

**USER MANUAL** 

# **TOW-PRO LINK®**

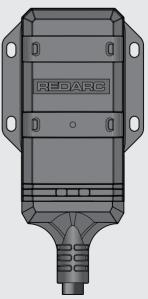
Electric Trailer Brake Controller, 12 V, 1-4 Axles

## **MODELS:**

- EBRHX-ADH
- EBRHX-ADH-NA







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#### **GET THE LATEST TOW-PRO LINK INFORMATION**

▲ IMPORTANT: Keep up-to-date on the latest information on Tow-Pro Link.

For the latest version of this document and any available translations, visit the REDARC website: www.redarcelectronics.com



#### LOOKING FOR INSTALLATION INSTRUCTIONS?

Before you begin using your Tow-Pro, the Remote and Main Unit need to be installed and ready to use.



For installation instructions for your Remote and Main Unit, refer to their individual Install Guides:

- Tow-Pro Link Adhesive Mounted USB Remote Install Guide (EBRHX-ADH-RH)
- Tow-Pro Link Main Unit Install Guide (available for EBRHX-MU and EBRHX-NA-MU)

# **TOW-PRO LINK®**

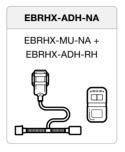
The Tow-Pro Link® features inertia-sensing technology for day-to-day hauling or highway towing. It is capable of supplying most 12 V 4 axle set-ups.

This proportional brake controller measures the vehicle braking force and applies the trailer brakes to match, ensuring a smooth braking application and no push or pull on the vehicle when braking.

Tow-Pro Link® is compatible with AL-KO and Dexter sway control systems.

## **TOW-PRO LINK MODELS**

The Tow-Pro link has two Main Unit options (dependant on region).





# WARNINGS AND SAFETY INSTRUCTIONS

**SAVE THESE INSTRUCTIONS** — This manual contains important safety instructions.

Do not operate the product unless you have read and understood this manual. REDARC recommends that the products referenced in this manual be installed by a suitably qualified person.

**Disclaimer:** REDARC accepts no liability for any injury, loss or property damage which may occur from the improper or unsafe installation or use of its products.

#### SAFETY MESSAGE CONVENTIONS

Safety messages in this manual include a signal word to indicate the level of the hazard as follows:

▲ WARNING: Indicates a potentially hazardous situation which could result in death or serious injury to the operator or to bystanders.

**A CAUTION:** Indicates a potentially hazardous situation which may result in moderate or minor injury to the operator or to bystanders.

**NOTICE:** Indicates a situation that may cause equipment damage.

## **A WARNING**

- Ensure that your trailer brakes are installed and are operating correctly; Improperly installed and/or faulty trailer brakes can cause erratic vehicle or trailer behaviour with the potential to cause a road accident. For this reason, it is of utmost importance that your trailer braking system be installed/maintained by a qualified installer.
- Always check brakes at low speed each time a trailer is attached to your vehicle.
- Ensure that your trailer brakes are adequate for the trailer load. Tow-Pro Link does not increase the braking ability of the trailer brakes.
- Any attempt to disassemble/reassemble the Tow-Pro Link, or make unapproved repairs or modifications will void the warranty and the user's authority to operate the Tow-Pro Link.

 Do not attempt to disconnect the cable from the Main Unit; this connection is permanent and will damage the unit irreparably and will void the warranty if it is disconnected



6. Do not submerge the Tow-Pro Main Unit or wiring in salt-water. Prolonged exposure to salt will corrode metal electrical components, leading to malfunction or permanent damage to the unit, compromising its performance and safety.

If the Main Unit is exposed to salt-water, immediately rinse it thoroughly with clean fresh water.

#### **A** CAUTION

- The system should not be used by persons under the age of 18, or those with reduced physical, sensory or mental capabilities or lack of experience and knowledge.
- 8. Do not drive with the Tow-Pro Link while a Fault Code is active. Fault Codes of the Tow-Pro Link may indicate conditions that make it unsafe or illegal to drive, including unreliable trailer brakes or failure of brake lights.

