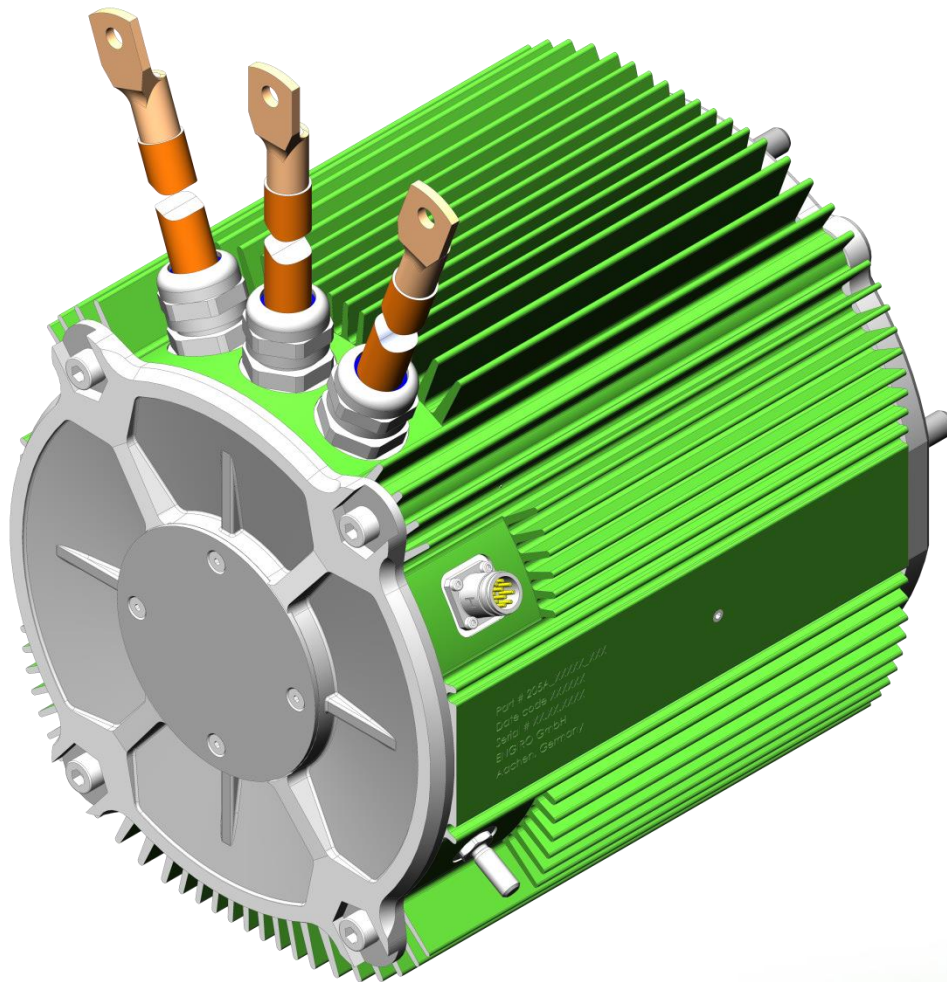


205A-08020-ABC

air-cooled motor / generator with up to 14 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

Section	Page
Technical Data Machine	3
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Characteristics Machine 48V	5
Characteristics Machine 96V	6
Characteristics Machine 140V	7

