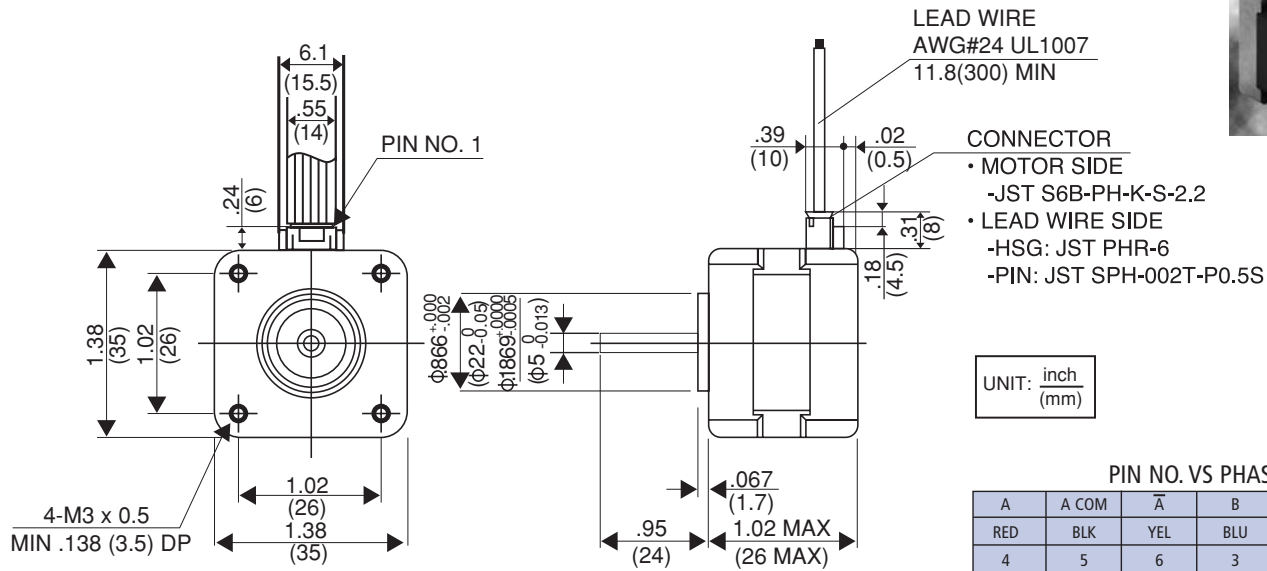


# 1.8°

# 14PM-M

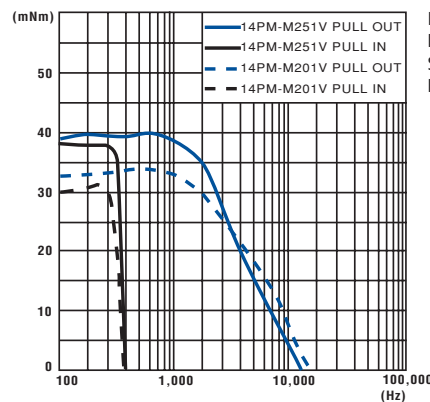
hybrid



## Model Specifications

Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm <sup>2</sup>	Nm (g-cm)	g
14PM-M201V	1.8°	UNIPOLAR	0.4	9.0	0.039 (0.4)	4.2	0.011	0.005 (50)	110
14PM-M251V	1.8°	BIPOLAR	0.4	9.0	0.049 (0.5)	6.0	0.011	0.005 (50)	110

## Torque/Speed Characteristics

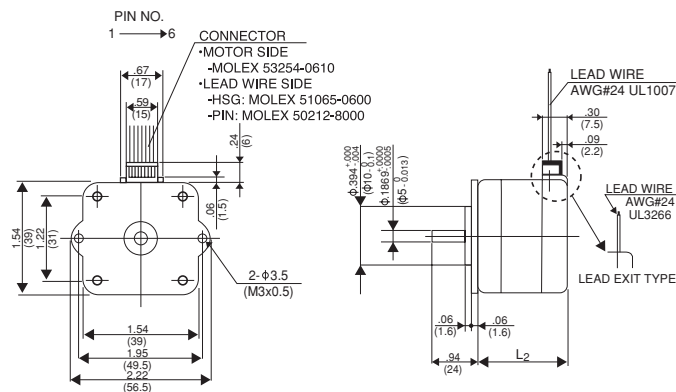
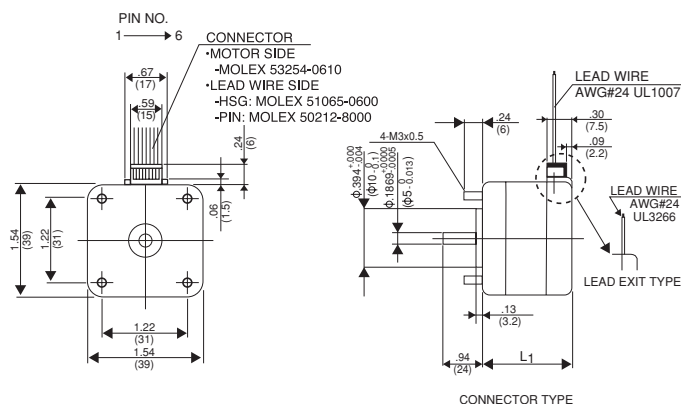




### Standard Mount Type

16PM-M2XX, M0XX, 16PU-M2XX, M0XX

## Special Mount Type



UNIT:  $\frac{\text{inch}}{(\text{mm})}$

MOTOR LENGTH (mm)

	$L_1$	$L_2$
16P*-M2**	26 MAX	27.6 MAX
16P*-M0**	30 MAX	31.6 MAX

### PIN NO. VS PHASE

A	A COM	$\bar{A}$	B	B COM	$\bar{B}$
RED	BLK	YEL	BLU	WHT	ORG
3	2	1	4	5	6

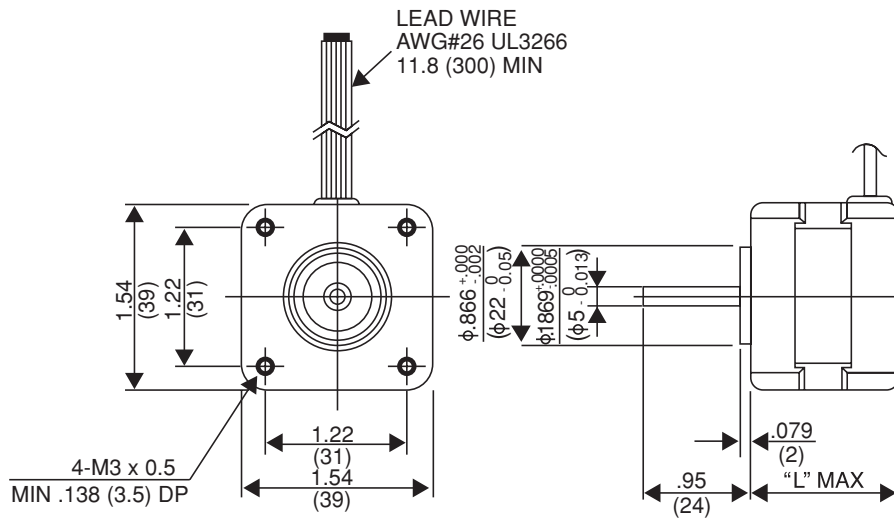
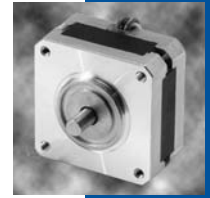
## Model Specifications

