

## Data Sheet

# EM-PMI250 + EC-C1200D

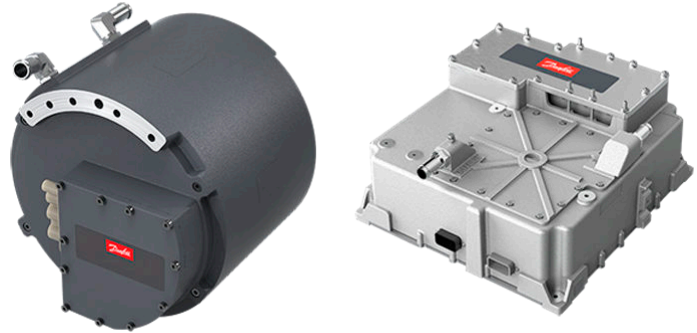
## Electric Machine + Converter Systems

### Formerly the UQM PowerPhase Pro 135, 160

These Danfoss Editron motor + converter systems are intelligently designed for maximum performance and versatility.

Providing up to 95% system efficiency, these systems consist of a high-performance, liquid cooled permanent magnet motor and a high-power, liquid-cooled converter with a full-featured digital signal processor.

Variants include high-speed capability with high continuous power. These systems are optimal for high-performance passenger cars and light- to medium-duty commercial vehicles.



### Features

- EV/HEV traction drive
- Power dense, brushless permanent magnet synchronous motor
- DSP-controlled inverter with sine wave drive
- User selectable torque and speed
- CAN bus communication
- Built-in safety features
- Real time data event logging
- Liquid cooled (50/50 water/glycol liquid cooling)
- Best-in-class stall duration at 320 Nm

### System specifications

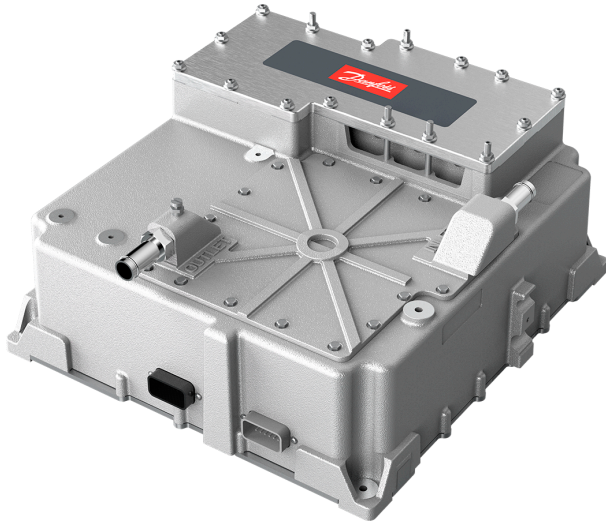
	EM-PMI250-T160-235V and EC-C1200D-600-425	EM-PMI250-T160-245V and EC-C1200D-600-530
Operating speed	0 - 7700 rpm	0 - 10000 rpm
Maximum / continuous power*	135 kW / 80 kW	160 kW / 80 kW
Maximum / continuous torque	320 Nm / 160 Nm	350 Nm / 160 Nm
Peak efficiency	95%	95%
Operating voltage	270-425 VDC	250-530 VDC
Nominal voltage**	335 VDC	350 VDC
Communication	CAN bus	CAN bus

For more detailed information, visit  
[www.danfoss.com](http://www.danfoss.com)

\* Continuous ratings stated at 60° C inlet coolant

\*\* Nominal voltage is the voltage at which system specifications are stated

**Converter description (EC-C1200D-600)**



*Dimensions*

<b>Length</b>	16.6 in	421 mm
<b>Width</b>	15.6 in	396 mm
<b>Height</b>	7.1 in	179 mm
<b>Weight</b>	61.0 lb	27.7 kg

**Converter performance**

*Operating voltage*

	<b>EC-C1200D-600-425</b>	<b>EC-C1200D-600-530</b>
Operating voltage input range	270 - 425 VDC	250 - 530 VDC
Minimum voltage limit	270 VDC	250 VDC
Maximum voltage	425 VDC	530 VDC