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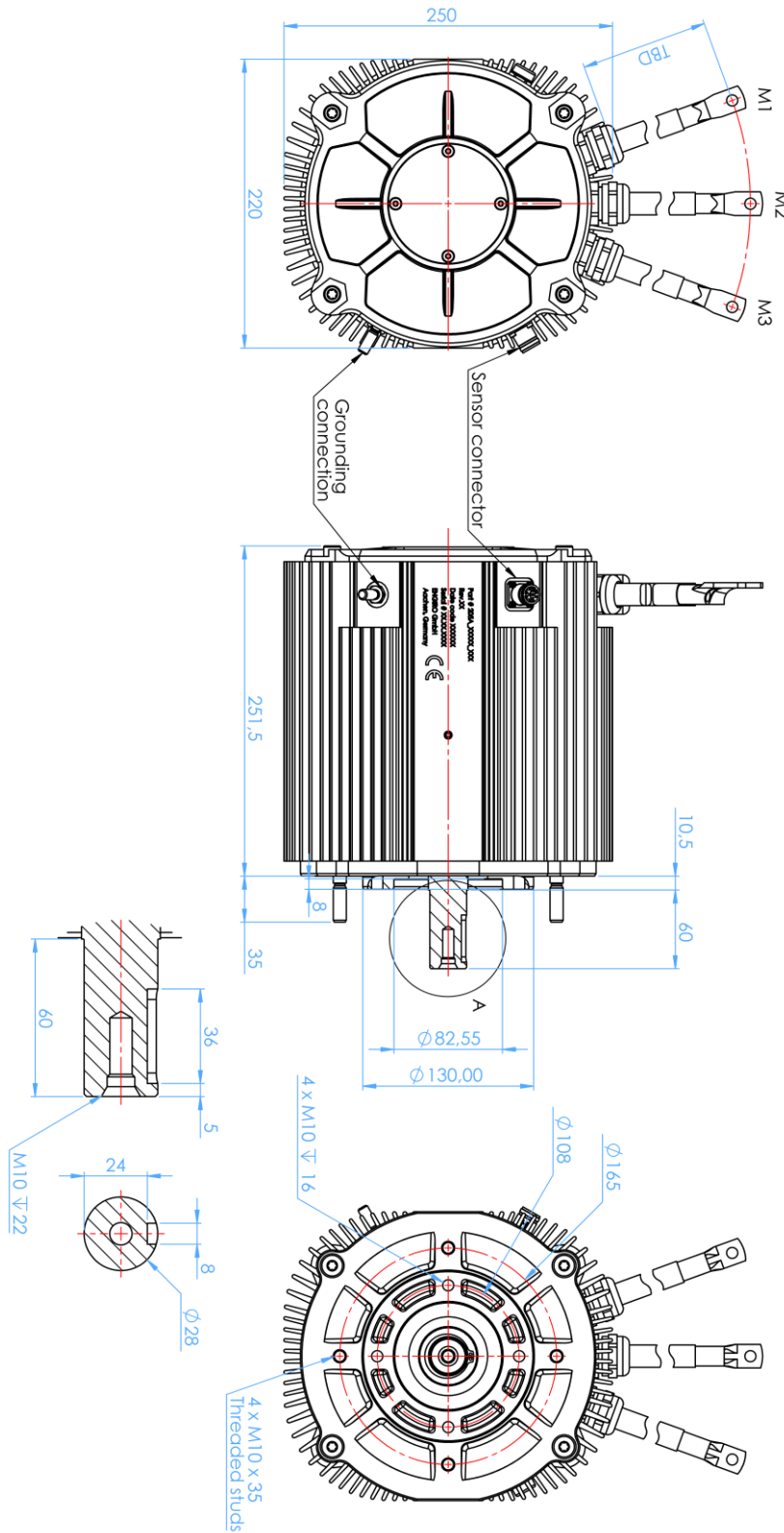
Nominal Operation (S1, cooling as specified below)				
Torque	T_{nom}		57	Nm
Power	P_{nom}		14	kW
Speed	n_{nom}		2250	rpm
Phase rms-current	I_{nom}		159 ^{1,2)}	A
Battery voltage (DC)	U_{nom}		96	V
Electric frequency	$f_{el,nom}$		150	Hz
Power factor	$\cos(\varphi)$		0.76	
Maximal Values (S2, 10s, cooling as specified below)				
Torque	T_{max}		201	Nm
Power	P_{max}		32	kW
Phase rms-current	I_{max}		625 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 ($I < I_{nom}$)			0.36	Nm/ A_{rms}
U/n constant (AC) at a temperature of 30°C	rms:	22.8	peak:	38.8 V/(1000rpm)
K_e constant (AC) at a temperature of 30°C	rms:	0.054	peak:	0.093 V/(rad*s ⁻¹)
Additional Data				
Weight (w/o cables)			28	kg
Rotor moment of inertia			0.015	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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Available Type Variants

