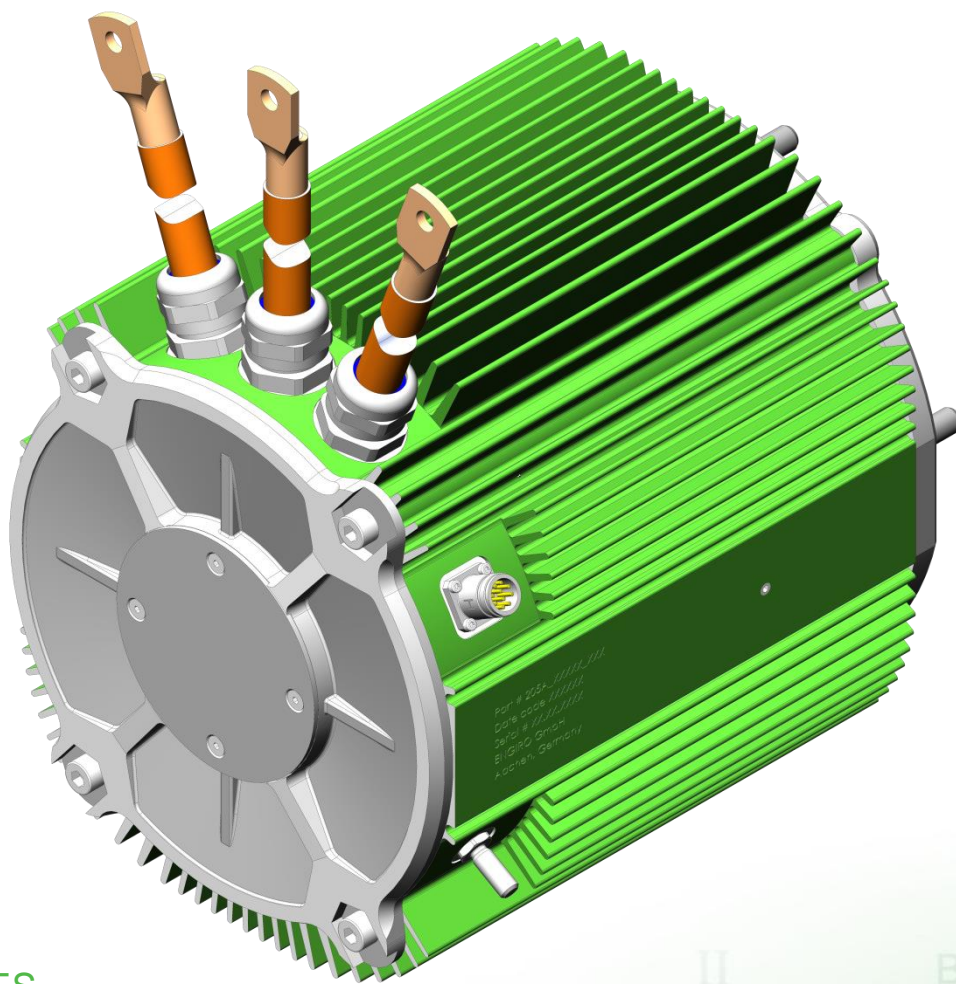


# 205A-04013-ABC

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 <sup>1,2)</sup>	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	$I_{max}$		96 <sup>1,2)</sup>	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 <sub>rms</sub>
$U/n$ constant (AC) at a temperature of 30°C		rms: 7.4	peak: 12.6	V/(1000rpm)
$K_{\phi}$ constant (AC) at a temperature of 30°C		rms: 0.018	peak: 0.03	V/(rad*s <sup>-1</sup> )
Additional Data				
Rotor moment of inertia			0.0092	kg*m <sup>2</sup>
Protection category			IP6K9K <sup>3)</sup>	
Maximal motor temperature			120	°C
Allowed ambient temperature			-20 ... 45 <sup>4)</sup>	°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 <sup>2</sup> cables with M8 cable lugs	
Weight power cables			3.3	kg
Length power cables			2	m
Signal connectors			M16, 10 Pin	

