

INDUCTION MOTOR
AC/DC MOTOR
DC BRUSSLESS MOTOR
MOTORGEAR
WORMGEAR REDUCER
NMRV GEAR



Suntech



หลักมอเตอร์ชนิด AC SUNTECH

DESCRIPTION OF MOTOR MODEL

5 I K 60 R GN C F
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

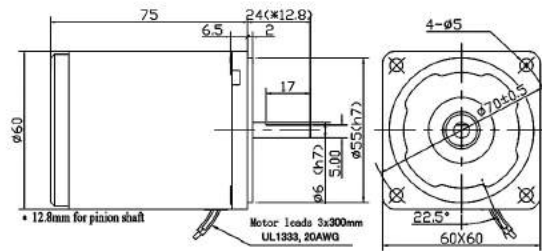
1	Motor Frame Size	2: 60mm	3: 70mm	4: 80mm	5: 90MM	6: 104mm
2	Motor Type	I: Induction Motors		R: Reversible Motors		
3	Series	K: K Series				
4	Output Power (W)	60 : 60W				
5	Regulation	The Suffix “R” after the output Power Means Speed Adjustable Motor				
6	Motor Shaft Type	GN: GN Type:Pinion Shaft		GU: GU Type:Pinion shaft		
		A: Round Shaft				
7	Power Supply Voltage : Poles	A: Single-Phase 110V50Hz4P C: single-Phase 220V50Hz4P Y: Three-Phase 220/380V50Hz4P S: Three-Phase 380V50Hz4P				
8	F: Fan M: Magnetic Brake Motor					

DESCRIPTION OF REDUCER MODEL

5 GN 50 K
 ① ② ③ ④

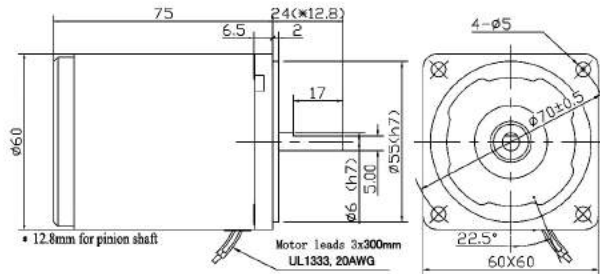
1	Gearhead Frame Size	2: 60mm	3: 70mm	4: 80mm	5: 90MM	6: 104mm
2	Type of Pinion	GN: GN Type Gear		GU: GU Type Gear		
3	Gear Ratio	50: Ratio 1:50				
4	Bearing Type	K: Ball Bearing				

● Motor Dimensions:



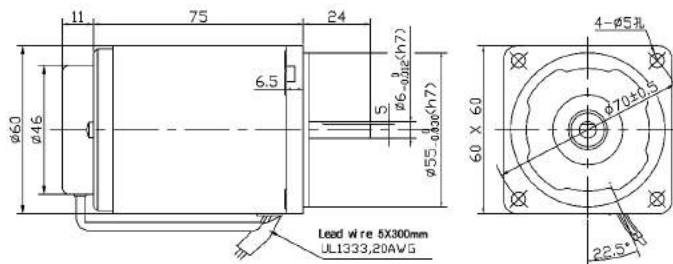
Induction Motors 6W
Frame Size: $\square 60$ mm ($\square 2.36$ in.)

● Motor Dimensions:



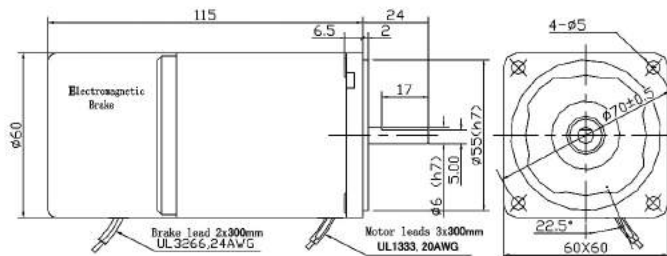
Reversible Motors 6W
Frame Size: $\square 60$ mm ($\square 2.36$ in.)

● Motor Dimensions:



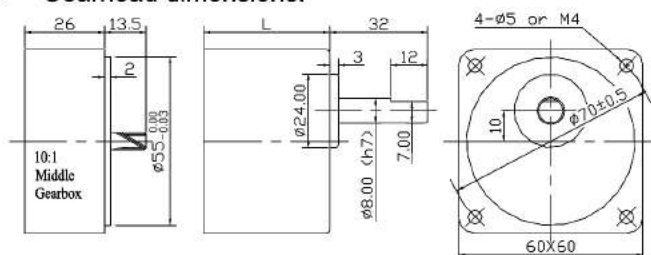
Speed Control Motors 6W
Frame Size: $\square 60$ mm ($\square 2.36$ in.)

● Motor Dimensions:



Magnetic Brake Motors 6W
Frame Size: $\square 60$ mm ($\square 2.36$ in.)

