

# PRODUCT OVERVIEW

## SolidSlot Brushless Motor/Generator

### Materials and Construction

The stator is made from 29 gauge, M15 electrical steel laminations, which are stacked and bonded. Trapezoidal bars of high conductivity aluminum are inserted into the stator core with Teflon slot liners. The rotor is made from precision machined steel bar and has twelve high-temperature (180°C) neodymium-iron-boron (NdFeB) magnets mounted on its circumference.

Following our commitment to high quality, high performance materials and components, Nachi bearings are used throughout our product line. 30mm double-row angular contact bearings are standard. The rear cover is comprised of glass fiber-filled, high temperature thermoplastic, which is precision machined.

### Utility

A broad range of configurations are possible, some as simple as adding the desired shaft adapter. In general, SolidSlot motor/generators can support a broad range of applications, including mobile hydraulics, marine propulsion and generation, robotics, integrated starter/alternators, diesel gen-sets, and large centrifugal pumps.

### Power Generation

As a result of the electronic commutator, the SolidSlot brushless motor/generator may be used to directly produce DC power through high efficiency synchronous rectification. Voltage is proportional to speed and the resultant DC power may be used for battery charging or to power an AC inverter.

### Electronic Commutator

Integrated electronics are mounted on the rear cover and cooled with a brushless fan. This enables the SolidSlot brushless motor to run directly from a battery or with an industry standard DC motor controller. For increased flexibility, the electronic commutator can be mounted remotely.



## The SolidSlot Advantage

Low Voltage | High Performance | Reliable | Efficient | Lightweight

Second generation permanent magnet brushless motor/generator technology for today's mobile applications.

Aerospace | Automotive | Defense | Transit | Power Generation

### SolidSlot Brushless Motor/Generator Standard Configurations

Motor	Torque Constant (Nm/A)	Voltage Constant (VDC/krpm)	Resistance	Inductance	Max. Power (kW)	Max. Efficiency (%)	Max. Current (A)	Rated Power (kW)	Rated Speed (RPM)	Rated Voltage (VDC)	Rated Current (A)	Rated Torque (Nm)
SolidSlot 24	0.06	6.28	2.5mΩ	3uH	12	93	500	10	4,200	24	375	22*
SolidSlot 36	0.06	6.28	2.5mΩ	3uH	12	93	300	10	6,300	36	250	14**

Dimensions 8" (20.32cm) height x 7" (17.78cm) diameter  
Weight 18lbs (9kg).  
Shaft 3/4" (19mm) bore with 3/16 (4.76mm) keyway  
Mounting Face Mount

\*44Nm with dual commutator

\*\*28Nm with dual commutator