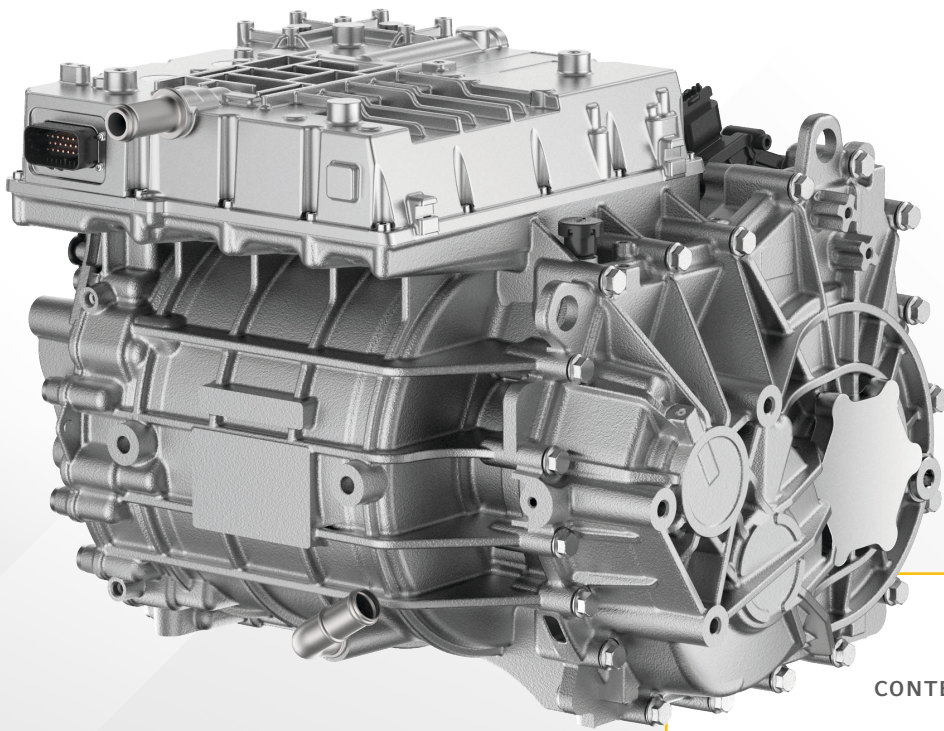






>>>> FACT SHEET

OFFSET EDU

OPTIONAL WITH 2-SPEED



CONTENT

-  General Function
-  Technology
-  Benefits
-  Performance

INNOVATIVE OFFSET EDU WITH 2-SPEED CAPABILITY

The Offset EDU is characterized by its very compact design. For a high power density, a permanent magnet synchronous motor is used. The electric motor and the power electronics can be configured in modular form. Due to the optional 2-Speed transmission, the perfect ratio between torque, speed, and efficiency can be chosen. A parking lock system can also be added as an

option. Thanks to its compact design, the Offset EDU can be easily integrated into various vehicle platforms.

Our SiC inverter technology leads high efficiency. The integrated differential completes the compact EDU with all necessary components in one housing.

TECHNOLOGY

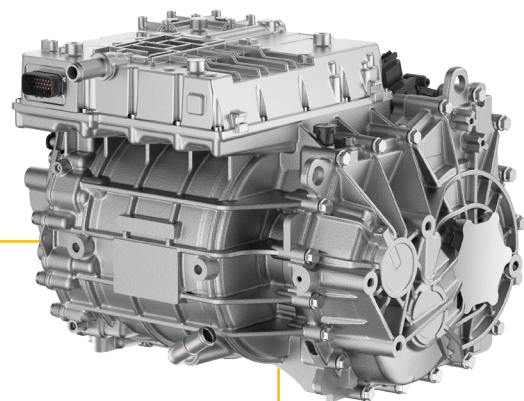
This Offset EDU with an optional 2-Speed gearbox features an efficient Permanent Magnet Synchronous Motor (PMSM) for optimal performance. One outstanding feature of this Electric Drive Unit is its innovative optional 2-Speed transmission system, which enables improved performance and efficiency. The optional 2-Speed spur gear transmission enables precise adjustment of

torque and speed to the respective driving conditions. In the first gear, higher torque is delivered to ensure quick acceleration and improved traction during startup and uphill driving. In the second gear, higher speed at lower torque enables efficient and comfortable driving on straight roads and highways.



