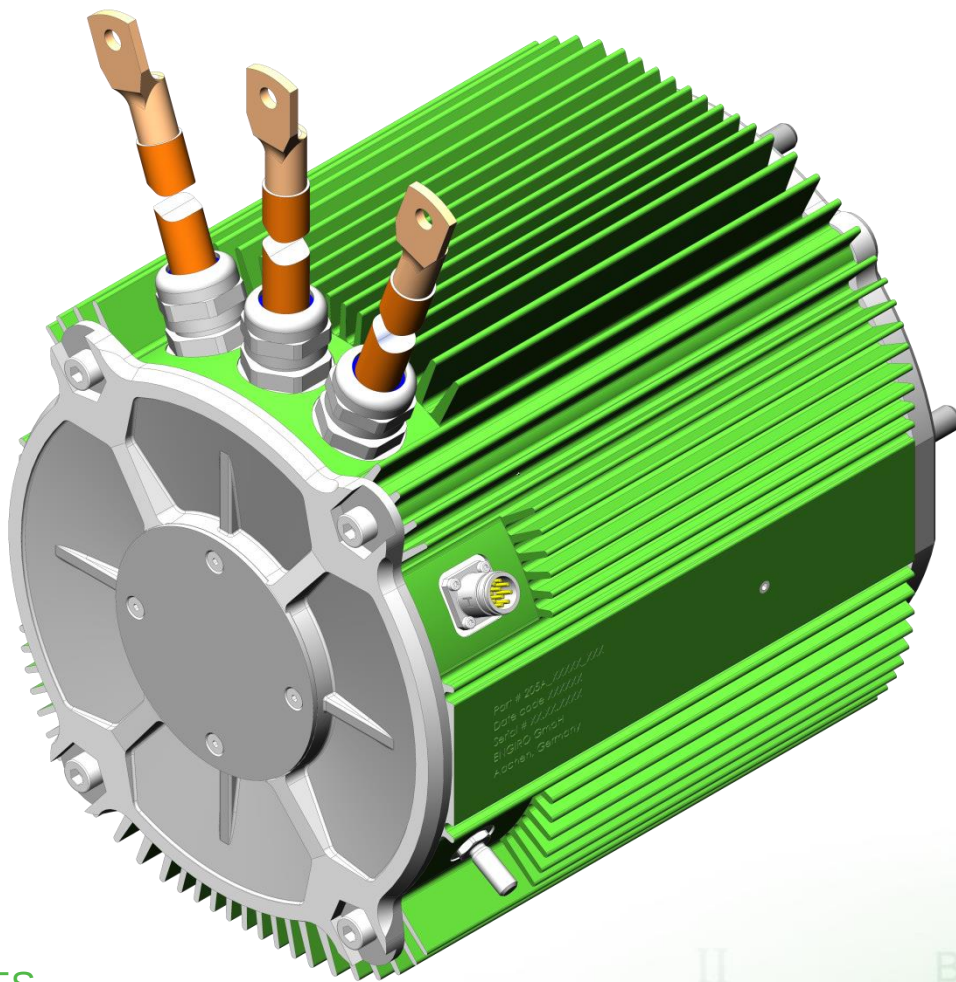


205A-04013-ABC

air-cooled motor / generator with up to 10 kW continuous power



KEY FEATURES

- permanent magnet synchronous machine
- air-cooled
- high peak power for motor applications
- convincing cost-benefit ratio
- recommended voltage range from 48V to 200V
- delivery with controller possible

