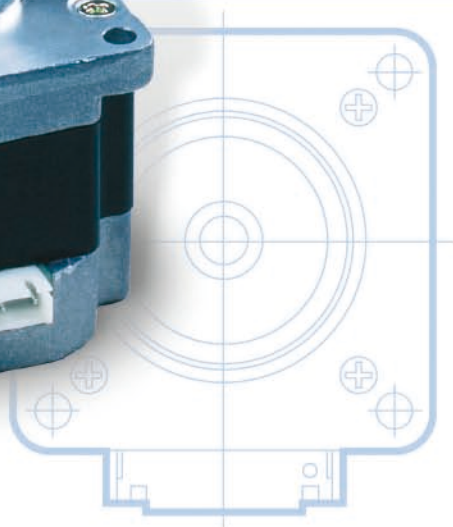
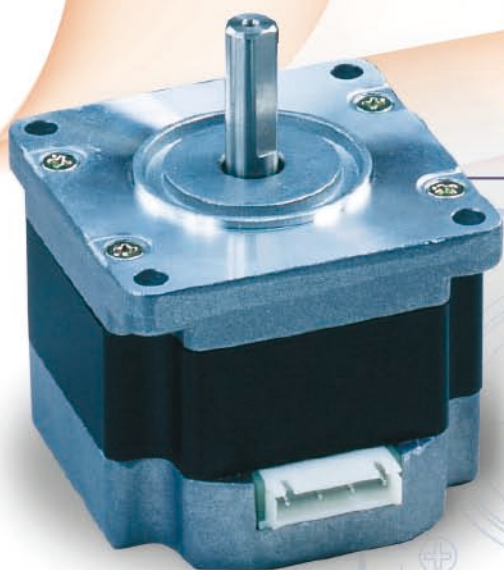


混合式步进电机及 驱动器



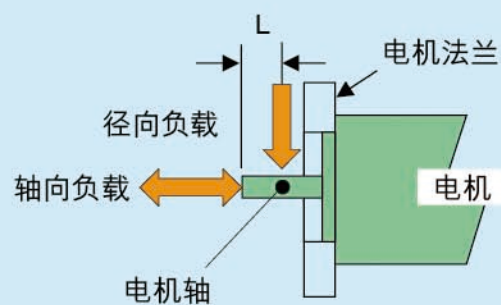
目录

步进电机技术参数	3
KH39系列2相步进电机	4 - 5
KH42系列2相步进电机	6 - 7
KH56系列2相步进电机	8 - 9
KA50系列2相步进电机(1.8°)	10 - 11
KH50系列2相步进电机(0.9°)	12 - 13
KA60系列2相步进电机	14 - 15
2相步进电机驱动器	16 - 17
KT35及KT42系列3相步进电机	18 - 19
KT60系列3相步进电机	20 - 21
KR42系列3相步进电机	22 - 23
3相步进电机驱动器	24 - 26
特殊及非标产品	27

步进电机技术参数

电机轴负载参数

型号	轴向负载	径向负载	
		负载	L
KH39	14.7N.m (1.5Kgf)	19.6N.m (2.0Kgf)	10mm
KH42			
KA50			
KT35			
KT42			
KR42	40N.m (4.1Kgf)	70N.m (7.1Kgf)	10mm
KH56			
KA60			
KT60			



电机使用环境参数

允许温升	最大70K
绝缘等级	E级
绝缘电阻	最小100MΩ ; 500V DC
绝缘耐力	500V AC 50Hz 1min
使用环境温度	-10°C - +50°C
储存环境温度	-20°C - +50°C
使用及储存环境湿度	5% - 95% RH



KH39系列 (步进角：1.8°) 二相混合式步进电机

标准规格

单极驱动 (UNIPOLAR)

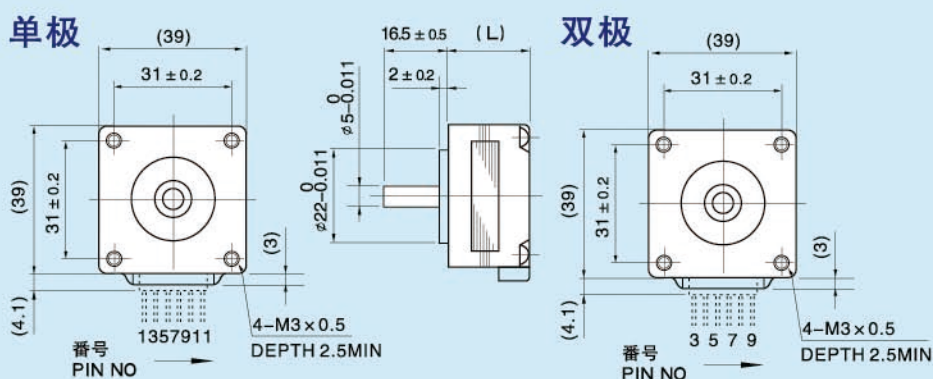
电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KH39EM2-801	1.8	5.6	0.40	14.0	6.4	59	7.9	14
KH39FM2-801	1.8	6.3	0.42	15.0	8.5	88	9.8	19
KH39GM2-801	1.8	6.4	0.47	13.6	9.8	127	11.8	27

双极驱动 (BIPOLAR)

电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KH39EM2-851	1.8	3.6	0.60	6.0	5.5	78	7.9	14
KH39FM2-851	1.8	4.0	0.67	6.0	6.8	118	9.8	19
KH39GM2-851	1.8	4.6	0.65	7.0	9.8	157	11.8	27

外型图 单位=mm

电机型号	L (mm)	重量 (g)
KH39EM2 - □	20.8	110
KH39FM2 - □	27	160
KH39GM2 - □	31	240



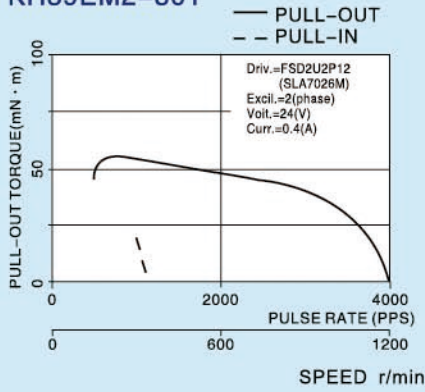
连接线尺寸 单位=mm



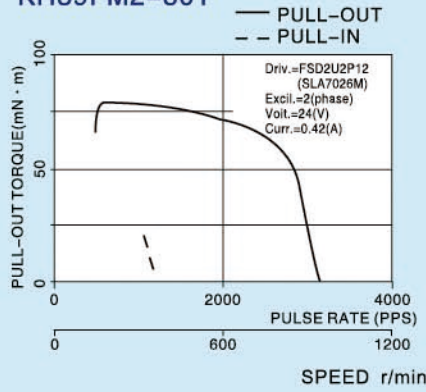


转矩特性

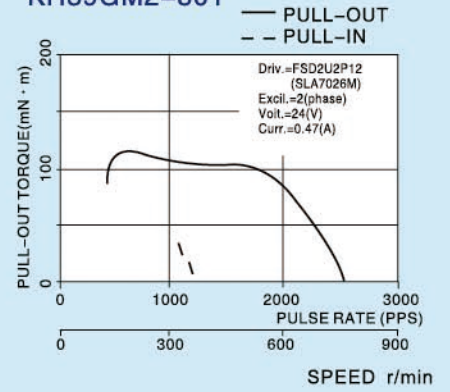
KH39EM2-801



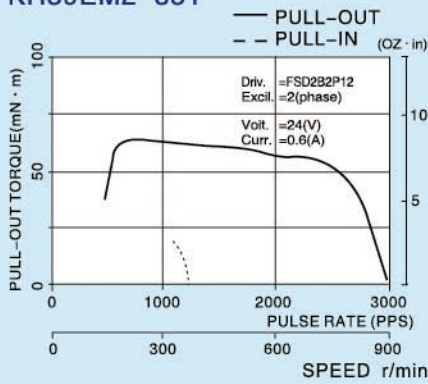
KH39FM2-801



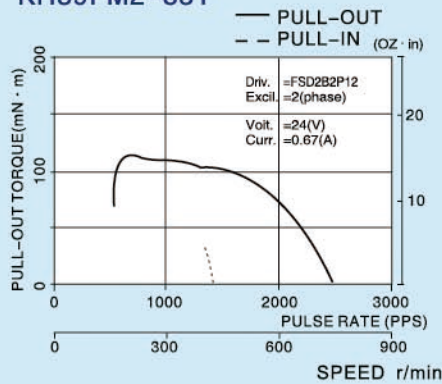
KH39GM2-801



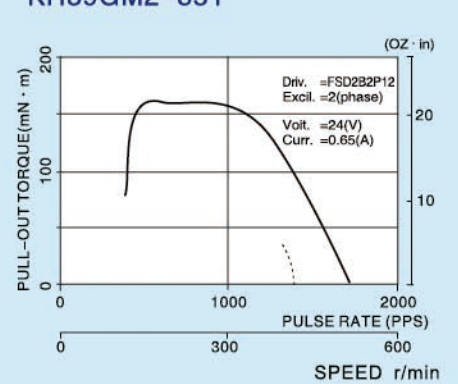
KH39EM2-851



KH39FM2-851



KH39GM2-851

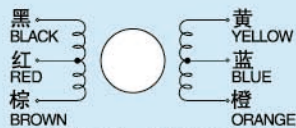


接线图

激励方式EXCITING SEQUENCE

STEP	1	2	3	4
黑BLACK	-			-
黄YELLOW	-	-		
棕BROWN		-	-	
橙ORANGE			-	-
红RED	+	+	+	+
蓝BLUE	+	+	+	+

单极驱动



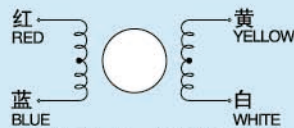
上記激励方式，从输出轴方向看，
顺时针方向回转

PHR-11(PIN NO.)	1	3	5	7	9	11
(PHASE)	A	A com	\bar{A}	B	B com	\bar{B}
COLOR OF LEAD	黑 BLACK	红 RED	棕 BROWN	黄 YELLOW	蓝 BLUE	橙 ORANGE

激励方式EXCITING SEQUENCE

STEP	1	2	3	4
红RED	-	+	+	-
黄YELLOW	-	-	+	+
蓝BLUE	+	-	-	+
白WHITE	+	+	-	-

双极驱动



上記激励方式，从输出轴方向看，
顺时针方向回转

PHR-11(PIN NO.)	3	5	7	9
(PHASE)	A	\bar{A}	B	\bar{B}
COLOR OF LEAD	红 RED	蓝 BLUE	黄 YELLOW	白 WHITE



KH42系列 (步进角：1.8°) 二相混合式步进电机

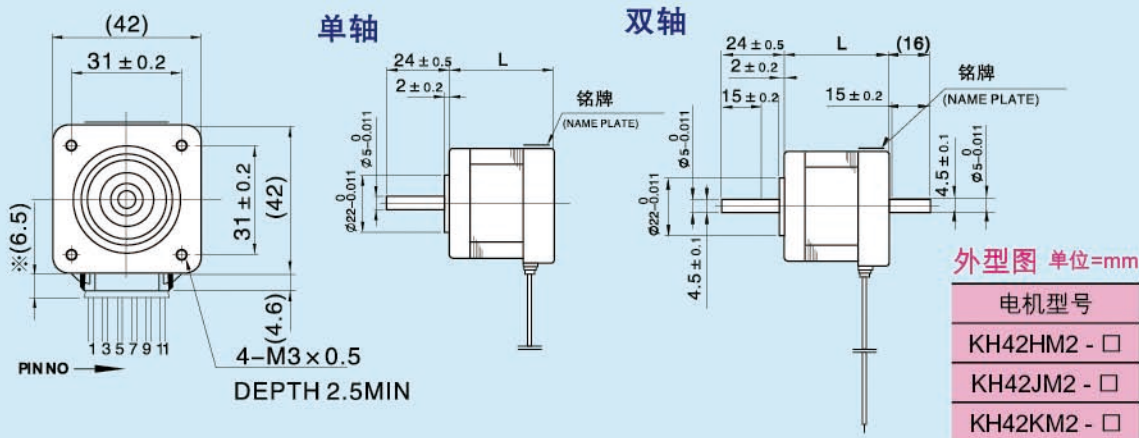
标准规格

单极驱动 (UNIPOLAR)

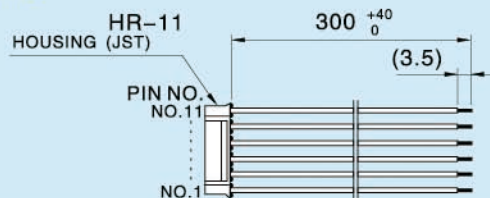
电机型号		步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
单轴	双轴	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
Single shaft	Double shaft	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KH42HM2-901	KH42HM2-911	1.8	3.06	0.90	3.40	2.40	140	11.8	38
KH42HM2-902	KH42HM2-912	1.8	5.57	0.58	9.60	6.00	140	11.8	38
KH42HM2-903	KH42HM2-913	1.8	6.76	0.46	14.70	9.30	140	11.8	38
KH42JM2-901	KH42JM2-911	1.8	3.42	1.20	2.90	2.50	236	14.7	56
KH42JM2-902	KH42JM2-912	1.8	4.40	0.88	5.50	5.10	236	14.7	56
KH42JM2-903	KH42JM2-913	1.8	9.25	0.50	18.50	16.30	236	14.7	56
KH42KM2-901	KH42KM2-911	1.8	3.72	1.20	3.10	3.10	340	19.6	85

双极驱动 (BIPOLAR)

