DATASHEET
CD 600

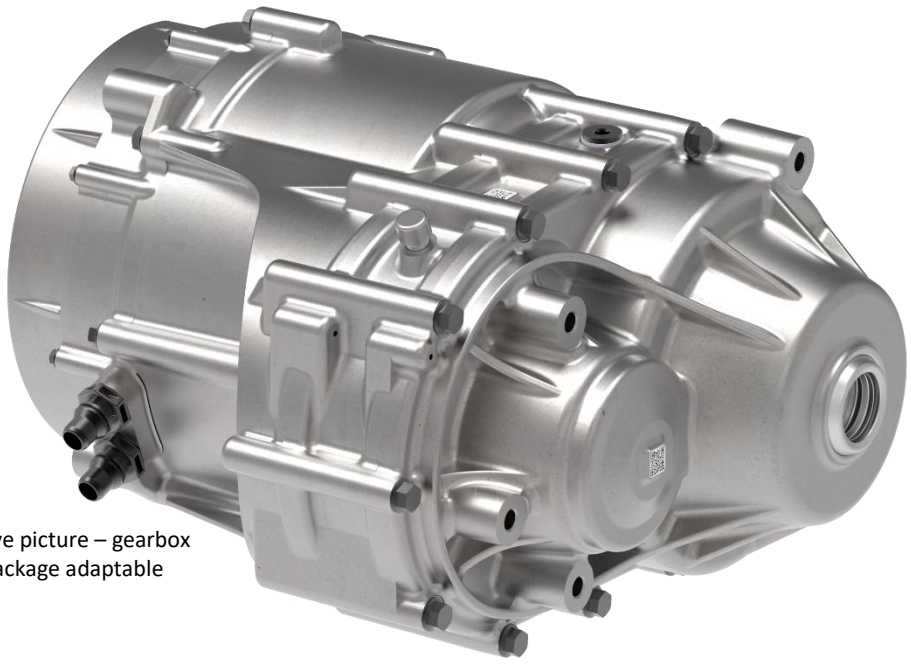
The DeepDrive CD 600 electric drive unit (EDU) contains a permanent magnet synchronous machine based on the DeepDrive Dual Rotor, Radial-Flux electric machine. The integrated SiC-inverter offers best-in-class efficiency at lowest cost.

Motor and inverter can be combined with several gearbox concepts, e.g., 2-stage spur gearboxes or planetary gearboxes. This datasheet focuses on a planetary gear concept providing the smallest possible package and weight. The gearbox ratio can be varied in a range from 6:1 to 10:1.

Target applications are the main drive unit for mid-sized and large-sized electric vehicles.

Its low acoustic emissions, outstanding torque density, and exceptional functional integration make it the ideal choice for applications where space, weight, and efficiency are critical.

KEY FEATURES
- 600 Nm peak motor torque
- Gear ratios from 6.4:1 to 10:1
- up to 5,000 Nm output torque
- up to 2,000 rpm output speed
- 350 kW peak power
- >94.3% CLTC Efficiency
- <70 kg weight
- CAN-Interface for torque & speed control
- Flexible vehicle interfaces



