

1987 SUPPLEMENT

Dear Robot Enthusiast:

The enthusiasm and interest level is growing rapidly. More and more people are discovering that robot building is a fascinating hobby that creates action, intrigue and attracts plenty of attention. Many people find that robotics is a natural extension of their personal computer hobby. Now their expertise and experience with computers can be transformed into ACTION with real-world application. Others find that robotics is an interesting twist to their mechanical skills. What greater satisfaction than creating a "being" with your own hands -modifying and expanding it over the years. Still others report robotics as being similar to model railroads, planes and cars.

However, robotics is still clearly an infantile technology. Alpha Robotics caters exclusively to the robotics hobbyist with high quality construction components that fit a range of applications and budgets. We want to continue to cater to you, the hobbyist, with the parts, supplies and kits that YOU require. As with any new technology, directions change rapidly. The direction of hobby robotics is chiefly charted by you, the individual hobbyist. We need to know what you are doing, where you are going and what you need to carry out your efforts. Your input will help direct our product line and perhaps even inspire a new product entirely.

It is my sincere wish that our new direct-link product distribution will bring a greater level of service to you through lower prices, greater selection and quicker product delivery.

More Power to You!

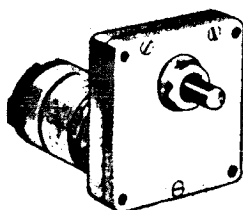


Peter D. Erdman
President

ALPHA ROBOTICS INC.

Service to the Hobbyist

DRIVE ACTUATOR



This high quality, rugged gearmotor is designed for all angle operation. Fully enclosed self-aligning bronze bearings and heavy duty steel gears.

- > 12 VDC
- > Bi-directional
- > 17 RPM, 1.1 A (full load)
- > 16 in-lbs.
- > Gear Ratio: 135:1
- > Motor: L. 4", D. 1 3/4"
- > Shaft: D. .281", L. 3/4"

SA140 \$54.35

RECHARGEABLE BATTERY

Similar to our RP810 battery on page 23 of our 1986 parts catalog but with a 12 Amp-Hour capacity.

RP840 \$37.50

NEW DIRECT LINK ORDERING

For faster order filling you may now order direct from the factory.

Mail your order to:

ALPHA ROBOTICS INC.
P.O. BOX 21091
ST. PAUL, MN 55122

This address should be used for all correspondence to ALPHA ROBOTICS.

BY POPULAR REQUEST . . .

Our popular RK100 "turtle" is now available "stripped down" for small custom applications !!

This kit contains all components of the fully functional RK100 less the electronics. You get the full shell, actuator (motor and gears), wheels, battery holder, power switch and hardware.

RK100S \$29.50

↑
Be sure to specify "S"

We welcome and encourage your comments and suggestions.

WRITE TO:

ALPHA ROBOTICS INC.
P.O. BOX 21091
ST. PAUL, MN 55122

NEW PRODUCTS

ALPHA ROBOTICS INC.

PRACTICAL INTERFACING PROJECTS WITH THE COMMODORE COMPUTERS

Robert H. Luetzow

Paperback

RD117 \$16.95

HOME REMOTE CONTROL AND AUTOMATION PROJECTS

Dellon T. Horn

Paperback

RD118 \$12.95

ROBOTICS

A fascinating glimpse of the
impact robots are making on
today's lifestyle . . .
and your future!

Anne Cardoza & Suzee J. Vik

Paperback

RD123 \$10.95

BUILD YOUR OWN WORKING ROBOT -the second generation

David L. Heiserman

Paperback

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THE ROBOT BUILDER'S BONANZA: 99 INEXPENSIVE ROBOTICS PROJECTS

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Paperback

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BUILD A REMOTE CONTROL ROBOT ... FOR UNDER \$300

David R. Shircliff

Paperback

RD119 \$9.95

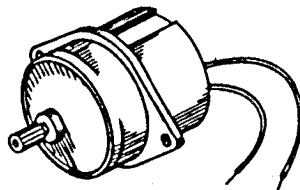
STEPPER MOTOR

PART NUMBER RP100

FEATURES

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- * Bipolar Windings
- * .18 Degree Accuracy
- * 2000 Pulses Per Rotation



GENERAL DESCRIPTION

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The RP100 ultra precision stepper motor is intended for ultra precise instrumentation positioning. Stepping occurs upon each polarity reversal of the supply voltage.

MECHANICAL SPECIFICATIONS

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Motor:

Diameter	1 1/8"
Length	1 1/8"

Shaft (Splined)

Diameter	1/8"
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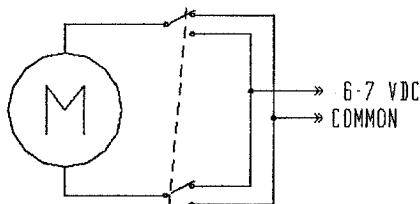
ELECTRICAL SPECIFICATIONS

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Voltage	7 VDC
Maximum Pulses Per Second	15

CONNECTION

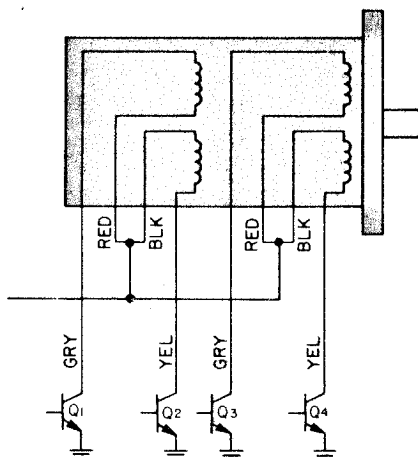
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CONNECTION (Con't)