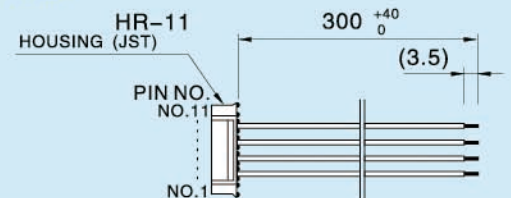
电机型号		步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
单轴	双轴	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
Single shaft	Double shaft	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KH42HM2-951	KH42HM2-961	1.8	3.10	1.00	3.10	4.30	197	11.8	38
KH42JM2-951	KH42JM2-961	1.8	4.59	0.85	5.40	9.30	314	14.7	56
KH42HM2-951	KH42KM2-961	1.8	2.76	1.20	2.30	4.00	403	19.6	85



连接线尺寸 单位=mm 单极



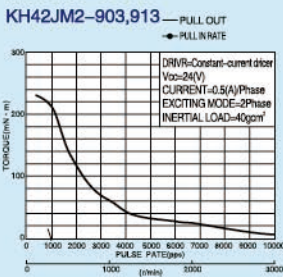
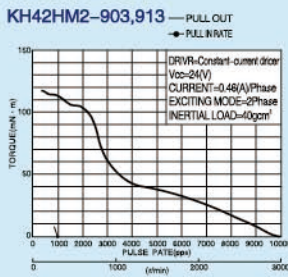
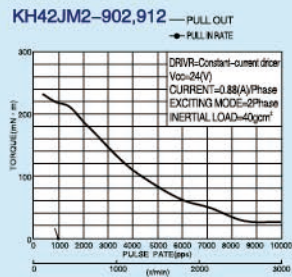
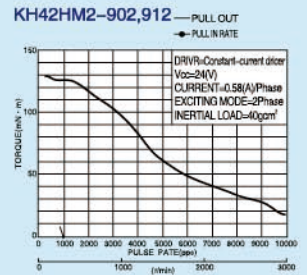
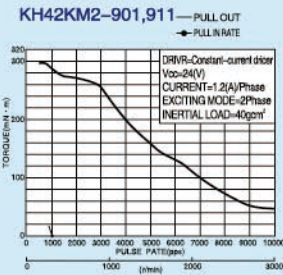
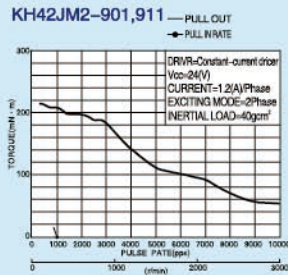
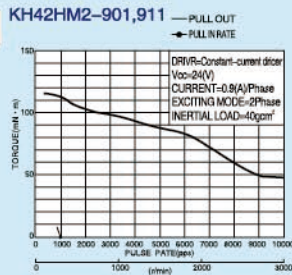
双极



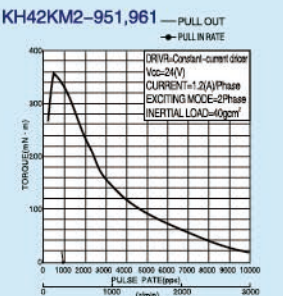
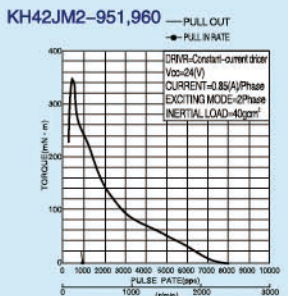
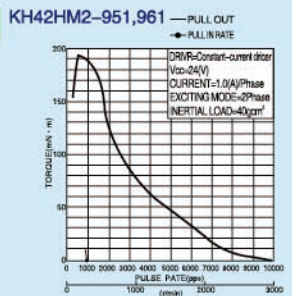


转矩特性

单极驱动



双极驱动



接线图

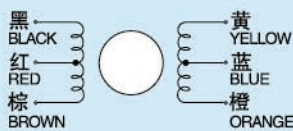
激励方式EXCITING SEQUENCE

STEP	1	2	3	4
黑BLACK	-			-
黄YELLOW	-	-		
棕BROWN		-	-	
橙ORANGE			-	-
红RED	+	+	+	+
蓝BLUE	+	+	+	+

激励方式EXCITING SEQUENCE

STEP	1	2	3	4
红RED	-	+	+	-
黄YELLOW	-	-	+	+
蓝BLUE	+	-	-	+
白WHITE	+	+	-	-

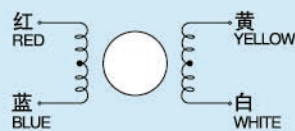
单极驱动



上記激励方式，从输出轴方向看，
顺时针方向回转

PHR-11(PIN NO.)	1	3	5	7	9	11
(PHASE)	A	A com	\bar{A}	B	B com	B
COLOR OF LEAD	黑	红	棕	黄	蓝	橙
	BLACK	RED	BROWN	YELLOW	BLUE	ORANGE

双极驱动



上記激励方式，从输出轴方向看，
顺时针方向回转

PHR-11(PIN NO.)	3	5	7	9
(PHASE)	A	\bar{A}	B	B
COLOR OF LEAD	红	蓝	黄	白
	RED	BLUE	YELLOW	WHITE



KH56系列 (步进角：1.8°) 二相混合式步进电机

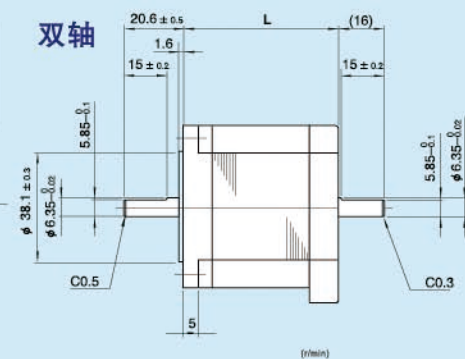
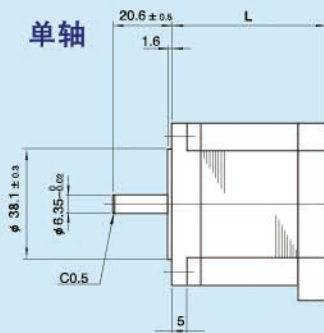
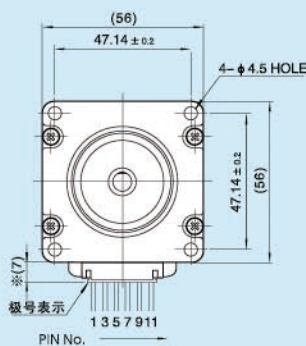
标准规格

单极驱动 (UNIPOLAR)

电机型号		步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
单轴	双轴	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
Single shaft	Double shaft	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KH56JM2-901	KH56JM2-911	1.8	1.74	3.0	0.58	0.61	422	25	115
KH56JM2-902	KH56JM2-912	1.8	2.78	2.0	1.39	1.80	422	25	115
KH56JM2-903	KH56JM2-913	1.8	4.90	1.0	4.90	6.68	422	25	115
KH56KM2-901	KH56KM2-911	1.8	2.30	3.0	0.77	1.04	834	37	188
KH56KM2-902	KH56KM2-912	1.8	3.60	2.0	1.79	1.70	834	37	188
KH56KM2-903	KH56KM2-913	1.8	6.71	1.0	6.71	9.36	834	37	188
KH56QM2-901	KH56QM2-911	1.8	3.54	3.0	1.18	2.40	1324	69	269
KH56QM2-902	KH56QM2-912	1.8	5.46	2.0	2.73	5.40	1324	69	269
KH56QM2-903	KH56QM2-913	1.8	9.90	1.0	9.90	21.60	1324	69	269

双极驱动 (BIPOLAR)

电机型号		步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
单轴	双轴	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
Single shaft	Double shaft	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KH56JM2-951	KH56JM2-961	1.8	1.96	2.0	0.98	2.27	490	25	115
KH56KM2-951	KH56KM2-961	1.8	2.40	2.0	1.32	3.19	932	37	188
KH56QM2-951	KH56QM2-961	1.8	4.00	2.0	2.00	7.35	1373	69	269

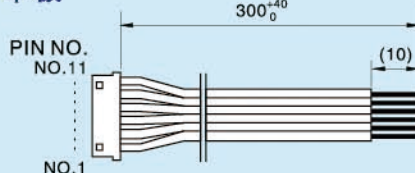


外型图 单位=mm

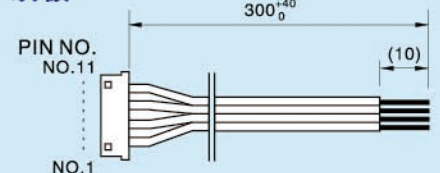
电机型号	L (mm)	重量 (g)
KH56JM2 - □	42	400
KH56KM2 - □	54	650
KH56QM2 - □	76	1000

连接线尺寸 单位=mm

单极



双极

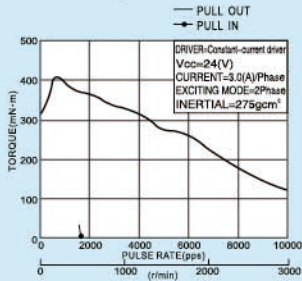




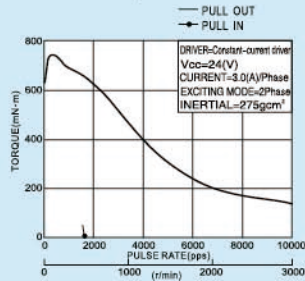
转矩特性

单极驱动

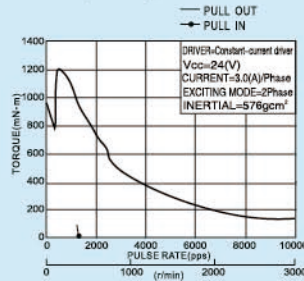
KH56JM2-901,911



KH56KM2-901,911

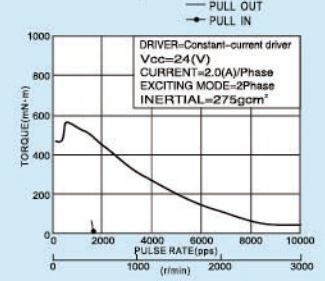


KH56QM2-901,911

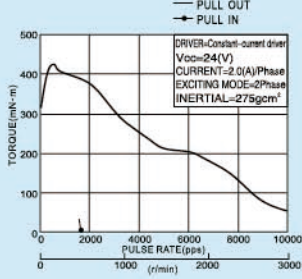


双极驱动

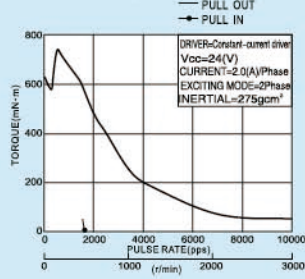
KH56JM2-951,961



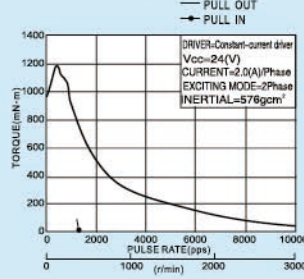
KH56JM2-902,912



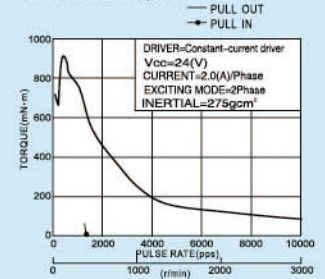
KH56KM2-902,912



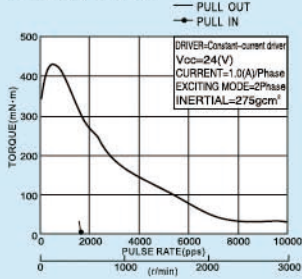
KH56QM2-902,912



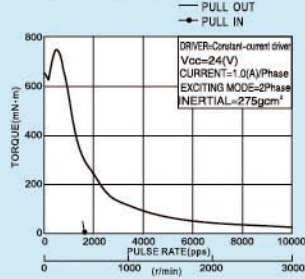
KH56KM2-951,961



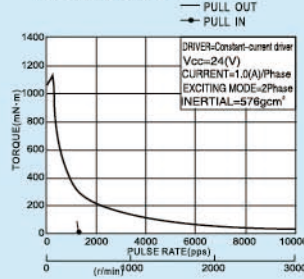
KH56JM2-903,913



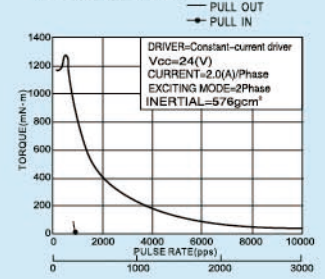
KH56KM2-903,913



KH56QM2-903,913



KH56QM2-951,961

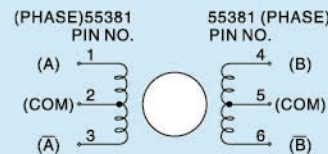


接线图

单极驱动

51004-1100(PIN NO.)	1	3	5	7	9	11
(PHASE)	A	A com	\bar{A}	B	B com	\bar{B}
COLOUR OF LEAD	黑	红	棕	黄	蓝	橙
	BLACK	RED	BROWN	YELLOW	BLUE	ORANGE

左记激励方式，从输出轴方向看，顺时针方向回转

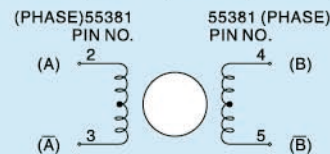


回转方向确认激励方式

55381 PIN NO.	5100-1100 PIN NO.	PHASE	1	2	3	4
1	1	A	-	-	-	-
4	7	B	-	-	-	-
3	5	\bar{A}	-	-	-	-
6	11	\bar{B}	-	-	-	-
2	3	Acom	+	+	+	+
5	9	Bcom	+	+	+	+

