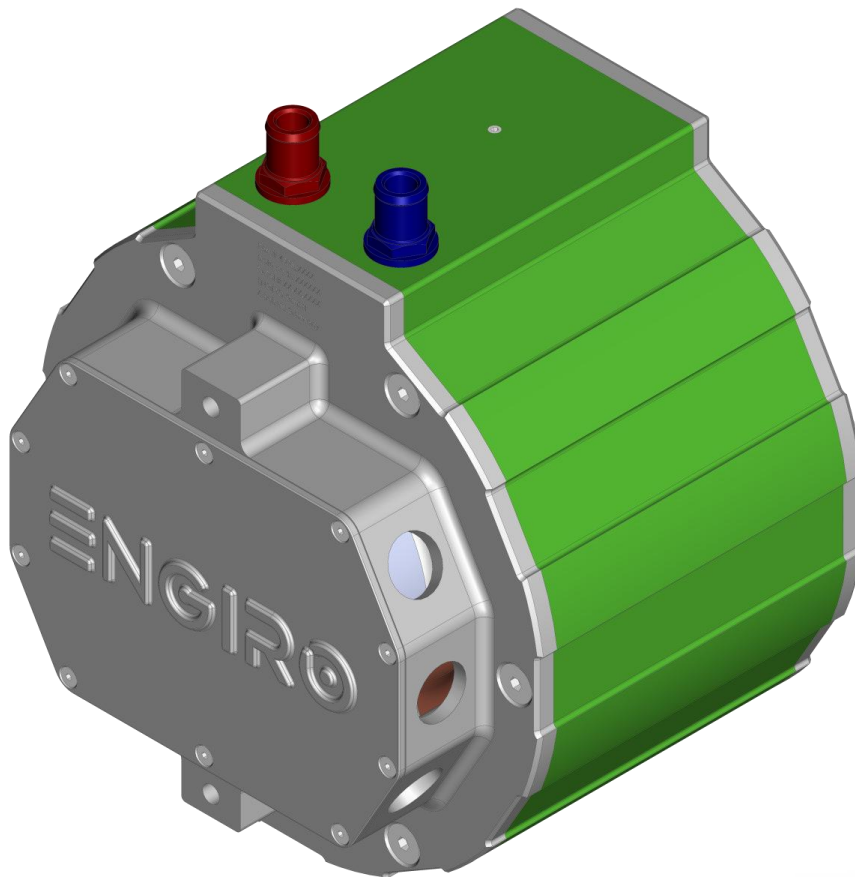


Data Sheet

205W-04035-ABC

water-cooled motor / generator with up to 5 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 48V to 200V
- delivery with controller possible
- various mechanical interfaces available

Section	Page
Technical Data Machine	3
Table Shaft and Flange Combinations	4
Technical Drawings Machine	4
Characteristics Machine	5

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
4822957	205W_04035_SSE	S1	S1	E

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Nominal Operation (S1, cooling as specified below)			
Torque	T_{nom}	39	Nm
Power	P_{nom}	5	kW
Speed	n_{nom}	1200	rpm
Phase rms-current	I_{nom}	138 ^{1,2)}	A
Battery voltage (DC)	U_{nom}	48	V
Electric frequency	$f_{el,nom}$	80	Hz
Power factor	$\cos(\varphi)$	0.74	

Maximal Values (S2, 10s, cooling as specified below)			
Torque	T_{max}	94	Nm
Power	P_{max}	8	kW
Phase rms-current	I_{max}	357 ²⁾	A
Battery voltage (DC)	U_{max}	200	V
Speed	n_{max}	3180	rpm
Electric frequency	$f_{el,max}$	212	Hz

Electrical Data			
Number of phases		3	
Number of pole pairs		4	
Maximal efficiency		96	%
T/I constant ($I < I_{nom}$)		0.32	Nm/A _{rms}
U/n constant (AC) at a temperature of 30°C	rms:	21.4	peak: 36.4 V/(1000rpm)
K_e constant (AC) at a temperature of 30°C	rms:	0.051	peak: 0.087 V/(rad*s ⁻¹)

Additional Data			
Weight (w/o cables)		see page 4	kg
Rotor moment of inertia		0.0090	kg*m ²
Protection category		IP6K9K ³⁾	
Maximal motor temperature		140	°C
Allowed ambient temperature		-20 ... 45 ⁴⁾	°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 5220	

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

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.

