

2-Phase Hybrid Stepping Motor

1.8°

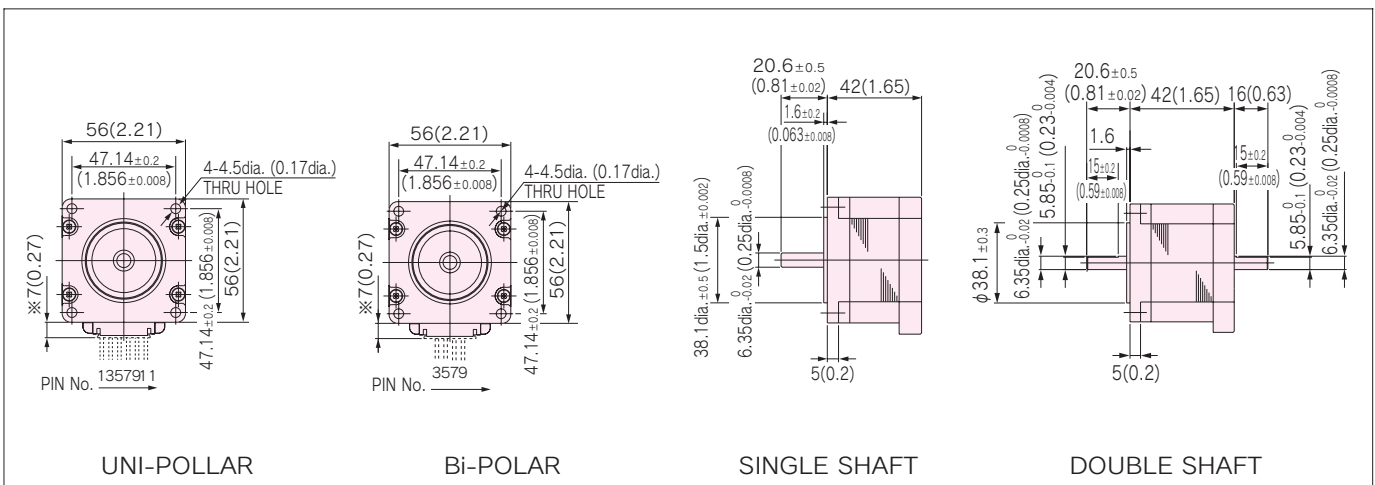
KH56 series

HIGH TORQUE, LOW VIBRATION AND LOW NOISE

STANDARD SPECIFICATIONS

MODEL		KH56JM2				
		SINGLE SHAFT	-901	-902	-903	-951
		DOUBLE SHAFT	-911	-912	-913	-961
DRIVE METHOD	————	UNI-POLAR			BI-POLAR	
NUMBER OF PHASES	————	2			2	
STEP ANGLE	deg./step	1.8			1.8	
VOLTAGE	V	1.68	2.78	4.9	1.96	
CURRENT	A/PHASE	3.0	2.0	1.0	2.0	
WINDING RESISTANCE	Ω/PHASE	0.58	1.39	4.9	0.98	
INDUCTANCE	mH/PHASE	0.61	1.8	6.68	2.27	
HOLDING TORQUE	mN · m	422	422	422	490	
	oz · in	60	60	60	69	
DETENT TORQUE	mN · m	25	25	25	25	
	oz · in	3.5	3.5	3.5	3.5	
ROTOR INERTIA	g · cm ²	115	115	115	115	
	oz · in ²	0.62	0.62	0.62	0.62	
WEIGHTS	g	400	400	400	400	
	lb	0.88	0.88	0.88	0.88	
INSULATION CLASS	————	JIS Class E (120°C 248° F) (UL VALUE : CLASS B 130°C 266° F)				
INSULATION RESISTANCE	————	500VDC 100MΩmin.				
DIELECTRIC STRENGTH	————	500VAC 50HZ 1min.				
OPERATING TEMP. RANGE	°C	0 to 50				
ALLOWABLE TEMP. RISE	K	70				

DIMENSIONS unit = mm (inch)