#### NOTICE

- 9. The Tow-Pro Link does not act as a trailer lights voltage converter. If the trailer brake lights operate on a different voltage, damage to the vehicle, trailer and/ or Tow-Pro Link and associated wiring may result. This may also result in reduced or total loss of trailer braking.
- 10. Do not exceed tow-vehicle and trailer weights and specifications. Failure to abide by the towing regulations, including maximum loads, may result in a fine, or in case of an accident, refusal of the insurance claim, and the possibility of further legal action.

# **OVERVIEW**

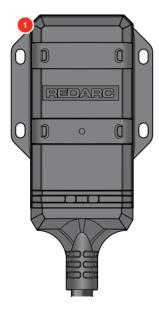
# **PARTS**

#### 1. MAIN UNIT

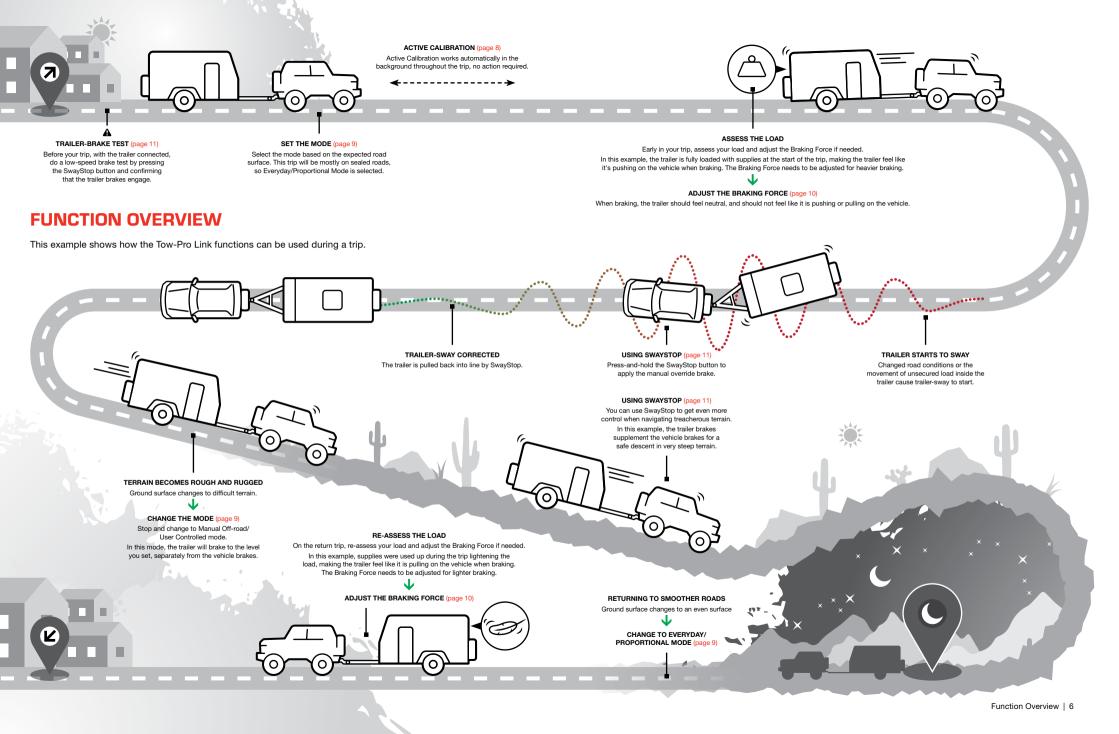
(EBRHX-MU or EBRHX-MU-NA)

# 2. ADHESIVE MOUNTED USB REMOTE (EBRHX-ADH-RH)

- 3. LEDs
- 4. Minus/Plus Buttons
- 5. Light Sensor
- 6. SwayStop Button
- 7. Power Cable
- 8. USB-A Connector







# **TOW-PRO APP**

Tow-Pro Link can be controlled remotely via the free Tow-Pro App. The App gives you remote access to Tow-Pro Link functions, plus additional features including fault history, device information, and firmware update notifications.

**IMPORTANT:** Always use the latest version of the Tow-Pro Link App to ensure access to the newest features and any bug fixes.

