

American Traction Systems Marine Propulsion Systems and Products

ATS Marine

ATS marine propulsion systems are available for DC or AC systems and are currently running on passenger ferries, military, and research vessels with more than ten million ferry passengers and over 500 successful military and research voyages. Our products are compatible with all modern subsystems required for the control, positioning and monitoring of a vessel. Our systems are certified by ABS, Lloyds and the U.S. Coast Guard.

Our latest projects include the first all electric passenger/auto ferry in the U.S., the Gees Bend Ferry, and two ferries for Fort Sumter.

Marine Propulsion Systems

DC or AC propulsion systems available with these optional components:

- Generator controls
- House power converters
- Shore power interfaces
- Bow thruster controllers
- Winch controllers
- Auxiliary motor controllers
- Battery chargers
- Engine power and load management
- Complete high and low voltage cabinet design, testing, and fabrication
- Vessel diagnostics
- Other engineering services for a fully integrated ship electrical system

Marine Diesel-Electric Propulsion Systems

The ATS system allows one diesel engine/generator to operate two large propellers. The second engine/generator provides redundancy and extra power when needed. The "hotel" power on board is provided by inverters fed by either the diesel engine/generators or a large battery bank, eliminating an auxiliary generator.

Our system is compatible with all modern subsystems for the vessel's propulsion control and monitoring:

- Dynamic Positioning System (DPS) integration
- Generator load management systems
- Power conversion and drive components
- AC, DC or Permanent Magnet propulsion motors
- Direct drive or azimuth type propulsion and thruster motors
- Main electrical switchboards
- Excitation control of main propulsion generators
- Auxiliary generators
- Multiple battery technologies
- Micro-turbines

Specifications						
	Description Part #	Purpose	Rated Power @ Rated Volts		Voltage Range**	
			Out	In	Out	
DC/DC	DC/DC Boost Chopper Single Boost A300746	Provides stable DC Bus from batteries or fuel cell	350kW		0 - 700V DC	600 - 750V DC
	Dual DC/DC Converter Chopper Module A300725	Bi-directional battery controller	2 x 350kW		0 - 750V DC	0 - 700V DC
	Dual Buck Boost Chopper A300691	Bi-directional buck boost chopper	2 x 250kW @ 650V DC		360 - 600V DC	360 - 700V DC
DC/AC	Single DC/AC Inverter Module A300723	Propulsion module for induction or permanent magnet motors	590kW		0 - 750V DC	0 - 500V AC 3 phase
	Dual DC/AC Inverter Module A300693	Induction motor drive for main or thruster propulsion, house power or auxiliary motors, dual AC out	2 x 149kW (2 x 200HP)		360 - 750V DC	0 - 0.7 x DC input
	Dual DC/AC Inverter Module A300724	- Motor drive for main propulsion/thruster - On-board 3 phase AC power - Generator controller	2 x 225kW @ 0.8 p.f.		700 - 750V DC	0 - 480V AC rms / 3 phase
	Generator Module A300722	Bi-directional generator controller	500kW		0 - 510V 3 phase	0 - 750V DC
AC/DC	SS400 Scalable SCR Field Supply Controller (1) A300781 (2) A300783	Fully-electronic bi-directional control of field current for DC motors (fan or natural convection cooled)	(1) 7KW @ 132V DC (2) 13KW @ 132V DC		120 - 240V AC 3 phase	0 - 265V DC
	SS400 Remote Stack Controller A300782	For speed control by regulating current in a DC motor	-		320 - 640V AC 3 phase	0 - 832V DC
	SS400 Digital AC/DC Converter A300815	DC propulsion motor controller - up to 5MW	-		480V AC 3 phase	0 - 500V DC

****Contact sales rep for additional voltages**

Panorama of Alcatraz Flyer engine room with three ATS racks installed. This ferry is part of the Hornblower fleet; one of four HMS ships on which we have installed propulsion systems.





Electric Propulsion Controls and Accessories

Light Rail

American Traction Systems has designed numerous components for streetcars and trolley buses, from propulsion systems used on the New Orleans Canal Streetcars and the recent El Paso streetcar renovations, to the power inverter/air compressor VFD unit designed for Niagara Frontier Transportation Authority. Our latest product is the low voltage power supply self powered from a HVDC input.



Mini-VFD for Traction Motor Blowers



Low Voltage DC/DC Power Supply



Power Inverter for Air Compressors

Hybrid

ATS offers several electric vehicle inverters including a DC to AC propulsion system for battery powered and series hybrid vehicles, a high power inverter for propulsion or generator applications, and a high power inverter system that includes an AC induction motor controller, an auxiliary inverter and a built in dump chopper for regen protection. These units have been installed on airline FBO equipment, military vehicles, and electric trucks. Our propulsion system has been on the Ohio State Buckeye Bullet electric vehicles setting numerous land speed records.



Electric Vehicle Inverter



High Power Inverter



High Power Inverter with Auxiliary Inverter and Regen Protection

Rail

ATS designs and manufactures high efficiency locomotive propulsion systems and accessories for new or remanufactured locomotives using AC or DC traction motors, with more than 175 locomotive propulsion systems delivered since 2008.

Systems are running on the Railserve LEAF switching locomotives, the Brookville Co-Gen locomotives, as well as on several in Africa for Grindrod. We also installed the first battery system on a locomotive for Norfolk Southern. We have worked with Loram for many years placing systems on MOW locomotives in Germany, United Kingdom and the U.S.



Propulsion Rack Assembly



Complete Traction Lockers



Installation on locomotive

Custom

ATS has a modern, full service panel shop. We can provide the design, assembly, and testing of custom electrical control panels. We have experience with Programmable Logic Controllers (PLCs) with integrated touch screen, operator stations, VFD controls, DC drives, switchgear and medium voltage cabinets.

We have five independent test bays powered from a dedicated 480V AC 1000A supply providing regulated AC and DC supplies for full load testing of all panels.



Stationary custom panel work



AC and DC Locomotive Traction Lockers



On-site panel work on marine vessel

About American Traction Systems



American Traction Systems is celebrating 10 years of providing power solutions to a variety of industries. We expanded the technology developed for underground mining vehicles by our sister company, Saminco International (established in 1992), and applied it to above ground applications where we have continued to develop our product line to new industries and services.

We specialize in the design and manufacture of high power AC, DC, and Permanent Magnet Motor Control products primarily for traction and propulsion applications. Our solid state electric vehicle traction controllers are powered by batteries, diesel-electric, fuel cells or power centers for electric vehicles of all types. While standard manufacturing is our mainstay, constant research and development keeps ATS at the forefront.

We are based in Fort Myers, FL with on-premise departments including board design, software and hardware engineering design, CAD, manufacturing, panel wiring, testing and quality control.

Our customers span the globe from North and South America, to Europe, Africa, Asia, and Australia. We have factory trained technicians in North America, Europe, South Africa and Asia.