Model Number	Magnet	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
		Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm²	Nm (g-cm)	g
16PM-M205-**ST	Ferrite	1.8°	UNIPOLAR	0.6	5.5	0.064 (0.65)	4.3	0.011	0.004 (40)	140
16PM-M205-**ST	Neodymium	1.8°	UNIPOLAR	0.6	5.5	0.074 (0.75)	3.3	0.011	0.005 (50)	140
16PM-M204-**ST	Ferrite	1.8°	BIPOLAR	0.6	5.5	0.083 (0.85)	8.5	0.011	0.004 (40)	140
16PM-M204-**ST	Neodymium	1.8°	BIPOLAR	0.6	5.5	0.108 (1.1)	6.6	0.011	0.005 (50)	140
16PM-M031-**ST	Ferrite	1.8°	UNIPOLAR	0.6	6.7	0.078 (0.8)	6.4	0.017	0.005 (50)	170
16PM-M031-**ST	Neodymium	1.8°	UNIPOLAR	0.6	6.7	0.118 (1.2)	5.4	0.017	0.006 (60)	170
16PM-M032-**ST	Ferrite	1.8°	BIPOLAR	0.6	6.7	0.108 (1.1)	12.3	0.017	0.005 (50)	170
16PM-M032-**ST	Neodymium	1.8°	BIPOLAR	0.6	6.7	0.152 (1.55)	10.5	0.017	0.006 (60)	170
16PU-M203-**ST	Ferrite	3.75°	UNIPOLAR	0.6	5.5	0.049 (0.5)	3.7	0.015	0.007 (70)	140
16PU-M203-**ST	Neodymium	3.75°	UNIPOLAR	0.6	5.5	0.059 (0.6)	3.1	0.015	0.01 (100)	140
16PU-M202-**ST	Ferrite	3.75°	BIPOLAR	0.6	5.5	0.064 (0.65)	7.4	0.015	0.007 (70)	140
16PU-M202-**ST	Neodymium	3.75°	BIPOLAR	0.6	5.5	0.074 (0.75)	6.3	0.015	0.01 (100)	140
16PU-M007-**ST	Ferrite	3.75°	UNIPOLAR	0.6	6.7	0.064 (0.65)	5.9	0.017	0.008 (80)	170
16PU-M007-**ST	Neodymium	3.75°	UNIPOLAR	0.6	6.7	0.088 (0.9)	4.5	0.017	0.014 (140)	170
16PU-M008-**ST	Ferrite	3.75°	BIPOLAR	0.6	6.7	0.083 (0.85)	11.5	0.017	0.008 (80)	170
16PU-M008-**ST	Neodymium	3.75°	BIPOLAR	0.6	6.7	0.118 (1.2)	9.1	0.017	0.014 (140)	170

# 0.9°

# 16PY-Q

hybrid



UNIT:  $\frac{\text{inch}}{(\text{mm})}$

P/N	"L"
16PY-Q2XX	1.02 (26)
16PY-Q0XX	1.18 (30)

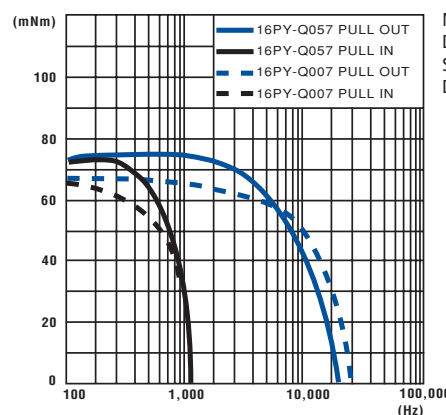
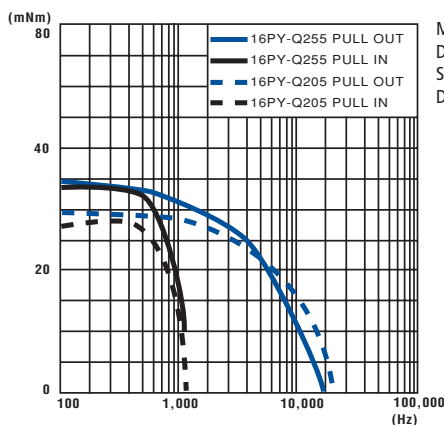
PIN NO. VS PHASE

A	A COM	$\bar{A}$	B	B COM	$\bar{B}$
RED	BLK	YEL	BLU	WHT	ORG

## Model Specifications

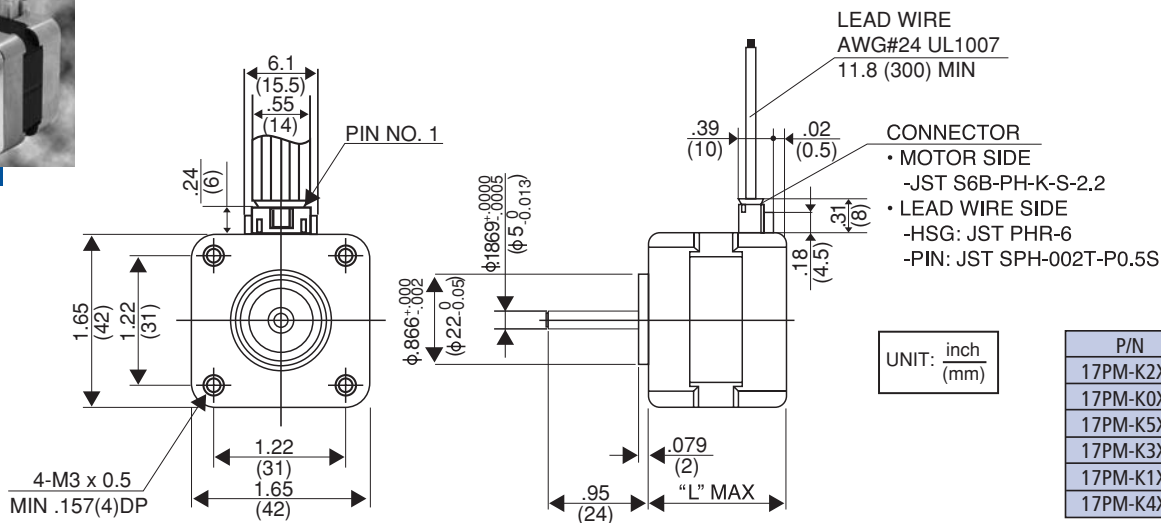
Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm <sup>2</sup>	Nm (g-cm)	g
16PY-Q205	0.9°	UNIPOLAR	1.0	2.5	0.059 (0.6)	1.0	0.012	0.003 (30)	120
16PY-Q255	0.9°	BIPOLAR	1.0	2.5	0.068 (0.7)	1.4	0.012	0.003 (30)	120
16PY-Q007	0.9°	UNIPOLAR	0.8	4.5	0.078 (0.8)	1.4	0.016	0.005 (50)	170
16PY-Q057	0.9°	BIPOLAR	0.8	4.5	0.093 (.95)	2.0	0.016	0.005 (50)	170

## Torque/Speed Characteristics



Model No.: 16PY-Q007, Q057  
Driver: Chopper Dual  
Supply Voltage: 24.0 (Volt)  
Drive Current: 0.8 (A/WDG)

