

# PERMANENT MAGNET D.C. MOTORS & CONTROLLERS

MPMDC -Series

## Introduction:

MPMDC series of permanent magnet d.c. motors are available in more than 100 different models (100 to 100.0 kilo watts), virtually offering solutions to variety of applications viz captive power generation, load based wind/hydroelectric generation, constant torque industrial application, power factor correction applications sugar, textiles, heavy electrical/mechanical industries, research and development organizations and many defense applications. Special machine design, updated design topology and material ensure better efficiency and enhanced torque transmission with improved controllability. Company offers tailor made solution to / requirement.

## Operating Principle:

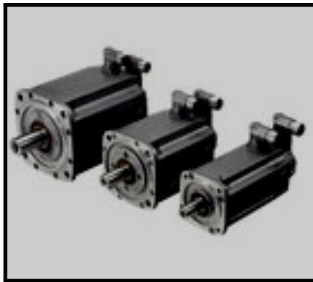
Armature with commutator moves in side multi pole permanent magnet field. relation between armature voltage and field is as under.....

Numerically, the approximate power relation is as under....

$$E_b = B.A.Z.N.P/60.A$$

$$P = K1.B.A.Z.I_a.P.$$

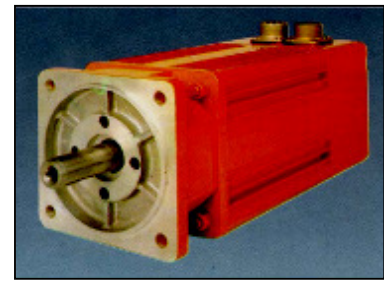
Where N: R.P.M., B: MAGNETIC FIELD:  $E_b$ : back e.m.f., Z: No. of conductors  
A: conductor parallel path



MPMDC -0500010



MPMDC -0030015



MPMDC-010003

## Mechanical Specifications of Permanent magnet d.c. motors:

Model	Power Watts	Torque n.m.	rpm x10 ( max)	Residual Torque x10 <sup>-2</sup>	Volt	Model	Power Watts	Torque n.m. x10 <sup>-2</sup>	rpm X10 ( max)	Residual Torque x10 <sup>-2</sup>	Volt
MPMDC -0005030	500.0	1.59	300	0.008	220	MPMDC -0030015	3000.0	19.1	150	0.050	220
MPMDC -0008015	735.0	2.33	300	0.010	220	MPMDC -0050030	5000.0	15.9	300	0.070	220
MPMDC -0010030	1000.0	3.18	300	0.015	220	MPMDC -0050030	5000.0	15.8	300	0.090	220
MPMDC -0010015	1000.0	6.36	150	0.020	220	MPMDC -0050015	5000.0	31.8	150	0.090	220
MPMDC -0030030	3000.0	9.54	300	0.030	220	MPMDC -0100030	10000.0	286.2	300	0.50	220

## Electrical/mechanical specification of Permanent magnet d.c. motor

Topological type: Radial field/axial  
Generated power: 50-500,000 Watts  
NO-voltage: 240 +/- 5% of rated voltage ( rms)  
Direct axis-Armature reactance: .5-1.5 % ohm p.u.  
Quadrature axis armature reactance: 0.08 - 0.15% ohm p.u.  
Armature resistance/phase: 0.5 – 1.5 %p.u. ohm/phase  
Rpm: 300- 6000  
Pole: 2/4/8 no  
Nominal torque: as in data sheet.  
Overall electrical efficiency: approx 85%  
Frame diameter: 6-24" with flange mounting  
Frame length: 24"/Shaft diameter: 2"  
Coupling: star  
Cooling: forced cooling  
Insulation: class – H Noise level: as per practices



MPMDC -0500030

## .PERMANENT MAGNET D.C. MOTOR CONTROLLER:

MPMDC -0005030	10X06X06	MPMDC -0100010	16X14X14
MPMDC -0008015	12X08X08	MPMDC -0200010	18X16X16
MPMDC -0010015	12X10X10	MPMDC -0300010	20X18X18
MPMDC -0050015	12X10X10	MPMDC -2000006	20X18X18

Note: First five numeral after product code MPMDC indicates wattsx10 and last numeral indicates R.P.M.x10.

## MOTORON SEMICONDUCTORS CORPORATION

11, Shri nagar colony, Shakti nagar extension, DELHI-110052. Tel: 011-23648181/23655454  
motoron@hotmail.com