双极驱动

51004-100(PIN NO.)	3	5	7	9
(PHASE)	A	\bar{A}	B	\bar{B}
COLOUR OF LEAD	红	蓝	黄	白
	RED	BLUE	YELLOW	WHITE



回转方向确认激励方式

55381 PIN NO.	51004-1100 PIN NO.	PHASE	1	2	3	4
2	3	A	-	+	+	-
4	7	B	-	-	+	+
3	5	\bar{A}	+	-	-	-
5	9	\bar{B}	+	+	-	-

左记激励方式，从输出轴方向看，顺时针方向回转



KA50系列 (步进角 : 1.8°) 二相混合式步进电机

标准规格

单极驱动 (UNIPOLAR)

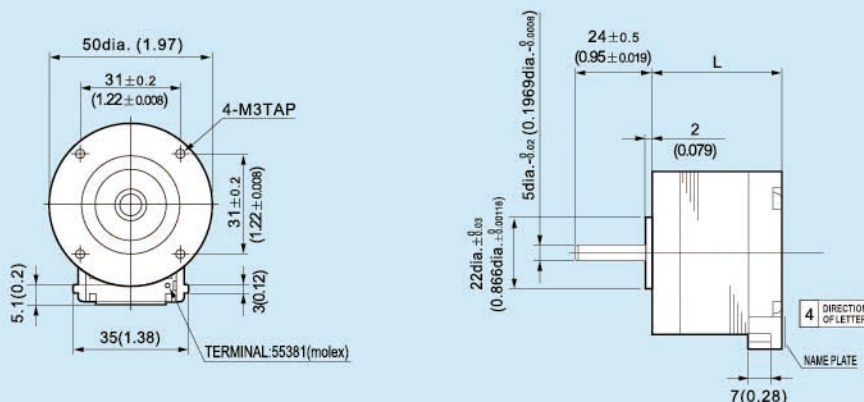
电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KA50HM2-501	1.8	2.08	2.0	1.04	0.9	216	12	50
KA50HM2-502	1.8	4.20	1.0	4.20	3.8	216	12	50
KA50JM2-501	1.8	2.46	2.0	1.23	1.3	324	15	70
KA50JM2-502	1.8	5.00	1.0	5.00	5.4	324	15	70
KA50KM2-501	1.8	3.20	2.0	1.60	1.8	471	20	100
KA50KM2-502	1.8	6.20	1.0	6.20	6.7	471	20	100

双极驱动 (BIPOLAR)

电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KA50HM2-551	1.8	1.66	2.0	0.83	1.3	231	12	50
KA50HM2-552	1.8	3.20	1.0	3.20	5.1	231	12	50
KA50JM2-551	1.8	1.96	2.0	0.98	1.9	373	15	70
KA50JM2-552	1.8	3.80	1.0	3.80	7.1	373	15	70
KA50KM2-551	1.8	2.60	2.0	1.30	2.5	520	20	100
KA50KM2-552	1.8	5.10	1.0	5.10	10.0	520	20	100

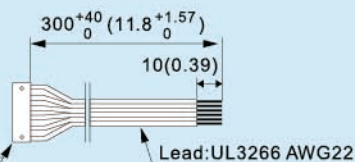
外型图 单位=mm

电机型号	L (mm)	重量 (g)
KA50HM2 - □	35	230
KA50JM2 - □	40	300
KA50KM2 - □	50	420

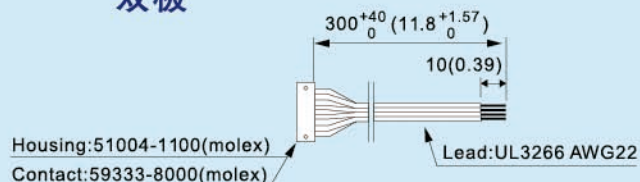


连接线尺寸单位=mm

单极



双极

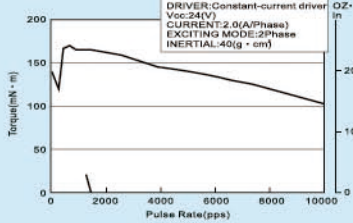




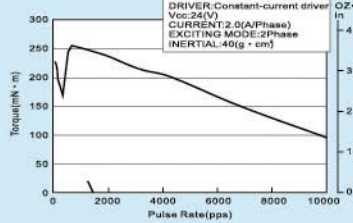
转矩特性

单极驱动

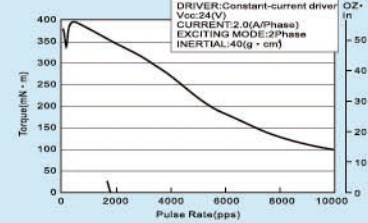
KA50HM2-501



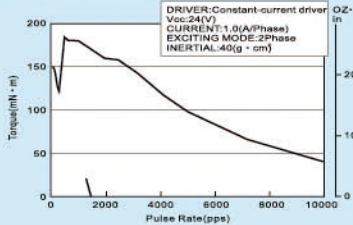
KA50JM2-501



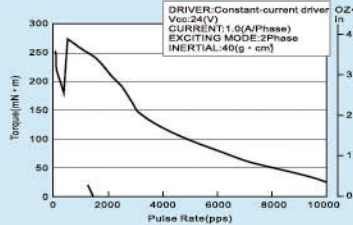
KA50KM2-501



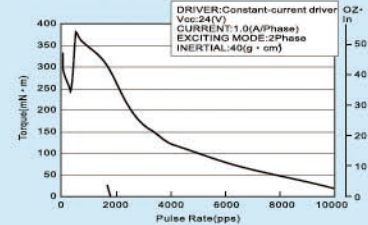
KA50HM2-502



KA50JM2-502

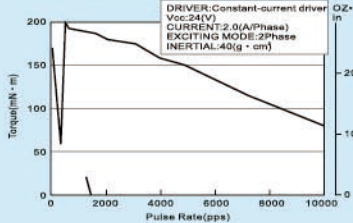


KA50KM2-502

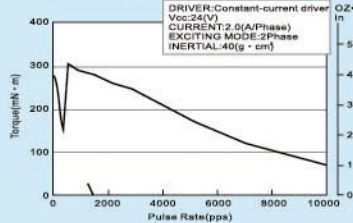


双极驱动

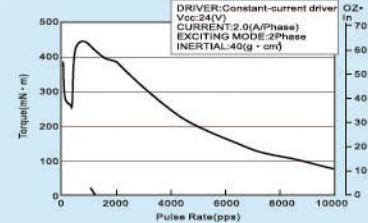
KA50HM2-551



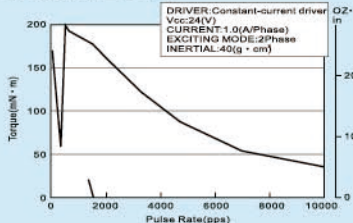
KA50JM2-551



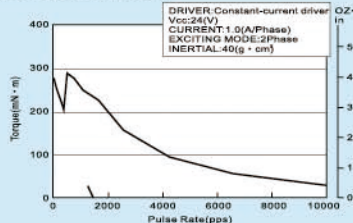
KA50KM2-551



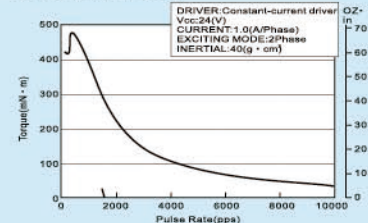
KA50HM2-552



KA50JM2-552



KA50KM2-552

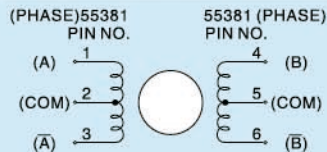


接线图

单极驱动

51004-1100(PIN NO.)	1	3	5	7	9	11
(PHASE)	A	A com	\bar{A}	B	B com	\bar{B}
COLOUR OF LEAD	黑	红	棕	黄	蓝	橙
	BLACK	RED	BROWN	YELLOW	BLUE	ORANGE

左记激励方式，从输出轴方向看，顺时针方向回转

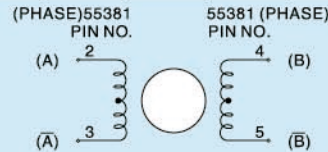


回转方向确认激励方式

55381 PIN NO.	5100-1100 PIN NO.	PHASE	1	2	3	4
1	1	A	-	-	-	-
4	7	B	-	-	-	-
3	5	\bar{A}	-	-	-	-
6	11	\bar{B}	-	-	-	-
2	3	Acom	+	+	+	+
5	9	Bcom	+	+	+	+

双极驱动

51004-100(PIN NO.)	3	5	7	9
(PHASE)	A	\bar{A}	B	\bar{B}
COLOUR OF LEAD	红	蓝	黄	白
	RED	BLUE	YELLOW	WHITE



回转方向确认激励方式

55381 PIN NO.	51004-1100 PIN NO.	PHASE	1	2	3	4
2	3	A	-	+	+	-
4	7	B	-	-	+	+
3	5	\bar{A}	+	-	-	+
5	9	\bar{B}	+	+	-	-

左记激励方式，从输出轴方向看，顺时针方向回转



KA50系列 (步进角 : 0.9°) 二相混合式步进电机

标准规格

单极驱动 (UNIPOLAR)

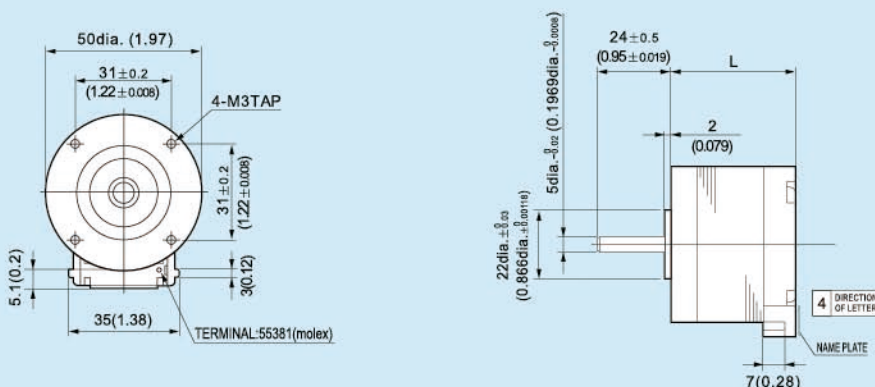
电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KA50HM1-501	0.9	2.12	2.0	1.06	1.15	185	10	50
KA50HM1-502	0.9	4.20	1.0	4.20	4.40	185	10	50
KA50JM1-501	0.9	2.46	2.0	1.23	1.60	304	12	70
KA50JM1-502	0.9	5.00	1.0	5.00	6.90	304	12	70
KA50KM1-501	0.9	3.32	2.0	1.66	2.10	403	18	100
KA50KM1-502	0.9	6.70	1.0	6.70	8.60	403	18	100

双极驱动 (BIPOLAR)

电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KA50HM1-551	0.9	1.66	2.0	0.83	1.60	215	10	50
KA50HM1-552	0.9	3.20	1.0	3.20	6.60	215	10	50
KA50JM1-551	0.9	1.96	2.0	0.98	2.30	347	12	70
KA50JM1-552	0.9	3.80	1.0	3.80	9.10	347	12	70
KA50KM1-551	0.9	2.60	2.0	1.30	3.10	458	18	100
KA50KM1-552	0.9	5.10	1.0	5.10	11.00	458	18	100

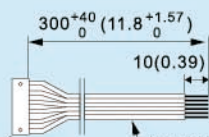
外型图 单位=mm

电机型号	L (mm)	重量 (g)
KA50HM2 - □	35	230
KA50JM2 - □	40	300
KA50KM2 - □	50	420



连接线尺寸 单位=mm

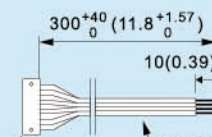
单极



Housing: 51004-1100(molex)
Contact: 59333-8000(molex)

Lead: UL3266 AWG22

双极



Housing: 51004-1100(molex)
Contact: 59333-8000(molex)

