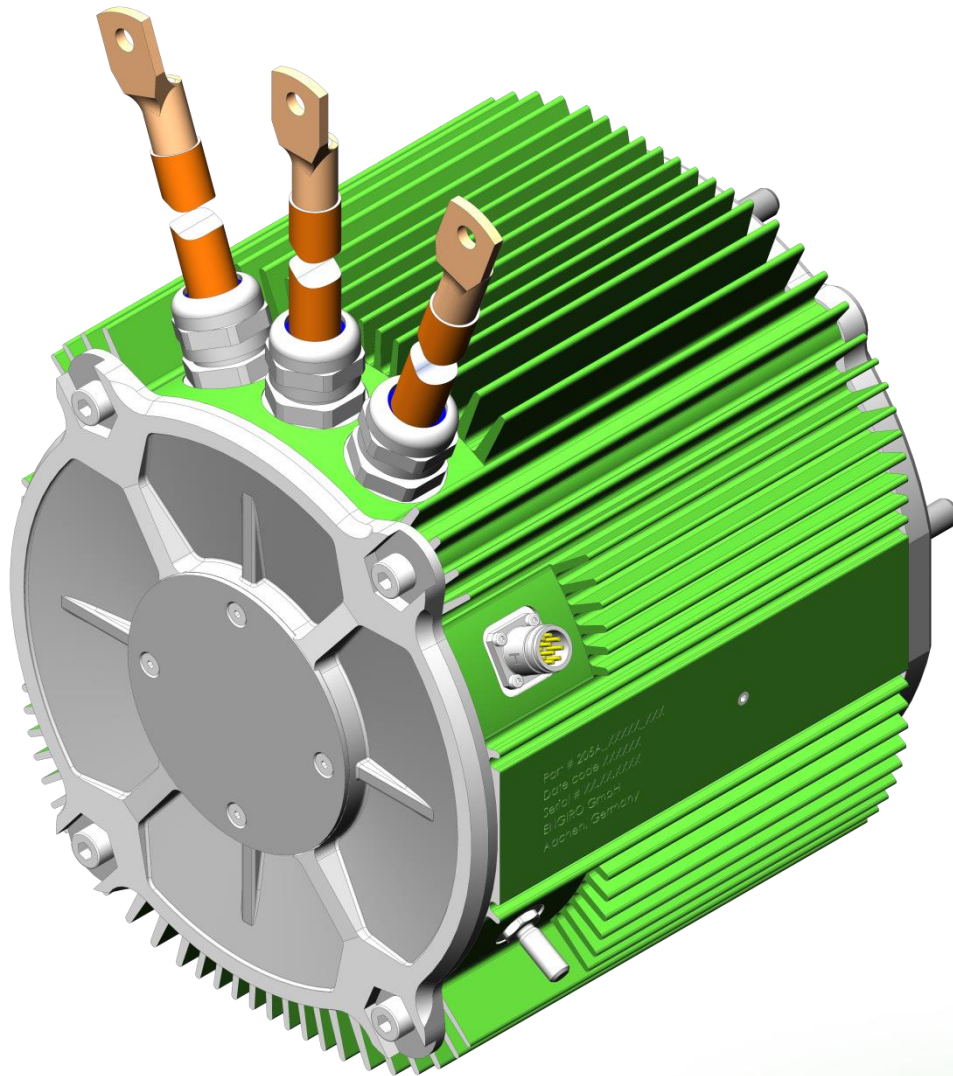


205A-04016-ABC

air-cooled motor / generator with up to 13 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
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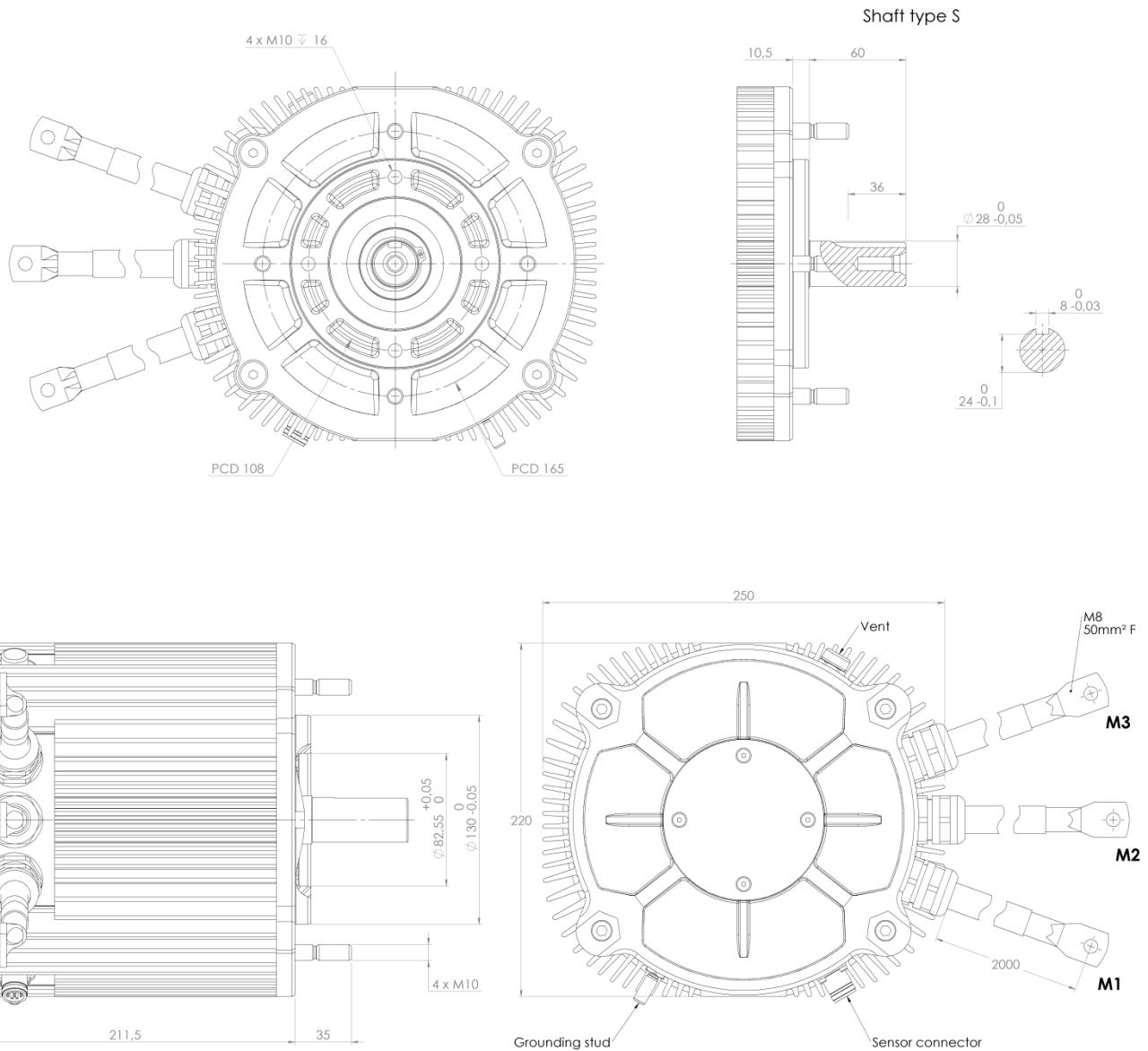
Nominal Operation (S1, cooling as specified below)				
Torque	T_{nom}		22	Nm
Power	P_{nom}		13	kW
Speed	n_{nom}		5720	rpm
Phase rms-current	I_{nom}		156	A
Battery voltage (DC)	U_{nom}		96	V
Electric frequency	$f_{el,nom}$		381	Hz
Power factor	$\cos(\varphi)$		0.75	
Maximal Values (S2, 10s, cooling as specified below)				
Torque	T_{max}		95	Nm
Power	P_{max}		42	kW
Phase rms-current	I_{max}		781	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 ($I < I_{nom}$)			0.14	Nm/A _{rms}
U/n constant (AC)		rms: 9.1	peak: 12.9	V/(1000rpm)
K_e constant (AC)		rms: 0.022	peak: 0.031	V/(rad*s ⁻¹)
Additional Data				
Weight (w/o cables)			20	kg
Rotor moment of inertia			0.009	kg*m ²
Protection category			IP65	
Maximal motor temperature			120	°C
Allowed ambient temperature			-20 ... 45 ¹⁾	°C
Cooling (medium, flow rate, inlet temperature, pressure)			air, 18 m/s, ≤ 45°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⁾ other range on request