BENEFITS

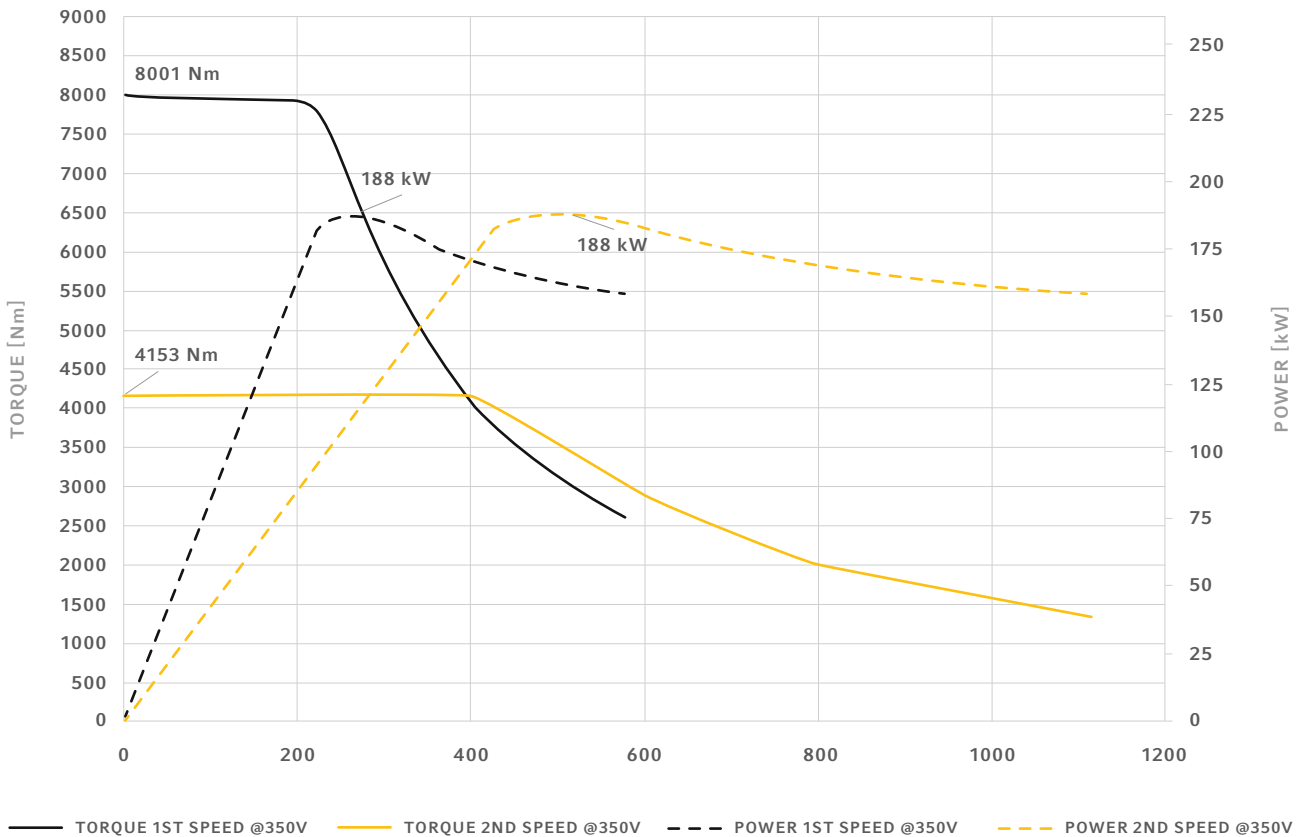
- + Very compact EDU-design with a high power density
- + High system performance and efficiency
- + Many years of competence in system integration at hofer powertrain



PERFORMANCE

EDU ARCHITECTURE	2-SPEED OFFSET EDU		
VOLTAGE CLASS	U	400	[V]
NOMINAL VOLTAGE	U	350	[V]
EM TYPE	PMSM		[-]
INVERTER TYPE	400V SiC		[-]
TRANSMISSION LAYOUT	Parallel, three Stages, two-Speed		[-]
		1 st speed	2 nd speed
PEAK AXLE POWER (10S)	P_{max}	188	
PEAK AXLE TORQUE (10S)	M_{max}	8001	4153
CONT. AXLEPOWER (30 MIN)	P_{cont}	92	
CONT. AXLE TORQUE (30 MIN)	M_{cont}	3747	1945
MAX. AXLE SPEED	n_{opmax}	580	1110
			[rpm]