● Gearhead dimensions:



Item	Ratio	L	Weight	
		mm	Kg	lb
Gearhead (2GNxxK)	3 - 200	41.5	0.33	0.73
Middle gearbox(10:1)			0.2	0.44
Motor			0.7	1.54

● Induction motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
2IK6GN-A	2IK6A-A	6	1ph110	50	0.24	55	48	1200	3.5/250
				60	0.25	50	40	1450	
2IK6GN-C	2IK6A-C	6	1ph220	50	0.13	50	48	1200	0.8/450
			1ph230		0.11			1450	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Reversible motor specifications-30 minute rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
2RK6GN-A	2RK6A-A	6	1ph100	50	0.265	60	48	1200	4
				60	0.232	55	40	1450	
2RK6GN-C	2RK6A-C	6	1ph220	50	0.145	55	48	1200	1
			1ph230		0.15			1450	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Speed Control motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Speed Range	Allowable Torque		Starting Torque	Current	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	r/min	1200rpm	90rpm	mN.m	Amp	μF/V
2IK6RGN-A	2IK6RA-A	6	1ph100	50	90~1400	50	30	35	0.26	3.5/250
				60	90~1700	50	29	35	0.28	
2IK6RGN-C	2IK6RA-C	6	1ph220	50	90~1400	55	29	35	0.15	0.8/450

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Brake motor specifications (leads wire type)

Model			Duty	Output power	Voltage	Freq.	Current	Starting torque	Rated torque	Rated speed	CAP
(Lead wire type)											
Pinion	Shaft	Round Shaft		W	V	Hz	A	mN.m	mN.m	r/min	μF/VAC
2IK6GN-AM	2IK6A-AM	Cont.	6	1ph100	50	0.265	60	48	1200	4	
					60	0.232	55	40	1450		
2IK6GN-CM	2IK6A-CM	Cont.	6	1ph220	50	0.145	55	48	1200	1	
				1ph230		0.15					

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

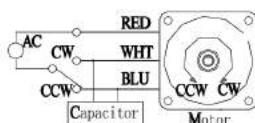
● Gear Motor-Torque Table

Model		Gear Ratio		X:1	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200				
		Efficiency		%	81										73					66									
		Speed		50Hz	RPM	500	417	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3	7.5			
				60Hz	RPM	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	9			
2IK6GN-AM 2IK6GN-CM	2GN□K	50Hz	Nm	0.12	0.14	0.19	0.23	0.29	0.35	0.49	0.58	0.7	0.88	1.1	1.3	1.6	1.9	2.4	2.9	3	3	3	3	3	3				
			Kg.cm	1.22	1.43	1.94	2.35	2.96	3.57	5	5.92	7.14	8.98	11.2	13.3	16.3	19.4	24.5	29.6	30	30	30	30	30	30				
		60Hz	Nm	0.1	0.12	0.16	0.19	0.24	0.29	0.41	0.49	0.58	0.73	0.88	1.1	1.3	1.6	2	2.4	2.6	3	3	3	3	3				
			Kg.cm	1.02	1.22	1.63	1.94	2.45	2.96	4.18	5	5.92	7.45	8.98	11.2	13.3	16.3	20.4	24.5	2.65	30	30	30	30	30				

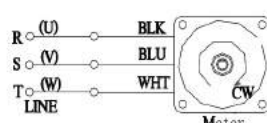
- Enter the gear ratio in the box □. Colored background indicates the output shaft rotate in the same direction as the motor shaft.
- The speed is calculated based on the synchronous speed (50 Hz: 1500rpm; 60Hz: 1800 rpm) by the gear ratio.
- Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1 only). Using Middle Gearbox limits Max.torque to 30Nm (30kg.cm)

● Connection Diagrams:

- Lead Wire Single Phase

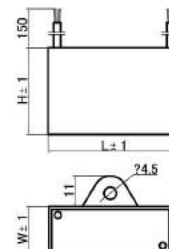


- Lead Wire Three Phase

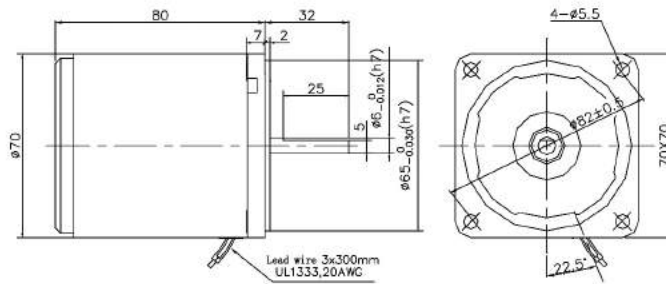


Capacitor:

Value		Dimensions		
uF	V	L	H	W
2.0 - 2.5	250	37	14	28
0.5 - 1.5	450			
3.5 - 4.0	250	37	18	28
1.8 - 2.5	450			

