measure
- Marker
- Lubricant

1. Use template provided to mark centre of holes required
2. Pre-drill holes using 2–3 mm drill
3. Lubricate screws before tightening
4. Place unit in correct location and attach with self-taping screws. No.2 Phillips driver bit and a cordless drill
### 7 Pin Flat Plug and Socket

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Circuit</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Left-hand turn</td>
<td>Yellow</td>
</tr>
<tr>
<td>2</td>
<td>Reversing signal</td>
<td>Black</td>
</tr>
<tr>
<td>3</td>
<td>Earth return</td>
<td>White</td>
</tr>
<tr>
<td>4</td>
<td>Right-hand turn</td>
<td>Green</td>
</tr>
<tr>
<td>5</td>
<td>Service brakes</td>
<td>Blue</td>
</tr>
<tr>
<td>6</td>
<td>Stop lamps</td>
<td>Red</td>
</tr>
<tr>
<td>7</td>
<td>Rear lamps, clearance &amp; side marker lamps</td>
<td>Brown</td>
</tr>
</tbody>
</table>

### 12 Pin Flat Plug and Socket

<table>
<thead>
<tr>
<th>Pin No.</th>
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<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>6</td>
<td>Stop lamps</td>
<td>Red</td>
</tr>
<tr>
<td>7</td>
<td>Rear lamps, clearance &amp; side marker lamps</td>
<td>Brown</td>
</tr>
<tr>
<td>8</td>
<td>Battery charger/winch</td>
<td>Orange</td>
</tr>
<tr>
<td>9</td>
<td>Auxiliaries/battery lead</td>
<td>Pink</td>
</tr>
<tr>
<td>10</td>
<td>Earth return</td>
<td>White</td>
</tr>
<tr>
<td>11</td>
<td>Rear fog lamp</td>
<td>Grey</td>
</tr>
<tr>
<td>12</td>
<td>Auxiliaries</td>
<td>Violet</td>
</tr>
</tbody>
</table>

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**Trailer Plug Wiring Guides**

- 7 Pin Plug
- 7 Pin Socket
- 12 Pin Plug
- 12 Pin Socket

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**User guide**(10)

**elecbrakes.com**(11)
## 7 Pin Large Round Plug and Socket

<table>
<thead>
<tr>
<th>Pin No.</th>
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<tbody>
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</tr>
<tr>
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<td>Brown</td>
</tr>
</tbody>
</table>

![7 Pin Plug](image1.png)

![7 Pin Socket](image2.png)

### Cable entry view

## 7 Pin Small Round Plug and Socket

<table>
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<tr>
<td>7</td>
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<td>Brown</td>
</tr>
</tbody>
</table>

![7 Pin Plug](image3.png)

![7 Pin Socket](image4.png)

### Cable entry view
Single or Dual Axle Trailers to 4.5 Tonne ATM

Elecbrakes can be wired into the trailers electrical circuit by splicing into the loom or joining the wires in the trailer plug.

Elecbrakes when connected to the trailers electrical circuit draws power from multiple circuits.

Pin 7 - Tail Light
Pin 6 - Brake Light
Pin 2 - Auxiliary (optional)

Wiring Notes

Auxiliary Power is optional.
Elecbrakes can be connected to any 12v or 24v constant power source. This could be via Pin 2 or an Andersen plug at a minimum of 12v power.
Breakaway systems can be connected to the service break circuit.
When connecting to the service brake wire (Pin 5 - blue) disengage the wire at the trailer plug.

Elecbrakes can be connected to the service break circuit.

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Breakaway systems can be connected to the service break circuit.
When connecting to the service brake wire (Pin 5 - blue) disengage the wire at the trailer plug.

Tri Axle Trailers to 4.5 Tonne

Elecbrakes will operate on trailers with three axles all wheels braked when the following power option is provided.
Must be connected to a constant 12v or 24v power source.
Do not connect the tail lights.

Wiring Notes

Ensure if trailer is to be towed by a heavy tow vehicle that connectivity to the in-car controller is tested.
Breakaway systems can be connected to the service break circuit.
When connecting to the service brake wire (Pin 5 - blue) dis engage the wire at the trailer plug.