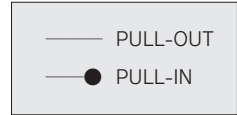
Features

- Stronger torque generated in higher speed zone (KH56KM2-901 generates 1.2 times torque of our previous model at 1200 r/min. speed)
- Lowered Vibration by increased stiffness of body construction (lowered by 10% than our previous model)
- Improved Efficiency (1.1 times of our previous model, by high grade materials)

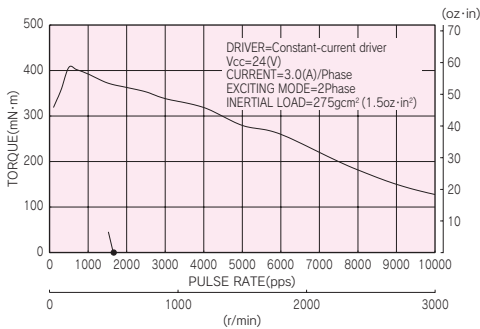
■ TORQUE CHARACTERISTICS vs. PULSE RATE

UNI-POLAR

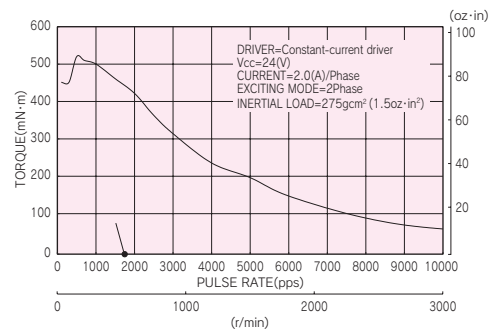
BI-POLAR



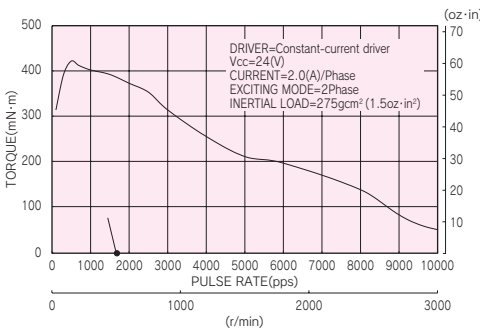
KH56JM2-901, 911



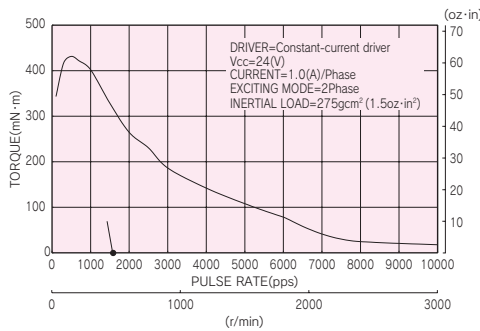
KH56JM2-951, 961



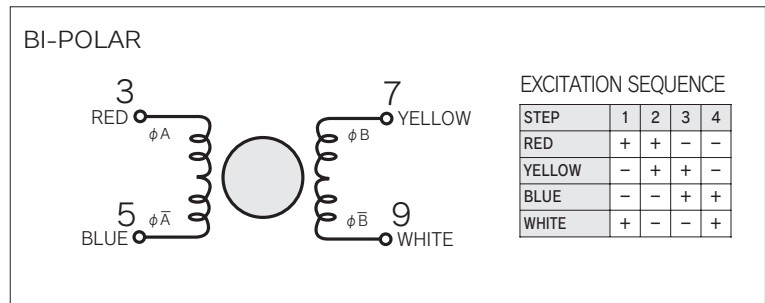
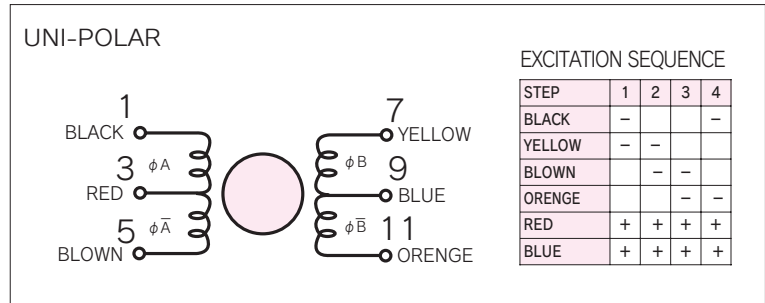
KH56JM2-902, 912



