

# Mastering RV Towing Safety

## Why Electric Brake Controllers Are Foundational to Safe, Scalable Towable RV Growth

Towable RVs continue to anchor progress across the recreational vehicle industry with consistent expansion year over year in North America.

For manufacturers, dealers, and distributors operating within the RV ecosystem, this steady progress brings increased responsibility. Larger, heavier, and more feature rich towable RVs place greater demands on towing systems, particularly braking. As RV usage increases and ownership demographics broaden, braking performance has become a critical safety, compliance, and customer satisfaction issue.

Electric brake controllers are no longer peripheral accessories. They are a core safety system that directly impacts trailer stability, stopping distance, warranty exposure, and customer confidence.

This white paper examines the evolving RV towing landscape, the role of electric brake controllers in managing real world risk, and why advanced solutions like REDARC's Tow-Pro Link align with the operational realities of today's RV industry.

## Key Takeaways for the RV Industry Network

- How RV industry growth trends elevate braking system expectations
- The safety implications of trailer sway and braking imbalance
- Why traditional brake controllers fall short for modern RV applications
- The operational and installation advantages of next generation controllers
- How improved braking performance reduces downstream service and liability risk

# RV Industry Growth and Its Safety Implications

The RV industry is entering a phase of measured, sustainable expansion, with wholesale shipments projected to increase approximately 3 to 5 % annually through the latter half of the decade, according to the RV Industry Association. Towable RVs remain the dominant product category driving this growth.

Importantly, participation is also increasing. RV travel intent has grown by roughly 5 % year over year, signaling higher utilization rates, longer trip distances, and more frequent towing across diverse road and environmental conditions.

For OEMs and dealers, this means that trailers are not only being sold but used more intensively. Combined with increasing average trailer weights, expanded onboard systems, and customer expectations for automotive level safety, braking performance is now a primary risk control consideration rather than a secondary feature.

## Electric Brake Controllers in the Modern RV Ecosystem

### Functional Role in Towable RV Safety

An electric brake controller regulates the braking force applied to a trailer's electric brakes in response to tow vehicle deceleration. In properly configured systems, braking effort is shared between vehicle and trailer, improving stability and reducing stress on vehicle braking components.

From an industry perspective, effective trailer braking supports:

- Predictable stopping distances
- Reduced brake wear and warranty claims
- Improved handling during descents and evasive maneuvers
- Lower risk of sway related incidents

### Controller Types and Industry Suitability

#### Time Delayed Controllers

While still present in the market, time delayed controllers offer limited adaptability. They require frequent adjustment and lack responsiveness during emergency braking, making them increasingly misaligned with the size and usage patterns of modern travel trailers.

## Proportional Controllers

Proportional controllers respond directly to vehicle deceleration, delivering smoother and more consistent braking. They represent a baseline expectation for highway capable RV towing.

## Hybrid Controllers

Hybrid systems combine proportional braking with user-controlled override. This configuration offers superior adaptability for varied terrain, steep grades, and low traction conditions commonly encountered during RV travel. From a product and service standpoint, hybrid controllers reduce misuse and increase customer satisfaction.

## Trailer Sway: A Persistent Industry Risk

Trailer sway remains one of the most common and severe towing related incidents affecting towable RVs. It is frequently linked to wind loads, passing traffic, uneven weight distribution, and sudden driver inputs.

From a safety and liability standpoint, the critical factor is **how quickly and effectively sway can be corrected**. Independent trailer braking has been shown to be the safest corrective mechanism, allowing the trailer to be brought back into alignment without destabilizing the tow vehicle.

Tow-Pro Link incorporates SwayStop Plus, enabling controlled trailer braking via a single input. This design supports rapid response without requiring complex driver intervention, reducing escalation risk during sway events.

## Compliance, Liability, and Risk Management

In most North American jurisdictions, trailers equipped with electric brakes are required to use a compatible electric brake controller once defined weight thresholds are exceeded. These thresholds are typically around 3,000 pounds but vary by region.

For OEMs, dealers, and distributors, ensuring correct controller selection and installation:

- Supports regulatory compliance
- Reduces exposure to liability claims
- Minimizes post sale safety disputes
- Reinforces brand trust and professionalism

As enforcement and consumer awareness increase, brake controller specification is becoming an integral part of responsible RV delivery.