Illustrative picture – gearbox and package adaptable

For further information on the product, please contact

sales@deepdrive.tech

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PRODUCT DATA

NAME	SYM.	Value	CONDITIONS / COMMENTS
DC-voltage	U_{DC}	300 ... 850 Vdc	Nominal voltage U_{DC}=650 V
Peak torque (30s)	M_{30s}	600 Nm	T_{Mag}=65°C
Cont. Torque	M_{Cont}	350 Nm	T_C=65°C, Q_C=8 l/min
Peak torque EDU	M_{30s}	5000 Nm	Gear Ratio 8.6
Cont. Torque EDU	M_{Cont}	3000 Nm	Gear Ratio 8.6
Peak power (30s)	P_{30s}	350 kW	T_{Mag}=65°C, U_{DC}=650 V
Cont. power	P_{Cont}	180 kW	T_C=65°C, Q_C=8 l/min, U_{DC}=650 V
DC-current (30s)	$I_{DC,30s}$	600 A	T_{Mag}=65°C, U_{DC}=650 V
DC-current cont.	$I_{DC,cont}$	300 A	T_C=65°C, Q_C=8 l/min, U_{DC}=650 V
Coolant temperature	T_C	-40 ... 75°C	derating above 65°C
Coolant flow rate	Q_C	8 l/min	derating may occur at <8 l/min
Coolant type	water-glycol 50/50		
Pressure drop	Δp	250 mBar	Q_C=8 l/min, T_C=65°C
Speed Motor	n_{max}	12,000 1/min	U_{DC}=650 V
Speed Output		1,400 1/min	Gear Ratio 8.6
System weight	m	70 kg	dry, no coolant
Diameter	D_{max}	290 mm	excl. customizable mounting flange
EMC class	Class 3		Class 5
Cycle efficiency CLTC incl. gearbox	η_{CLTC}	~94.3%	T_{Mag}=65°C, T_{Cu}=65°C, U_{DC}=650 V
Cycle efficiency WLTC incl. gearbox	η_{WLTC}	~93.8%	T_{Mag}=65°C, T_{Cu}=65°C, U_{DC}=650 V

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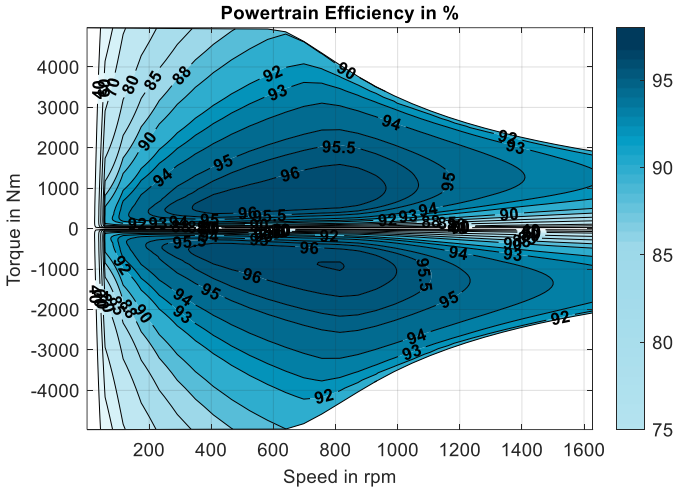
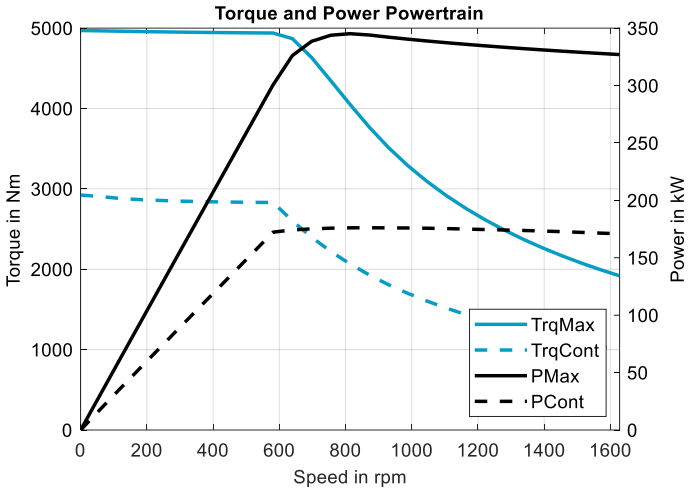
EFFICIENCY MAP AND OPERATING LIMITS





Conditions: T_{Mag}=65°C, T_{Cu}=65°C, T_{C}=65°C, U_{DC}=650 V

DRAWING & CAD ENVELOPE-MODEL

[on request]

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