Wiring Notes

Single or Dual Axle Trailers to 4.5 Tonne ATM

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Tri Axle Trailers to 4.5 Tonne

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Ensure if trailer is to be towed by a heavy tow vehicle that connectivity to the in-car controller is tested.
Breakaway systems can be connected to the service break circuit.
When connecting to the service brake wire (Pin 5 - blue) dis engage the wire at the trailer plug.
The Elecbrakes unit must be connected to the trailer wiring circuits as outlined in the wiring diagram. (Page 13-14)

- Elecbrakes when wired to the trailer's circuit is connected to the service brake wire. (Pin 5)
- The service brake wire must be disconnected from the trailer plug. This will ensure that if the trailer is towed by a tow vehicle with an in-vehicle controller only Elecbrakes will activate the trailer's braking system.
- The Elecbrakes cable can be routed however it best suits your application. If routing internally through the chassis rail, ensure grommets are used to protect the cable from chaffing.
- Externally routed cabling must be secured every 600mm.

### Circuit Breakdown

<table>
<thead>
<tr>
<th>Circuit</th>
<th>Elecbrakes wire</th>
<th>Trailer wire</th>
<th>Wire gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth</td>
<td>White</td>
<td>White</td>
<td>16-14 awg</td>
</tr>
<tr>
<td>Tail lights</td>
<td>Brown</td>
<td>Brown</td>
<td>16-14 awg</td>
</tr>
<tr>
<td>Brake lights</td>
<td>Red</td>
<td>Red</td>
<td>16-14 awg</td>
</tr>
<tr>
<td>Auxiliary</td>
<td>Black</td>
<td>Black</td>
<td>16-14 awg</td>
</tr>
<tr>
<td>Service brake</td>
<td>Blue</td>
<td>Blue</td>
<td>16-14 awg</td>
</tr>
</tbody>
</table>
Elecbrakes will require the user to setup the ELBC 2000 via the app and their smartphone on the first occasion.

- The app is a friendly interface to setup the naming properties of the unit and brake programs.
- Quick changing between app pages from home screen
- Settings page allows friendly movement between brake response settings
- The Technical page provides diagnostic feedback for Elecbrakes and the user
- The Information page provides the user with Device information to include Software and Firmware versions, serial number and manufacturing date.

If a smartphone is not available for the initial set up, please refer to the Remote User manual for Elecbrakes Remote Control set up option. Please note that renaming properties are not available in setup with remote control.

Smartphone operating requirements
Apple iPhones – IOS 10 on iPhone 5S or better
Android – Version 4.3 or better

App installation
1. Type Elecbrakes into Search Field
2. Download Elecbrakes App
3. Elecbrakes Icon will display when loaded correctly
Connecting Your Smartphone With Elecbrakes

1. Connect trailer to tow vehicle and connect plug to socket.
2. Turn on headlights. Do not use auto or daylight selector option.
3. Launch the Elecbrakes App.
4. The app will open the search screen and display ‘...LOOKING FOR DEVICE’.
5. Connection secured. System state button displays a dull red.
6. Depress brake pedal – system state button displays as bright red.
7. Release foot off brake pedal – system state button displays as dull red.
1. Select the tech page icon at bottom of home screen (next to settings)

2. Headlight Voltage between >10 and <32

3. When brake pedal pressed the voltage indicator responds with voltage value.

Set Mounting Angle

Elecbrakes can be mounted facing in any direction (refer mounting orientation) but does require this angle to be confirmed in the unit for operation.

- Connect the trailer and take for a drive. On a straight road increase speed to at least 50 kph and press moderately on the brake pedal for 4–5 seconds.
- The angle the unit is mounted at will be measured, and an installation angle set.
- To confirm installation angle is set go to: Settings Page > Device > Angle
  Angle should be set between 0 – 360
- Test Brake Operation
  - Multi meter read on Blue wire at brake drums – should display voltage when brake pedal pressed
  - Raise axle and hold manual override – wheels should lock
  - Take for test drive – apply manual override to test brake functionality.
  - When manual override tapped and held brakes should progressively increase and this should be felt from the tow vehicle.

