

DATASHEET



Gen5- Size 9 Inverter (*Industrial*)

The Gen5-S9 motor inverter is well-matched to satisfy low volume prototype requirements for On and Off highway Electric and Hybrid Vehicles. It is specifically aimed at vehicle OEMs and system integrators to offer them a compact, lightweight, robust and cost effective product for traction, hybridization, power generation and sub-system electrification.



The inverter can be paired with Turntide’s high power density Axial Flux Motors, ideal for applications with a limited space envelope. Our products are used by some of the world’s leading automotive and industrial companies in several innovative and demanding applications. The same quality and reliability is designed into each and every Turntide product.

Features

- Supports AC Permanent Magnet synchronous motor and AC Induction motors
- Highly efficient advanced flux vector motor control
- Operates with a nominal 350VDC voltage
- Up to 400A_{rms} peak power output
- Up to 200A_{rms} continuous power output
- 12V or 24V supply

Specifications

Voltage and Current Range			
100% Derating (VDC)	450	Nominal (VDC)	350
Min Battery Voltage (V)	128	Peak current (2 min) (A _{rms})	400
Continuous (60 min) (A _{rms})	200		
Control and IO			
Control Method	<ul style="list-style-type: none">• CAN slave• Electrical isolation of CAN port	IO	<ul style="list-style-type: none">• All I/O protected to 40V operation with 12V or 24V• 4 analogue inputs 0-10V• 4 digital inputs• 3 power supplies 10V (2x100mA and 1x200mA)• 2 digital outputs PWM 2A (2 high side 2 low side) 2 PT1000 / KTY84 thermocouple input
Communications	<ul style="list-style-type: none">• CAN 2.0B		
Communications protocol	<ul style="list-style-type: none">• CANOpen• H-Protocol (J1939)		

Details are correct at time of publishing

Encoders			
Supported Encoders	<ul style="list-style-type: none">• Absolute UVW encoder input• Absolute Sin/Cos encoder input• Incremental AB encoder input• Resolver automatic gain		
Electrical Safety			
Electrical Safety	<ul style="list-style-type: none">• IEC60664• UL840• ISO6469• HV interlock on the I/O connector		
Environmental			
IP rating	IP6k9k	Flow Rate	10l/min
Temperature	<ul style="list-style-type: none">• Ambient temperature -40°C to +85°C• Automatic derating above 65°C		
Coolant temperature	<ul style="list-style-type: none">• -40°C to +85°C (with 60:40 Glycol Water mix)• Automatic derating above 55°C		
Configuration			
Turntide offer a Windows-based PC tool for configuration of the inverter. The tool provides a simple yet powerful means of accessing the CANOpen bus for diagnostics or parameter adjustment. Communication is through CAN, an IXXAT CAN-to-USB dongle is required.			

Weight and Dimensions			
Weight (kg) (dry)	6	Length (mm)	394
Width (mm)	285	Height (mm)	90

The image contains two technical line drawings of a rectangular electronic enclosure. The left drawing is a side profile view showing the device's thickness with dimension lines indicating a width of 81 mm and a total height of 90 mm. The right drawing is a front-facing view showing the device's faceplate with various ports, a handle, and a label that reads 'SEVEN'. Dimension lines indicate a length of 394 mm and a width of 285 mm.

For further information please contact our team of experts at electrificationsales@turntide.com

TURNTIDE TECHNOLOGIES

Our breakthrough technologies accelerate electrification and sustainable operations for energy-intensive industries

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