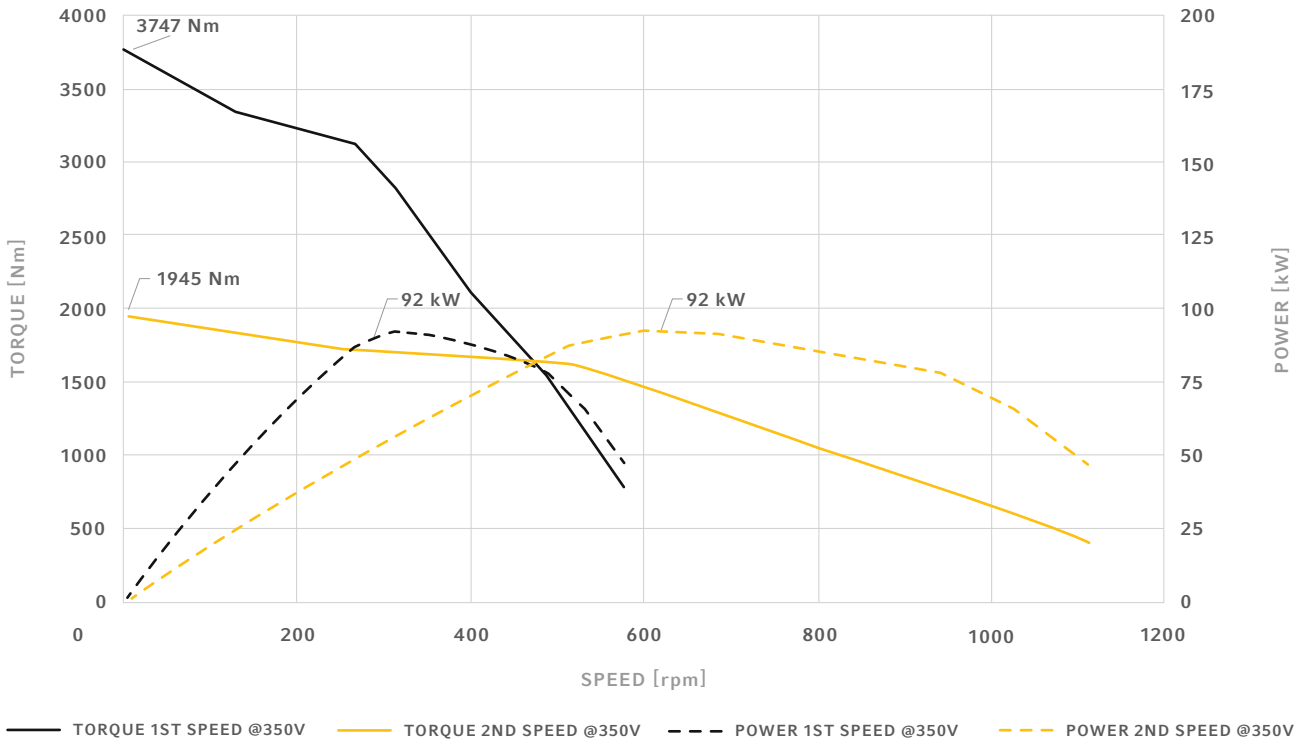
EDU PEAK PERFORMANCE 10S



BOUNDARY CONDITIONS

- + Motor typ: PMSM
- + Stator outer diameter: 220 mm
- + Active part length: 128 mm
- + Voltage utilization: 0.95
- + Stator temperature: 120°C
- + Rotor temperature: 90°C
- + Current density: 36.7 Arms/mm²
- + Transmission eff.: 97%
- + Peak time: 10s

EDU CONTINUOUS PERFORMANCE 30MIN



BOUNDARY CONDITIONS

- | | | |
|---------------------------------|-----------------------------|--------------------------------|
| + DC Voltage: 280 – 450 V | + Voltage utilization: 0.95 | + Simulation duration: 30 min |
| + Motor typ: PMSM | + Stator temperature: 180°C | + Coolant Water: Gylcol: 50/50 |
| + Stator outer diameter: 220 mm | + Rotor temperature: 170°C | + Coolant flow: 8 l/min |
| + Active part length: 128 mm | + Transmission eff.: 97% | + Inlet Temperatur EDU: 60°C |

YOUR CONTACT

Mr. Alexander Heinzelmann
Phone +49 7123 724-88401
E-mail alexander.heinzelmann@elringklinger.com

hofer powertrain products GmbH | Daimlerstraße 6-8 | 72639 Neuffen | Germany
www.elringklinger.com

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08/23