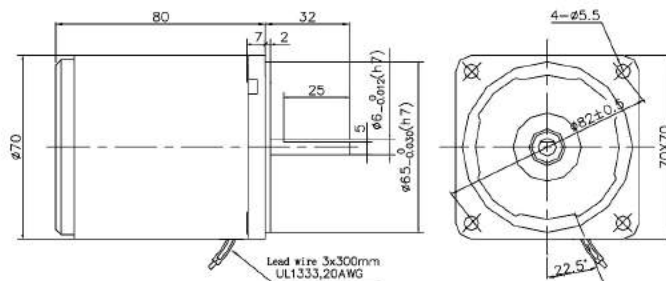


• Motor Dimensions:



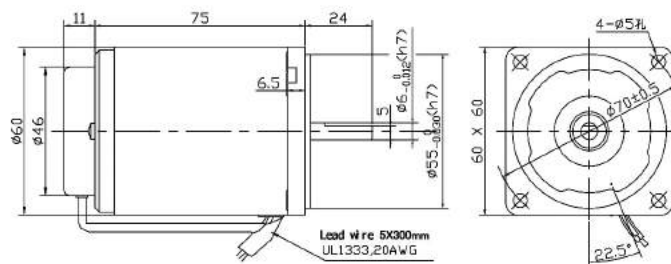
Induction Motors 15W
Frame Size: □70mm (□2.76 in.)

• Motor Dimensions:



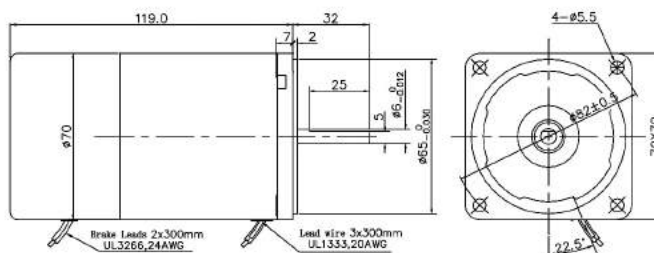
Reversible Motors 15W
Frame Size: □70mm (□2.76 in.)

• Motor Dimensions:



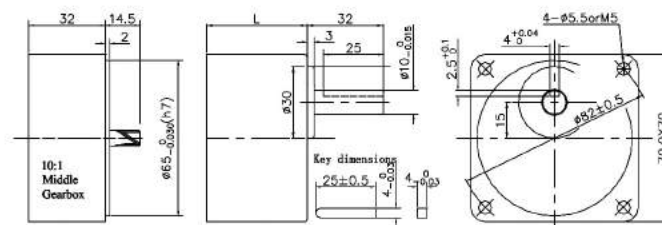
Speed Control Motors 15W
Frame Size: □70mm (□2.76 in.)

• Motor Dimensions:



Magnetic Brake Motors 15W
Frame Size: □70mm (□2.76 in.)

• Gearhead dimensions:



Item	Ratio	L	Weight	
		mm	Kg	lb
Gearhead (3GNxxK)	3 - 200	42	0.52	1.14
Middle gearbox(10:1)			0.3	0.66
Motor			1.1	2.42

● Induction motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
3IK15GN-A	3IK15A-A	15	1ph100	50	0.35	90	125	1200	6/250
				60	0.33	85	105	1450	
3IK15GN-C	3IK15A-C	15	1ph220	50	0.18	90	125	1200	1.2/450
			1ph230		0.2			1450	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Reversible motor specifications-30 minute rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
3RK15GN-A	3RK15A-A	15	1ph100	50	0.4	110	125	1200	7
				60	0.56	105	105	1450	
3RK15GN-C	3RK15A-C	15	1ph220	50	0.23	110	125	1200	1.5
			1ph230		0.2			1450	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Speed Control motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Speed Range	Allowable Torque		Starting Torque	Current	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	r/min	1200rpm	90rpm	mN.m	Amp	μF/V
3IK15RGN-A	3IK15RA-A	15	1ph100	50	90~1400	130	36	110	0.4	7
				60	90~1700	130	36	105	0.56	
3IK15RGN-C	3IK15RA-C	15	1ph220	50	90~1400	135	38	110	0.23	1.5

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Brake motor specifications (leads wire type)

Model			Duty	Output power	Voltage	Freq.	Current	Starting torque	Rated torque	Rated speed	CAP
(Lead wire type)											
Pinion	Shaft	Round Shaft									
3IK15GN-AM	3IK15A-AM		Cont.	15	1ph100	50	0.4	110	125	1200	7/250
						60	0.56	105	105	1450	
3IK15GN-CM	3IK15A-CM		Cont.	15	1ph220 1ph230	50	0.23 0.15	110	125	1200	1.5/450

