

# 11HS SERIES 1.8°

## Key Features

- High Accuracy
- Low Inertia
- Small Size



## General Specifications

Bi-polar

Model Number	Resistance per Phase	Inductance per Phase	Rated Current	Holding Torque		Detent Torque		Rotor Inertia	
	ohm	mH	A	mNm	oz-in	mNm	oz-in	g.cm <sup>2</sup>	oz-in <sup>2</sup>
11HS1005	40	27.8	0.25	55	7.79	5	0.71	9	0.05
11HS1006	5.6	4.3	0.67	60	8.50	5	0.71	9	0.05
11HS1007	10.4	7.6	0.5	50	7.08	5	0.71	9	0.05
11HS1008	2.5	2.2	1	55	7.79	5	0.71	9	0.05
11HS3005	6.8	6.0	0.67	90	12.75	6	0.85	12	0.07
11HS5005	12	12	0.5	100	14.16	8	1.13	18	0.10
11HS5007	51.8	30.7	0.25	95	13.46	8	1.13	18	0.10
11HS5008	3.5	2.3	1	100	14.16	8	1.13	18	0.10
11HS5009	9.2	5.4	0.67	110	15.58	8	1.13	18	0.10

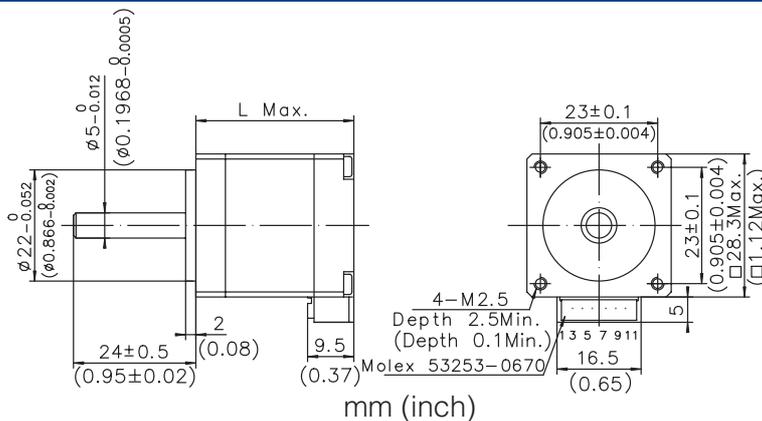
Uni-polar

Model Number	Resistance per Phase	Inductance per Phase	Rated Current	Holding Torque		Detent Torque		Rotor Inertia	
	ohm	mH	A	mNm	oz-in	mNm	oz-in	g.cm <sup>2</sup>	oz-in <sup>2</sup>
11HS1003	2.8	1.3	0.95	48	6.80	5	0.71	9	0.05
11HS1009	40	12	0.25	32	4.53	5	0.71	9	0.05
11HS1010	9.4	3	0.5	32	4.53	5	0.71	9	0.05
11HS3002-01	3.4	1.6	0.95	65	9.21	6	0.85	12	0.07
11HS5002-01	4.6	2.3	0.95	90	12.75	8	1.13	18	0.10
11HS5003	12	6.3	0.5	80	11.33	8	1.13	18	0.10
11HS5010	2.6	0.9	1	70	9.92	8	1.13	18	0.10

Motor Wiring Diagram —> Page A-8

## Mechanical Dimension

Model Number	L	Mass
	mm (in.)	kg (lb.)
11HS1**	31 (1.21)	0.10 (0.22)
11HS3**	40 (1.56)	0.15 (0.33)
11HS5**	51 (2.01)	0.20 (0.44)



