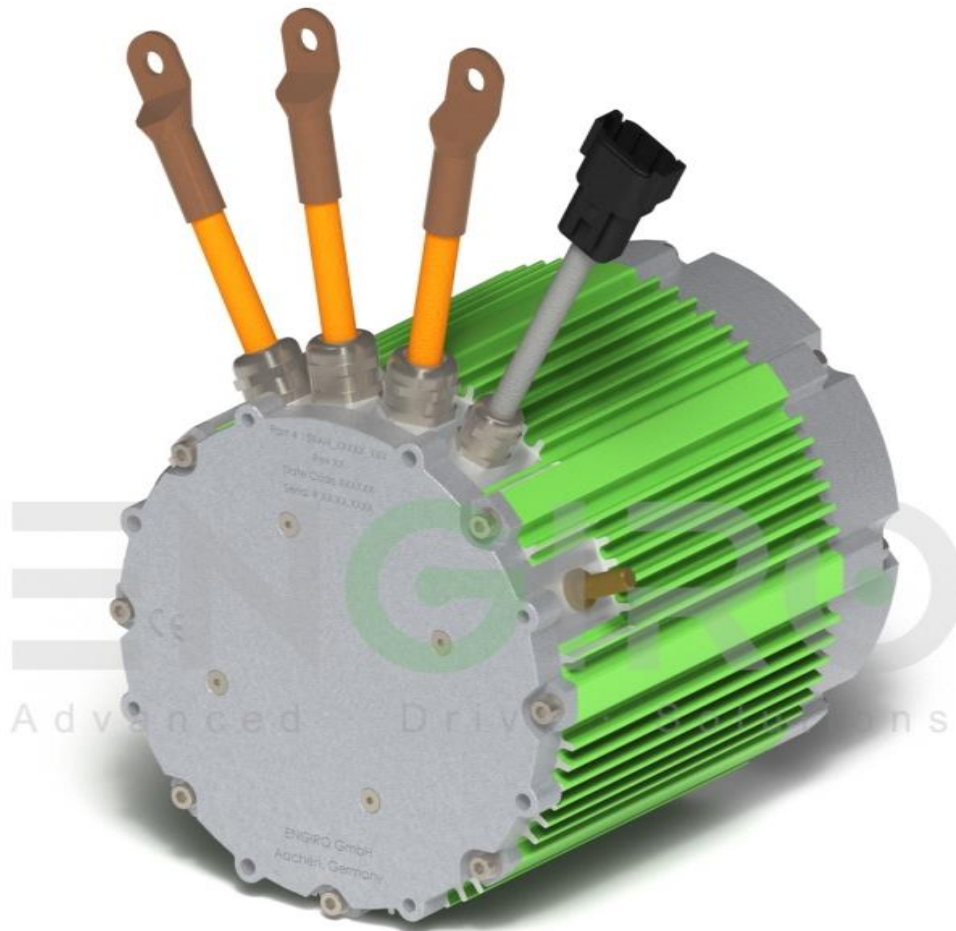


# 159AH-06008-ABC

air-cooled motor / generator with 13 kW continuous power

This datasheet applies to part numbers: see page 2



## KEY FEATURES

- permanent magnet synchronous machine
- Air-cooled
- convincing cost-benefit ratio
- delivery with controller possible

Section	Page
Operating Range	3
Additional Data	4
Certifications	5
Available Type Variants / Technical Drawings	6
Performance Plots	7

**Note:**

On September 1<sup>st</sup>, 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:

Part number conversion				
Part.no.	Old part.no.	Flange	Shaft	Position sensor
4663842	159AH_06008_EDE	E1	D1	E

