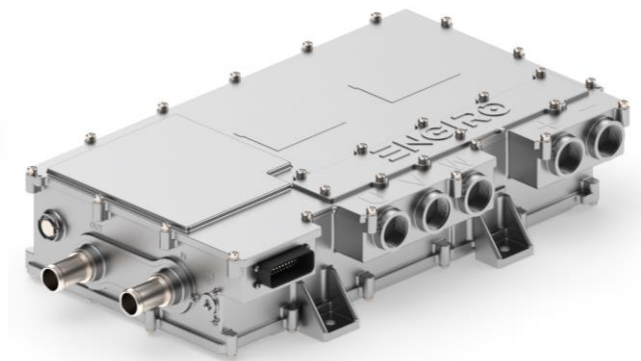
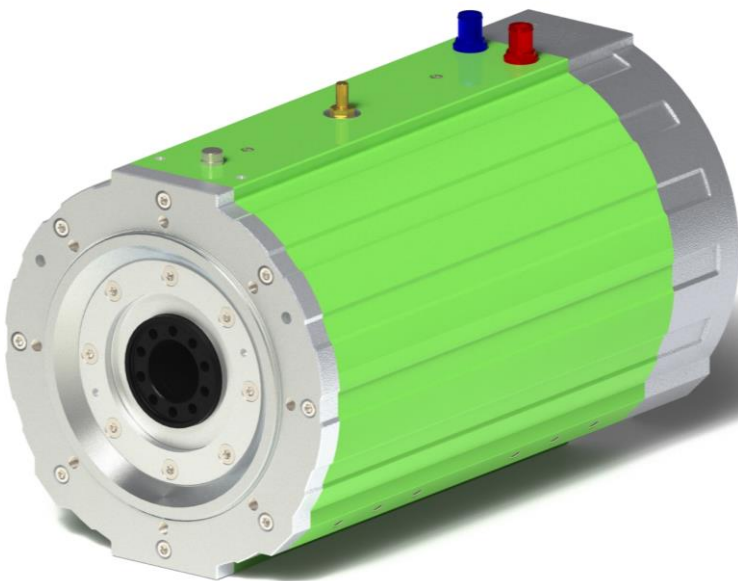


# 260W-28018-ABC

water-cooled motor / generator with 199 kW continuous power

This datasheet refers to art.no.: see page 2



Part no.: 4843401

Article Name: EN1\_800V\_900A\_W

## KEY FEATURES

- permanent magnet synchronous machine
- water-cooled
- high peak power for motor applications
- convincing cost-benefit ratio
- recommended voltage range from 350 V to 850 V
- delivery with controller possible

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Additional Data	5
Available Type Variants / Technical Drawings	6
Performance Plots	7
Additional Characteristics	8

**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:

Article Number Conversion					
Part. No.	Old Part. No.	Flange	Shaft	Position Sensor	B-side interface
4844662	260W_28018_SFR	S1	F1	R	...S11
4844931	260W_28018_DFR	S1	F1	R	...D01

**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.

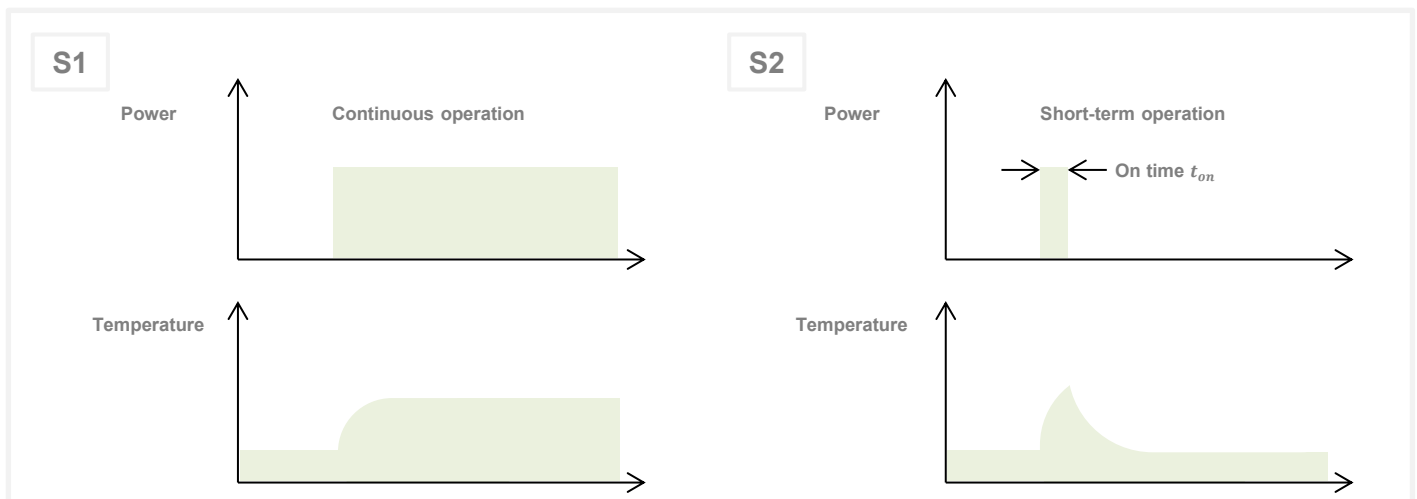
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Characteristic Operating Points<sup>1)</sup>