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Available Type Variants

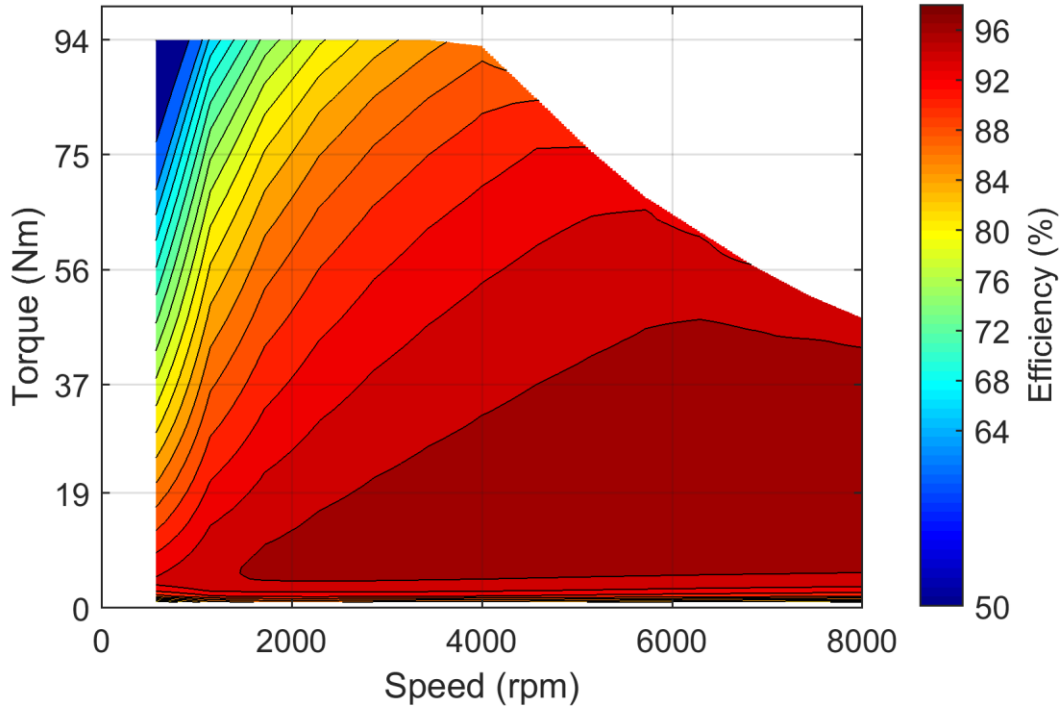
type number	A: flange	B: shaft	C: position sensor
205A-04016-	S: standard	S: cylindrical shaft with keyway	E: sin/cos encoder
			N: none



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Simulated Efficiency of Motor Application

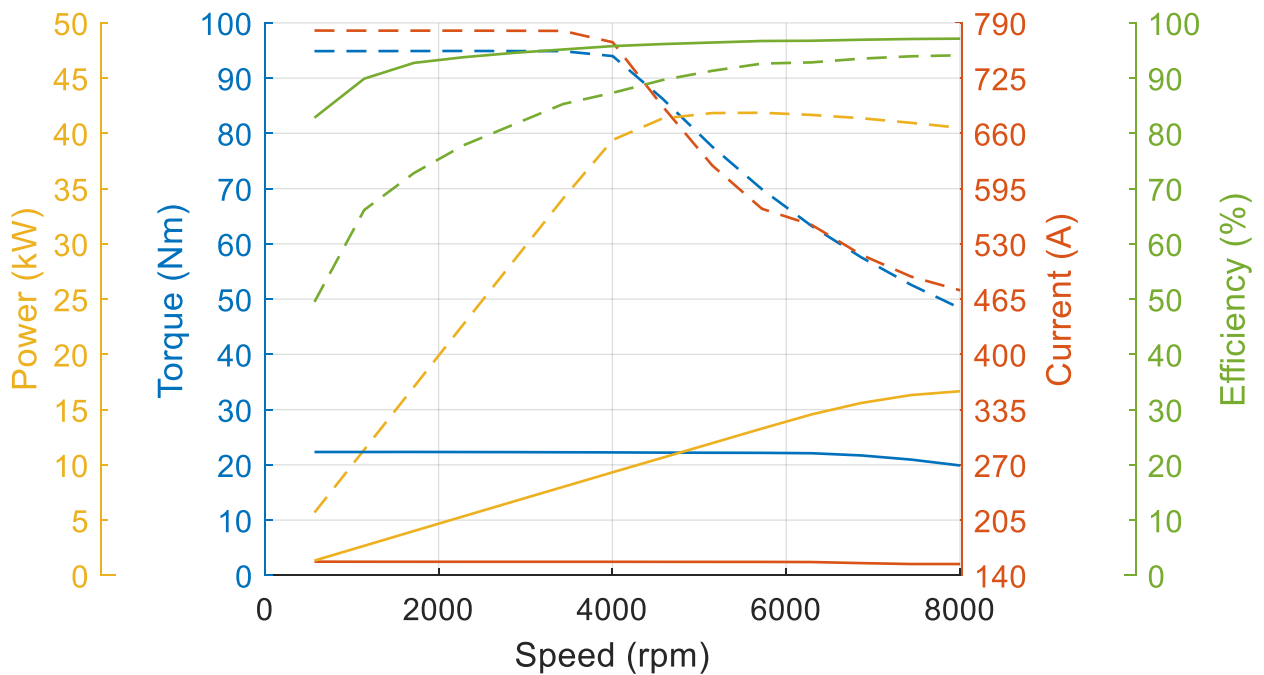
(electric machine only; $U_{nom} = 96\text{ V}$; machine at 100 °C ;)



