

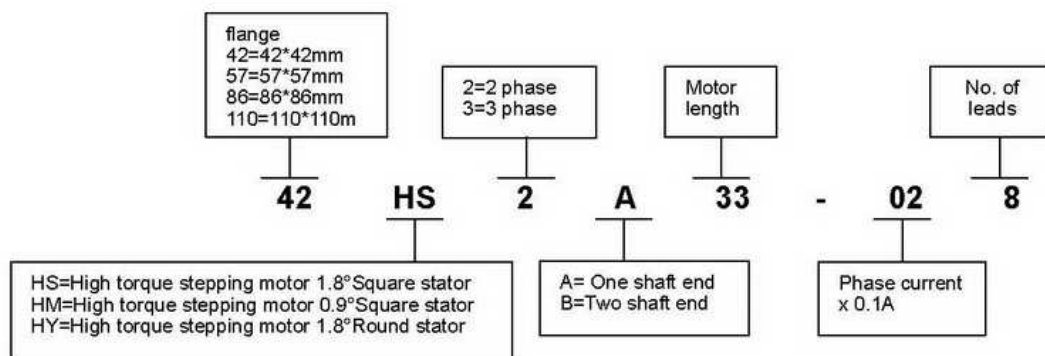
Sunrise Electric Motor Company

Hybrid Stepping Motor

General Specification for 2-Phase Hybrid Stepping Motor

Temperature Rise.....	80 °C Max.(rated current,2phase on)
Ambient Temperature.....	-20 °C~ +50 °C
Insulation.....	CLASS B 130 °C
Insulation Resistance.....	100MΩ,500VDC
Dielectric Strength.....	500VAC for one minute
Shaft Radial Play.....	0.06Max.(450g-load)
Shaft Axial Play.....	0.08Max.(450g-load)

