HiTor®

for electric, hybrid electric, and fuel cell powered vehicles

Key Features:

- 440 Nm peak torque
- 50 kW peak, 30 kW continuous motor power
- 50 kW peak, 30 kW continuous generator power
- Full Power at 300-420 VDC
- EV/HEV traction drive or HEV starter/generator system
- Efficient, power dense, brushless permanent magnet motor
- Microprocessor-controlled inverter with sine wave drive
- Application-friendly graphical user interface
- Regenerative Braking

Driver Electronics Incorporate:

Serial communication

CAN bus compatibility

Diagnostic capability

Temperature sensing/alarm

Speed sensing

Graphical user interface

Benefits:

Tight voltage regulation

Improved braking and extended range

Suitable for automotive applications

Enhanced thermal management

Torque, speed, and voltage control modes

Rugged, weatherproof enclosure

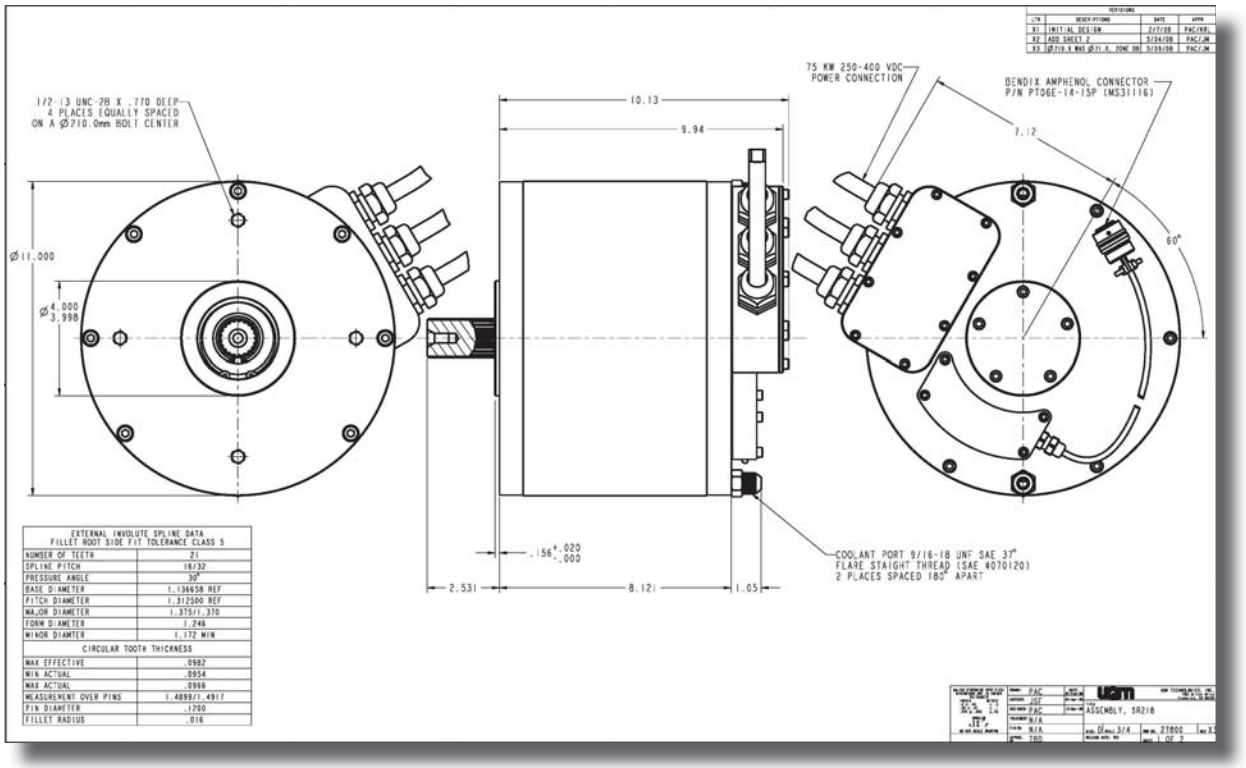
Liquid cooling

Light weight

HiTor®

UQM380 Brushless PM Motor/Generator

Dimensions		
Length	9.94 in	252 mm
Diameter	11.00 in	280 mm
Weight	90 lb	41 kg
Performance		
Peak power	67 hp	50 kW
Continuous power	40 hp	30 kW
Peak torque	325 lbf•ft	440 N•m
Continuous torque	133 lbf•ft	180 N•m
Maximum speed	6500 RPM	
Maximum efficiency	93%	
Power density (based on 50 kW)	0.74 hp/lb	1.22 kW/kg



