

Data Sheet

EM-PMI318B + EC-C1200F

Electric Machine + Converter Systems

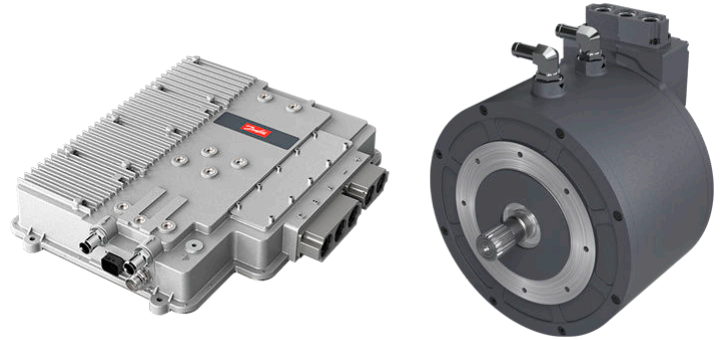
Formerly the UQM PowerPhase HD2 220(+), 250(+)

These Danfoss Editron machine + converter systems were specifically designed for heavy-duty commercial electric vehicle applications and provide more than 95% system efficiency.

These systems provide the highest continuous power and torque in their class.

Designed to meet the most rigorous applications for durability and functional safety, these systems are also a scalable design to future-proof the most diverse commercial EV/HEV/PHEV platforms.

This system is designed for pairing with various transmissions as well as integrated into eAxles for optimizing overall vehicle drive train efficiency, increased vehicle range, and total cost of ownership.



Features

- Reduced size and increased power density
- Unique, advanced PM synchronous machine
- High efficiency (95% DC input to Shaft power out)
- Increased Continuous power and torque capability
- Fastest known speed sync for shifting transmissions
- Designed for highest durability and functional safety
- Graphical user interface and real time event logging

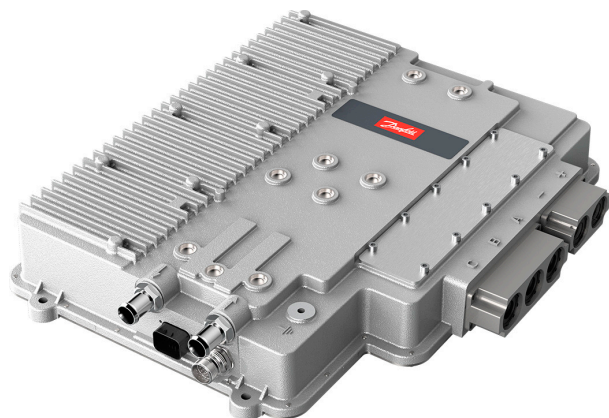
For more detailed information, visit www.danfoss.com

System specifications

	EM-PMI318B-T440E-255V and EC-C1200F-1200	EM-PMI318B-T520E-465V and EC-C1200F-1200
Operating speed	0 - 6000 rpm	0 - 5500 rpm
Maximum / continuous power*	220 kW / 135 kW	250 kW / 180 kW
Maximum / continuous torque	700 Nm / 440 Nm	1000 Nm / 520 Nm
Peak efficiency	95%	95%
Operating voltage	250-440 VDC	450-750 VDC
Nominal voltage**	360 VDC	660 VDC
Communication	CAN bus	CAN bus

* Continuous ratings stated at 60° C inlet coolant

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

Converter description (EC-C1200F-1200)

Dimensions

Length	21.2 in	539 mm
Width	16.0 in	408 mm
Height	3.8 in	96 mm
Weight	42 lb	19 kg

Converter performance
Operating voltage

	EC-1200F-1200-440	EC-1200F-1200-750
Operating voltage input range	250 - 440 VDC	450 - 750 VDC
Minimum voltage	250 VDC	450 VDC
Maximum voltage	440 VDC	750 VDC

Digital signal processor

Nominal input voltage	12 or 24 VDC
Input supply voltage range	9 to 35 VDC
Input supply current range	1 to 5 A

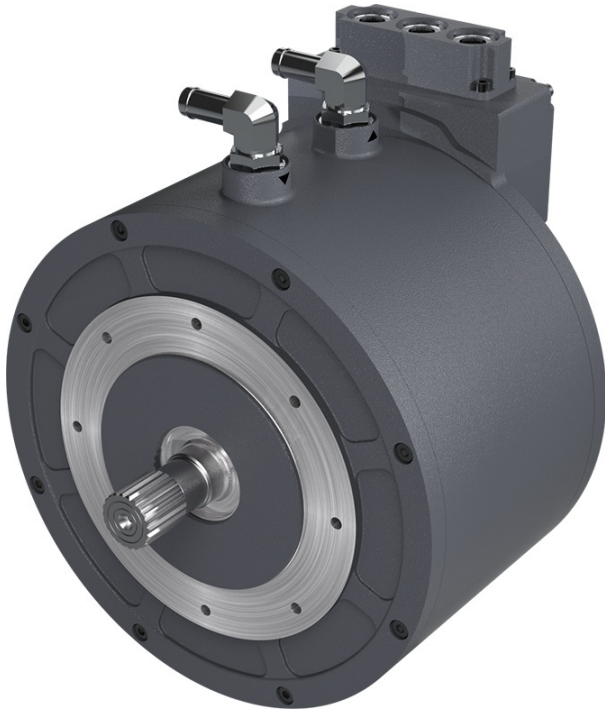
Liquid cooling system

	EC-1200F-1200-440	EC-1200F-1200-750
Minimum coolant flow	10 l/min 50/50 water/ glycol	10 l/min 50/50 water/ glycol
Maximum inlet temperature	140° F / 60° C	140° F / 60° C

Inverter type

Control type	Proprietary
Power device	IGBT
Switching frequency	3 to 12 kHz

Motor description (EM-PMI318B)



Dimensions

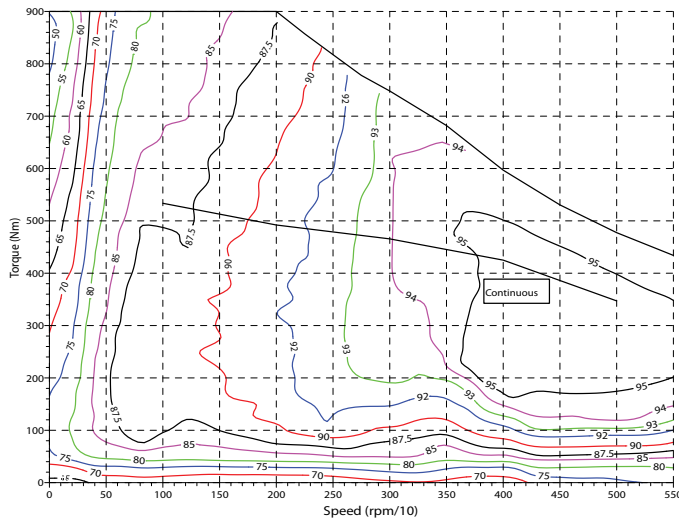
Length	8.9 in	226 mm
Diameter	15.4 in	360 mm
Weight	187 lb	81 kg

Specifications

	EM-PMI318B-T440E-255V		EM-PMI318B-T520E-465V	
Peak power	295 hp	220 kW	335 hp	250 kW
Continuous power*	201 hp	135 kW	241 hp	180 kW
Peak torque	516 lbf ft	700 Nm	737 lbf ft	1000 Nm
Continuous torque	325 lbf ft	440 Nm	384 lbf ft	520 Nm
Maximum efficiency	95%		95%	

* Continuous ratings with 60° C inlet coolant.

Performance curve



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