traction™

rDA4002-3U-100

Power Without Compromise: Peak Performance Across Every Route

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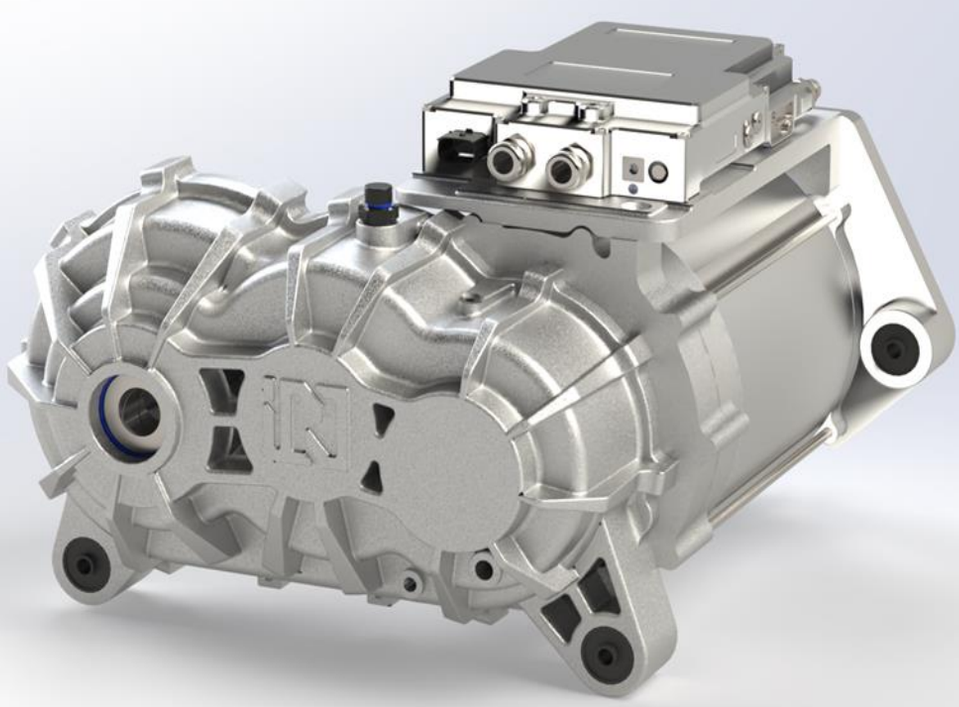

Netic

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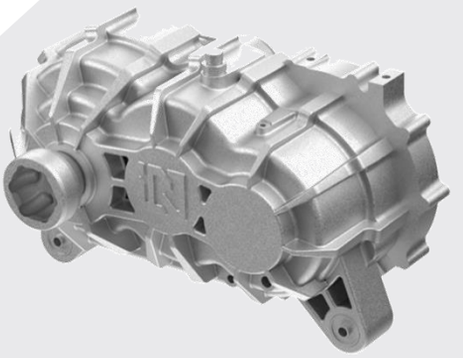
A4002

rEV Motor



10:1 Gearbox

Inverter Features

- ASIL D certified triple core microcontroller @300MHz
- Redundancy functions through a CPLD device for safety-critical application
- Over current, over voltage and over temperature self-protection features
- Customizable control algorithms for each application
- Torque, Speed and Id/Iq Control
- 2x CAN communication channels

Gearbox Features

Feature	Detail
Gear Ratio	10.07:1
Oil	3 litre of 75W-90
Differential	Helical gear LSD
Mounting	Two bushed mounting points (See p4)