		S1	S2	S2	
Feasible operation time	$t_{on}$	continuous	30 min	30 sec	
Torque <sup>2)</sup>	$T$	853	886	1468	Nm
Power <sup>2)</sup>	$P$	199	207	307	kW
Speed	$n$	2230	2230	2000	rpm
Phase RMS-current (AC) <sup>3)</sup>	$I_{rms}$	258	255	486	A
Battery current (DC) <sup>3)</sup>	$I_{DC}$	270	277	431	A
Battery voltage (DC)	$U_{DC}$	800	800	800	V
Electric frequency	$f_{el}$	186	186	166	Hz
Efficiency	$\eta_{tot}$	93	94	89	%
Power factor	$\cos(\varphi)$	0.94	0.95	0.9	
Cooling	specified in chapter „Additional Data“				

## Maximum Operating Range

Torque <sup>2) 4)</sup>	$T_{max}$	1468 @ 2000 rpm			Nm
Power <sup>2) 4)</sup>	$P_{max}$	307 @ 2000 rpm			kW
Speed <sup>5)</sup>	$n_{max}$	6000 (S11: B-side interface) 3500 (D01: B-side interface)			rpm
Phase RMS-current (AC) <sup>3) 4)</sup>	$I_{rms,max}$	486			A
Battery current (DC) <sup>3) 4)</sup>	$I_{DC,max}$	431			A
Battery voltage (DC)	$U_{max}$	850			V
Electric frequency	$f_{el}$	500			Hz



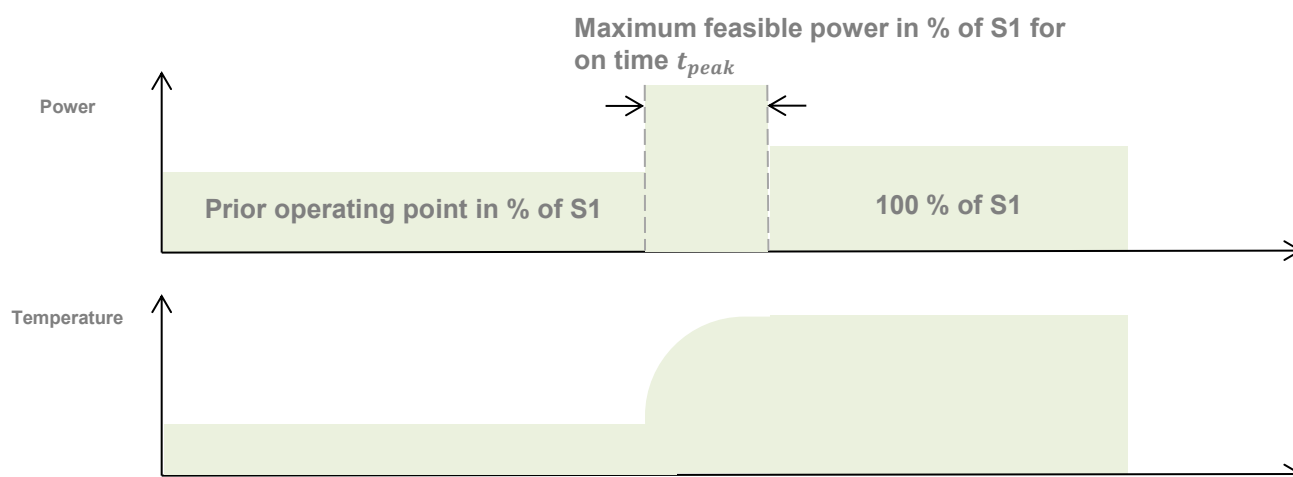
- 1) Defined Range only valid for a power factor of 1 at DC input
- 2) Torque / Power rating is dependent on rotor temperature
- 3) The cables must not exceed a temperature of 140 °C at any time. Temperature and service life depend on the installation condition.
- 4) Peak rating for max. 30 sec on time
- 5) Higher speeds available upon request. A detailed discussion of the functional safety concept of the vehicle is required.

