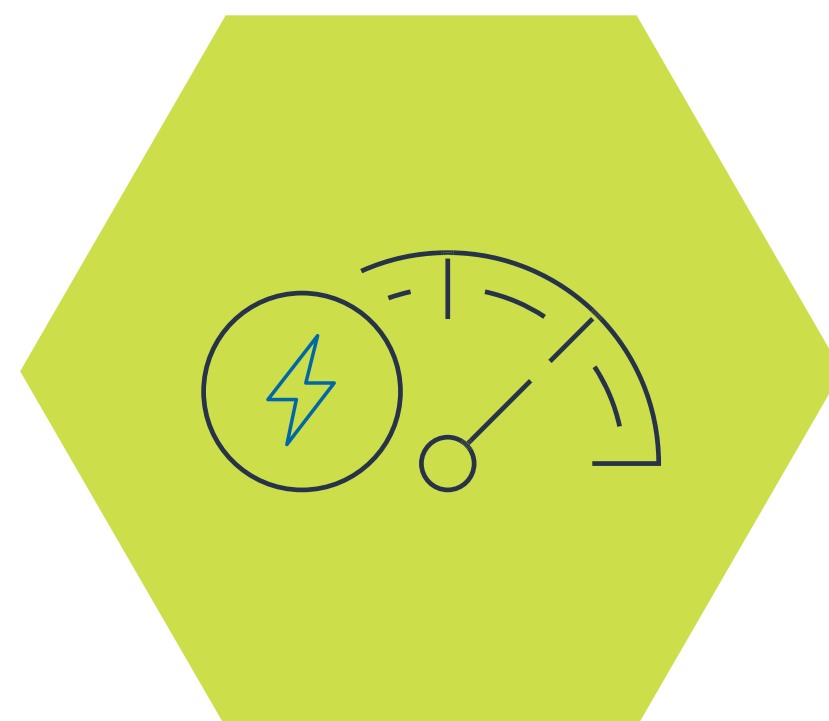




Turntide Electrification Solution™

Accelerate Time to Market with a Proven Electrification Partner



Solutions Overview



Introducing Turntide Electrification™

Unparalleled Industry Experience, Reliability, and Safety

Proven electrification solutions for commercial vehicles and industrial equipment.

60+

Years of electrification experience

300K

Vehicles in the field using our products

15+

Years that our products have been working in high demand applications

By acquiring three of the world's most innovative transport companies, we bring together decades of industry experience, deep expertise, and best-in-class technologies to deliver award-winning EV solutions to top brands across industries.

BorgWarner
Gateshead

AVID
technology

HYPERDRIVE

Questions? Contact at electrificationsales@turntide.com

60 years of Electrification Experience



Best-in-Class Components

Simplify Integration and Improve Performance

Turntide provides electrification and powertrain components that enable you to electrify your fleet faster with less risk, and higher performance and safety.



Batteries →



Low Voltage Inverters →



High Voltage Inverters →



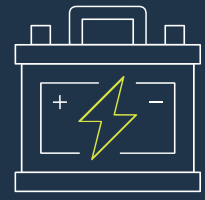
Axial Flux Motors →



Pumps →



Fans →



Turntide NMC Battery Packs

Turntide's new lithium-ion modular battery solutions combine high-performance battery packs with system controllers for temperature and voltage measurement and internal cell balancing. This flexible and scalable energy storage solution offers nominal voltage ranges from 44V to 52V and a standardized modular design. They are ideal for many off-highway applications from construction and agriculture to marine and material handling.



