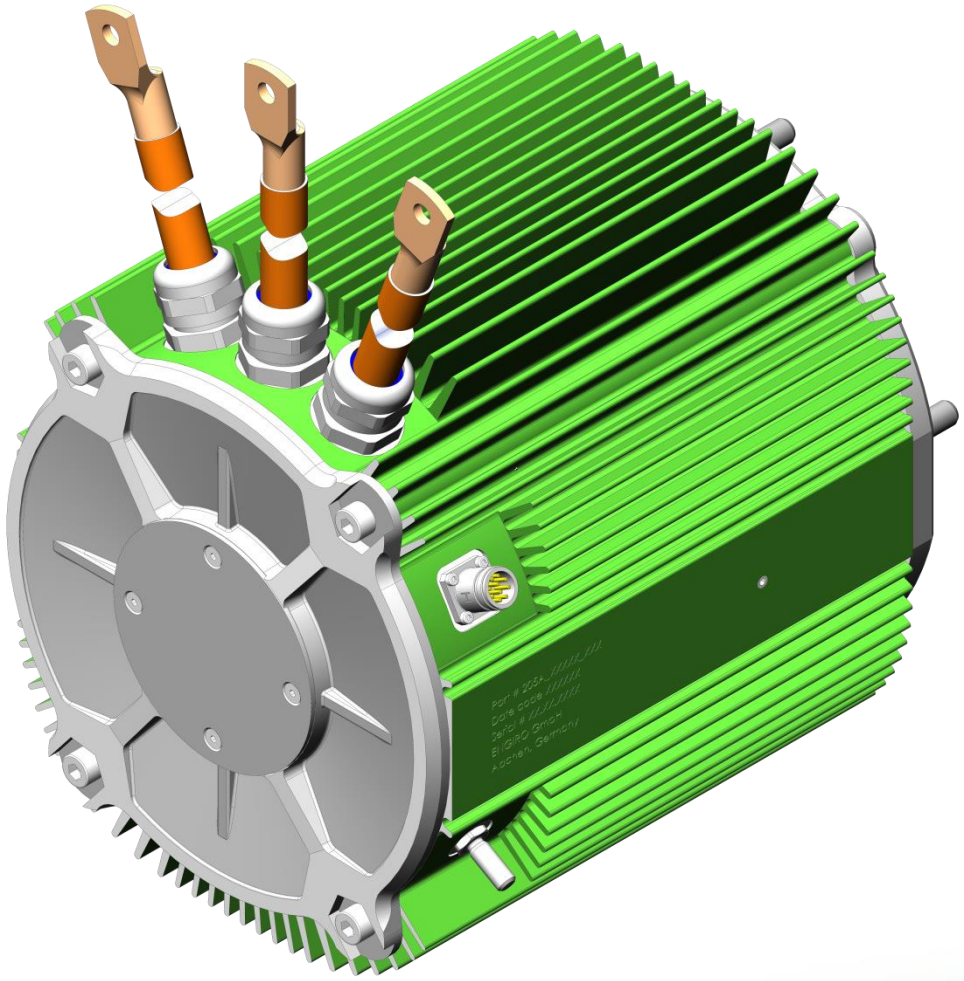
ENGIRO
HYDAC INTERNATIONAL

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
- various mechanical interfaces available

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Table of Content

Note:

On September 1st , 2024, **we transferred our ERP systems to SAP**. Due to this change, **we are altering our current part numbers**. To see how our article numbers and motor naming scheme has changed, please consider the conversion table below:

Article Number Conversion				
Part. No.	**Old Part. No.**	**Flange**	**Shaft**	**Position Sensor**
4822801	205A_04013_SSE	S1	S1	E

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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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(φ)	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*m²
Maximal motor temperature	120	°C
Allowed ambient temperature	-20 … 85	°C
Cooling (medium, flow rate, inlet temperature, pressure)	air, >12 m/s, ≤ 25°C	
Temperature monitoring	1 x KTY84-130	

Connectors		
Power terminals	3 x 50mm² 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

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Certifications

Certifications	
Type approval	CE, EN 60034
Salt mist	ISO 9227
Protection grade	ISO 20653 IP6K9K [1)]
Vibrations	ISO 16750-3
Customs tariff number	8501 5230

1) 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.

