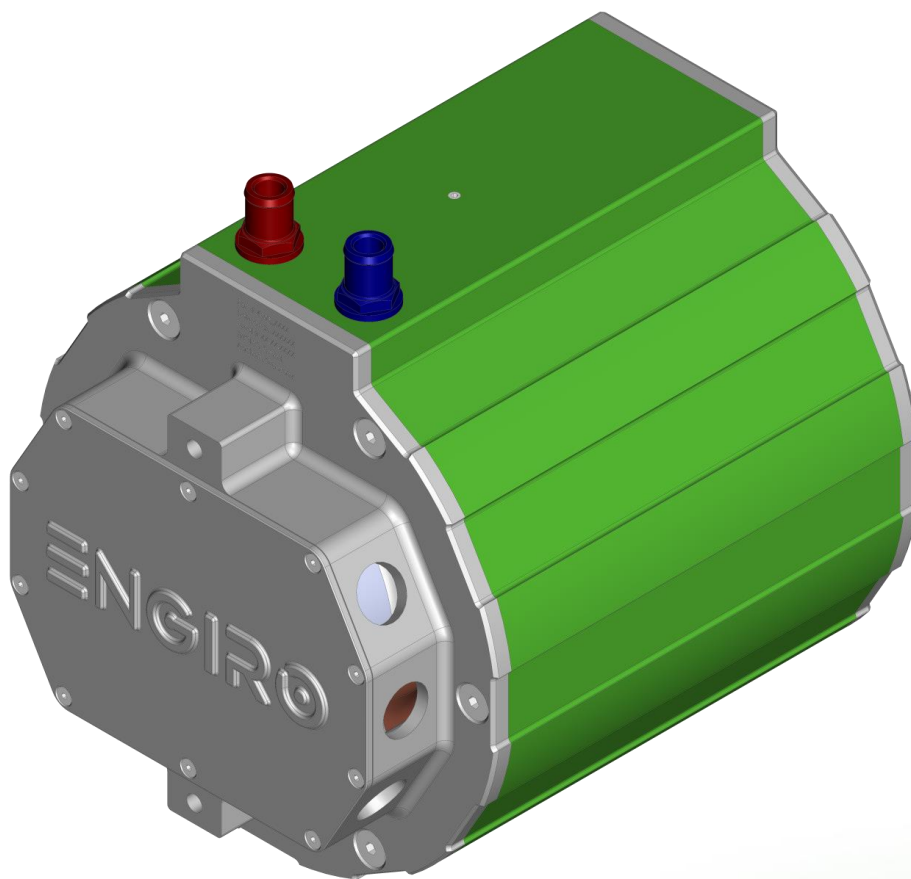


# Data Sheet

## 205W-08011-ABC

water-cooled motor / generator with up to 30 kW continuous power



### KEY FEATURES

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

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Nominal Operation (S1, cooling as specified below)				
Torque	$T_{nom}$	77	72	Nm
Power	$P_{nom}$	17	30	kW
Speed	$n_{nom}$	1930	3870	rpm
Phase rms-current	$I_{nom}$	416 <sup>1,2)</sup>	384 <sup>1,2)</sup>	A
Battery voltage (DC)	$U_{nom}$	48	96	V
Electric frequency	$f_{el,nom}$	129	258	Hz
Power factor	$\cos(\varphi)$	0.70	0.69	

Maximal Values (S2, 10s, cooling as specified below)				
Torque	$T_{max}$	188	188	Nm
Power	$P_{max}$	28	57	kW
Phase rms-current	$I_{max}$	1136 <sup>2)</sup>	1136 <sup>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 ( $I < I_{nom}$ )			0.20	Nm/A <sub>rms</sub>
$U/n$ constant (AC) at a temperature of 30°C	rms:	13.4	peak:	22.8 V/(1000rpm)
$K_e$ constant (AC) at a temperature of 30°C	rms:	0.032	peak:	0.054 V/(rad*s <sup>-1</sup> )

Additional Data				
Weight (w/o cables)			see page 4	
Rotor moment of inertia			0.0150	kg*m <sup>2</sup>
Protection category			IP6K9K <sup>3)</sup>	
Maximal motor temperature			140	°C
Allowed ambient temperature			-20 ... 45 <sup>4)</sup>	°C
Cooling (medium, flow rate, inlet temperature, pressure)			water/glycol 50/50, 8 l/min, ≤ 45°C, ≤ 0.5 bar	
Temperature monitoring			1 x KTY84-130	
Type approval			CE, EN 60034	
Customs tariff number			8501 5230	

Connectors				
Power terminals			3 x M25 cable gland	
Signal connectors			M16, 10 Pin Hummel Connector	
Cooling connectors			2 x ¾" / 19 mm	


<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.