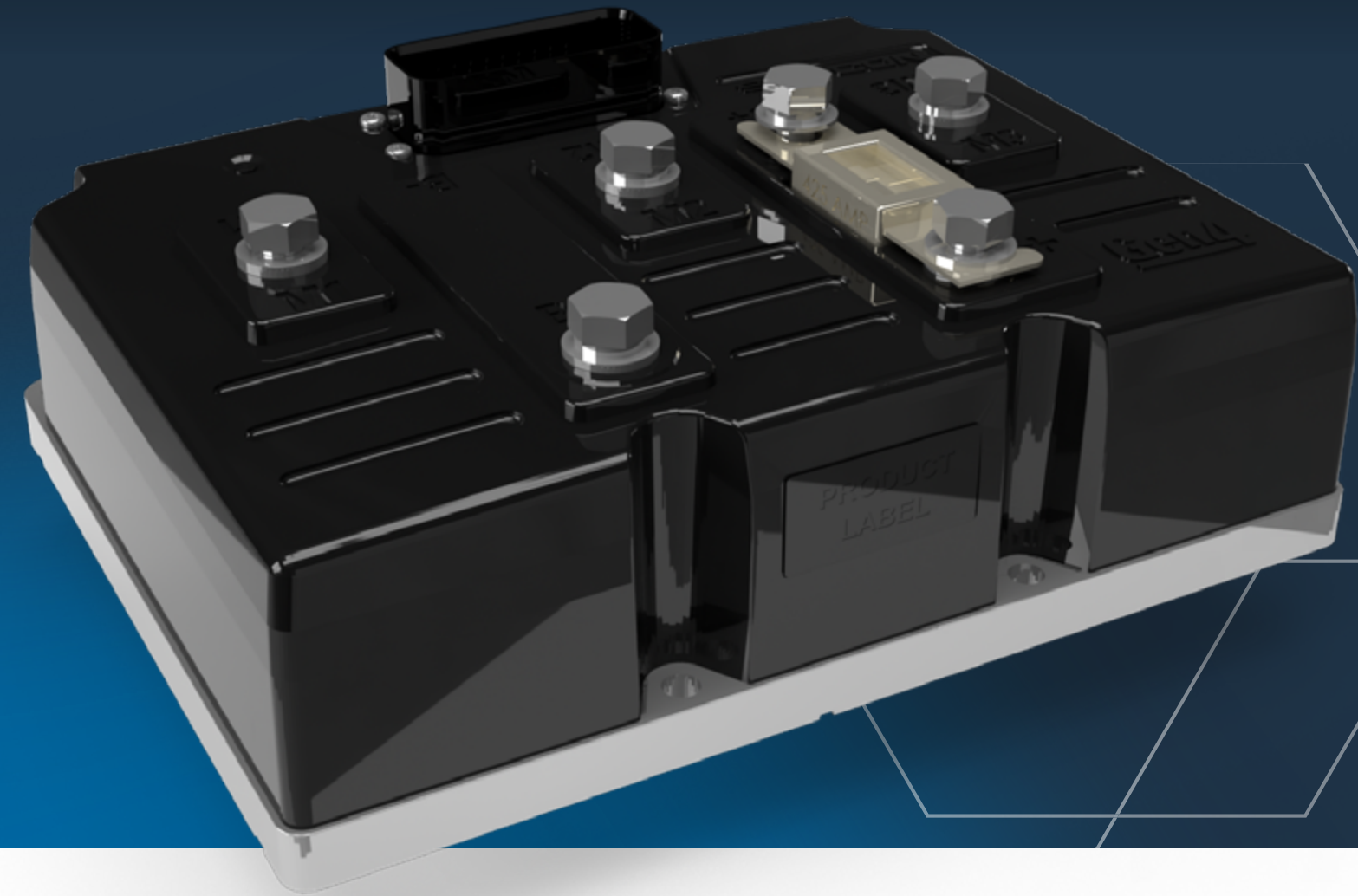
Model	Turntide NMC Battery Pack (44V, 4.5 kWh)	Turntide NMC Battery Pack (44V, 6.7 kWh)	Turntide NMC Battery Pack (52V, 5.3 kWh)	Turntide NMC Battery Pack (52V, 8 kWh)
Nominal Battery Voltage	44V	44V	52V	52V
Battery Energy	4.5 kWh	6.7 kWh	5.3 kWh	8.0 kWh
Total Weight	26 kg	38 kg	29 kg	43 kg
Gravimetric Density	173 Wh/kg	177 Wh/kg	177 Wh/kg	184 Wh/kg
Volumetric Density	223 Wh/l	230 Wh/l	230 Wh/l	245 Wh/l
Dimensions (WxLxH)	441 x 333 x 137 mm	441 x 484 x 137 mm	441 x 381 x 137 mm	441 x 539 x 137 mm

Questions? Contact at electrificationsales@turntide.com



Turntide Low Voltage Inverters

Our range of highly flexible inverters are perfect for low voltage electrification applications in a wide array of industries. They all include air-cooling and built-in controller functionality that acts as a vehicle control unit.