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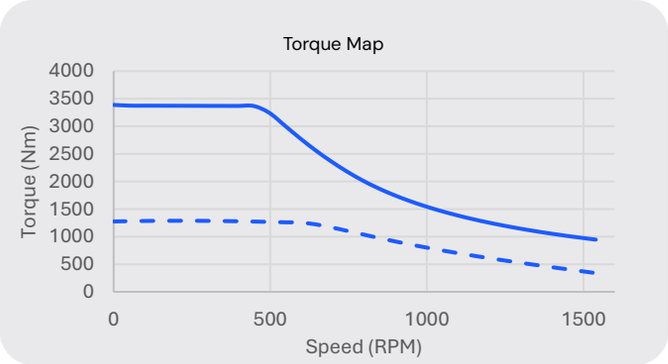
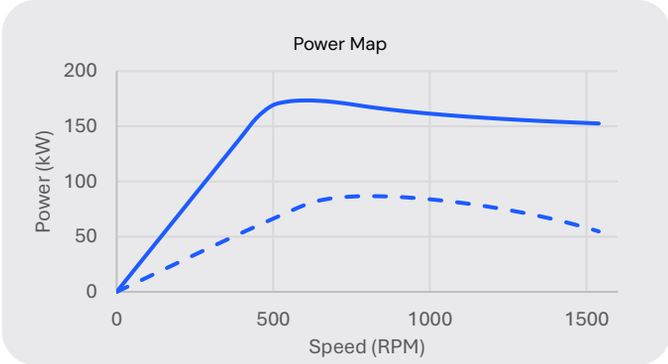
EDU Data





Electrical Specification	UNIT	
Motor / Generator Type		3-Phase Radial Synchronous Flux Permanent Magnet Motor/Generator
Applications		Automotive Motorsport, Off-Highway, Passenger Vehicle, Commercial Vehicle
DC Voltage (Motor)	VDC	250-400
Maximum Phase Current (Motor)	Arms	510
Rotor Position Sensor		Resolver

Performance Specification		
Peak Torque (For 10s)	Nm	3389
Peak Power (For 10s)	kw	173
Continuous Torque	Nm	1288
Continuous Power	kw	87
Torque Density Peak	Nm/kg	36.4
Power Density Peak	kW/kg	1.9

Mechanical Specification		
Motor Cross Section Dimension	mm	265.6
Package Length	mm	512.6
Mass	kg	93
Maximum Speed	rpm	1539
Axial/Radial Shaft Load	N	100N Axial, 200N Radial
Shaft Output		Internal Spline
Ingress Protection	IP	IP67
HV Connection Type		PowerLok Connectors

Thermal Specification		
Cooling Method		Water-Glycol 50:50
Coolant Inlet Temperature	°C	-10 to 85
Coolant Inlet Pressure	bar (gauge)	0.5-3.0
Maximum Stator Winding Temperature	°C	180
De-Rate Stator Winding Temperature	°C	165
Temperature Sensor	-	PT1000
Ambient Temperature	°C	-20 to 100

NOTE: 1) Mass: excludes cables and coolant tubes, 2) Peak Values are simulated using 400VDC and 510Arms, 3) Continuous Values are simulated using 400VDC, 70°C inlet temperature and 12 l/m flow rate, 4) The data provided in this datasheet is for guidance only and does not form part of any contract. 5) Motor, inverter, gearbox should undergo application testing to validate performance.

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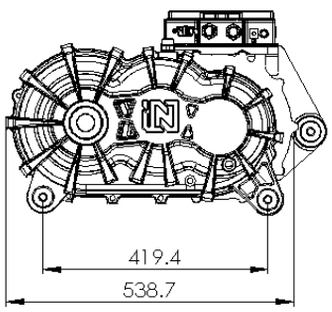
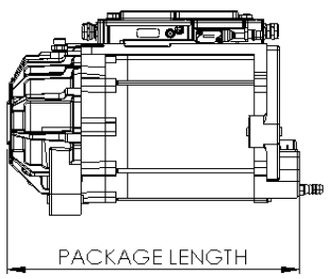
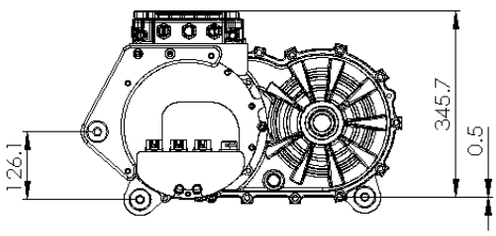
Motor Geometry







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