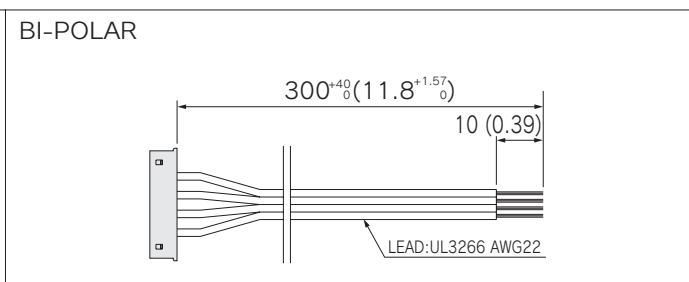
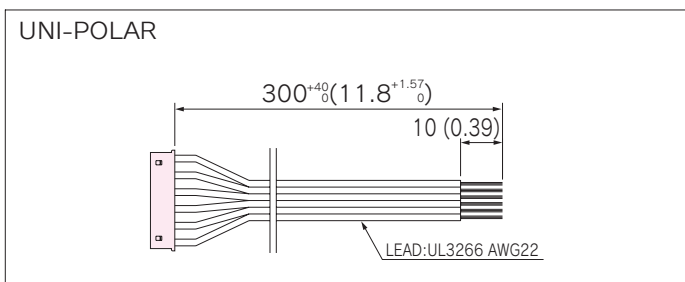
KH56JM2-903, 913



■ CONNECTION DIAGRAMS



■ CONNECTION CABLE TO MOTOR unit = mm (inch)



1.8°

2-Phase Hybrid Stepping Motor

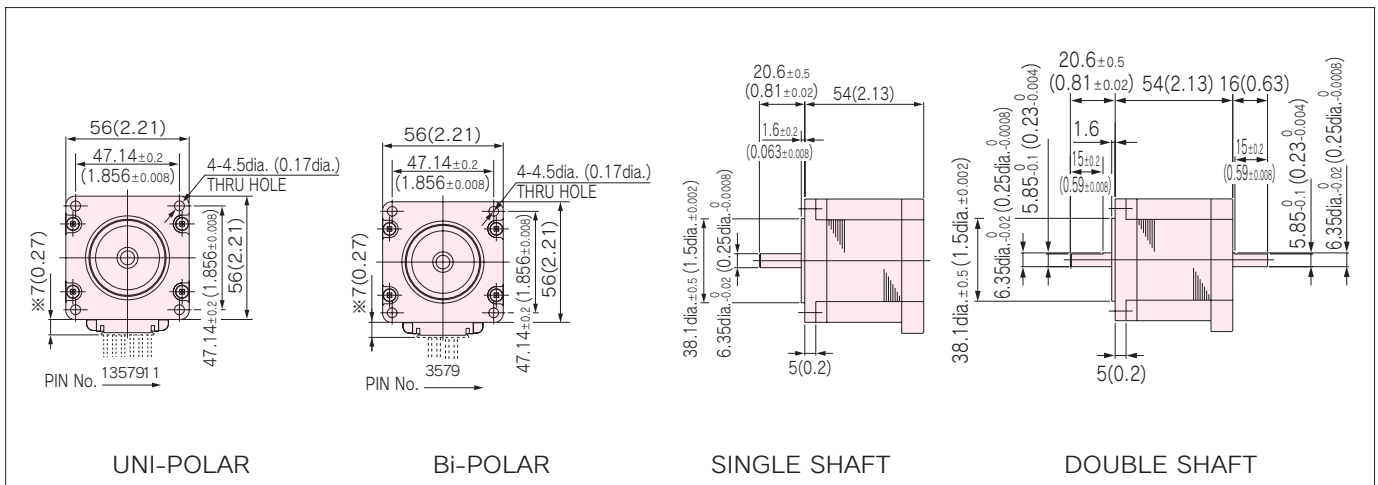
KH56 series

Rare earth magnet models	↓	Non-rare earth magnet models
KH56KM2-901	↓	KH56KM2-906
KH56KM2-902	↓	KH56KM2-907
KH56KM2-903	↓	KH56KM2-908
KH56KM2-911	↓	KH56KM2-916
KH56KM2-912	↓	KH56KM2-917
KH56KM2-913	↓	KH56KM2-918
KH56KM2-951	↓	KH56KM2-956
KH56KM2-961	↓	KH56KM2-966