## Limitations of Legacy Brake Controller Systems

Across service departments and installer networks, recurring challenges with older controller designs include:

- Inconsistent braking under varying loads
- Poor performance on grades and uneven surfaces
- No dedicated sway mitigation functionality
- Bulky in cabin installations incompatible with modern vehicle interiors
- Lengthy or invasive installation requirements

These limitations contribute to higher service call volumes, user error, and reduced confidence among RV owners.

## Tow-Pro Link: Designed for the RV Platform

Tow-Pro Link has been developed with both end users and industry stakeholders in mind, addressing installation efficiency, performance consistency, and long-term reliability.

### Installation Efficiency

USB powered architecture and external mounting significantly reduce installation time and avoid firewall penetration. This supports faster throughput for dealers and installers while maintaining clean vehicle interiors.

### Dual Mode Braking

Everyday Mode provides proportional braking for highway towing.

User Controlled Mode allows manual input for steep grades, loose surfaces, and off-road environments.

## **Integrated Sway Management**

SwayStop Plus provides rapid independent trailer braking to stabilize sway events, reducing risk escalation.

## **Advanced Motion Sensing**

Six axis sensing delivers consistent braking response across inclines, cambers, and uneven terrain, improving predictability and reducing adjustment errors.

## **User Friendly Interface**

Clear LED feedback, simple gain controls, Bluetooth configuration, and reusable mounting reduce setup errors and improve long-term usability.

# **Maintenance and Service Considerations**

To maintain optimal performance and minimize service issues, recommended practices include:

- Regular inspection of wiring and mounting points
- Verification of trailer connections prior to delivery
- Monitoring of tow vehicle battery stability
- Functional testing during pre-delivery inspection

Proper setup and education reduce return visits and increase customer confidence.

## **Conclusion**

As the RV industry continues its steady percentage-based growth, the operational focus is shifting toward **safety, reliability, and long-term customer satisfaction**. Towable RVs are larger, more capable, and used more frequently than ever before, placing braking systems under increased scrutiny.

Electric brake controllers are now a core component of responsible RV specification. Advanced systems like REDARC's Tow-Pro Link align with the needs of OEMs, dealers, installers, and end users by delivering consistent braking performance, effective sway mitigation, and efficient installation.

For the RV Industry Network, investing in modern brake control technology is not simply about feature differentiation. It is about risk reduction, compliance, and supporting the continued growth of the towable RV market with confidence.

For more information on Tow-Pro Link and REDARC's towing safety solutions, visit [redarcelectronics.com](http://redarcelectronics.com) or contact an authorized REDARC distributor.

RV Industry Association (2024) *2024 RV Shipments*. Available at:

<https://www.rvia.org/reports-trends/rv-shipment-reports/2024-12/2024-rv-shipments-6>

(Accessed: 24 March 2025).

Steinginga, L., Huang, W. and Croken, M., HANDLING AND STABILITY ANALYSIS OF VEHICLES TOWING A TRAILER WITH NO BRAKES OR SUSPENSION. (Accessed: 24 March 2025).

REDARC Electronics (2024) *TOW-PRO ELECTRIC TRAILER BRAKE CONTROLLERS: BUILT FOR SAFETY*, YouTube video, 10 July. Available at:

<https://youtu.be/kArV22TQJPA?si=LU9MILbipCoEgR3d> (Accessed: 24 March 2025).

REDARC Electronics, 2023. *How to avoid the dreaded trailer sway*. [online] REDARC Electronics. Available at: <https://www.redarcelectronics.com/us/discover/how-to-avoid-the-dreaded-trailer-sway/> (Accessed 6 May 2025).

RV Industry Association (n.d.) *Trailer Brake Requirements*. Available at:

<https://www.rvia.org/system/files/media/file/Trailer%20Brake%20Requirements.pdf>

(Accessed: 24 March 2025).

etrailer.com (n.d.) *REDARC Tow-Pro Elite Full Review*. Available at:

<https://www.etrailer.com/faq-redarc-tow-pro-elite-full-review.aspx> (Accessed: 24 March

2025).

REDARC Electronics (n.d.) *Towing Solutions*. Available at:

<https://www.redarcelectronics.com/us/towing> (Accessed: 24 March 2025).