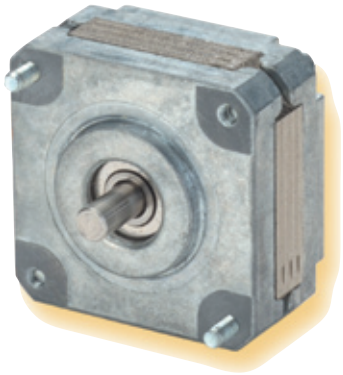
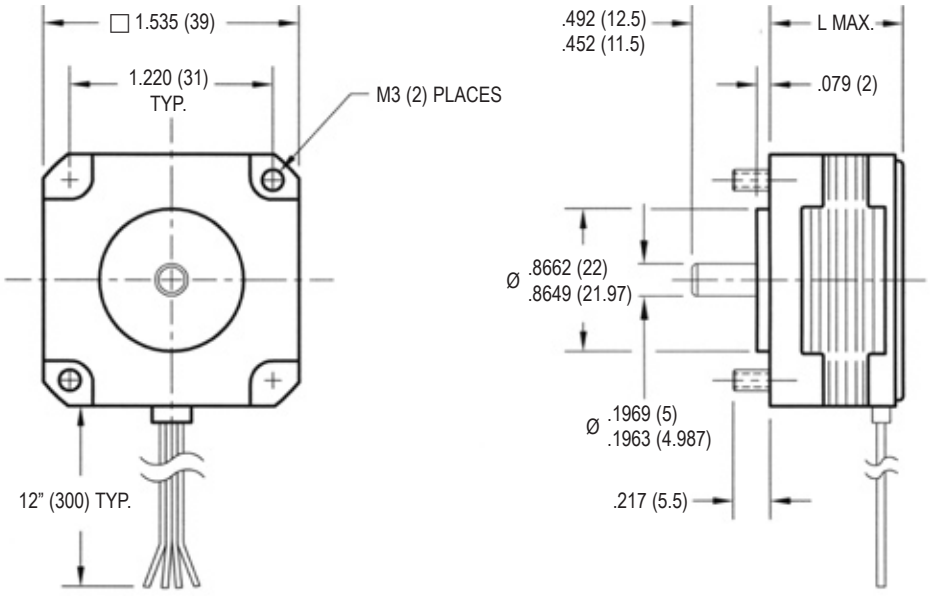
SIZE 16 STEPPER MOTOR DATA



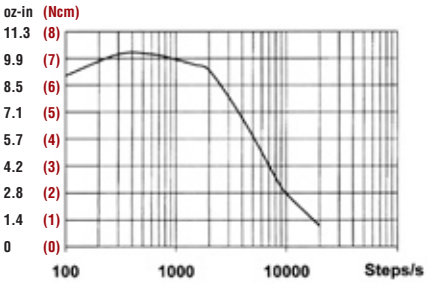
- **Step angle: 1.8˚**
- **NEMA 17 mounting configuration**
- **AlNiCo magnets for high speed operation**
- **Additional windings and customization options available**
- **CE approved**

Specification	Units	Y 20 1607	
		0030 ✓	0060
Rated Phase Current	A	0.30	0.60
Phase Resistance	Ω	20	6.6
Phase Inductance	mH	23	8.5
Holding Torque Unipolar	oz-in	—	—
	Ncm	—	—
Holding Torque Bipolar	oz-in	10	12
	Ncm	7.0	8.7
Detent Torque	oz-in	1.4	1.4
	Ncm	1.0	1.0
Rotor Inertia	oz-in-s^{2}x10^{-4}	1.6	1.6
	g-cm^2	11	11
Motor Weight (Mass)	lb	0.33	0.33
	kg	0.15	0.15
Maximum Voltage	V	40	40
Motor Length (Max)	in	0.81	0.81
	mm	20.5	20.5
Std. Leadwire Config.(1)	——	1	1
Std. No. of Leads	——	4	4

✓ Available through the MotionExpress program.
(1) See standard leadwire configuration.

