

ROTARY ACTUATOR & CONTROLLERS

Instrumentation Grades

MRRR-Series

Introduction:

MRRR series of Servo position actuators are available in more than 20 different models (0.01 to 10000.0 watts), virtually offering solutions to any servo position application like applications in speed governing, captive power plant, paper, machine-tools, plastic/yarn, milk/brewery plant, petrochemical industry, organic/inorganic chemical, rubber, medicine, sugar, textiles, heavy electrical/mechanical industries, research and development organizations and many defense applications. Special machine design ensures light weight, frictionless high starting torque, and efficient operation. Updated design topology and material ensures better controllability and efficiency. Company offers tailor made solution to / requirement.

Operating Principle:

These rotary/linear position actuators uses nonmagnetic, high resistivity material rotor which displaces (linearly/angularly) proportional to high frequency excitation current such that rotor attain least reluctance w.r.t. asymmetrical stator geometry. These actuators Normally operate in constant torque behavior. Numerically, the displacement vs control current is as under...

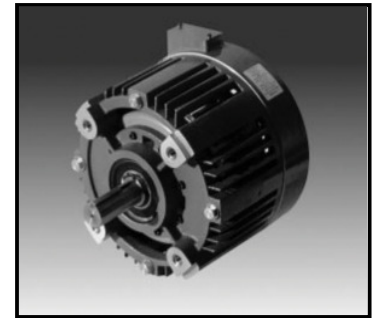
$X = k_1 \times dL/dX \times I_{exc}^{1.8-2.0}$ $L =$ inductance of coil, $I_{exc} =$ excitation current, $X =$ linear/angular displacement, $dX =$ incremental displacement, $k_1 =$ spring factors



MRRR-01015



MRRR-003010



MRRR-001515

Electrical Specifications of rotary servo position actuators:

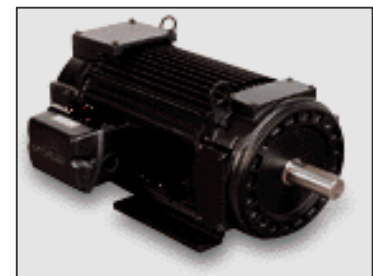
Rotary Actuator

Linear Actuator

Model	Watts	Torque n.m.x10 ²	rpm x 100	Angular Stroke degree	T _c Milli sec	Vexc/ lexc D.C.	Model	Power Watts	force. KgF	velocity max	Linear Stroke m.m.	T _c milli-sec	Vexc/lexc D.C.
MRRR-000130	001.0	0.031	300	320°	<2.0	24/0.5	MRLA-007510	075.0	04.77	100	20.0	<10	110/0.2
MRRR-000230	002.0	0.062	300	320	<2.0	24/0.6	MRLA-010010	100.0	06.35	100	22.0	<10	110/0.4
MRRR-000325	003.0	0.114	250	320	<2.0	24/0.8	MRLA-012010	120.0	07.62	100	25.0	<10	110/0.6
MRRR-000520	005.0	0.238	200	320	<2.0	32/0.5	MRLA-015010	150.0	09.52	100	30.0	<10	110/0.8
MRRR-001015	010.0	0.636	150	320	<2.0	32/0.6	MRLA-020010	200.0	12.70	100	35.0	<10	110/1.0
MRRR-001515	015.0	95.52	150	320	<2.0	36/0.5	MRLA-050010	500.0	39.68	080	40.0	<10	110/1.2
MRRR-002015	020.0	01.27	150	320	<2.0	36/0.8	MRLA-075008	750.0	59.53	080	42.0	<10	110/1.4
MRRR-002510	025.0	01.59	100	320	<2.0	36/0.8	MRLA-100008	1000.0	79.37	080	45.0	<10	110/1.6
MRRR-003010	030.0	01.91	100	320	<2.0	48/0.5	MRLA-200006	2000.0	211.6	060	50.0	<10	110/1.8
MRRR-004010	040.0	02.54	100	320	<2.0	48/0.6	MRLA-500006	5000.0	52.91	060	60.0	<10	110/2.0
MRRR-005010	050.0	03.17	100	320	<2.0	48/0.8	MRLA-999905	10000.0	105.8	050	70.0	<10	110/2.2

Electrical Specifications of position actuators & Controller:

Operating voltage 220 volts/110/48 volts A.C. / D.C.
 Chopping frequency 0.0 - 50/400/1000 Hz
 Excitation current 0.0- 50.0 amps (max)
 Angular/linear stroke: 0-320 degree/ 0-200 m.m.
 Rpm/velocity: 0-300 rpm/10 c.m./sec-varies from products
 Torque/force: 0.5 - 100.0 n.m. /2.0 - 200 newton
 Time constant: less than 10 m.s.
 Black-lash: 0.01-0.05% of F.S.D.
 Shaft diameter: 2.0 -12.0 m.m. with star coupling
 Internal damping: near to critically damping(may be modified)
 Control Regulation : better than 0.5 % of set speed
 Control Accuracy 99.5% of set point
 Repeatability 100 percent
 Response time 0.05 -10.0 milli- sec
 Interface Signal 0.0-12.0 volts D.C. or 4- 20milli-ampere
 Ratio of control range 1:50(1:100)
 Protection: Over/under voltage & frequency with power on Indication



MRRR-100008

ROTARY/LINEAR POSITION ACTUATORS CONTROLLER S:

MRRR-00130 10X06X06 MRLA-07510 16X14X14
 MRRR-00230 12X08X08 MRLA012010 18X16X16
 MRRR-00325 12X10X10 MRLA-20010 20X18X18

Note: First four numeral after product code MRRR indicates watts and last numeral indicates R.P.M.x100.

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