*Digital signal processor*

<b>Nominal input voltage</b>	12 or 24 VDC
<b>Input supply voltage range</b>	8 to 32 VDC
<b>Input supply current range</b>	0.3 to 0.5 A

*Liquid cooling system*

	<b>EC-C1200D-600-425</b>	<b>EC-C1200D-600-530</b>
Minimum coolant flow	10 l/min (50/50 water/ glycol)	10 l/min (50/50 water/ glycol)
Inlet coolant temperature (rated)	140° F / 60° C	140° F / 60° C

*Converter type*

<b>Control type</b>	PWM & phase advance
<b>Power device</b>	IGBT
<b>Switching frequency</b>	3 to 12 kHz

**Motor description (EM-PMI250)**



*Dimensions*

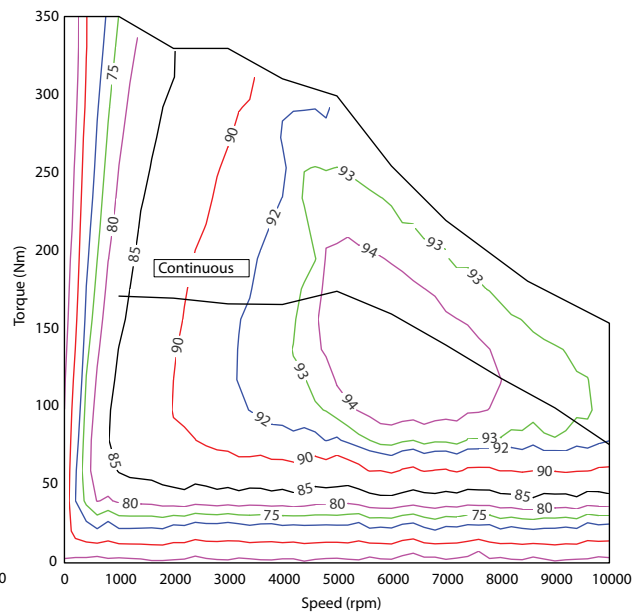
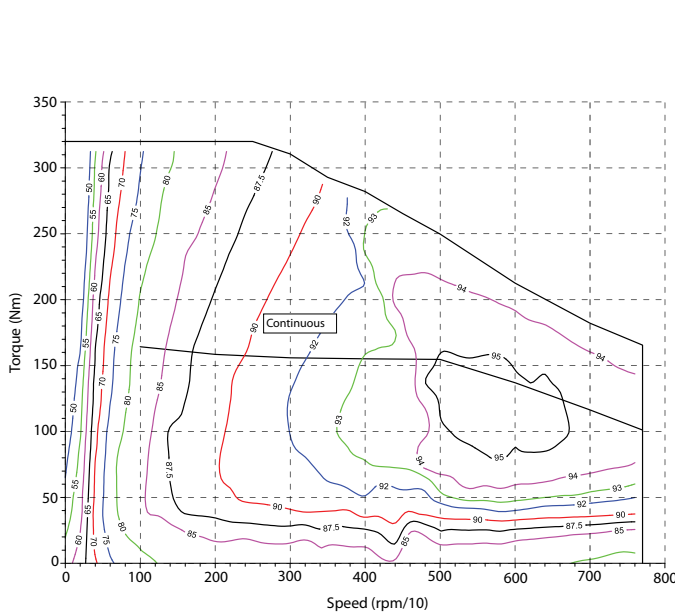
<b>Length</b>	9.2 in	233 mm
<b>Diameter</b>	11.25 in	286 mm
<b>Weight</b>	110 lb	50 kg

*Specifications*

	EM-PMI250-T160-235V		EM-PMI250-T160-245V	
Peak power	180 hp	135 kW	215 hp	160 kW
Continuous power	107 hp	80 kW	120 hp	80 kW
Peak torque	236 lbf ft	320 Nm	258 lbf ft	350 Nm
Continuous torque	118 lbf ft	160 Nm	125 lbf ft	160 Nm
Maximum efficiency (as a system)	95%		95%	

**Performance curves**

*EM+EC System 135 kW (left) and EM+EC System 165 kW (right)*



For reference only. To view additional efficiency maps, please contact us.

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