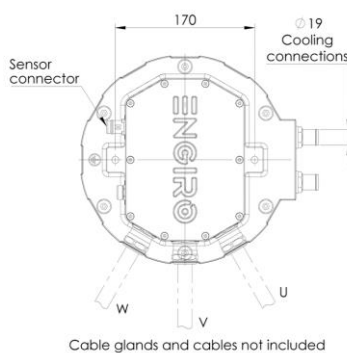
<sup>4)</sup> other range on request

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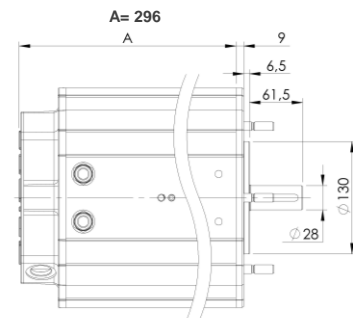
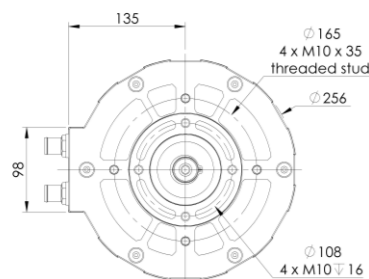
<b>Shaft and Flange Combinations for 205W-08011-ABC</b>		<b>Flange (A)</b>
		<b>S</b> (Standard)
<b>Shaft (B)</b>	<b>S</b> (Cylindrical shaft with keyway $\varnothing$ 28mm)	 (~38 kg)
<b>Position Sensor (C)</b>		<b>E: sin/cos encoder</b>

Other individual combinations are also possible on request.

## Technical Drawings



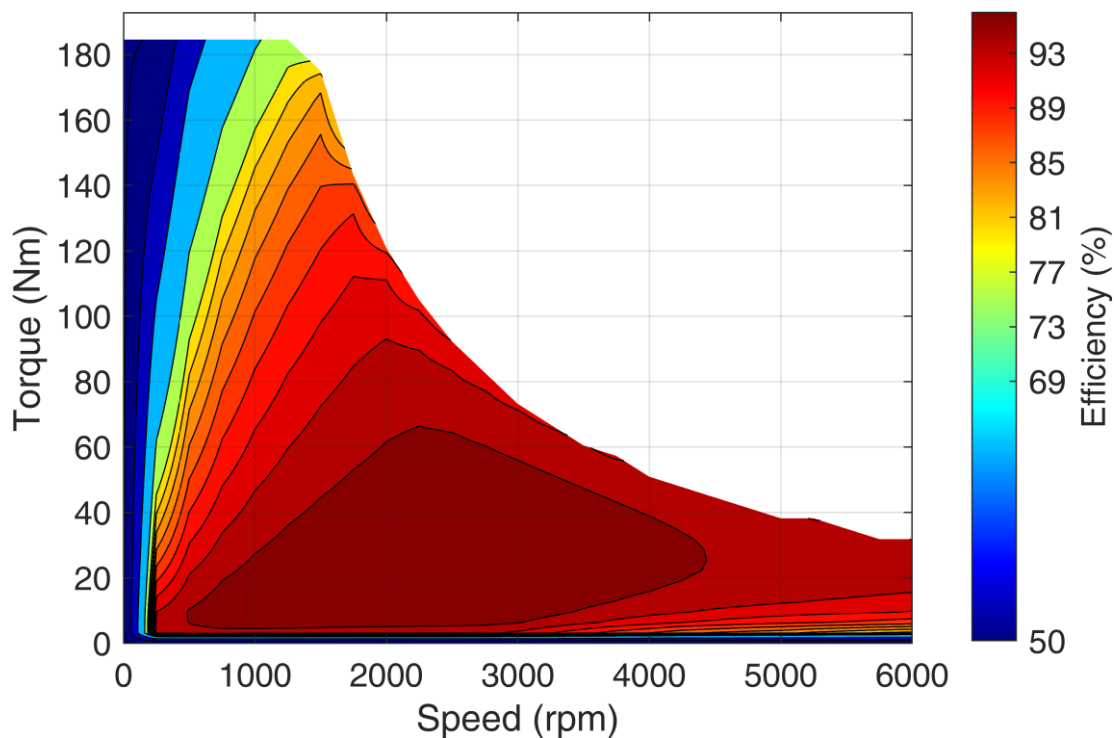
**Flange S  
Shaft S**



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## Simulated Efficiency of Motor Application