0.9°

1.8°

3.6°

3.75°

1.2°

2-PHASE

3-PHASE

DIGITAL LINEAR ACTUATOR

INTEGRATED STEPPING MOTOR

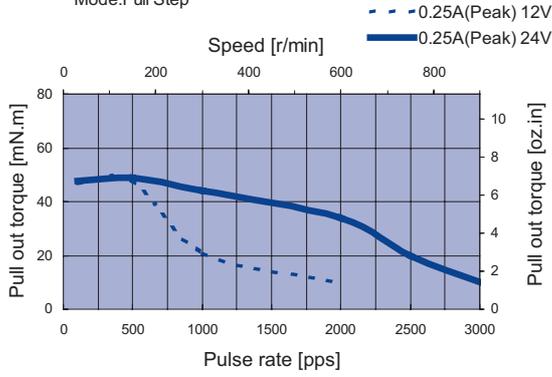
MOTOR DRIVER

HB MOTOR

Dynamic Torque Curves

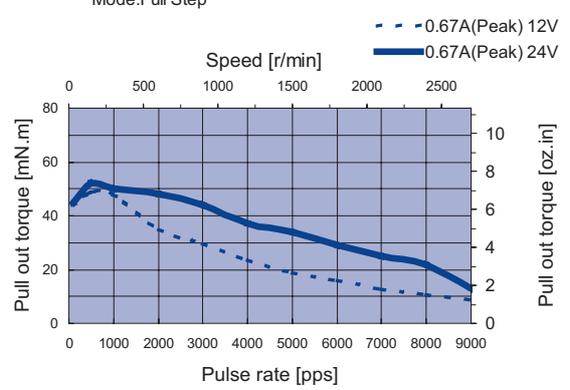
11HS1005

Conditions: Bi-polar Constant Current Driver  
 IC: AMA MS3540M  
 Mode: Full Step



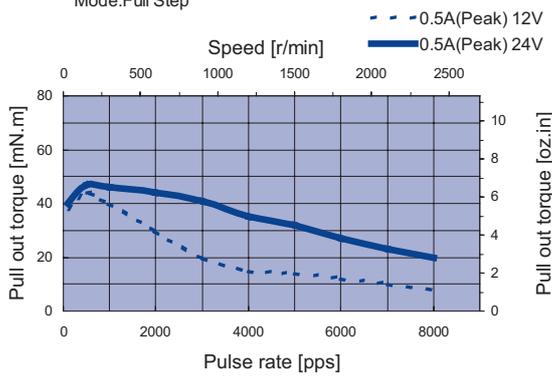
11HS1006

Conditions: Bi-polar Constant Current Driver  
 IC: AMA MS3540M  
 Mode: Full Step



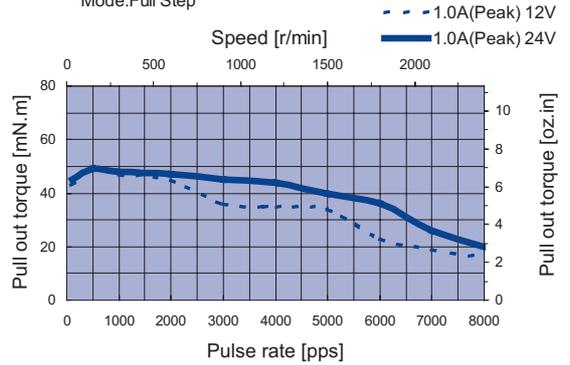
11HS1007

Conditions: Bi-polar Constant Current Driver  
 IC: AMA MS3540M  
 Mode: Full Step



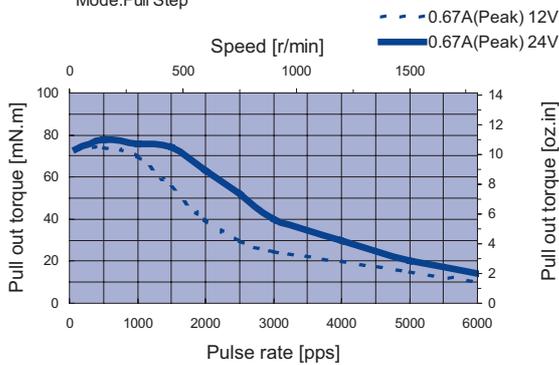
11HS1008

Conditions: Bi-polar Constant Current Driver  
 IC: AMA MS3540M  
 Mode: Full Step



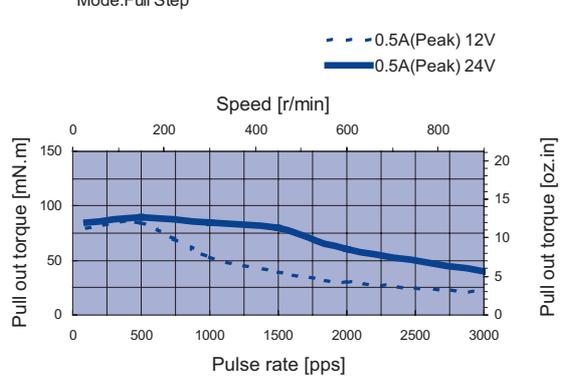
11HS3005

Conditions: Bi-polar Constant Current Driver  
 IC: AMA MS3540M  
 Mode: Full Step



11HS5005

Conditions: Bi-polar Constant Current Driver  
 IC: AMA MS3540M  
 Mode: Full Step



0.39in.  
(10mm)

1.10in.  
(28mm)

1.38in.  
(35mm)

1.53in.  
(39mm)

1.65in.  
(42mm)