— BI POLAR PULL OUT  
— BI POLAR PULL IN  
- - - UNI POLAR PULL OUT  
- - - UNI POLAR PULL IN

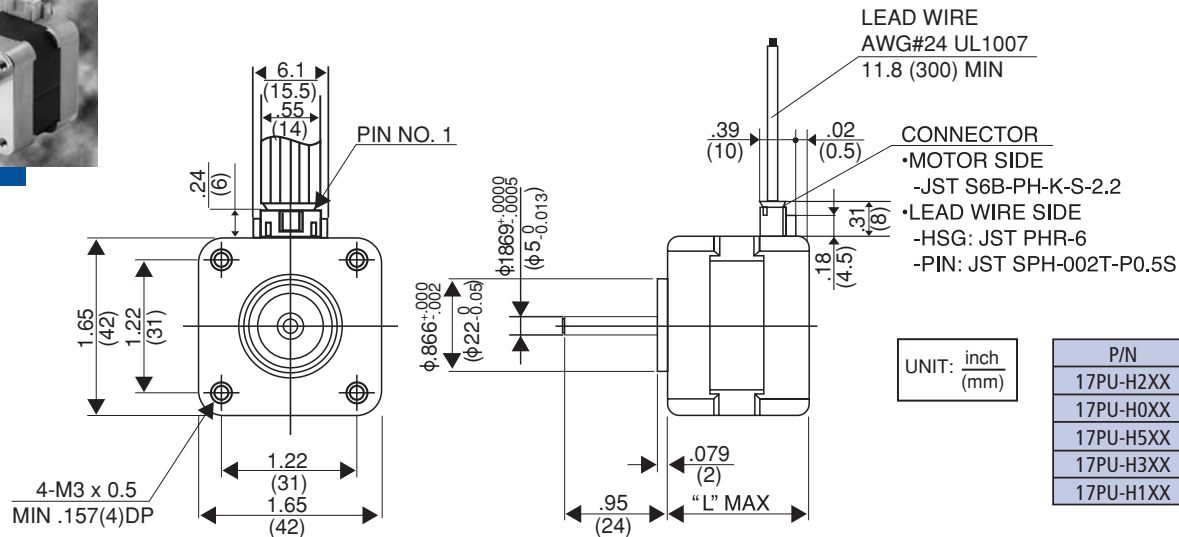


PIN NO. VS PHASE

A	A COM	$\bar{A}$	B	B COM	$\bar{B}$
RED	BLK	YEL	BLU	WHT	ORG
4	5	6	3	2	1

## Model Specifications

Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm <sup>2</sup>	Nm (g-cm)	g
17PM-K203V	1.8°	UNIPOLAR	0.6	5.5	0.128 (1.30)	4.7	0.028	0.006 (60)	180
17PM-K223V	1.8°	BIPOLAR	0.6	5.5	0.148 (1.50)	7.4	0.028	0.006 (60)	180
17PM-K204V	1.8°	UNIPOLAR	0.8	3.0	0.123 (1.25)	2.6	0.028	0.006 (60)	180
17PM-K244V	1.8°	BIPOLAR	0.8	3.0	0.143 (1.45)	4.1	0.028	0.006 (60)	180
17PM-K008V	1.8°	UNIPOLAR	0.6	8.3	0.167 (1.7)	8.7	0.034	0.008 (80)	200
17PM-K034V	1.8°	BIPOLAR	0.6	8.3	0.196 (2.0)	15.0	0.034	0.008 (80)	200
17PM-K018V	1.8°	UNIPOLAR	1.0	3.0	0.167 (1.7)	2.7	0.034	0.008 (80)	200
17PM-K048V	1.8°	BIPOLAR	1.0	3.0	0.196 (2.0)	4.9	0.034	0.008 (80)	200
17PM-K502V	1.8°	UNIPOLAR	0.6	8.9	0.196 (2.0)	9.0	0.040	0.009 (90)	220
17PM-K503V	1.8°	BIPOLAR	0.6	8.9	0.225 (2.3)	16.2	0.040	0.009 (90)	220
17PM-K504V	1.8°	UNIPOLAR	1.0	3.2	0.196 (2.0)	3.5	0.040	0.009 (90)	220
17PM-K505V	1.8°	BIPOLAR	1.0	3.2	0.225 (2.3)	5.9	0.040	0.009 (90)	220
17PM-K302V	1.8°	UNIPOLAR	1.0	3.5	0.225 (2.3)	3.3	0.045	0.0098 (100)	250
17PM-K301V	1.8°	BIPOLAR	1.0	3.5	0.255 (2.6)	5.5	0.045	0.0098 (100)	250
17PM-K304V	1.8°	UNIPOLAR	1.4	1.8	0.225 (2.3)	1.7	0.045	0.0098 (100)	250
17PM-K303V	1.8°	BIPOLAR	1.4	1.8	0.255 (2.6)	3.0	0.045	0.0098 (100)	250
17PM-K103V	1.8°	UNIPOLAR	1.0	4.3	0.294 (3.0)	4.5	0.056	0.0118 (120)	300
17PM-K104V	1.8°	BIPOLAR	1.0	4.3	0.343 (3.5)	8.2	0.056	0.0118 (120)	300
17PM-K106V	1.8°	UNIPOLAR	1.4	2.2	0.294 (3.0)	3.2	0.056	0.0118 (120)	300
17PM-K115V	1.8°	BIPOLAR	1.4	2.2	0.343 (3.5)	6.0	0.056	0.0118 (120)	300
17PM-K403V	1.8°	UNIPOLAR	1.0	4.7	0.422 (4.3)	6.3	0.080	0.0147 (150)	350
17PM-K404V	1.8°	BIPOLAR	1.0	4.7	0.490 (5.0)	11.5	0.080	0.0147 (150)	350
17PM-K401V	1.8°	UNIPOLAR	1.4	2.4	0.422 (4.3)	3.0	0.080	0.0147 (150)	350
17PM-K406V	1.8°	BIPOLAR	1.4	2.4	0.490 (5.0)	5.7	0.080	0.0147 (150)	350