HiTor®

DD45-400L Inverter/Controller

Operating Voltage

Nominal input range	300 to 420 VDC
Operating voltage input range	240 to 420 VDC
Minimum voltage limit	240 VDC
Input current limitation	400 A

Dimensions

Length	14.96 in	380 mm
Width	14.37 in	365 mm
Height	4.69 in	119 mm
Weight	35.0 lb	15.9 kg

Inverter Type

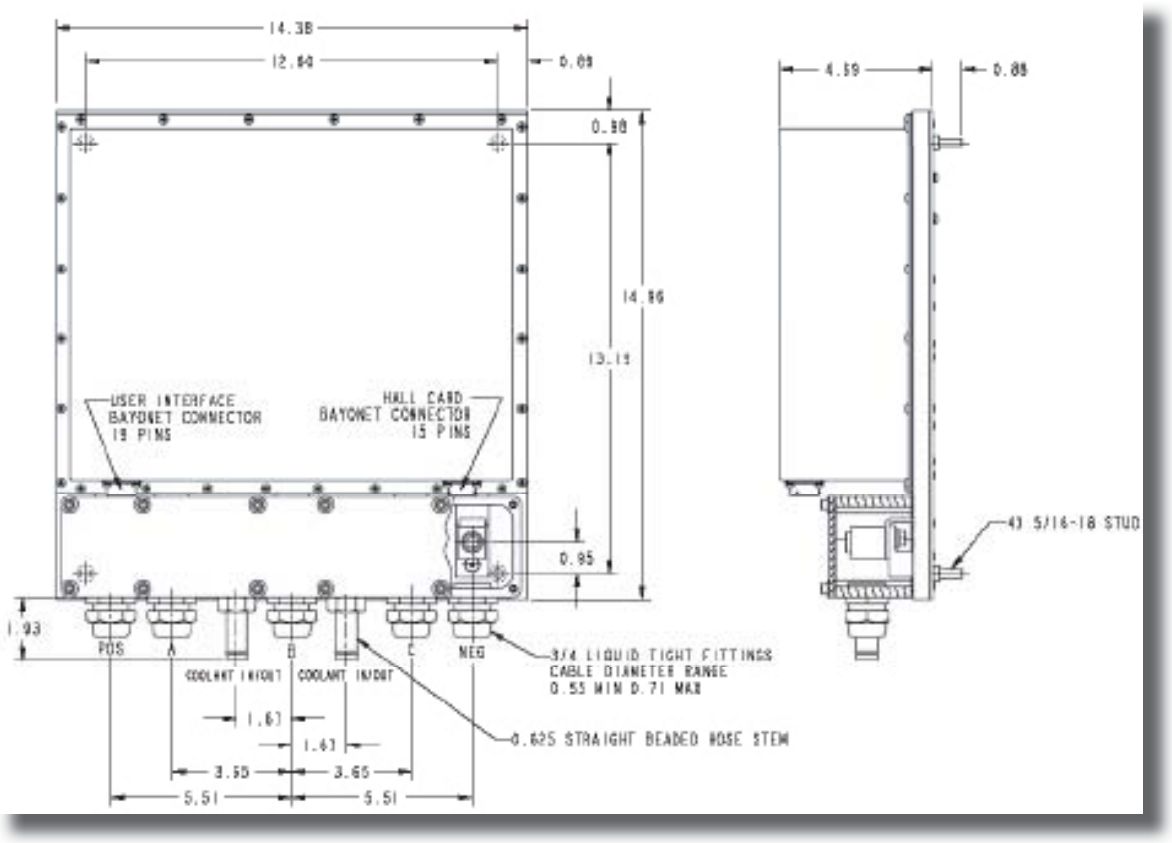
Control type	PWM & phase advance, 3-Phase Brushless PM
Power device	IGBT module half bridge × 3
Switching frequency	12.5 kHz
Standby power consumption	17 W *(inverter and microprocessor)*