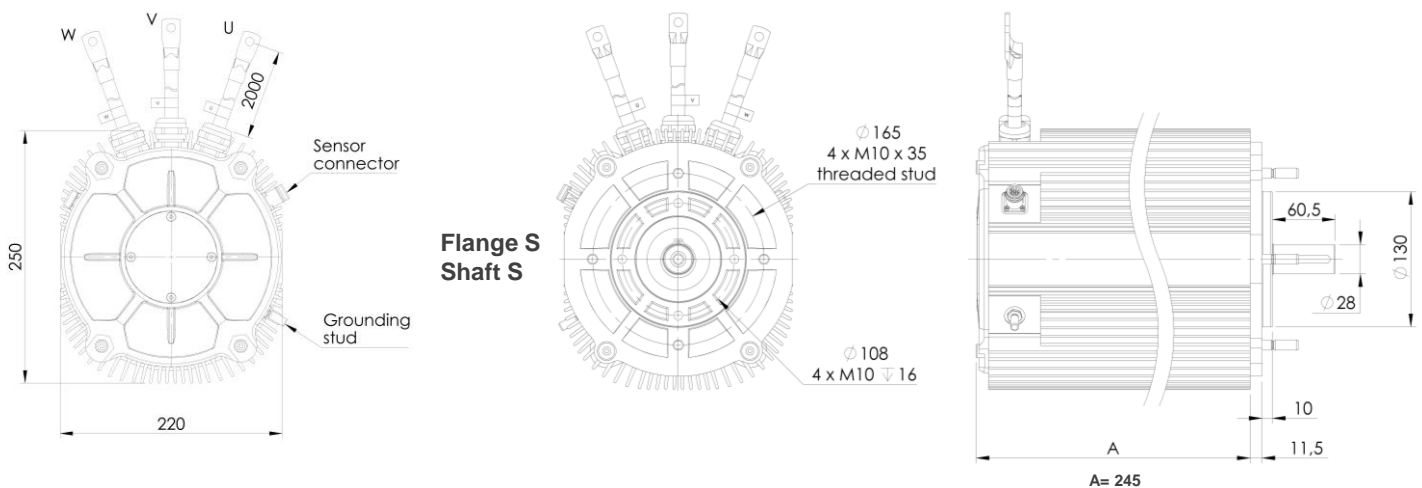
<sup>1)</sup> Nominal current strongly dependent on cooling as specified below. / <sup>2)</sup> The cables must not exceed a temperature of 140 °C at any time. Temperature and service life depend on the installation condition. / <sup>3)</sup> Please note that the IP6K9K rating is only valid if the machine 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. / <sup>4)</sup> other range on request

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

Other individual combinations are also possible on request.

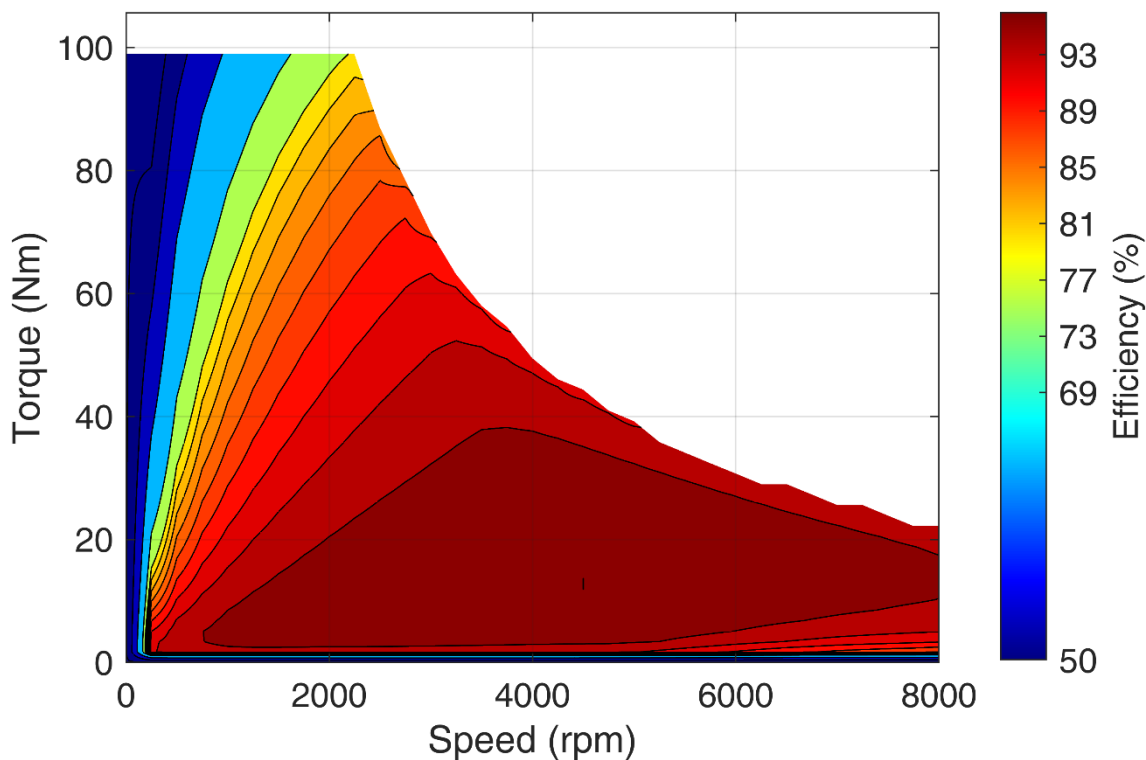
## Technical Drawings



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## Simulated Efficiency of Motor Application