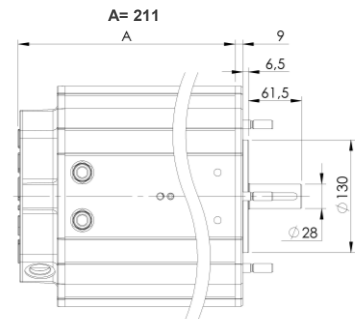
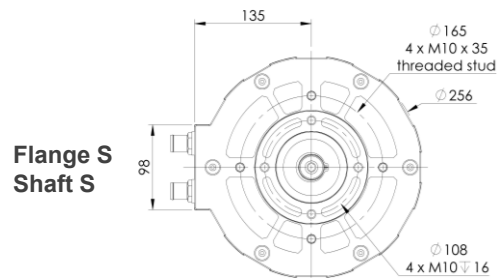
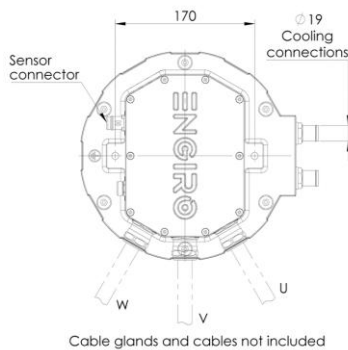
⁴⁾ other range on request

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Available Type Variants			
Flange	Shaft	Pos. sensor	Weight (kg)
<p>S1</p> <p>Standard with 4xM10x35 threaded stud</p>	<p>S1</p> <p>Cylindrical shaft with keyway \varnothing 28mm</p>	<p>E</p> <p>Encoder</p>	<p>\approx 26 kg</p>

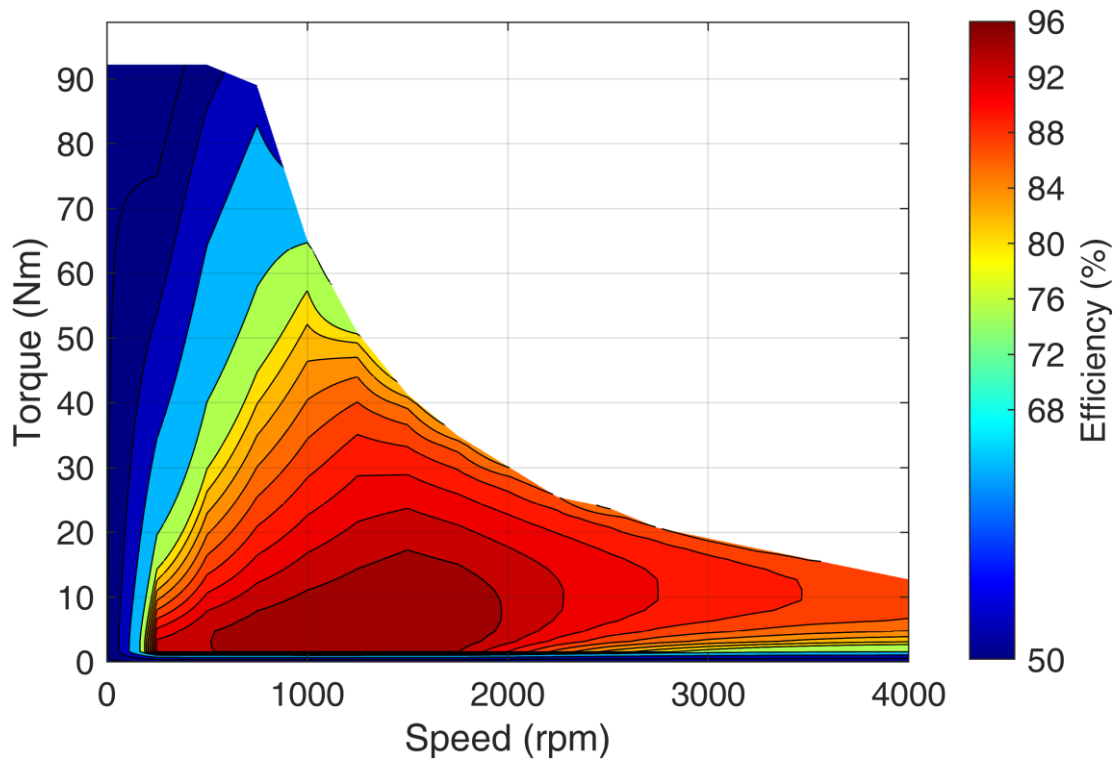
Other individual combinations are also possible on request.

