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Datasheet VM616-18W0040

Art.-No: VM616-18W0040-RH20065-0210

Prototype

VM600M - Expert eMotors

Synchronous electric motors and generators for mobile applications perfectly matched to the VP600 inverter product line.

VM600M Features

- maximum lifetime
- high efficiency especially at partial load
- scalable performance and easy implementation of redundancy

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Product overview	
Article no.	VM6 16-18W0040-RH20065-0210
Motor topology	PM synchronous motor
Size	
Weight	75 kg
Diameter shaft	38 mm
Length shaft	66.5 mm
Total length	380.5 mm
Length	314 mm
External diameter	305 mm
Technical data	
Noiminal torque ¹⁾	110 Nm
Rated speed	6000 1/min
Max. speed n_{max} ⁴⁾	7200 1/min
Nominal current UVW, per phase	104 A _{rms}
Rated power ³⁾	69 kW
Terminal voltage (AC)	430 V
Torque constant	1.05 Nm/A _{rms}
Peak current UVW, per phase	410 A _{rms}
Max. overload for 10 sec ²⁾	400 Nm
Max. overload for 1 min ²⁾	360 Nm
Max. overload for 10 min ²⁾	125 Nm
Voltage constant	62 V/1000 rpm
Efficiency at continuous load (up to)	95.6 %
Number of pole pairs	5
Electrical wiring	Star connection
Rotary encoder	<ul style="list-style-type: none"> • Resolver
Encoder manufacturer name	Yingshuang
Encoder manufacturer type	YS J52XU9735A
Shaft design	Cylindric
Temperature sensors	Triplets PTC 1k, PT100
Technical notes	<p>¹⁾ Rated torque at: 6000 rpm, 670VDC, 15l/min coolant flow rate at 35°C and 25°C ambient</p> <p>²⁾ Max. torque at: < 5000 rpm, 670VDC, 15l/min coolant flow rate at 35°C and 25°C ambient</p> <p>³⁾ Rated power valid for 30min.</p> <p>⁴⁾ dependent on available DC-voltage</p>

Cooling	
Liquid cooling	yes
Cooling medium	Water/glycol (50:50)
Cooling water connection (screw thread)	3/4"
Min. coolant throughput	15 l / min
Max. coolant pressure	2 bar
Min. coolant pressure	0.5 bar
Max. coolant temperature without derating	35 °C
Max. coolant temperature with derating	65 °C

Properties	
Plug type	Amphenol PowerLok 301

Environment	
Max. ambient temperature in operation	65 °C
Min. ambient temperature in operation	-25 °C
Protection class according to EN 60529	IP65

Pin settings

ENC

Properties	
Plug type	A DF A 015
Plug design	17 pol., type "E"

pin-no.	operation	type	I/O
1	P+	male	
2	P-	male	
3	A+	male	
4	A-	male	
5	B+	male	
6	B-	male	
7	N.C.	N.C.	
8	N.C.	N.C.	
9	N.C.	N.C.	
10	N.C.	N.C.	
11	N.C.	N.C.	
12	Interlock	male	
13	Interlock	male	
14	PT100	male	