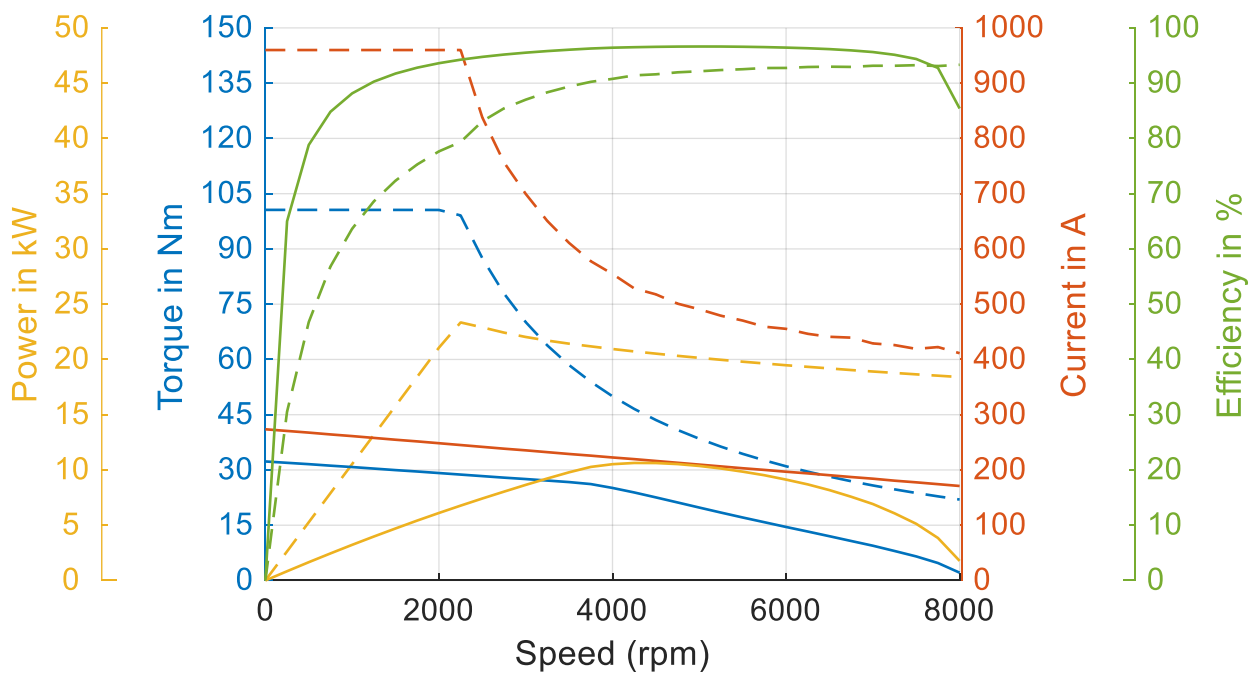
(electric machine only;  $U_{nom} = 48\text{ V}$ ; machine at  $140\text{ °C}$ ;)



