Hyperdrives Ultra

Integrated electric drive unit for aerospace applications

Hyperdrives Ultra offers world-class power density, enabled by Hyperdrives' advanced hollow-conductor cooling technology. With a fully integrated SiC inverter, the system delivers outstanding efficiency across the full operational range, optimized especially for cruise conditions. Designed with high-altitude performance in mind and based on the proven inner-runner radial flux architecture with an SPM rotor and standard materials, Hyperdrives Ultra is engineered for scalability and cost-efficient mass production – setting a new benchmark in performance-to-cost. Compact, lightweight, and easy to install, Hyperdrives Ultra provides a versatile solution for demanding aerospace applications, whether as a propulsion drive or in hybrid generator systems.

Key Features

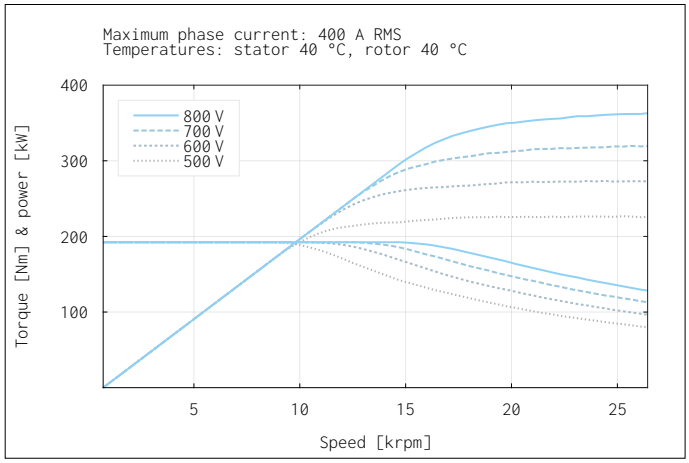
→ Class-leading system power density: peak 16.3 kW/kg & continuous 12.8 kW/kg
→ Fully integrated cooling loop for both motor and inverter
→ High-end performance designed with mass-market scalability
→ Outstanding efficiency enabled by advanced SiC inverter and proprietary cooling technology

Specifications

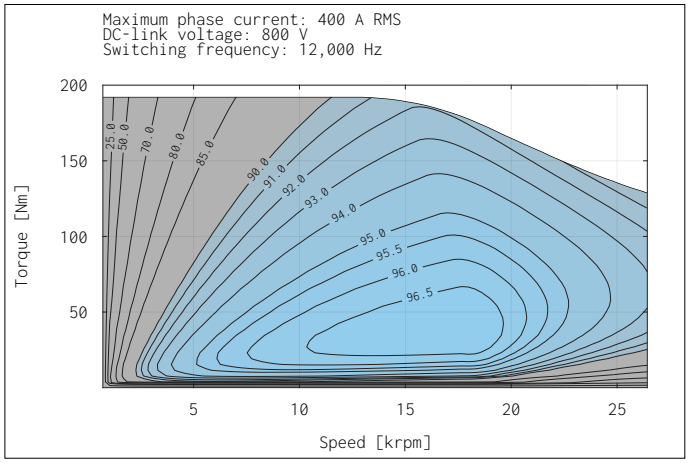
PERFORMANCE		
Maximum speed	27,000	rpm
Peak power	320	kW
Continuous power	250	kW
Peak torque	180	Nm
Continuous torque	150	Nm
ELECTRICAL		
Maximum DC voltage	800	VDC
LV-supply	9 to 28	VDC
Communication	CAN	

MECHANICAL		
Mass	19.6	kg
Rotational inertia	0.010	kg·m²
Cogging torque	±0.1	Nm
Ingress protection	IP67	
THERMAL		
Cooling fluid	dielectric oil	
Inlet temperature	-10 to +60	°C
Typical flow rate	15 to 30	l/min
Pressure drop	<1.8	bar

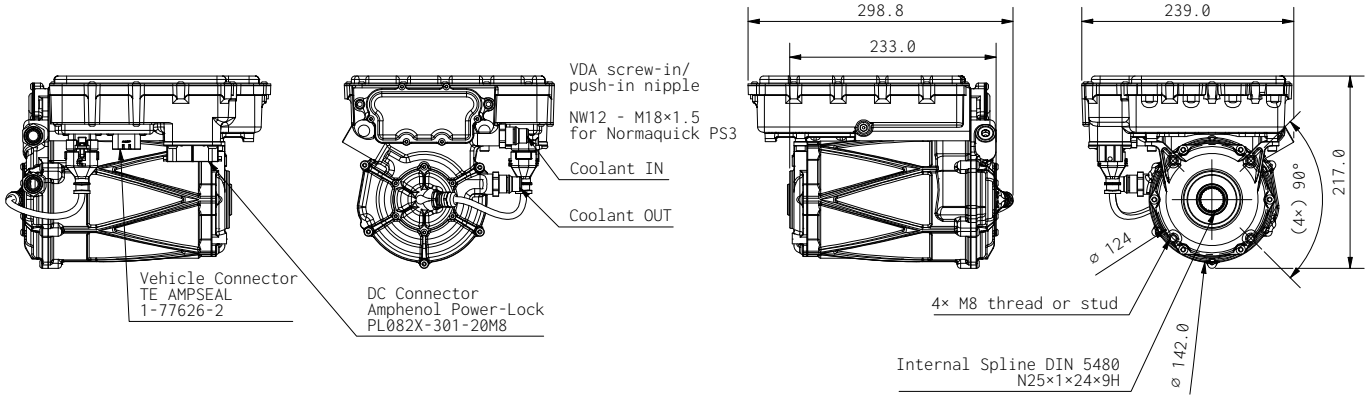
Maximum torque and power



Efficiency map



Drawings



Email us for further information and inquiries:
info@hyperdrives.com