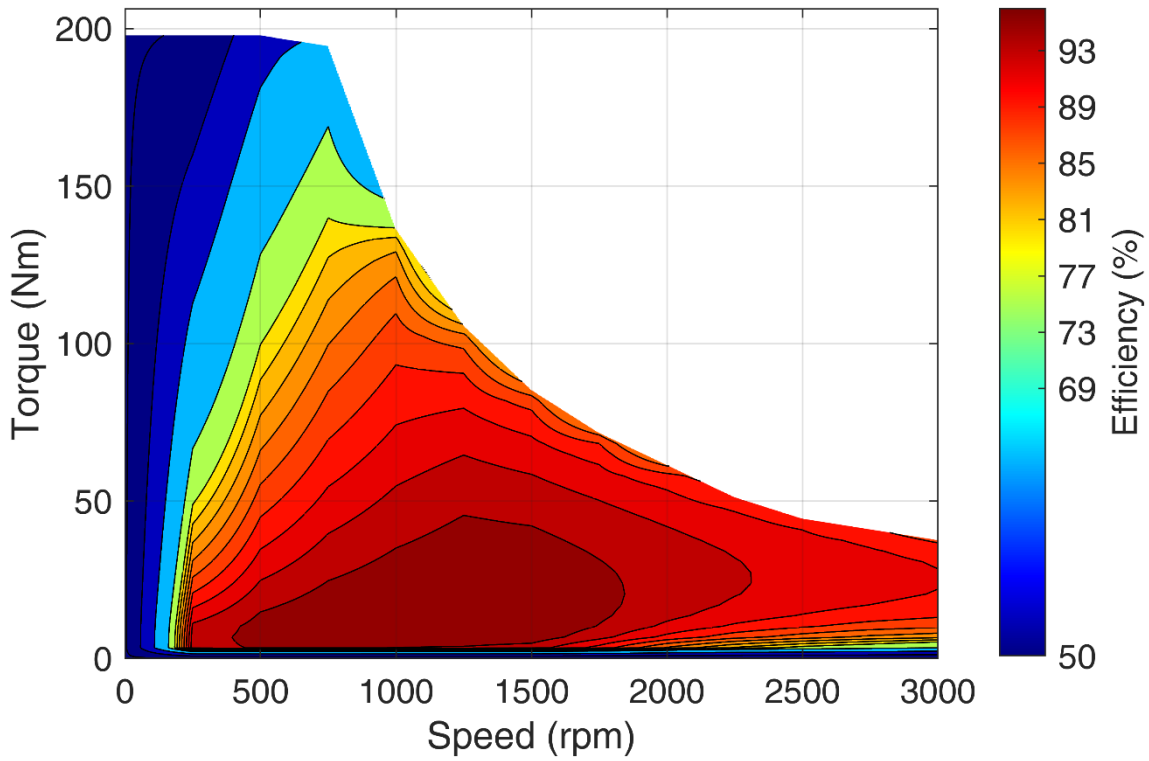
type number	A: flange	B: shaft	C: position sensor
205A-08020-	S: standard	S: cylindrical shaft with keyway	E: sin/cos encoder



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Simulated Efficiency of Motor Application

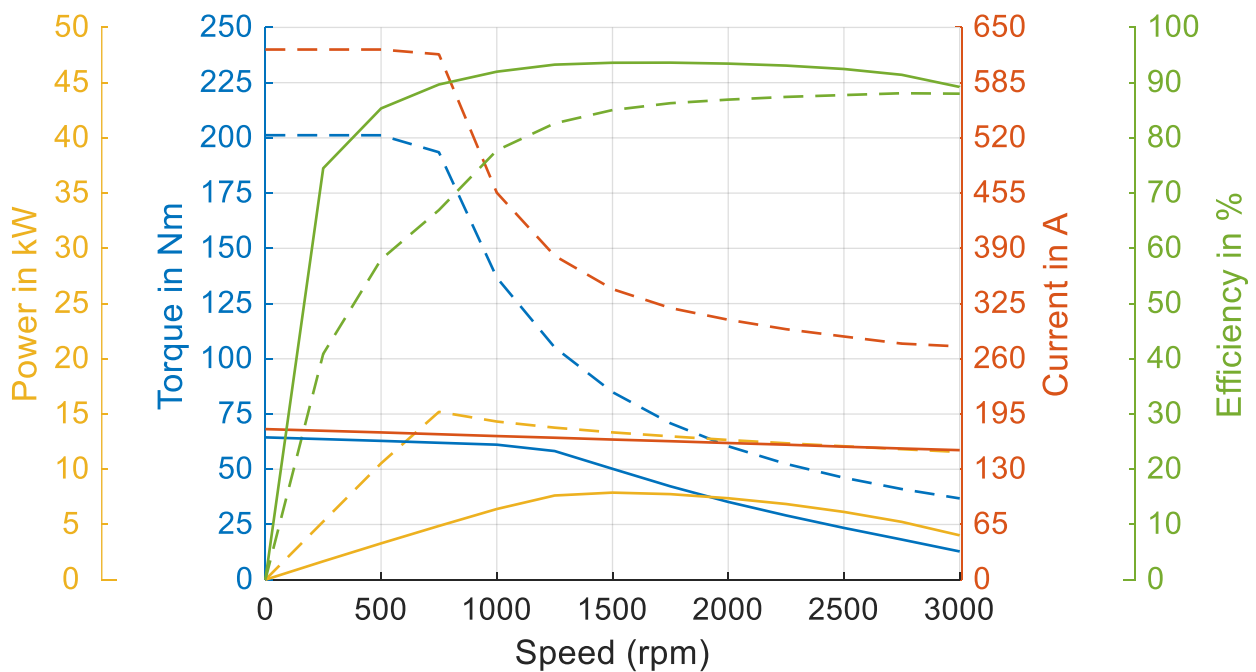
(electric machine only; $U_{nom} = 48\text{ V}$; machine at $140\text{ }^\circ\text{C}$;)