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**S9 Operating Points <sup>1)</sup>**  
**Maximum Feasible Power in % of S1**

$U_{\text{nom}} = 800 \text{ V}$		Prior operating point in % of S1				
		0 %	25 %	50 %	75 %	100 %
On time $t_{\text{peak}}$	30s	140 %	140 %	130 %	120 %	100 %
	180s	110 %	110 %	110 %	100 %	100 %
	420s	100 %	100 %	100 %	100 %	100 %

1) Cooling conditions as specified in chapter "Additional Data"

**S9**
**Overload capability for subsequent continuous operation depending on preceding operation**


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Electrical Data					
Number of phases		3			
Number of pole pairs		5			
Maximum stationary short circuit current <sup>1)</sup>		291 A (RMS) @ 20 °C @ ≥ 400 rpm			
Maximal efficiency		96			%
T/I constant (I<I <sub>nom</sub> )		3.295			Nm/A <sub>rms</sub>
U/n constant (AC) at temperature 20 °C		rms:	213.97	peak:	317.7 V/(1000rpm)
Ke constant (AC) at temperature 20 °C		rms:	2.04	peak:	3.03 V/(rad*s <sup>-1</sup> )
Additional Data					
Rotor moment of inertia		0.1892			kg*m²
Allowed range of ambient temperature		-20 ... +85			°C
Maximal motor temperature <sup>3)</sup>		operating point dependent			°C
Temperature monitoring		KTY 84-130			
Cooling	Advised medium (OAT Coolants)	water/glycol - 50/50 <ul style="list-style-type: none"><li>▪ TL 774-D/F</li><li>▪ VIN 878389</li><li>▪ MAN 324 SNF</li><li>▪ MTL 5048</li></ul>			
	Flow rate	20			l/min
	Inlet temperature	45			°C
	Pressure drop	0.655			bar
	Maximum pressure	2			bar
	Cooling channel volume	2.32			l
Connectors					
Power terminals		3 x M25 cable gland			
Signal connectors		M16, Hummel 10 Pin connector			
Cooling connectors		2 x ¾" / 19 mm			
Certifications					
Type approval		CE, EN 60034			
Salt mist		Prepared for ISO 9227			
Protection grade		ISO 20653 IP6K9K <sup>2)</sup> <small>Only applies to variants with closed B-side (S11)</small>			
Vibrations		Prepared for ISO 16750-3			
Customs tariff number		8501 5381			

1) Simulated

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.

