SYNCHRONOUS MOTORS & CONTROILLERS

MSYNCH -Series

Introduction:

MSYNCH series of synchronous motors are available in more than 100 different models (100 to 100.0 kilo watts), virtually offering solutions to variety of aplication vix caoptive power generation, load based wind/hydroelectric generation, contstant 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:

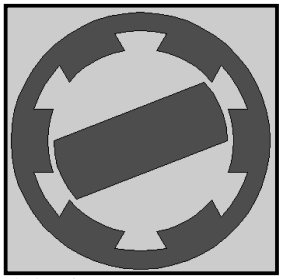
Primary element of these motors is magnetic rotor occupies least reluctance Rotary magnetic path, when stator is excited. **The**$_{se}$ motors normally operate in constant torque mode These motors are most suitable for high torque regulation applications. Its torque or speed can be stably controlled using an A.C/A.C. controller operating in feedback. This power output of these motor is as under……

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

$P = E_f . V_t . Sin (O)/X_d + V^2_t/2(1/X_q - 1/X_d).Sin (2.O)$….

Where P: Power transfer, Vt: terminal voltage: Ef :excitation voltage , O: load angle

Xd: Direct axis reactance , X_q: Qudrature reactance



characteristic of synchronous motor

MSYNCH -0500010

MSYNCH -0030015

sectional view of synchro[illegible] motor

Mechanical Specifications of Synchronous motors:

Model	Power Watts	Torque n.m.	rpm x10 (max)	Residual Torque x10^{-2}	Volt	Model	Power Watts	Torque n.m. x10^{-2}	rpm X10 (max)	Residual Torque x10^{-2}	Volt
MSYNCH -0005030	500.0	1.59	300	0.008	220	MSYNCH -0050030	5000.0	15.8	300	0.090	220
MSYNCH -0008015	735.0	2.33	300	0.010	220	MSYNCH -0050015	5000.0	31.8	150	0.090	220
MSYNCH -0010030	1000.0	3.18	300	0.015	220	MSYNCH -0100030	10000.0	286.2	300	0.50	220
MSYNCH -0010015	1000.0	6.36	150	0.020	220	MSYNCH -0200010	20000.0	190.0	100	0.70	220
MSYNCH -0030030	3000.0	9.54	300	0.030	220	MSYNCH -0100030	10000.0	286.2	300	0.50	220
MSYNCH -0030015	3000.0	19.1	150	0.050	220	MSYNCH -0200010	20000.0	190.0	100	0.70	220
MSYNCH -0050030	5000.0	15.9	300	0.070	220	MSYNCH -0500010	50000.0	636.9	075	0.90	220

Electrical/mechanical specification of Synchronous motor

Topological type: Radial field/axial
Generated power: 50-500,000 Watts
N0-voltage: 240 +/- 5% of rated voltage (rms)
Frequency: 45-55 Hz/or option
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
Excitation vol/current: 200 v//1.0amps - 800 volt/5.0 amps
Rpm: 250-350 Rpm
Pole: 4/8/12 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 levell: as per practices

MSYNCH -0500030

A.C.SYNCHRONOUS MOTOR CONTROLLER:

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

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

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