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

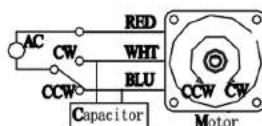
● Gear Motor-Torque Table

Model	Gear Ratio		X:1	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200		
	Efficiency		%	81										73			66									
	Speed	50Hz	RPM	500	417	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3	7.5		
		60Hz	RPM	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	9		
3IK15GN-A 3IK15GN-C	3GN□K	50Hz	Nm	0.3	0.36	0.51	0.61	0.76	0.91	1.3	1.5	1.8	2.3	2.7	3.3	4.1	5	5	5	5	5	5	5	5		
			Kg.cm	3.06	3.06	5.2	6.22	7.75	9.28	13.2	15.3	18.3	23.4	27.5	33.7	41.8	50	50	50	50	50	50	50	50		
		60Hz	Nm	0.26	0.31	0.43	0.51	0.64	0.77	1.1	1.3	1.5	1.9	2.3	2.8	3.5	4.2	5	5	5	5	5	5	5		
			Kg.cm	2.65	3.16	4.38	5.2	6.53	7.85	11.2	13.2	15.3	19.3	23.4	28.5	35.7	42.8	50	50	50	50	50	50	50	50	

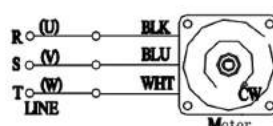
- Enter the gear ratio in the box □. Colored background indicates the output shaft rotate in the same direction as the motor shaft.
- The speed is calculated based on the synchronous speed (50 Hz: 1500rpm; 60Hz: 1800 rpm) by the gear ratio.
- Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1 only). Using Middle Gearbox limits Max.torque to3Nm (30kg.cm)

● Connection Diagrams:

● Lead Wire Single Phase

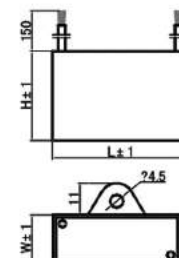


● Lead Wire Three Phase



● Capacitor:

Value		Dimensions		
μF	V	L	H	W
2.0 - 2.5	250	37	14	28
0.5 - 1.5	450			
5.0 - 8.0	250	47	22	34
3.0 - 5.0	450			



● Induction motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
4IK25GN-A	4IK25A-A	25	1ph100	50	0.45	120	200	1250	8/250
				60	0.5		165	1550	
4IK25GN-C	4IK25A-C	25	1ph220	50	0.25	120	200	1250	1.5/450
				60	0.23		1450	1450	
4IK25GN-Y	4IK25A-Y	25	3ph220	50	0.185	350	200	1250	-
				60	0.17	250	165	1550	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Reversible motor specifications-30 minute rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
4RK25GN-A	4RK25A-A	25	1ph100	50	0.59	160	200	1250	10
				60	0.69	140	165	1550	
4RK25GN-C	4RK25A-C	25	1ph220	50	0.29	140	200	1250	1.8
				60	0.3	160	1450	1450	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Speed Control motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Speed Range	Allowable Torque		Starting Torque	Current	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	r/min	1200rpm	90rpm	mN.m	Amp	μF/V
4IK25RGN-A	4IK25RA-A	25	1ph100	50	90~1400	190	47	88	0.75	8/250
				60	90~1700	50	29	35	0.28	
4IK25RGN-C	4IK25RA-C	25	1ph220	50	90~1400	190	47	88	0.35	1.5/450

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Brake motor specifications (leads wire type)

Model			Duty	Output power	Voltage	Freq.	Current	Starting torque	Rated torque	Rated speed	CAP
(Lead wire type)											
Pinion	Shaft	Round Shaft		W	V	Hz	A	mN.m	mN.m	r/min	μF/VAC
4IK25GN-AM	4IK25A-AM	30min	25	1ph100	50	0.59	160	200	1250	10	
					60	0.69	140	165	1550		
4IK25GN-CM	4IK25A-CM	30min	25	1ph220 1ph230	50	0.29 0.3	140 160	200	1250	1.8	
4IK25GN-YM	4IK25A-YM	Cont.	25	3ph220	50	0.185	350	200	1200	-	
					60	0.17	250	165	1550		

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

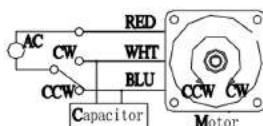
● Gear Motor-Torque Table

Model	Gear Ratio		X:1	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200				
	Efficiency		%	81										73					66									
	Speed	50Hz	RPM	500	417	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3	7.5				
		60Hz	RPM	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	9				
4IK25GN- 4IK25GN- 4IK25GN-	4GN□K	50Hz	Nm	0.49	0.58	0.81	0.97	1.2	1.5	2	2.4	2.9	3.7	4.4	5.3	6.6	7.9	8	8	8	8	8	8	8				
			Kg.cm	5	5.91	8.26	9.89	12.2	15.3	20.4	24.4	29.6	37.7	44.9	54.1	67.3	80	80	80	80	80	80	80	80				
		60Hz	Nm	0.4	0.48	0.67	0.8	1	1.2	1.7	2	2.4	3	3.6	4.3	5.4	6.5	8	8	8	8	8	8	8				
			Kg.cm	4.08	4.89	6.83	8.16	10.2	12.2	17.3	20.4	24.4	30.6	36.7	43.8	55.1	66.3	80	80	80	80	80	80	80	80			

