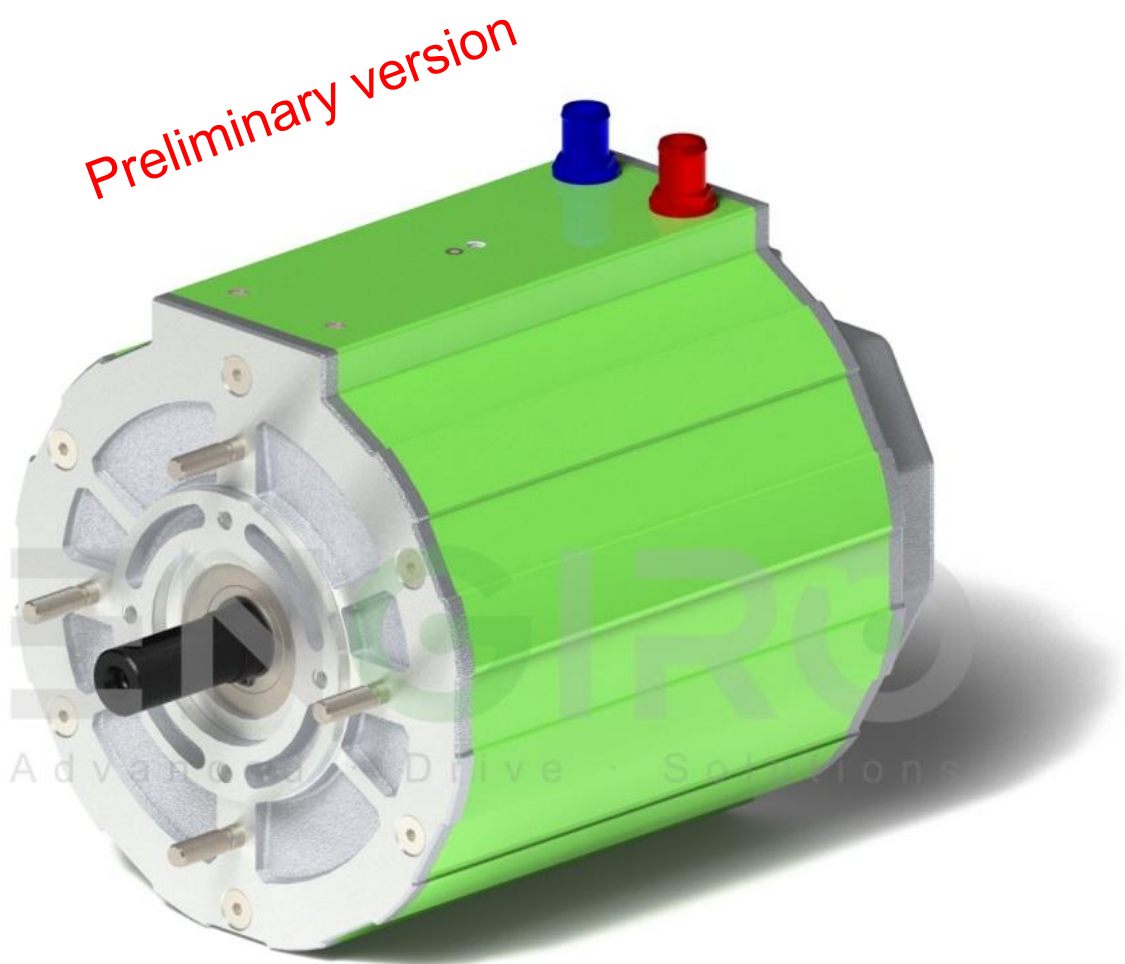


205W-12063-ABC

water-cooled motor / generator with 46 kW continuous power

Art.-No.: see page 8



KEY FEATURES

- permanent magnet synchronous machine
- water-cooled
- convincing cost-benefit ratio
- delivery with controller possible

Section	Page
Operating Range	3
Additional Data	4
Certifications	5
Performance Plots	6
Technical Drawings	7
Available Type Variants	8

To be noted:

The information in this technical data sheet is based on our current knowledge and experience. Due to the wide range of possible influences during application, they do not exempt the processor and user from carrying out their own tests and trials. Although the suitability for a specific application can be estimated from our information, a legally binding assurance is by no means possible. Depending on the individual case, we recommend consultation with us. Any industrial property rights and applicable laws must be observed by the recipient of our products on his own responsibility.

