

HYBRID STEPPER MOTOR FAMILY

Series H23R Hybrid Stepper Motor



Mounting Flange:	NEMA 23
Step angle:	1.8°
Steps per Revolution:	200
Positional Accuracy:	+ 5% max.
Number of Phases:	4 (unipolar)*
Temperature Rise:	80°C max
Insulation Resistance:	100M ohms at 500VDC for 1 minute
Dielectric Strength:	800VAC for 1 minute
Insulation Class:	Class B
Number of lead wires:	6 *
Lead wire:	UL3265 or UL1007 AWG#22
Operation Ambient Temp:	-10°C ~ +50°C
Radial Play:	0.03 mm max at 0.5 kg load
Axial Play:	0.08 mm max at 0.7 kg load
* Contact Hurst for other lead or phase configurations	

Unipolar Drives

Motor phase winding current is switched in only one direction (typically to ground).

- Simple low cost drive circuit
- Requires center tap winding
- Low Output Torque
- 6 & 8 lead motors

Bipolar Drives

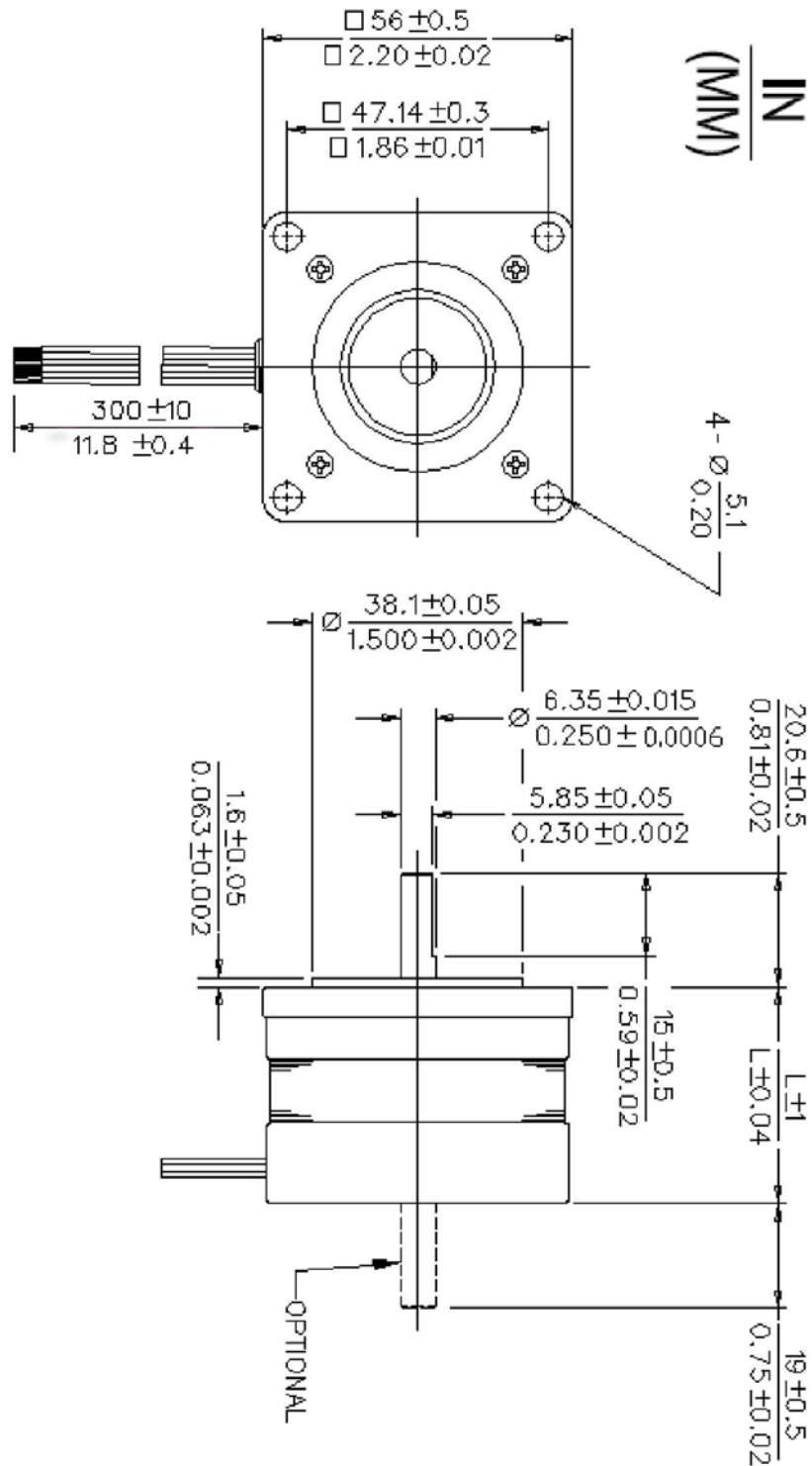
Motor phase winding current is switched in both directions.