Installation is now complete
Getting Started

Home screen display
1. **Device name** – user can name the device via settings page e.g. Elecbrakes
2. **Active program** – displays which of the 5 programs is currently active in ELBC 2000
3. **Manual override** – allows the user to apply brakes to the trailer only
4. **System state button** – displays red when connected to ELBC 2000, Grey when not connected
5. **Home icon** – home page displayed
6. **Settings page** – allows user to rename device, programs, set brake response and set manual override “when tapped value”
7. **Data page** – provides technical data from the unit
8. **Info page** – provides manufacturing information, software and firmware versions and serial number

Getting Started

**Brake Programs**

Elecbrakes has 5 braking programs. All of these are found in the settings page on the app and can be selected by tapping on the name (unknown till changed) to open brake response settings.

Brake programs can be renamed and used to set brake response according to trailer load weight or driving conditions. Elecbrakes programs are default set at various brake response settings. Note: These are a guide only and should be adjusted to suit the load or driving condition that you are using each program for.

**First time set up of brake responses should be done via the settings page.**

Each Program has 4 brake responses to set up
1. **Forward Response** – Driving in normal conditions (> 50kmh)
2. **Reverse Response** – Backing trailer in reverse
3. **Minimum Response** – Driving in normal conditions at slow speed (25kmh)
4. **When Tapped** – Manual Override

All Braking responses are saved in the Elecbrakes unit. When any device connects to the Elecbrakes unit the settings will be displayed on the screen of the in-car controller.

To rename program tap on Name > Unknown and type in new name. When finished tap on done in phone keyboard to save.
Brake Program Setup

- Open program to set brake responses
- All braking responses are saved in the Elecbrakes unit.
- When any device connects to the Elecbrakes unit the settings will be displayed on the screen of the in-car controller
- All factory default brake response are a starting point and must be adjusted at set up to ensure a smooth braking response is applied at the trailer

Setting Forward Response

1. Tap on Program 1 to open
2. Select ‘Forward’ under Brake Response - Factory set at 40,
3. When driving at 50kmh apply moderate brake pressure and assess trailers braking response.
4. Increase or decrease brake response to suit conditions and weight of trailer
5. Continue adjusting response until satisfied that the trailer is responding correctly.

Elecbrakes recommend adjustments in 5-point increments initially. Finer adjustments can be made to gain a smooth braking response.

Note: Trailer should brake evenly with car in normal driving conditions

Examples:
- Car Brakes > Trailer Pushes Car > Increase Trailer Brake Response
- Car Brakes > Trailer Pulls Car > Decrease Trailer Brake Response
Setting Minimum Response

1. Select ‘Minimum’ under Brake Response – factory default is set at 10
2. When driving at 25kmh apply light brake pressure and assess trailers braking response.
3. Increase or decrease brake response to suit conditions and weight of trailer
4. Continue adjusting response until satisfied that the trailer is responding correctly.

Elecbrakes recommend adjustments in 5-point increments initially. Finer adjustments can be made to gain a smooth braking response.

Note: The minimum response should be set up to ensure a smoother braking performance. Poorly adjusted Minimum response will have the trailer brakes lock up or shudder at low speed.

Example: Driving slow in a town and the brakes lock up.
Setting Reverse Response

1. Select ‘Reverse’ under Brake Response – factory default is set at 10

2. When driving slowly in reverse apply light brake pressure and assess trailers braking response.

3. Increase or decrease brake response to suit conditions and weight of trailer

4. Continue adjusting response until satisfied that the trailer is responding correctly.

Elecbrakes recommend adjustments in 5-point increments initially. Finer adjustments can be made to gain a smooth braking response.
When Tapped Response

The When Tapped value is a manual override. Activated by tapping on the System State Button on the home screen. This brake response will activate the trailer brakes only at the set value.

1. Select ‘When Tapped’ under Override in program screen.

2. Scroll the setting to a higher value than your forward response setting. Start at 5% greater.

3. When driving tap the red button and see how the brakes respond – Button displays bright red.

Return to Settings > Device > When Tapped Adjust Response until you are satisfied that the brake response will apply the trailer brakes at a level that satisfies your needs.