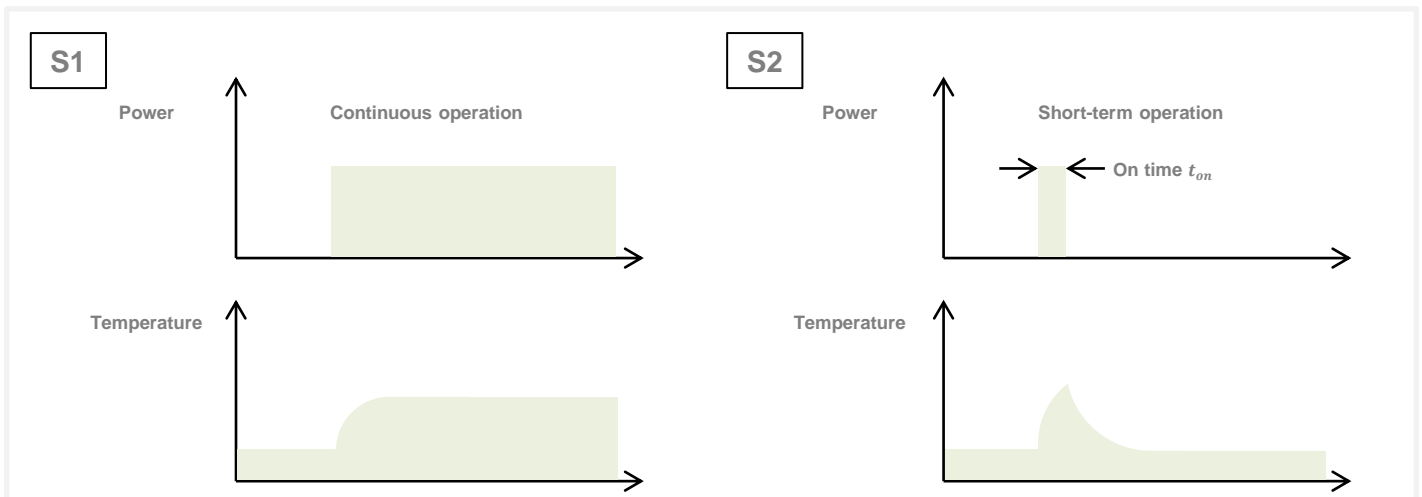
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Characteristic Operation Points¹⁾ (cooling as specified on next page)

		S1	S2	
Feasible operation time	T_{peak}	30 min	10 sec	
Torque	T	136	282	Nm
Power	P	46	71	kW
Phase rms-current (AC)	I_{rms}	80 ^{2,3)}	200 ³⁾	A
Battery voltage (DC)	U_{DC}	700	700	V
Speed	n	3280	2430	rpm
Electric frequency	f_{el}	219	162	Hz
Efficiency	η_{tot}	96	88	%
Power factor	$\cos(\varphi)$	0.80	0.55	

Maximum Operating Range¹⁾

		Min.	Nom.	Max.	
Torque	T_{max}	-	136	282	Nm
Power	P_{max}	-	46	71	kW
Phase rms-current (AC)	$I_{rms,max}$	-	80	200 ⁴⁾	A
Battery voltage (DC)	U_{max}	-	700	800	V
Speed	n_{max}	-	3280	6500	rpm
Electric frequency	$f_{el,max}$	-	219	433	Hz



- 1) Defined Range only valid for a power factor of 1 at DC input, modulation factor of 96% and HVAC cable length of 2m
- 2) Nominal current strongly dependent on cooling as specified below.
- 3) The cables must not exceed a temperature of 140 °C at any time. Temperature and service life depend on the installation condition.
- 4) Peak rating for max. 10 seconds on time

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Electrical Data			
Number of phases			3
Number of pole pairs			4
Maximal efficiency			96 %
T/l constant (I<Inom)			1.7 Nm/A _{rms}
U/n constant (AC) at a temperature of 30°C	rms:	108.8	peak: 184.9 V/(1000rpm)
Ke constant (AC) at a temperature of 30°C	rms:	0.260	peak: 0.442 V/(rad*s ⁻¹)
Additional Data			
Weight (w/o cables)		see page 7	kg
Rotor moment of inertia		0.0182	kg*m ²
Allowed range of ambient temperature		-20 ... +85	°C
Maximal motor temperature		140	°C
Cooling	Advised medium (OAT Coolants)	water/glycol - 50/50 ▪ TL 774-D/F ▪ VIN 878389 ▪ MAN 324 SNF ▪ MTL 5048	
	Flow rate		8 l/min
	Inlet temperature		≤ 60 ¹⁾ °C
	Pressure drop		> 0.09 bar
	Maximum pressure		2 bar
	Cooling channel volume		1.04 l
Temperature monitoring		1 x KTY84-130	
Ports			
Power terminals		3 x M25 cable gland	
Signal connectors		M16, 10 Pin	
Cooling connectors		inner Ø 12 mm, outer Ø 19 mm	