Technical Drawings

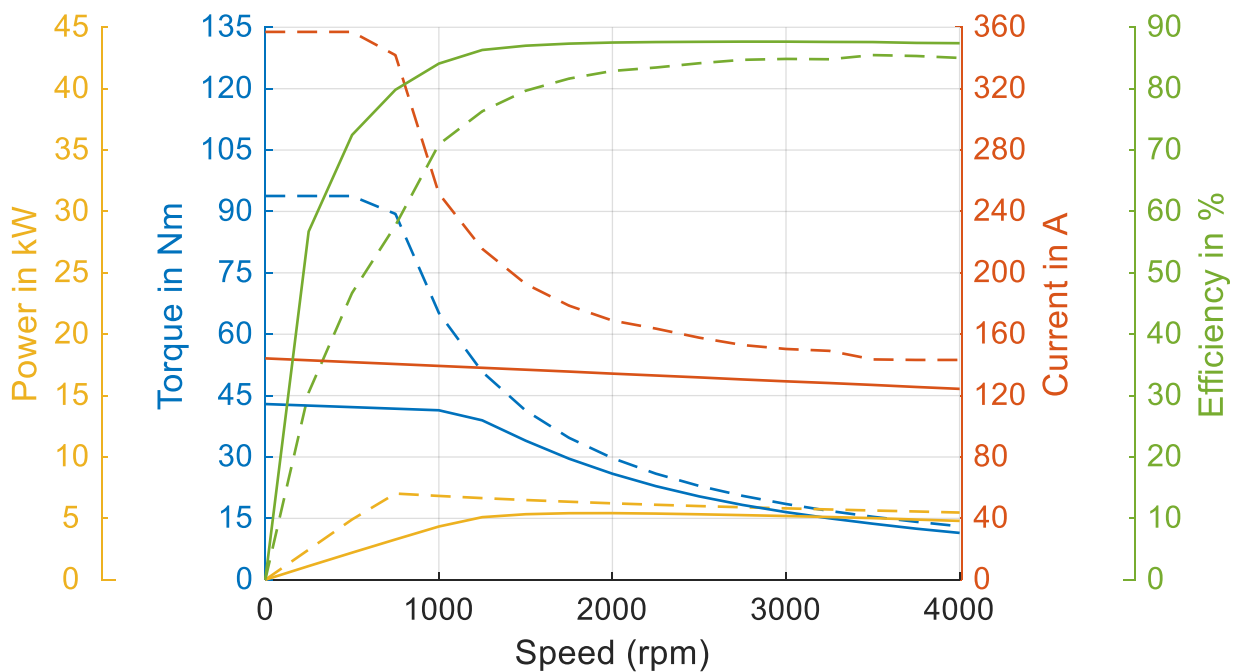


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Simulated Efficiency of Motor Application
(electric machine only; $U_{nom} = 48\text{ V}$; machine at 140 °C ;)



Simulated Characteristic Motor Parameters
 $U_{nom} = 48\text{ V}$
solid lines: continuous; dashed lines: maximum;



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