



motive

ELECTRIC POWERTRAIN SYSTEMS FOR LIGHT DUTY VEHICLES

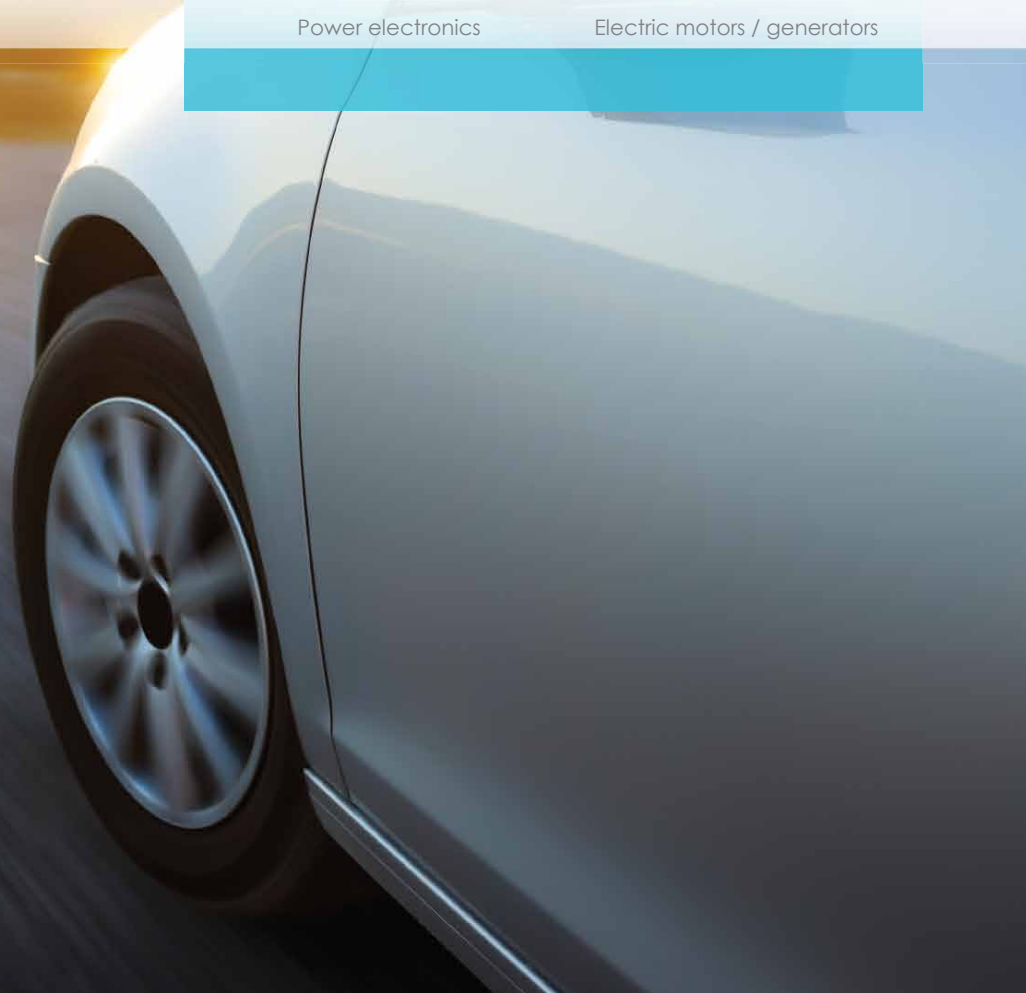
- 22-85 kW available power range
- Multiple motor gearbox interfaces
- Quality automotive products



