

AM SERIES STEP MOTORS



ADVANCED MICRO SYSTEMS offers a variety of high performance, 2 phase hybrid step motors. All motors are industry standard 1.8° (200 steps per revolution), full-step angle construction. Optional .9° (400 steps per revolution), full-step angle motors are also available. Each step motor is carefully constructed with permanently lubricated ball bearings for extended service life.

All AMS step motors are bipolar drive compatible. NEMA sizes 23, 34 and 42 motors can be wired with a parallel winding (standard) or in series for specific application requirements and come equipped with a convenient ten foot shielded cable.

MOTOR FEATURES

- *Rotational angle of the motor rotor is directly proportional to the number of input step pulses for movement in full, half and microstep operations.*
- *Precise and repeatable position sequencing, in open or closed loop applications.*
- *Complete range of speed and torque characteristics.*
- *Low-cost, high quality alternative to expensive pneumatic, hydraulic and servo motor designs.*

ENCODER FEEDBACK

Most AMS step motors may be ordered with shaft encoders. High resolution encoders operate in conjunction with the "EFB" electronics available in the MAX microstep controller/driver family. Benefits include dynamic stall detection and position maintenance capability. The EFB suffix includes assembled encoder and interface cables.

- *50 to 500 lines per/rev, 500 standard*
- *Quadrature output for 2000 ppr.*
- *Index pulse used with homing*
- *-40 to 100° (C) operating temperature*
- *Adds less than 3/4" to motor length*

MOTOR SPECIFICATIONS (add -EFB suffix for motor with encoder)

Model Number	Parallel Winding				Series Winding				Holding Torque oz/in	Resistance per Phase Rm (ohms)	Inductance Per Phase MH @ 1000Hz	Rotor Inertia oz/in - Sec ²	NEMA Frame Size
	1 Phase Energized		2 Phases Energized		1 Phase Energized		2 Phases Energized						
	Volts	Amps	Volts	Amps	Volts	Amps	Volts	Amps					
AM17-44-3MT	N/A	N/A	N/A	N/A	7.00	1.1	5.30	.85	44	6.20	16.00	.26	17
AM23-72-1	3.56	5.6	2.52	4.0	4.78	2.8	3.38	2.0	72	.63	1.44	1.70	23
AM23-150-2	4.30	5.6	3.04	4.0	6.14	2.8	4.34	2.0	150	.76	2.54	3.30	23
AM23-210-3	5.09	5.6	3.60	4.0	7.83	2.8	6.54	2.0	210	.90	3.63	5.00	23
AM34-235-1	3.68	5.6	2.60	4.0	6.62	2.8	4.68	2.0	235	.65	5.10	9.10	34
AM34-420-2	4.64	5.6	3.28	4.0	8.54	2.8	6.04	2.0	420	.86	8.30	17.00	34
AM34-620-3	5.37	5.6	3.80	4.0	9.84	2.8	6.96	2.0	620	.95	11.20	26.50	34
AM42-810-2	5.26	5.6	3.72	4.0	10.50	2.8	7.40	2.0	810	.74	14.00	55.00	42
AM42-1440-3	6.78	5.6	4.80	4.0	13.60	2.8	9.60	2.0	1440	1.20	28.00	114.00	42

Model Number	Weight Ounces	No. of Leads	Lead Length	Motor Length
AM17-44-3MT	9.52	6	12 in.	2.44 in.

Technical drawing of a motor assembly showing front and side views with dimensions.

Front View Dimensions:

- Top mounting hole: 205 $\pm .010$ DIA. (4) HOLES EQ. SP. ON A 2.625 DIA. B.C.
- Top cable: (4) 22 AWG. 10' CABLE
- Overall width: 2.25
- Overall height: 2.25
- Internal width: 1.856
- Internal height: 1.856

Side View Dimensions:

- Overall length: L DIM.
- Shaft diameter: 2.25 DIA.
- Optional rear shaft: 250 DIA. .550 LONG
- Top flange thickness: $\pm .03$
- Internal shaft diameter: 1.500 DIA. $\pm .002$
- Internal shaft length: $\pm .0000$ to $-.0005$
- Internal shaft diameter: .2500 DIA.
- Bottom flange thickness: .06
- Bottom flange diameter: .19

Model Number	Weight Ounces	No. of Leads	Lead Length	L Dim. Inches
AM23-72-1	19.0	4	10 Ft.	2.00
AM23-150-2	24.0	4	10 Ft.	3.00
AM23-210-3	47.0	4	10 Ft.	4.00

(4) 18 AWG/.10" CABLE

.22 +/- .02 DIA. (4) HOLES
EQ. SP. ON A 3.875
DIA. B.C.

3.25

2.740

3.25

2.740

3.875 DIA.

L DIM.

1.19

2.8125 DIA.

.3750 DIA.

+0.0000
-0.0005

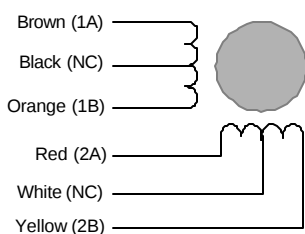
.06

.19

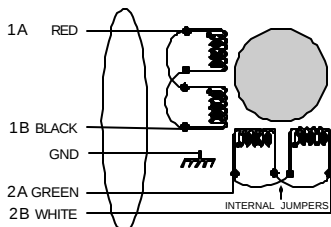
OPTIONAL REAR SHAFT
2.500 DIA.
.550 LONG

Model Number	Weight Ounces	No. of Leads	Lead Length	L Dim. Inches
AM34-235-1	48.0	4	10 Ft.	2.44
AM34-420-2	80.0	4	10 Ft.	3.70
AM34-620-3	121.0	4	10 Ft.	5.06

Model Number	Weight Ounces	No. of Leads	Lead Length	L Dim. Inches
AM42-810-2	216.0	4	10 Ft.	5.39
AM42-1440-3	320.0	4	10 Ft.	7.56



Note: Black and white wires are not connected (isolate and tie back).



Parallel winding configurations are standard. Optional series windings are available on most models.