pin-no.	operation	type	I/O
15	PT100 GND	male	
16	PTC	male	
17	PTC GND	male	

Attachments

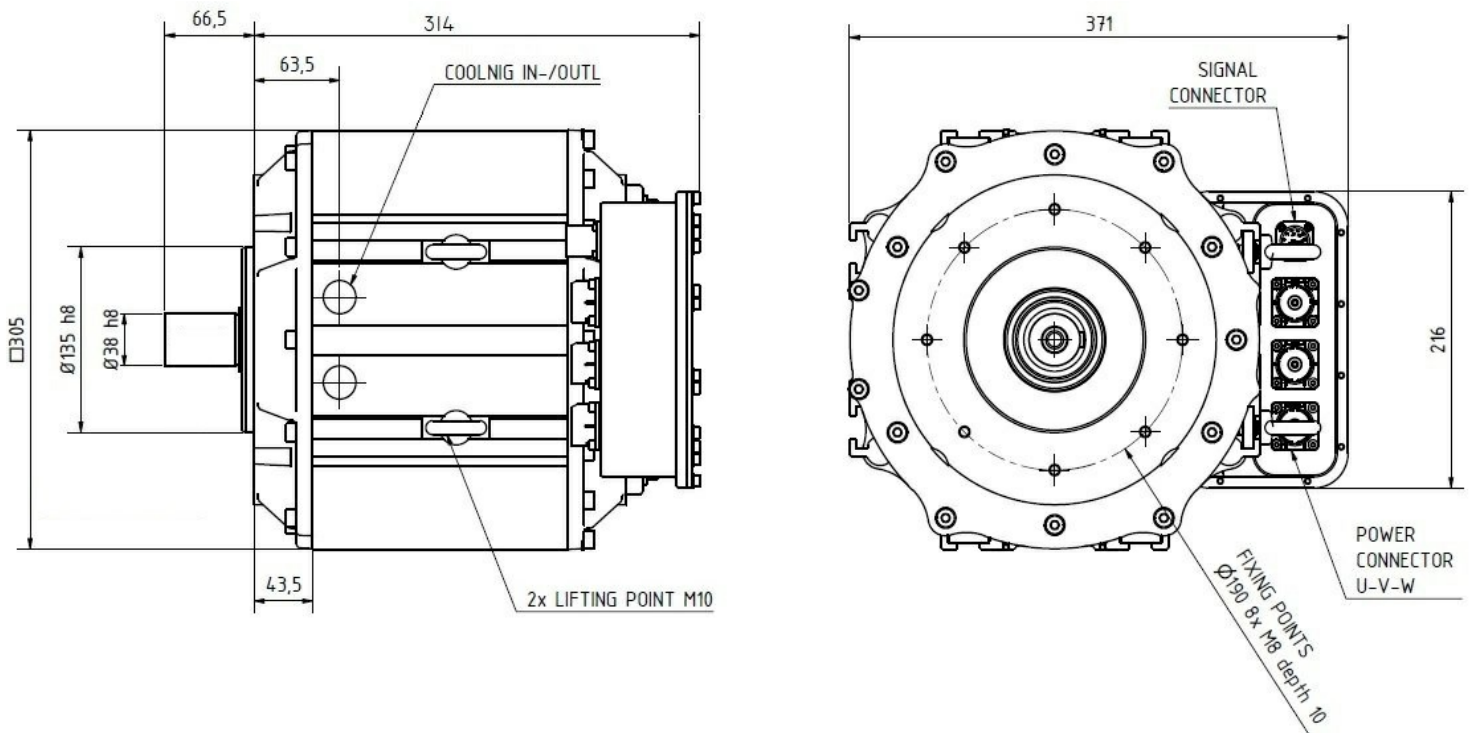


Illustration: Dimensions

