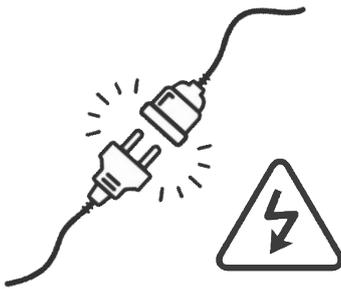


# VOLTAGE COMPATIBILITY ISSUES



In Australia, a rich variety of commercial vehicles can be found on the roads, including trucks from the United States, Europe, and Japan. This diverse transportation fleet incorporates various technologies, with trucks and trailers featuring both 12V and 24V systems, leading to potential voltage compatibility challenges.

## Voltage Drop

On a long vehicle combination with several trailers, the problem of voltage drop occurs. Electrical resistance through long cables and across connectors reduces the voltage down the length of the combination, and electrical components at the tail of the vehicle combination don't get provided with the full voltage from the truck.

This issue is especially prominent with 12V trucks, and it is not uncommon to measure 10V or less at the tail of a B-double combination and even lower voltage on a road train. To ensure correct operation of electronic components, any vehicle combination longer than a B-double is recommended to run on a 24V power supply. For trucks towing road trains, a 24V electrical supply system is a legal requirement from 2022 as per ADR 35/07 (Clause 5.8.2).

Knorr-Bremse Electronic Braking System for Trailers (TEBS) is a multi-volt device that will operate between 9 and 32V. With a 12V truck in a long vehicle combination, it is possible that the voltage drops below the required threshold and the electronic components don't operate as intended due to an insufficient voltage supply.

## Ensure Sufficient Voltage Supply to Trailers

To ensure that your TEBS modules on long vehicle combinations work properly, 12V trucks in the fleet can be fitted with a **voltage converter** that supplies the trailers with 24V.

Ensure your truck  
provides 24V in road  
train EBS  
combinations!

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