



PowerPhase[®] 75

for electric, hybrid electric, and fuel cell powered vehicles



Key Features:

- 240 Nm peak torque
- 75 kW peak, 45 kW continuous motor power
- 75 kW peak, 41 kW continuous generator power
- Full Power at 240-420 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
- Full regenerative Braking

Driver Electronics Incorporate:

- Serial communication
- CAN bus compatibility
- Diagnostic capability
- Temperature sensing/alarm
- Speed sensing
- Graphical user interface

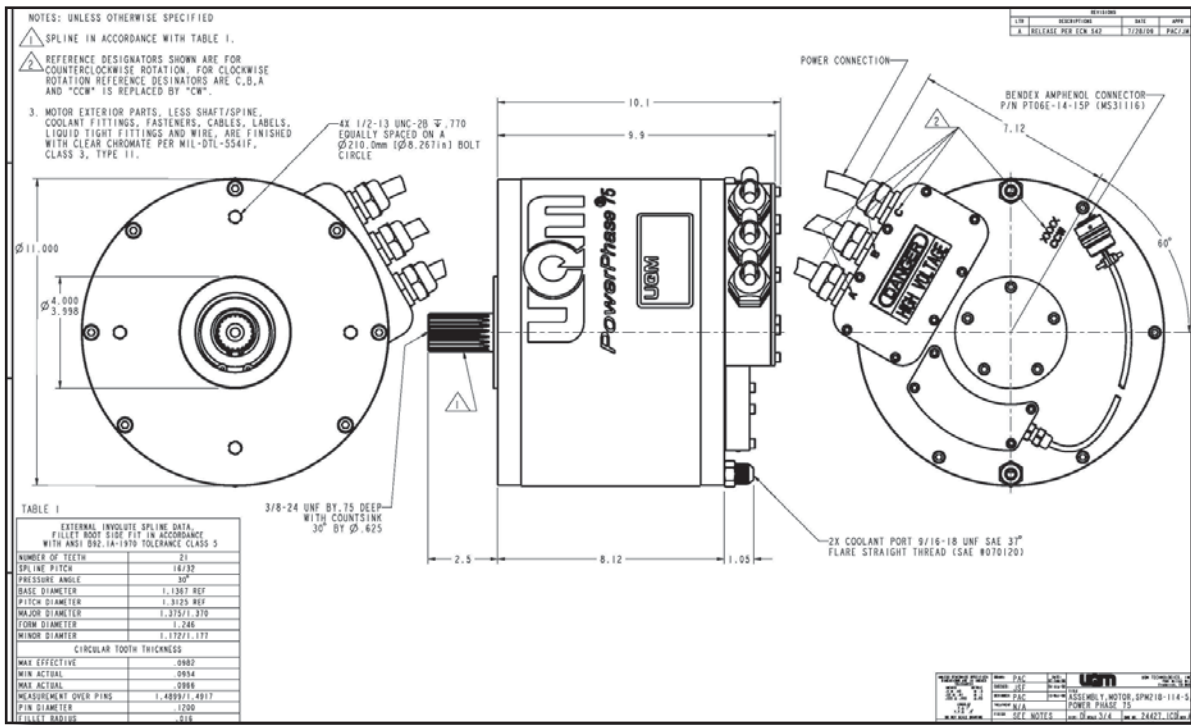
Benefits:

- 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

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SR218N Motor/Generator

Dimensions		
Length	9.94 in	252 mm
Diameter	11.00 in	280 mm
Weight	90 lb	41 kg
Performance		
Peak power	100 hp	75 kW
Continuous power at 4,000 rpms	60 hp	45 kW
Peak torque	176 lbf•ft	240 N•m
Continuous torque	110 lbf•ft	150 N•m
Maximum speed	8000 RPM	
Maximum efficiency	94%	
Power density (based on 75 kW)	1.11 hp/lb	1.83 kW/kg



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DD45-400L Inverter/Controller

Operating Voltage

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

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)