## Simulated Characteristic Motor Parameters

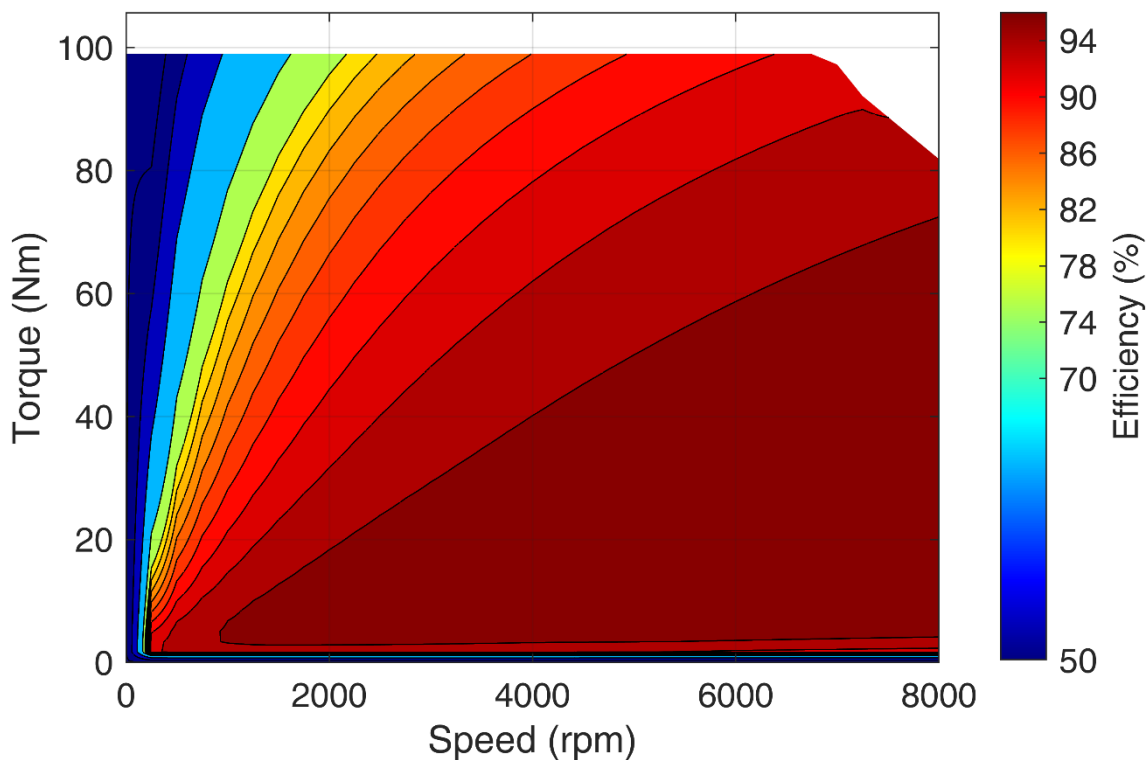
$U_{nom} = 48\text{ V}$

solid lines: continuous; dashed lines: maximum;



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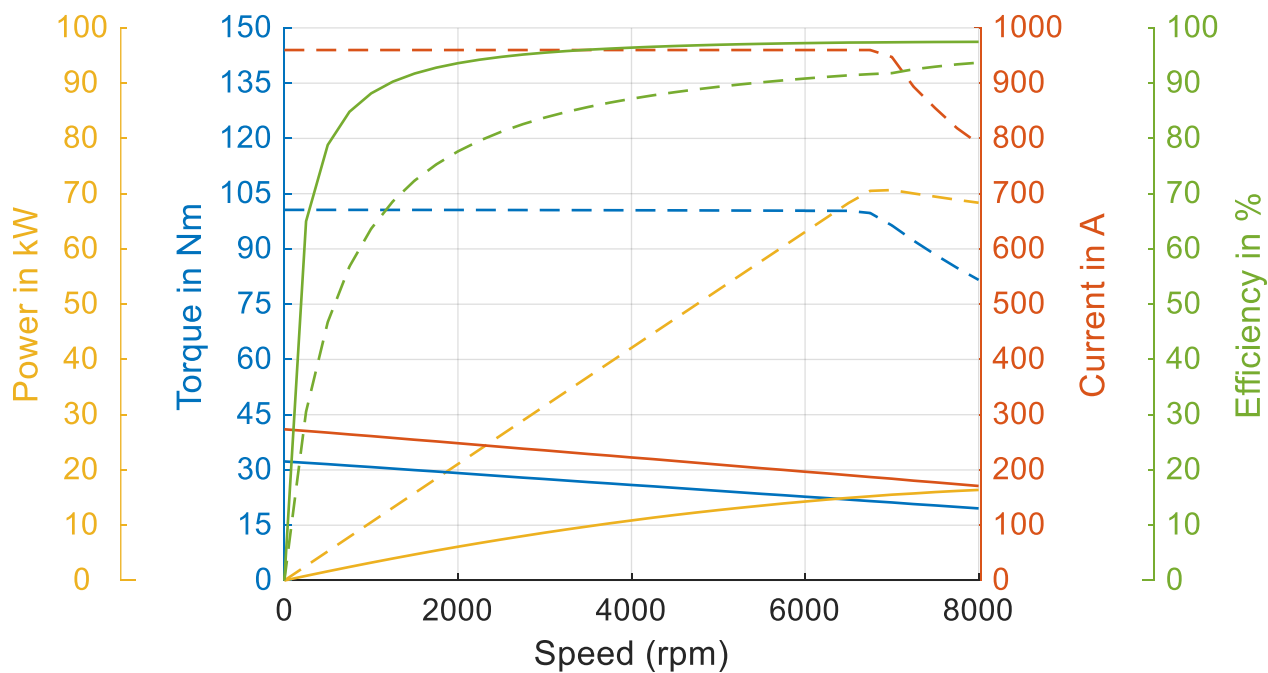
Simulated Efficiency of Motor Application  
(electric machine only;  $U_{nom} = 140\text{ V}$ ; machine at  $140\text{ °C}$ ;) )



Simulated Characteristic Motor Parameters

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

solid lines: continuous; dashed lines: maximum;



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