



TITAN

THE POWER OF ENERGY

VAN &
SMALL
TRUCK



HYBRID GREEN ENERGY FOR THE AUTOMOTIVE INDUSTRY

Titan is a hybrid system that combines power produced from lightweight, high-power solar panels and a unique kinetic energy recovery system.

The state-of-the-art kinetic recovery unit converts braking energy into electrical energy, which is stored along with the solar energy in long-life lightweight lithium batteries.

Utilising power derived from free energy, the system is capable of providing **100% free power** to onboard refrigeration units or other applications.

Delivering unrivalled fuel and CO2 savings, the system is revolutionary in the future of the automotive industry.

HOW THE SYSTEM WORKS;

- 1. Titan uses a combination of solar PV, KERs and onboard energy storage, to provide 100% consistent power to the fridge, reducing fuel costs, noise and emissions.
- 2. Energy is stored in a high-powered onboard battery to electrically power the fridge unit.
- 3. The battery is charged overnight and topped up during use by harnessing both solar and kinetic energy recovery.
- 4. The system uses a one-way communication with the vehicle canbus, to ensure kinetic energy is only recovered when the system can't draw or tax the vehicle in transit.
- 5. Additional functions include a 1-hour key out hold over, meaning there is no requirement to run the engine to power the system during lunch breaks or deliveries. And a timed pull-down function, preparing the vehicle for loading in advance.

INSTALLATION PROCESS

1. Solar panels fixed to the vehicles roof (no fixings to penetrate bodywork)
2. Cabling installed with minimal visibility
3. Logic box installed in the cab, using existing anchor points.
4. System connected to vehicle, CAN system through the available port
5. System tested and commissioned

Average time of 4-6 hours



Up to 4,000L fuel saved a year*



Up to 12 tonnes Annual CO2 saving



Approx 18 Months Return On Investment

*Based on a 2 litre vehicle idling for 2 hours a day, during 8 hours refrigerated service, 360 days per year.



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TITAN IS AVAILABLE IN TWO VARIANTS;

Titan Solar-Kinetic™

– comprises solar panels and the state of the art kinetic recovery unit to power a lightweight lithium battery. Ideal for all diesel powered vehicles.

Titan Solar

– utilising solar panel only to power a lightweight lithium battery. A solar only system is perfect for electric vehicles or for vehicles with limited mileage.

KEY BENEFITS

- High performance Solar panels – utilise all available roof space
- Solar material & fitment designed to maximise airflow and reduce heat absorption
- High power lightweight lithium battery designed to perform in real-life circumstances
- Kinetic recovery system triggered as the vehicle slows, drawing power only when not required for vehicle performance
- Vehicle agnostic, MFS work with all vehicle manufacturers and body builders with our customers needs in mind.
- Independent application power, enables isolation from vehicle power, key to EV manufacturers
- Reliable onboard power system, negates the need for onboard generator units
- Minimal components that require basic maintenance and little opportunity for failure
- Visible commitment to reducing emissions and combating climate change
- Retro-fitting possible for most vehicles at a time and location to suit
- Timed pre-cooling as standard
- Key-out holdover – significant benefit for high-street, urban and pharma deliveries
- Emergency key start – failsafe, provides emergency backup power, drawn from the system battery, should the vehicle battery be allowed to discharge too far



Marshall
ASSIST

Day-to-day maintenance of the Titan system couldn't be simpler, keeping the logic box clean and debris-free is key, as is ensuring the solar panels are sparkling clean. For extra peace of mind our flexible Marshall Assist packages can be added or upgraded to incorporate repair and maintenance of your Titan system, performing annual servicing, compliance checks and components are replaced or managed to ensure optimum performance and reliability.

With over 200 mobile service engineers, providing our customers with unrivalled national service support, Marshall Assist is the flexible, budget friendly option for full peace of mind. PAYGO options are also available.