Liquid Cooling System

Minimum coolant flow 8 l/min *(50/50 water/glycol mix)*		
Max. inlet temp of controller	131° F	55° C
Inner diameter of hose	5/8 in	16 mm
Max. inlet pressure	10 psig	0.7 bar

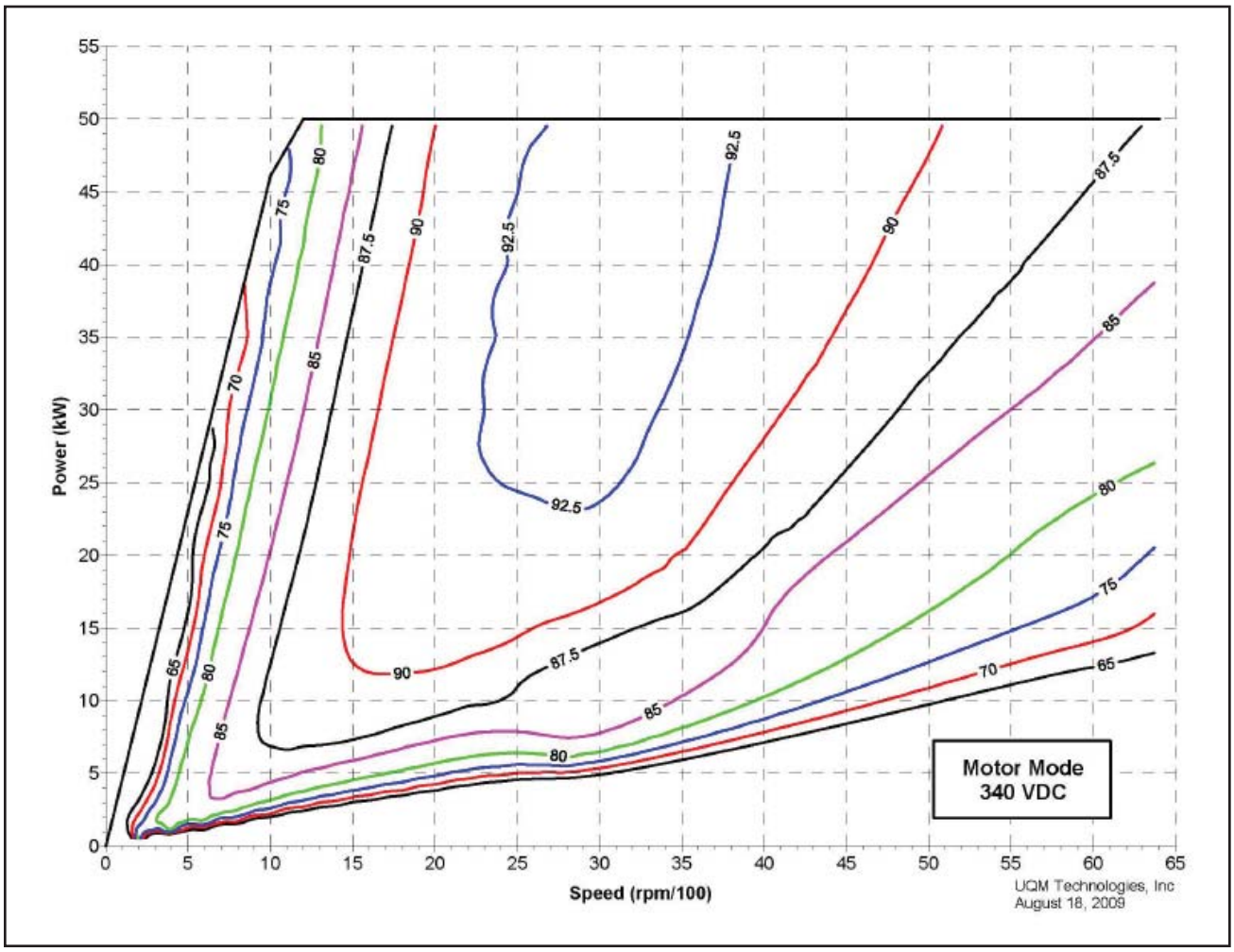
TI2812 Digital Signal Processor (internally packaged)

Nominal input voltage	12 VDC
Input supply voltage range	8 to 15 VDC
Input supply current range	0.3 to 0.5 A