Note: Typically, the manual override would be used when trailer brakes “only” need to be applied. Some scenarios where this may be applicable are:

- To apply brakes to assist in sway control
- To correct sideways shift of trailer on soft downhill ground i.e. sand
- To apply heavier braking on trailer on a steep downhill descent
Program Change

The braking program can be selected/changed without going to the settings page. To change program:
Home Screen > Swipe Screen Right > Tap Program > Selected is Highlighted

To return to home screen swipe the program screen to the left.
Program Screen > Swipe Screen Left > Home Screen displayed with new active program.

Brake Response Change

Brake response can be increased or decreased without going to settings page. To change brake response:
Home Screen > Swipe Screen Left > Increase or Decrease Scroll up or down to increase/decrease brake response – Higher the number the firmer the brake response.

The Forward Response only is changed in the active program in this action. If Minimum Response needs to be changed go to Settings Page > Program > Minimum Response and change the value.
Elecbraakes Product Warranty

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.

In addition to your rights and remedies at law, all Elecbraakes products are covered by the Elecbraakes Product Warranty. This Product Warranty is provided by:

Elecbraakes Pty Ltd
PO Box 3593
Wamberal NSW 2260
Tel: 1300 516 248
Email: warranty@elecbraakes.com

Elecbrakes Pty Ltd
PO Box 3593
Wamberal NSW 2260
Tel: 1300 516 248
Email: warranty@elecbrakes.com.au
What this Product Warranty covers
Elecbrakes warrants that products will be free from defects in materials and workmanship under normal use (as set out in our product documentation) for a period of 2 years from the original date of purchase ("Warranty Period"). This Product Warranty applies only to products purchased from Elecbrakes or our authorised resellers. This Product Warranty is for the benefit of end consumers only and does not apply if you have purchased a product for resale.

What this Product Warranty does not cover
This Product Warranty applies only to hardware components (and not software components) of products and does not cover defects or damage caused by: (a) normal wear and tear; (b) accidents; (c) neglect; (d) misuse; (e) alterations; (f) incorrect installation, operation or maintenance (including failure to follow product documentation); (g) disassembly or unauthorised repairs; or (h) external forces such as water damage, excessive force; extreme heat, cold or environmental conditions. This Product Warranty does not guarantee that the operation of products will be uninterrupted or error-free.

How to make a claim under this Product Warranty
To make a claim under this Product Warranty, you must:
1. contact us by sending an email to <warranty@elecbrakes.com> during the Warranty Period and within 1 month of becoming aware of the defect;
2. provide: (a) your name and contact information; (b) proof of purchase, showing the date and place of purchase from Elecbrakes or our authorised reseller; (c) description of the defect; and (d) any other information we require; and
3. return the product (including all components and accessories) to us by sending it to our nominated address.

Unless we agree otherwise, you are responsible for all costs associated with returning a product to us. We will be responsible for the costs associated with sending the repaired or replacement product to you. Products will be at your risk while they are in transit to and from our nominated address.

Elecbrakes may reject claims under this Product Warranty that are not made in accordance with these terms. Nothing in this Product Warranty limits or otherwise affects your statutory rights.

What we will do under this Product Warranty
If we assess that a product returned during the Warranty Period has a defect covered by this Product Warranty, we will at our cost and option: (a) repair the defective product; (b) replace the defective product; or (c) give you a refund of the original purchase price of the defective product.

Defective products may be replaced with equivalent refurbished products. Refurbished parts may be used to repair defective products. Repaired or replaced products will be covered under this Product Warranty for the remainder of the original Warranty Period. Returned products and parts that have been replaced will become our exclusive property.

If we determine that a returned product is in satisfactory working order, we may require you to: (a) reimburse our reasonable costs of inspecting and testing the product; and (b) pay the costs of returning the product to you.

Additional terms
The provisions of this Product Warranty cannot be modified or extended by Elecbrakes’ employees, agents, distributors or resellers or any other person.

If any provision of this Product Warranty is invalid or unenforceable, it must be read down to the point of severance (if necessary) and does not affect the remaining provisions.

To the maximum extent permitted by law, Elecbrakes will not be liable for any failure or delay in meeting its obligations under this Product Warranty to the extent that this is due to circumstances beyond its reasonable control.

The benefits given to you by this Product Warranty are in addition to other rights and remedies you have under law in relation to products to which this Product Warranty relates.