

**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<sub>rms</sub> peak power output
- Up to 200A<sub>rms</sub> continuous power output
- 12V or 24V supply

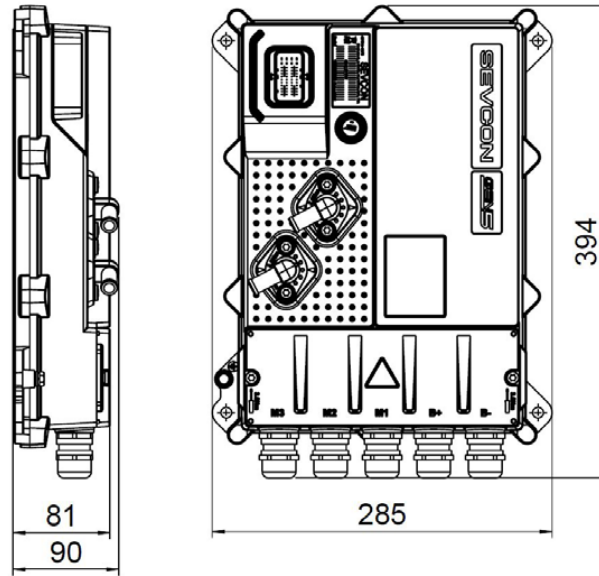
**Specifications**

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

<b>Encoders</b>			
<b>Supported Encoders</b>	<ul style="list-style-type: none"> <li>• Absolute UVW encoder input</li> <li>• Absolute Sin/Cos encoder input</li> <li>• Incremental AB encoder input</li> <li>• Resolver automatic gain</li> </ul>		
<b>Electrical Safety</b>			
<b>Electrical Safety</b>	<ul style="list-style-type: none"> <li>• IEC60664</li> <li>• UL840</li> <li>• ISO6469</li> <li>• HV interlock on the I/O connector</li> </ul>		
<b>Environmental</b>			
<b>IP rating</b>	IP6k9k	<b>Flow Rate</b>	10l/min
<b>Temperature</b>	<ul style="list-style-type: none"> <li>• Ambient temperature -40°C to +85°C</li> <li>• Automatic derating above 65°C</li> </ul>		
<b>Coolant temperature</b>	<ul style="list-style-type: none"> <li>• -40°C to +85°C (with 60:40 Glycol Water mix)</li> <li>• Automatic derating above 55°C</li> </ul>		
<b>Configuration</b>			
<p>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.</p>			

## Weight and Dimensions

<b>Weight (kg) (dry)</b>	6	<b>Length (mm)</b>	394
<b>Width (mm)</b>	285	<b>Height (mm)</b>	90



For further information please contact our team of experts at [electrificationsales@turntide.com](mailto:electrificationsales@turntide.com)

### TURNTIDE TECHNOLOGIES

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

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