1) Derating >45 °C

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Certifications	
Type approval	CE, EN 60034
Environmental	ISO 9227
Protection grade	ISO 20653 IP6K9K ¹⁾
Vibrations	ISO 16750-3 ²⁾
Customs tariff number	8501 5290

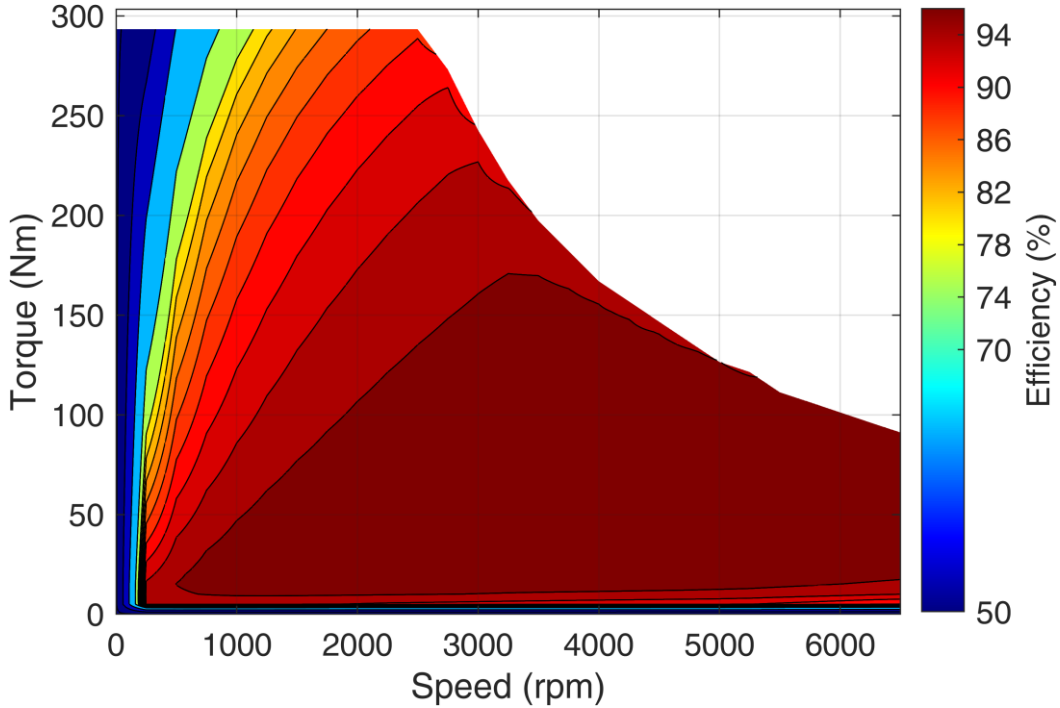
- 1) Only valid if the machines is installed with suitable cable glands and an appropriate shaft sealing.
- 2) Testing category IV - passenger car, sprung masses

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700V

Simulated Efficiency of Motor Application

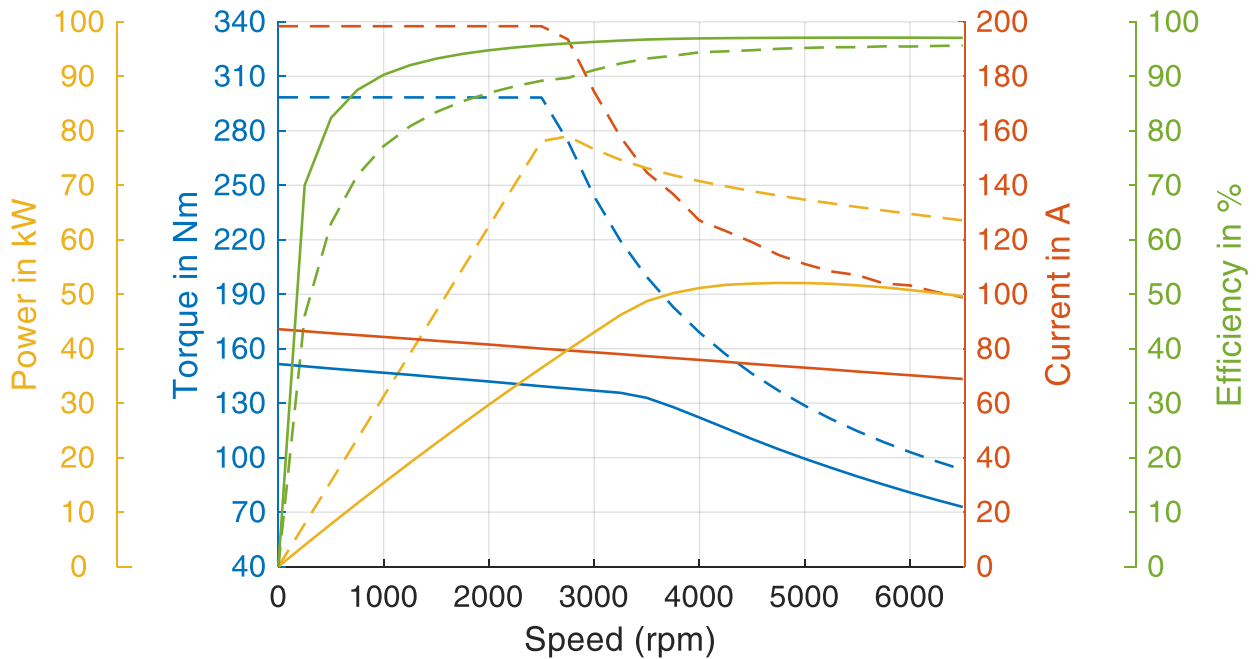
(electric machine only; machine at 100 °C;) valid for a modulation factor of 96% and HVAC cable length of 2m