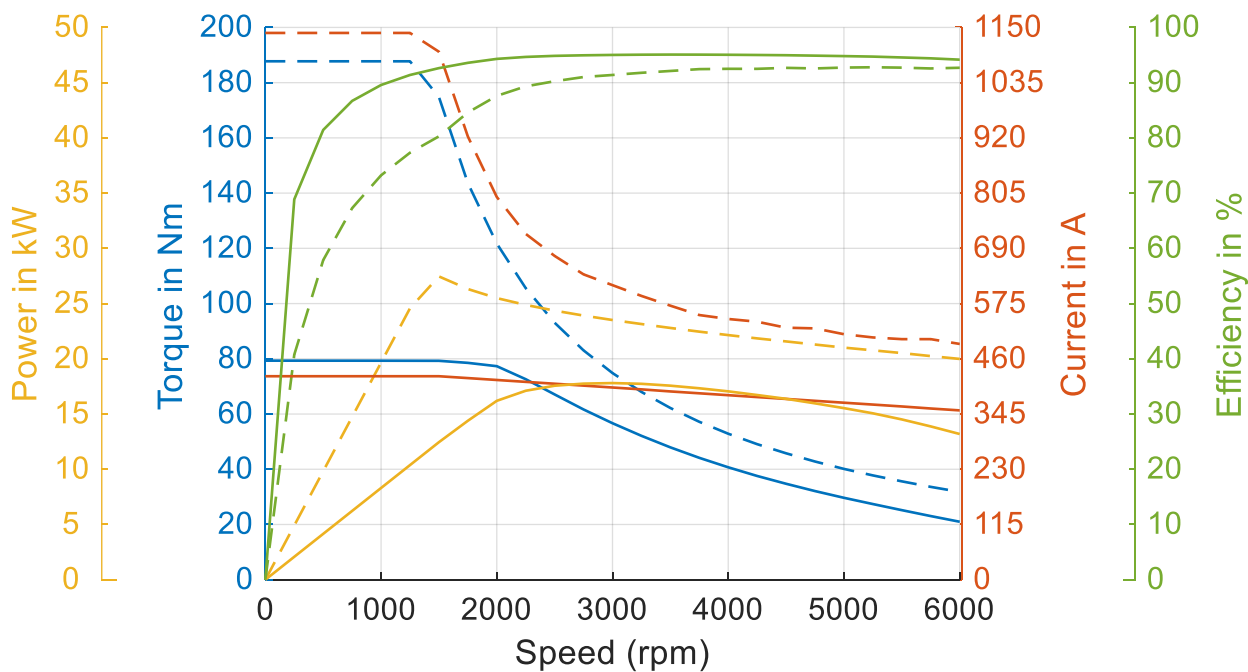
(electric machine only;  $U_{nom} = 48\text{ V}$ ; machine at  $140\text{ °C}$ ;)