Simulated Characteristic Motor Parameters

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

solid lines: continuous; dashed lines: maximum;
(jitter is caused by numerical inaccuracies in the simulation software)

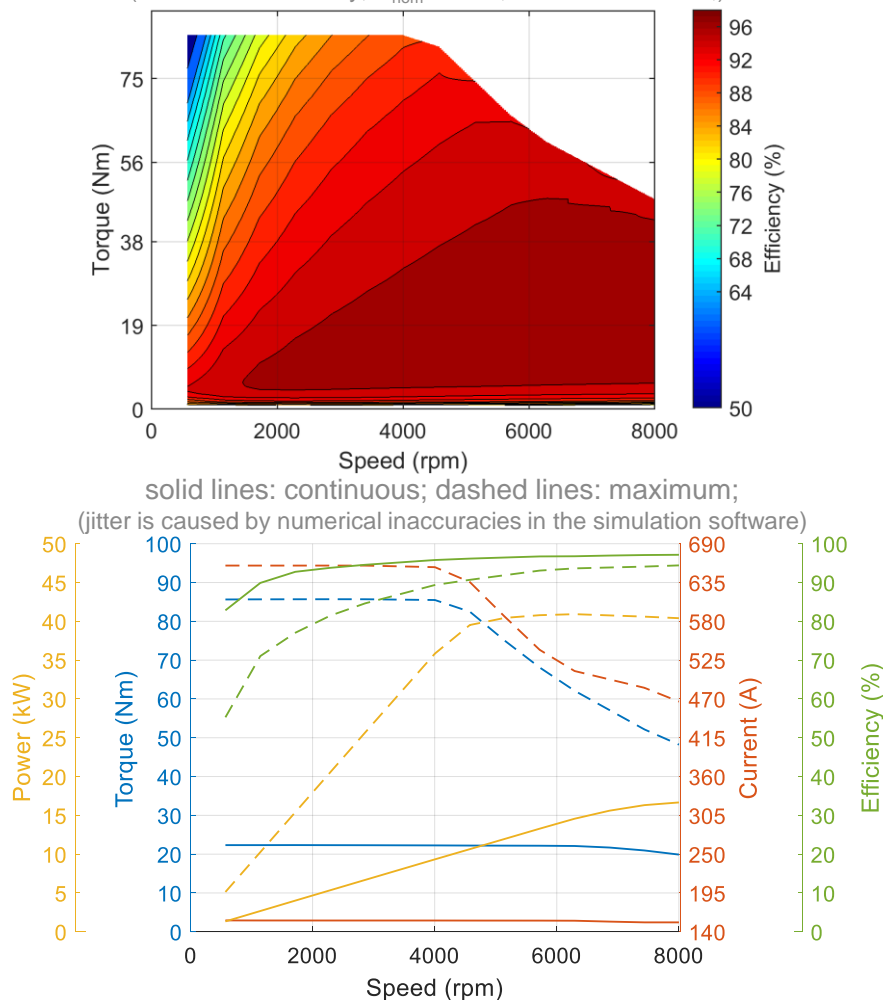


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Nominal Operation Drive Set (S1)			
Torque	T_{nom}		22 Nm
Power	P_{nom}		13 kW
Speed	n_{nom}		5720 rpm
Phase rms-current	I_{nom}		156 A
Battery voltage (DC)	U_{nom}		96 V
Electric frequency	$f_{el,nom}$		381 Hz
Power factor	$\cos(\varphi)$		0.75
Maximal Values Drive Set (S2, 1-10s)			
Torque	T_{max}		86 Nm
Power	P_{max}		41 kW
Phase rms-current	I_{max}		660 A
Battery voltage (DC)	U_{max}		96 V
Speed	n_{max}		8000 rpm
Electric frequency	$f_{el,max}$		553 Hz

Simulated Efficiency and Motor Characteristic of Motor Application

(electric machine only; $U_{nom} = 96\text{ V}$; machine at $100\text{ }^\circ\text{C}$;)



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