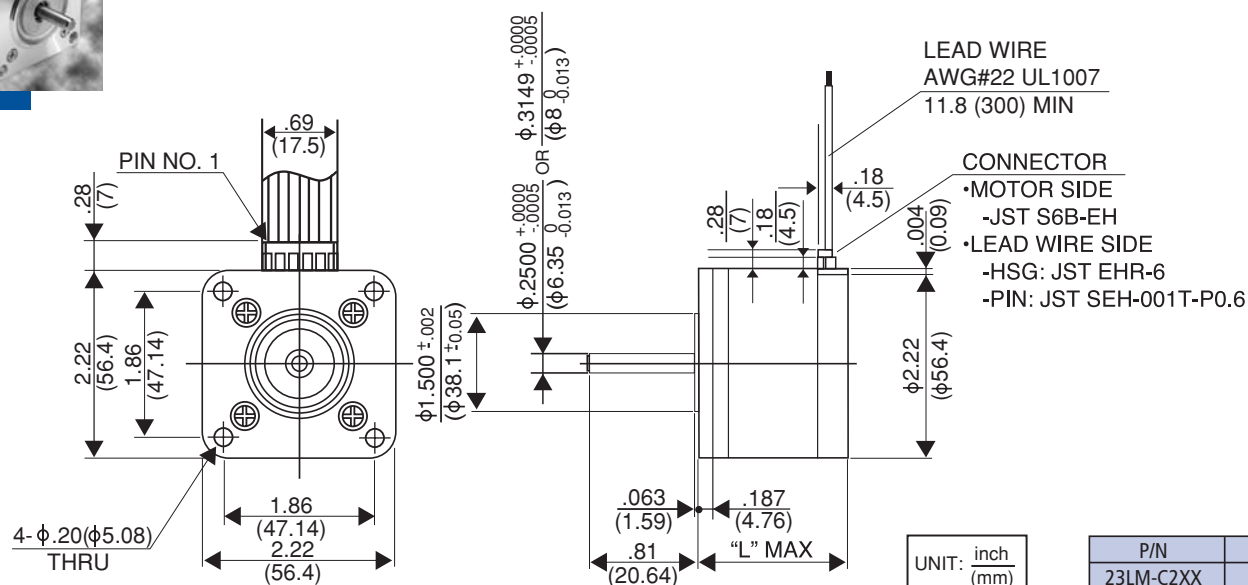


PIN NO. VS PHASE

A	A COM	$\bar{A}$	B	B COM	$\bar{B}$
RED	BLK	YEL	BLU	WHT	ORG
4	5	6	3	2	1

## Model Specifications

Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm <sup>2</sup>	Nm (g-cm)	g
17PU-H203V	3.75°	UNIPOLAR	0.6	5.5	0.074 (0.75)	4.4	0.028	0.006 (60)	180
17PU-H233V	3.75°	BIPOLAR	0.6	5.5	0.079 (0.80)	7.9	0.028	0.006 (60)	180
17PU-H204V	3.75°	UNIPOLAR	0.8	3.0	0.074 (0.75)	2.1	0.028	0.006 (60)	180
17PU-H244V	3.75°	BIPOLAR	0.8	3.0	0.079 (0.80)	3.8	0.028	0.006 (60)	180
17PU-H008V	3.75°	UNIPOLAR	0.6	8.3	0.114 (1.15)	7.3	0.034	0.008 (80)	200
17PU-H034V	3.75°	BIPOLAR	0.6	8.3	0.142 (1.45)	12.3	0.034	0.008 (80)	200
17PU-H018V	3.75°	UNIPOLAR	1.0	3.0	0.114 (1.15)	2.5	0.034	0.008 (80)	200
17PU-H048V	3.75°	BIPOLAR	1.0	3.0	0.142 (1.45)	4.0	0.034	0.008 (80)	200
17PU-H502V	3.75°	UNIPOLAR	0.6	8.9	0.142 (1.45)	7.4	0.040	0.009 (90)	220
17PU-H503V	3.75°	BIPOLAR	0.6	8.9	0.172 (1.75)	13.5	0.040	0.009 (90)	220
17PU-H504V	3.75°	UNIPOLAR	1.0	3.2	0.142 (1.45)	3.5	0.040	0.009 (90)	220
17PU-H505V	3.75°	BIPOLAR	1.0	3.2	0.172 (1.75)	5.9	0.040	0.009 (90)	220
17PU-H302V	3.75°	UNIPOLAR	1.0	3.5	0.167 (1.7)	2.9	0.045	0.0098 (100)	250
17PU-H301V	3.75°	BIPOLAR	1.0	3.5	0.205 (2.1)	4.6	0.045	0.0098 (100)	250
17PU-H304V	3.75°	UNIPOLAR	1.4	1.8	0.167 (1.7)	1.4	0.045	0.0098 (100)	250
17PU-H303V	3.75°	BIPOLAR	1.4	1.8	0.205 (2.1)	2.4	0.045	0.0098 (100)	250
17PU-H103V	3.75°	UNIPOLAR	1.0	4.3	0.254 (2.6)	3.2	0.056	0.0118 (120)	300
17PU-H104V	3.75°	BIPOLAR	1.0	4.3	0.294 (3.0)	7.0	0.056	0.0118 (120)	300
17PU-H106V	3.75°	UNIPOLAR	1.4	2.2	0.254 (2.6)	1.8	0.056	0.0118 (120)	300
17PU-H115V	3.75°	BIPOLAR	1.4	2.2	0.294 (3.0)	4.3	0.056	0.0118 (120)	300



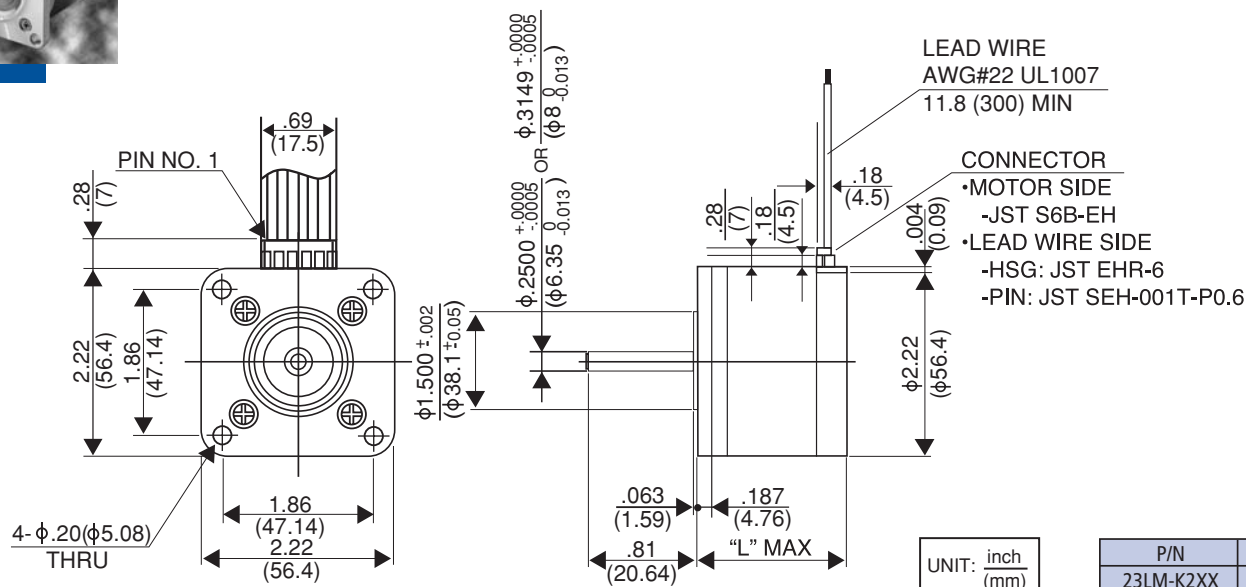
P/N	"L"
23LM-C2XX	1.61 (41)
23LM-C3XX	1.95 (49.5)
23LM-C0XX	2.22 (56.5)

### PIN NO. VS PHASE

A	A COM	$\bar{A}$	B	B COM	$\bar{B}$
RED	BLK	YEL	BLU	WHT	ORG
6	5	4	3	2	1

## Model Specifications

Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm²	Nm (g-cm)	g
23LM-C202V	1.8°	UNIPOLAR	1.0	3.5	0.314 (3.2)	4.0	0.055	0.0492 (500)	360
23LM-C222V	1.8°	BIPOLAR	1.0	3.5	0.374 (3.8)	6.4	0.055	0.0492 (500)	360
23LM-C250V	1.8°	UNIPOLAR	1.5	1.55	0.314 (3.2)	2.5	0.055	0.0492 (500)	360
23LM-C252V	1.8°	BIPOLAR	1.5	1.55	0.374 (3.8)	4.0	0.055	0.0492 (500)	360
23LM-C304V	1.8°	UNIPOLAR	1.0	5.0	0.544 (5.5)	9.1	0.110	0.0540 (550)	450
23LM-C344V	1.8°	BIPOLAR	1.0	5.0	0.614 (6.2)	15.0	0.110	0.0540 (550)	450
23LM-C343V	1.8°	UNIPOLAR	1.5	2.2	0.544 (5.5)	3.5	0.110	0.0540 (550)	450
23LM-C355V	1.8°	BIPOLAR	1.5	2.2	0.614 (6.2)	5.5	0.110	0.0540 (550)	450
23LM-C004V	1.8°	UNIPOLAR	1.0	7.0	0.624 (6.3)	14.0	0.160	0.0588 (600)	540
23LM-C054V	1.8°	BIPOLAR	1.0	7.0	0.794 (7.0)	22.1	0.160	0.0588 (600)	540
23LM-C047V	1.8°	UNIPOLAR	1.5	3.1	0.624 (6.3)	6.1	0.160	0.0588 (600)	540
23LM-C077V	1.8°	BIPOLAR	1.5	3.1	0.794 (7.0)	9.8	0.160	0.0588 (600)	540