Motor Type Specification



2-Phase Hybrid Stepping Motor Series 28HS

(NEMA 11) 1.8°

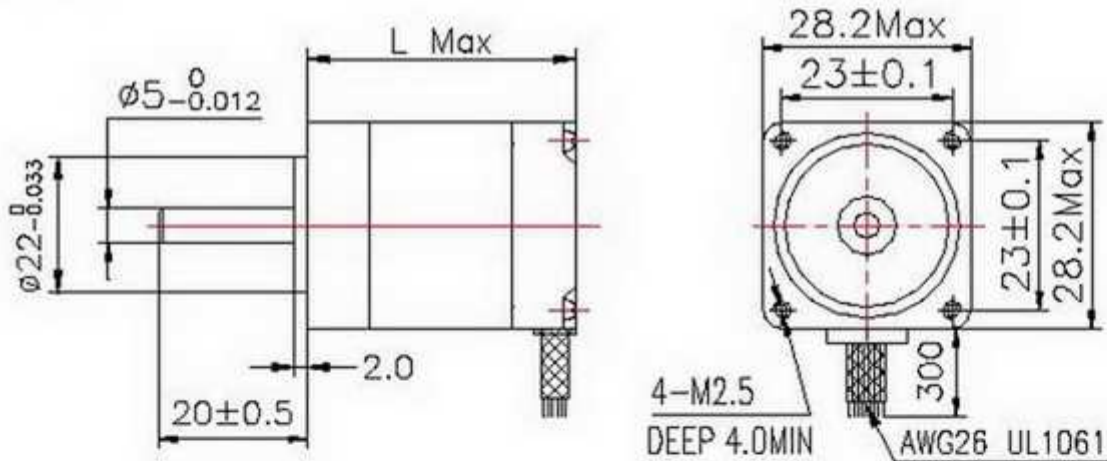
Specifications of Series 28HS



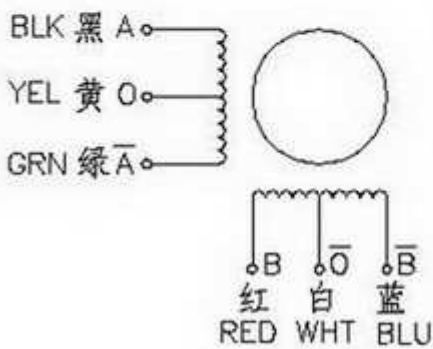
Model	Holding Torque (N·cm±10%)	Current/Phase(A)	Resistance/Phase (ohms±10%)	Inductance/Phase (mH±20%)	Detent Torque (N·cm)	Rotor Inertia (g·cm ²)	Length (mm)	Weight (g)
28HS2A28-064	4.5	0.6	4.2	2.2	0.3	6	28	105
28HS2A28-044	4.5	0.35	12	5.8	0.3	6	28	105
28HS2A33-064	6.0	0.6	5.5	3.2	0.4	8	33	110
28HS2A33-044	6.0	0.35	15	9.2	0.4	8	33	110
28HS2A41-064	6.0	0.6	7.0	6.0	0.5	11	41	140
28HS2A41-044	6.0	0.35	20	15	0.5	11	41	140
28HS2A50-064	10	0.6	9.0	7.2	0.8	13	50	180
28HS2A50-044	10	0.35	24	18.5	0.8	13	50	180

Motor are available with different winding and mechanical modification to meet specific applications.

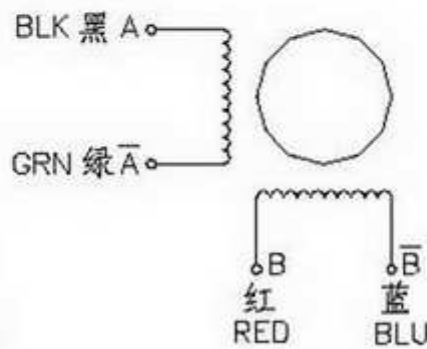
Figure



Wiring Diagram



UNI-POLAR(6 LEADS)



BI-POLAR(4LEADS)