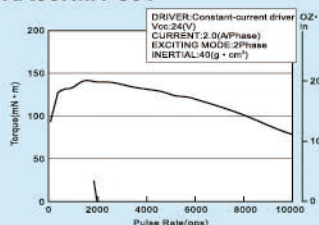
Lead: UL3266 AWG22



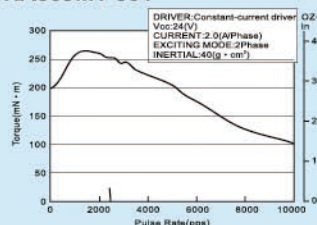
频矩特性

单极驱动

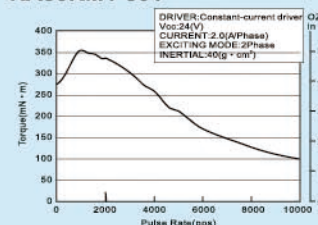
KA50HM1-501



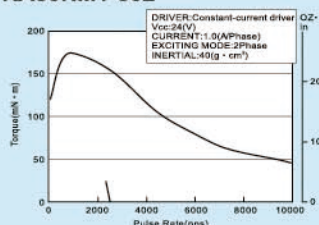
KA50JM1-501



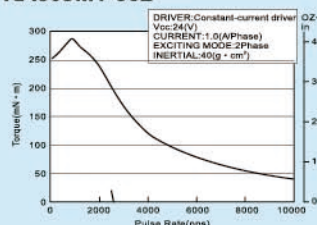
KA50KM1-501



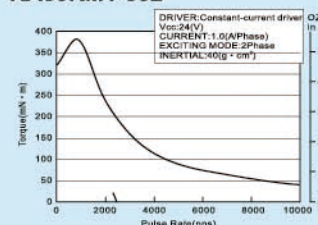
KA50HM1-502



KA50JM1-502

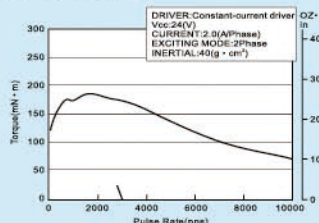


KA50KM1-502

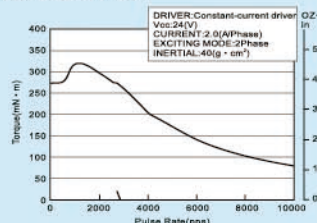


双极驱动

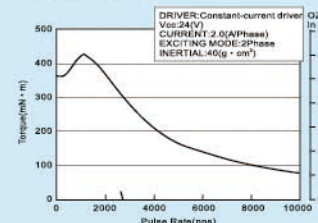
KA50HM1-551



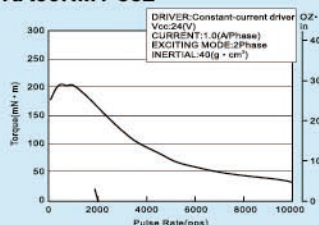
KA50JM1-551



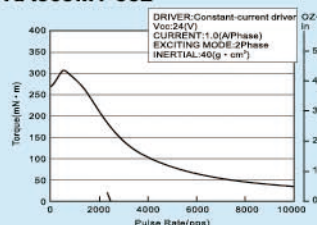
KA50KM1-551



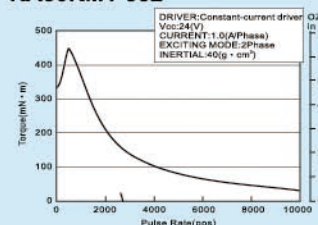
KA50HM1-552



KA50JM1-552



KA50KM1-552

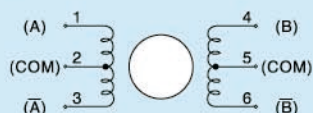


接线图

单极驱动

51004-1100(PIN NO.)	1	3	5	7	9	11
(PHASE)	A	A com	\bar{A}	B	B com	\bar{B}
COLOUR OF LEAD	黑	红	棕	黄	蓝	橙
	BLACK	RED	BROWN	YELLOW	BLUE	ORANGE

左记激励方式，从输出轴方向看，顺时针方向回转

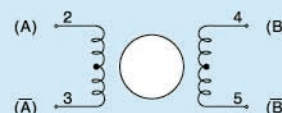


回转方向确认激励方式

55381 PIN NO.	5100-1100 PIN NO.	PHASE	1	2	3	4
1	1	A	-	-	-	-
4	7	B	-	-	-	-
3	5	\bar{A}	-	-	-	-
6	11	B	-	-	-	-
2	3	Acom	+	+	+	+
5	9	Bcom	+	+	+	+

双极驱动

51004-100(PIN NO.)	3	5	7	9
(PHASE)	A	\bar{A}	B	\bar{B}
COLOUR OF LEAD	红	蓝	黄	白
	RED	BLUE	YELLOW	WHITE



回转方向确认激励方式

55381 PIN NO.	51004-1100 PIN NO.	PHASE	1	2	3	4
2	3	A	-	+	+	-
4	7	B	-	-	+	+
3	5	\bar{A}	+	-	-	+
5	9	\bar{B}	+	+	-	-

左记激励方式，从输出轴方向看，顺时针方向回转



KA60系列 (步进角 : 1.8°) 二相混合式步进电机

标准规格

单极驱动 (UNIPOLAR)

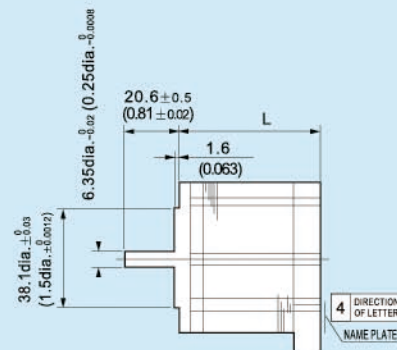
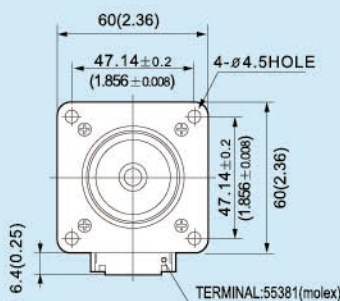
电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KA60JM2-501	1.8	2.44	3.3	0.74	0.83	707	35	180
KA60JM2-502	1.8	3.41	2.2	1.55	1.80	707	35	180
KA60KM2-501	1.8	2.97	3.3	0.90	1.40	1011	50	270
KA60KM2-502	1.8	4.40	2.2	2.00	3.00	1011	50	270
KA60LM2-501	1.8	3.63	3.3	1.10	1.60	1315	60	360
KA60LM2-502	1.8	5.28	2.2	2.40	3.40	1315	60	360

双极驱动 (BIPOLAR)

电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/∅	Ω/∅	mH/∅	mN·m	mN·m	g·cm ²
KA60JM2-551	1.8	2.05	3.3	0.62	1.2	805	35	180
KA60JM2-552	1.8	2.42	2.2	1.10	2.6	805	35	180
KA60KM2-551	1.8	2.41	3.3	0.73	2.1	1207	50	270
KA60KM2-552	1.8	3.01	2.2	1.37	4.5	1207	50	270
KA60LM2-551	1.8	2.97	3.3	0.90	2.2	1600	60	360
KA60LM2-552	1.8	3.74	2.2	1.70	4.9	1600	60	360

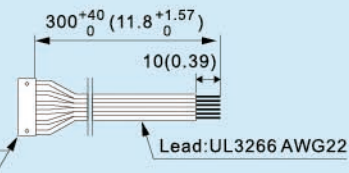
外型图 单位=mm

电机型号	L (mm)	重量 (g)
KA60JM2 - □	44	500
KA60KM2 - □	54	700
KA60LM2 - □	65	850

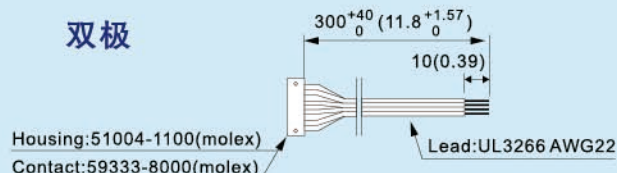


连接线尺寸 单位=mm

单极



双极

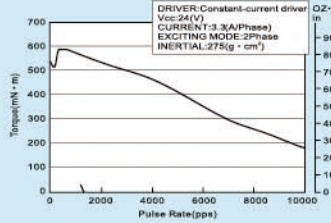




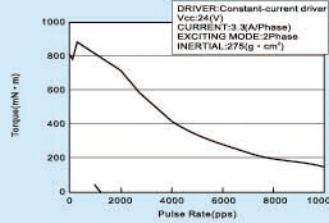
转矩特性

单极驱动

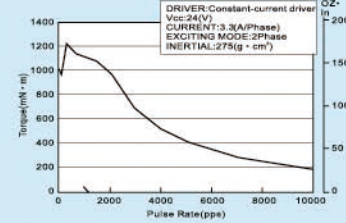
KA60JM2-501



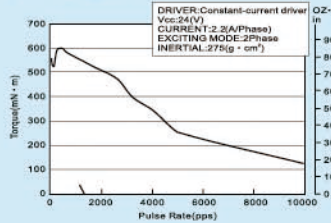
KA60KM2-501



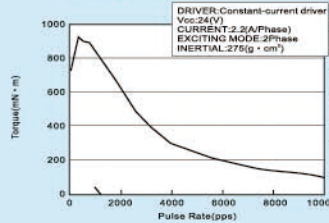
KA60LM2-501



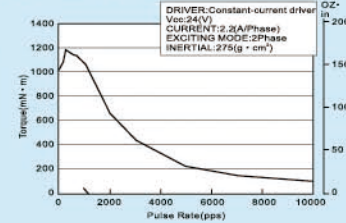
KA60JM2-502



KA60KM2-502

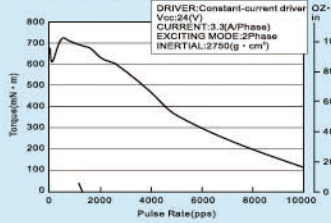


KA60LM2-502

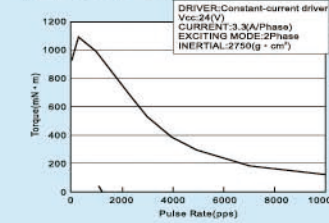


双极驱动

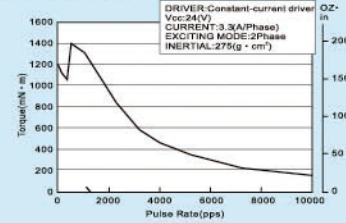
KA60JM2-551



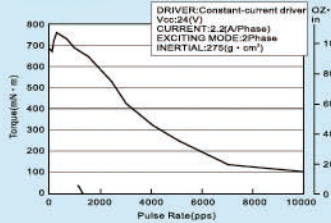
KA60KM2-551



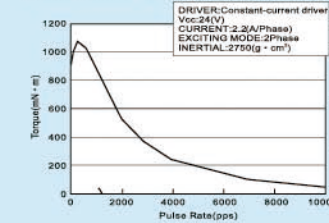
KA60LM2-551



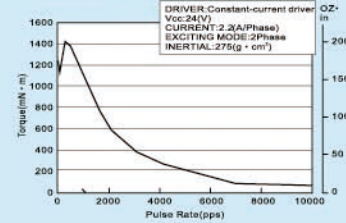
KA60JM2-552



KA60KM2-552



KA60LM2-552

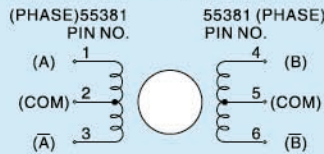


接线图

单极驱动

51004-1100(PIN NO.)	1	3	5	7	9	11
(PHASE)	A	A com	\bar{A}	B	B com	\bar{B}
COLOUR OF LEAD	黑	红	棕	黄	蓝	橙
	BLACK	RED	BROWN	YELLOW	BLUE	ORANGE

左记激励方式，从输出轴方向看，顺时针方向回转

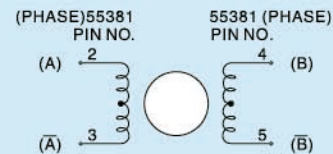


回转方向确认激励方式

55381 PIN NO.	5100-1100 PIN NO.	PHASE	1	2	3	4
1	1	A	-	-	-	-
4	7	B	-	-	-	-
3	5	\bar{A}	-	-	-	-
6	11	\bar{B}	-	-	-	-
2	3	Acom	+	+	+	+
5	9	Bcom	+	+	+	+

双极驱动

51004-100(PIN NO.)	3	5	7	9
(PHASE)	A	\bar{A}	B	\bar{B}
COLOUR OF LEAD	红	蓝	黄	白
	RED	BLUE	YELLOW	WHITE



回转方向确认激励方式

55381 PIN NO.	51004-1100 PIN NO.	PHASE	1	2	3	4
2	3	A	-	+	+	-
4	7	B	-	-	+	+
3	5	\bar{A}	+	-	-	+
5	9	\bar{B}	+	+	-	-

左记激励方式，从输出轴方向看，顺时针方向回转



FSD系列二相混合式步进电机驱动器

FSD2B2P13-01双极驱动电机驱动器

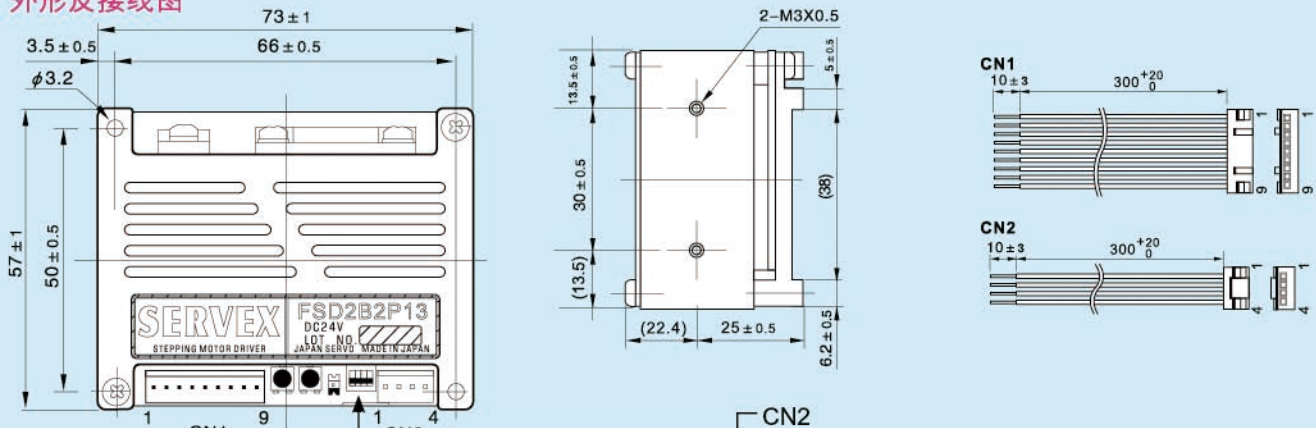
适用电机：

KH2030 / KH2048 - 551	KH39EM2 / FM2 / GM2 -851
KH42HM2 / JM2 / KM2 - 951, 961	KH56JM2 / KM2 / QM2 - 951,961
KA50HM1 / JM1 / KM1 - 551, 552	KA50HM2 / JM2 / KM2 - 551, 552