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Nominal Operation (S1, cooling as specified below)				
Torque	T_{nom}	26	Nm	
Power	P_{nom}	10	kW	
Speed	n_{nom}	3750	rpm	
Phase rms-current	I_{nom}	226 ^{1,2)}	A	
Battery voltage (DC)	U_{nom}	48	V	
Electric frequency	$f_{el,nom}$	250	Hz	
Power factor	$\cos(\varphi)$	0.65		
Maximal Values (S2, 10s, cooling as specified below)				
Torque	T_{max}	99	Nm	
Power	P_{max}	23	kW	
Phase rms-current	I_{max}	961 ²⁾	A	
Battery voltage (DC)	U_{max}	200	V	
Speed	n_{max}	8000	rpm	
Electric frequency	$f_{el,max}$	533	Hz	
Electrical Data				
Number of phases		3		
Number of pole pairs		4		
Maximal efficiency		96	%	
T/I constant ($I < I_{nom}$)		0.11	Nm/A _{rms}	
U/n constant (AC) at a temperature of 30°C	rms:	7.4	peak:	12.6 V/(1000rpm)
K_e constant (AC) at a temperature of 30°C	rms:	0.018	peak:	0.03 V/(rad*s ⁻¹)
Additional Data				
Rotor moment of inertia		0.0092	kg*m ²	
Protection category		IP6K9K ³⁾		
Maximal motor temperature		120	°C	
Allowed ambient temperature		-20 ... 45 ⁴⁾	°C	
Cooling (medium, flow rate, inlet temperature, pressure)		air, >12 m/s, ≤ 25°C		
Temperature monitoring		1 x KTY84-130		
Type approval		CE, EN 60034		
Customs tariff number		8501 5230		
Connectors				
Power terminals		3 x 50mm ² cables with M8 cable lugs		
Weight power cables		3.3	kg	
Length power cables		2	m	
Signal connectors		M16, 10 Pin		

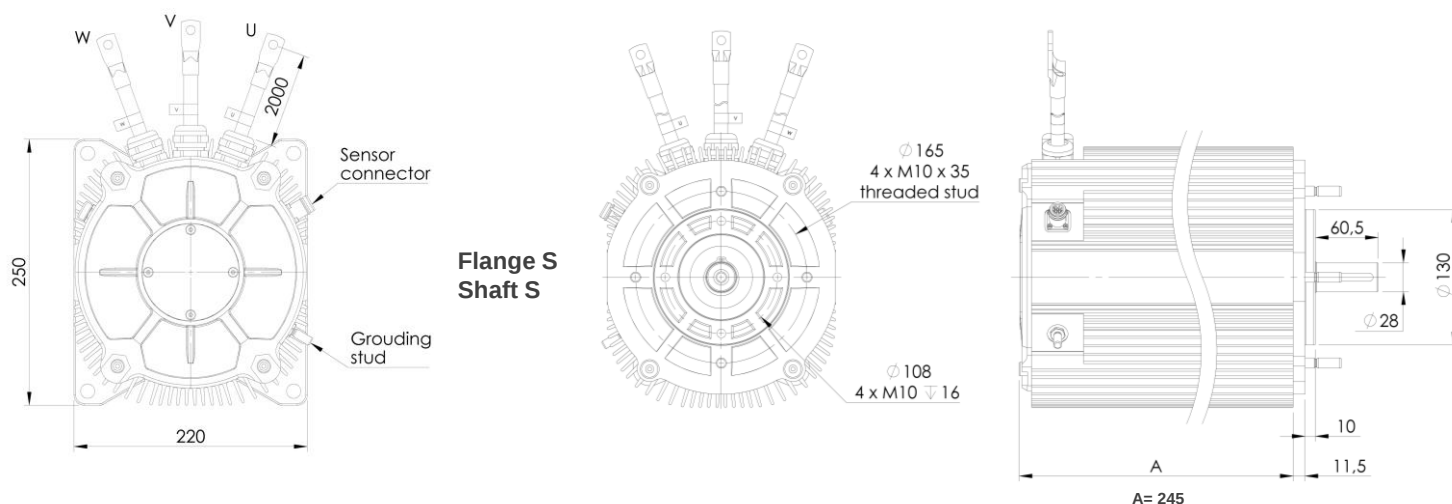
¹⁾ Nominal current strongly dependent on cooling as specified below. / ²⁾ The cables must not exceed a temperature of 140 °C at any time. Temperature and service life depend on the installation condition. / ³⁾ Please note that the IP6K9K rating is only valid if the machine is installed with suitable cable glands and an appropriate sealed interface at the drive side of the motor (flange and/or shaft). Please contact ENGIRO for further questions. / ⁴⁾ other range on request

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Shaft and Flange Combinations for 205W-04013-ABC		Flange (A)
		S (Standard)
Shaft (B)	S (Cylindrical shaft with keyway)	● (~25 kg)
Position Sensor (C)		E: Sin/cos encoder

Other individual combinations are also possible on request.

