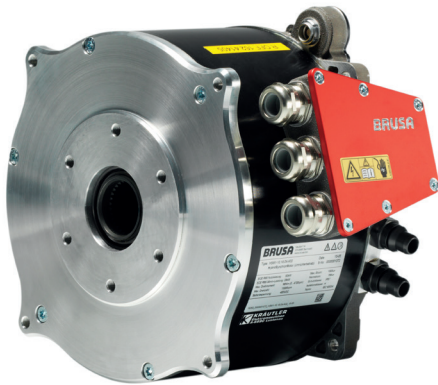




BRUSA

HSM1 - Hybrid Synchronous Motor 50 kW

Powerful Drive for small vehicles



Maximum Safety

- Intrinsically safe (induced voltage at max. speed and passive inverter < 520 V)
- Low short circuit torque
- Integrated overload protection against overheating
- Temperature-derating for self-protection of the engine

Technical Highlights

- Very high power- and torque/ weight ratio
- Dynamic torque control through high PWM frequency
- Minimal torque fluctuations
- Suitable for high - speed - applications up to 13.000 rpm
- CAN - BUS - control by inverter
- Minimal drag losses
- Constant power over a very high speed range
- Optimally matched to the motor inverters available
- Suitable as a drive motor or generator (range extender applications)

Applikation Example Small Vehicle





Specifications HSM1-10.18.04

High voltage supply HV

	HSM1-10.18.04		
	360 V	400 V	
Nominal speed	4'300	4'600	rpm
S1-torque	52	52	Nm
Max. torque at max. inverter current (Inverter DMC514 150 A _{ref})	98	98	Nm
Continuous power / S1-Powerf (8 A / mm ²)	25	28	kW
Max. power	45	51	kW
Max. speed	13'000	13'000	rpm
Torque frequency	0.7	0.7	Nm / A

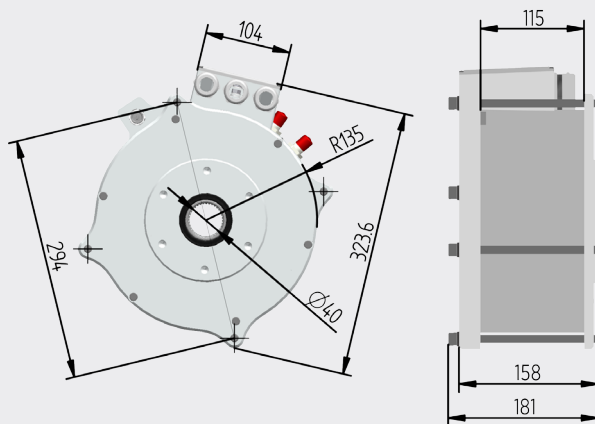
Basic electrical data

	HSM1-10.18.04		
Compatible inverter	DMC514		--
Recommended input voltage of device (min. / max.)	360 - 450		V
Level of efficiency	95		%
Number of pole pairs	5		--
Number of turns	27		--
Insulation class	H		--
Nominal frequency (400 V)	383		Hz
Max. frequency	1'083		Hz
Cos(φ) (typical) at max. S1-power	0.93		--
Constant power range (400 V _{DC} , 80% P _{max})	4'000 - 13'000		rpm
Recommended cable diameter phase U, V, W and GND	25		mm ²
Motor sensor switch pin-number	14		--

Mechanical data / Cooling system

	HSM1-10.18.04		
Weight without gearbox	26		kg
Rotor inertia torque	0.030		kgm ²
IP-protection	IP67		--
Magnet material	NeFeB		--
Coolant quantity in device	0.4		l
Coolant flow rate	6 - 8		l/min
Max. temperature in operation	-40 to +85		°C

Dimensions



Power / Torque Depending on Speed