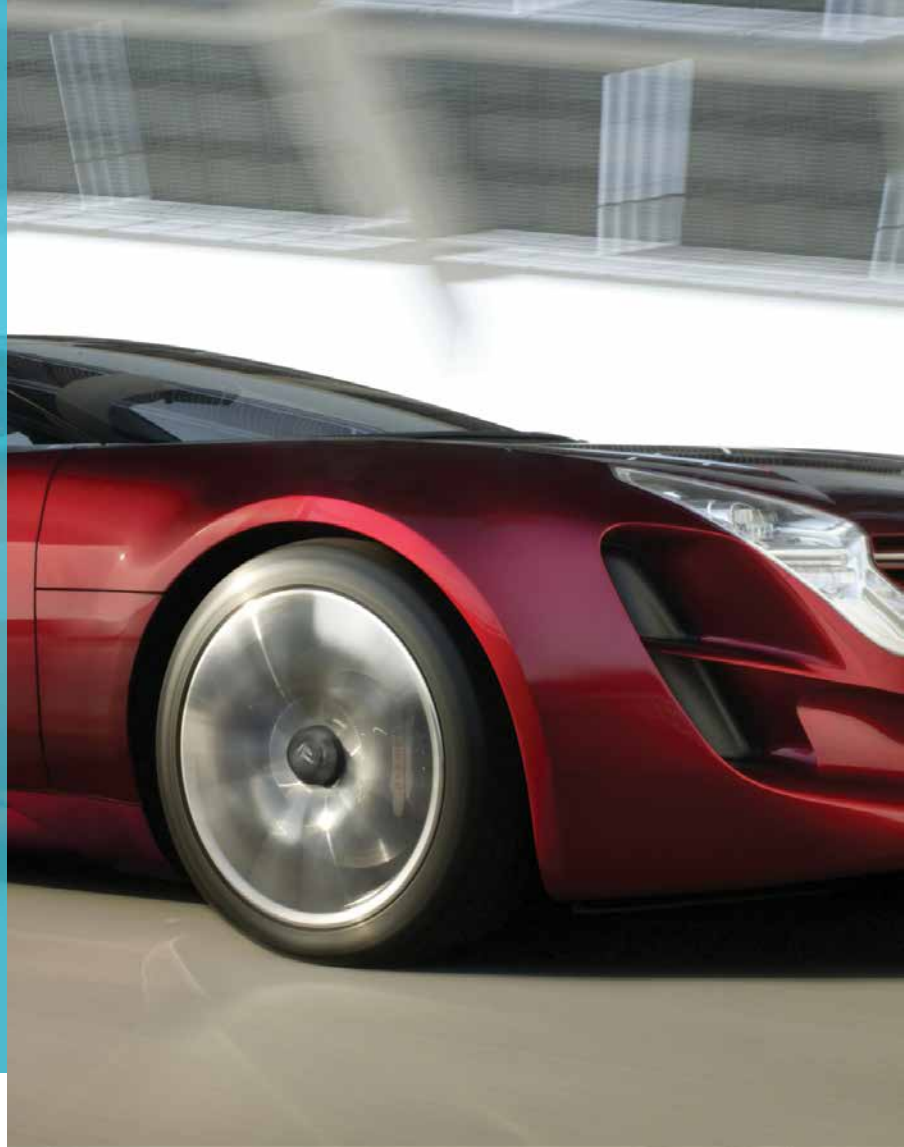
Power electronics



Electric motors / generators



From the **TM4 MOTIVE™** series, TM4 introduces this family of high-speed electric powertrain systems for electric and hybrid light-duty vehicle platforms. TM4's vast expertise and cutting-edge technologies have both been integral contributors to the design of some of the world's most advanced electric powertrain. The TM4 MOTIVE series consists of high-speed permanent magnet electric motors and power dense inverters. Based on a common diameter, these motors are paired with a choice of low (<150 Vdc) or medium-voltage (<450 Vdc) inverters, therefore providing a wide range of solutions to your electric vehicle propulsion needs.