Simulated Characteristic Motor Parameters

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

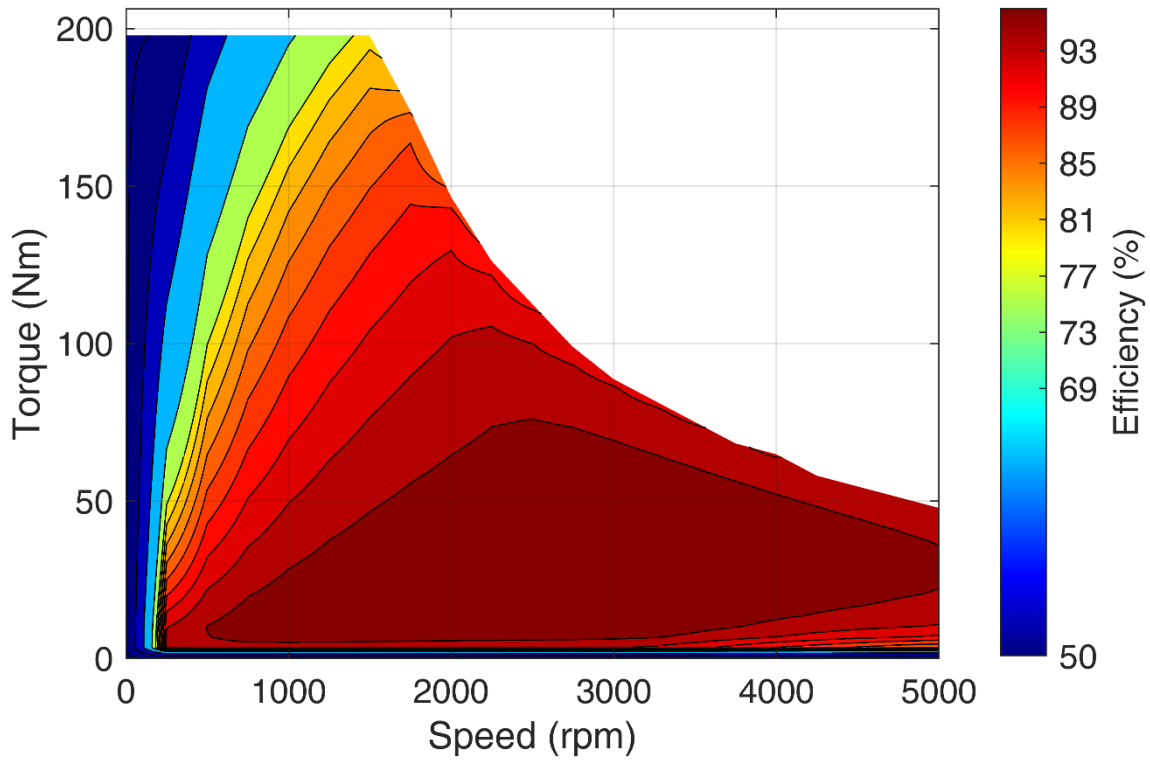
solid lines: continuous; dashed lines: maximum;



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Simulated Efficiency of Motor Application