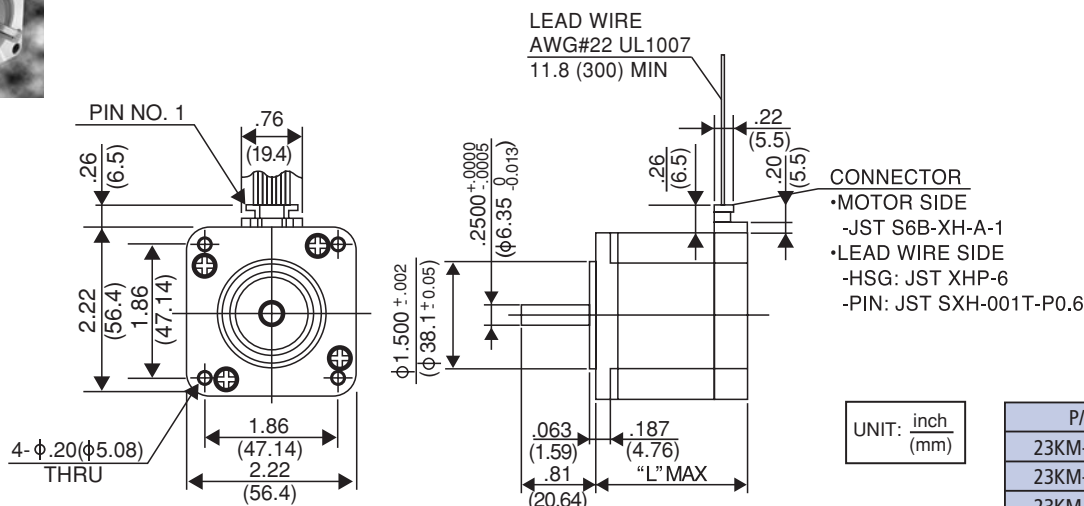
P/N	"L"
23LM-K2XX	1.61 (41)
23LM-K3XX	1.95 (49.5)
23LM-K0XX	2.22 (56.5)

PIN NO. VS PHASE

A	A COM	$\bar{A}$	B	B COM	$\bar{B}$
RED	BLK	YEL	BLU	WHT	ORG
6	5	4	3	2	1

## Model Specifications

Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm <sup>2</sup>	Nm (g-cm)	g
23LM-K202V	1.8°	UNIPOLAR	1.0	3.5	0.235 (2.4)	5.4	0.055	0.0177 (180)	360
23LM-K222V	1.8°	BIPOlar	1.0	3.5	0.274 (2.8)	8.9	0.055	0.0177 (180)	360
23LM-K250V	1.8°	UNIPOLAR	1.5	1.55	0.235 (2.4)	3.0	0.055	0.0177 (180)	360
23LM-K252V	1.8°	BIPOlar	1.5	1.55	0.274 (2.8)	4.9	0.055	0.0177 (180)	360
23LM-K304V	1.8°	UNIPOLAR	1.0	5.0	0.404 (4.1)	12.0	0.110	0.0216 (220)	450
23LM-K344V	1.8°	BIPOlar	1.0	5.0	0.474 (4.8)	20.0	0.110	0.0216 (220)	450
23LM-K343V	1.8°	UNIPOLAR	1.5	2.2	0.404 (4.1)	4.7	0.110	0.0216 (220)	450
23LM-K355V	1.8°	BIPOlar	1.5	2.2	0.474 (4.8)	7.3	0.110	0.0216 (220)	450
23LM-K004V	1.8°	UNIPOLAR	1.0	7.0	0.464 (4.7)	18.7	0.160	0.0275 (280)	540
23LM-K054V	1.8°	BIPOlar	1.0	7.0	0.524 (5.3)	30.0	0.160	0.0275 (280)	540
23LM-K047V	1.8°	UNIPOLAR	1.5	3.1	0.464 (4.7)	8.1	0.160	0.0275 (280)	540
23LM-K077V	1.8°	BIPOlar	1.5	3.1	0.524 (5.3)	12.8	0.160	0.0275 (280)	540



P/N	"L"
23KM-C2XX	1.65 (42)
23KM-C3XX	1.97 (50)
23KM-C0XX	2.13 (54)
23KM-C1XX	2.64 (67)
23KM-C7XX	2.99 (76)

