The 120kW E-Motor is a synchronous permanent magnet motor/generator primarily intended for hybrid and electric vehicles. The unit is powered via a high voltage 3-phase electrical connection from an inverter, such as McLaren Electronic Systems’ MCU-500.

An advanced liquid cooling scheme allows the motor to achieve sustained high power operation given the unit’s modest size and weight.

When combined with the MCU-500, and powered from a 535V DC bus, the unit can be controlled via torque and/or speed demands via a CAN bus. The same performance characteristics can be achieved in motor and generator modes of operation.

### Key Features
- Permanent magnet synchronous motor
- SPM type
- High power density

### Performance
- Power and torque 120kW / 130Nm (transient)
  - 110kW / 110Nm (continuous)
- Maximum speed 17,000rpm
- Efficiency 96% (120kW, 13,000rpm)

### Mechanical
- Case diameter 185mm
- Case length 254mm
- Mass 26kg

### Instrumentation & Diagnostics
- 1 Resolver for commutation

### Cooling
- Max inlet temperature 55°C
- Min flow-rate 20l/min
- Pressure drop 0.6bar @ 20l/min
- Coolant type 50/50 water/glycol
- Max pressure 5bar

### Environmental
- Air temperature -20°C to 90°C (operating)
- -20°C to 120°C (static)
- Max motor skin temperature 65°C
- Rated to IP67
- Maximum mounting vibration 30g
- Complies with the essential protection requirements of 89/336/EEC
E-MOTOR
120kW / 130Nm

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<th>Description</th>
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<td>E-Motor-120kW</td>
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