Dimensions

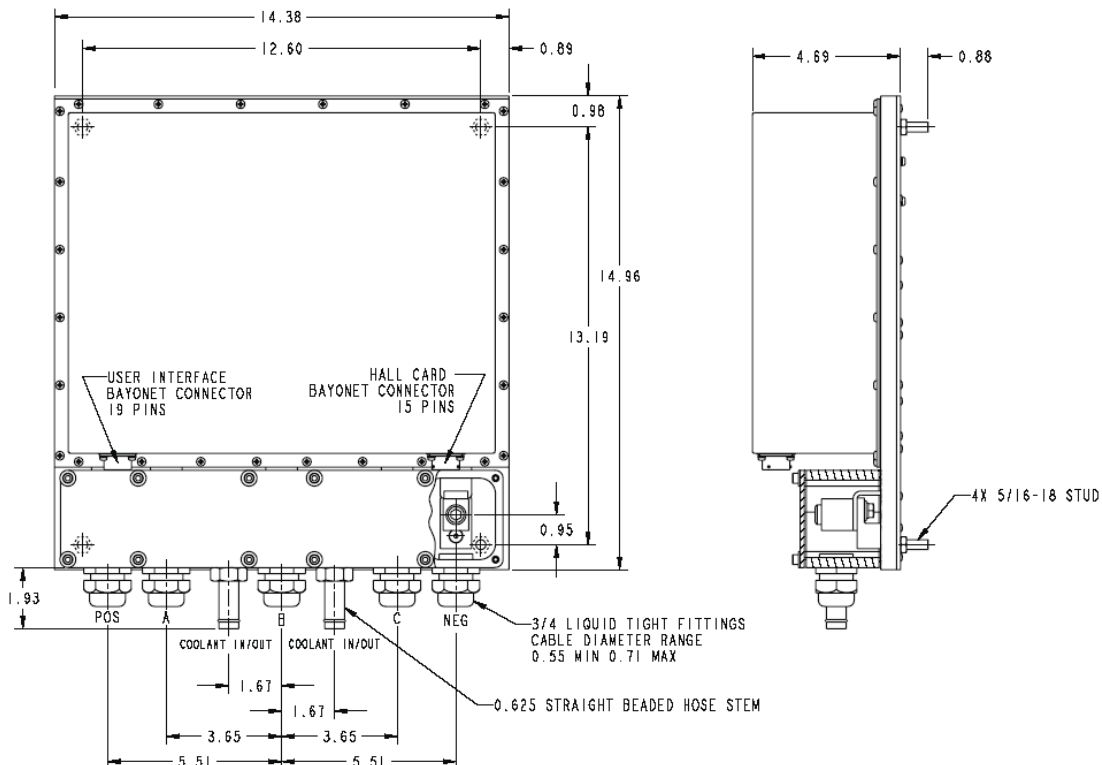
Length	14.96 in	380 mm
Width	14.37 in	365 mm
Height	4.69 in	119 mm
Weight	35.0 lb	15.9 kg

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

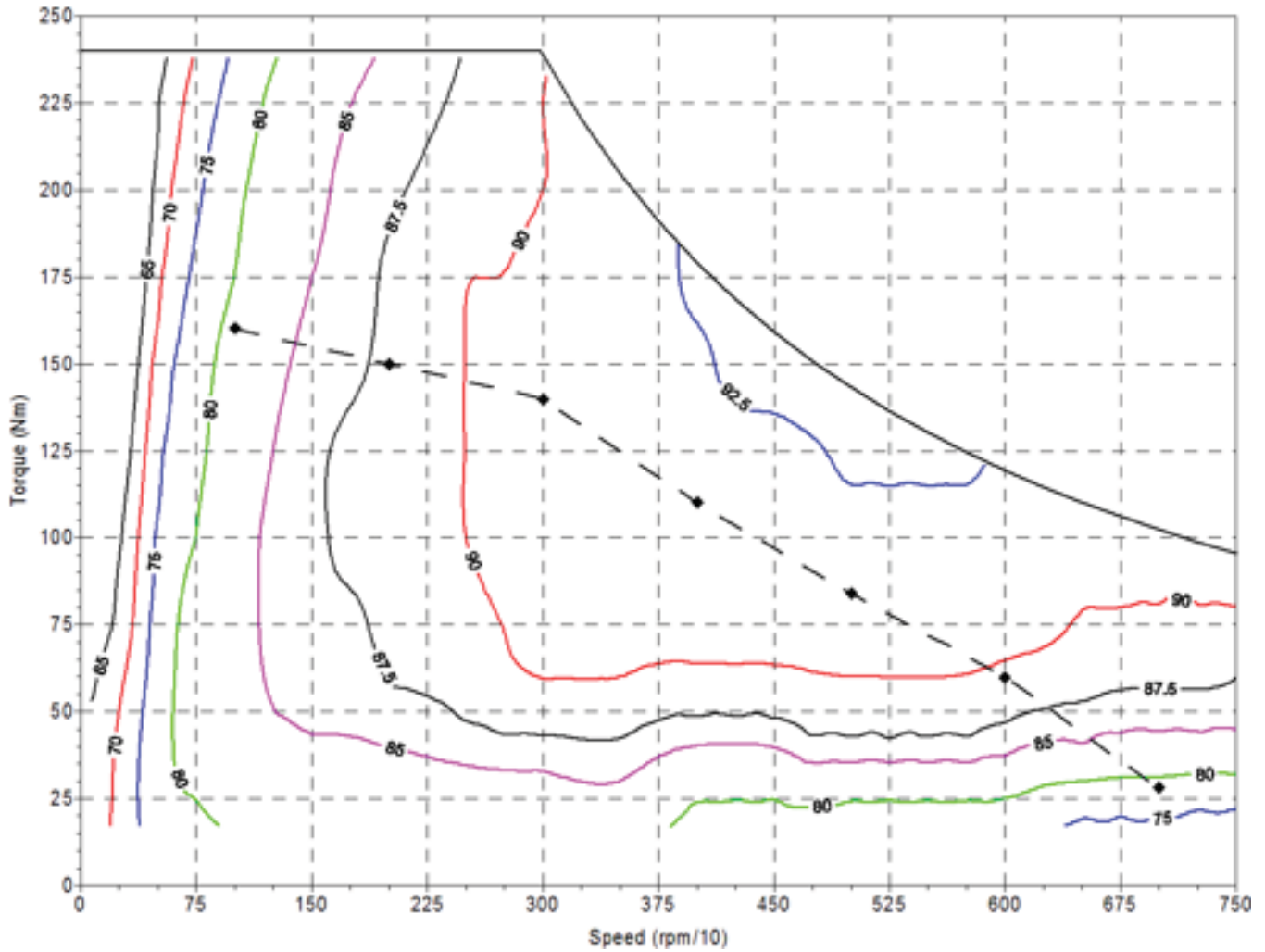
TI2812 Digital Signal Processor (internally packaged)