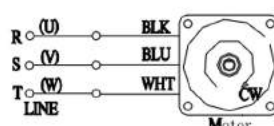
- Enter the gear ratio in the box □. Colored background indicates the output shaft rotate in the same direction as the motor shaft.
- The speed is calculated based on the synchronous speed (50 Hz: 1500rpm; 60Hz: 1800 rpm) by the gear ratio.
- Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1 only). Using Middle Gearbox limits Max.torque to 3Nm (30kg.cm)

● Connection Diagrams:

● Lead Wire Single Phase

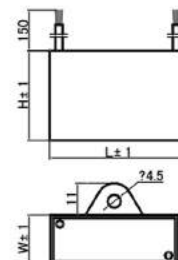


● Lead Wire Three Phase

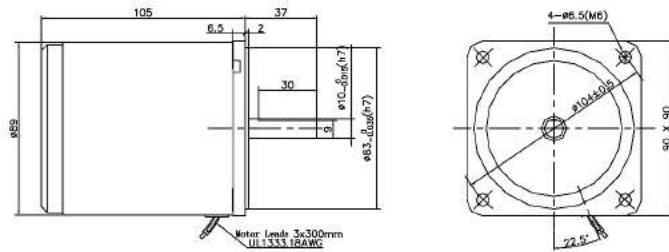


● Capacitor:

Value		Dimensions		
μF	V	L	H	W
2.0 - 2.5	250	37	14	28
0.5 - 1.5	450			
5.0 - 8.0	250	47	22	34
3.0 - 5.0	450			

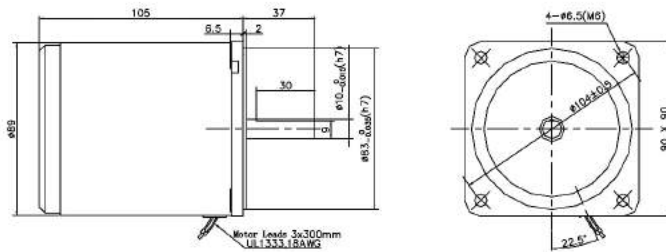


● Motor Dimensions:



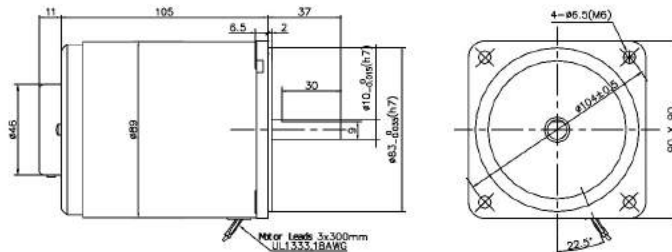
Induction Motors 40W
Frame Size: □90mm (□3.54 in.)

● Motor Dimensions:



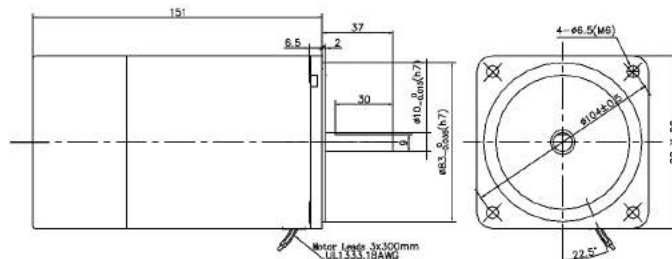
Reversible Motors 40W
Frame Size: □90mm (□3.54 in.)

● Motor Dimensions:



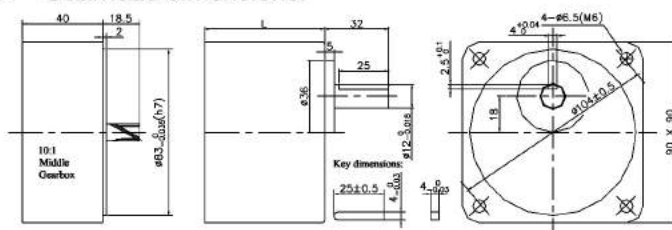
Speed Control Motors 40W
Frame Size: □90mm (□3.54 in.)

● Motor Dimensions:



Magnetic Brake Motors 40W
Frame Size: □90mm (□3.54 in.)

● Gearhead dimensions:



Item	Ratio	L	Weight	
		mm	Kg	lb
Gearhead (5GNxxK)	3 - 200	60	1.13	2.49
Middle gearbox(10:1)			0.6	1.32
Motor			2.3	5.06

● Induction motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
5IK40GN-A	5IK40A-A	40	1ph100	50	0.65	220	315	1250	12/250
				60	0.7		260	1550	
5IK40GN-C	5IK40A-C	40	1ph220	50	0.35	220	315	1250	2.5/450
					0.4			1450	
5IK40GN-Y	5IK40A-Y	40	3ph220	50	0.3	800	315	1250	-
				60	0.25	660	250	1550	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Reversible motor specifications-30 minute Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
5RK40GN-A	5RK40A-A	40	1ph100	50	0.78	300	315	1250	15
				60	1.05		260	1550	
5RK40GN-C	5RK40A-C	40	1ph220	50	0.45	270	315	1250	3
					0.4			1450	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Speed Control motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Speed Range	Allowable Torque		Starting Torque	Current	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	r/min	1200rpm	90rpm	mN.m	Amp	μF/V
5IK40RGN-A	5IK40RA-A	40	1ph100	50	90~1400	260	70	180	0.95	12/250
				60	90~1700	50	29	35	0.28	
5IK40RGN-C	5IK40RA-C	40	1ph220	50	90~1400	300	75	160	0.55	2.5/450