STANDARD SPECIFICATIONS

MODEL	KH56KM2					
	SINGLE SHAFT	-901	-902	-903	-951	
	DOUBLE SHAFT	-911	-912	-913	-961	
DRIVE METHOD	————	UNI-POLAR			BI-POLAR	
NUMBER OF PHASES	————	2			2	
STEP ANGLE	deg./step	1.8			1.8	
VOLTAGE	V	2.3	3.6	6.71	2.4	
CURRENT	A/PHASE	3.0	2.0	1.0	2.0	
WINDING RESISTANCE	Ω/PHASE	0.77	1.79	6.71	1.32	
INDUCTANCE	mH/PHASE	1.04	3.0	9.36	3.19	
HOLDING TORQUE	mN · m	834	834	834	932	
	oz · in	118	118	118	132	
DETENT TORQUE	mN · m	37	37	37	37	
	oz · in	5.2	5.2	5.2	5.2	
ROTOR INERTIA	g · cm ²	188	188	188	188	
	oz · in ²	1.0	1.0	1.0	1.0	
WEIGHTS	g	650	650	650	650	
	lb	1.4	1.4	1.4	1.4	
INSULATION CLASS	————	JIS Class E (120°C 248° F) (UL VALUE : CLASS B 130°C 266° F)				
INSULATION RESISTANCE	————	500VDC 100MΩmin.				
DIELECTRIC STRENGTH	————	500VAC 50HZ 1min.				
OPERATING TEMP. RANGE	°C	0 to 50				
ALLOWABLE TEMP. RISE	K	70				

DIMENSIONS unit = mm (inch)





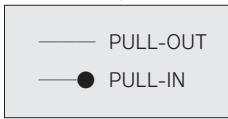
Features

- Stronger torque generated in higher speed zone (KH56KM2-901 generates 1.2 times torque of our previous model at 1200 r/min. speed)
- Lowered Vibration by increasing stiffness of body construction (lowered by 10% than our previous model)
- Improved Efficiency (1.1 times of our previous model, with high grade materials)