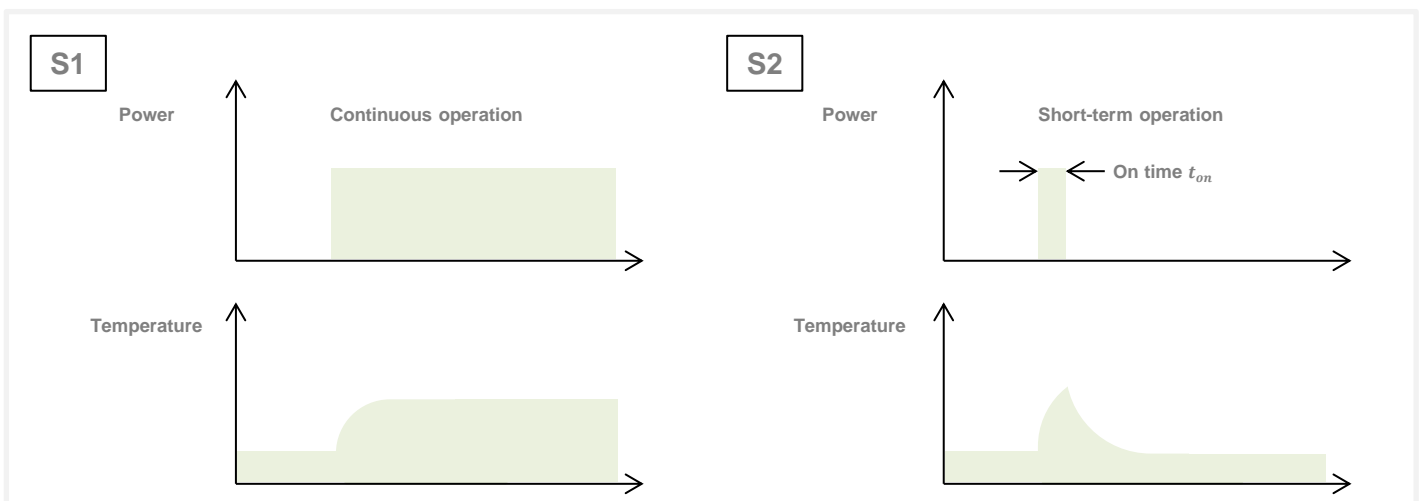
Data, including specifications, contained within this document are summary in nature and subject to change at any time without notice and are intended for general information only. Call for latest revision. All brand names and product names referenced are trademarks, registered trademarks, or trade names of their respective holders.

**Characteristic Operating Points (cooling as specified on next page)**

		S1 <sup>1)</sup>	S2	
Feasible operating time	$T_{peak}$	continuous	60 sec	
Torque	$T$	22	74	Nm
Power	$P$	13	29	kW
Phase rms-current (AC)	$I_{rms}$	322 <sup>2,3)</sup>	1236 <sup>3)</sup>	A
Battery voltage (DC)	$U_{DC}$	48	48	V
Speed	$n$	5750	4000	rpm
Electric frequency	$f_{el}$	479	333	Hz
Efficiency	$\eta_{tot}$	96	88	%
Power factor	$\cos(\varphi)$	0.93	0.59	

**Maximum Operating Range**

		Max	
Torque	$T_{max}$	74 @4000 rpm	Nm
Power	$P_{max}$	29 @4000 rpm	kW
Phase rms-current (AC)	$I_{rms,max}$	1236 <sup>4)</sup>	A
Speed	$n_{max}$	8000	rpm
Battery voltage (DC)	$U_{max}$	200	V
Electric frequency	$f_{el,max}$	666	Hz



- 1) Only valid for an ambient Temperature  $\leq 20$  °C and air flow rate  $\geq 6$  m/s
- 2) Nominal current strongly dependent on cooling as specified below.
- 3) The cables must not exceed a temperature of 140 °C at any time. Temperature and service life depend on the installation condition.
- 4) Peak rating for max. 60 seconds on time