2.22in.  
(56.4mm)

Ø2.25in.  
(Ø57.2mm)

2.36in.  
(60mm)

3.35in.  
(85mm)

Ø3.39in.  
(Ø86mm)

0.9°

1.8°

3.6°

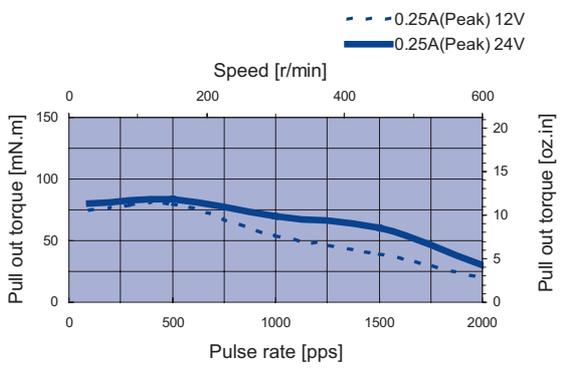
3.75°

1.2°

Dynamic Torque Curves

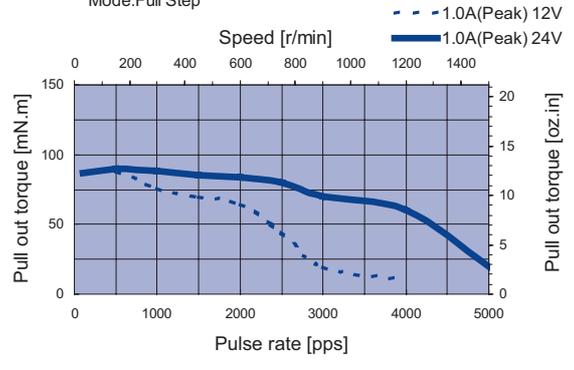
11HS5007

Conditions: Bi-polar Constant Current Driver  
IC: AMA MS3540M  
Mode: Full Step



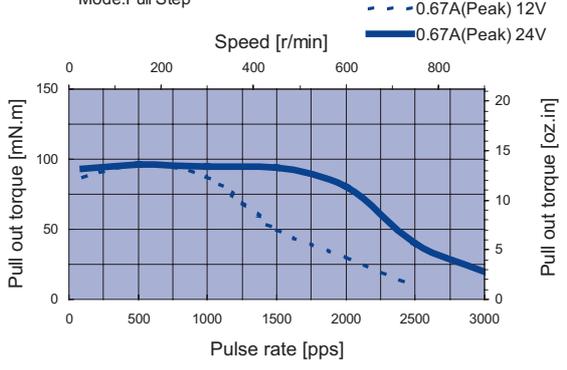
11HS5008

Conditions: Bi-polar Constant Current Driver  
IC: AMA MS3540M  
Mode: Full Step



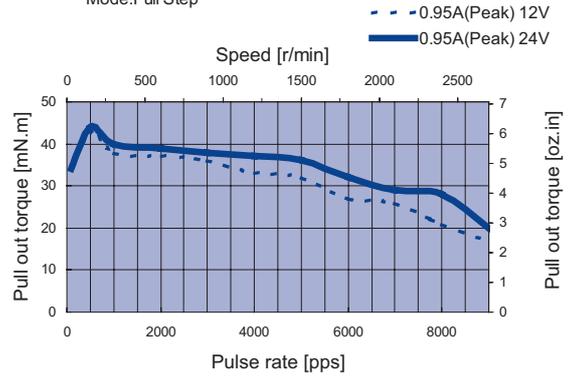
11HS5009

Conditions: Bi-polar Constant Current Driver  
IC: AMA MS3540M  
Mode: Full Step



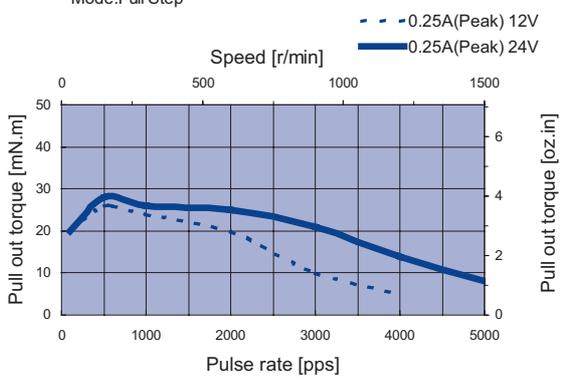
11HS1003

Conditions: Uni-polar Constant Current Driver  
IC: AMA MSU3040M  
Mode: Full Step