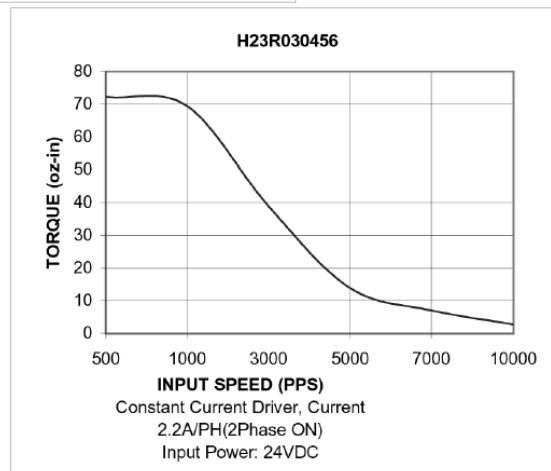
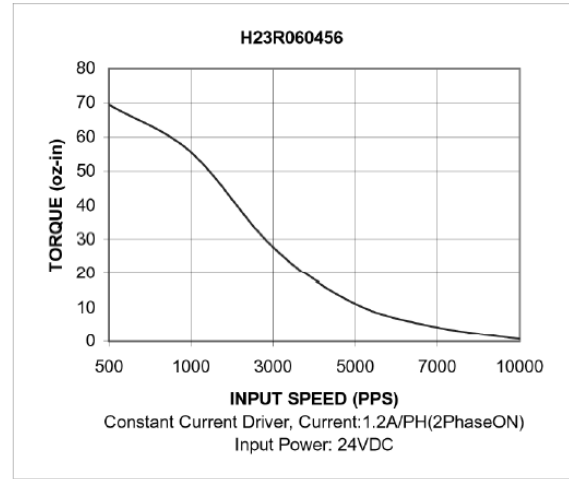
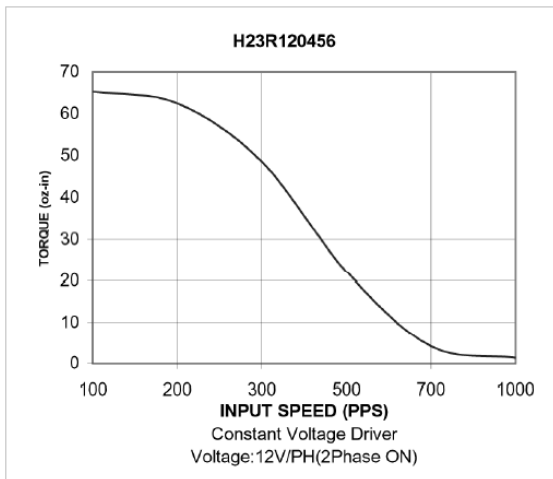
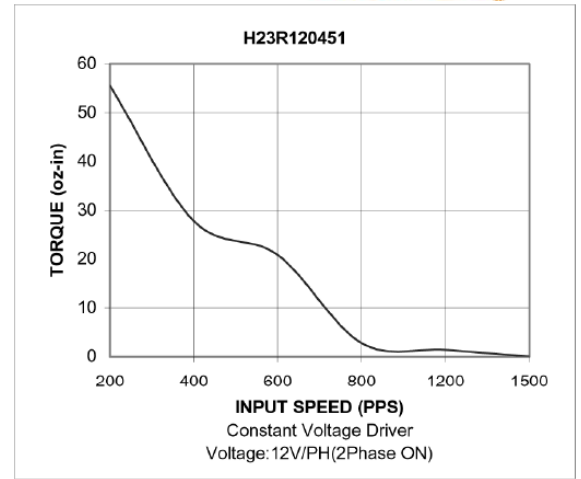
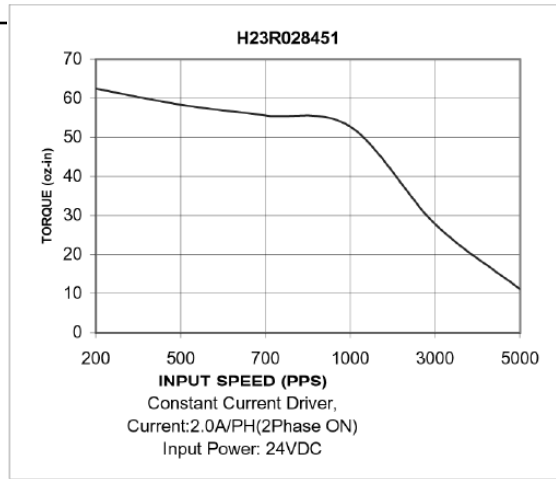
- Higher cost drive circuit
- Higher Output Torque
 - Approximately 1.4 X Unipolar Drive
 - 4, 6, & 8 lead motors
 - 8 Lead Motors are more efficient when used with a bipolar drive.