INVERTER FEATURES

- Low (<150 Vdc) or medium-voltage (<450 Vdc) inverter
- Reflex™ gate driver technology
- EMI filter
- Best-in-class power density

MOTOR FEATURES

- Proven permanent magnet technology for optimal efficiency
- Outer rotor topology for maximum torque density
- High efficiency and power density
- Low electro-magnetic noise
- Low-cogging torque for better NVH
- Four-quadrant operation

SOFTWARE FEATURES

- Compatible with TM4's advanced diagnostic software suite
- CAN 2.0b communication interface
- Torque or speed control



INNOVATION IN MOTION

TM4 MOTIVE systems target electric and hybrid light-duty vehicles as well as a wide range of auxiliary applications such as starters and alternators, hydraulic pumps and compressor motors. The MOTIVE systems offer a cost-effective solution to vehicle powertrain and accessory electrification. It is designed and optimized for components to operate at the highest efficiency while getting the best performance out of the package. More than 100 breakthrough patents combine to deliver unmatched efficiency, power density and quality in a unit that is compact, and affordable.

COMMON SYSTEMS CHARACTERISTICS

- Peak system efficiency: up to 92%
- Coolant type : 40/60 water glycol
- Multiple motor gearbox interfaces available

APPLICATIONS

- Passenger cars
- Motorcycles, quad bikes
- Auxiliary motors for commercial vehicles
- Pleasure boats
- Light-duty commercial vehicles
- Off-road light-duty applications

SPECIFICATIONS

MOTOR	INVERTER	PEAK POWER (kW)	CONTINUOUS POWER (kW)	PEAK TORQUE (Nm)	CONTINUOUS TORQUE (Nm)	MAX OPERATING SPEED (RPM)
HSM20-96V125	CMW-96V	34 ¹	22	130	49	6500
HSM20-MV80	CO150MV	40 ²	27	80	50	11750
HSM60-MV255	CO150MV	85 ²	50	255	95	10250

Specifications are subject to change

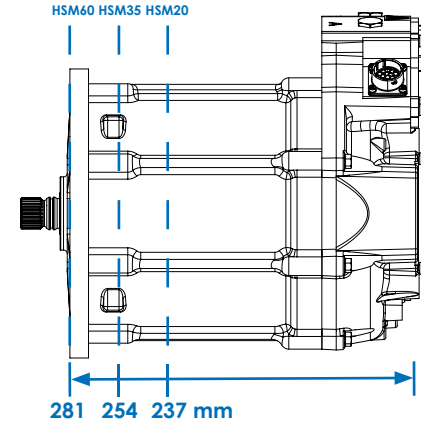
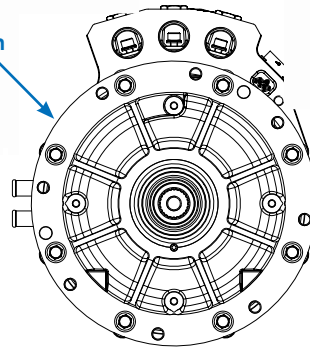
¹ 116 Vdc, 10 seconds, 25°C

² 350 Vdc, 10 seconds, 45°C

WEIGHT AND DIMENSIONS

MOTOR	WEIGHT	LENGTH
HSM20	27 kg	237 mm
HSM60	38 kg	281 mm
CO150	11 kg	354 m
INVERTER	WEIGHT	LENGTH
CO150	12 kg	416 mm

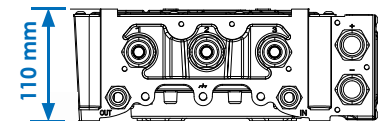
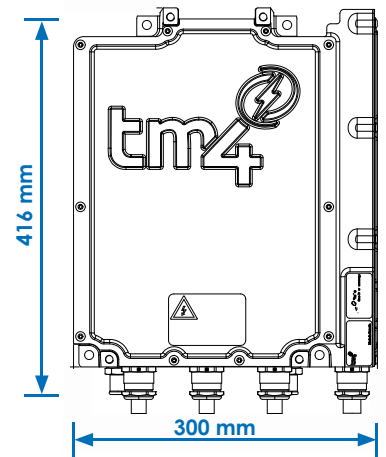
Ø 249 mm



STANDARDS

Automotive components	AEC-Q100 AEC-Q101 ACE-Q200
Electromagnetic compatibility EMC	Main automotive international standards
System protection	IP6K5 (IP69K optional)
Toxic materials and flammability	ROHS, ELV, UL94-VO

CO150 inverter



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