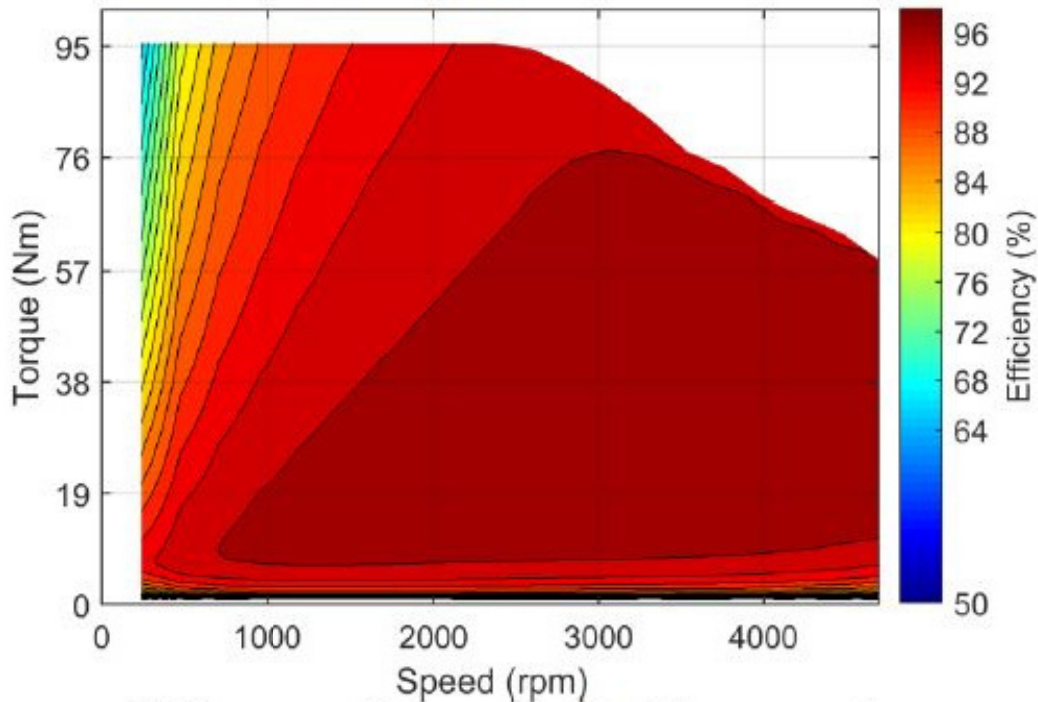


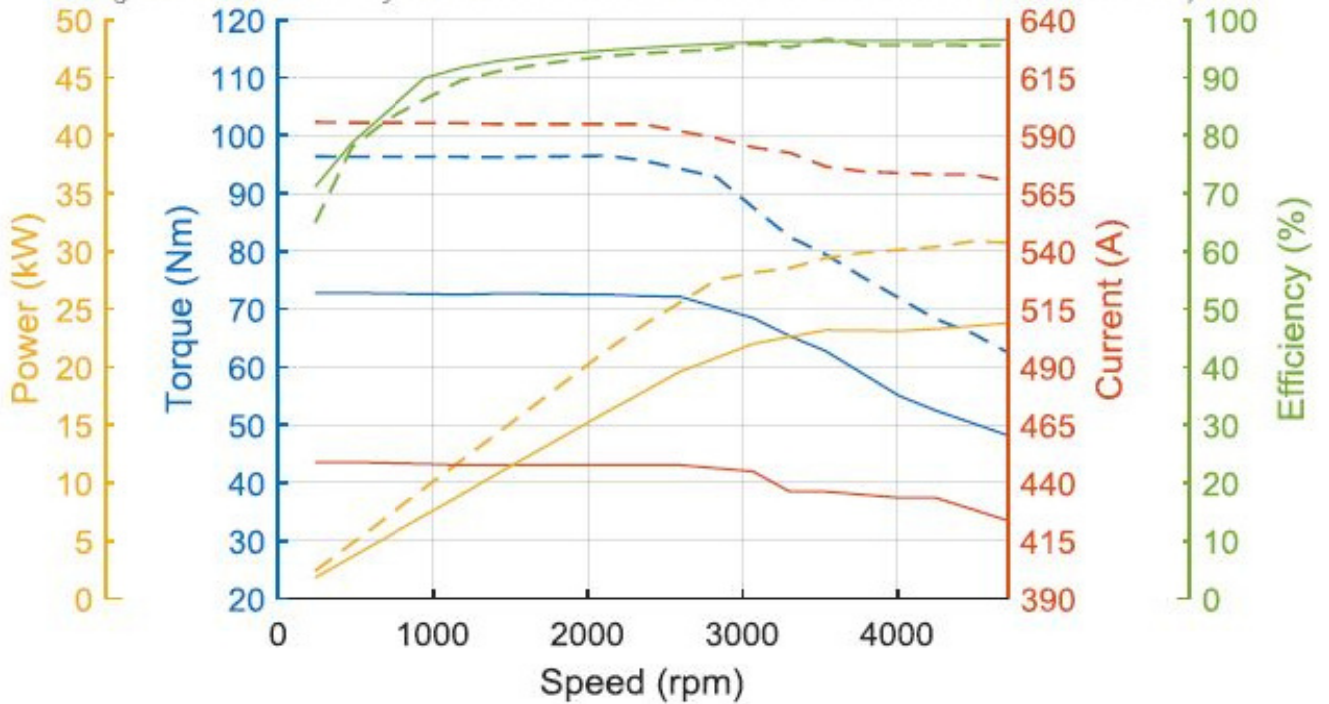
Simulated Efficiency and Motor Characteristic of Motor Application

(electric machine only; $U_{nom} = 48\text{ V}$; machine at $100\text{ }^{\circ}\text{C}$;))



solid lines: continuous; dashed lines: maximum;

(jitter is caused by numerical inaccuracies in the simulation software)



Nominal Operation Drive Set (S1)

Torque	T_{nom}	72	Nm
Power	P_{nom}	18	kW
Speed	n_{nom}	2360	rpm
Phase rms-current	I_{nom}	450	A
Battery voltage (DC)	U_{nom}	48	V
Electric frequency	$f_{el, nom}$	157	Hz
Power factor	$\cos(\varphi)$	0.70	

Maximal Values Drive Set (S2, 1-10s)

Torque	T_{max}	96	Nm
Power	P_{max}	32	kW
Phase rms-current	I_{max}	596	A
Battery voltage (DC)	U_{max}	48	V
Speed	n_{max}	4700	rpm
Electric frequency	$f_{el, max}$	313	Hz

Electrical Data

Number of phases					3	
Number of pole pairs					4	
Maximal efficiency					>96	%
T/I constant ($I < I_{nom}$)					0.16	Nm/A _{rms}
U/n constant (AC)	rms:	11.0	peak:	15.5	V/(1000rpm)	
K_e constant (AC)	rms:	0.026	peak:	0.037	V/(rad*s ⁻¹)	

Additional Data

Weight (w/o cables)					see page 4	
Rotor moment of inertia					0.0124	kg*m ²
Protection category					IP65 / IP69k	
Maximal motor temperature					140	°C
Allowed ambient temperature					-20 ... 45 ¹⁾	°C
Cooling (medium, flow rate, inlet temperature, pressure)					water/glycol 50/50, 6 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	
Cooling connectors					2 x ¾" / 19 mm	