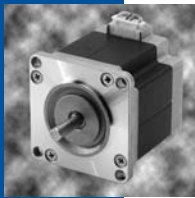
PIN NO. VS PHASE

A	A COM	$\bar{A}$	B	B COM	$\bar{B}$
RED	BLK	YEL	BLU	WHT	ORG
6	5	4	3	2	1

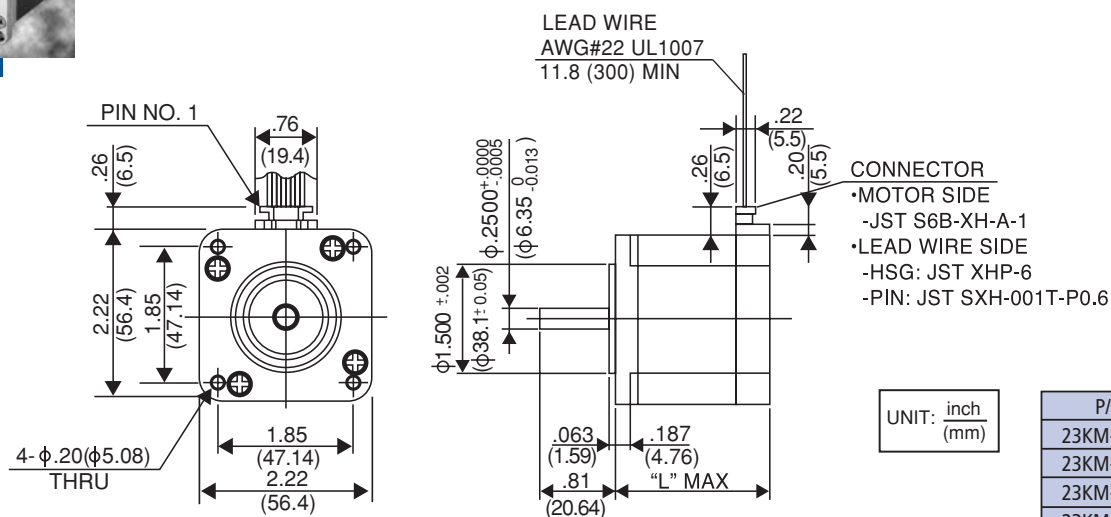
## Model Specifications

Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm <sup>2</sup>	Nm (g-cm)	g
23KM-C250V	1.8°	UNIPOLAR	1.5	2.2	0.411 (4.2)	2.8	0.150	0.0488 (500)	470
23KM-C255V	1.8°	BIPOLAR	1.5	2.2	0.480 (4.9)	4.2	0.150	0.0488 (500)	470
23KM-C213V	1.8°	UNIPOLAR	2.0	1.25	0.411 (4.2)	1.7	0.150	0.0488 (500)	470
23KM-C263V	1.8°	BIPOLAR	2.0	1.25	0.480 (4.9)	3.3	0.150	0.0488 (500)	470
23KM-C379V	1.8°	UNIPOLAR	1.5	2.7	0.607 (6.2)	3.9	0.230	0.0687 (700)	590
23KM-C380V	1.8°	BIPOLAR	1.5	2.7	0.676 (6.9)	5.6	0.230	0.0687 (700)	590
23KM-C307V	1.8°	UNIPOLAR	2.0	1.5	0.607 (6.2)	2.1	0.230	0.0687 (700)	590
23KM-C308V	1.8°	BIPOLAR	2.0	1.5	0.676 (6.9)	3.5	0.230	0.0687 (700)	590
23KM-C032V	1.8°	UNIPOLAR	1.5	3.4	0.783 (8.0)	6.0	0.280	0.0786 (800)	680
23KM-C040V	1.8°	BIPOLAR	1.5	3.4	0.881 (9.0)	8.4	0.280	0.0786 (800)	680
23KM-C033V	1.8°	UNIPOLAR	3.0	0.85	0.783 (8.0)	1.6	0.280	0.0786 (800)	680
23KM-C043V	1.8°	BIPOLAR	3.0	0.85	0.881 (9.0)	2.2	0.280	0.0786 (800)	680
23KM-C101V	1.8°	UNIPOLAR	3.0	0.95	1.13 (11.5)	1.7	0.400	0.097 (1000)	900
23KM-C102V	1.8°	BIPOLAR	3.0	0.95	1.273 (13.0)	2.4	0.400	0.097 (1000)	900
23KM-C732V	1.8°	UNIPOLAR	1.5	4.2	1.273 (13.0)	7.4	0.440	0.107 (1100)	1050
23KM-C740V	1.8°	BIPOLAR	1.5	4.2	1.42 (14.5)	11.8	0.440	0.107 (1100)	1050
23KM-C733V	1.8°	UNIPOLAR	3.0	1.05	1.273 (13.0)	3.5	0.440	0.107 (1100)	1050
23KM-C743V	1.8°	BIPOLAR	3.0	1.05	1.42 (14.5)	5.1	0.440	0.107 (1100)	1050





## HIGH TORQUE MICROSTEP



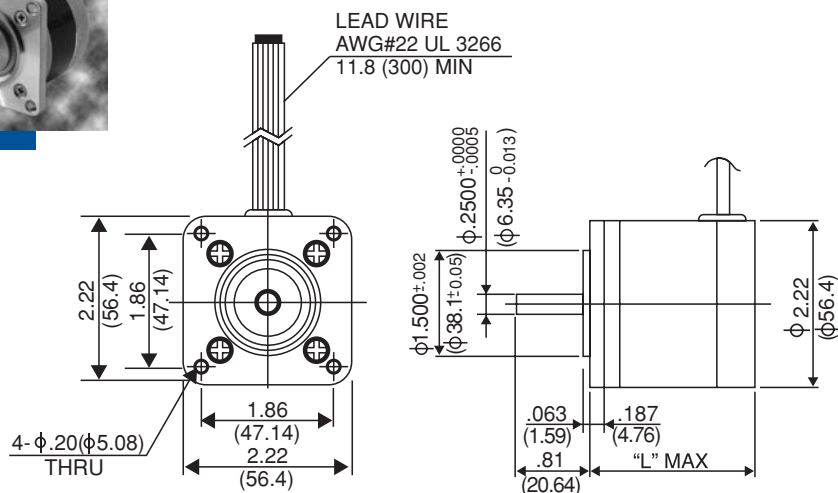
P/N	"L"
23KM-K2XX	1.65 (42)
23KM-K3XX	1.97 (50)
23KM-K0XX	2.13 (54)
23KM-K1XX	2.64 (67)
23KM-K7XX	2.99 (76)

## PIN NO. VS PHASE

A	A COM	$\bar{A}$	B	B COM	$\bar{B}$
RED	BLK	YEL	BLU	WHT	ORG
6	5	4	3	2	1

## Model Specifications

Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm <sup>2</sup>	Nm (g-cm)	g
23KM-K250V	1.8°	UNIPOLAR	1.5	2.2	0.392 (4.0)	3.1	0.150	0.0196 (200)	470
23KM-K255V	1.8°	BIPOLAR	1.5	2.2	0.460 (4.7)	4.5	0.150	0.0196 (200)	470
23KM-K213V	1.8°	UNIPOLAR	2.0	1.25	0.392 (4.0)	1.9	0.150	0.0196 (200)	470
23KM-K263V	1.8°	BIPOLAR	2.0	1.25	0.460 (4.7)	3.6	0.150	0.0196 (200)	470
23KM-K379V	1.8°	UNIPOLAR	1.5	2.7	0.578 (5.9)	4.2	0.230	0.0294 (300)	590
23KM-K380V	1.8°	BIPOLAR	1.5	2.7	0.636 (6.5)	6.0	0.230	0.0294 (300)	590
23KM-K307V	1.8°	UNIPOLAR	2.0	1.5	0.578 (5.9)	2.4	0.230	0.0294 (300)	590
23KM-K308V	1.8°	BIPOLAR	2.0	1.5	0.636 (6.5)	3.8	0.230	0.0294 (300)	590
23KM-K032V	1.8°	UNIPOLAR	1.5	3.4	0.734 (7.5)	6.4	0.280	0.0392 (400)	680
23KM-K040V	1.8°	BIPOLAR	1.5	3.4	0.832 (8.5)	8.8	0.280	0.0392 (400)	680
23KM-K033V	1.8°	UNIPOLAR	3.0	0.85	0.734 (7.5)	2.4	0.280	0.0392 (400)	680
23KM-K043V	1.8°	BIPOLAR	3.0	0.85	0.832 (8.5)	3.8	0.280	0.0392 (400)	680
23KM-K101V	1.8°	UNIPOLAR	3.0	0.95	1.03 (10.5)	1.8	0.400	0.0488 (500)	900
23KM-K102V	1.8°	BIPOLAR	3.0	0.95	1.175 (12.0)	2.5	0.400	0.0488 (500)	900
23KM-K732V	1.8°	UNIPOLAR	1.5	4.2	1.175 (12.0)	8.0	0.440	0.0588 (600)	1050
23KM-K740V	1.8°	BIPOLAR	1.5	4.2	1.322 (13.5)	12.5	0.440	0.0588 (600)	1050
23KM-K733V	1.8°	UNIPOLAR	3.0	1.05	1.175 (12.0)	3.8	0.440	0.0588 (600)	1050
23KM-K743V	1.8°	BIPOLAR	3.0	1.05	1.322 (13.5)	5.6	0.440	0.0588 (600)	1050

UNIT:  $\frac{\text{inch}}{(\text{mm})}$ 

P/N	"L"
23LY-C2XX	1.61 (41.0)
23LY-C3XX	1.45 (49.5)
23LY-C0XX	2.22 (56.5)

