POWERPHASE® HD 220

UQM PowerPhase® HD 220 was specifically designed for heavy-duty drive applications. Providing up to 94 percent efficiencies, this system consists of a high performance liquid cooled permanent magnet motor and a high-power, liquid-cooled inverter with a full-featured digital signal processor controller.

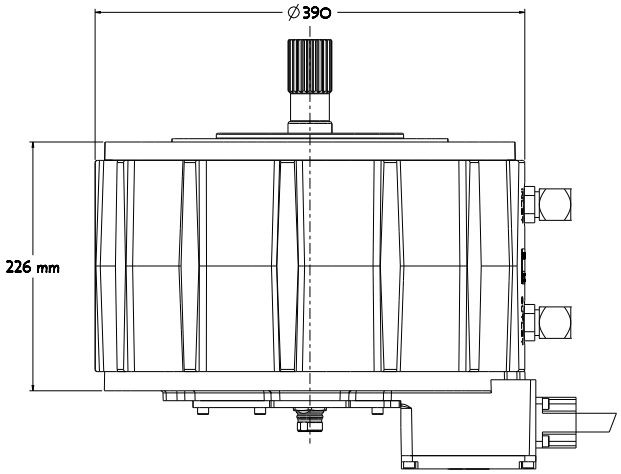
FEATURES

EV/HEV traction drive
Power dense, brushless permanent magnet motor
High efficiency (94%)
CAN bus communication
Torque control, speed control and voltage control
Built-in safety features
Real time data event logging

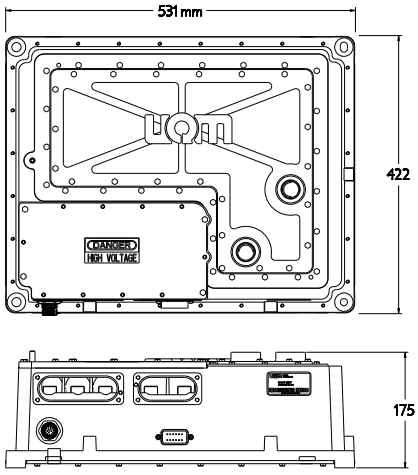
SYSTEM SPECIFICATIONS

Operating speed	0-6000 rpm
Maximum / continuous power	220 kW / 120 kW
Maximum / continuous torque	700 Nm / 350 Nm
Peak efficiency	94%
Operating voltage	250-440 VDC
Communication	CAN bus

POWERPHASE® HD 220 MOTOR



POWERPHASE® HD 220 CONTROLLER



INNOVATIVE SOLUTIONS FOR ELECTRIFYING VEHICLES
P 303.682.4900 F 303.682.4901 www.uqm.com

MOTOR PERFORMANCE

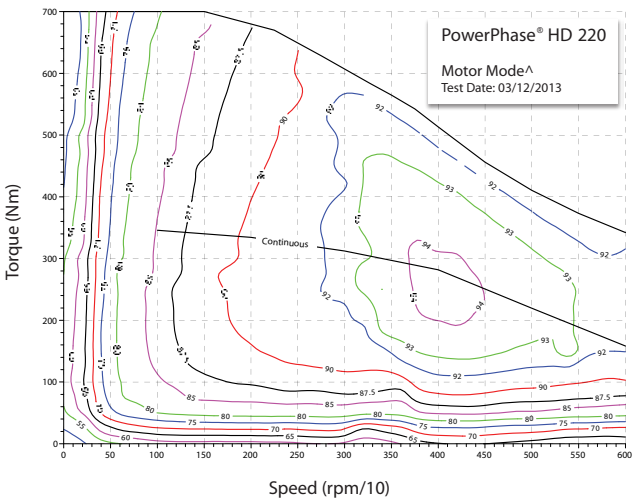
SPECIFICATIONS

Peak Power	295 hp	220 kW
Continuous power	140 hp	120 kW
Peak torque	516 lbf ft	700 Nm
Continuous torque	258 lbf ft	350 Nm
Maximum efficiency	94%	
Power density	1.57 hp/lb	2.7 kW/kg

DIMENSIONS

Length	8.9 in	226 mm
Diameter	15.4 in	390 mm
Weight	187 lb	85 kg

PERFORMANCE CURVE



To view additional efficiency maps, please contact us.

CONTROLLER PERFORMANCE

OPERATING VOLTAGE

Operating voltage input range	250-440 VDC
Minimum voltage	250 VDC
Nominal input voltage	360 VDC
Maximum voltage	440 VDC
DC current limitation, motoring	500 A

DIGITAL SIGNAL PROCESSOR

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

LIQUID COOLING SYSTEM

Minimum coolant flow	10 l/min 50/50 water/glycol
Maximum inlet temperature	140° F 60° C

INVERTER TYPE

Control type	PWM & phase advance
Power device	IGBT
Switching frequency	12.5 kHz
Standby power	14 W

DIMENSIONS

Length	20.9 in	531 mm
Width	16.6 in	422 mm
Height	6.9 in	175 mm
Weight	88.0 lb	40 kg

*All product photos are for illustrative purposes only. Photos displayed may contain items that are not included in the default configuration for that system. **All specifications are subject to change. ^Performance data based on testing at 335 VDC. Variation will exist.

UQM Technologies is a developer and manufacturer of power-dense, high-efficiency electric motors, generators and power electronic controllers for the automotive, commercial truck, bus and military markets. A major emphasis for UQM is developing products for the alternative-energy technologies sector, including propulsion systems for electric, hybrid electric, plug-in hybrid electric and fuel cell electric vehicles.

CONTACT US

4120 Specialty Place
Longmont, CO 80504

P 303.682.4900
F 303.682.4901

www.uqm.com