

DATASHEET RM 300

The DeepDrive RM 300 in-wheel motor propels vehicles in micro mobility use cases with gross weights <1.200 kg.

The integrated MOSFET inverter, the automotive standard wheel hub unit and the easy-to-use CAN-interface make it plug & play for most electric mobility applications.

The novel motor topology delivers best-in-class efficiency, lowest weight, and inaudible noise emissions.

KEY FEATURES

- 300 Nm peak torque
- 18 kW peak power
- up to 54 V battery supply
- 93.8 % peak efficiency
- 13 kg weight
- CAN-Interface
- inaudible noise emissions
- best-in-class economics
- drum brake integration possible
- enables concepts without mechanical rear brake

All values based on simulation and subject to change.

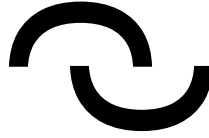




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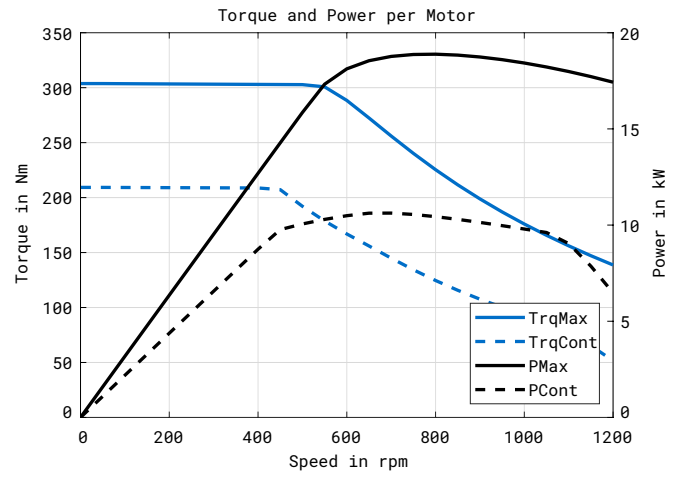
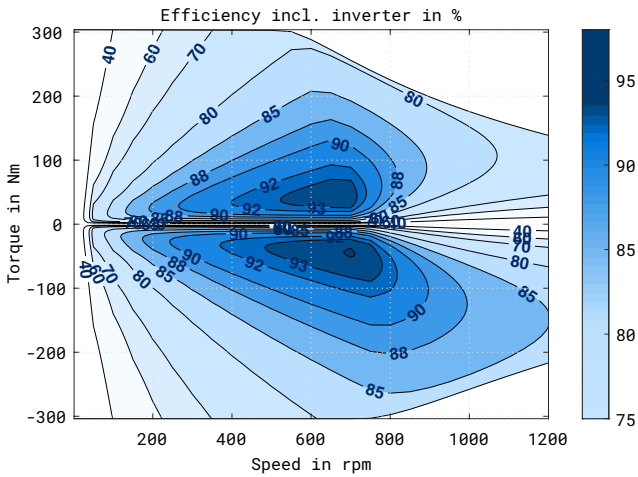
PRODUCT DATA