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

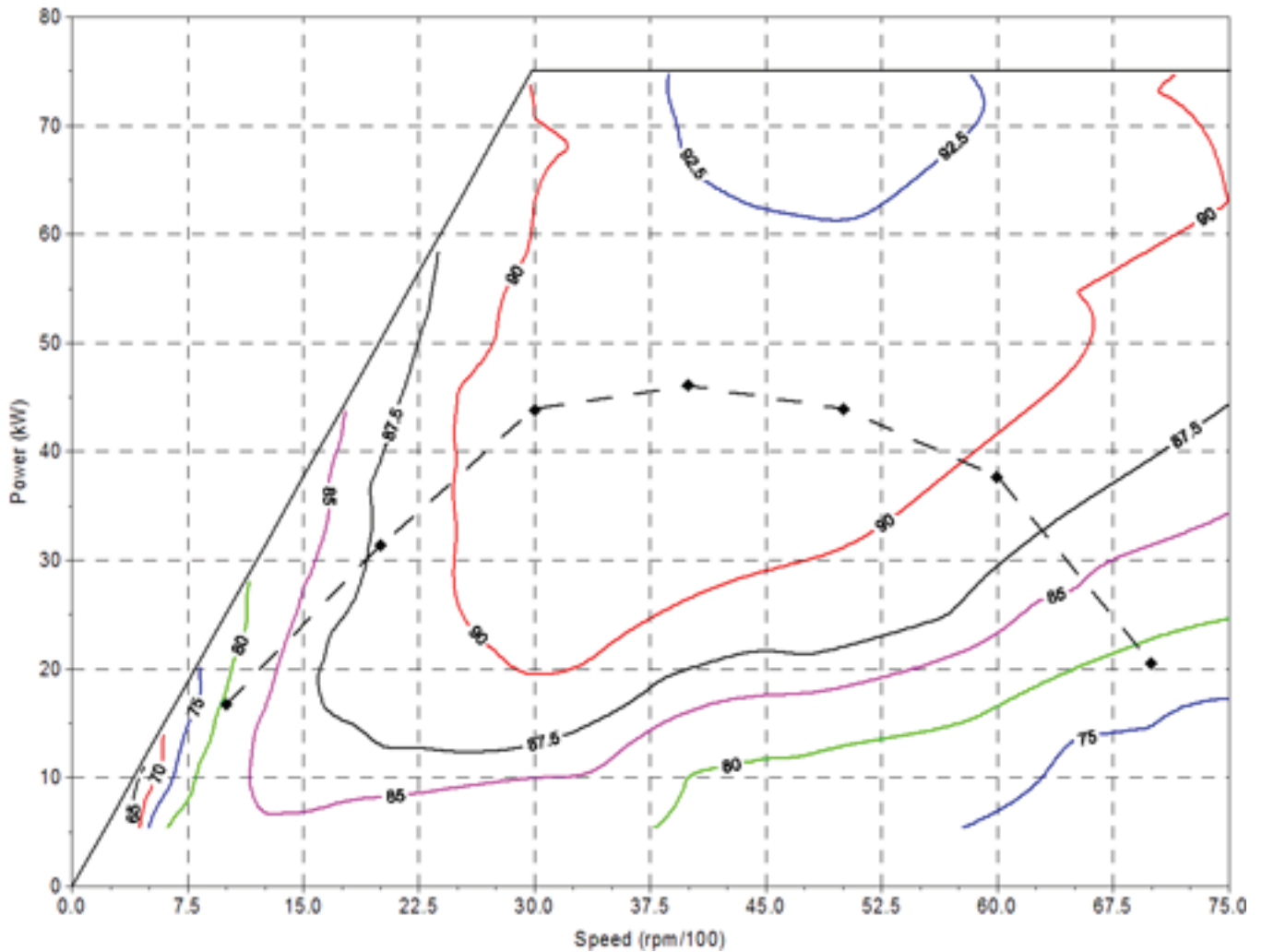
Continuous Output: 300 VDC input, 55°C coolant