#### GET THE FREE TOW-PRO APP:



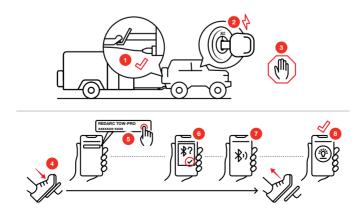


The Tow-Pro App and its interactions with the Tow-Pro have not been tested on all smartphone models. Visit the application pages within each App store for compatibility details.

# **PAIRING THE APP**

Once paired, the Main Unit and the App will connect automatically when the Main Unit is powered on, and the App is open and within range.

- 1. Ensure your vehicle is stationary.
- 2. Check that your trailer is connected.
- 3. Turn on accessories/ignition (to make sure the Main Unit has power).
- 4. Press-and-hold the vehicle brake pedal.
- 5. In the Tow-Pro App, select your Tow-Pro from the 'Unknown Devices' list.
- 6. The App will attempt to connect. Accept the pairing request pop-up.
- 7. Once the 'Reading Configuration' screen appears, release the vehicle brakes.
- 8. When pairing is successful, the Tow-Pro control screen will be displayed.



# **OPERATION**

# PAIRING THE MAIN UNIT AND THE REMOTE

The Tow-Pro Main Unit and Remote are supplied factory-paired when purchased as a complete system, so the manual pairing step is generally not required.

However, if the Main Unit or Remote were purchased separately or as a replacement, they must be manually paired to each other before use — for instructions on how to do this, refer to the Install Guide supplied with your Remote.

## **ACTIVE CALIBRATION**

Active Calibration constantly monitors the vehicle's direction of travel so that the Tow-Pro Link Main Unit can 'learn' and continuously confirm its orientation. This occurs both whilst the vehicle is moving, and whenever brakes are applied. Under normal driving conditions the Tow-Pro Link will learn its mounting orientation within approximately the first 15 to 20 brake applications. During Active Calibration, the LED will alternate Blue and Green.

## MODES

The Tow-Pro Link has two modes — Everyday/Proportional mode (default) and Manual Off-road/User Controlled mode. Every time a trailer is connected, the Tow-Pro will start in the last-used mode.

## **EVERYDAY/PROPORTIONAL MODE (BLUE)**

When Everyday/Proportional mode is enabled, the LED is blue.

Everyday/Proportional mode is ideal for highway travel and general use on all road surfaces, including dirt and gravel. Once the Braking Force is set at the beginning of each trip, this mode requires minimal input from the user whilst travelling.

In this mode, the trailer will brake at a level proportional to the vehicle deceleration. Simply put, the harder the vehicle brakes are applied, the harder the trailer will brake. The Braking Force setting (0 to 10), will set the trailer brakes from a lighter to a heavier brake application.

## MANUAL OFF-ROAD/USER CONTROLLED MODE (GREEN)

When Manual Off-road/User Controlled mode is enabled, the LED is green.

Manual Off-road/User Controlled mode is best for experienced drivers that need precision control on surfaces like mud and sand, and in rocky terrain. It may require frequent adjustment throughout the trip as ground surfaces change.

In this mode, the trailer will brake at the level set on the Remote regardless of how hard the vehicle brakes. The Braking Force setting (0 to 10), will set the trailer brakes from a lighter to a heavier brake application.

#### **CHANGING THE MODE**

**NOTICE:** It is important to consider the road surface and conditions when selecting a mode and braking force setting. Each time you change modes, review the current braking force setting and adjust as needed.

- 1. Ensure your vehicle is stationary.
- 2. Press-and-hold the brake pedal, then;
- 3. Press-and-hold the Minus and Plus Buttons at the same time for approximately 5 seconds until the LEDs change to the new mode colour.
- 4. Release the brake pedal.



## **BRAKING FORCE**

The setting is adjusted via the Remote, Begin with a low setting (3 to 4 recommended) and then adjust as needed.

NOTE: A setting of '0' will result in no trailer braking.

#### WHEN TO ADJUST BRAKING FORCE

Adjust the Braking Force setting in the following instances:

- Your trailer load/weight has changed since your last trip. For example, a return trip after you have used up your water/supplies, causing the trailer weight to decrease significantly.
- The trailer feels like it is pulling or pushing on the vehicle.
- The road surface has changed.

