



The Leader in Electric Propulsion and Generation Systems

KLD D1164 ELECTRIC DRIVE SYSTEM

D1164 ELECTRIC DRIVE SYSTEM

The KLD system, used in a scooter, obtains maximum speeds of 80+ kph and high torque of up to 110 Nm. Upgradeable system power allows the vehicle performance to change with the rider's needs. Direct drive eliminates the need for a transmission making the system more efficient and able to achieve higher speeds and longer range than comparable systems. KLD's advanced battery design provides a lower cost per watt than competitors, and a higher level of serviceability. The unique battery system prolongs the life of the battery and improves the performance of the motor system.

KLD Energy's electric propulsion/generation technologies work as an integrated solutions for vehicle platforms, as well as many other applications that use propulsion or generation systems.



System Features

- Long range > 100 km*
- Average watts per kilometer: 25 watt-hours per km at 45 km/hr (GVW: 200 kg)
- Climbing ability 20 percent (GVW: 210 kg)**
- High torque – up to 110 Nm
- High max speed – 80+ kph
- Upgradeable power
- Over 40% less power consumption than comparable systems
- Highest regeneration efficiency in its class
- Unique single-source motor system warranty and support
- Low cost of ownership due to reduced maintenance requirements

* @45 kph

** Based on four stator block configuration

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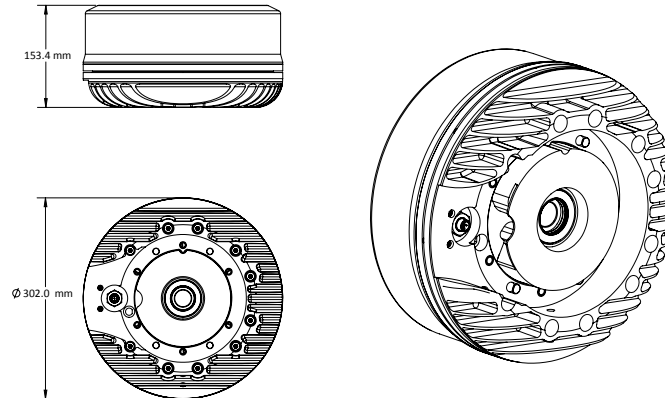
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D1164 ELECTRIC MOTOR

The KLD motor is designed specifically for high frequency/low RPM operation. **It eliminates the need for a transmission and increases system efficiency.** The design is simple and reliable due to a single moving component.



Specifications

DIMENSIONS

Width	186 mm
Diameter	296 mm
Weight	22 kgs
Type	BLDC TENV
Magnet type	NdFeB/Neodymium
Minimum Input voltage	43 VDC
Maximum input voltage	63 VDC
Rated input voltage	61.5 VDC
Motor rated peak output - system limited	5.5 kW
Motor continuous output	5 kW
Peak torque	140 Nm
Cooling	Air

** Based on four stator block configuration*

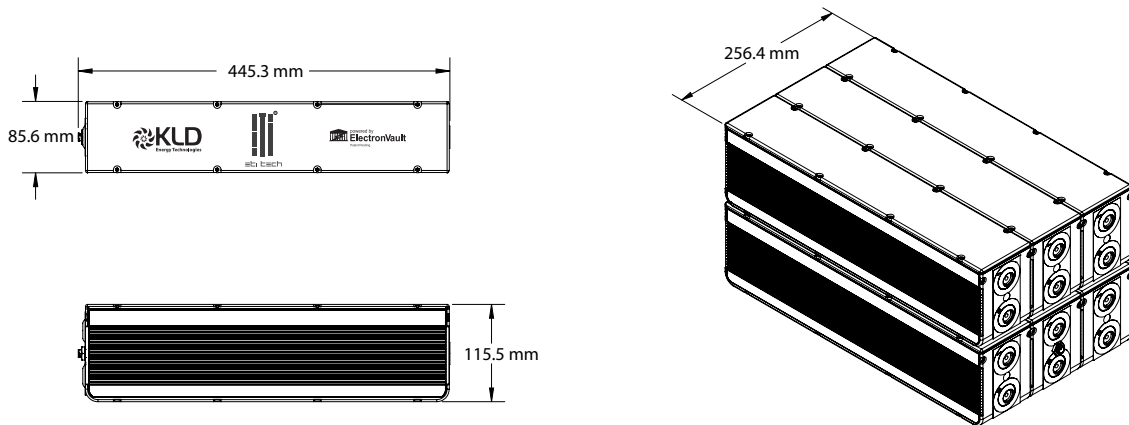


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KLD D1164 ELECTRIC DRIVE SYSTEM

BP180517 BATTERY SYSTEM

Our state-of-the-art energy system is made up of 6 interlinked battery packs to provide sustainable power that is flexible, highly efficient, and easy to maintain. KLD's patent-pending battery technology is designed to meet the growing demand for powerful yet sensible energy for electric vehicles.



Battery Features

- Cell manufacturer and chemistry agnostic
- Advanced Battery Management System (BMS) with patent-pending cell circuitry
- Customizable - reconfigure cells for variable voltage and current
- Low cost of ownership (per delivered kWh)
- Safety - BMS manages overcharging, overheating, and cell degradation
- Low temperature/high efficiency design allows the same number of cells to deliver more current
- Efficient thermal management ensures a longer-lived battery

† Portions of the Battery System are under license from ElectronVault™. All systems are patent-pending.

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BP180517 BATTERY SYSTEM † Specifications (based on 6-battery pack configuration)

Battery pack type	Li-ion 18650
Battery management system	integrated
Nominal Voltage	54 VDC
Terminal Type	custom
Standard discharge @ 23°C	110 A
Standard charge 61 VDC @ 20A	4 hr
Operating Humidity	5% to 95% non condensing
Operating Temperature	0° C - 60° C
Storage Temperature	0° C - 60° C
Cell Certification	UL 1642
Battery Module Dimensions	85.3mm x 115.7mm x 436mm
Battery Module Weight	7.2 kg
Battery Pack Dimensions	256mm x 232mm x 436mm
Battery Pack Weight	43 kg

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**Derated above 45°C ambient

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KLD D1164 ELECTRIC DRIVE SYSTEM

KLD MARK 1101-8 MOTOR CONTROLLER

KLD's proprietary motor controller software is adaptable based on customer needs, and allows for the ability to upgrade to a more powerful motor in the future. The controller maximizes the efficiency of the motor and batteries, resulting in increased range using less energy.

Controller Features

- Safety enhanced by built-in smart fail-safe interlocks
- Includes an intelligent vehicle control system to swiftly handle a wide range of vehicle requirements
- Software updates enable variable torque/speed customization

Nominal battery voltage	36 to 48 VDC
Maximum operating voltage	69.6 VDC
Minimum operating voltage	19.3 VDC
Output Current Continuous (60 Min)	110 A
Output Current Peak (2 Min)	275 A
Output Current Boost (10 sec)	330 A
Supported CANopen profiles	DS301, DS401, DS402
Ambient operating temp	-40°C to +85°C
Protection class	IP66
Dimensions	78mm x 168mm x 227mm

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