2-Phase Hybrid Stepping Motor Series 35HM

(NEMA 14) 0.9°

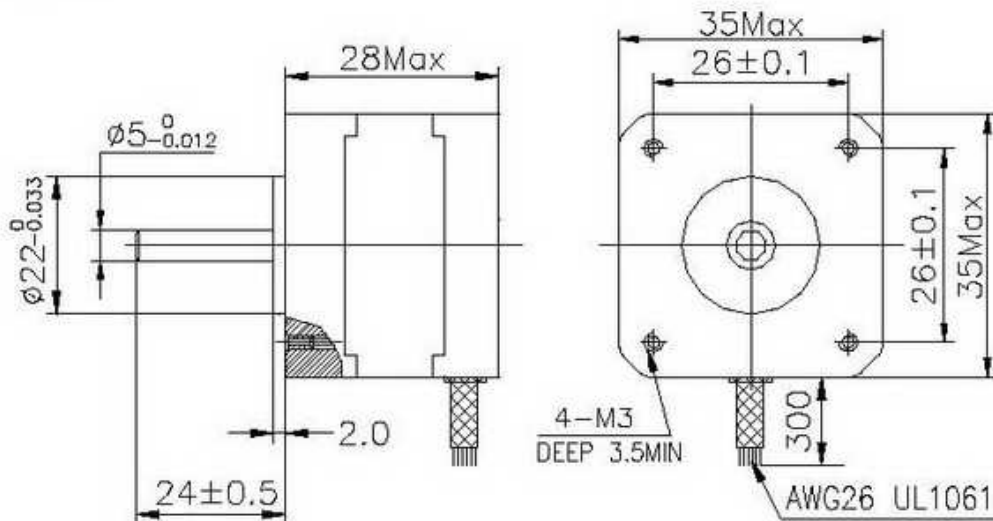


Specifications of Series 35HM

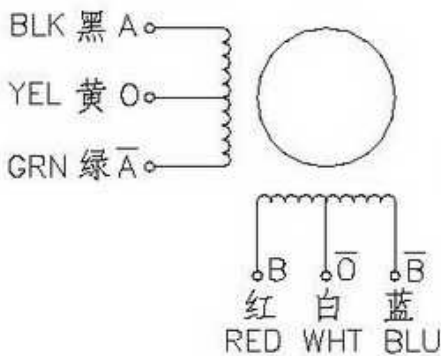
Model	Holding Torque (N·cm±10%)	Current/Phase(A)	Resistance/Phase (ohms±10%)	Inductance/Phase (mH±20%)	Detent Torque (N·cm)	Rotor Inertia (g·cm ²)	Length (mm)	Weight (g)
35HM2A28-084	9	0.8	4.5	4.2	0.3	12	28	130
35HM2A28-064	9	0.55	10	9.5	0.3	12	28	130
35HM2A28-044	9	0.36	22	20	0.3	12	28	130
35HM2A28-046	8	0.4	30	12	0.3	12	28	130
35HM2A34-084	14	0.8	6	10	0.6	18	34	190
35HM2A34-064	14	0.55	12	19	0.6	18	34	190
35HM2A34-044	14	0.36	28	42	0.6	18	34	190
35HM2A34-046	10	0.4	30	18	0.6	18	34	190

Motor are available with different winding and mechanical modification to meet specific applications.

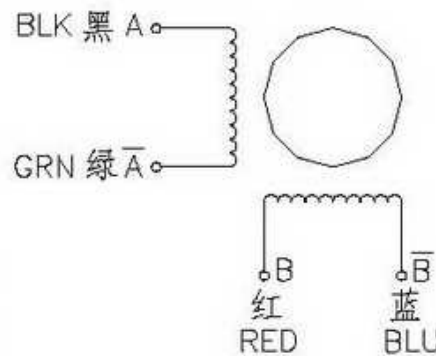
Figure



Wiring Diagram



UNI-POLAR(6 LEADS)



BI-POLAR(4LEADS)