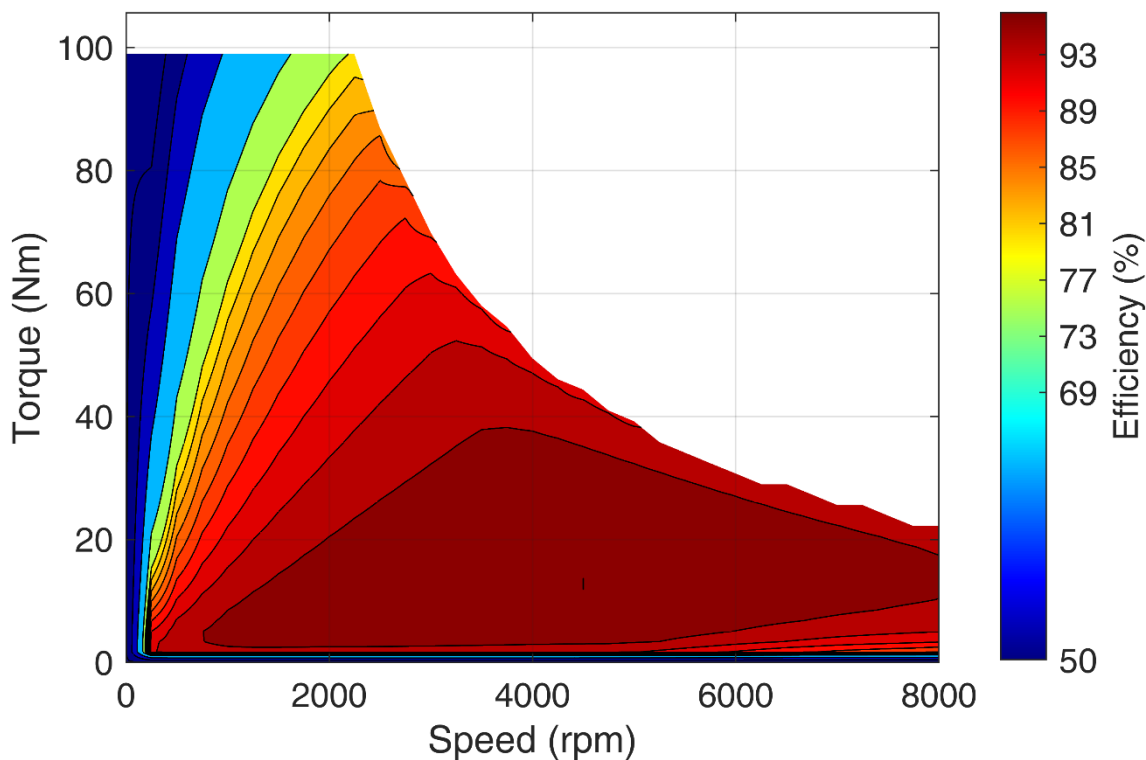
Technical Drawings



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Simulated Efficiency of Motor Application