#### CHOOSING THE RIGHT BRAKING FORCE

If the Brake Force is set correctly, the trailer should not feel like it is pulling or pushing on the vehicle.

Lower settings (1 to 4) should be used as a starting point, then adjusted once braking requirements are established.

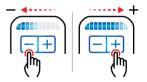
- A lower setting (1 to 4) applies lighter braking.
- A higher setting (5 to 10) applies harder braking.

#### **ADJUSTING BRAKING FORCE**

Press the Minus or Plus Buttons [ ] to adjust the braking force between 0 (off) and 10 (maximum). Each press adjusts the Braking Force by 0.5. The current level is displayed by the LEDs.

As a safety feature, if you reduce the Braking Force below 3, you must test the brakes at the new level within 30 seconds.

If you try to reduce the Braking Force below 3 without first applying the brakes, the Braking Force will remain at level 3.



### NORMAL BRAKING

Tow-Pro applies the trailer brakes proportionally to the vehicle braking force. This means that trailer brakes are applied at a level proportional to the vehicle deceleration, i.e., the harder the vehicle is decelerating, the harder the trailer will brake.

The LED displays the current braking force as a colour hue between the current mode colour (0% braking) and red (100% braking).

Braking Force settings 0.5 to 10 set the brakes from a lighter to a heavier trailer brake application. A setting of 0 (zero) will result in no braking.

# **SWAYSTOP PLUS™**

NOTE: SwayStop should not be used in place of the regular vehicle brakes. Before every trip, with the trailer connected, use SwayStop to confirm that the trailer brakes are working.

SwayStop applies the trailer brakes independently of the vehicle brakes to correct trailer-sway during travel. Once activated by the driver, SwayStop Plus will continue to apply the trailer brakes until it no longer detects the sway event, even after the SwayStop button is released.

SwayStop applies the trailer brakes even if the vehicle is not braking; it will also illuminate the trailer brake lights and the Remote LED will turn red. Depending on the vehicle wiring it may also illuminate the vehicle brake lights.

- In Everyday/Proportional mode (blue), SwayStop applies trailer brakes to a level equivalent to light vehicle braking.
- In Manual Off-road/User Controlled mode (green), SwayStop applies trailer brakes to the set level.

In both modes the Braking Force can be adjusted even whilst SwayStop is active.

#### **USING SWAYSTOP PLUS**

If the trailer starts to sway, press the SwayStop Button once. SwayStop Plus will apply the brakes until the vehicle is stable, even after the button is released.

If braking is too hard/light, you can adjust the Braking Force by pressing the Plus or Minus Buttons even while SwayStop is active.

## SLFFP MODE

When there is no trailer connected, the Tow-Pro Link changes to Sleep Mode. In this mode, the Remote LED's will be off. If the buttons are pressed, the Remote will pulse blue once.

## PARK BRAKE FEATURE

If the vehicle brakes are applied for longer than 3 seconds while vehicle is stationary. Tow-Pro applies the trailer brakes in an intelligent manner to reduce the vehicle's required braking effort, and also decreases the risk of rolling forward or backward whilst stopped. If the Tow-Pro determines that the trailer brakes are not required to keep the vehicle stationary, it will release the trailer brakes.

## LED INDICATION

The LEDs on the Remote display different combinations of colour sequence and flashing rate to indicate the Tow-Pro's current operation status, and to notify you of faults for easy troubleshooting.

- **Solid Blue/Green** This is the typical in-use state, indicating that Tow-Pro is On and a trailer is connected. The LED colour will be the mode colour (blue or green).
- Red LEDs turn red when the vehicle brakes are applied or when SwavStop is active.
- Off, but pulses blue once when button/s pressed Remote is in Sleep Mode (page 12) because there is no trailer connected.
- Off, does not illuminate when button/s pressed There is no power to the Remote.

Behaviours different to those listed above could indicate a fault — see 'Fault Codes — Flash Patterns' (page 15).

#### **AUTO-BRIGHTNESS**

The Remote has a light sensor that detects ambient light levels and then automatically adjusts the brightness of the LEDs to be less intrusive on the driver's vision at night, or to make sure the LEDs are visible in bright daylight.