2-Phase Hybrid Stepping Motor Series 35HS

(NEMA 14) 1.8°

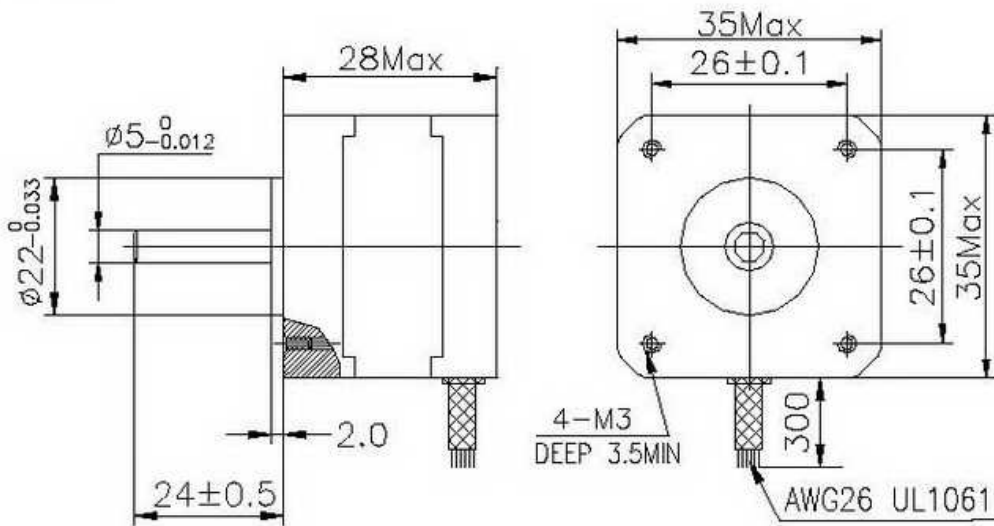


Specifications of Series 35HS

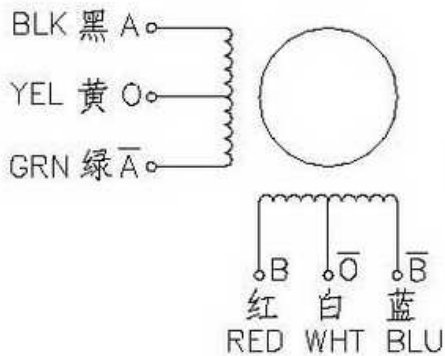
Model	Holding Torque (N·cm±10%)	Current/Phase(A)	Resistance/Phase (ohms±10%)	Inductance/Phase (mH±20%)	Detent Torque (N·cm)	Rotor Inertia (g·cm ²)	Length (mm)	Weight (g)
35HS2A28-054	12	0.46	20	14	0.8	11	28	120
35HS2A28-084	12	0.8	5.0	5.0	0.8	11	28	120
35HS2A28-046	9	0.4	30	11	0.8	11	28	120
35HS2A34-044	18	0.42	25	32	1.0	13	34	160
35HS2A34-084	18	0.8	6.5	9.8	1.0	13	34	160
35HS2A34-046	12	0.4	30	22	1.0	13	34	160

Motor are available with different winding and mechanical modification to meet specific applications.

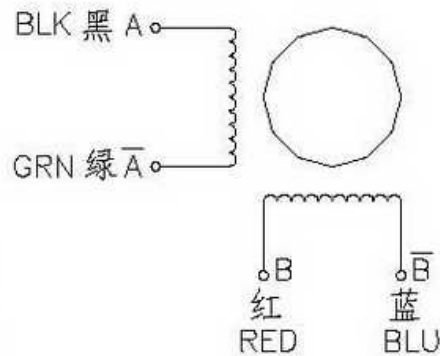
Figure



Wiring Diagram



UNI-POLAR(6 LEADS)



BI-POLAR(4LEADS)

2-Phase Hybrid Stepping Motor Series 57HM

(NEMA 23) 0.9°

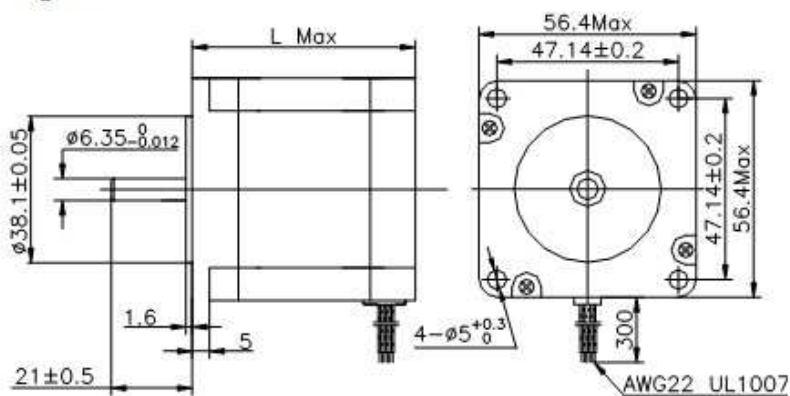
Specifications of Series 57HM



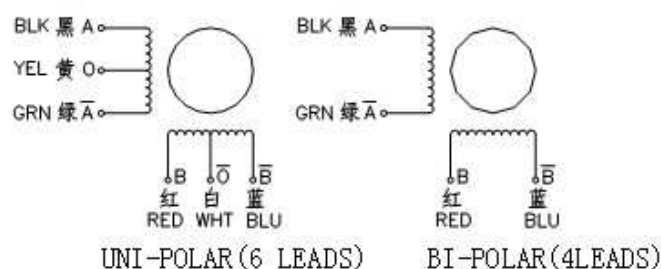
Model	Holding Torque (N · cm ±10%)	Current/Phase (A)	Resistance/Phase (ohms ±10%)	Inductance/Phase (mH ±20%)	Detent Torque (N · cm)	Rotor Inertia (g · cm ²)	Length (mm)	Weight (g)
57HM2A41-106	24	1.0	5.2	6.2	2.5	150	41	470
57HM2A41-064	32	0.62	12	28	2.5	150	41	470
57HM2A41-204	32	2.0	1.2	3.0	2.5	150	41	470
57HM2A45-254	62	2.5	1.0	3.0	2.8	190	45	520
57HM2A51-064	70	0.62	13	34	3.0	230	51	590
57HM2A51-254	70	2.5	1.2	3.8	3.0	230	51	590
57HM2A56-156	82	1.5	3.2	6.5	3.5	280	56	680
57HM2A56-254	100	2.5	1.3	5.2	3.5	280	56	680
57HM2A56-304	100	3.0	0.8	2.8	3.5	280	56	680
57HM2A56-424	100	4.2	0.4	1.5	3.5	280	56	680
57HM2A64-104	110	1.0	7.5	28	5.0	380	64	850
57HM2A64-254	110	2.5	1.5	5.8	5.0	380	64	850
57HM2A64-304	110	3.0	0.8	3.0	5.0	380	64	850
57HM2A64-424	110	4.2	0.55	1.5	5.0	380	64	850
57HM2A76-156	125	1.5	4.5	10	6.0	440	76	1050
57HM2A76-254	150	2.5	1.8	8.2	6.0	440	76	1050
57HM2A76-304	150	3.0	1.0	4.3	6.0	440	76	1050
57HM2A76-424	150	4.2	0.65	2.2	6.0	440	76	1050