FSD系列驱动器使用环境参数

	使用时	储存时
温度°C	0 - +50	-20 - +60
湿度%	35 - 85	35 - 85

外形及接线图



端子号 (颜色)	信号名	机能
1 (红)	VM	电机驱动用电源12 - 24V
2 (黑)	P.GND	电机驱动用电源接地
3 (橙)	CW(注)	顺时针转向输入串行脉冲或驱动脉冲信号
4 (黄)	CCW(注)	逆时针转向输入串行脉冲或转向脉冲信号
	电机电流(A)	0.44 0.64 0.88 1.10 1.32 1.54 1.77 2.00
7 (紫)	C0	H L H L L H L H L L
6 (蓝)	C1	H H L L L H H L L L
5 (绿)	C2	H H H H L L L L L
	省电时电流(A)	0.41 0.46 0.59 0.71 0.83 0.95 1.19
8 (灰)	H.OFF	H: 停止(切断电机通电)
9 (白)	S.GND	信号接地

注：当CW、CCW端没有信号时，没有脉冲输入一方的端子为H：水平线

端子号 (颜色)	信号名	机能
1 (红)	A	电机的A相
2 (白/红)	\bar{A}	电机的 \bar{A} 相
3 (绿)	B	电机的B相
4 (白/绿)	\bar{B}	电机的 \bar{B} 相

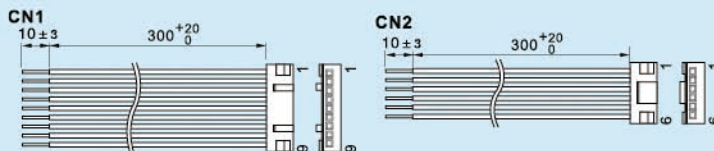
机能设定开关

开关号	开关名	机能	开关设定位置及动作	
			OFF	ON
1	SEL	脉冲输入方式及设定	CW/CCW	CK/DIR
2	SAVE	自动电机电流省电功能选择	节能设置	非节能设置
3	设定步角	分割数	1/2	1/1
			1/4	1/2
4		MS0	ON	OFF
		MS1	ON	OFF

FSD2U3P13-01单极驱动电机驱动器

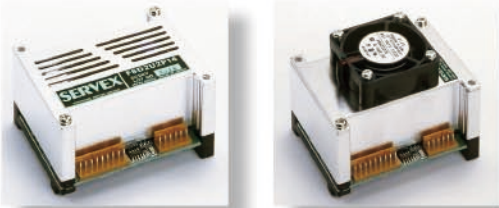
适用电机：

KH56JM2 / KM2 / QM2 - 901, 911
KA60JM2 / KM2 / LM2 - 501, 502



端子号 (颜色)	信号名	机能
1 (红)	VM	电机驱动用电源4V
2 (黑)	P.GND	电机驱动用电源接地
3 (橙)	CW(注)	顺时针转向输入串行脉冲或驱动脉冲信号
4 (黄)	CCW(注)	逆时针转向输入串行脉冲或转向脉冲信号
	电机电流(A)	0.50 0.88 1.24 1.60 1.98 2.35 2.68 3.00
7 (紫)	C0	H L H L H L H L L
6 (蓝)	C1	H H L L L H H L L L
5 (绿)	C2	H H H H L L L L L
	省电时电流(A)	0.38 0.60 0.86 1.05 1.19 1.35 1.50 1.73
8 (灰)	H.OFF	H: 停止(切断电机通电)
9 (白)	S.GND	信号接地

注：当CW、CCW端没有信号时，没有脉冲输入一方的端子为H：水平线

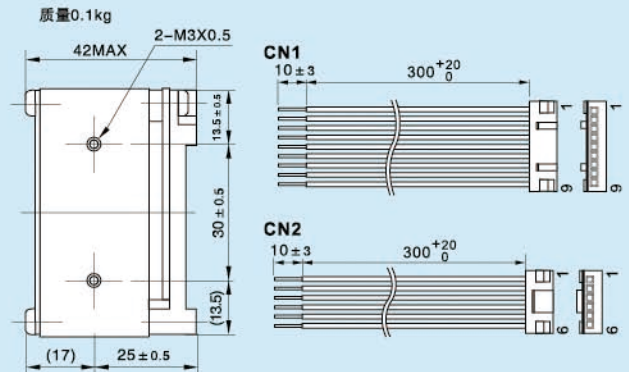
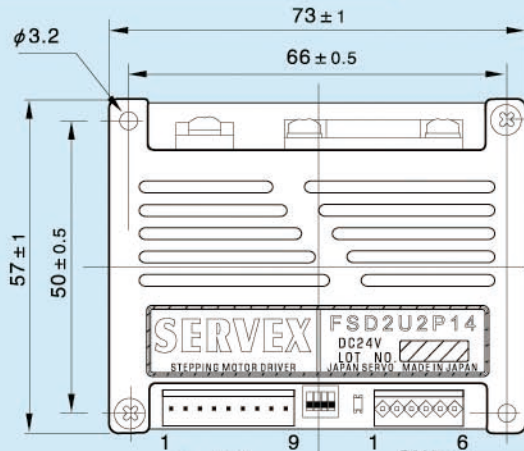


FSD2U2P14-01单极驱动电机驱动器

适用电机：

KH2030 / KH2048 - 501	KH39EM2 / FM2 / GM2 -801
KH42HM2 / JM2 - 901, 902, 903, 911, 912, 913	KH42KM2- 901, 911
KH56JM2 / KM2 / QM2 - 902, 903, 912, 913	KA50HM1 / JM1 / KM1 - 501, 502
KA50HM2 / JM2 / KM2 - 501, 502	

外形及
接线图



端子号 (颜色)	信号名	机能
1 (红)	VM	电机驱动用电源 12 - 30V
2 (黑)	P.GND	电机驱动用电源接地
3 (橙)	CW(注)	顺时针转向输入串行脉冲或驱动脉冲信号
4 (黄)	CCW(注)	逆时针转向输入串行脉冲或转向脉冲信号
	电机电流(A)	0.33 0.57 0.81 1.09 1.28 1.52 1.76 2.00
7 (紫)	C0	H L H L H L H L
6 (蓝)	C1	H H L L H H L L
5 (绿)	C2	H H H L H L L L
	省电时电流(A)	0.25 0.39 0.51 0.70 0.81 0.98 1.12 1.29
8 (灰)	H.OFF	H: 停止(切断电机通电)
9 (白)	S.GND	信号接地

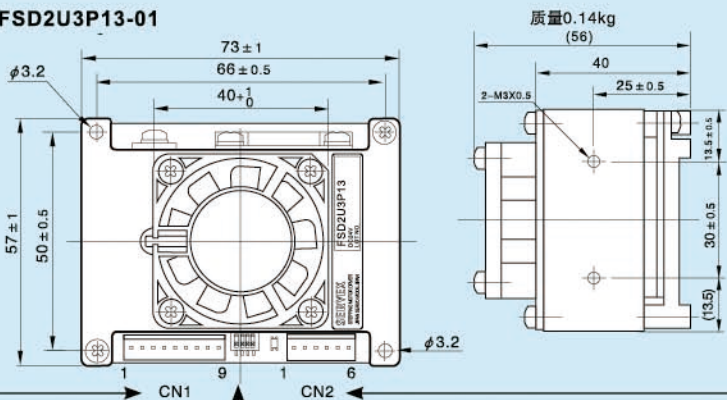
注：当CW、CCW端没有信号时，没有脉冲输入一方的端子为H：水平线

端子号 (颜色)	信号名	机能
1 (红)	A	电机的A相
2 (黑)	A.COM	电机的A相共用线
3 (白/红)	A̅	电机的A相
4 (绿)	B	电机的B相
5 (白)	B.COM	电机的B相共用线
6 (白/绿)	B̅	电机的B相

机能设定开关

开关号	开关名	机能	开关设定位置及动作	
			OFF	ON
1	SEL	脉冲输入方式及设定	CW/CCW	CK/DIR
2	SAVE	自动电机电流省电功能选择	节能设置	非节能设置
3	设定步角	分割数	1/2	1/1
		MS0	ON	OFF
4		MS1	ON	OFF
			ON	OFF

FSD2U3P13-01



端子号 (颜色)	信号名	机能
1 (红)	A	电机的A相
2 (黑)	A.COM	电机的A相共用线
3 (白/红)	A̅	电机的A相
4 (绿)	B	电机的B相
5 (白)	B.COM	电机的B相共用线
6 (白/绿)	B̅	电机的B相

机能设定开关

开关号	开关名	机能	开关设定位置及动作	
			OFF	ON
1	SEL	脉冲输入方式及设定	CW/CCW	CK/DIR
2	SAVE	自动电机电流省电功能选择	节能设置	非节能设置
3	设定步角	分割数	1/2	1/1
		MS0	ON	OFF
4		MS1	ON	OFF
			ON	OFF



KT35及KT42系列三相混合式步进电机

标准规格

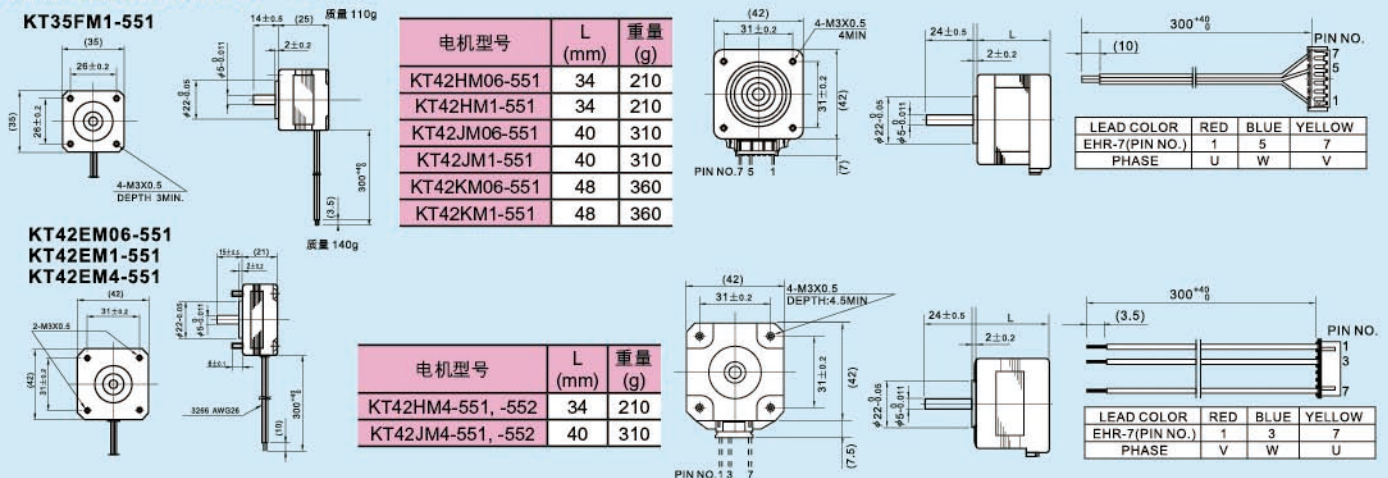
KT35系列三相混合式步进电机

电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/2相	$\Omega/2$ 相	mH/2相	mN·m	mN·m	$g \cdot cm^2$
KT35FM1-552	1.2	10.8	0.3	36	26	59	9.8	8

KT42系列三相混合式步进电机

电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/2相	$\Omega/2$ 相	mH/2相	mN·m	mN·m	$g \cdot cm^2$
KT42EM06-551	0.6	5.30	0.9	5.9	3.1	45	10	20
KT42HM06-551	0.6	2.88	2.4	1.2	0.8	90	6	42
KT42JM06-551	0.6	3.12	2.4	1.3	1.3	180	8	60
KT42KM06-551	0.6	4.60	2.3	2.0	1.4	200	9	85
KT42EM1-551	1.2	5.30	0.9	5.9	2.6	70	10	20
KT42HM1-551	1.2	2.64	2.4	1.1	0.5	140	10	42
KT42JM1-551	1.2	2.88	2.4	1.2	0.8	210	12	60
KT42KM1-551	1.2	3.60	2.4	1.5	1.0	280	16	85
KT42EM4-551	3.75	5.28	0.8	6.6	4.8	55	9.8	20
KT42HM4-551	3.75	4.42	1.3	3.4	4.7	130	14.7	38
KT42HM4-552	3.75	7.04	0.8	8.8	12.3	130	14.7	38
KT42JM4-551	3.75	5.16	1.2	4.3	8.7	180	19.6	60
KT42JM4-552	3.75	8.80	0.8	11.0	22.0	180	19.6	60