3) Please contact ENGIRO for the parametrization of third-party inverters

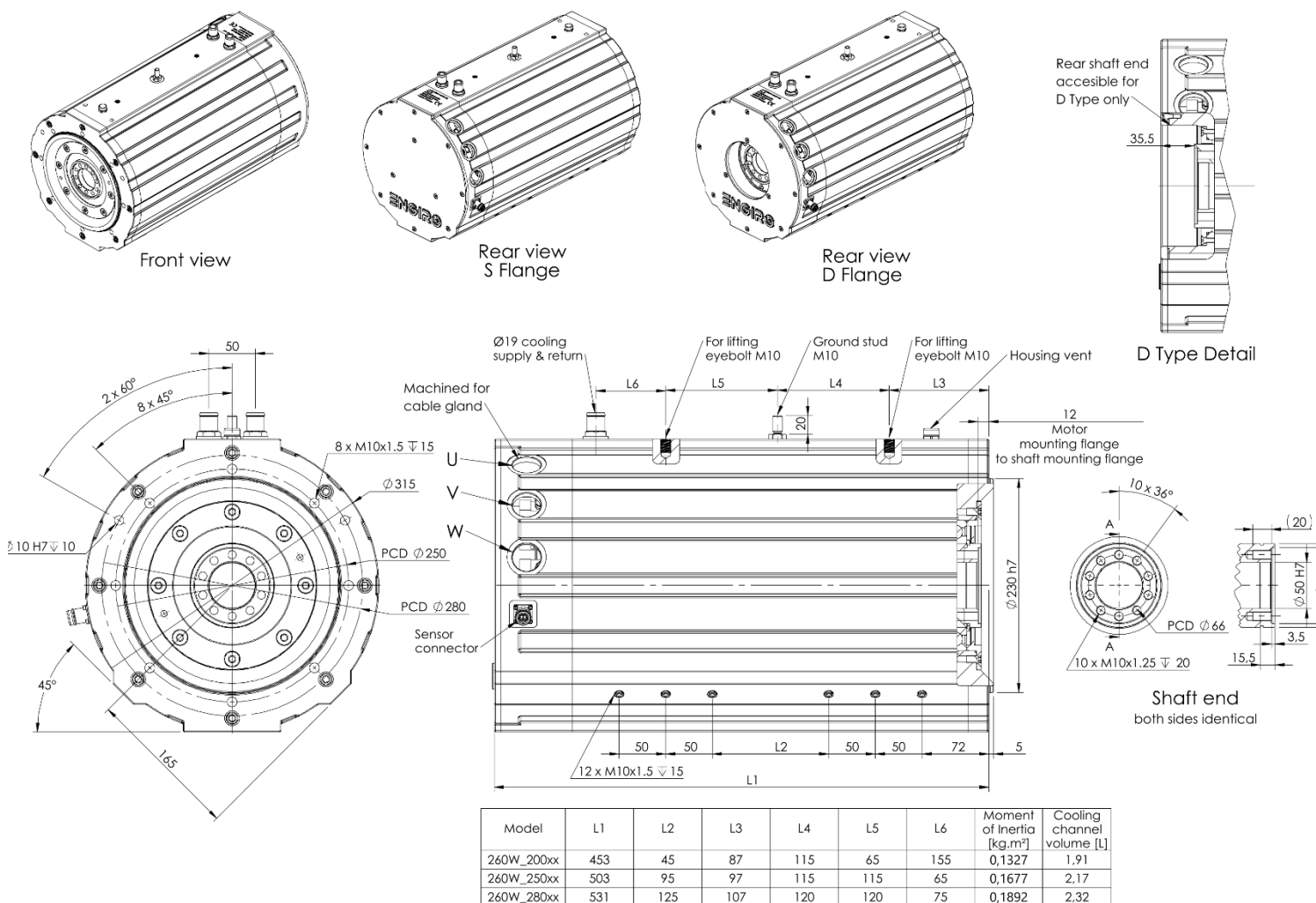
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## Available Type Variants

Flange	Shaft	Pos. sensor	B-side interface	Weight (kg)
<b>S1</b> Flange with mounting threads (Ø230 mm centering, Ø250 PCD 8 x M10)	<b>F1</b> Hollow shaft with screw flange (Ø90 and Ø50 mm centering, Ø66 mm PCD 10 x M10)	<b>R</b> Resolver	<b>S11</b> Closed B-side	≈ 149 kg
			<b>D01</b> Shaft interface on b-side (Ø90 and Ø50 mm centering, Ø66 mm PCD 10x M10)	

Other individual combinations are also possible on request.

