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Datasheet VM600M-28W0350-RH30036

Art.-No: VM600M-28W0350-RH30036-021B

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.	VM600M-28W0350-RH30036-021B
Description	DirectDrive VECTOMOTOR for mobile applications, optimized for direct connection to the cardan shaft, without additional gearbox; Winding in star connection.
Motor topology	PM reluctance
Size	
External dimensions	560 x 560 mm
Weight	400 kg
Diameter shaft	80 mm
Length shaft	80 mm
Total length	652 mm
Length	565 mm
External diameter	560 mm
Technical data	
Noiminal torque ¹⁾	1660 Nm
Continuous torque ¹⁾	1660 Nm
Rated speed	1250 1/min
Max. speed $n_{max}^{4)}$	3600 1/min
Rated current I_n	330 A _{rms}
Rated power ³⁾	217 kW
Terminal voltage (3xAC)	3 x 430 V
Torque constant	5 Nm/A _{rms}
Max. overload for 10 sec ²⁾	3800 Nm
Peak current I_{max}	900 A _{rms}
Voltage constant	286 V/1000 rpm
typical battery voltage	670 V
Efficiency at continuous load (up to)	95 %
Efficiency at 50% load (up to)	94 %
Number of pole pairs	6
Rotor moment of inertia	3.42 kgm ²
Electrical wiring	Star connection
Rotary encoder	<ul style="list-style-type: none"> • Resolver
Encoder manufacturer name	Yingshuang
Encoder manufacturer type	YS J132XU9736
Shaft design	Fitted key (further versions optional on request)
Temperature sensors	PTC and PT100

Technical data	
Technical notes	<p>1) Nominal torque at: max. 1250 rpm at 670 VDC, 30 l/min coolant flow rate 35°C and 45°C ambient temperature.</p> <p>2) Max. overload at: < 900 rpm, 30l/min coolant flow rate 35°C and 45°C ambient temperature</p> <p>3) Rated power at: 1250 rpm at 670 VDC, 30 l/min coolant flow rate 35°C and 45°C ambient temperature</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	30 l / min
Max. coolant pressure	2 bar
Min. coolant pressure	0.5 bar
Max. coolant temperature without derating	50 °C
Max. coolant temperature with derating	70 °C

Properties	
Plug type	Amphenol PowerLok 301

Environment	
Max. ambient temperature in operation	75 °C
Min. ambient temperature in operation	-25 °C
Protection class according to EN 60529	IP65

Pin settings	
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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	