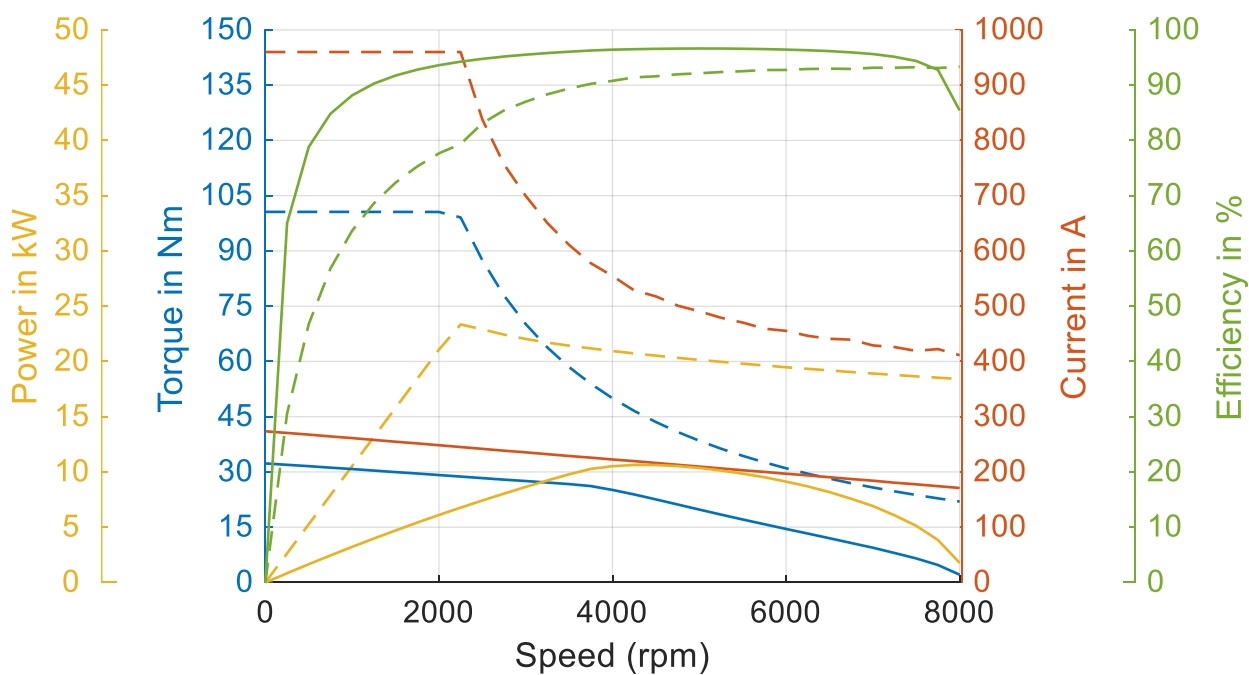
(electric machine only; $U_{nom} = 48\text{ V}$; machine at 140 °C ;)



Simulated Characteristic Motor Parameters

$U_{nom} = 48\text{ V}$

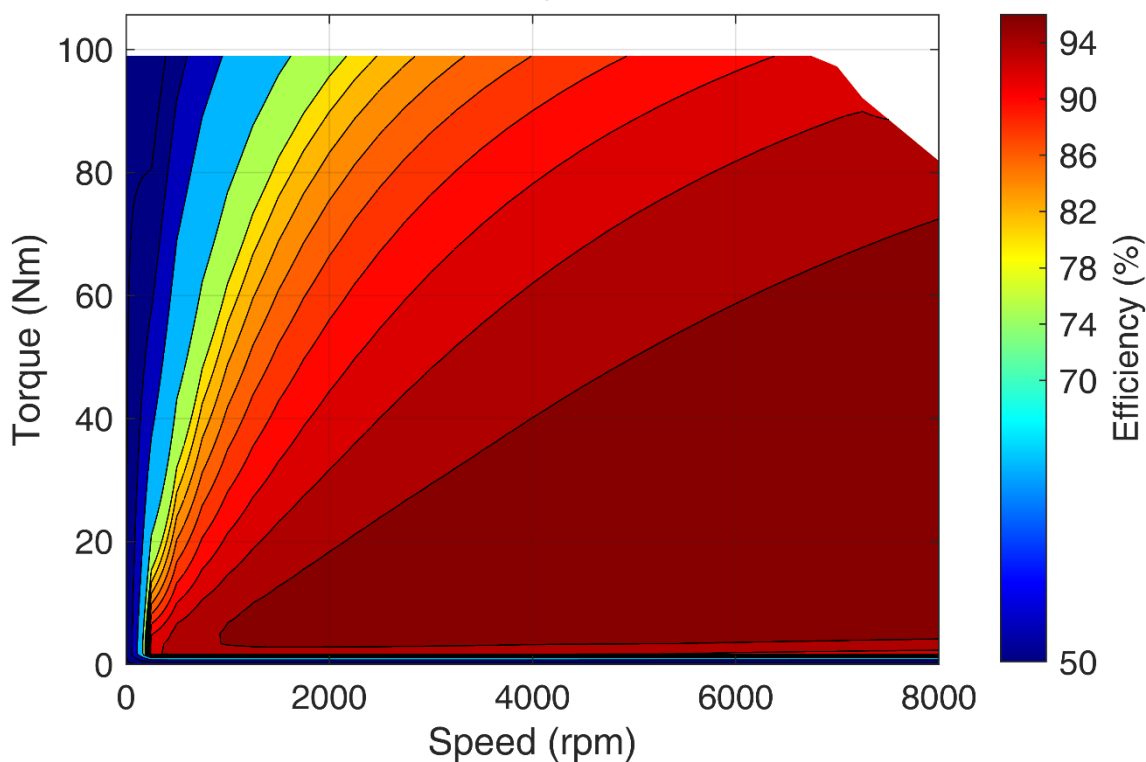
solid lines: continuous; dashed lines: maximum;