NAME	SYM.	MIN.	TYP.	MAX.	UNIT	CONDITIONS / COMMENTS
DC-voltage	U_{dc}	36	48	54	V	
LV-Supply voltage	U_{LV}	8	12	16	V	
LV-Supply current	I_{LV}	0.1	0.35	0.4	A	in operation, $U_{LV}=12$ V
Peak torque (30s)	M_{30s}	–	300	–	Nm	$T_{Mag}=40^{\circ}C$
Cont. Torque	M_{Cont}	–	200	–	Nm	$T_c=40^{\circ}C$, $Q_c=8$ l/min
Peak power (30s)	P_{30s}	–	18	–	kW	$T_{Mag}=40^{\circ}C$, $U_{dc}=48$ V
Cont. power	P_{Cont}	–	10	–	kW	$T_c=40^{\circ}C$, $Q_c=8$ l/min, $U_{dc}=48$ V
DC-current (30s)	$I_{DC,30s}$	–	480	–	A	$T_{Mag}=40^{\circ}C$, $U_{dc}=48$ V
DC-current cont.	$I_{DC,cont.}$	–	250	–	A	$T_c=40^{\circ}C$, $Q_c=8$ l/min, $U_{dc}=55$ V
Magnet temperature	T_{Mag}	-40	40	80	$^{\circ}C$	derating above $80^{\circ}C$
Copper temperature	T_{Cu}	-40	40	180	$^{\circ}C$	
Coolant temperature	T_c	-40	40	60	$^{\circ}C$	
Coolant flow rate	Q_c	4	8	–	l/min	derating may occur at <8 l/min
Coolant type	water- glycol 50/50				–	
Pressure drop	Δp	–	50	–	mBar	$Q_c=8$ l/min, $T_c=60^{\circ}C$
Speed	n_{max}	–	1200	–	1/min	limited by U_{dc} / field weak.
Mass excl. bearing	m	–	13	–	kg	dry, no coolant
Diameter	D_{max}	–	318.2	–	mm	max. value, see drawing
Length	l_{max}	–	128.5	–	mm	incl. inverter, see drawing
Peak efficiency	η_{max}	–	93.8	–	%	$T_{Mag}=40^{\circ}C$, $T_{Cu}=40^{\circ}C$, $U_{dc}=48$ V



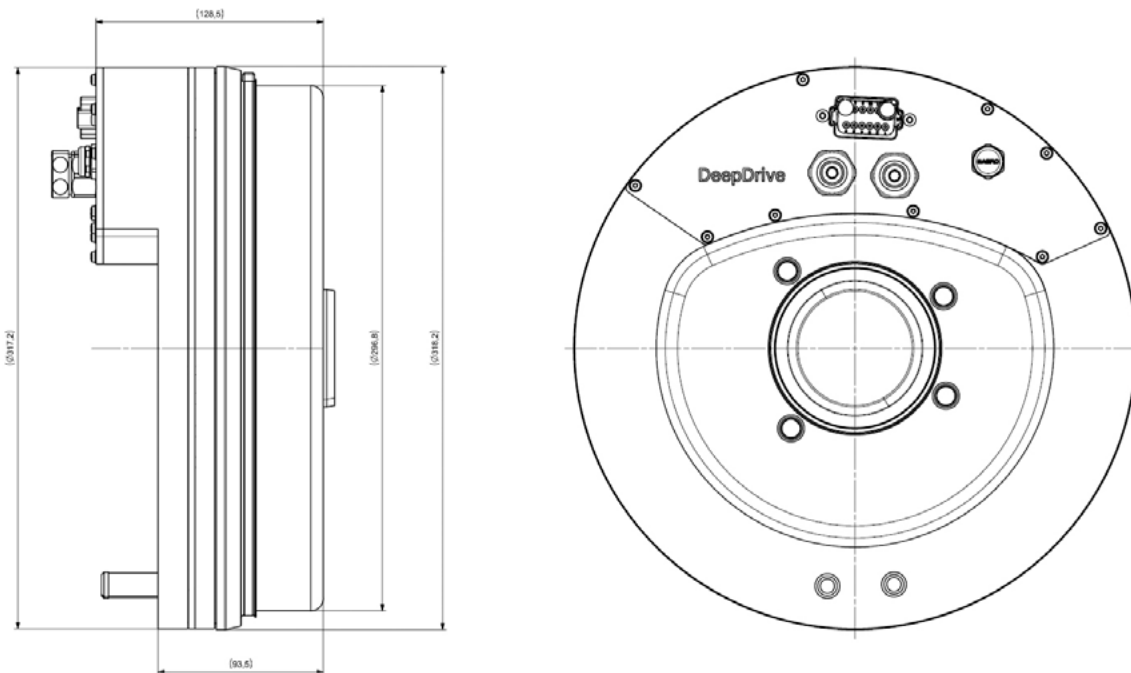
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EFFICIENCY MAP AND OPERATING LIMITS



DRAWINGS & MECHANICAL INTERFACES

[Preliminary, CAD envelope-model on request]



For further information on the product, please contact

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