Motor are available with different winding and mechanical modification to meet specific applications.

Figure



Wiring Diagram



2-Phase Hybrid Stepping Motor Series 57HS

(NEMA 23) 1.8°

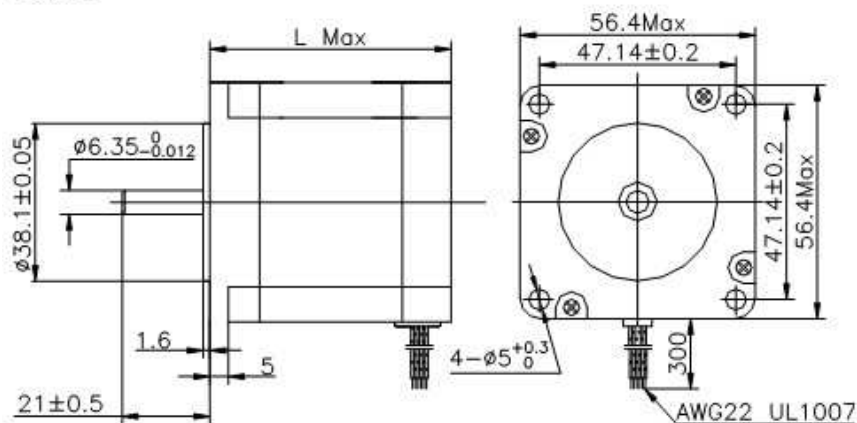
Specifications of Series 57HS



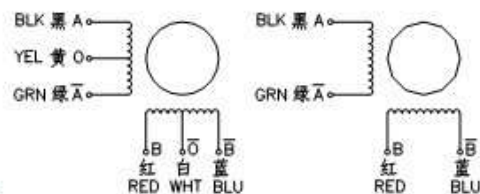
Model	Holding Torque (N·cm±10%)	Current/Phase (A)	Resistance/Phase (ohms±10%)	Inductance/Phase (mH±20%)	Detent Torque (N·cm)	Rotor Inertia (g·cm ²)	Length (mm)	Weight (g)
57HS2A41-106	40	1.0	5.2	5.5	2.5	150	41	470
57HS2A41-064	55	0.62	12	24	2.5	150	41	470
57HS2A41-204	55	2.0	1.2	2.5	2.5	150	41	470
57HS2A45-064	80	0.62	12	26	2.8	190	45	520
57HS2A45-254	80	2.5	1.0	2.2	2.8	190	45	520
57HS2A51-064	110	0.62	13	28	2.8	190	51	520
57HS2A51-254	110	2.5	1.2	3.2	2.8	190	51	520
57HS2A51-086	62	0.8	6.8	9.2	3.0	230	51	590
57HS2A56-156	90	1.5	3.2	5.5	3.5	280	56	590
57HS2A56-254	110	2.5	1.3	4.2	3.5	280	56	680
57HS2A56-304	110	3.0	0.8	2.4	3.5	280	56	680
57HS2A56-424	110	4.2	0.4	1.2	3.5	280	56	680
57HS2A64-104	150	1.0	7.5	20	5.0	380	64	850
57HS2A64-254	150	2.5	1.5	4.5	5.0	380	64	850
57HS2A64-304	150	3.0	0.8	2.3	5.0	380	64	850
57HS2A64-424	150	4.2	0.55	1.2	5.0	380	64	850
57HS2A76-156	140	1.5	4.5	9.2	6.0	440	76	1050
57HS2A76-254	180	2.5	1.8	6.5	6.0	440	76	1050
57HS2A76-304	180	3.0	1.0	3.5	6.0	440	76	1050
57HS2A76-424	180	4.2	0.6	1.8	6.0	440	76	1050
57HS2A100-304	250	3.0	1.4	5.5	10	680	100	1250
57HS2A100-424	250	4.2	0.8	3.0	10	680	100	1250
57HS2A112-304	280	3.0	1.6	6.8	12	800	112	1400
57HS2A112-424	280	4.2	0.9	3.8	12	800	112	1400