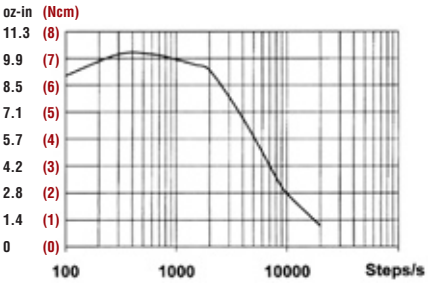


Y 20 1607 0030



Drive: Bipolar chopper, 36V, 0.3A/Phase

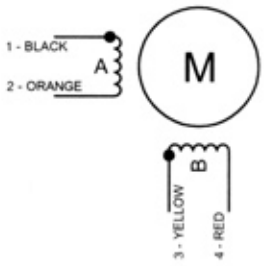
Y 20 1607 0060



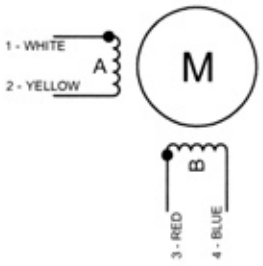
Drive: Bipolar chopper, 36V, 0.6A/Phase

STANDARD LEADWIRE CONFIGURATION

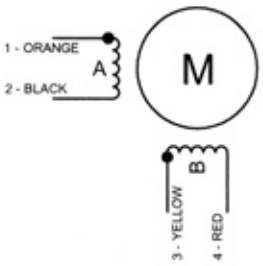
CONFIGURATION #1



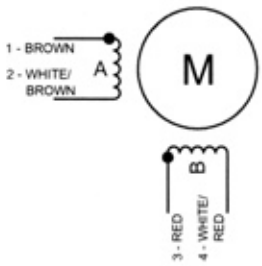
CONFIGURATION #2



CONFIGURATION #3



CONFIGURATION #4



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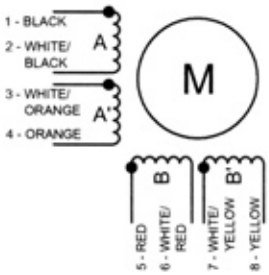
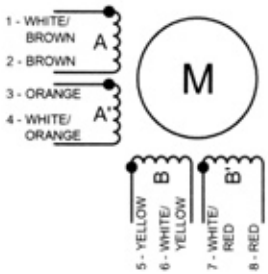
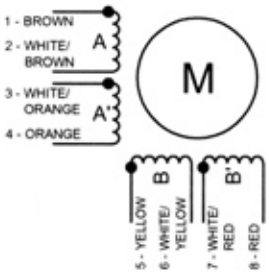


CONFIGURATION #6



CONFIGURATION #7



CONNECTION-DEPENDENT RATINGS FOR 8 LEAD MOTORS

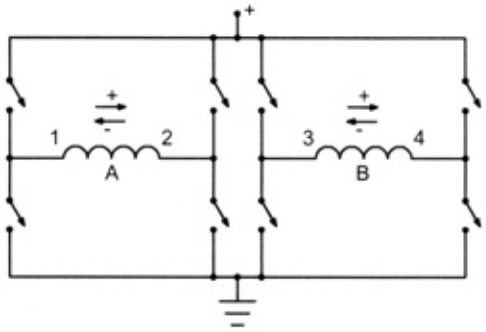
Stepper motors supplied with 8 leads provide maximum flexibility and allow the user to decide what connection method is most suitable for their application. Some of the motor phase characteristics are dependent on the connection method chosen for the windings.

The values for current, resistance, and inductance shown in the data tables for 8 lead motors assume a unipolar connection and measure from the center tap to the end of one winding. To determine the phase characteristics for other connection methods, multiply the given unipolar ratings by the conversion factors listed in the chart below that correspond to the chosen connection method.