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Brake motor specifications (leads wire type)

Model		Duty	Output power	Voltage	Freq.	Current	Starting torque	Rated torque	Rated speed	CAP
Pinion Shaft	Round Shaft									
(Lead wire type)			W	V	Hz	A	mN.m	mN.m	r/min	μF/VAC
5RK40GN-AM	5RK40A-AM	30min	40	1ph100	50	0.78	300	315	1250	15
					60	1.05		260	1550	
5RK40GN-CM	5RK40A-CM	30min	40	1ph220	50	0.45	270	315	1250	3
						0.15				
5IK40GN- Y	5IK40A- Y	Cont.	40	3ph220	50	0.3	800	315	1250	-
					60	0.25	660	250	1600	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

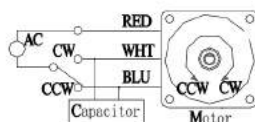
● Gear Motor-Torque Table

Model	Gear Ratio		X:1	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200		
	Efficiency		%	81										73					66							
	Speed	50Hz	RPM	500	417	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3	7.5		
		60Hz	RPM	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	9		
5IK40GN-A 5IK40GN-C 5IK40GN-Y	5GN□K	50Hz	Nm	0.77	0.92	1.3	1.5	1.9	2.3	3.2	3.8	4.6	5.7	6.9	8.3	10	10	10	10	10	10	10	10	10		
			Kg.cm	7.85	9.38	13.2	15.3	19.4	23.4	32.6	38.7	46.9	58.1	70.4	84.7	100	100	100	100	100	100	100	100	100		
		60Hz	Nm	0.63	0.76	1.1	1.3	1.6	1.9	2.6	3.2	3.8	4.7	5.7	6.8	8.6	10	10	10	10	10	10	10	10	10	
			Kg.cm	6.42	7.75	11.2	13.2	16.3	19.3	26.3	32.6	38.7	47.9	58.1	69.3	87.7	100	100	100	100	100	100	100	100	100	

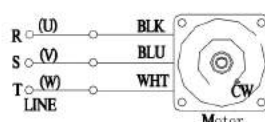
- Enter the gear ratio in the box □. Colored background indicates the output shaft rotate in the same direction as the motor shaft.
- The speed is calculated based on the synchronous speed (50 Hz: 1500rpm; 60Hz: 1800 rpm) by the gear ratio.
- Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1 only). Using Middle Gearbox limits Max.torque to 3Nm (30kg.cm)

● Connection Diagrams:

- Lead Wire Single Phase

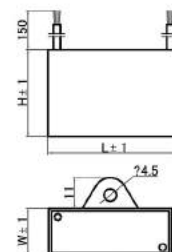


- Lead Wire Three Phase

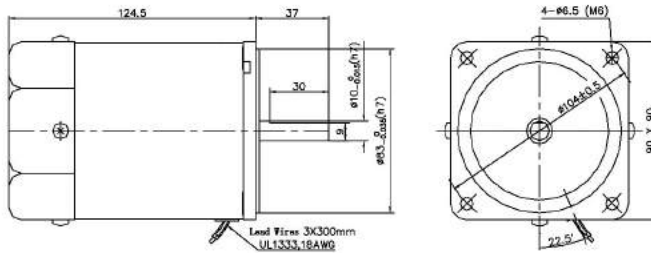


● Capacitor:

Value		Dimensions		
uF	V	L	H	W
2.0 - 2.5	250	37	14	28
0.5 - 1.5	450			
10 - 12	250	47	26	38
6 - 8	450			

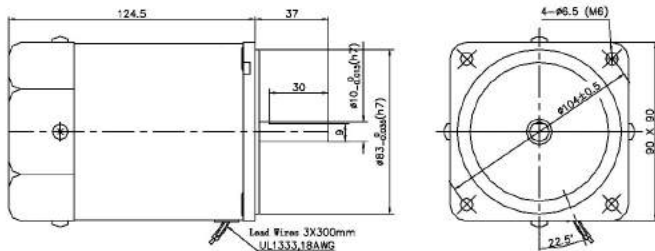


● Motor Dimensions:



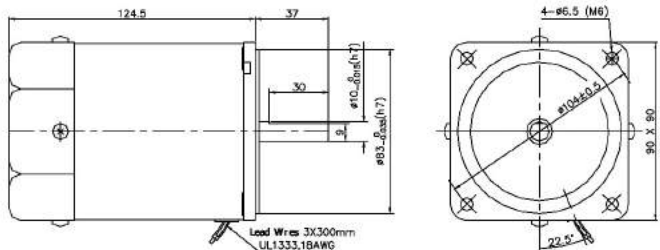
Induction Motors 60W
Frame Size: □90mm (□3.54 in.)

