High Voltage Auxiliary Drive Unit “ADU” Electric Motor Drive System for Transit Bus Auxiliary and HVAC Drives

PRODUCT OVERVIEW:
The Auxiliary Drive Unit “ADU” is designed for transit buses, heavy duty commercial vehicles and off-road equipment. The digital controlled motor drive with CAN J1939 based command, control and communication provides the maximum performance, flexibility, reliability and cost effectiveness for auxiliary electric motor drive applications including the hermetically sealed induction motor and A/C compressor. The ADU allows for analog input for autonomous control, or control via CAN with control flexibility and extensive diagnostic.

FEATURES:
- J1939 CAN command control. Voltage, current, power and temperature reporting.
- Wide DC Input Voltage Range: 300-800Vdc operational, 1000V transient.
- CAN and USB real time monitoring, diagnostics and recording.
- Analog and digital input control where needed.
- Efficiency: 97% rated, > 96% from 20% to 80% load.
- Ground fault isolation detection and protection.
- Over current, voltage and temperature protections.
- Support AC motor voltages options of 208Vac or 460Vac.
- VVVF control or Vector torque control.
- CAN Controlled output voltage, current, power and frequency.
- CAN Controlled output torque and speed.
- IP65 rating with liquid cooling
- J1939 CAN diagnostics

APPLICATIONS:
Auxiliary drive units for hybrid, electric and fuel cell transit bus, heavy duty trucks, refrigeration trailers, and off-road applications with 300Vdc to 800Vdc rating.

<table>
<thead>
<tr>
<th>DC Input Voltage</th>
<th>Output AC Voltage</th>
<th>Power Output (Max/Continuous)</th>
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</thead>
<tbody>
<tr>
<td>300 - 450Vdc</td>
<td>208 - 240 Vac</td>
<td>10kW/8kW</td>
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<tr>
<td>500 - 800Vdc</td>
<td>208 - 460 Vac</td>
<td>18kW/12kW</td>
</tr>
</tbody>
</table>

Performance Characteristic
- Line regulation (±10%) ±2 %
- Load regulation ±2 %
- Response time 150 ms typical
- Turn-on rise time Soft-start, 450 ms typical
- Output protection Overload and short circuit
- Liquid Cooling 40°C to +70°C
- Load de-rating 2.5% °C from 55°C
- Storage temperature -40°C to +105°C
- Efficiency 97%
- Isolation resistance > 1 MΩ at 700Vdc
- Weight 8 kg.
- Environment rating IP65

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DATA SHEET REV: 1401, Specifications subject to change.
NOTES: UNLESS OTHERWISE SPECIFIED
1. INVERTER WEIGHT: 10.0 kg (22 LBS.).
2. COOLANT: 50/50 ETHYLENE GLYCOL / WATER.
3. MIN FLOW: 11.4L / MIN (3.0 GPM).
4. PRESSURE DROP: 9.65 kPa (1.6 PSI) @ MINIMUM FLOW.
5. INLET TEMP: -20°C TO 60°C.

NOTES: CONTINUED
7. OPTIONAL 3/8 NPT HOSE FITTINGS: 3/4" , 3/8" OR 90 DEG. FITTINGS.
8. TORK (3/8 FASTENERS TO 150 LB/IN.
9. INPUT MATING CONNECTOR: TYCO HVA280 (P/N# 1587902-9).
10. OUTPUT MATING CONNECTOR: TYCO HVA280 (P/N# 1587927-9).
10. SIGNAL MATING CONNECTOR: DEUTSCH P/N# DT06-12SA.

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