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

Attachments

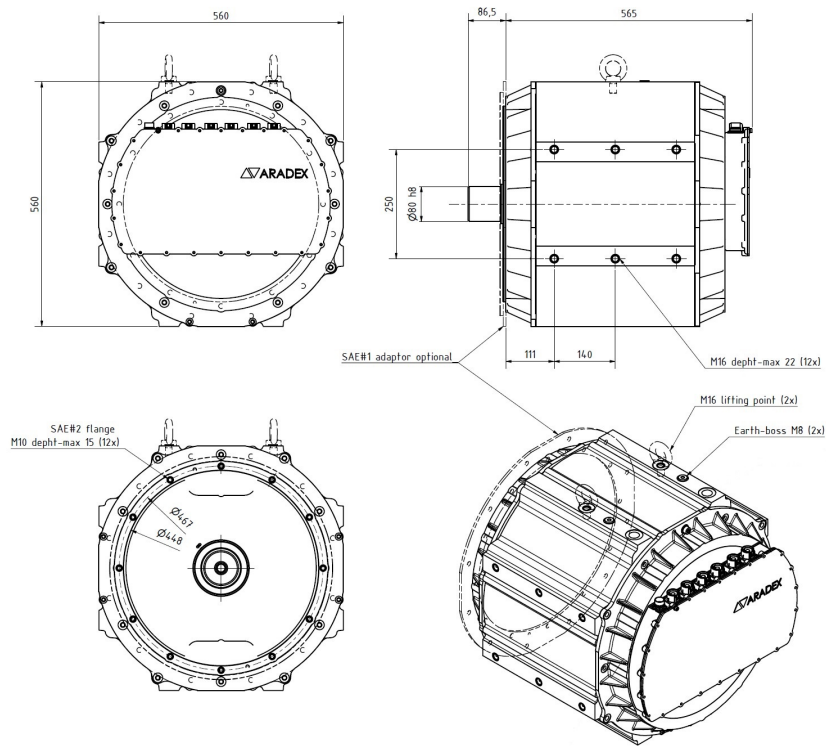


Illustration: Dimensions

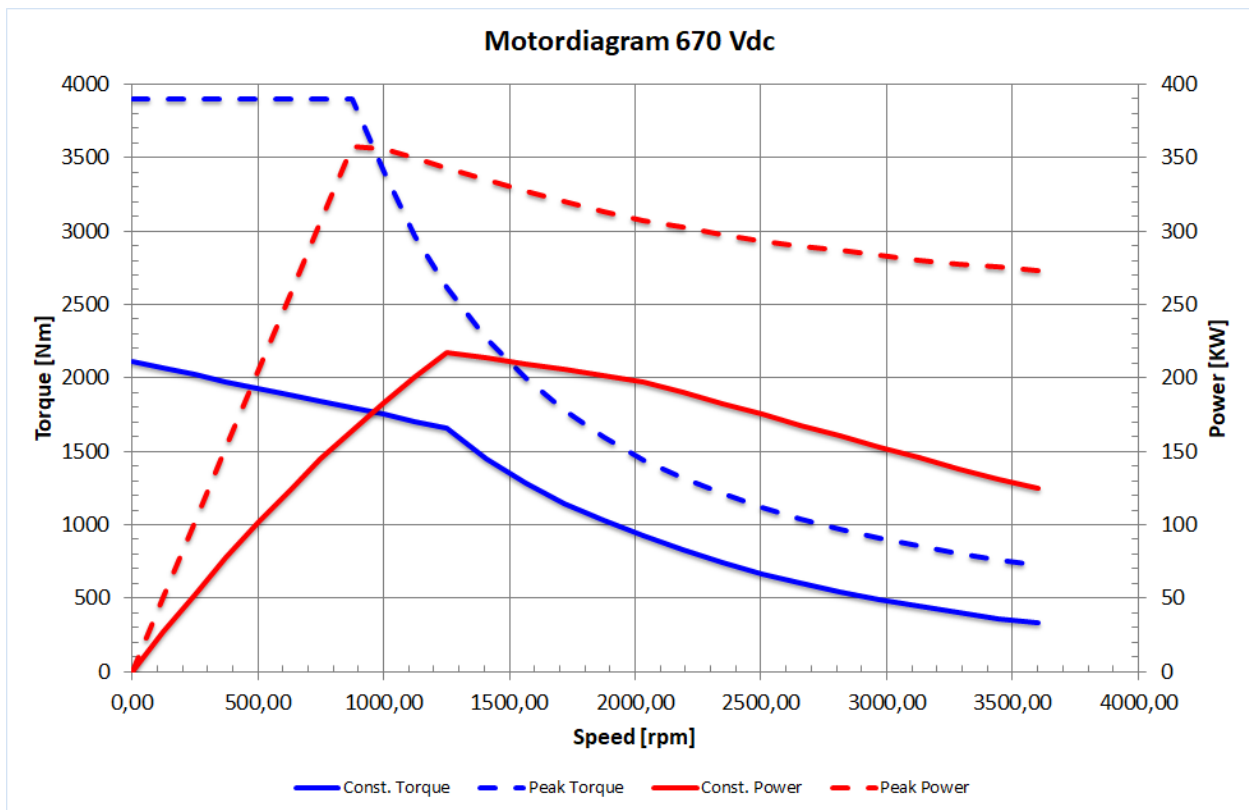


