

**DATASHEET****Gen5 Size9 Inverter (*Automotive*)**

The Gen5-S9 motor inverter is well-matched to satisfy requirements for On and Off-highway Electric and Hybrid Vehicles. It is specifically aimed at vehicle OEMs and system integrators to offer a compact, lightweight, robust and cost-effective product for traction, hybridisation, power generation and sub-system electrification. It can be paired with Turntide's high power density Axial Flux motors, ideal for applications with a limited space envelope.

**Features**

- Supports AC Permanent Magnet synchronous 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 logic supply
- Compliant to ISO16750
- Compliant to Reg10
- ISO26262 and ISO13849 capable to ASIL C

**Specifications**

<b>Electrical</b>			
<b>Maximum Voltage (without derating)</b>	420Vdc	<b>Peak Current (1 min)</b>	400A <sub>rms</sub>
<b>Nominal Battery Voltage</b>	350Vdc	<b>Continuous Current (60m)</b>	200A <sub>rms</sub>
<b>Min Battery Voltage</b>	128Vdc		
<b>Communication</b>			
<b>Communications</b>	CAN 2.0B	<b>Control</b>	CAN Slave Only
<b>Communications Protocol</b>	H-Protocol (J1939) and UDS		

I/O			
<b>Encoders</b>	<ul style="list-style-type: none"> <li>Absolute sin/cos</li> <li>UVW</li> </ul>	<ul style="list-style-type: none"> <li>AB</li> <li>Resolver automatic gain</li> </ul>	
<b>Thermistors</b>	2 x PT1000 or PT100 inputs*		
<i>*Two variants of hardware. One that supports PT1000, one that supports PT100</i>			
Environmental			
<b>IP Rating</b>	IP67 / IP6K9K	<b>Ambient Temperature</b>	-40°C to +85°C Automatic derating above 50°C
<b>Flow Rate</b>	10l/min	<b>Coolant Temperature</b>	-40°C to +85°C (with 50:50 Water Glycol mix) Automatic derating above 50°C
Safety			
<b>Standards</b>	<ul style="list-style-type: none"> <li>IEC60664</li> <li>ISO6469</li> </ul>	<ul style="list-style-type: none"> <li>ISO26262 &amp; ISO13849</li> <li>Reg10</li> </ul>	<ul style="list-style-type: none"> <li>HVIL on I/O connector</li> </ul>
Weight and Dimensions			
<b>Dry Weight</b>	7kg		

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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