Motor are available with different winding and mechanical modification to meet specific applications.

Figure



Wiring Diagram



2-Phase Hybrid Stepping Motor Series 57HY

(NEMA 23) 1.8°

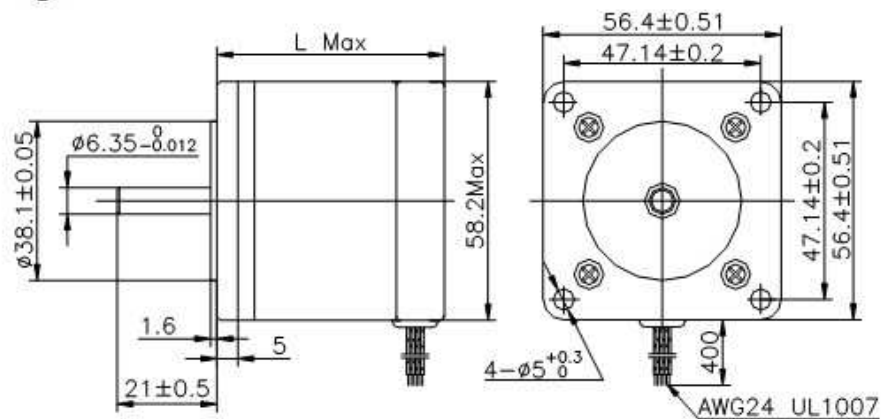
Specifications of Series 57HY



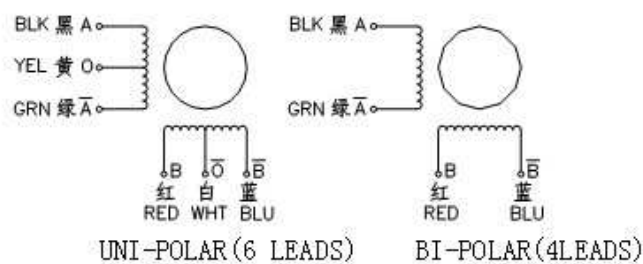
Model	Holding Torque (N · cm ±10%)	Current/Phase (A)	Resistance/Phase (ohms ±10%)	Inductance/Phase (mH ±20%)	Detent Torque (N · cm)	Rotor Inertia (g · cm ²)	Length (mm)	Weight (g)
57HY2A41-046	30	0.38	32	30	3.5	60	41	450
57HY2A41-164	22	1.55	1.8	3.5	3.5	60	41	450
57HY2A41-214	32	2.1	0.8	1.4	3.5	60	41	450
57HY2A41-156	24	1.5	1.5	1.4	3.5	60	41	450
57HY2A51-046	38	0.38	32	28	5.5	118	51	600
57HY2A51-096	45	0.85	7.1	8.5	5.5	118	51	600
57HY2A51-146	45	1.4	2.5	32	5.5	118	51	600
57HY2A51-144	62	1.4	2.5	6.2	5.5	118	51	600
57HY2A51-204	62	2.0	1.3	3.2	5.5	118	51	600
57HY2A56-066	60	0.6	20	20	6.5	145	56	650
57HY2A56-126	60	1.2	5.0	6.8	6.5	145	56	650
57HY2A56-166	60	1.6	5.2	30	6.5	145	56	650
57HY2A56-246	60	2.4	1.0	1.2	6.5	145	56	650
57HY2A56-254	80	2.5	1.2	3.0	6.5	145	56	650
57HY2A76-424	110	4.2	0.6	1.4	6.5	145	76	800
57HY2A76-214	110	2.1	2.2	6.2	9.5	230	76	800
57HY2A76-364	110	3.6	0.8	2.2	9.5	230	76	800

Motor are available with different winding and mechanical modification to meet specific applications.