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(Phasing Sequences)



UNIPOLAR

Normal
4 Step Sequence

Step	Q ₁	Q ₂	Q ₃	Q ₄
1	ON	OFF	ON	OFF
2	ON	OFF	OFF	ON
3	OFF	ON	OFF	ON
4	OFF	ON	ON	OFF
1	ON	OFF	ON	OFF

CW ROTATION

CCW ROTATION

1/2 Step
8 Step Sequence

1	ON	OFF	ON	OFF
2	ON	OFF	OFF	OFF
3	ON	OFF	OFF	ON
4	OFF	OFF	OFF	ON
5	OFF	ON	OFF	ON
6	OFF	ON	OFF	OFF
7	OFF	ON	ON	OFF
8	OFF	OFF	ON	OFF
1	ON	OFF	ON	OFF

CW ROTATION

CCW ROTATION

Wave Drive
4 Step Sequence

1	ON	OFF	OFF	OFF
2	OFF	OFF	OFF	ON
3	OFF	ON	OFF	OFF
4	OFF	OFF	ON	OFF
1	ON	OFF	OFF	OFF

CW ROTATION

CCW ROTATION

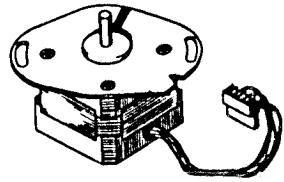
STEPPER MOTOR

PART NUMBER RP115

FEATURES

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- * Unipolar Windings
- * 1.8 Degree Accuracy
- * 200 Pulses Per Rotation
- * Steps In Either Direction



GENERAL DESCRIPTION

=====

The RP115 power stepper motor is intended for use where high torque is required in addition to accuracy. Unipolar windings require only 4 driver stages.

MECHANICAL SPECIFICATIONS

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Motor:

Length	1 5/8"
Width	1 5/8"
Thickness	1 3/8"

Shaft (Smooth)

Diameter	13/64" (5 mm)
Length	7/16"

ELECTRICAL SPECIFICATIONS

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Voltage	12 VDC
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CONNECTION

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(Phasing sequence)

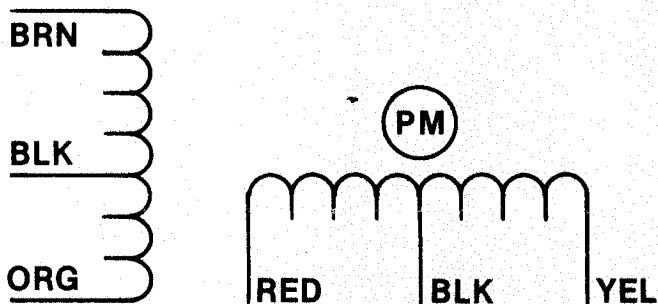
Clockwise:	Counter-clockwise:
Brown	White
Green	Red
Red	Green
White	Brown

Black: Common

CONNECTION

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(Phasing Sequence)



**PHASING SEQUENCE FOR CW ROTATION
FACING MOUNTING END BLK LEADS ± 28 V**

STEP	BRN	RED	ORG	YEL
1	—	0	0	0
2	0	—	0	0
3	0	0	—	0
4	0	0	0	—

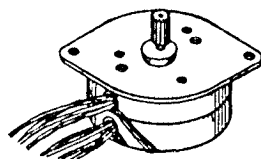
STEPPER MOTOR

PART NUMBER RP120

FEATURES

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- * Unipolar Windings
- * 7.5 Degree Accuracy
- * 48 Pulses Per Rotation
- * Steps In Either Direction



GENERAL DESCRIPTION

=====

The RP120 precision stepper motor is intended for precise instrumentation positioning. Stepping occurs upon each polarity reversal of the properly configured input leads.

MECHANICAL SPECIFICATIONS

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Motor:

Diameter	1 3/8"
Thickness	11/16"

Shaft (Toothed -8 teeth)

Diameter	5/32"
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ELECTRICAL SPECIFICATIONS

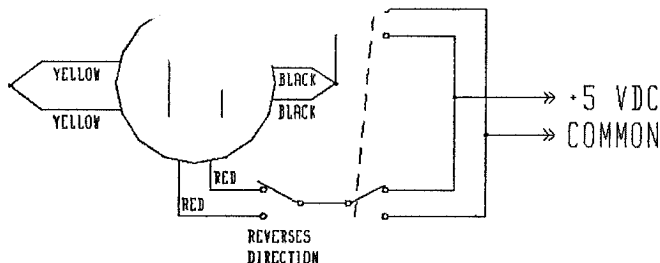
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Voltage	5 VDC
Winding Resistance	6 Ohm

CONNECTION

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(Simplified)



LINEAR ACTUATOR

PART NUMBER SA132

FEATURES

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- * Unipolar Windings
- * 90 Degree Accuracy
- * 4 Pulses Per Rotation
- * 96 Pulses Per Inch Of Travel



GENERAL DESCRIPTION

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The SA132 linear actuator is intended for applications requiring precise amounts of linear motion. A convenient source of linear motion can be achieved by threading a 24-tooth per inch nut assembly onto the SA132 shaft.

MECHANICAL SPECIFICATIONS

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Motor:

Diameter	1 1/2"
Length	2 1/8"

Shaft (Threaded -24 teeth per inch)

Diameter	3/8"
Length	4 3/4"

ELECTRICAL SPECIFICATIONS

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Voltage	6-30 VDC
Winding Resistance	20 Ohm
Maximum Pulses Per Second	175
Dynamic Torque (@30 VDC)	7 OZ-IN
Static Torque (@30 VDC)	11 OZ-IN