

Mars Electric LLC	Product Information ME0907	Rev: -
		Date: Oct. 8, 2009
		Check By: JF

Features

- PMSM motor, axial air gap design
- Permanent magnet rotor
- Hall cell speed indication
- 85% system efficiency over a broad range
- Custom shaft and case available
- Choice of operation at 24V, 36V or 48V DC with speed controller
- Speed range 0-4000 RPM – speed controller dependent
- No motor brush maintenance

Applications

- Electric scooter
- Electric golf car
- Electric outboard boat
- Electric floor burnisher

Description

The ME0907 is an open frame version of the 8” diameter family of PMSM motor.

The ME0907 can be used in 48V, 36V and 24V DC application with a PMSM speed controller.

An internal Temperature sensor is included in the motor.

Locked rotor protection feature is normally achieved with the motor speed controller.

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Motor Electrical Parameters

Electrical Parameter	Unit	Parameter
Operating Voltage Range	VAC	0 minimum to 48 maximum
Rated Continuous Current	Arms	80 minimum
Peak Phase Current	Arms	
No Load Current (I_{NL})	Arms	Dependent on the motor control
Peak Stalled Current	Arms	250
Continuous Current	Arms	80 minimum
Voltage Constant	RPM/V	70 (DC input to a motor controller)
Back EMF Constant (K_E)		
Phase Resistance (L-L)	Ohm	0.013
Coil Connection	n/a	Y, non-grounded
Phase Turns	Turns	20
Phase Inductance	uH	82 at 1kHz
		107 at 120Hz

Motor Mechanical Parameters

Mechanical Parameter	Unit	Parameter
Rated Speed	RPM	3000
Maximum Speed	RPM	4000
Rated Torque	Lb-in	70
Peak Stalled Torque	Lb-in	330 DC to motor control
Continuous Stalled Torque	Lb-in	300
Torque Constant	Lb-in/A	1.2 (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	22
Direction of Rotation	I	CCW facing motor shaft
Storage Temperature	C	-30 to 150