Figure



Wiring Diagram



2-Phase Hybrid Stepping Motor Series 86HS

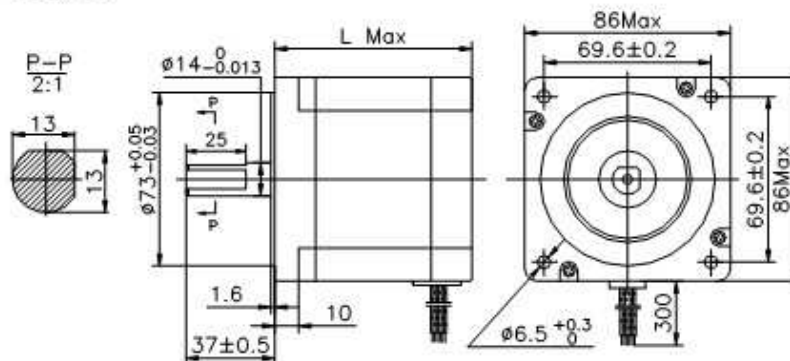
(NEMA 34) 1.8°



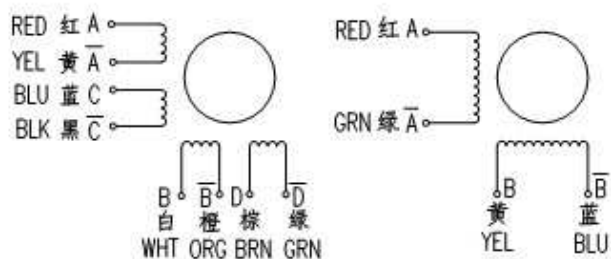
Model	Holding Torque (N·cm±10%)	Current/Phase(A)	Resistance/Phase (ohms±10%)	Inductance/Phase (mH±20%)	Detent Torque (N·cm)	Rotor Inertia (Kg·cm ²)	Length (mm)	Weight (kg)
86HS2A66-408	220	4.0	0.6	1.6	5.5	0.85	66	2.0
86HS2A66-508	220	5.0	0.4	1.0	5.5	0.85	66	2.0
86HS2A66-278	220	2.7	1.2	3.5	5.5	0.85	66	2.0
86HS2A78-408	300	4.0	0.7	3.0	6.5	1.05	78	2.5
86HS2A78-508	300	5.0	0.5	1.8	6.5	1.05	78	2.5
86HS2A78-278	300	2.7	1.6	5.6	6.5	1.05	78	2.5
86HS2A98-408	490	4.0	0.98	4.1	9.5	1.55	98	3.0
86HS2A98-508	490	5.0	0.65	2.4	9.5	1.55	98	3.0
86HS2A98-278	490	2.7	1.9	8.6	9.5	1.55	98	3.0
86HS2A114-408	580	4.0	1.1	5.5	12.5	1.8	114	3.5
86HS2A114-508	580	5.0	0.75	3.2	12.5	1.8	114	3.5
86HS2A114-278	580	2.7	2.0	11.5	12.5	1.8	114	3.5
86HS2A126-408	640	4.0	1.3	5.8	18.5	2.2	126	3.8
86HS2A126-508	640	5.0	0.85	3.4	18.5	2.2	126	3.8
86HS2A126-278	640	2.7	2.5	12.5	18.5	2.2	126	3.8
86HS2A150-408	850	4.0	1.4	9.2	24.5	2.5	150	4.2
86HS2A150-508	850	5.0	0.9	5.2	24.5	2.5	150	4.2
86HS2A150-278	850	2.7	2.9	17.5	24.5	2.5	150	4.2

Motor are available with different winding and mechanical modification to meet specific applications.