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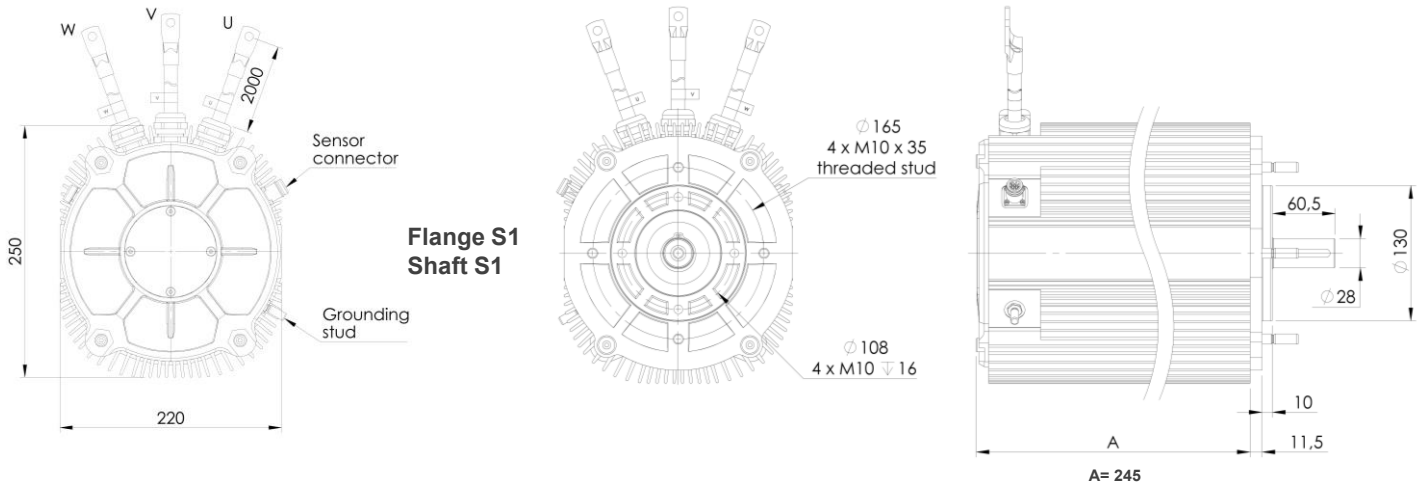
Available Type Variants

Available Type Variants			
Flange	**Shaft**	**Pos. sensor**	**Weight (kg)**
S1 Standard with 4xM10x35 threaded stud	**S1** Cylindrical shaft with keyway Ø 28mm	**E** Encoder	≈ 25 kg

Other individual combinations are also possible on request.

Technical Drawings



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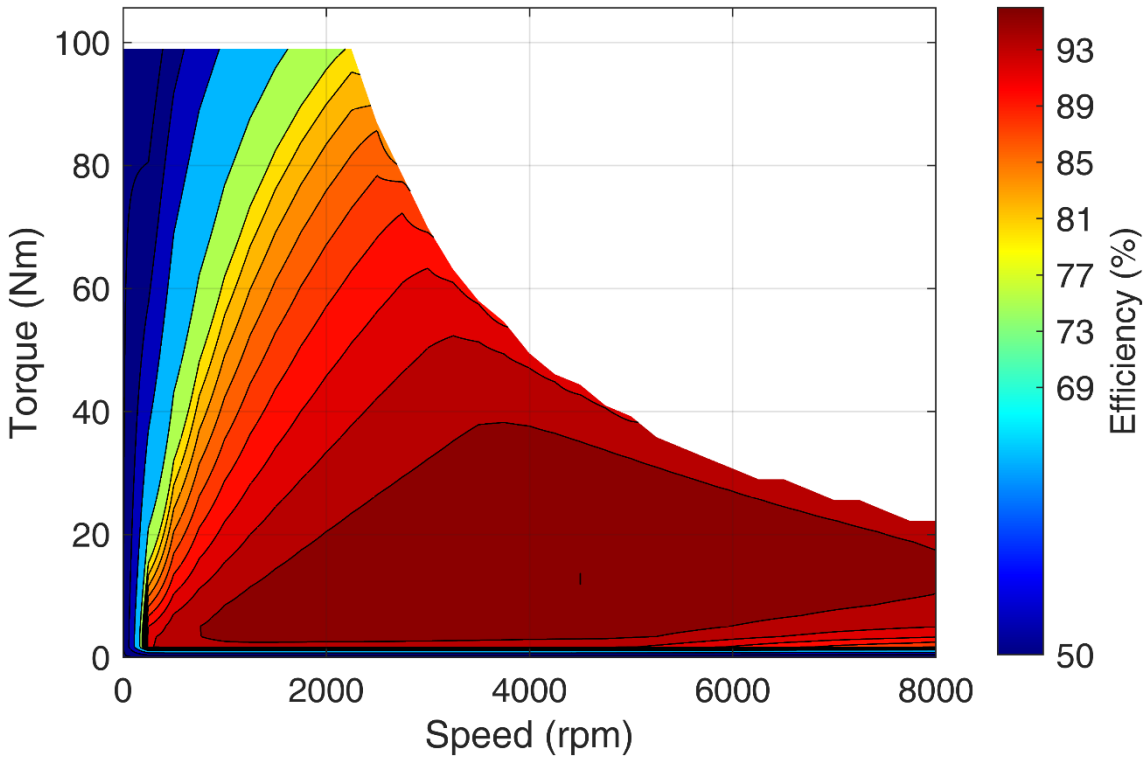
Simulated Efficiency of Motor Application