### PIN NO. VS PHASE

A	A COM	$\bar{A}$	B	B COM	$\bar{B}$
RED	BLK	YEL	GRN	WHT	BLU

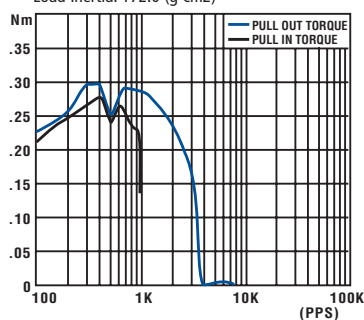
## Model Specifications

Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm²	Nm (g-cm)	g
23LY-C205	0.9°	UNIPOLAR	1.10	3.6	0.294 (3.0)	5.3	0.055	0.0245 (250)	360
23LY-C201	0.9°	UNIPOLAR	0.78	7.1	0.294 (3.0)	8.3	0.055	0.0245 (250)	360
23LY-C202	0.9°	UNIPOLAR	1.25	3.0	0.294 (3.0)	4.5	0.055	0.0245 (250)	360
23LY-C301	0.9°	UNIPOLAR	1.70	1.8	0.394 (4.0)	4.5	0.110	0.0294 (300)	450
23LY-C303	0.9°	UNIPOLAR	1.00	5.1	0.394 (4.0)	13.0	0.110	0.0294 (300)	450
23LY-C305	0.9°	UNIPOLAR	0.85	7.1	0.394 (4.0)	18.0	0.110	0.0294 (300)	450
23LY-C002	0.9°	UNIPOLAR	1.60	2.7	0.471 (4.8)	7.2	0.160	0.0343 (350)	560
23LY-C001	0.9°	UNIPOLAR	0.85	10.0	0.471 (4.8)	30.0	0.160	0.0343 (350)	560

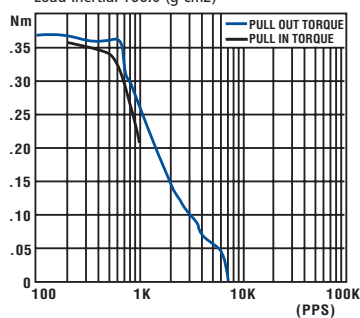
NOTE: Bipolar models also available.

## Torque/Speed Characteristics

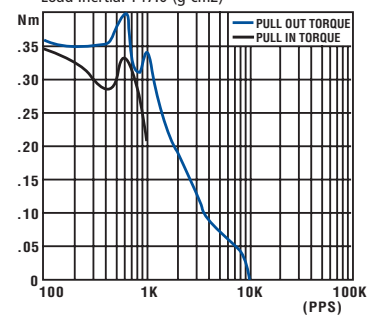
Model No.: 23LY-C202  
Driver: Unipolar Chopper Dual  
Supply Voltage: 24.0 (Volt)  
Drive Current: 1.25 (A/WDG)  
Load Inertia: 172.0 (g-cm<sup>2</sup>)



Model No.: 23LY-C305  
Driver: Unipolar Chopper Dual  
Supply Voltage: 24.0 (Volt)  
Drive Current: 0.80 (A/WDG)  
Load Inertia: 166.0 (g-cm<sup>2</sup>)



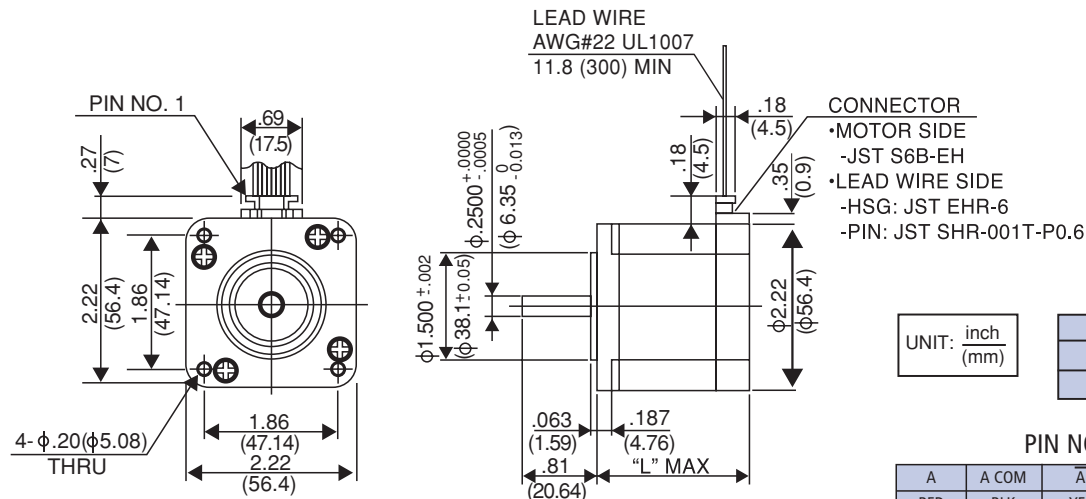
Model No.: 23LY-C002  
Driver: Unipolar Chopper Dual  
Supply Voltage: 24.0 (Volt)  
Drive Current: 1.60 (A/WDG)  
Load Inertia: 147.0 (g-cm<sup>2</sup>)



5.0°

23LQ-C

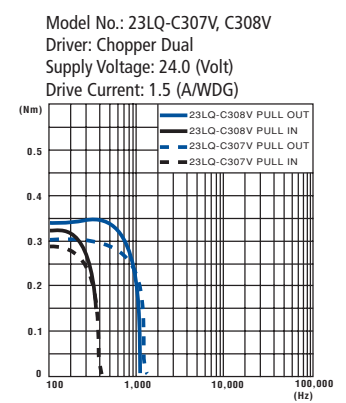
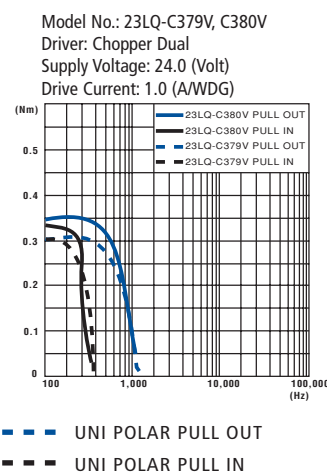
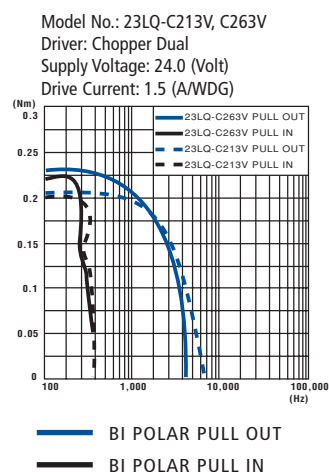
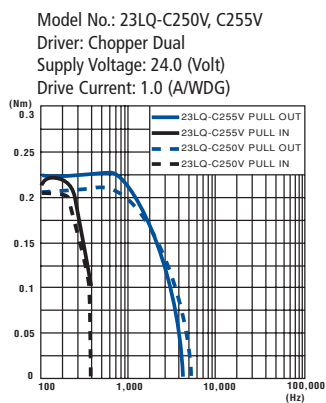
hybrid