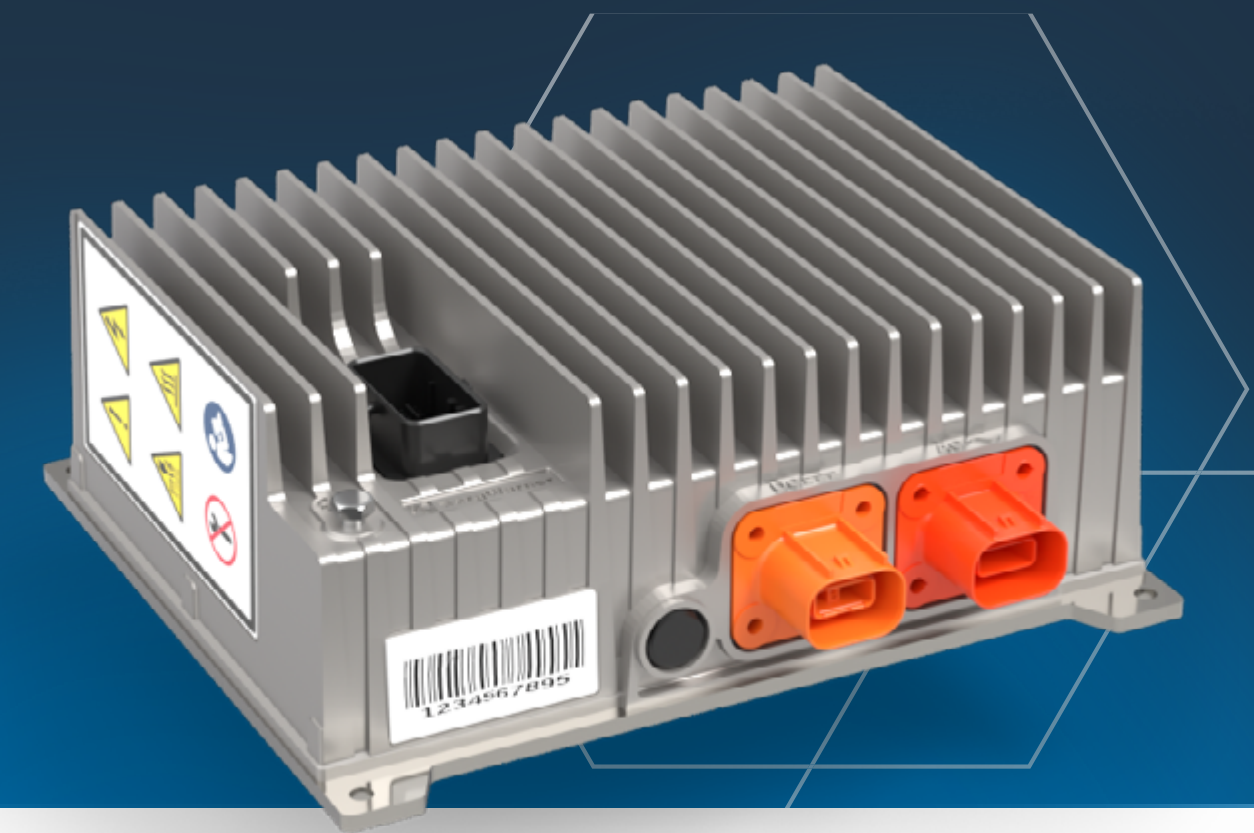
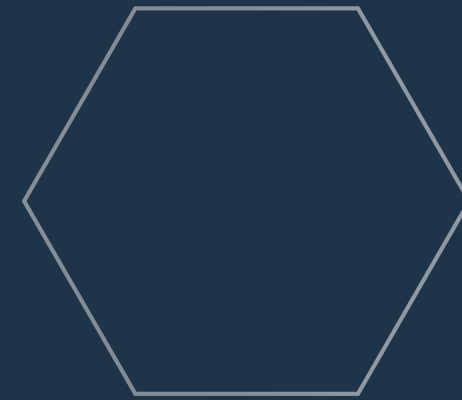
Model	Gen4- Size 6 Inverter		Gen4-Size 4 Inverter		Gen4-Size 2 Inverter	
	(80V, 550A)	(48V, 650A)	(80V, 350A)	(48V, 450A)	(80V, 180A)	(48V, 275A)
Nominal (VDC)	80	48	80	48	80	48
100% derating (VDC)	116	69.6	116	69.6	116	69.6
Min Battery Voltage (V)	39.1	19.3	39.1	19.3	39.1	19.3
Boost current 10 sec (A_{rms})	660	780	420	540	215	330
Peak current (2 min) (A_{rms})	550	650	350	450	180	275
Continuous (60 min) (A_{rms})	220	260	140	180	75	110

