Powering next gen mobility

VERS active inside

Mild Hybrid System Product Card





New standard of efficiency

New advancements in carbon and graphene technologies enabled Energy Recuperation with **99% efficiency** across the Automotive industry. Our systems focus on recovering energy in the process of combustion engine braking — rather than dissipating the kinetic energy into heat, recuperation provides significant fuel savings.





Working principle

Hybrid Assist

VERS Mild Hybrid System recovers energy via a dedicated beltdriven 48 V Motor-Generator. The electrical energy is stored in the supercapacitors module and used to support the main engine with up to 11.5 kW of Power during start and acceleration. The supercapacitors' loading takes only seconds thanks to the ion exchange energy transfer which is a rapid physical process.



Mild Hybrid System

TCO Optimised

High efficiency delivered at low cost enables VERS Mild Hybrid System to be the most profitable City Bus solution on the market.

High Capacity

Our best-in-class 130 Wh supercapacitor module enables Hybrid Assist with up to 11.5 kW Power Boost and 7.5 kW Recuperation.

Ultralight

Advanced supercapacitor cells allow to downsize the weight of the System to 58 kg without sacrificing performance and durability.

Longer Lifetime

The System is engineered to allow for 1 million of loading cycles - over 70,000 operating hours of working life.









Rated voltage: **48 V** Maximum Power: **11.5 kW** Energy Capacity: **130 Wh**



ISO 9001:2015 Certification



CE CE Certification

Power when you need it

Winter conditions and low battery levels can affect fleet reliability in Northern climates. VERS Mild Hybrid System provides additional boost of **up to 45 Nm of torque** on uphill routes. Each System is also equipped with functions dedicated towards battery problems: **Cold Start Assist and Battery Protection**. First, the System supports the starter with up to 150 A of additional current making it practically 100% reliable in all conditions. Secondly, it protects the onboard battery from high loading currents, lengthening its life expectancy by up to 400% (as tested with City Bus Customers).



Monitoring savings

Each VERS Mild Hybrid System is equipped with a custom Monitoring unit, measuring performance and sending the data via Wifi. Our Customers receive regular updates on their savings in **VERS Monthly Reports** delivered directly to their email.

While the results vary depending on the route profile and fuel prices, the Return on Investment in the Total Cost of Ownership is estimated to **3-5 years** of a City Bus operation.





Customer Contact

We are delighted to know your views. If you need additional information or would like to test VERS Systems onboard your buses, please feel free to contact our Customer Team.

Chief Executive Officer: Michał Wendeker +48 602 553 656 michal@vershybrid.com

Technical Director: Prof. Eng. Mirosław Wendeker +48 510 558 499 miroslaw@vershybrid.com

Project Manager: Aleksandra Gomułka +48 692 177 001 aleksandra@vershybrid.com

VERS

We are a part of:



Our offices:

VERS Produkcja Sp. z o.o. Sp. k. Centre of Innovation and Technology Transfer

ul. Rektorska 4/2.29 00-614 Warsaw, Poland VAT: PL5213746938



R&D Centre

Centre of Innovation and Advanced Technologies Centrum Innowacji ul. Nadbystrzycka 36C/105 20-618 Lublin, Poland

UK Office

VERS Smart Energy Ltd. Victoria Square Birmingham, West Midlands United Kingdom B2 4BU Company No. 11590675