Figure



Wiring Diagram



UNI/BI-POLAR(8 LEADS)

BI-POLAR(4 LEADS)

2-Phase Hybrid Stepping Motor Series 86HY

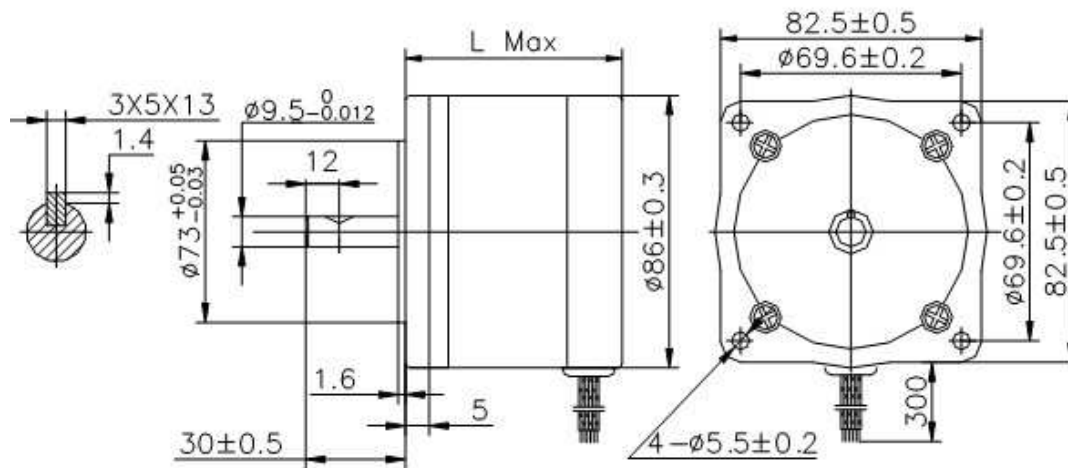
(NEMA 34) 1.8°



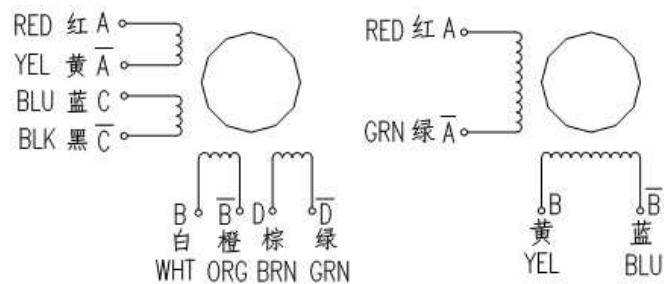
Model	Holding Torque (N·cm±10%)	Current/Phase (A)	Resistance/Phase (ohms±10%)	Inductance/Phase (mH±20%)	Detent Torque (N·cm)	Rotor Inertia (g·cm ²)	Length (mm)	Weight (kg)
86HY2A63-408	180	4.0	0.68	2.0	4.5	0.64	63	1.6
86HY2A63-508	180	5.0	0.45	1.5	4.5	0.64	63	1.6
86HY2A63-278	180	2.7	1.2	4.5	4.5	0.64	63	1.6
86HY2A63-218	180	2.1	1.9	7.2	4.5	0.64	63	1.6
86HY2A92-408	320	4.0	0.89	3.8	6.5	1.3	92	2.6
86HY2A92-508	320	5.0	0.58	2.8	6.5	1.3	92	2.6
86HY2A92-278	320	2.7	1.7	9.0	6.5	1.3	92	2.6
86HY2A92-218	320	2.1	2.7	15	6.5	1.3	92	2.6
86HY2A122-408	450	4.0	1.1	5.6	10.5	1.9	122	3.8
86HY2A122-508	450	5.0	0.82	3.6	10.5	1.9	122	3.8
86HY2A122-278	450	2.7	2.5	12.5	10.5	1.9	122	3.8

Motor are available with different winding and mechanical modification to meet specific applications.

Figure



Wiring Diagram



UNI/BI-POLAR (8 LEADS)

BI-POLAR (4 LEADS)