Questions? Contact at electrificationsales@turntide.com



Turntide High Voltage Inverters

Our high voltage inverters are designed for larger electric vehicles and suitable for traction, pumps, and auxiliary loads. Advanced functional safety available with select inverters.



Model	Gen4- HVLP10 Inverter	Gen4- HVLP20 Inverter	Gen5- Size 9 Inverter	Gen4- Size 10 Inverter
Nominal (VDC)	700	700	350	650
100% derating (VDC)	800	800	450	730
Min Battery Voltage (V)	128	128	128	50
Boost current 10 sec (A_{rms})	24	53	400	400
Peak current (2 min) (A_{rms})	24*	53	400	400
Continuous (60 min) (A_{rms})	19*	33	200	200
Coolant	Air	Liquid	Liquid	Liquid



*Rating based on static air. Higher rating can be achieved with forced air cooling

Questions? Contact at electrificationsales@turntide.com



Turntide Axial Flux Motors

The Turntide Axial Flux Motor line offers a range of stackable compact electric motors designed for high power and torque density. They are perfectly suited for hybrid and retrofit applications, featuring liquid cooling using water/ethylene glycol for enhanced performance.



Specifications at 600V_{DC}

Model	AF125	AF130	AF140	AF230	AF240	AF340	AF440
Maximum Speed (rpm)	12,000	8,000	5,000	8,000	5,000	5,000	5,000
Continuous Torque (Nm)	100	145	260	290	520	780	1,040
Peak Torque (20s) (Nm)	220	350	600	700	1,200	1,800	2,400
Nominal Output Power (kW)	59	64	94	128	188	282	376
Peak Output Power (20s) (kW)	100	140	220	280	440	660	880
Dimensions* LxD (mm)	110 x 258	110 x 300	115 x 380	212 x 300	212 x 380	333 x 380	443 x 380
Weight** (kg)	22	30	43	58	82	122	160

*Reference diameter excludes top connector housing.

** Weight as delivered dry

Questions? Contact at electrificationsales@turntide.com



Turntide Water Pumps

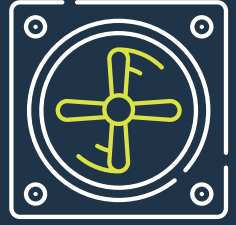
Boasting an impressive lifespan of over 40,000 hours, these pumps excel in longevity. Their high-efficiency operation ensures optimal performance, coupled with a sealless centrifugal impeller design that provides high-flow capabilities. Tested for durability, it is compliant with ISO 16750 Environmental test standards and offers CAN or PWM* input.

Model	eCP80 Electric Water Pump 24V	eCP80 Electric Water Pump 48V
Rated Voltage	18-32V	36-54V
Max Current	19A	10.5A
Best Efficiency Point (BEP)	77.4 LPM @ 1.8bar static pressure rise	
Control	SAE J1939 or CAN J1939	
Connector	AMP MCP LEVYSEAL sealed connector 1534238-1	DT15-08P A(1)(2) TE Connectivity (Deutsch)
Input DC Power	450W	
IP Rating:	IP6k9k	

* For limited functionality

Questions? Contact at electrificationsales@turntide.com





Turntide Puller Fans

A pioneering cooling solution featuring a brushless, sensor-less motor for extended life, environmentally sealed with IP67 protection. With full reversibility, advanced motor control, and integrated safeguards like thermal overload and voltage transient protection, these fans offer unmatched performance. The added CAN controllability and diagnostics elevate the Turntide Puller Fans to the forefront of efficient and intelligent cooling technology.