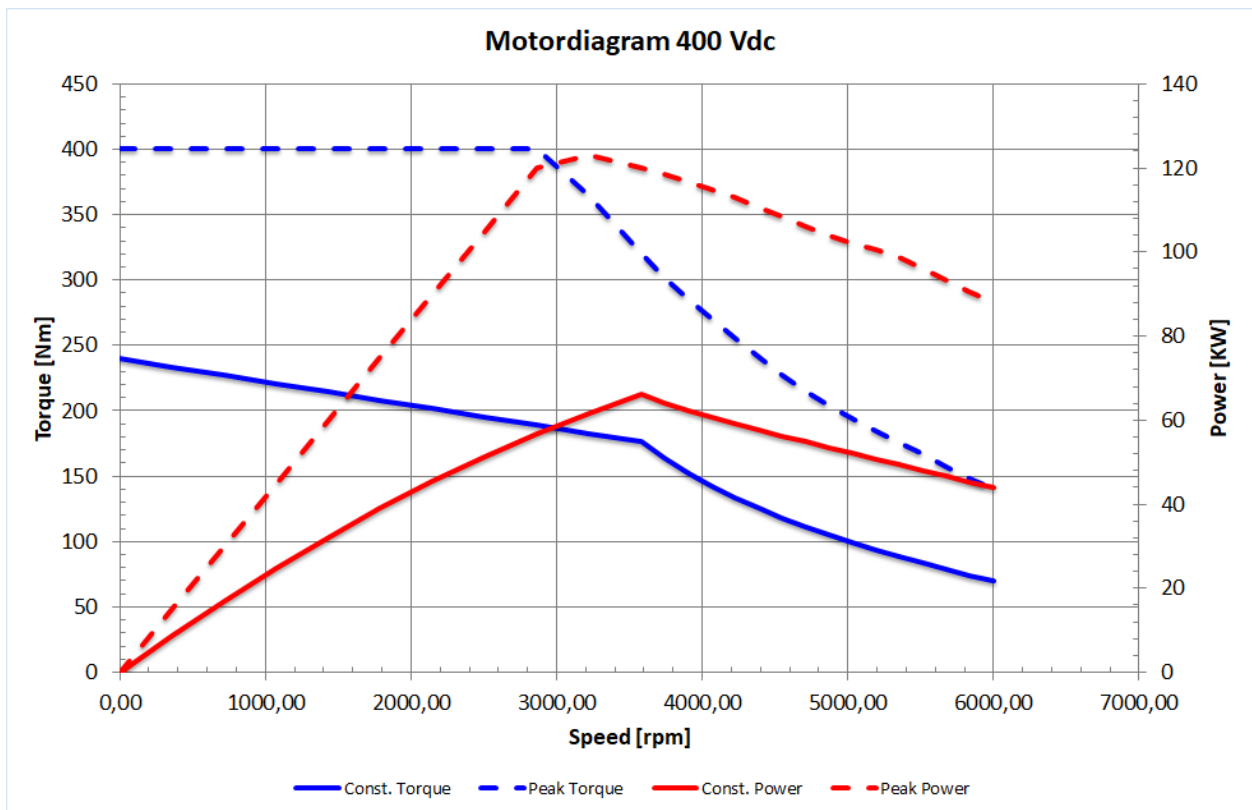


Illustration: S1 torque and power curve

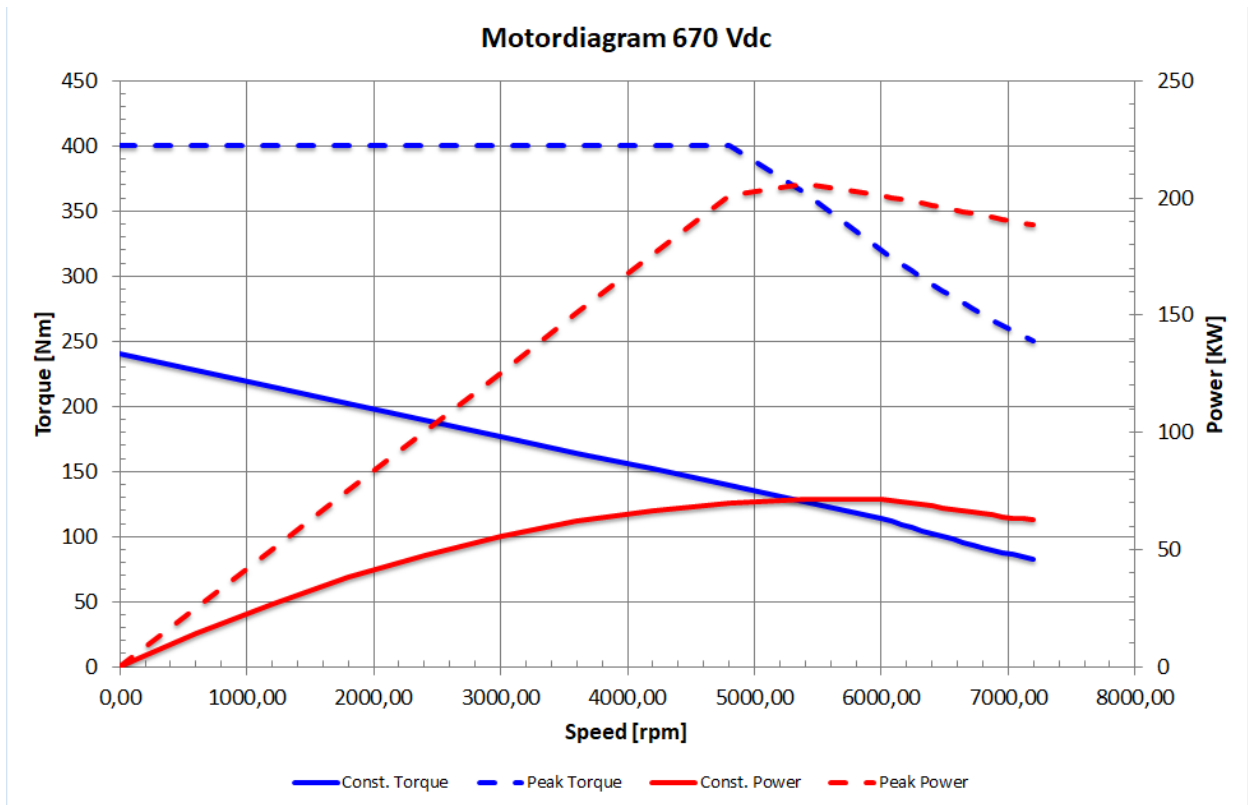


Illustration: S2 torque and power curve