



Silicon Carbide

MOTOR CONTROL AT OVER 99% EFFICIENCY



Silicon Carbide (“SiC”) units represent the next generation of high voltage motor controllers. Boasting high efficiency and class-leading power densities, it is no surprise that the future is SiC. Customised solutions for various motors are available, running sensored or sensorless applications.

Traditionally, high voltage power train solutions are not optimised for the size and weight requirements necessary for airborne applications. Silicon Carbide power devices allow for the power levels demanded in the ever-evolving electric mobility space while maintaining as small a footprint as possible.

CUTTING EDGE TECHNOLOGY

Wide-bandgap switching technology enables the most efficient motor control available.

HIGH EFFICIENCY, HIGH VOLTAGE OPERATION

Maximum efficiency extends mission endurance and reduces mass & volume on vehicle.

ADAPTABLE DRIVE SCHEMES

BLDC, Sine and FOC drive variants can match the most demanding applications.

POWERED BY GATEKEEPER

APD SiC is compatible with our GateKeeper platform, seamlessly incorporating functionality such as CANBUS and sensored/sensorless control.

DESIGN CAPABILITIES

up to **800** V

over **99%** efficient

up to **1000** A

LIQUID-COOLED variants
or **AIR-COOLED** available

We regularly work with a broad spectrum of clients from around the globe, from aerospace & defence primes to innovative startups, to create bespoke motor controllers, deeply optimised to get the most out of every vehicle. We work with you to reach the full potential of Silicon Carbide technology, with many customised options available.

TALK TO OUR TEAM ABOUT YOUR PROJECT

contact@powerdrives.net

Aergility ATLAS UAV

APD has worked closely with Aergility to develop a ground-up bespoke inverter for their patented Managed Autorotation technology in the ATLAS Cargo UAV.

This cutting-edge SiC inverter is capable of driving 400V 150A at over 98% efficiency. It offers sensed control, with sensorless fallback, ensuring the highest levels of aircraft safety. The controller receives commands and outputs telemetry with a customised CAN specification on dual-redundant busses.

It weighs under 2kg in flight-ready configuration.