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Simulated Efficiency of Motor Application

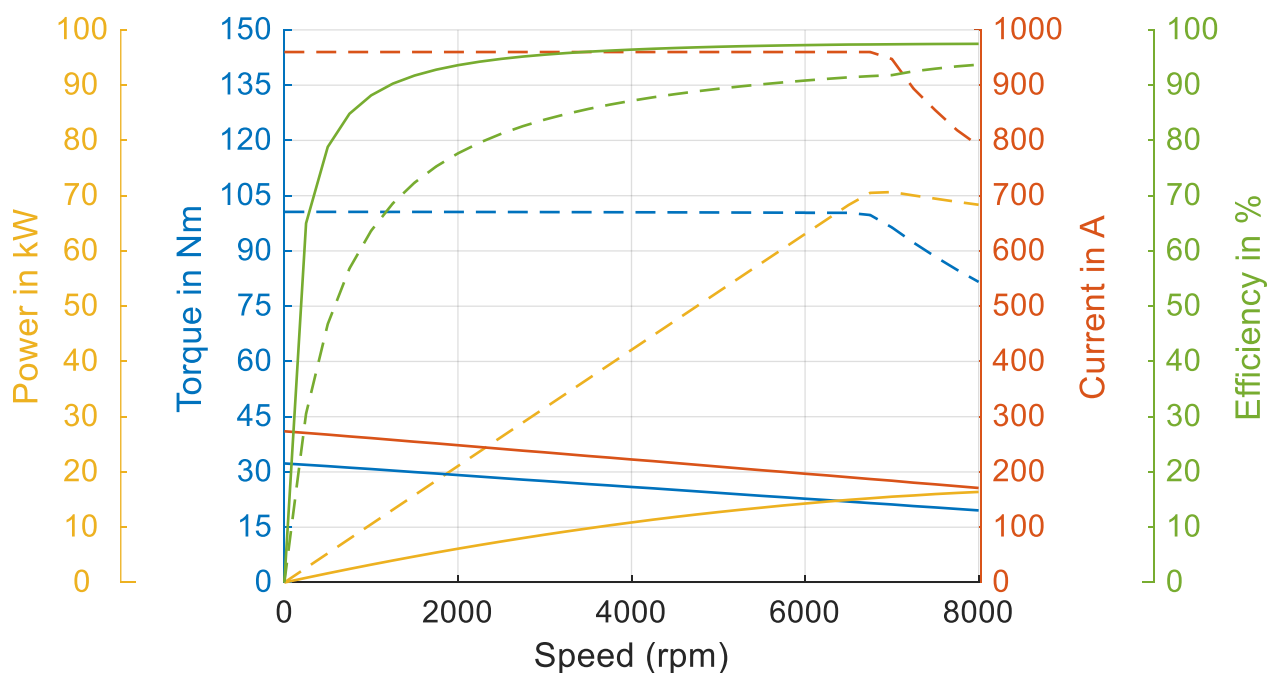
(electric machine only; $U_{nom} = 140 \text{ V}$; machine at $140 \text{ }^{\circ}\text{C}$;)



Simulated Characteristic Motor Parameters

$U_{nom} = 140 \text{ V}$

solid lines: continuous; dashed lines: maximum;



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