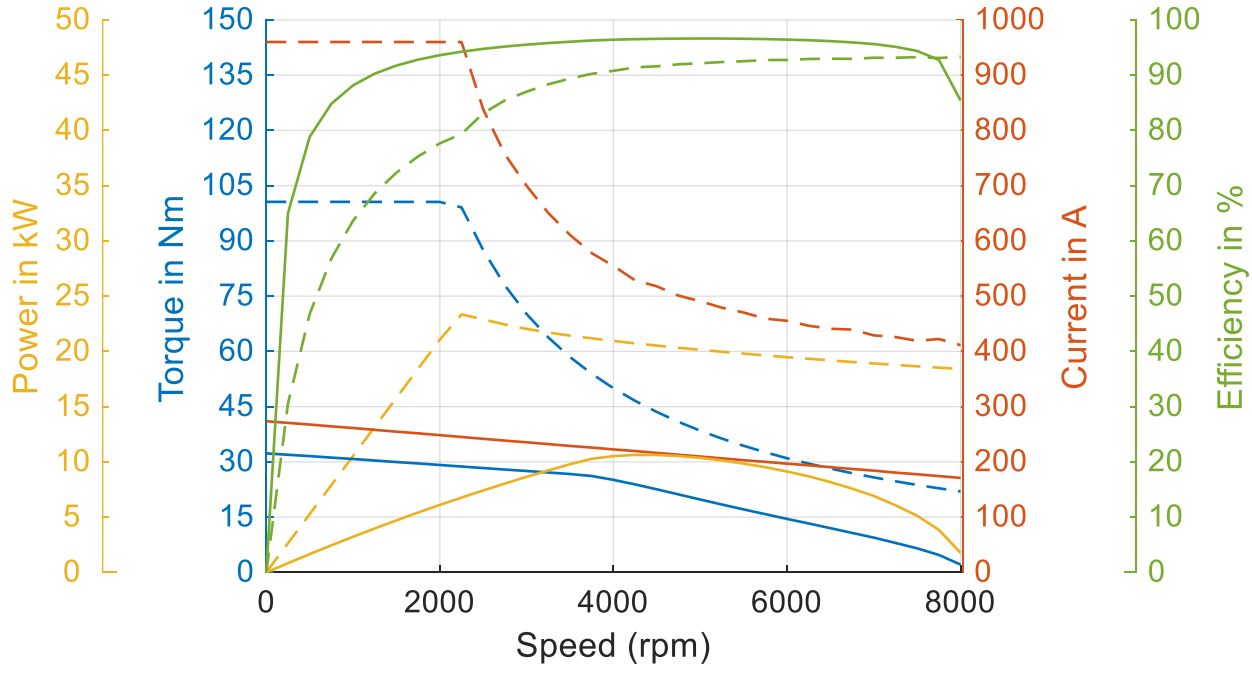
(electric machine only; U_{nom} = 48 V; machine at 140 °C;)



Simulated Characteristic Motor Parameters

U_{nom} = 48 V

solid lines: continuous; dashed lines: maximum;