Electrical Data			
Number of phases			3
Number of pole pairs			5
Maximal efficiency			96 %
T/I constant (I<I <sub>nom</sub> )			0.08 Nm/A <sub>rms</sub>
U/n constant (AC) @20°C motor temp.	rms:	4.8	peak: 8.9 V/(1000rpm)
Ke constant (AC) @20°C motor temp.	rms:	0.09	peak: 0.017 V/(rad*s <sup>-1</sup> )
Additional Data			
Rotor moment of inertia			0.0052 kg*m <sup>2</sup>
Allowed range of ambient temperature			-20 ... +85 <sup>1)</sup> °C
Maximal motor temperature			140 °C
Cooling	Cooling medium		air
	Air flow rate		6 m/s
	Cooling air temperature		20 °C
Temperature monitoring			1 x KTY84-130
Ports			
Power terminals			3 x 50 mm <sup>2</sup> cables with M8 cable lugs
Length power cables			50 cm
Signal connectors			Deutsch DTM04-08PA

1) Derating >25 °C

Certifications		
Type approval	CE, EN 60034	
Environmental	Prepared for ISO 9227	
Protection grade	ISO 20653 IP6K9K <sup>2)</sup>	
Vibrations	Prepared for ISO 16750-3	
Customs tariff number	8501 5230	

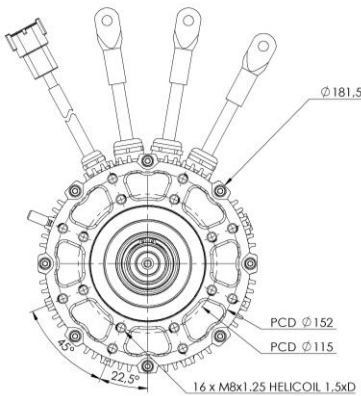
- 1) Available upon request.
- 2) Please note that the IP6K9K rating is only valid if the machine is installed with suitable cable glands and an appropriate sealed interface at the drive side of the motor (flange and/or shaft). Please contact ENGIRO for further questions.

Data, including specifications, contained within this document are summary in nature and subject to change at any time without notice and are intended for general information only. Call for latest revision. All brand names and product names referenced are trademarks, registered trademarks, or trade names of their respective holders.

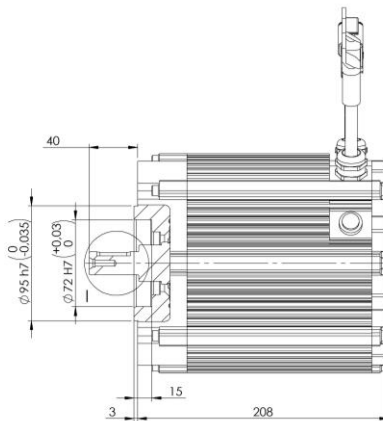
<p><b>Shaft and Flange Combinations for 159AH-06008-ABC</b></p>		<p><b>Flange (A)</b></p>
		<p><b>E1</b> (IEC B14 90 round 95mm centering)</p>
<p><b>Shaft (B)</b></p>	<p><b>D1</b> (Cylindrical shaft with keyway <math>\varnothing</math> 19mm)</p>	<p>● (<math>\approx</math> 16 kg)</p>
<p><b>Position Sensor (C)</b></p>		<p>E: sin/cos encoder</p>

Other individual combinations are also possible on request.