# **CARE AND MAINTENANCE**

# EVERY TIME YOU ATTACH YOUR TRAILER

It is important to confirm that your system is operating correctly before you set out. **Every time** you attach your trailer, confirm the following:

- The brake lights on both your vehicle and trailer are working:
- The trailer brakes are working:
- If applicable, your breakaway system is operating correctly and the breakaway battery is healthy, and:
- The tow hitch/bar, safety chains, and weight distribution systems are set up correctly.

# OTHER TOWING CONSIDERATIONS

Please consider the following whilst towing a trailer:

- Ensure that your vehicle is capable of towing the trailer.
- Ensure that you adjust your driving style to allow more time to change lanes and brake.
- Always remember that your Tow-Pro electric brake controller is designed to supplement your vehicle brakes; do not use the SwayStop function in place of your vehicle's brake pedal.

# PERIODIC CHECKS AND MAINTENANCE

#### **GENERAL TOWING SYSTEM CHECKS**

Inspect the trailer connection wiring, Main Unit wiring, and the Main Unit for damage and wear caused by gravel or abrasion. If any parts are frayed, worn-through, or broken, discontinue use immediately.

REDARC recommends that you visit a qualified technician before the beginning of each holiday season to ensure that all components of your towing system are in good condition and working correctly.

#### TRAILER PLUG/SOCKET MAINTENANCE

If the Remote's LEDs do not illuminate when a trailer is connected and ignition is on, it is possibly caused by corrosion, wear or damage to the wiring or connections, which can occur through normal use over time.

▲ WARNING: Before performing maintenance on the trailer plug or socket, isolate all batteries connected to the vehicle. There is a risk of personal injury and damage to the vehicle and batteries. Do not insert your fingers into the socket or plug.

With no trailer connected and the vehicle turned OFF, Inspect the trailer plug and socket for damage and wear. If it is dirty, spray automotive contact cleaner into the socket and onto the plug contacts, then use a small brush or pipe-cleaner to remove dust or contamination. Once the plug and socket are clean, apply corrosion inhibitor to prevent further corrosion.

## SALT-WATER EXPOSURE - MAIN UNIT

▲ WARNING: Do not submerge the Tow-Pro Main Unit or wiring in salt-water. Prolonged exposure to salt will corrode metal electrical components, leading to malfunction or permanent damage to the unit, compromising its performance and safety.

If the Main Unit is exposed to salt-water, immediately rinse it thoroughly with clean fresh water.

# **TROUBLESHOOTING**

# **FAULT CODES**

The Tow-Pro Link features sophisticated diagnostics to warn the operator of faults in the vehicle and trailer brake wiring. Wiring faults are indicated by a series of colour coded flash patterns on the Tow-Pro Link LED.

Refer to 'Fault Codes - Flash Patterns' (page 15) for the full list of flash patterns, their possible causes and suggested actions to resolve each one.

A CAUTION: Do not tow with the Tow-Pro Link while a Fault Code is active. Fault Codes may indicate conditions that make it unsafe or illegal to tow, including unreliable trailer brakes or failure of brake lights.

NOTICE: Even intermittent faults are detected and may be indicated until cleared.

#### **CLEARING A FAULT CODE**

Faults are usually caused by something simple such as a poor connection from a dirty trailer socket, however a Fault Code should NOT be ignored; if left unattended, wiring faults can become worse and may lead to deterioration or loss of trailer braking.

Faults will clear automatically if the cause is resolved. Some transient Fault Codes can be cleared by performing a Soft Reset (page 17) of the Tow-Pro Main Unit.

#### TROUBLESHOOTING VIA THE TOW-PRO APP

The Tow-Pro App can log and display faults, giving and indication of the cause of the fault.

## **FAULT CODES - FLASH PATTERNS**

**NOTICE:** Even intermittent faults are detected and may be indicated until cleared.

In many cases, a Fault Code can be cleared by performing a Soft Reset (page 17) of the Tow-Pro Main Unit.

