

## Overviews

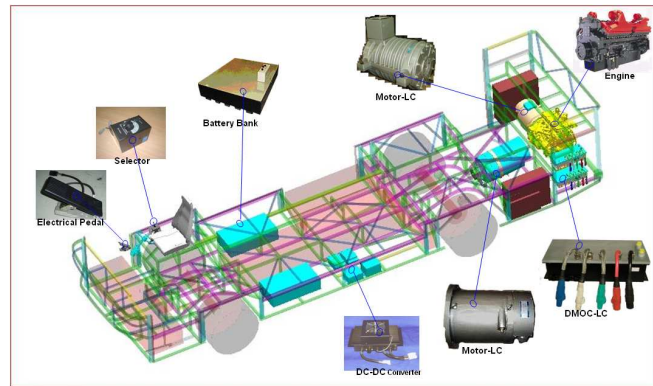
STK EV/HEV Drive Kits provide customers with DMOC or DMOC-LC controlled 3 phase AC traction motors and generators.

## Applications

- Single motor drives can be used in medium duty trucks and buses weighing from 4,500kg to 9,000kg. The motor has a low speed design that uses a 5-10:1 overall vehicle drive ratio.
- Dual motor air-cooled drives or single liquid-cooled drives can be used to drive heavy-duty vehicles weighing 9,000kg to 16,000kg.
- Dual motor system featuring two motors configured in one-motor-per-wheel design. Each wheel is independently driven, typically via a short driveshaft from the motor to a reduction gear hub in the center of the wheel.

## Features

- High-efficiency brushless design
- Air-cooled or liquid-cooled design
- Compact, lightweight construction with sealed motor casing
- Low rotating losses and electrical resistance
- Cost effectiveness and high reliability
- When used in conjunction with the DSP-controlled **DMOC**, the motor functions as an “electronic transmission,” eliminating the need for a multi-speed gearbox. It also can directly drive a vehicle’s wheels with a fixed ratio.
- Functionality of an “electronic limited slip differential” is provided by DMOC. Traction to one wheel is unaffected by slip of the other wheel.



## Preliminary Specifications

| Specifications            |                  | P120 AC Motor           | AC90 Motor            |
|---------------------------|------------------|-------------------------|-----------------------|
|                           |                  | with DMOC645-LC         | with DMOC645          |
| Dimensions                | Motor Diameter   | 394mm                   | 490mm                 |
|                           | Motor Length     | 520mm                   | 562mm                 |
| Weight                    | DMOC (L x W x H) | 582mm x 254mm x 210.5mm | 582mm x 254mm x 310mm |
|                           | Motor            | 198kg                   | 188.6kg               |
|                           | DMOC             | 28kg                    | 27.5kg                |
| Peak Torque               |                  | 630Nm                   | 630Nm                 |
| Maximum Current           |                  | 420A rms                | 420A rms              |
| Continuous Power          |                  | 70kW                    | 45kW                  |
| Nominal Speed             |                  | 2k rpm                  | 2k rpm                |
| Maximum Speed             |                  | 7k rpm                  | 6k rpm                |
| Peak Efficiency           |                  | 93%                     | 93%                   |
| Peak Electrical Power     |                  | 125kW @ 336VDC          | 125kW @ 336VDC        |
| Nominal Battery Voltage   |                  | 336VDC                  | 336VDC                |
| Min. Operational Voltage  |                  | 144VDC                  | 144VDC                |
| Max. Operational Voltage  |                  | 400VDC                  | 400VDC                |
| Min./Max. Operating Temps |                  | -40C to 70C             | -40C to 70C           |

Testing performed @ 25°C Ambient