● Motor Dimensions:



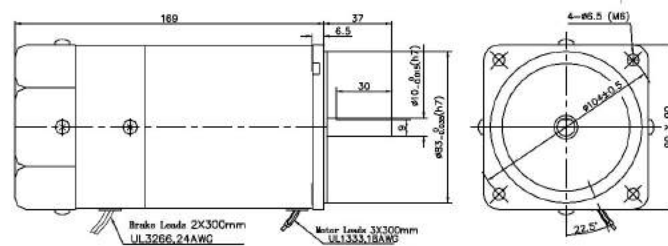
Reversible Motors 60W
Frame Size: □90mm (□3.54 in.)

● Motor Dimensions:



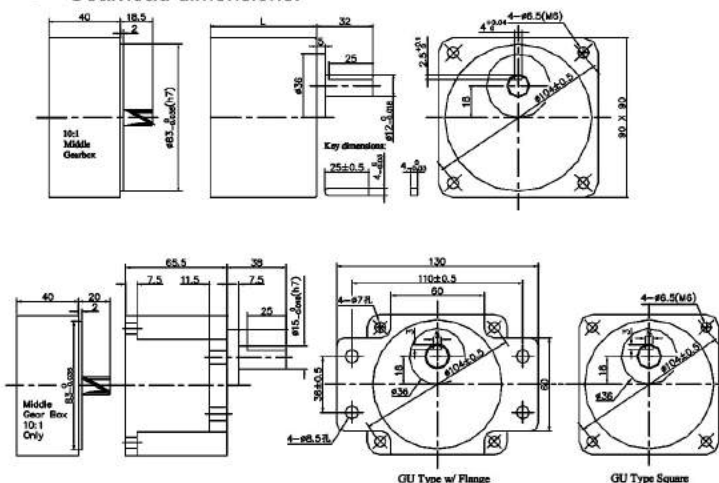
Speed Control Motors 60W
Frame Size: □90mm (□3.54 in.)

● Motor Dimensions:



Magnetic Brake Motors 60W
Frame Size: □90mm (□3.54 in.)

● Gearhead dimensions:



Item	Ratio	L	Weight	
		mm	Kg	lb
Gearhead (5GNxxK)	3 - 200	60	1.13	2.49
10:1 middle gearbox		40	0.6	1.32
Motor		169	2.4	5.28

Item	Ratio	L	Weight	
		mm	Kg	lb
Gearhead (5GUxxK)	3 - 9	65.5	1.21	2.66
	10~18		1.30	2.86
	20 - 75		1.40	3.08
	90 - 200		1.45	3.19
10:1 middle gearbox		40	0.6	1.32
Motor		184	3.4	7.48

● Induction motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
5IK60GN-AF	5IK60A-AF	60	1ph100	50	1	320	470	1250	20/250
				60	1.1		380	1550	
5IK60GN-CF	5IK60A-CF	60	1ph220	50	0.5	340	470	1250	4/450
				1ph230	0.55			1450	
5IK60GN-YF	5IK60A-YF	60	3ph220	50	0.45	1000	470	1250	-
				60	0.4	800	380	1550	
5IK60GU-CF	5IK60A-CF	60	1ph220	50	0.5	340	470	1250	4/450
				1ph230	0.55			1450	
5IK60GU-YF	5IK60A-YF	60	3ph220	50	0.45	1000	470	1250	-
				60	0.4	800	380	1550	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Reversible motor specifications-30 minute Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
5RK60GN-AF	5RK60A-AF	60	1ph100	50	1.26	470	470	1250	25
				60	1.7		380	1550	
5RK60GN-CF	5RK60A-CF	60	1ph220	50	0.55	420	470	1250	4.5
				1ph230	0.6			1450	
5RK60GU-AF	5RK60A-AF	60	1ph100	50	1.26	470	470	1250	25
				60	1.7		380	1550	
5RK60GU-CF	5RK60A-CF	60	1ph220	50	0.55	420	470	1250	4.5
				1ph230	0.6			1450	
5RK60GN-YF	5RK60A-YF	60	3ph220	50	0.45	1000	470	1250	-
				60	0.4	800	380	1550	
5RK60GU-YF	5RK60A-YF	60	3ph220	50	0.45	1000	470	1250	-
				60	0.4	800	380	1550	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Speed Control motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Speed Range	Allowable Torque		Starting Torque	Current	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	r/min	1200rpm	90rpm	mN.m	Amp	μF/V
5IK60RGN-AF	5IK60RA-AF	60	1ph100	50	90~1400	460	140	265	2	20/250
				60	90~1700	490	160	35	0.28	
5IK60RGN-CF	5IK60RA-CF	60	1ph220	50	90~1400	490	140	265	0.8	4/450
				60	90~1400	490	140	265	0.8	
5IK60RGU-CF	5IK60RA-CF	60	1ph220	50	90~1400	490	140	265	0.8	4/450
				60	90~1400	490	140	265	0.8	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Brake motor specifications (leads wire type)