外型图及连接线尺寸 单位=mm



右记激励方式，从输出轴方向看，顺时针方向回转

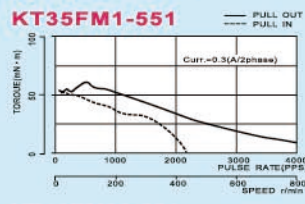
回转方向确认激励方式

STEP	1	2	3	4	5	6
U相(U PHASE)	+	-	-	-	-	+
V相(V PHASE)	-	-	-	+	+	-
W相(W PHASE)	-	+	+	-	-	-

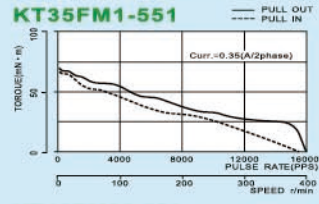


转矩特性

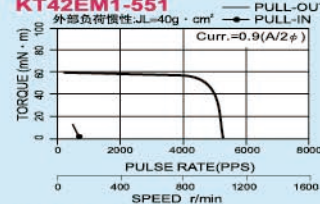
24V、2相励磁



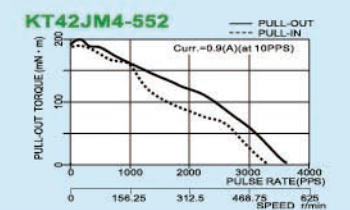
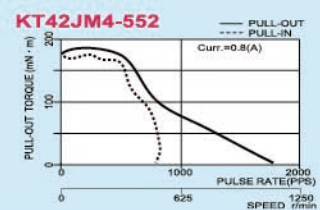
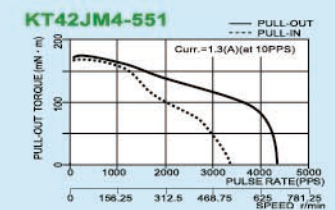
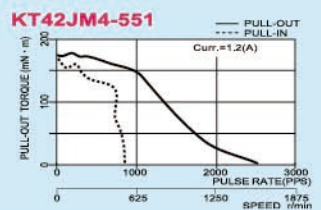
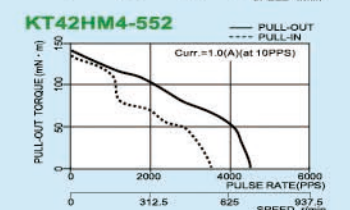
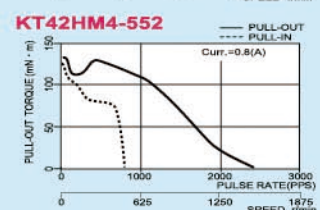
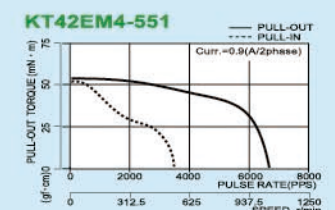
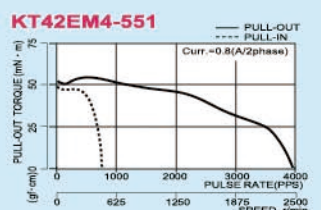
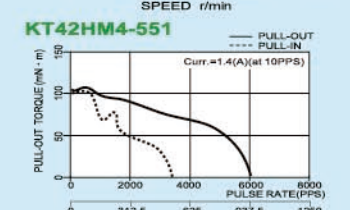
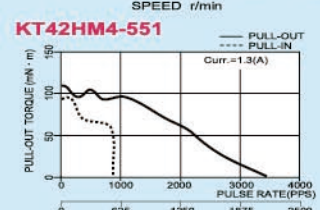
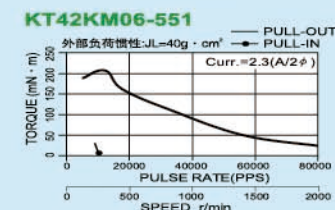
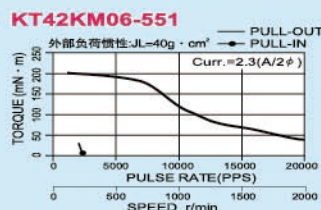
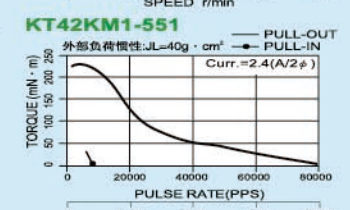
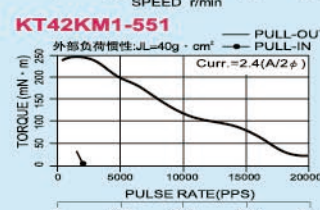
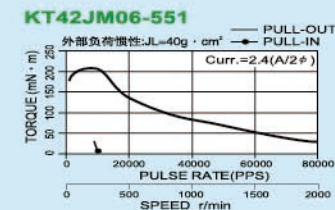
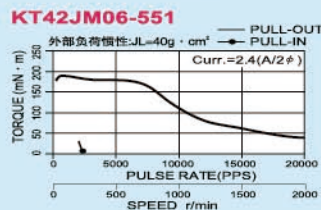
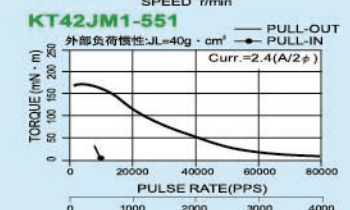
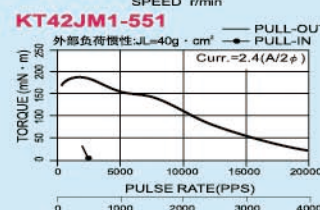
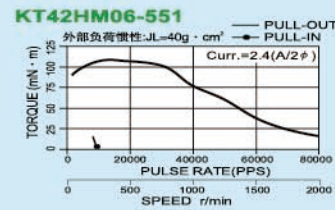
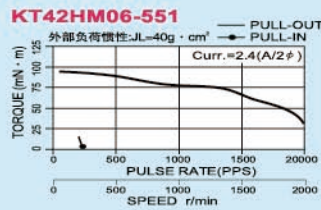
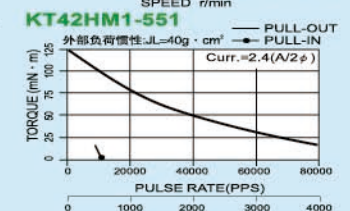
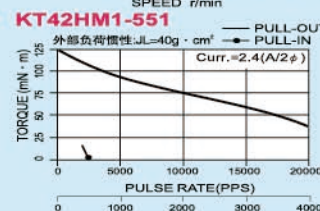
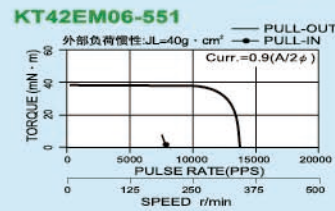
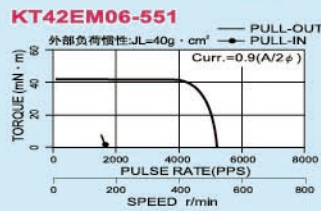
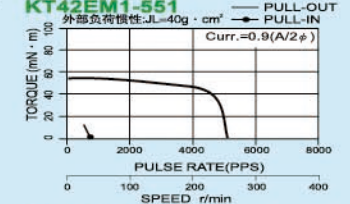
24V、1/4分割



24V、2相励磁



24V、1/4分割





KT60系列三相混合式步进电机

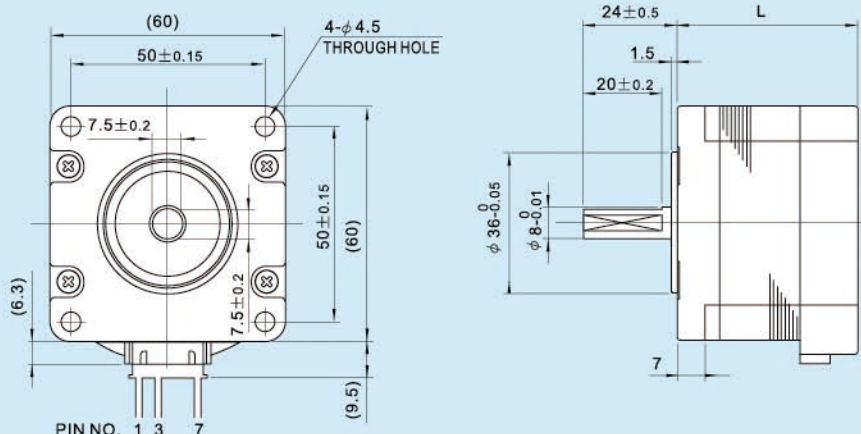
标准规格

KT60系列三相混合式步进电机

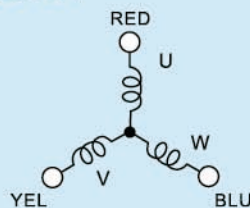
电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/2相	Ω /2相	mH/2相	mN·m	mN·m	$g \cdot cm^2$
KT60KM06-551	0.6	2.09	3.8	0.55	1.0	440	20	170
KT60KM06-552	0.6	3.52	2.2	1.60	3.0	440	20	170
KT60LM06-551	0.6	2.77	3.8	0.73	1.7	790	25	265
KT60LM06-552	0.6	4.84	2.2	2.20	5.6	790	25	265
KT60KM1-551	1.2	2.09	3.8	0.55	0.8	320	20	170
KT60KM1-552	1.2	3.52	2.2	1.60	2.5	320	20	170
KT60LM1-551	1.2	2.77	3.8	0.73	1.0	600	35	265
KT60LM1-552	1.2	4.84	2.2	2.20	3.3	600	35	265

外型图 单位=mm

电机型号	L (mm)	重量 (g)
KT60KM06 - □	47	510
KT60LM06 - □	58	720
KT60KM1 - □	47	510
KT60LM1 - □	58	720