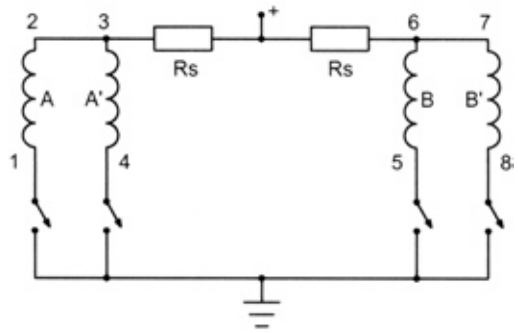
	Unipolar Connection	Bipolar Series Connnection	Bipolar Parallel Connection
Rated Phase Current	1	0.7	1.4
Phase Resistance	1	2	0.5
Phase Inductance	1	4	1

CONNECTION DIAGRAMS

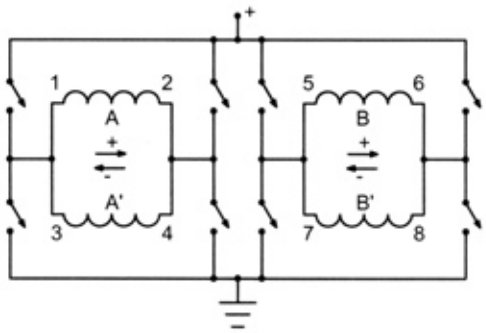
BIPOLAR



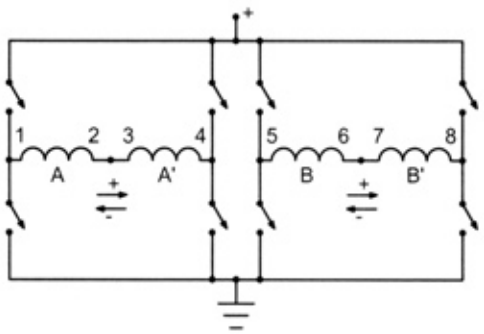
UNIPOLAR



BIPOLAR (PARALLEL)



BIPOLAR (SERIES)



STEP SEQUENCES

FULL STEP OPERATION

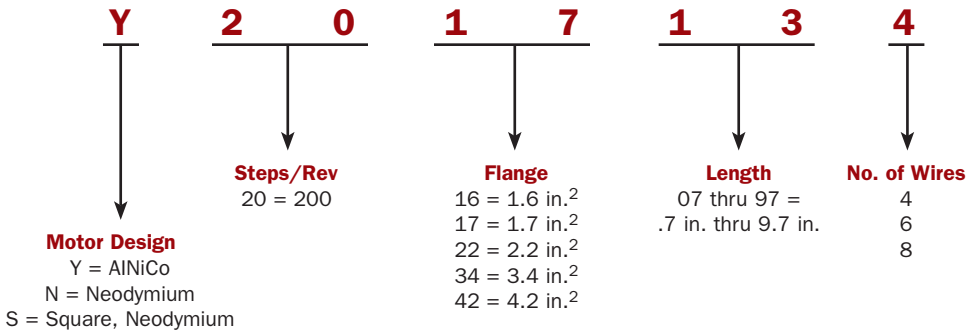
One Phase On							
	Unipolar					*Bipolar*	
	A	A'	B	B'		A	B
1	+	0	0	0	1	0	+
2	0	0	+	0	2	–	0
3	0	+	0	0	3	0	–
4	0	0	0	+	4	+	0
1	+	0	0	0	1	0	+

Two Phases On							
	Unipolar					*Bipolar*	
	A	A'	B	B'		A	B
1	+	0	0	+	1	+	–
2	+	0	+	0	2	+	+
3	0	+	+	0	3	–	+
4	0	+	0	+	4	–	–
1	+	0	0	+	1	+	–

HALF STEP OPERATION

	Unipolar					*Bipolar*	
	A	A'	B	B'		A	B
1	+	0	0	+	1	+	+
2	+	0	0	0	2	0	+
3	+	0	+	0	3	–	+
4	0	0	+	0	4	–	0
5	0	+	+	0	5	–	–
6	0	+	0	0	6	0	–
7	0	+	0	+	7	+	–
8	0	0	0	+	8	+	0
1	+	0	0	+	1	+	+

PART NUMBER DESCRIPTION



The part number description above may also contain a factory assigned suffix of up to seven additional characters. When ordering, please specify the part number according to the system. For first time orders, omit the factory assigned suffix, but specify the winding designation and any additional customization requests.

Specifications subject to change without notice.

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