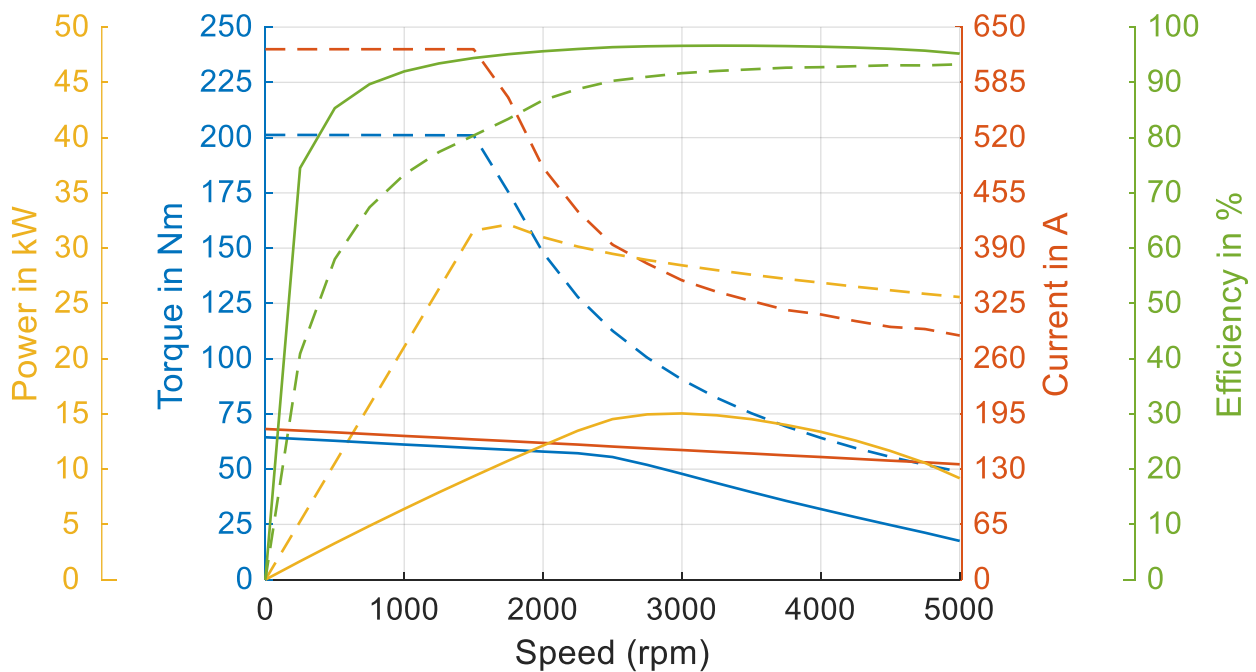
(electric machine only; $U_{nom} = 96\text{ V}$; machine at 140 °C ;)



Simulated Characteristic Motor Parameters

$U_{nom} = 96\text{ V}$

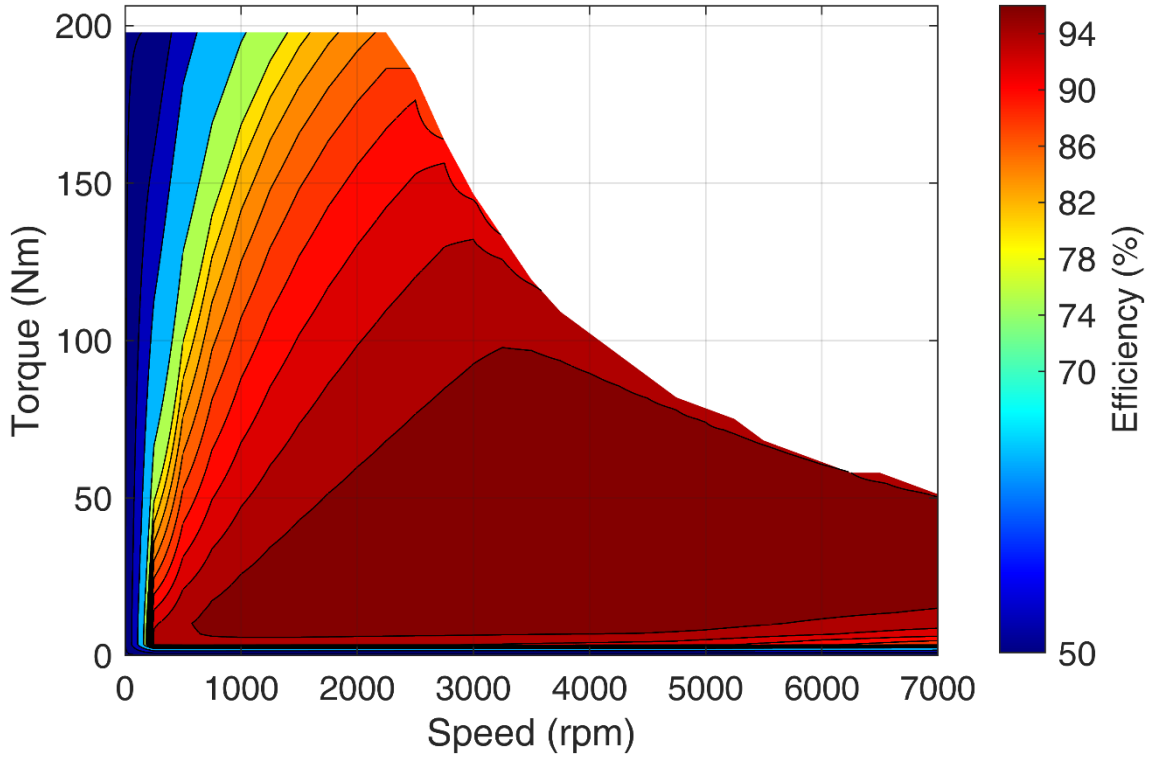
solid lines: continuous; dashed lines: maximum;



