Explore our Technologies
AC Motor Controller
for Commercial Vehicles

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AC Motor Controller

The Dragon8 sets a new standard in AC motor controller performance and reliability. The Dragon8 is compatible with a wide range of motors – Asynchronous AC Induction and Synchronous Permanent Magnet AC (PMAC) or Brushless DC (BLDC). It can be configured to accurately drive the motor in current control mode, offering a real and precise torque control of the motor. Speed control is also available.

Dragon8 has electrical isolation between high voltage/high current battery/motor wiring and the lower voltage control signals and CANBus. This allows the IO to reference the 12 V battery and vehicle chassis return path.

Features

- Integrated & isolated IO and logic circuit
- Supports AC Induction and PMAC/BLDC
- True torque control
- Vehicle VCU Master or Motor Slave
- Integrated Capacitor pre-charge function
- CANBus communication
- Power up auto-check system fault diagnostics
- Programmable battery current limit
- IP66 protection
- Integrated power fuse holder

Integrated I/O

Dragon8 includes a fully integrated set of inputs and outputs (I/O) with vehicle control functionality, designed to handle a wide range of system requirements and functions. This frequently eliminates the need for additional external I/O modules, vehicle control units and connectors.

- Up to 6 digital inputs (3 inputs dual use as UVW encoder input)
- Up to 4 analogue input (2 analogue inputs dual use as Sin/Cos encoder input)
- Up to 2 contactor drivers
- Dedicated 5 V, 200 mA output
- Dedicated 10 V, 200 mA output
- Motor temperature sensor input

Please reference the user manual for more detail if required.

Motor Encoder

Dragon8 supports a range of motor position and speed feedback sensors:

- Resolver (programmable transformer ratio)
- UVW, 3 channel digital Hall sensors
- Sin/Cos
- AB, 2 channel for Induction motors

Key Parameters

<table>
<thead>
<tr>
<th></th>
<th>48/72 V Version</th>
<th>96 V Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Battery Voltage</td>
<td>48 V/72 V</td>
<td>96 V</td>
</tr>
<tr>
<td>Maximum Battery Voltage</td>
<td>93 V</td>
<td>139 V</td>
</tr>
<tr>
<td>Minimum Battery Voltage</td>
<td>20 V</td>
<td>36 V</td>
</tr>
<tr>
<td>Peak Current (10 seconds)</td>
<td>500 A</td>
<td>330 A</td>
</tr>
<tr>
<td>Boost Current (2 minutes)</td>
<td>400 A</td>
<td>300 A</td>
</tr>
<tr>
<td>Continuous Current (1 hour)</td>
<td>150 A</td>
<td>110 A</td>
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</tbody>
</table>

The 48/72 V continuous rating is with 25°C, finned heat-sink and 1 m/s air flow.

For Additional BorgWarner Information:
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