接线图

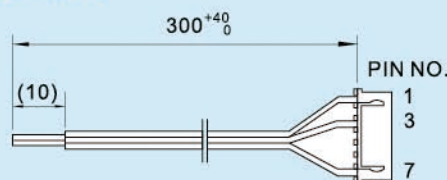


下记激励方式，从输出轴方向看，顺时针铁方向回转

回转方向确认激励方式

STEP \ PHASE	1	2	3	4	5	6
U相(U PHASE)	+	-	-	-	-	+
V相(V PHASE)	-	-	-	+	+	-
W相(W PHASE)	-	+	+	-	-	-

连接线尺寸 单位=mm



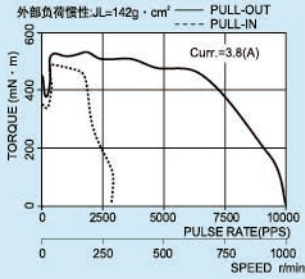
LEAD COLOR	YELLOW	BLUE	RED
XHP-7 (OIN NO.)	1	3	7
PHASE	V	W	U



频矩特性

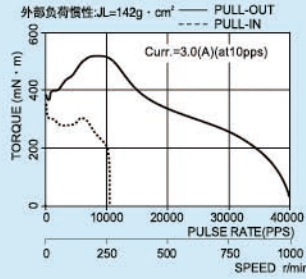
24V、2相励磁

KT60KM06-551



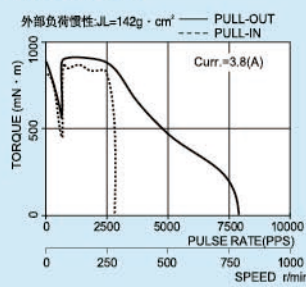
24V、1/4分割

KT60KM06-551



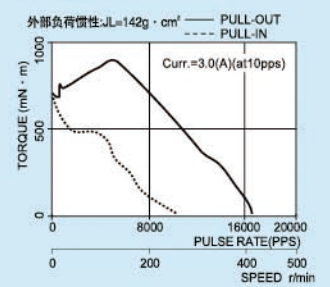
24V、2相励磁

KT60LM06-551

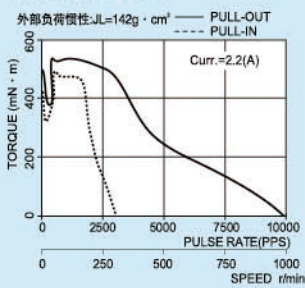


24V、1/4分割

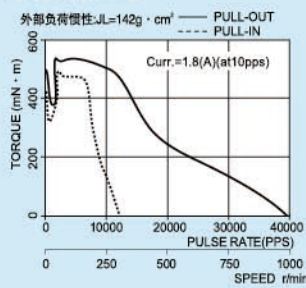
KT60LM06-551



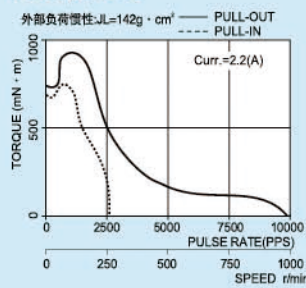
KT60KM06-552



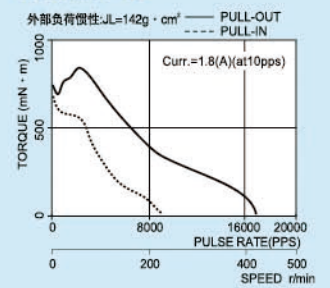
KT60KM06-552



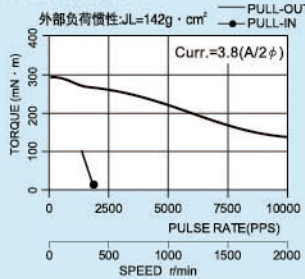
KT60LM06-552



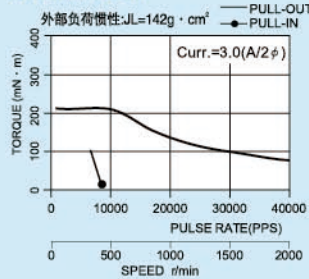
KT60LM06-552



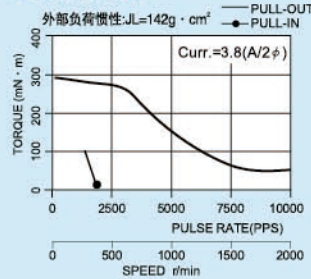
KT60KM1-551



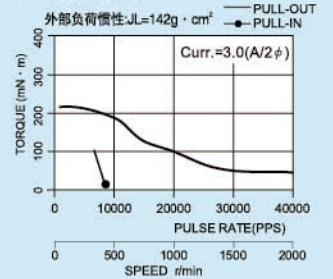
KT60KM1-551



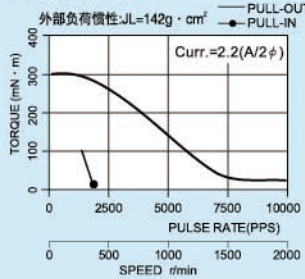
KT60LM1-551



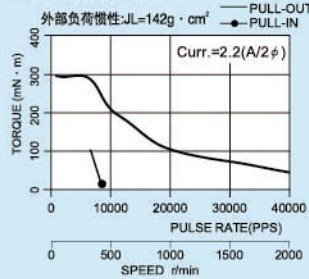
KT60LM1-551



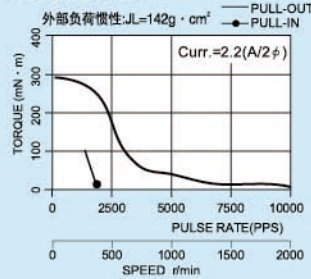
KT60KM1-552



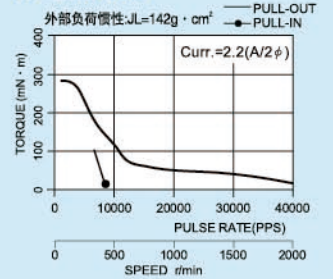
KT60KM1-552



KT60LM1-552



KT60LM1-552





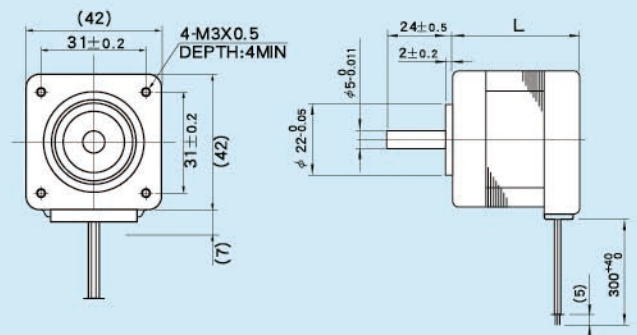
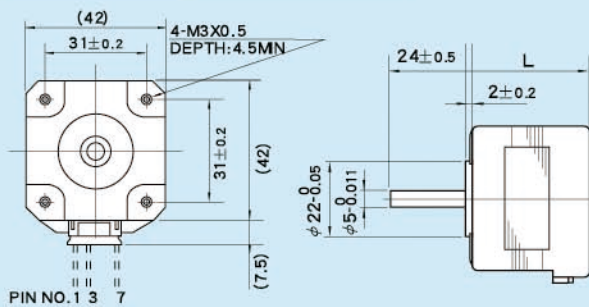
KR42系列三相永磁式步进电机

标准规格

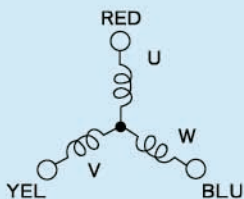
电机型号	步进角	电压	电流	电阻	电感	最大静转矩	保持转矩	转动惯量
Model	Step angle	Voltage	Current	Resistance	Inductance	Holding torque	Detent torque	Rotor inertia
	Degree / step	V	A/2相	Ω/2相	mH/2相	mN·m	mN·m	g·cm ²
KR42HM4-551	3.75	2.80	2.0	1.40	1.7	49	9.8	31
KR42HM4-552	3.75	4.42	1.3	3.40	4.0	49	9.8	31
KR42JM4-551	3.75	3.50	2.0	1.75	2.1	88	9.8	45
KR42JM4-552	3.75	5.16	1.2	4.30	8.7	88	9.8	45
KR42KM4-551	3.75	3.50	2.5	1.40	1.7	118	9.8	57
KR42KM4-552	3.75	6.50	1.3	5.00	7.7	118	9.8	57

外型图 单位=mm

电机型号	L (mm)	重量 (g)
KR42HM4 - □	34	190
KR42JM4 - □	40	240
KR42KM4 - □	48	320



接线图

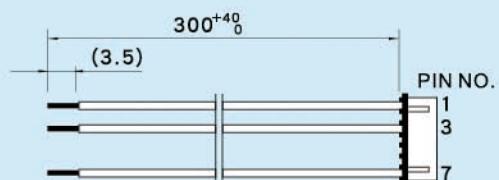


下记激励方式，从输出轴方向看，顺时针铁方向回转

回转方向确认激励方式

STEP \ PHASE	1	2	3	4	5	6
U相(U PHASE)	+	-	-	-	-	+
V相(V PHASE)	-	-	+	+	+	-
W相(W PHASE)	+	+	-	-	-	-

连接线尺寸 单位=mm



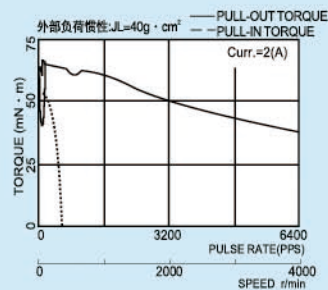
LEAD COLOR	YELLOW	BLUE	RED
XHP-7 (OIN NO.)	1	3	7
PHASE	V	W	U



频矩特性

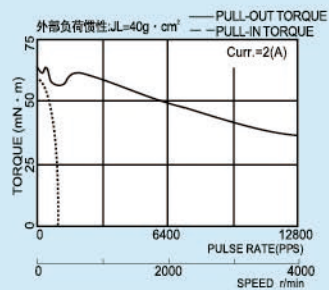
24V、2相励磁

KR42HM4-551



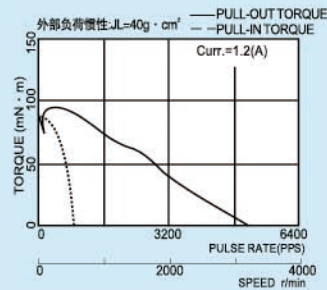
24V、1/4分割

KR42HM4-551



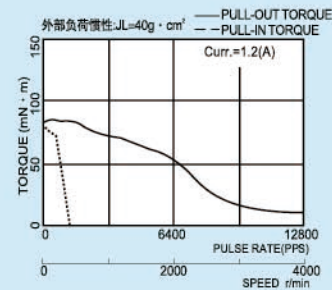
24V、2相励磁

KR42JM4-552

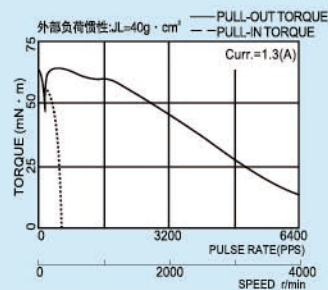


24V、1/4分割

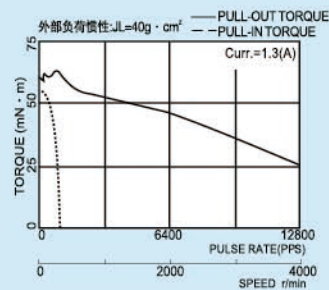
KR42JM4-552



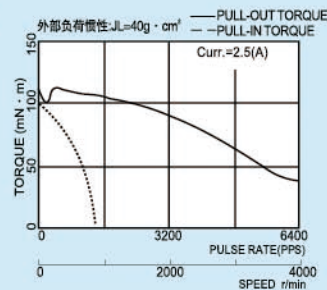
KR42HM4-552



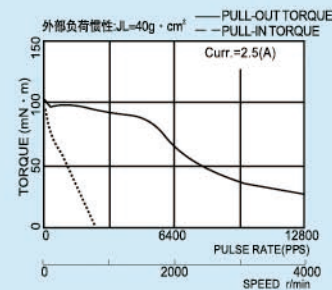
KR42HM4-552



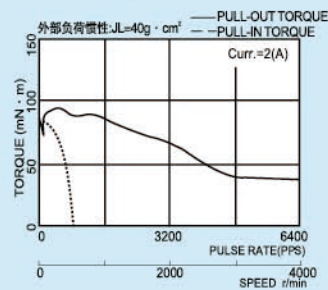
KR42KM4-551



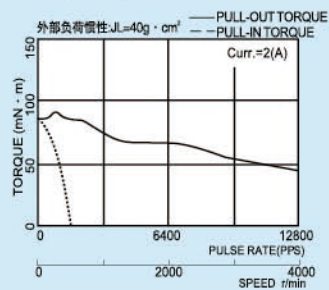
KR42KM4-551



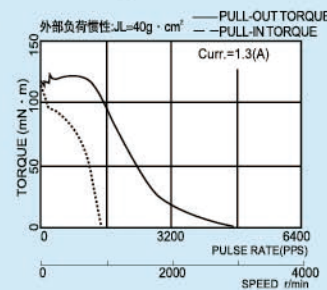
KR42JM4-551



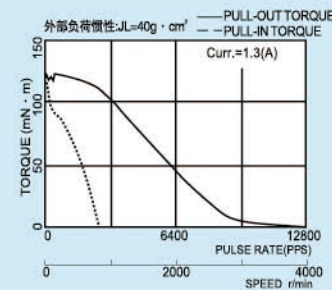
KR42JM4-551



KR42KM4-552



KR42KM4-552





FTD系列三相混合式步进电机驱动器

FTD3S2P22-01三相步进电机驱动器

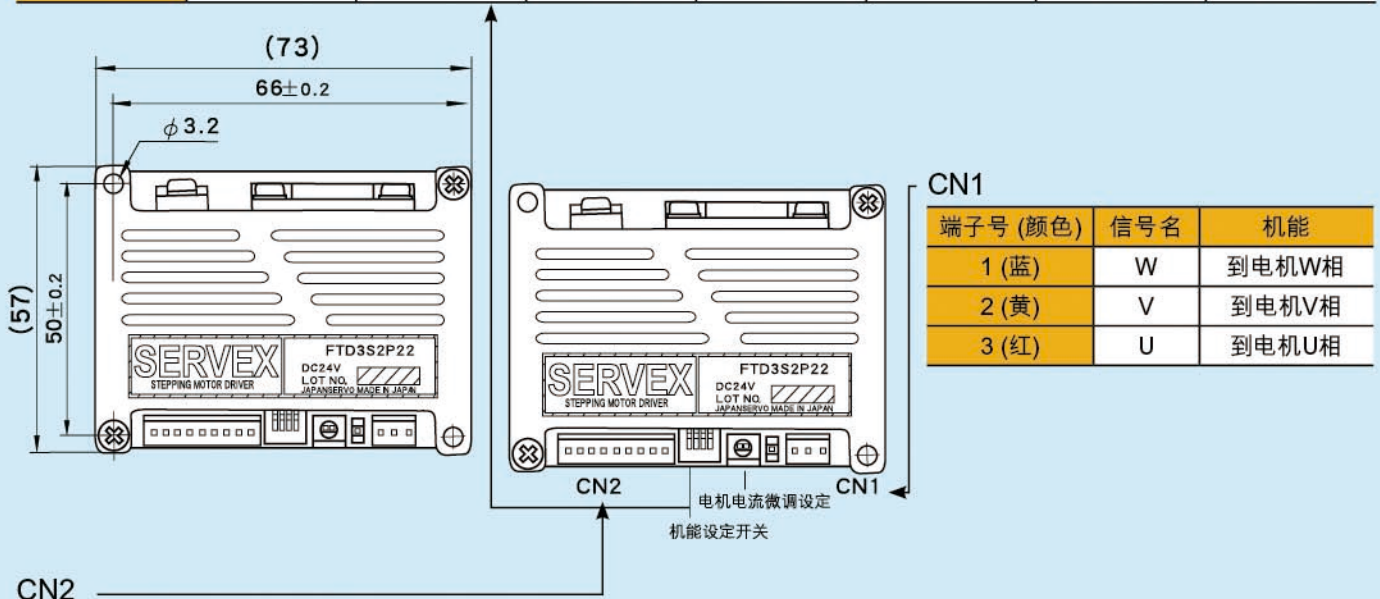
适用电机：

KT35FM1-552	KT42EM06 / EM1 / EM4 - 551
KT42HM4 / JM4 - 551,552	KR42HM4 / JM4 - 551
KR42HM4 / JM4 / KM4 - 552	

外形及接线图

机能设定开关

开关号	开关名	机能	开关设定位置及动作				
1	SEL	驱动脉冲形式	OFF	顺时针 / 逆时针脉冲输入			
			ON	串行脉冲 / 转向 CCW端 = "H", 逆时针转向 CCW端 = "L", 顺时针转向			
2	SAVE	自动节能功能	OFF	允许电机停止后0.28-0.39秒后输出功率下降40 - 60%			
			ON	不允许			
4	MS1	步数细分	细分数	1/8	1/4	1/2	1/1
3	MS0		MS1	ON	ON	OFF	OFF
			MS0	ON	OFF	ON	OFF



端子号 (颜色)	信号名	机能
1 (蓝)	W	到电机W相
2 (黄)	V	到电机V相
3 (红)	U	到电机U相

端子号 (颜色)	信号名	机能			
1 (红)	VM	电机驱动用电源 12 - 24V			
2 (黑)	COM	电机驱动用电源接地			
3 (橙)	5VDC	逻辑电路电线DC+5V			
4 (黄)	GND	逻辑电路电源接地			
5 (绿)	CW	顺时针转向输入串行脉冲或驱动脉冲信号			
6 (蓝)	CCW	逆时针转向输入串行脉冲或转向脉冲信号			
	电流%	120 - 150%	100%	50 - 80%	0%
7 (紫)	C0	L	L	H	H
8 (灰)	C1	L	H	L	H
9 (白)	GND	信号接地			



FTD3S3P18-01三相步进电机驱动器

适用电机：

KT42HM06 / JM06 / KM06 - 551	KT42HM1 / JM1 / KM1 - 551
KT60KM06 / LM06 - 552	KT60KM1 / LM1 - 552
KR42KM4-551	

外形及接线图

机能设定开关

开关号	开关名	机能	开关设定位置及动作				
1	SEL	驱动脉冲形式	OFF	顺时针 / 逆时针脉冲输入			
			ON	串行脉冲 / 转向 CCW端 = "H", 逆时针转向 CW端 = "L", 顺时针转向			
2	DWN	自动节能功能	OFF	允许电机停止后0.28-0.39秒后输出功率下降40 - 60%			
			ON	不允许			
4	MS1	步数细分	细分数	1/8	1/4	1/2	1/1
3	MS0		MS1	ON	ON	OFF	OFF
			MS0	ON	OFF	ON	OFF