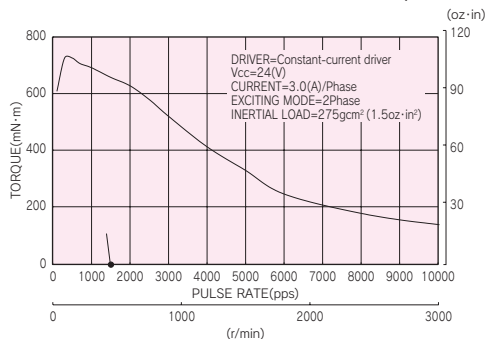
■ TORQUE CHARACTERISTICS vs. PULSE RATE

UNI-POLAR

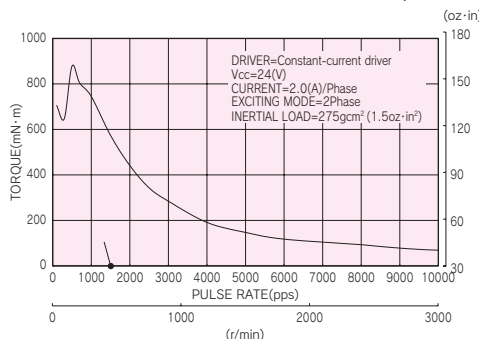
BI-POLAR



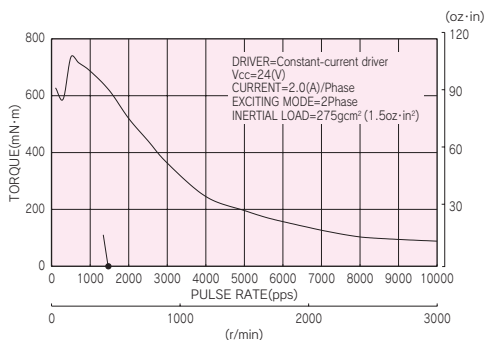
KH56KM2-901, 911



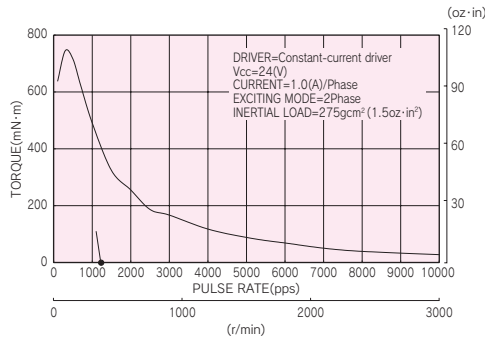
KH56KM2-951, 961



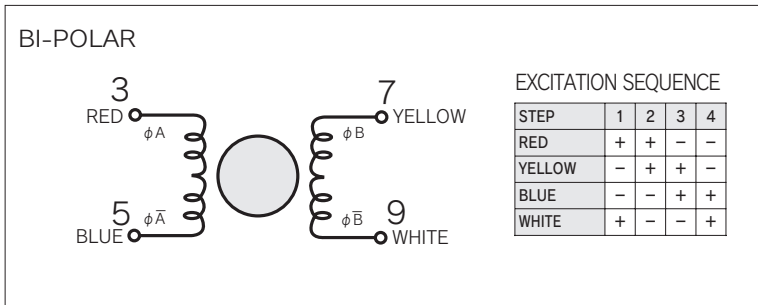
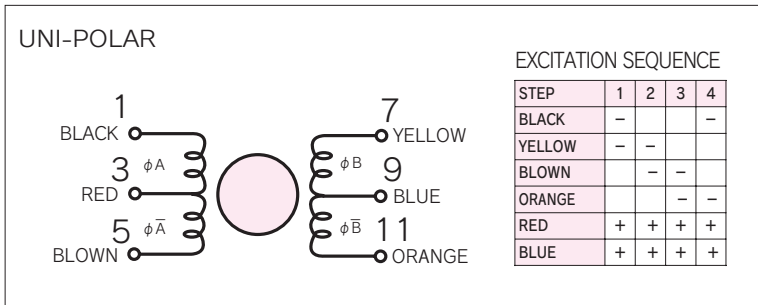
KH56KM2-902, 912



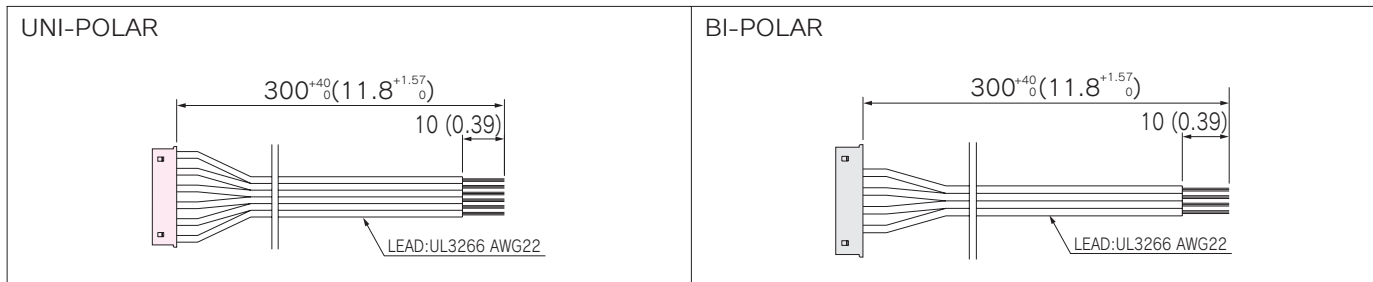
KH56KM2-903, 913



■ CONNECTION DIAGRAMS



■ CONNECTION CABLE TO MOTOR unit = mm (inch)