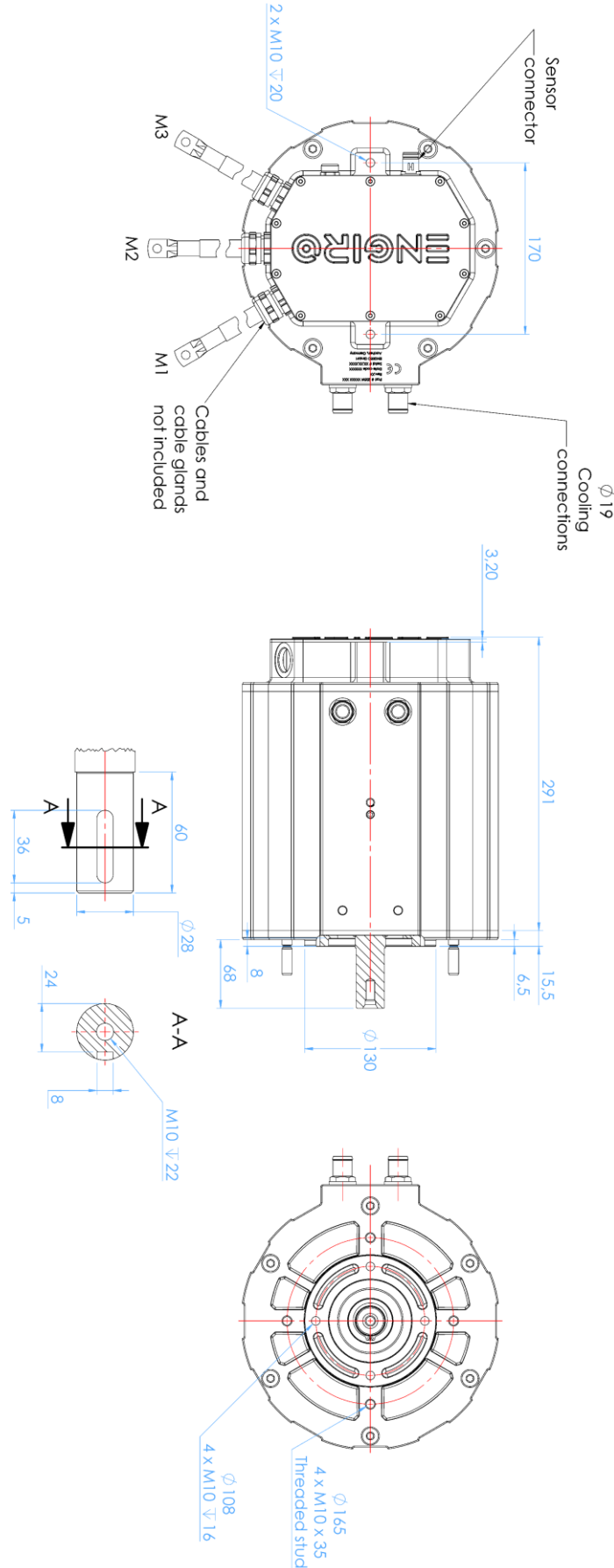
700V

Simulated Characteristic Motor Parameters

solid lines: continuous; dashed lines: maximum valid for a modulation factor of 96% and HVAC cable length of 2m



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type number	A: flange	B: shaft	C: position sensor	Art.-No.:
205W-12063-	S: standard	S: cylindrical shaft with keyway Ø28mm		

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