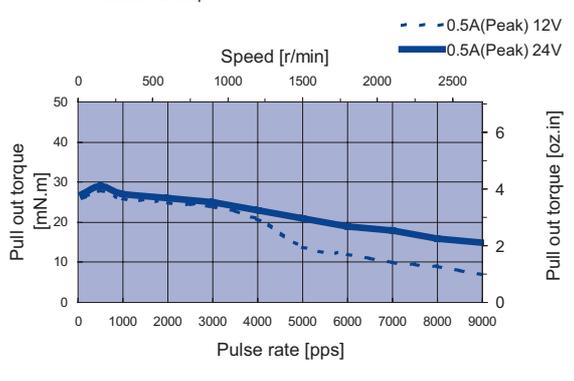
11HS1009

Conditions: Uni-polar Constant Current Driver  
IC: AMA MSU3040M  
Mode: Full Step



11HS1010

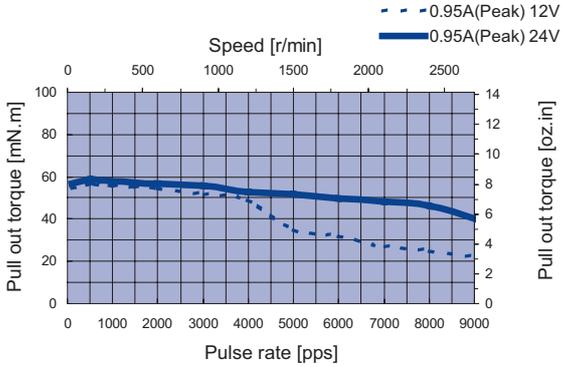
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IC: AMA MSU3040M  
Mode: Full Step



Dynamic Torque Curves

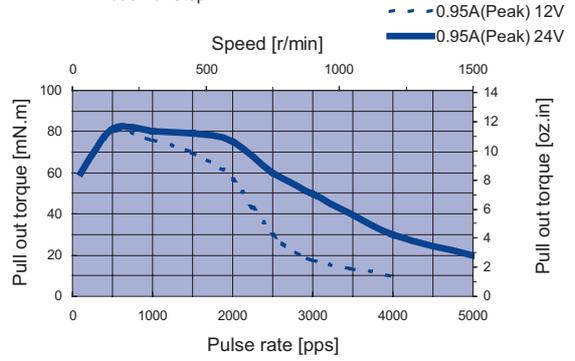
11HS3002-01

Conditions: Uni-polar Constant Current Driver  
 IC: AMA MSU3040M  
 Mode: Full Step



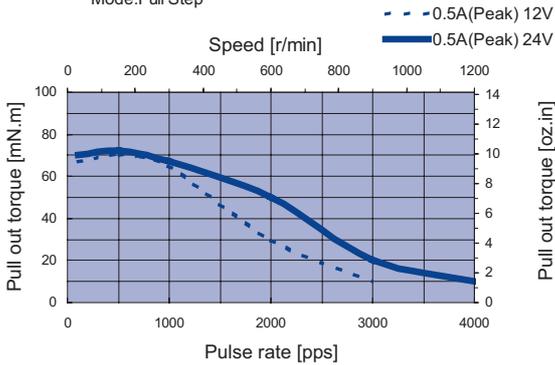
11HS5002-01

Conditions: Uni-polar Constant Current Driver  
 IC: AMA MSU3040M  
 Mode: Full Step



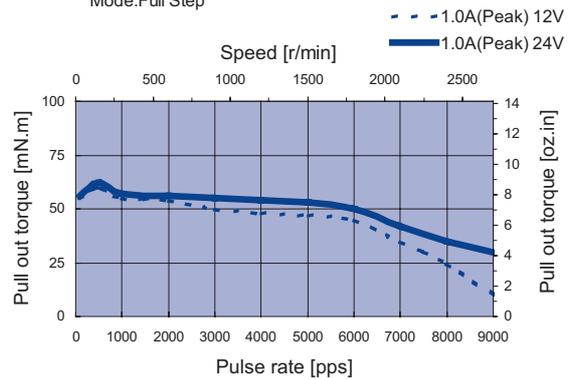
11HS5003

Conditions: Uni-polar Constant Current Driver  
 IC: AMA MSU3040M  
 Mode: Full Step



11HS5010

Conditions: Uni-polar Constant Current Driver  
 IC: AMA MSU3040M  
 Mode: Full Step



0.39in.  
(10mm)

1.10in.  
(28mm)

1.38in.  
(35mm)

1.53in.  
(39mm)

1.65in.  
(42mm)

2.22in.  
(56.4mm)

Ø2.25in.  
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