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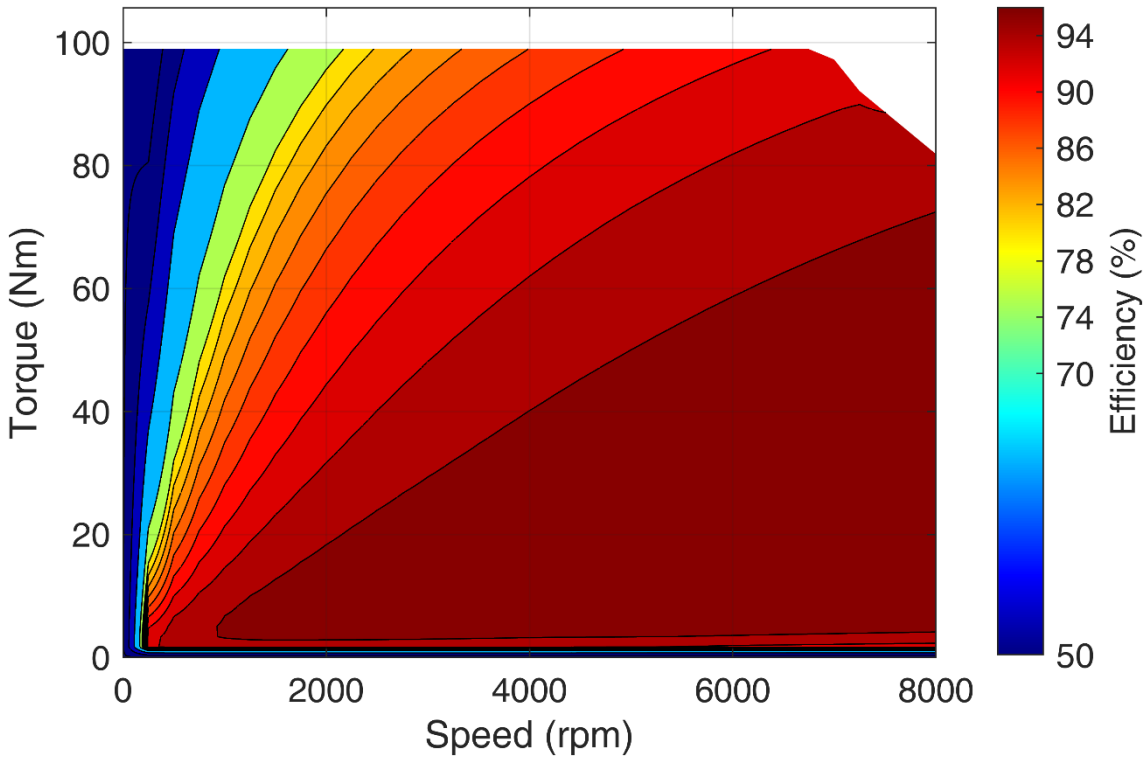
Simulated Efficiency of Motor Application

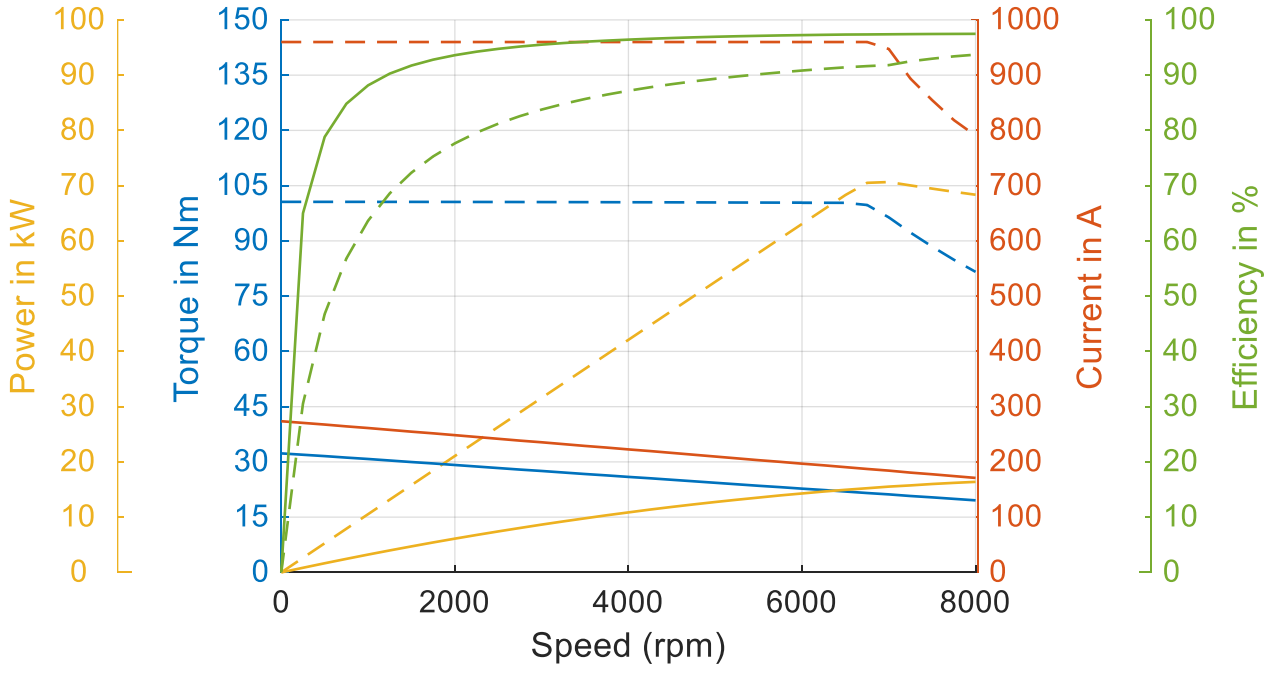
(electric machine only; U_{nom} = 140 V; machine at 140 °C;)



Simulated Characteristic Motor Parameters

U_{nom} = 140 V

solid lines: continuous; dashed lines: maximum;



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