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Simulated Efficiency of Motor Application

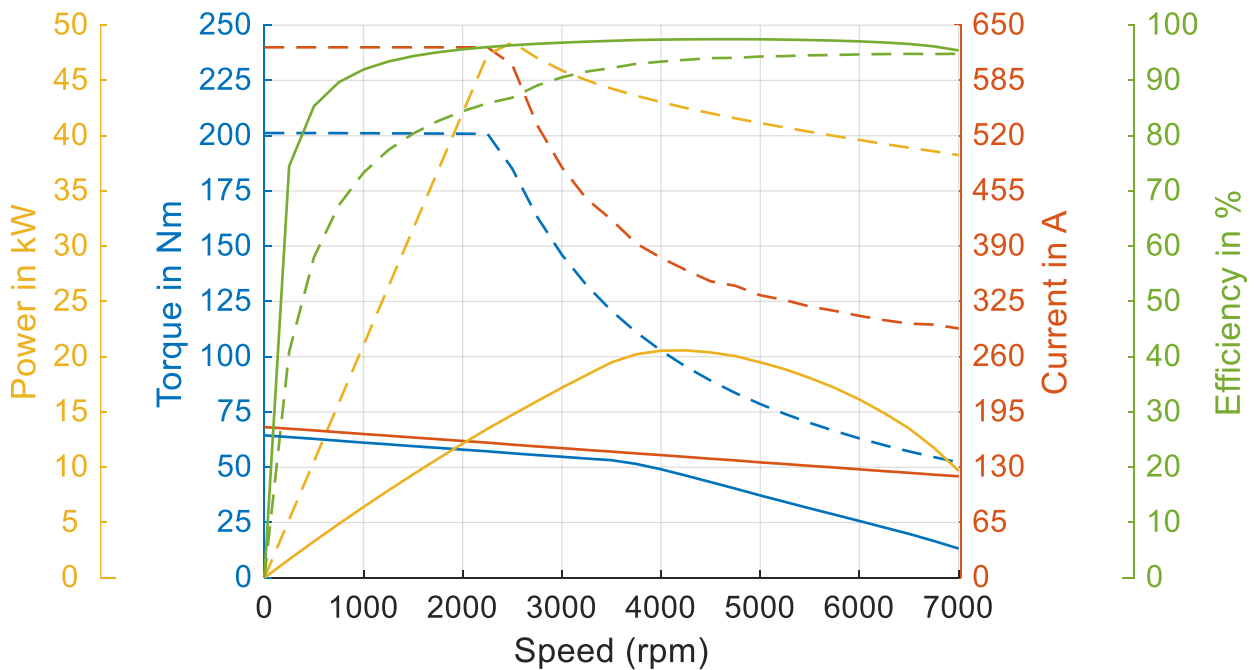
(electric machine only; $U_{nom} = 140\text{ V}$; machine at 140 °C ;)



Simulated Characteristic Motor Parameters

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

solid lines: continuous; dashed lines: maximum;



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