



HSM1-12.18.13 - Hybrid Synchronous Motor

High power density - produced in large quantities



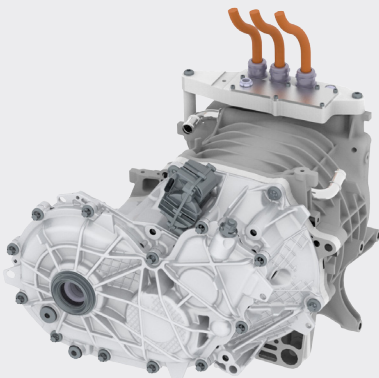
Optimal safety

- Intrinsically safe: low short-circuit torque, manageable short-circuit current and induced voltage
- Integrated overload protection against overheating

Highlights

- Durable design:
fully validated and automotive-compliant
- Originating from large quantity production series
- Exciting driving experience thanks to HSM topology
- Constant power across a wide speed range
- Excellent power density and overall efficiency
- Low torque-ripple and drag losses

Option: HSM1-12.18.13 with gearbox DTS01-097



Technical specifications gearbox DTS01-097

Continuous power:	up to 90 kW
Peak power:	125 kW
Peak output torque:	2'350 Nm
Maximum output speed:	1'175 rpm
Gear ratio:	1:9.7

Specifications at coolant temperature = 25°C.



Specifications HSM1-12.18.13

Performance data at 360 V_{DC}

Nominal speed	4'800	rpm
Continuous torque (ECE R85) at 25°C	180	Nm
Max. torque at max. inverter current	250	Nm
Continuous power (ECE R85) at 25°C	90	kW
Max. power at max. inverter current	125	kW
Max. speed	11'400	rpm

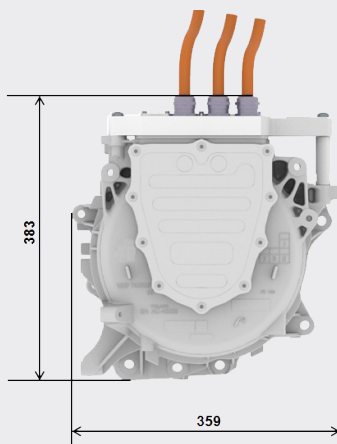
Basic electrical data

Compatible inverter	DMC534	--
Recommended input voltage inverter (min. / max.)	300 - 450	V
Typ. efficiency	96	%
Insulation class	H	--
Nominal frequency (360 V _{DC})	480	Hz
Max. frequency	1'140	Hz
Typical cos (φ) at cont. power	0.94	--
Cable diameter phase U, V, W and GND	50	mm ²

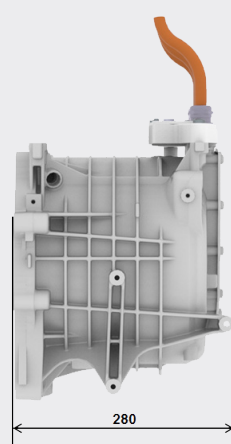
Mechanical data / Cooling system

Weight without gearbox	52	kg
Rotor inertia	0.07	kgm ²
IP-protection	IP67	--
Coolant flow rate	6 - 8	l/min
Pressure drop at 6l/min, coolant temperature = 25°C	100	mbar
Min. / max. coolant temperature at inlet	- 25 / + 65	°C

Dimensions front view



Dimension side view



HSM1-12.18.13 with 1 x DMC534 at 360 V_{DC}