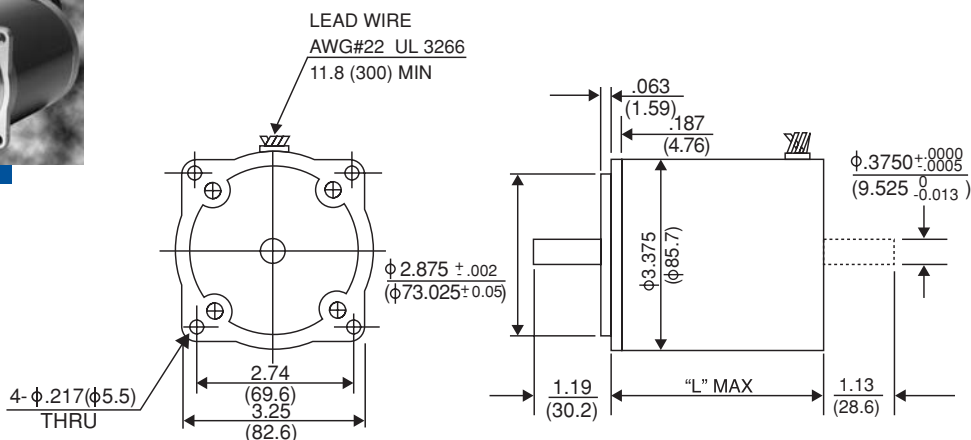


## Model Specifications

Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm <sup>2</sup>	Nm (g-cm)	g
23LQ-C250V	5.0°	UNIPOLAR	1.0	3.5	0.225 (2.3)	2.7	0.150	0.0488 (500)	470
23LQ-C255V	5.0°	BIPOLAR	1.0	3.5	0.274 (2.8)	4.2	0.150	0.0488 (500)	470
23LQ-C213V	5.0°	UNIPOLAR	1.5	1.55	0.225 (2.3)	1.9	0.150	0.0488 (500)	470
23LQ-C263V	5.0°	BIPOLAR	1.5	1.55	0.274 (2.8)	3.6	0.150	0.0488 (500)	470
23LQ-C379V	5.0°	UNIPOLAR	1.0	5.0	0.392 (4.0)	3.4	0.230	0.0687 (700)	590
23LQ-C380V	5.0°	BIPOLAR	1.0	5.0	0.450 (4.6)	5.3	0.230	0.0687 (700)	590
23LQ-C307V	5.0°	UNIPOLAR	1.5	2.2	0.392 (4.0)	2.4	0.230	0.0687 (700)	590
23LQ-C308V	5.0°	BIPOLAR	1.5	2.2	0.450 (4.6)	3.8	0.230	0.0687 (700)	590

## Torque/Speed Characteristics





UNIT:  $\frac{\text{inch}}{\text{mm}}$

P/N	"L"
34PM-C1XX	3.69 (93.7)
34PM-C0XX	2.44 (61.9)

PIN NO. VS PHASE

A	A COM	$\bar{A}$	B	B COM	$\bar{B}$
RED	BLK	RED/ WHT	GRN	WHT	GRN/ WHT

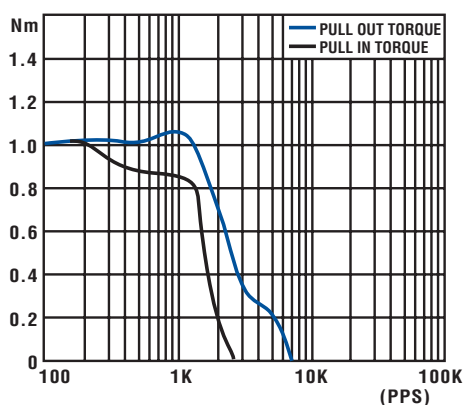
## Model Specifications

Model Number	Step Angle	Drive Sequence	Rated Current/Wdg	Winding Resistance	Holding Torque	Inductance	Rotor Inertia	Detent Torque	Weight
	Degrees		Amps	Ohms	Nm (kg-cm)	mH	kg-cm <sup>2</sup>	Nm (g-cm)	g
34PM-C101	1.8°	UNIPOLAR	4.00	0.75	1.961 (20)	3.50	1.1000	0.1275 (1300)	2,400
34PM-C108	1.8°	UNIPOLAR	1.00	12.00	1.961 (20)	56.00	1.1000	0.1275 (1300)	2,400
34PM-C007	1.8°	UNIPOLAR	1.25	4.40	1.177 (12)	14.50	0.5600	0.0883 (900)	1,400
34PM-C049	1.8°	UNIPOLAR	4.70	0.36	1.177 (12)	1.65	0.5600	0.0883 (900)	1,400

NOTE: Bipolar models also available.

## Torque/Speed Characteristics

Model No.: 34PM-C007  
Driver: Unipolar Chopper Dual  
Supply Voltage: 35.0 (Volt)  
Drive Current: 1.25 (A/WDG)  
Load Inertia: 26.9 (g-cm<sup>2</sup>)



# Specification Requirements for Customized Aluminum-flange and MTF-type Hybrid Motors.

NMB can provide custom windings and other features for your Hybrid and MTF type motors. The following form will help you gather the specifications that will be required in order to request a customized Hybrid or MTF type motor. If you have any questions, or require immediate engineering help, please call motor engineering at 818-341-3355 or e-mail us at [motors@nmbtc.com](mailto:motors@nmbtc.com).

## Project Information

Customer Name: \_\_\_\_\_  
 Customer PN: \_\_\_\_\_  
 Engineer/Contact: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_  
 Project Name: \_\_\_\_\_  
 Application: \_\_\_\_\_  
 Function: \_\_\_\_\_  
 Target Price: \_\_\_\_\_  
 Production Start: \_\_\_\_\_  
 EAU: \_\_\_\_\_

## Type

Size/step \_\_\_\_\_ Angle \_\_\_\_\_  
☐ Hybrid \_\_\_\_\_  
☐ MTF \_\_\_\_\_  
 Magnet for MTF  
☐ Ferrite (Std) ☐ Neodymium  
 Mounting for MTF  
☐ Standard ☐ Special Flange

## Torque

☐ g-cm @ ☐ pps  
☐ oz-in @ ☐ rpm  
☐ mN-m  
 Holding Torque \_\_\_\_\_  
 Detent Torque \_\_\_\_\_  
 Pull Out Torque \_\_\_\_\_ @ \_\_\_\_\_  
 Pull Out Torque \_\_\_\_\_ @ \_\_\_\_\_  
 Pull In Torque \_\_\_\_\_ @ \_\_\_\_\_

## Electrical Specs

Drive Mode ☐ Bipolar ☐ Unipolar  
 Driver Maker \_\_\_\_\_  
 Driver IC P/N \_\_\_\_\_  
 Stepping:  
☐ Dual Phase Full Step (2-2) ☐ Half Step (1-2)  
☐ Single Phase Full Step (1-1) ☐ Microstepping  
 Drive Type:  
☐ Chopper (Constant current)  
☐ L/R (Constant voltage)  
 Drive Voltage \_\_\_\_\_ V  
 Drive Current \_\_\_\_\_ A/phase  
 Coil Resistance \_\_\_\_\_  $\Omega$  (If known)  
 Which is Priority ☐ Torque ☐ Resistance

## Mechanical Specs

### Lead Wires

Number of Lead Wires:  
☐ 4 (Bipolar only)  
☐ 6 (Unipolar-can be run bipolar)  
☐ 8 (Customer wiring diagram required)

Lead Wire Length:  
☐ Standard  
☐ Custom \_\_\_\_\_ mm ☐ in

Cable-End Connector:  
☐ No (Just fly leads)  
☐ Yes (Switching sequence required)  
 Maker \_\_\_\_\_  
 Housing PN \_\_\_\_\_  
 Pin PN \_\_\_\_\_

### Shaft

Front Shaft Diameter:  
☐ Standard  
☐ Custom \_\_\_\_\_ mm ☐ in

Front Shaft Length:  
☐ Standard  
☐ Custom \_\_\_\_\_ mm ☐ in

Rear Shaft:  
☐ None (Single shaft)  
☐ Length \_\_\_\_\_ mm ☐ in  
☐ Diameter \_\_\_\_\_ mm ☐ in

Gear/Pulley or D-Cut:  
☐ Yes (Customer drawing required)  
☐ No