Peak Output: 300 VDC input, 55°C coolant, duration 30-90 seconds

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Motoring Efficiency Map

Includes controller and motor



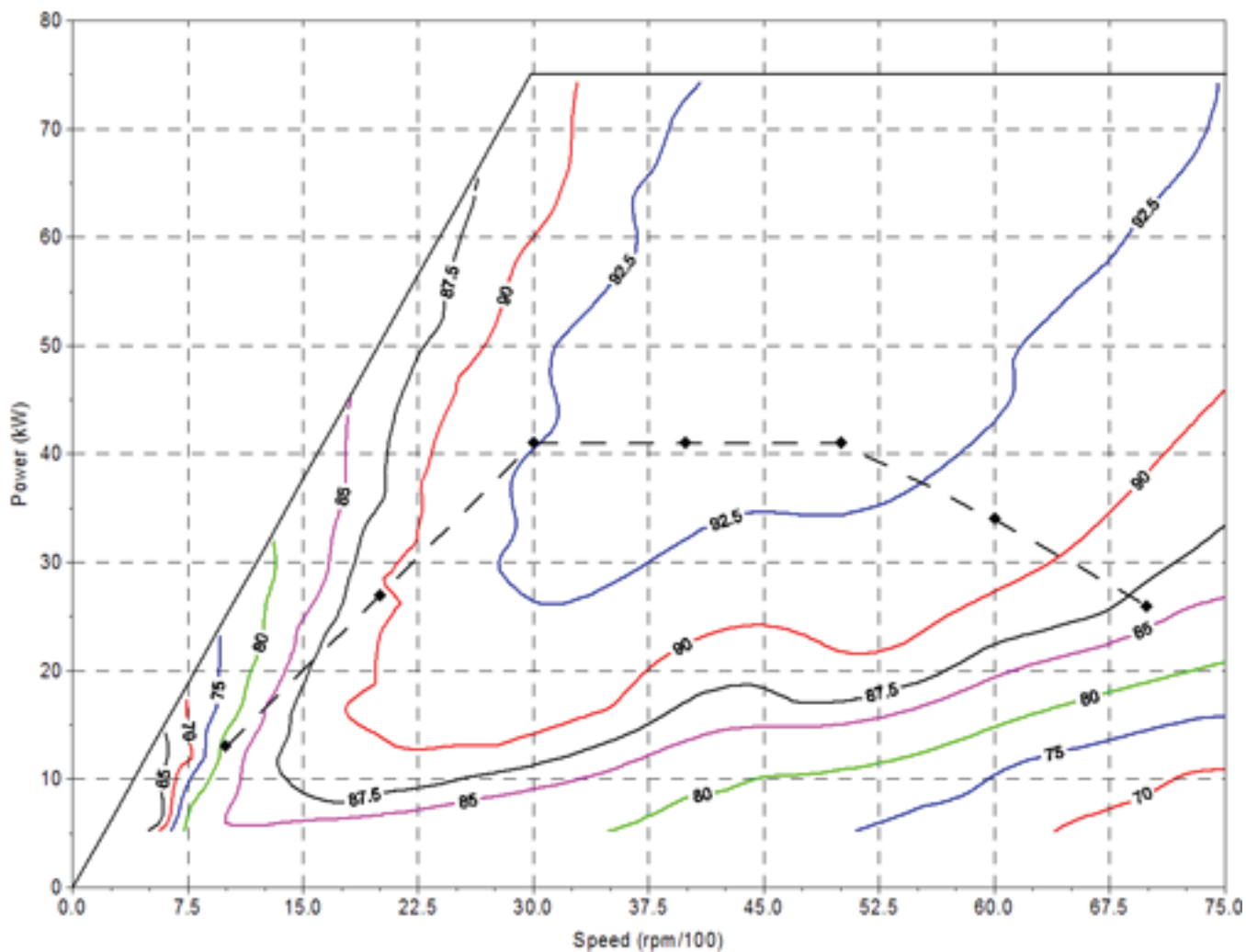
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Generating Efficiency Map

Includes controller and generator



Testing Conditions

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