Model	Puller Fan (48V, 10")	Puller Fan (48V, 11")	Puller Fan (48V, 15")
Weight	2.0 kg	2.2 kg	4.0 kg
Operational Voltage Range	36V to 52V	36V to 52V	36V to 52V
Operational Temperature Range	-30°C to +75°C	-30°C to +75°C	-30°C to +75°C
Storage Temperature Range	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Best Efficiency Point	949.4 m ³ /h @ 3000RPM	2102.5 m ³ /h @ 5500RPM	3764 m ³ /h @ 4350RPM
Max Input Power	approximately 1.7kW	approximately 800W	approximately 600W

Questions? Contact at electrificationsales@turntide.com

Top Considerations for Selecting the Right Electrification Supplier

Choosing the right electrification partner can help you go to market faster with a safe, tested vehicle optimized for performance. Reasons to choose Turntide include:



Has your supplier worked on similar applications in your industry and understand compliance and safety issues?

Get experience and industry expertise with Turntide



Does your supplier consistently produce high-quality products?

Get quality and accountability with Turntide



Does your supplier spot risks and communicate problems before they arise?

Get transparency, communication, and trust with Turntide



Does your supplier consistently invest in R&D and continuous improvement?

Get innovation, flexibility, and continuous improvement with Turntide

We Can Work with You at Any Stage of Development

With our flexible engagement model, we can meet you where you are – from designing full electrification solutions for early-stage proof-of-concept, prototypes, and retrofits, to manufacturing in mature markets with high-volume production demands.

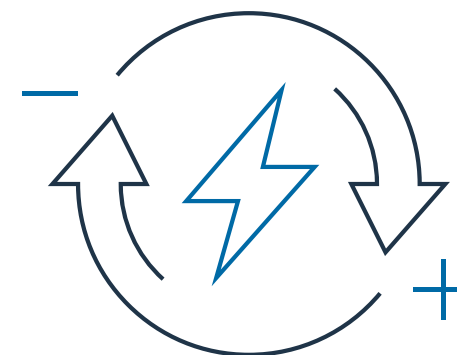
Our electrification platform:

- Features scalable, best-in-class products configured to meet your performance and efficiency needs of your electric vehicle
- Supports a range of vehicle communications and diagnostic protocols
- Meets state-of-the-art safety and security requirements



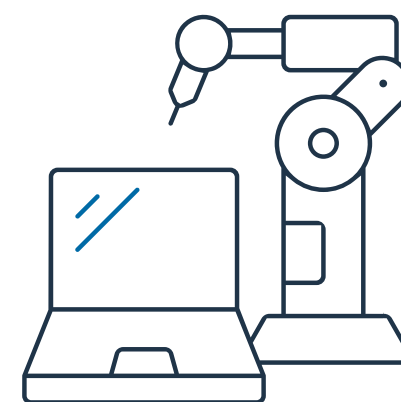
Design

We partner with you on the initial concept, outlining key characteristics and technical requirements.



Develop

We can support your product development, testing cycles, and work alongside your engineering team from prototype through validation.



Manufacture

Multiple factory locations help us to scale to meet your volume production needs and schedule.

Take the Faster, Safer Path to Electrifying Your Vehicles

By selecting Turntide Electrification as your partner, you get to take full advantage of our:

- Extensive industry experience
- Unparalleled electrification expertise
- Flexible engagement model
- Full range of best-in-class components
- Simplified integration with high performance products

Talk with our team

Learn how Turntide can help you reduce risk and bring your products to market faster.

Contact Us

Questions? Contact at electrificationsales@turntide.com

Details are correct at time of publishing
Version: 3 | Updated: 2023-09-29