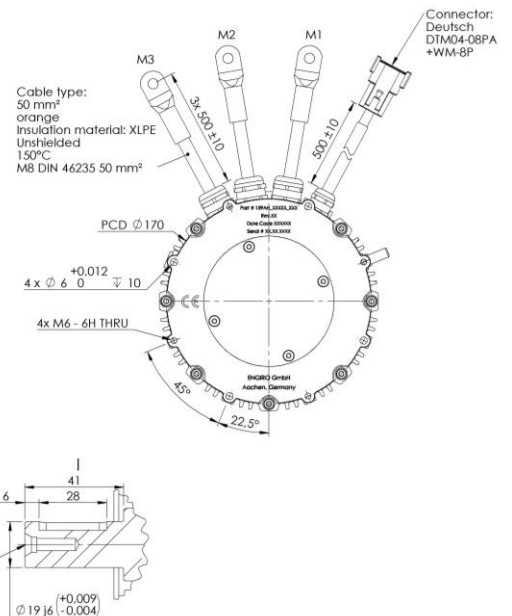
Technical Drawings



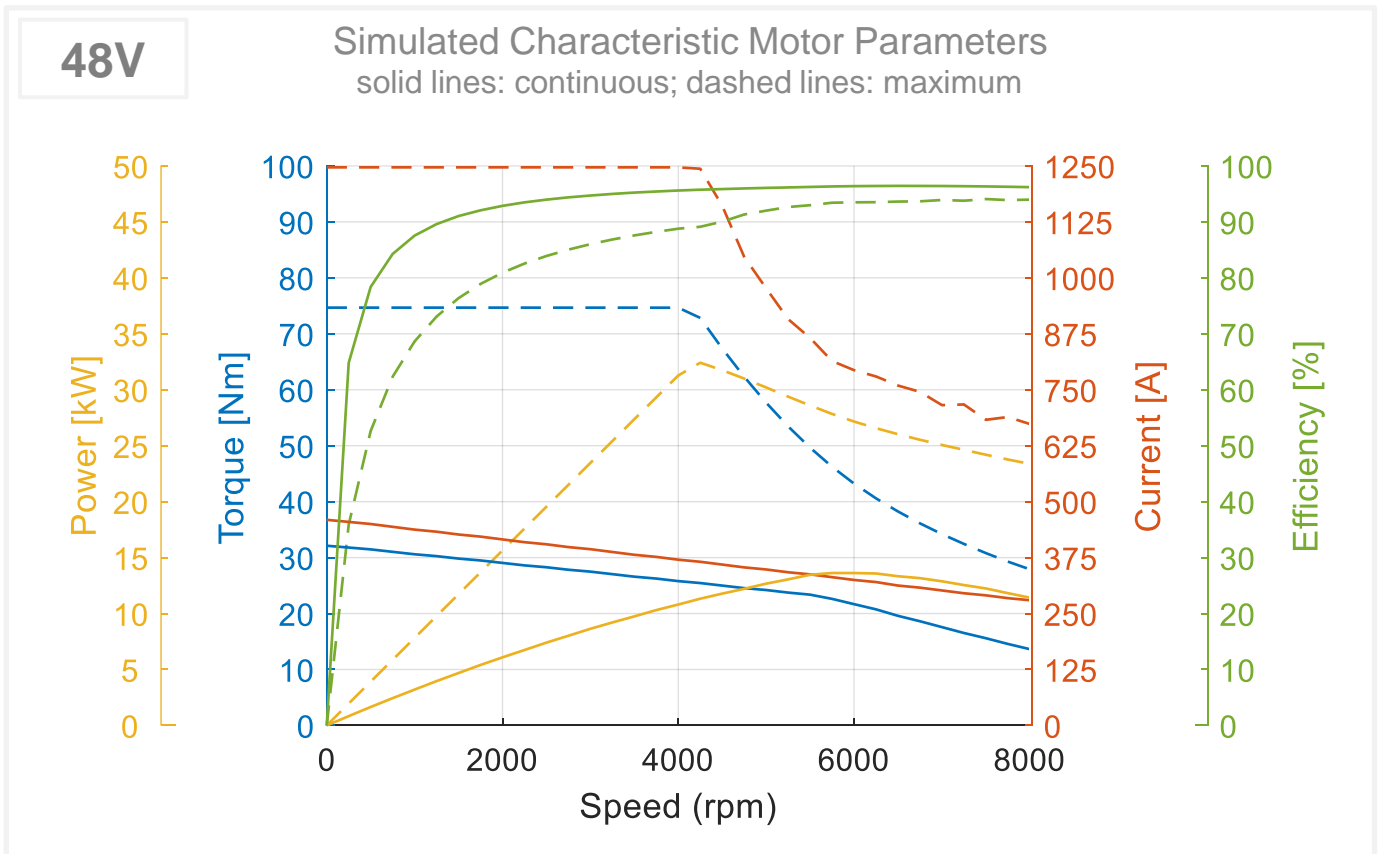
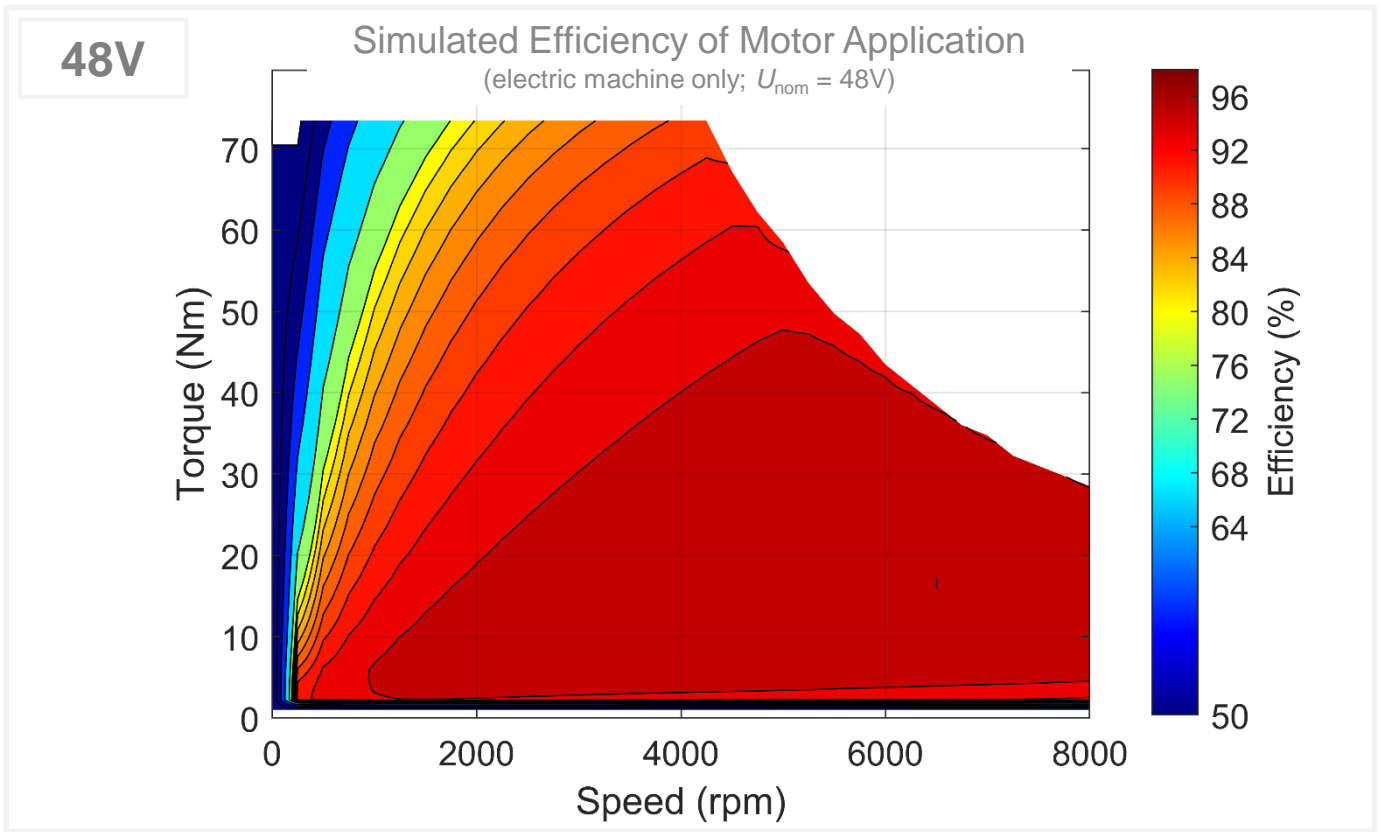
Flange E1



Shaft D1



Data, including specifications, contained within this document are summary in nature and subject to change at any time without notice and are intended for general information only. Call for latest revision. All brand names and product names referenced are trademarks, registered trademarks, or trade names of their respective holders.



Data, including specifications, contained within this document are summary in nature and subject to change at any time without notice and are intended for general information only. Call for latest revision. All brand names and product names referenced are trademarks, registered trademarks, or trade names of their respective holders.