2-Phase Hybrid Stepping Motor

1.8°

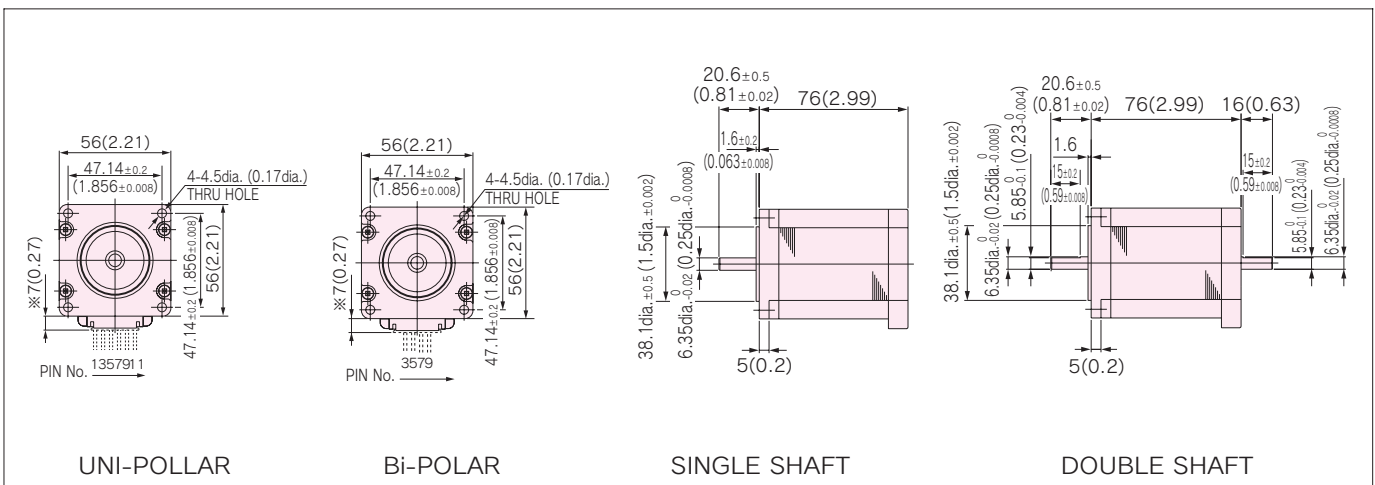
KH56 series

HIGH TORQUE, LOW VIBRATION AND LOW NOISE

STANDARD SPECIFICATIONS

MODEL		KH56QM2				
		SINGLE SHAFT	-901	-902	-903	-951
		DOUBLE SHAFT	-911	-912	-913	-961
DRIVE METHOD	————	UNI-POLAR			BI-POLAR	
NUMBER OF PHASES	————	2			2	
STEP ANGLE	deg./step	1.8			1.8	
VOLTAGE	V	3.54	5.46	9.9	4.0	
CURRENT	A/PHASE	3.0	2.0	1.0	2.0	
WINDING RESISTANCE	Ω/PHASE	1.18	2.73	9.9	2.0	
INDUCTANCE	mH/PHASE	2.4	5.4	21.6	7.35	
HOLDING TORQUE	mN · m	1324	1324	1324	1373	
	oz · in	187	187	187	194	
DETENT TORQUE	mN · m	69	69	69	69	
	oz · in	9.8	9.8	9.8	9.8	
ROTOR INERTIA	g · cm ²	269	269	269	269	
	oz · in ²	1.47	1.47	1.47	1.47	
WEIGHTS	kg	1.0	1.0	1.0	1.0	
	lb	2.2	2.2	2.2	2.2	
INSULATION CLASS	————	JIS Class E (120°C 248° F) (UL VALUE : CLASS B 130°C 266° F)				
INSULATION RESISTANCE	————	500VDC 100MΩmin.				
DIELECTRIC STRENGTH	————	500VAC 50HZ 1min.				
OPERATING TEMP. RANGE	°C	0 to 50				
ALLOWABLE TEMP. RISE	K	70				

DIMENSIONS unit = mm (inch)





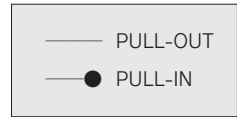
Features

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- Lowered Vibration by increased stiffness of body construction (lowered by 10% than our previous model)
- Improved Efficiency (1.1 times of our previous model, by high grade materials)