Flash Pattern	Symptom/Description	Possible Cause	Suggested Action
Time	Alternating Blue and Green	The Main Unit is in the process of calibrating, this is NOT a fault	Keep driving normally and calibration will occur automatically.
Time	Blue pulsing while pressing SwayStop	The trailer brakes have not been detected, the trailer is not plugged in, or the power wire is not connected to Main Unit.	Check the trailer plug and all connections between the Tow-Pro and brakes.  Check supply wire (black) for connection problems and check the fuse is not blown.
Time	Blue pulsing while pressing SwayStop, illuminates normally when brakes applied	Power is not connected.	Check supply wire (black) for connection problems and check the fuse is not blown.
15	Mainly yellow, 1 × purple flash	Supply fault detected.	Check supply (black) wire for connection problems and check the fuse is not blown.
1s	Mainly yellow, 1 × red flash	There is a short circuit somewhere on the brake output line (blue wire).	Check all wiring from the unit to the trailer brakes for any wiring faults, including at trailer plug.
15	Mainly yellow, 2 × red flash	There is a short circuit somewhere on the brake light circuit (red wire).	Check all wiring from the unit to the brake light trigger for any wiring faults.
15	Mainly yellow, 3 × red flash Applies to North America (NA) model only	There is a short circuit somewhere on the trailer power circuit (trailer socket black wire).	Check all wiring from the Main Unit to the brake light trigger for any wiring faults.

Flash Pattern	Symptom/Description	Possible Cause	Suggested Action
1 s ·····•	Mainly yellow, 5 × red flash	Intermittent trailer connection detected.	Check all wiring from the Main Unit to the trailer brakes, including at trailer plug.
	Flash green only when braking	Loss of supply power.	Hard Reset (page 17) the controller or contact REDARC for further assistance.
	Flash blue	The power supply to the unit is not stable.	Check the black and white wires for loose connections.
Time	Not working at all, even with button press	The Power wire to the Remote is not connected.	Check that the Remote's cable is correctly plugged in or wired to power correctly.
Time	No LEDs, but all buttons are red	Trailer connection issue.  If the trailer was disconnected deliberately, wait for 1 minute and the fault will resolve.	Check that the trailer plug is correctly coupled.  Check the Main Unit wiring for loose connections.
15	Mainly yellow, 1 × blue flash	Communication error detected.	Check Main Unit has not changed position, and clean off any built-up dirt and mud.
15	Mainly yellow, 2 × blue flash	Intermittent fault detected.	Check the Remote connections. If fault condition remains, contact REDARC.

## **RESETTING THE TOW-PRO**

## **SOFT RESET**

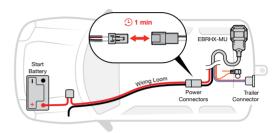
#### HARD RESET

Refer to the Hard Reset instructions for the Main Unit model in your setup.



To hard reset **EBRHX-MU**, unplug the Power Connector between the Main Unit and the Wiring Harness.

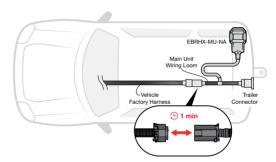
Wait for one minute, and then reconnect it.





To hard reset **EBRHX-MU-NA** unplug the Main Unit Wiring Loom from the Vehicle Factory Harness.

Wait for one minute, and then reconnect it.



#### **FACTORY RESET VIA THE TOW-PRO APP**

The Main Unit can be returned to factory settings via the Tow-Pro App. This will forget all settings and profiles, and will unpair the App and any accessory Remote (any Remote that was purchased separately from the Main Unit). Following reset, the Tow-Pro App and any accessory Remote will need to be re-paired to the Main Unit.

**NOTICE:** If Tow-Pro is remounted in a new orientation, perform a factory reset via the Tow-Pro App **Settings** menu.

# **TECHNICAL SPECIFICATIONS**

For complete technical specifications and compliance information, refer to the Install Guides supplied with the Remote and the Main Unit, or visit the website at www.redarcelectronics.com.

# WARRANTY

For full warranty terms and conditions, visit the Warranty page of the REDARC website at www.redarcelectronics.com/warrantv.

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#### **CHECKING THE PRODUCT SERIAL NUMBER/S**

Product Serial Numbers are located on the back of the Main Unit, on the Remote, and on the product packaging.

PATENTS: This product may have patent(s) granted and/or pending, design and eligible layout rights may also subsist. Visit www.redarcelectronics.com/patent.

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