Brake Controllers
Two Types of Brake Controllers

Inertia-based activation

- Using an integrated circuit called an accelerometer, inertia-based brake controllers sense the movement of the tow vehicle and adjust the power to the trailer brakes accordingly.

Time-based activation

- Time-based brake controllers apply a steadily increasing amount of brake power, based on the gain setting.

Most states require a brake control on trailers over 3,500 lbs.
Two Types of Brake Controllers

- Inertia-based activation automatically adjusts power output when going up or down a hill.

Note: Values represented are for illustration only. The actual preset and adaptive values may differ from those shown here.
BRAKE CONTROLLERS

World’s First

Echo™ Mobile Trailer Brake Controller #51180

- Wireless, portable design allows for easy transfer from one vehicle to another
- Bluetooth connection to control all brake settings from your smartphone
- Custom-designed app monitors brake activity and sends status updates
- Downloadable app available for Apple and Android OS
- Stores multiple user and vehicle-trailer profiles
- Allows incoming calls to be received while app is running
- Triple-axis, motion-sensing accelerometer for highly responsive, smooth stops
Echo™ Mobile Trailer Brake Controller #51180

- Non-invasive, plug-and-play install between vehicle-trailer 7-way connectors
- Potted enclosure seals off electronics from the elements for lasting durability
- Soft locking tab reduces vibration and improves connection
- Multi-color LED indicates power, trailer detection and wireless connectivity
- Automatic calibration reduces setup requirements
- Compatible with low-voltage systems, PWM systems, ABS and cruise control
- Built-in reverse-polarity and short-circuit protection
- Limited lifetime warranty
Spectrum™ Trailer Brake Controller #51170

- Controls all brake settings with a simple push-button rotary knob
- Clean, dash-mounted, OEM-style user interface with 10 tri-color LEDs
- Main module can be mounted anywhere, at any orientation, out of sight
- Highly responsive, smooth stops with triple-axis, motion-sensing accelerometer
- Easily accessible manual override with the press of a button
- Features two installation options: drill mount or surface adhesive mount
- Electric over hydraulic capability
Spectrum™ Trailer Brake Controller #51170

- Main module can be mounted anywhere, behind or below the dash, out of sight
Spectrum™ Trailer Brake Controller #51170

MODES
- Manual (red)
- Brightness (white)
- Output (green - red)
- Sensitivity (blue - red)

INDICATORS
- Calibration (ramp-up)
- Overloaded (flashing)
- Disconnected (flashing)
Assure™ Trailer Brake Controller #51160

- Pressure-sensitive manual override button for precise braking power
- High-quality 128 x 64 dot matrix OLED screen display
- Display can be tilted for different mounting options, above or below the dash
- Triple-axis, motion-sensing accelerometer for highly responsive, smooth stops
- Sleek, low-profile design with tactile buttons
- User-selectable power output and trailer brake light activation
- Nine levels of sensitivity adjustment for varying loads or driving conditions
TriFlex™ Trailer Brake Controller #51140

- Triple-axis, motion-sensing accelerometer for highly responsive, smooth stops
- Nine levels of sensitivity adjustment for varying loads or driving conditions
- User-selectable power output and trailer brake light activation
- Digital display with 0.1 increments
- Compact size: 3-1/4" wide, 4" deep, 7/8" tall
BRAKE CONTROLLERS

Reflex™ Trailer Brake Controller #51130

- Dual-axis, motion-sensing accelerometer for smooth stops
- Self-leveling with simple push-button calibration
- Adjustable power output allows use with multiple load sizes
- Digital display with 0.1 increments
**Time-Based Brake Controllers**

**Discovery™ #51120**
- Increases brake power based on gain setting and sensitivity adjustment
- Digital display
- Mounts anywhere in the vehicle
- Operates 2 - 8 brakes

**Venturer™ #51110**
- Increases brake power based on gain setting and sensitivity adjustment
- LED display
- Mounts anywhere in the vehicle
- Operates 2 - 6 brakes
Brake Controller Installation

- Equipped with quick plugs for fast, easy, vehicle-specific installation
- Include mounting hardware
- Optional spare bracket allows for convenient use of the same brake control in multiple vehicles
## Quick Comparison

<table>
<thead>
<tr>
<th>Name</th>
<th>Part#</th>
<th>Axles / Brakes</th>
<th>Activation</th>
<th>Display</th>
<th>Mount Angle</th>
<th>Level Adjust</th>
<th>Warranty</th>
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</thead>
<tbody>
<tr>
<td>Echo™</td>
<td>51180</td>
<td>1-2 / 2-4</td>
<td>Tri-axis inertia</td>
<td>Smartphone</td>
<td>N/A</td>
<td>Auto</td>
<td>Limited lifetime</td>
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<tr>
<td>Spectrum™</td>
<td>51170</td>
<td>1-4 / 2-8</td>
<td>Tri-axis inertia</td>
<td>Tri-color LED</td>
<td>Any</td>
<td>Auto</td>
<td>Limited lifetime</td>
</tr>
<tr>
<td>Assure™</td>
<td>51160</td>
<td>1-4 / 2-8</td>
<td>Tri-axis inertia</td>
<td>OLED screen</td>
<td>Any</td>
<td>Auto</td>
<td>Limited lifetime</td>
</tr>
<tr>
<td>TriFlex™</td>
<td>51140</td>
<td>1-4 / 2-8</td>
<td>Tri-axis inertia</td>
<td>Digital</td>
<td>-20° to +70°</td>
<td>Auto</td>
<td>Limited lifetime</td>
</tr>
<tr>
<td>Reflex™</td>
<td>51130</td>
<td>1-4 / 2-8</td>
<td>Dual-axis inertia</td>
<td>Digital</td>
<td>Any</td>
<td>Auto</td>
<td>Limited lifetime</td>
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<tr>
<td>Discovery™</td>
<td>51120</td>
<td>1-4 / 2-8</td>
<td>Time-based</td>
<td>Digital</td>
<td>Any</td>
<td>Auto</td>
<td>Limited lifetime</td>
</tr>
<tr>
<td>Venturer™</td>
<td>51110</td>
<td>1-3 / 2-6</td>
<td>Time-based</td>
<td>LED</td>
<td>Any</td>
<td>Auto</td>
<td>Limited lifetime</td>
</tr>
</tbody>
</table>
How to Select a Brake Controller

- There are a few factors to consider when selecting a brake controller. The following questions will help determine which is the best fit.

What are they towing?
- For heavy or fragile loads, inertia-based brake controllers perform smoother stops for less stress on the vehicle and trailer.
- For lighter, non-sensitive loads, a time-based controller may be sufficient.

How often do they tow?
- If they tow frequently, an inertia-based controller is recommended.
- If they tow only a few times a year, an inertia-based controller is still preferred to provide smooth stops. However, a time-based controller can also be used.