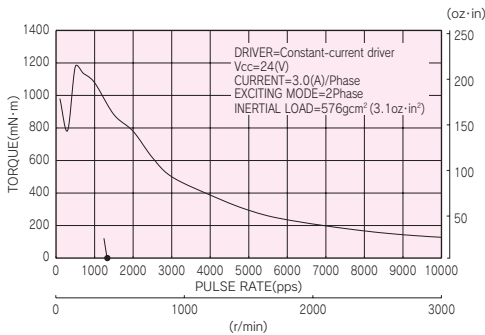
■ TORQUE CHARACTERISTICS vs. PULSE RATE

UNI-POLAR

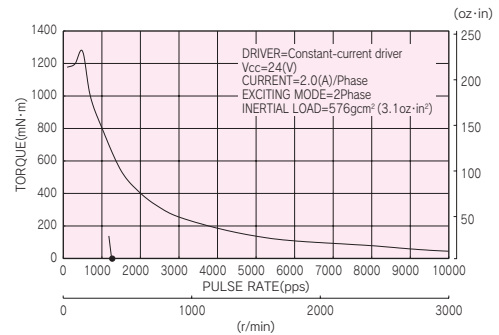
BI-POLAR



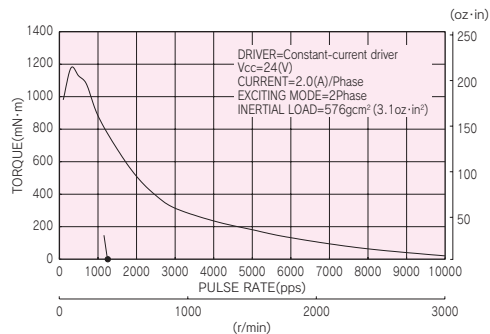
KH56QM2-901, 911



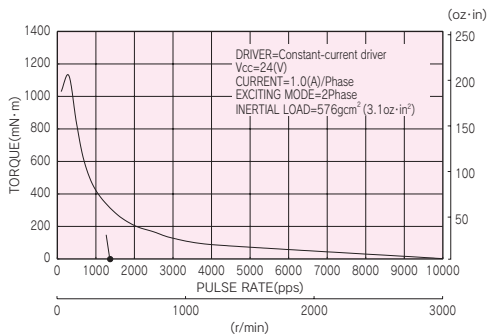
KH56QM2-951, 961



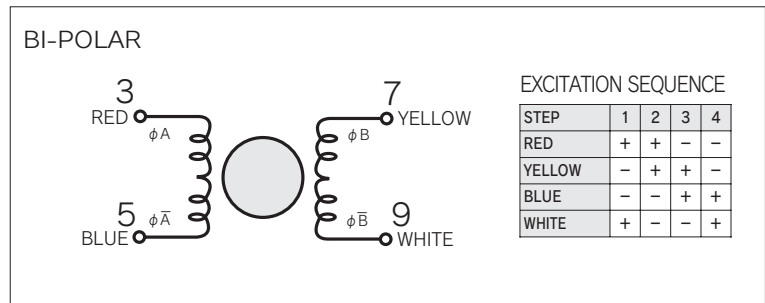
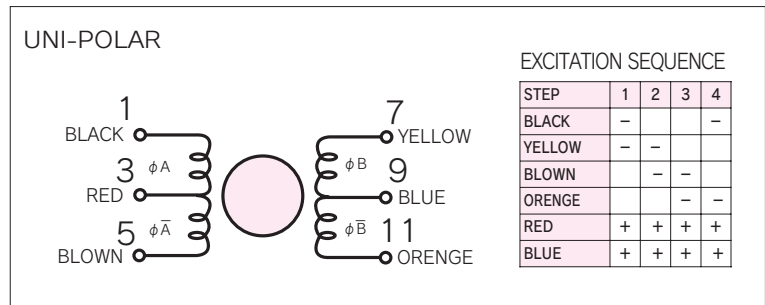
KH56QM2-902, 912



KH56QM2-903, 913



■ CONNECTION DIAGRAMS



■ CONNECTION CABLE TO MOTOR unit = mm (inch)