## Technical Drawings

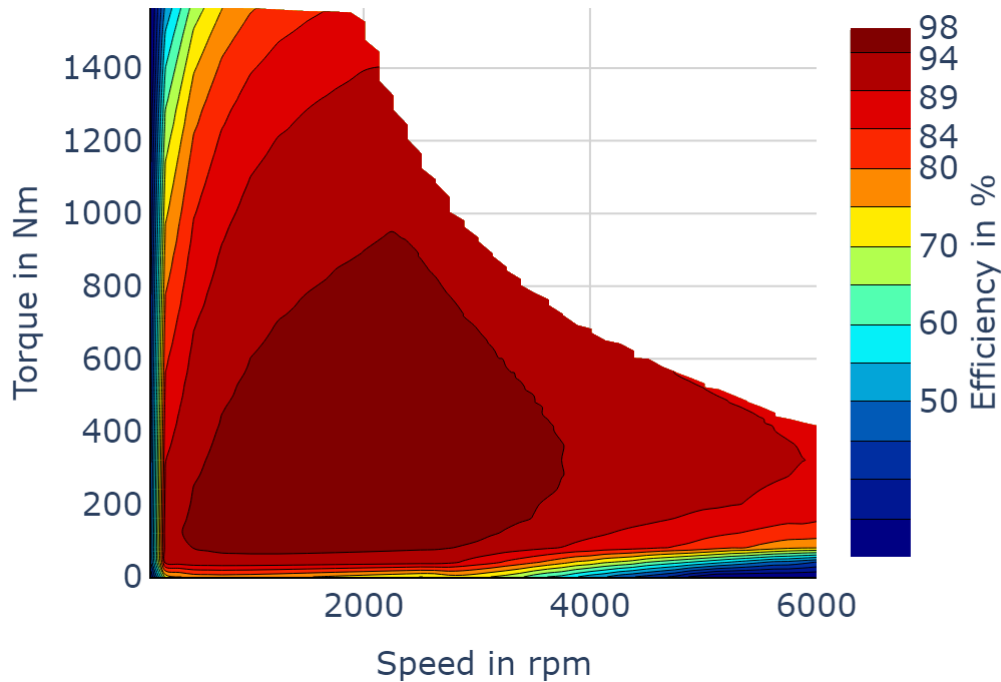


1) Depending on the operating points and load conditions, measures may be required to increase the coefficient of friction in the flange connection. Please contact ENGIRO for further questions.

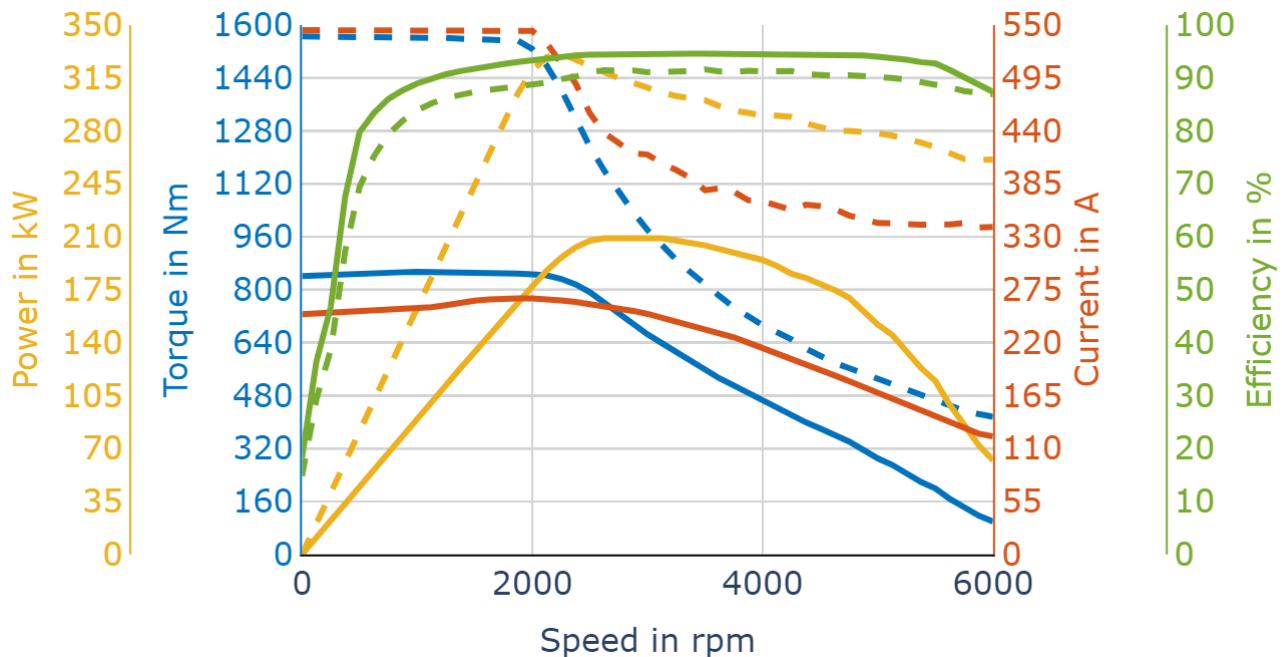
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**800 V**