Example: H 23R 028 4 51

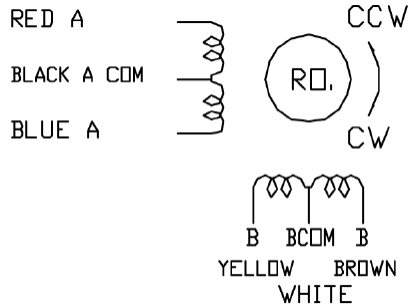
	Motor Family	Frame Size	Phase Voltage	Phase	Length
Options	Hybrid Stepper	23R= 23mm (Round Motor)	028=2.8VDC	4=4 Phase Unipolar	51=51mm
			030=3.0VDC	2=2 Phase Bi-polar	56=56mm
			060=6.0VDC		
			120=12.0VDC		

Model	Part Number	Step Angle (deg.)	Holding Torque (oz-in)	Holding Torque (mN-m)	Detent Torque (oz-in)	Detent Torque (mN-m)	Input Power (watts)	Nominal Voltage (VDC)	Winding Res. (ohms)	Rated Inductance (mH)	Rotor Inertia (oz-in ²)	Rotor Inertia (g-cm ²)	Case Length (in)	Case Length (mm)	Weight (oz)	Weight (g)
H23R	H23R028451	1.8	69.5	490.8	5.6	39.5	11.2	2.8	1.4	2	0.656	120	2.01	51	17.6	499
H23R	H23R030456	1.8	83.4	588.9	6.3	44.5	13.2	3	1.4	2.9	0.847	154.9	2.205	56	21.9	620.9
H23R	H23R060456	1.8	83.4	588.9	6.3	44.5	14.4	6	5	9.8	0.847	154.9	2.205	56	21.9	620.9
H23R	H23R120451	1.8	69.5	490.8	5.6	39.5	14.4	12	20	30	0.656	120	2.01	51	17.6	499
H23R	H23R120456	1.8	83.4	588.9	6.3	44.5	14.4	12	20	38	0.847	154.9	2.205	56	21.9	620.9





*Note: Typical Performance Data generated using full step, uni-polar controller with parallel connector



Full Step (2 Phase)				
CW Rotation viewing Mounting End				
Step	A (Red)	B (Yellow)	/A (Blue)	/B (Brown)
0	On	On		
1		On	On	
2			On	On
3	On			On
4	On	On		