## Simulated Characteristic Motor Parameters

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

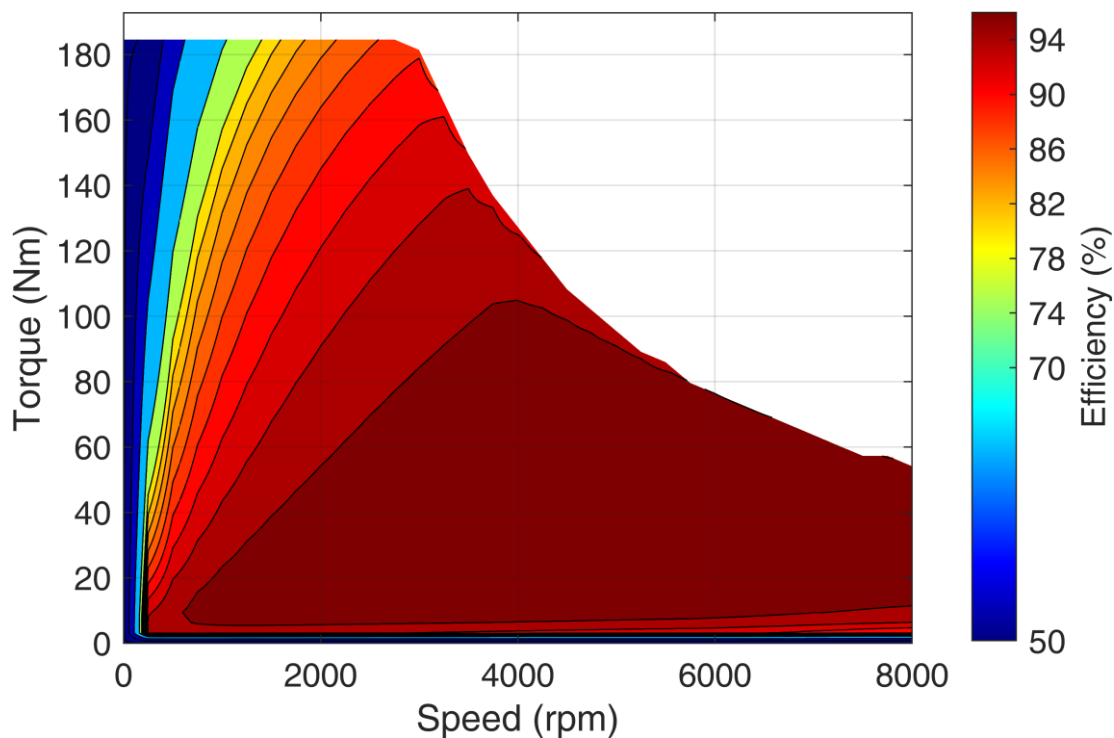
solid lines: continuous; dashed lines: maximum;



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## Simulated Efficiency of Motor Application

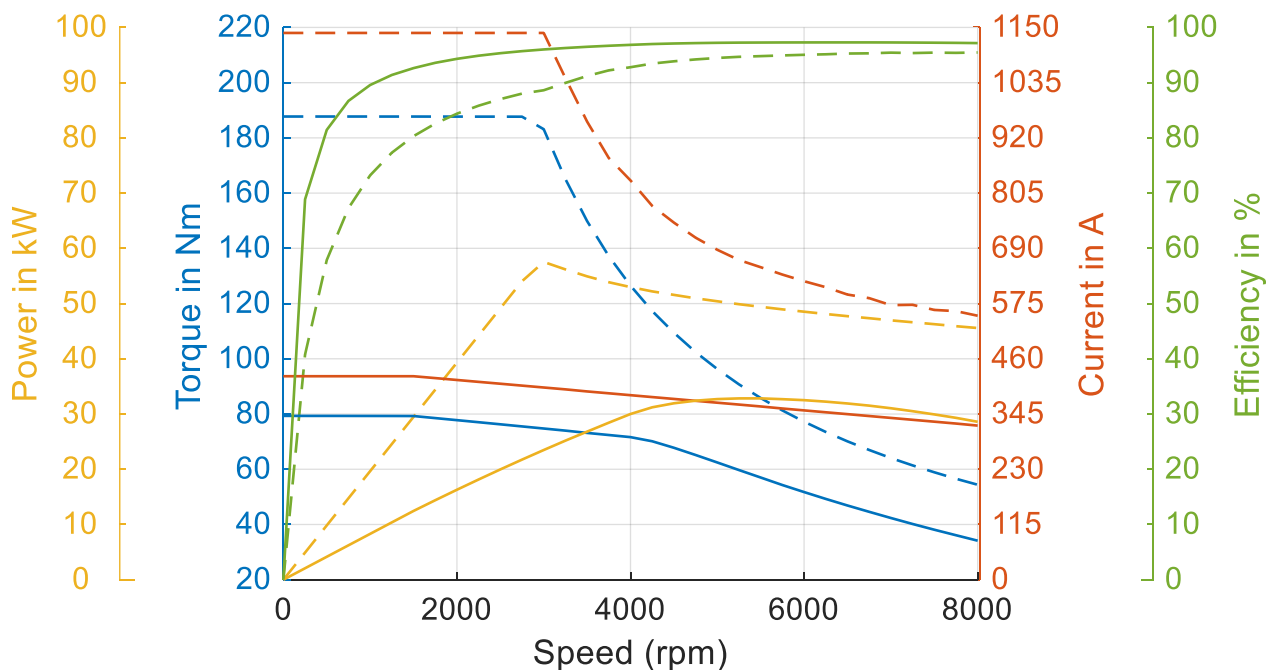
(electric machine only;  $U_{nom} = 96\text{ V}$ ; machine at  $140\text{ °C}$ ;)



## Simulated Characteristic Motor Parameters

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

solid lines: continuous; dashed lines: maximum;



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