Illustration: S1 torque and power curve

VM600M-28W0350-RH30036 -- Pressure drop

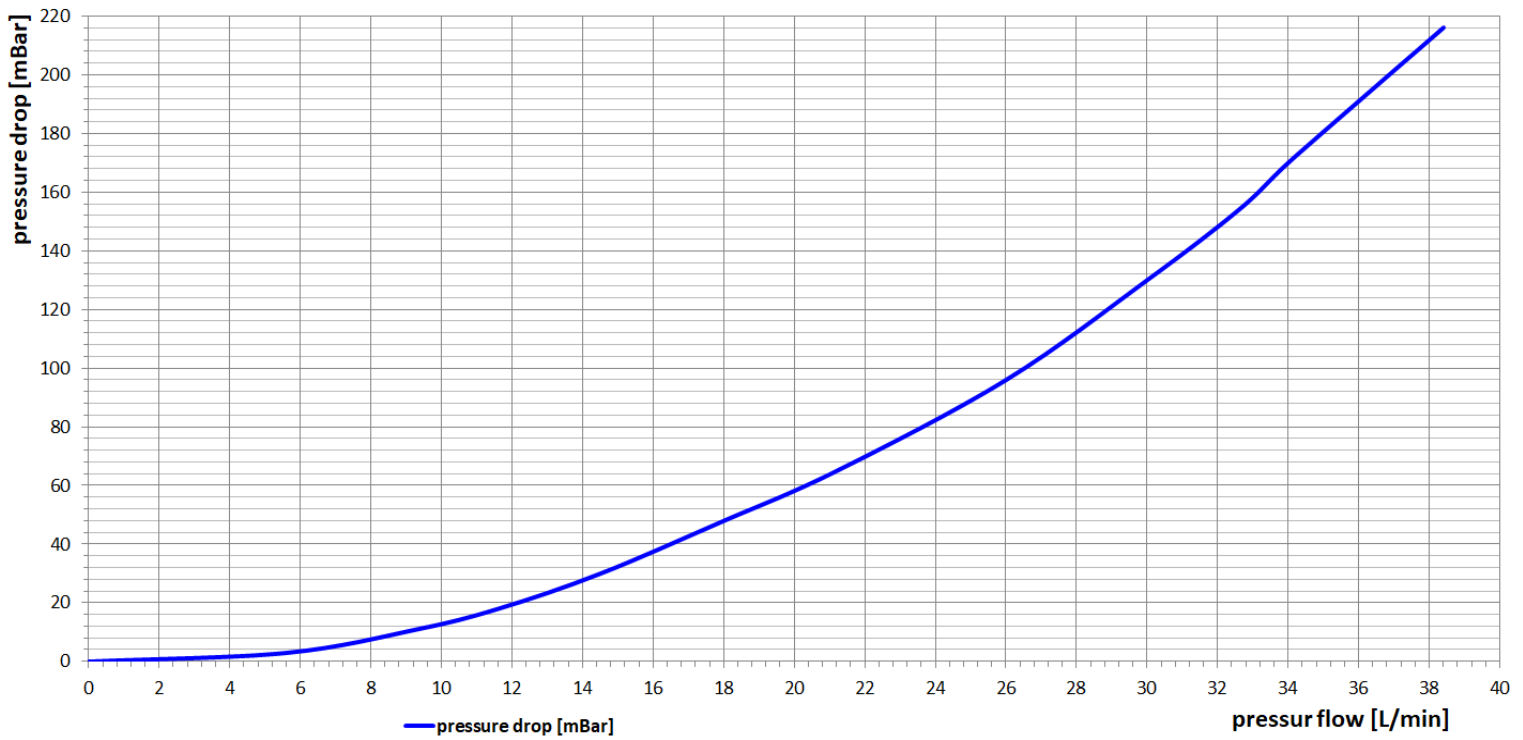


Illustration: pressure loss vs coolant flow