



Coil Driver™ Low Voltage 100 Volt Motor Controller

The world's most intelligent electric motor inverter solution.

Exro Technologies' 100 Volt inverter is an intelligent motor controller, created with revolutionary Coil Driver™ technology. Using intelligent coil switching, Exro's patented technology optimizes the powertrain, enhances torque, and improves performance in 2&3-wheelers, ATVs, light utility vehicles, and light duty applications.



Unique Advantages

- **Superior low-end torque and power:**
Experience enhanced startability, gradeability, and 0-30/60 mph.
- **Greater power and torque at high speed:** Gain more power at high speed and higher top speed.
- **Enhanced efficiency and expanded efficient-operating zone:** Operate at peak efficiency with a wider span across the motor speed range.
- **Flexibility in system design and reduced cost:** Achieve better or equivalent performance with reduced cost, size, and removing the need for a gearbox¹.

Features

- › Patented technology that enables direct control of motor configurations via 12 leads
- › Proprietary innovation with seamless switching between series and parallel modes on the fly
- › Exceptionally high-power density
- › Improved drive cycle efficiency and range
- › Motor temperature and position sensors
- › Over-current protection

Optimal Applications



2 & 3 wheelers



ATVs



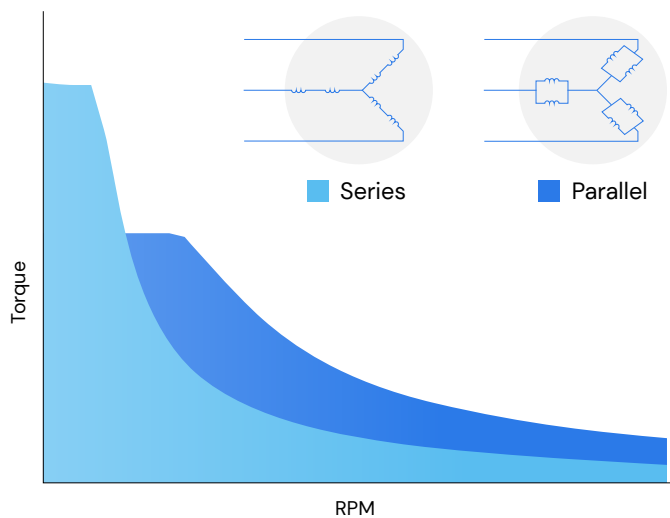
Light utility vehicle



Light duty vehicles

The World's First Coil Switching Drive

Switching automatically and seamlessly, the Coil Driver™ Low Voltage (CDLV) selects the appropriate torque profile to optimize the current torque and speed demand. Driving two or more coils per phase, its series mode provides exceptional low-end torque, ideal for acceleration and gradeability, while its parallel mode ensures a more sustained torque output at greater speeds. The ability to switch coils in operation on demand significantly extends the speed and power range of electric motors, making them more powerful, efficient, and intelligent.

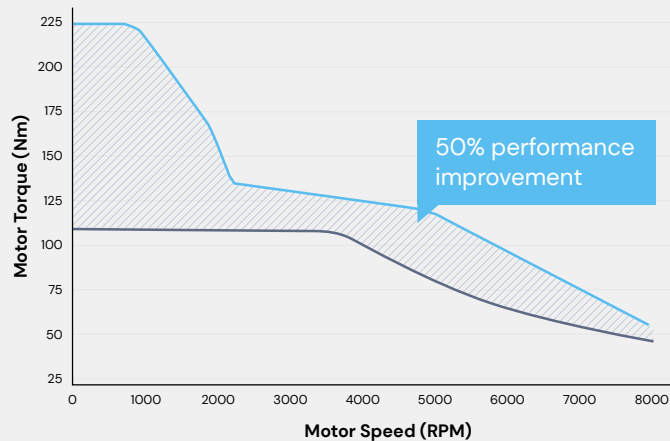


System specifications

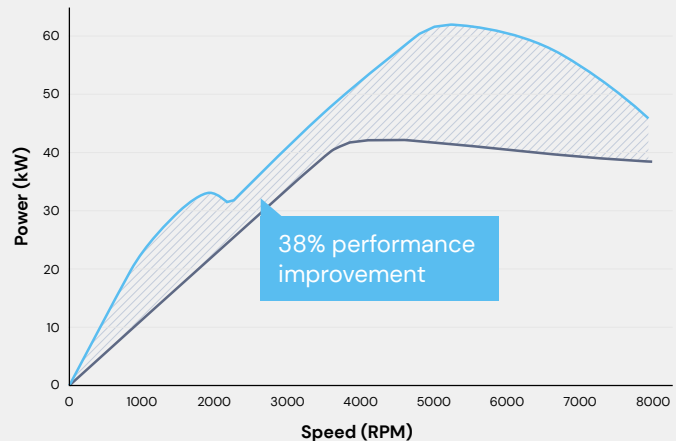
Max DC voltage	110 V
Peak power	62 kW
Performance voltage	10-100 VDC
Peak current	520 Arms
Continuous current	140 Arms
Peak shaft torque ¹	224 Nm
Continuous torque ¹	150 Nm
Dimensions (mm)	369 x 255 x 127
Weight	8.2 kg
Ingress protection	IP67
Cooling type	Air
Temperature rating(C)	-40 to 60
Control interface	CAN 2.0b - Programmable (J1939, open)
Component standards	AEC-Q100, AEC-Q101, AEC-Q200, ROHS
Toxic material and flammability	UL94-V0
Functional safety	ISO26262
Automotive quality management system	IATF16949
Automotive electromagnetic compatibility (EMC)	CISPR-25
Shock and vibration standard	GMW3172 sprung masses

Performance²

Simulation of Exro Coil Driver™ Technology Torque Envelope Requirements



Simulation of Exro Coil Driver™ Technology Power Envelope Requirements



1 Removing the gearbox is dependent on the system configurations and may vary.

2 Torque values and performance curves are based on a system comprised of Exro 100V Coil Driver™ and SMA motor.