

LIQUID COOLED  
**POWER SOLUTIONS**  
FOR ELECTRIC & HYBRID VEHICLES



# TODAY'S NEEDS FOR TOMORROW'S COMMUTE CONTINUE TO EVOLVE.

The latest vehicle designs face ever increasing demands on electrical power systems. Optimized systems must properly address the conflicting requirements of higher power loads, more difficult environmental needs and lower cost. Additionally, emerging applications such as grid tie AC outputs from vehicles demonstrate a new direction in vehicular electronics.

With vehicular evolution, comes the need for flexibility and technical know-how to adapt. TDI Power has been in the power conversion industry for over 50 years and has been providing power equipment in mobile, hybrid and electrical vehicle applications for over 25 years.

Our technical expertise in liquid cooled power equipment along with our history of innovative solutions for mobile power have lead us to develop the technology that will move the industry forward.

TDI Power offers a broad range of liquid cooled power conversion equipment for the electric and hybrid market. Our solutions are well suited for industrial and high volume commercial needs.

## BENEFITS

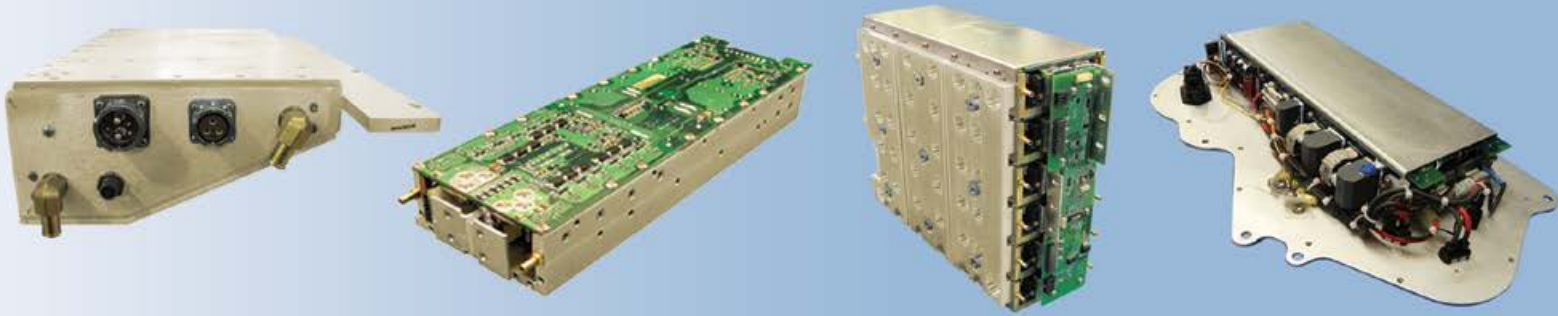
- Extended engine life and overall enhanced vehicle reliability
- Reduced fuel consumption
- More horsepower by electrifying traditionally belt-driven systems
- Meets city pollution and noise abatement laws
- Bi-Directional chargers / inverters reduce system components





# ELECTRIC AND HYBRID VEHICLE SOLUTIONS

DC/DC SOLUTIONS | ON-BOARD POWER | DC/AC SOLUTIONS | EXPORT POWER | BATTERY CHARGER



Powering traditional devices from high voltage bus

Lithium Ion and Lead Acid battery solutions.

Longer battery life.

# TDI POWER'S

## LiquaCore<sup>®</sup> Approach:

- “Clean” power for sensitive electronics
- Effective management of internal component temperatures results in better reliability
- Well suited for high volume manufacturing using common mechanical extrusions and mainstream components resulting in lower costs
- Configurable to custom sizes and shapes
- Can be designed into vehicle coolant system
- Simple coolant connections.

## OFF LOAD AC POWER



# LiquaCore<sup>®</sup> Technical Details:

- Standard DC-DC converter modules.
- Standard DC-AC inverter modules.
- Bi-Directional inverter chargers
- 12V, 28V, 48V, 370V and 700V Solutions.
- Power density >30w/cu. in.
- Modules are stackable and parallelable for higher power needs.
- 93% efficiency typical
- J1939 CAN Bus communications
- -40C to +75C Operation
- Meets or exceeds applicable SAE and MIL standards
- Output over current, over voltage, short circuit and over power protection
- Ripple and Noise of 1% V P-P measured with 20MHz bandwidth
- 60/40 Propylene or Ethyl Glycol / Water coolant
- Air and oil cooled solutions available



Heavy Industrial and  
Transit Applications



## ABOUT TDI POWER

TDI Power is a leading, private manufacturer of highly reliable and technologically advanced electrical power solutions. Built on a 50 year history of engineering innovation, TDI is recognized as a market driven organization that focuses on our competitive strengths to meet our customers' needs. Our diverse capabilities allow us to serve the automotive, military/aerospace, industrial, medical and test and measurement markets. Our commitment is to deliver high-end, problem solving solutions where and when needed.

From our state-of-the-art shop floor manufacturing control system, to our philosophy of conservative design practices, TDI Power's very structure is built around creating the highest possible quality products. Design Verification Testing, Highly Accelerated Life Testing (HALT), Highly Accelerated Stress Screening (HASS) and internal labs for solar and EMI testing add to our analytical capabilities and dedication to continuous improvement, higher reliability, and lower overall program costs.

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