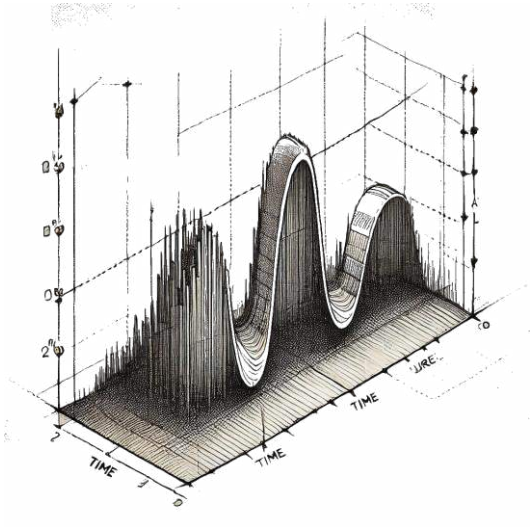
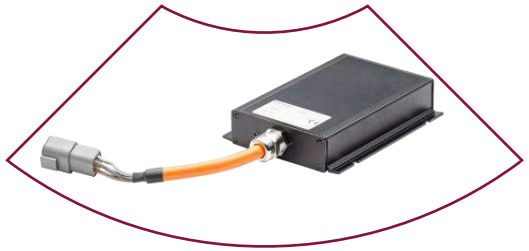
Use Cases – Asymmetric Load

RIPEENERGY
The Power Conversion Company





Project Challenges

Our customer faced the challenge of integrating an asymmetric load (12V) into their vehicle alongside the standard 24V consumers. With two batteries connected in series, there was a risk of uneven battery discharge – one battery could drain quickly while the other remained underutilised. This imbalance could potentially impact system reliability and shorten the battery's lifespan.

Solution

Our battery equaliser ensures that the load is evenly distributed across both batteries, enabling balanced discharge and preventing potential system imbalances. The solution is fully compliant with the required MIL-STD standards.

Additional Challenges

During the implementation phase, one of the customer's suppliers was no longer able to maintain operations, resulting in the unavailability of critical vehicle components. The replacement supplier provided a higher-capacity alternator, which increased the charging current. This higher charging current exceeded the original design parameters of our battery equaliser, necessitating adjustments to ensure reliable operation under these new conditions.

Our Approach

We adapted the already delivered battery equalisers to accommodate the increased output of the new alternator and adjusted the design for future production units accordingly. This approach reduced the financial burden of the project and contributed to environmental sustainability by avoiding unnecessary waste.