

Mars ME0913



Manufacturer description:

Output Power of 12 KW Continuous, 30 KW Peak (at 96 volts)

Designed for long life. No brush maintenance. The motor is 92% efficient at voltages between 24 to 96 VDC. Continuous current of 125 amps AC (180 Amps DC into the motor control). This is a 3-phase, Y-connected Permanent Magnet Synchronous Motor with an axial air gap and 3 Hall sensors at 120 degrees electrical timing. It has two stators with a rotor in the center.

1) This is a 4 pole motor (8 magnets). 2) The Phase to Phase winding resistance is 0.013 Ohms. 3) The maximum recommended rotor speed is 5000 RPM. 4) Voltages from 0 to 96 VDC input to the control. 5) The Inductance Phase to Phase is 0.10 Milli-Henry with a 28 turns per phase. 7) Armature Inertia is 45 Kg Cm Squared. 8) Continuous current of 125 Amps AC (180 Amps DC into the motor control). 9) Peak current of 420 Amps AC for 1 minute (600 Amps DC into the motor control). 10) Weight of 35 pounds. 11) Peak Stall Torque if 90 Nm. 12) This is an Open Frame, Fan Cooled motor.

The ME0913 is an Open Frame, Fan Cooled version of the 8" diameter family of BLDC motors. The motor offers a small volume and a high power to weight ratio.

The ME0913 can be used in 72V, 60V, 48V, 36V and 24V DC application with a BLDC speed controller.

Internal Temperature Sensor is installed in the motor windings.

Electrical Parameter	Unit	Parameter
Rated Continuous Current	Arms	180
Peak Phase Current	Arms	550
No Load Current (I_{NL})	Arms	Dependent on the motor control
Peak Stalled Current	Arms	550
Continuous Current	Arms	180 minimum
Voltage Constant	RPM/V	50 (DC input current to a motor controller)
Back EMF Constant (K_E)		
Phase Resistance (L-L)	Ohm	0.0125
Coil Connection	n/a	Y, non-grounded
Phase Turns	Turns	28
Phase Inductance	uH	110 at 1kHz
Mechanical Parameter	Unit	Parameter
Rated Speed	RPM	3000
Maximum Speed	RPM	5000
Rated Torque	Lb-in	288
Peak Stalled Torque	Ft Lb	70 (94 Nm)
Continuous Stalled Torque	Lb-in	288
Torque Constant	Lb-in/A	1.6 (DC input current to a motor controller)
Operating Ambient Temperature	C	-40 to 40
Motor Winding Insulation	Class	F
Abs. Winding Allowable Temperature	C	155
Max. Winding Operating Temperature	C	145
Thermal Impedance	Rth	n/a
Thermal Time Constant	Tth	n/a
Shaft Configuration		See Drawing
Face Mounting Details		See Drawing
Tightening Torque for Terminals		See Drawing
Weight	lb	39
Direction of Rotation	I	Bi-directional fan
Storage Temperature	C	-30 to 150
Materials of Construction		Standard