Isolated DC-DC Converter for Fuel Cell and Alternative Energy Systems

PRODUCT OVERVIEW:
The **Isolated DC-DC converters** utilizes advanced Digital Power Processing, advanced magnetic and power devices with ZVS operation, providing high efficiency with fast dynamic bandwidth response for voltage, current and power regulations with input and output voltage and current and power limits control. The cost effective high frequency proven magnetic design with robust redundant control provides fast response, flexibility, reliability, light weight and volume product for Fuel Cell and alternative energy industry. Extensive J1939 CAN diagnostics.

FEATURES:
- Galvanic ally Isolated DC-DC,
- Input range: 175-600Vdc.
- Output range: MV:280 -500 or HV: 550-750Vdc
- Input Current: 550A
- Power Input: 100kW
- Ground voltage isolation detection and protection.
- Efficiency: 95%
- Short Circuit, OC, O/U V and OT protection.
- Parallelable with fault tolerance operation.
- CAN J1939 command, control and diagnostics. Vout control via CAN
- Environmental rating IP67 (IP69 Option)
- Option to control cooling fan and pump through discrete outputs
- Integrated safety disconnects and fusing on the input and output.

APPLICATIONS:
Fuel Cell Systems, Smart Grid, Renewable, energy systems, UPS, battery charger.

<table>
<thead>
<tr>
<th>Signal Connector: Deutsch: DT04-6P-CL09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power Connector: Tyco 9-2141227-1</td>
</tr>
<tr>
<td>Input Power Connectors: Customized</td>
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</table>

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line regulation (±10%)</td>
<td>±0.5%</td>
</tr>
<tr>
<td>Load regulation</td>
<td>±0.5%</td>
</tr>
<tr>
<td>Ripple</td>
<td>&lt; ±1% + 300 mVp-p</td>
</tr>
<tr>
<td>Load transient (10-90%)</td>
<td>&lt; 6% typical overshoot</td>
</tr>
<tr>
<td>Response time</td>
<td>100 ms typical</td>
</tr>
<tr>
<td>Turn-on rise time (wake up to full power)</td>
<td>Soft-start, (0.1-2 sec, adjustable)</td>
</tr>
<tr>
<td>Output protection</td>
<td>Temp, Voltage, current and short</td>
</tr>
<tr>
<td>Cooling</td>
<td>WEG &lt; 60°C 12 Lpm</td>
</tr>
<tr>
<td>Operating temperature (ambient)</td>
<td>-30°C to +65°C,</td>
</tr>
<tr>
<td>Load de-rating</td>
<td>10% /°C from 60°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40°C to +105°C</td>
</tr>
<tr>
<td>Efficiency</td>
<td>95%</td>
</tr>
<tr>
<td>Isolation resistance</td>
<td>&gt; 1 MΩ at 700Vdc</td>
</tr>
<tr>
<td>Weight</td>
<td>44kg</td>
</tr>
<tr>
<td>Bias Supply</td>
<td>11Vdc - 30Vdc</td>
</tr>
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</table>

PART NUMBERING:
CV38□□□□□□□
Config: consult company

Integrated Components Solutions for Clean Mobility & Energy Conservation
DATA SHEET REV: 190118, Specifications subject to change.
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