CN2

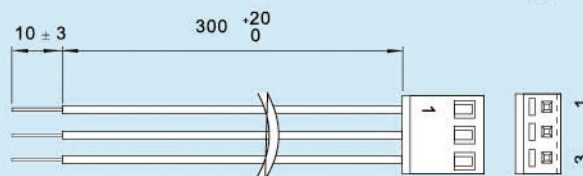
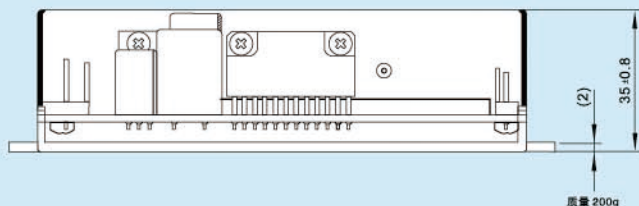
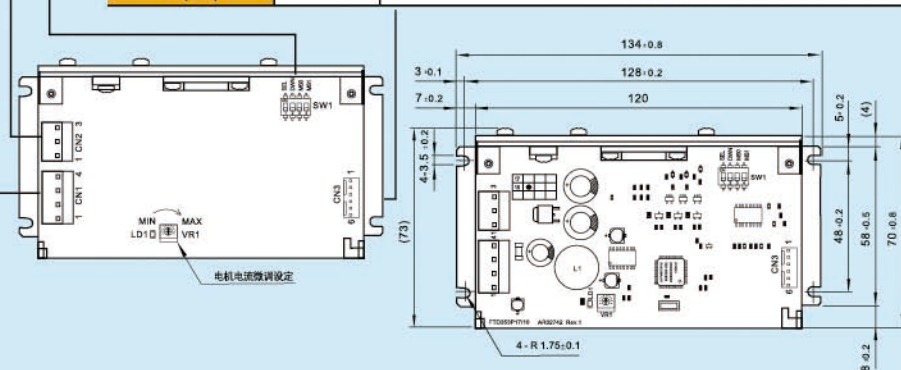
端子号 (颜色)	信号名	机能
1 (蓝)	W	到电机W相
2 (黄)	V	到电机V相
3 (红)	U	到电机U相

CN3

端子号 (颜色)	信号名	机能
1 (黄)	CW	顺时针转向输入串行脉冲或驱动脉冲信号
2 (棕)	GND	CW信号接地
3 (绿)	CCW	逆时针转向输入串行脉冲或转向脉冲信号
4 (蓝)	GND	CCW信号接地
5 (白)	H.OFF	切断电机电源信号
6 (灰)	GND	H.OFF信号接地

CN1

端子号 (颜色)	信号名	机能
1 (红)	5VDC	逻辑电路电源5V
2 (黑)	GND	逻辑电路电源接地
3 (橙)	VM	电机驱动用电源24V
4 (黑)	COM	电机驱动用电源接地





FTD3S4P11-01三相步进电机驱动器

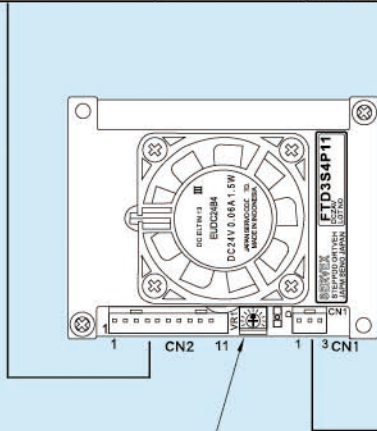
适用电机：

KT60KM06 / LM06 - 551 | KT60KM1 / LM1- 551

外形及接线图

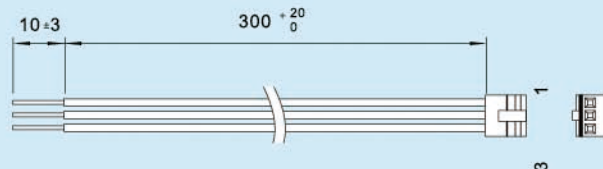
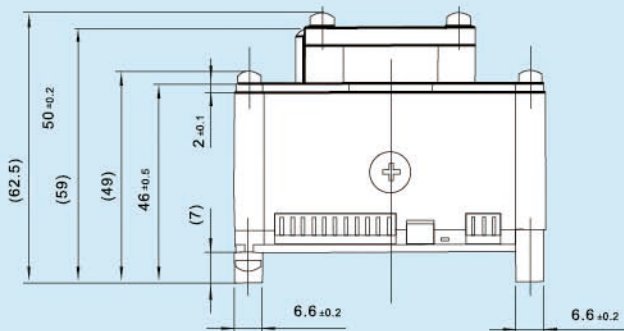
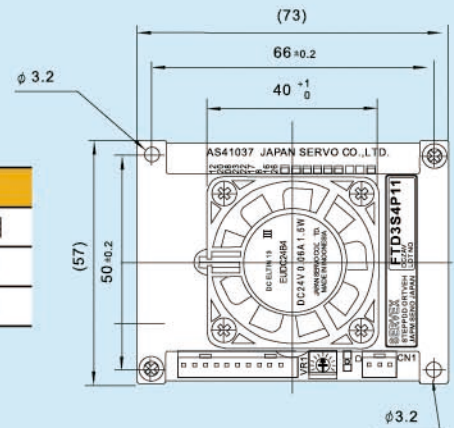
CN2

端子号 (颜色)	信号名	机能					
1 (红)	VM	电机驱动用电源+24V					
2 (黑)	COM	电机驱动用电源接地					
3 (橙)	VS+	逻辑电路电源 +5V					
4 (棕)	Mode A-	步数细分	细分数	1/1	1/2	1/4	1/8
5 (黄)	Mode B-		Mode A-	L	L	H	H
			Mode B-	L	H	L	H
10 (白/红)	MO+	电机旋转频率信号	脉冲数量	6	12	24	48
11 (白)	MO-	电机旋转频率信号输出接地					
6 (绿)	H.OFF-	切断电机电源信号 (信号输入="L", 切断电源; 信号输入="H", 不切断电源)					
7 (蓝)	SAVE-	电机自动节能功能 信号输入="L", 100%电源输出; 信号输入="H", 电机停止后0.1秒后输出功率下降50%					
8 (紫)	CW-	顺时针转向输入串行脉冲或驱动脉冲信号	模式选择	开路	顺时针 / 逆时针转向脉冲		
				短路	驱动 / 转向脉冲信号		
9 (灰)	CCW-	逆时针转向输入串行脉冲或转向脉冲信号					



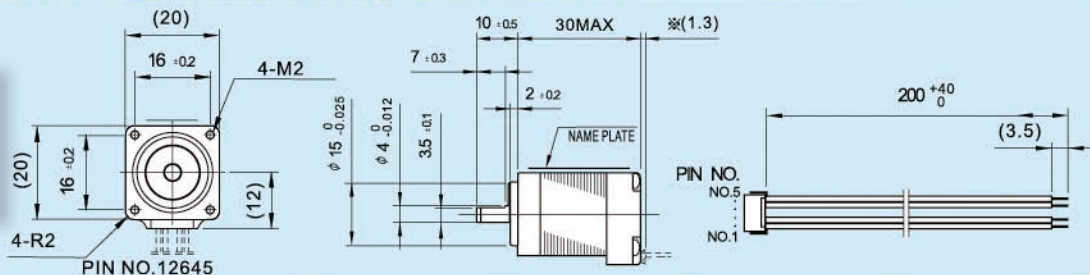
CN1

端子号 (颜色)	信号名	机能
1 (蓝)	W	到电机W相
2 (黄)	V	到电机V相
3 (红)	U	到电机U相



特殊及非标产品

微型步进电机的极致 — KH20系列二相混合式步进电机

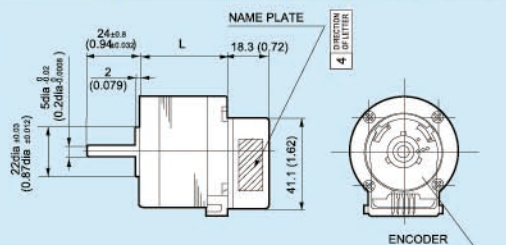


电机规格

电机型号	步进角	外径尺寸	电机长度	最大静转矩	转动惯量	重量
Model	Step angle Degree / step	Dimension mm	Length mm	Holding torque mN·m	Holding torque mN·m	Weight g
KH2030-501	1.8	20 x 20	30	13.4	2	50
KH2030-551	1.8	20 x 20	30	17.4	2	50
KH2048-501	1.8	20 x 20	46	待定	待定	待定
KH2048-551	1.8	20 x 20	46			

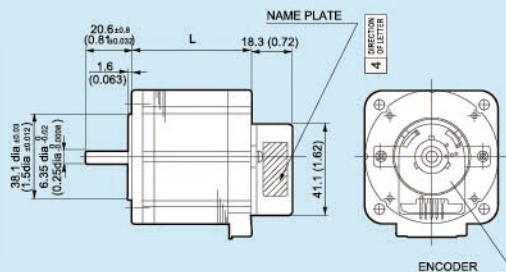
一体化的步进电机 — KA50及KA60系列二相混合式步进电机连编码器

KA50系列



电机型号	L (mm)	重量 (g)
KA50HM2 - □	35	230
KA50JM2 - □	40	300
KA50KM2 - □	50	420

KA60系列



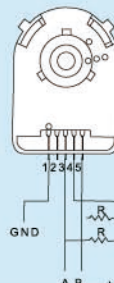
电机型号	L (mm)	重量 (g)
KA60HM2 - □	44	500
KA60JM2 - □	54	700
KA60KM2 - □	65	850

编码器规格

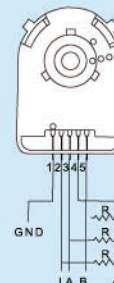
型号	KA50、KA60
分辨率 (P/R)	400
电压 (V)	DC 5V ± 0.5V
输出状态	2通道 A、B 状态 3通道 A、B、I 状态
输出波形	TTL

建议的电阻值

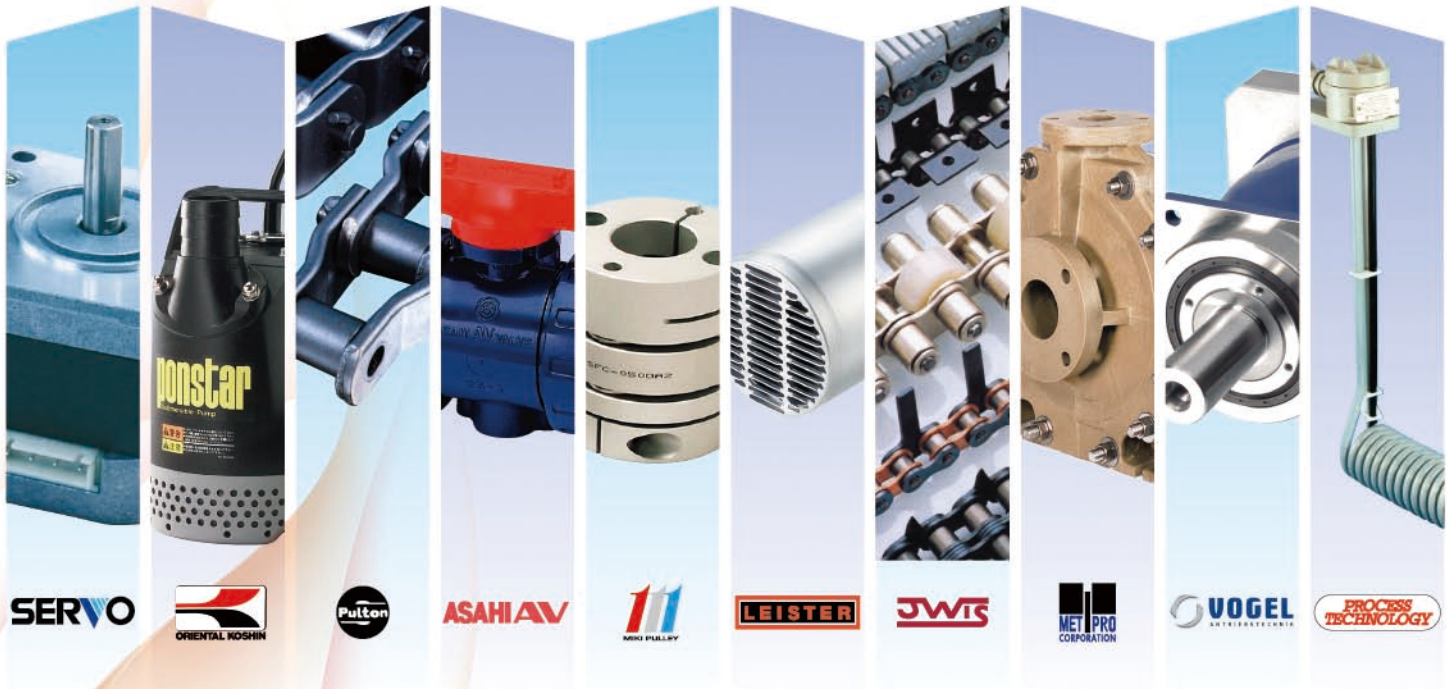
电阻值 (Ω)	2通道	3通道
	11K	2.7K



端子号	1	2	3	4	5
	接地	-	A状态	+5	B状态



端子号	1	2	3	4	5
	接地	I状态	A状态	+5	B状态



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On Gear E & M Products Ltd.

安基工业设备有限公司
On Gear Trading Co., Ltd.

安基水泵器材有限公司
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