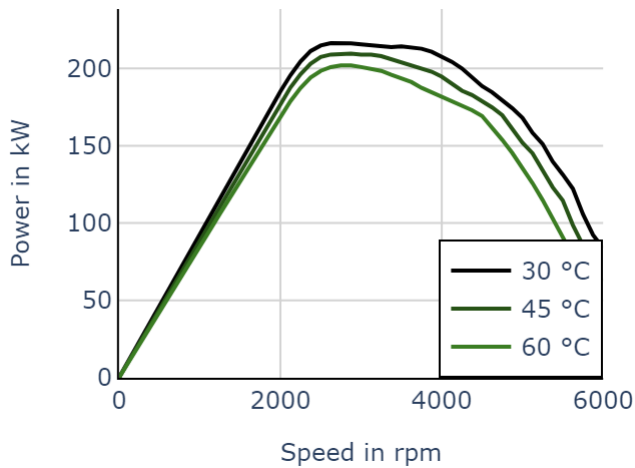
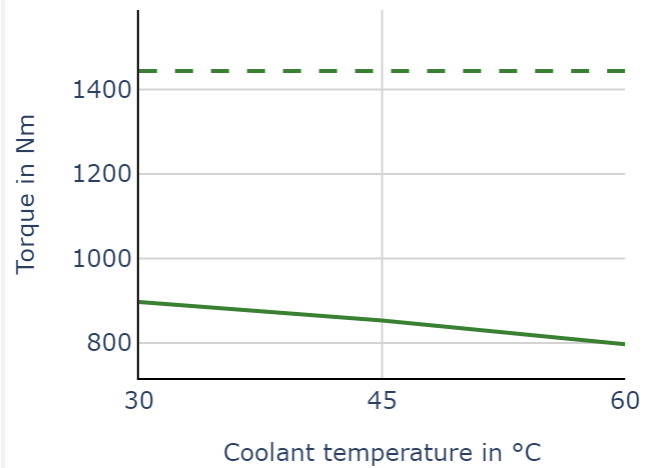
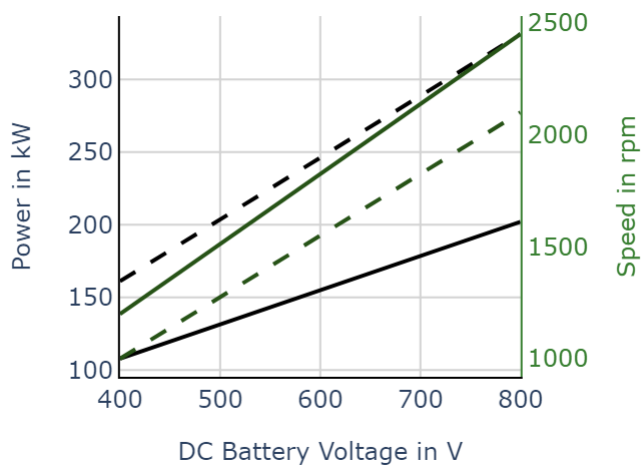
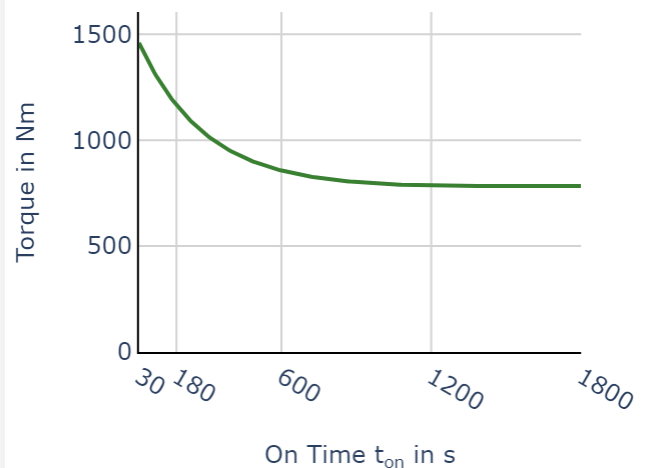
### Simulated Efficiency of Motor Application

(electric machine only;  $U_{nom} = 800\text{ V}$ )**800 V**

### Simulated Characteristic Motor Parameters

 solid lines: S1 continuous; dashed lines: S2 (30 sec) maximum  
 (cooling as specified in chapter "Additional Data")


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Simulated Nominal Power at Different  
 Coolant Temperatures –  $U_{nom} = 800\text{ V}$ 

 Available Torque  
 at Different Coolant Temperatures <sup>1)</sup>

 Simulated Power and Corner Speed  
 over Battery Voltage<sup>1)</sup>  
 (45 °C Coolant Temperature)

 Torque over Feasible Maximum On Time,  
 S2 Operation Cycles  
 (45 °C Coolant Temperature)


1) solid lines: continuous; dashed lines: maximum;

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