Motoring Efficiency Map

Includes controller and motor



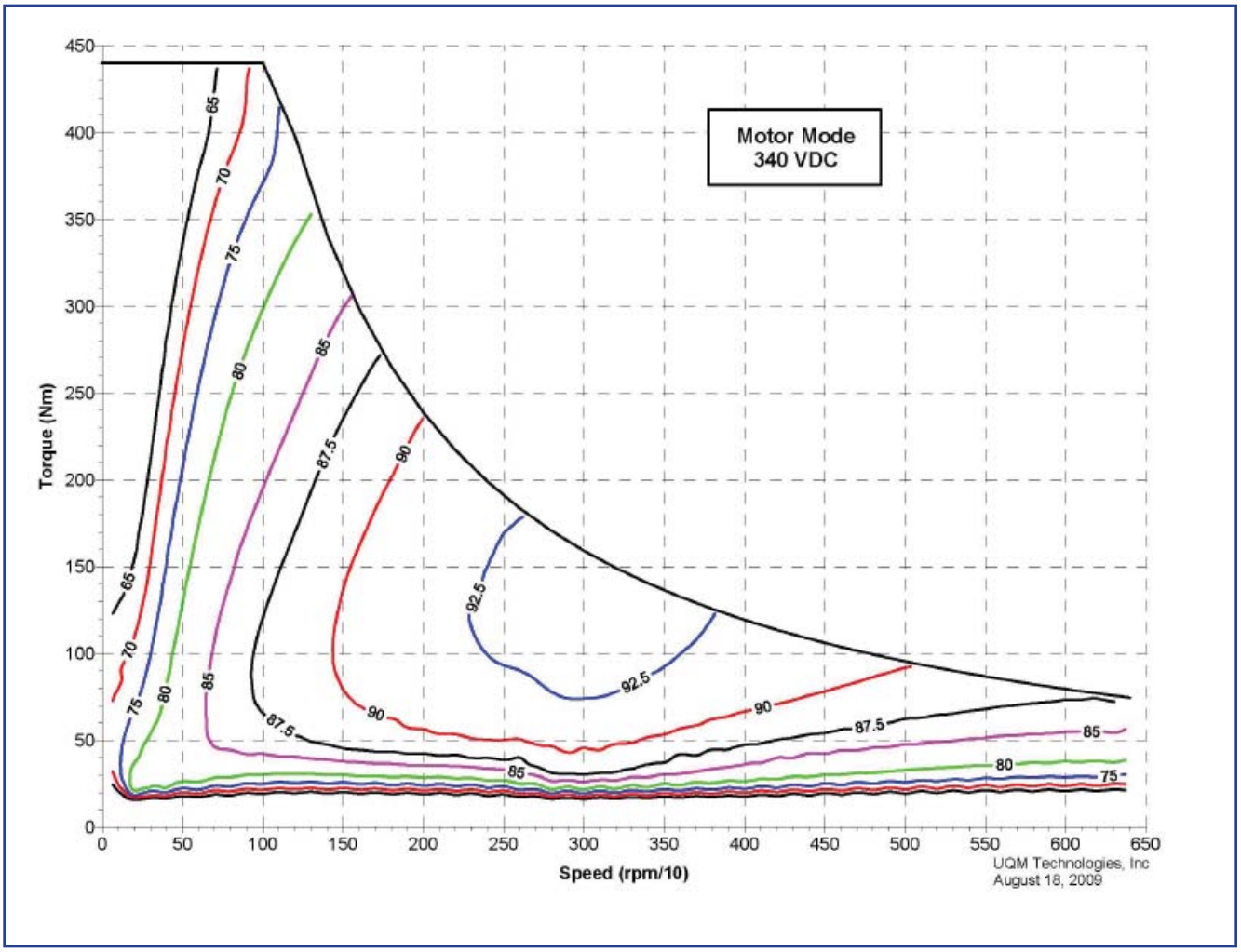
Testing Conditions

Continuous Output: 340 VDC input, 40•C coolant

Peak Output: 340 VDC input, 40•C coolant

Motoring Efficiency Map

Includes controller and motor



Testing Conditions

Continuous Output: 340 VDC input, 40•C coolant

Peak Output: 340 VDC input, 40•C coolant