Model				Duty	Output power	Voltage	Freq.	Current	Starting torque	Rated torque	Rated speed	CAP
(Lead wire type)												
Pinion	Shaft	Round	Shaft									
5RK60GN-AFM		5RK60A-AFM		30min	60	1ph100	50	1.26	470	470	1250	25
							60	1.7		380	1550	
5IK60GN-CM		5IK60A-CM		Cont.	60	1ph220	50	0.55	420	470	1250	4.5
						1ph230		0.6	460			
5IK60GU-CM		5IK60A-CM		Cont.	60	1ph220	50	0.55	420	470	1250	4.5
						1ph230		0.6	460			
5IK60GU-YM		5IK60A-YM		Cont.	60	3ph220	50	0.45	1000	470	1250	-
							60	0.4	800	380	1550	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Gear Motor-Torque Table

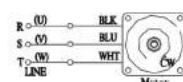
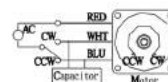
Model		Gear Ratio		X:1																Speed					
		Efficiency		%																RPM					
				81																73					
				66																59					
5RK60GU-AM 5RK60GU-CM 5IK60GU- M	5GU:KB	50Hz	RPM	500	417	300	250	200	186	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3	7.5	6
		60Hz	RPM	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	9	8
			Nm	1.1	1.4	1.9	2.3	2.9	3.4	4.8	5.7	6.8	8.6	10.3	12.4	15.5	18.6	20	20	20	20	20	20	20	20
			Kg.cm	11.2	14.2	19.3	23.4	29.6	34.7	48.9	58.1	69.3	87.7	105	126	158	189	200	200	200	200	200	200	200	200
			Nm	0.92	1.1	1.5	1.8	2.3	2.8	3.8	4.6	5.5	6.9	8.3	10	12.5	15	18.6	20	20	20	20	20	20	20
			Kg.cm	9.38	11.2	15.3	18.3	23.4	28.5	38.7	46.9	56.1	70.4	84.6	102	127	153	192	200	200	200	200	200	200	200

- Enter the gear ratio in the box c. Colored background indicates the output shaft rotate in the same direction as the motor shaft.
● The speed is calculated based on the synchronous speed (50 Hz: 1500rpm; 60Hz: 1800 rpm) by the gear ratio.
● Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1 only). Using Middle Gearbox limits Max.torque to 63Nm (30kg.cm)

● Connection Diagrams:

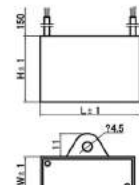
● Lead Wire Single Phase

● Lead Wire Three Phase

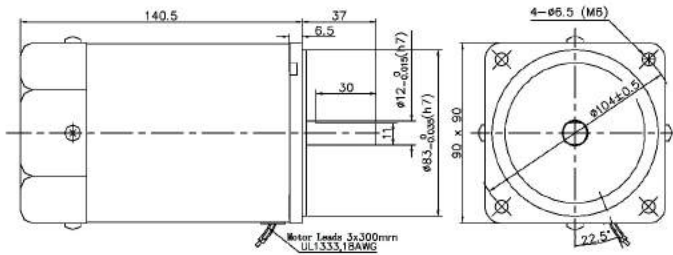


● Capacitor:

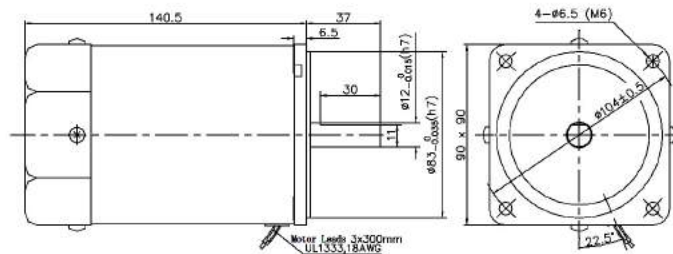
Value	Dimensions
μF	V L H W
3.5 - 4.0	250 37 18 28
1.8 - 2.5	450 57 32 46
20 - 30	250 57 32 46
10 - 15	450 57 32 46



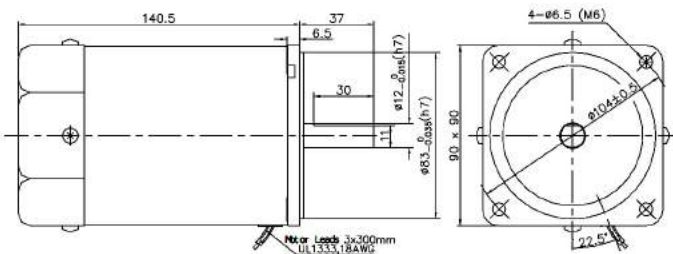
- Motor Dimensions:



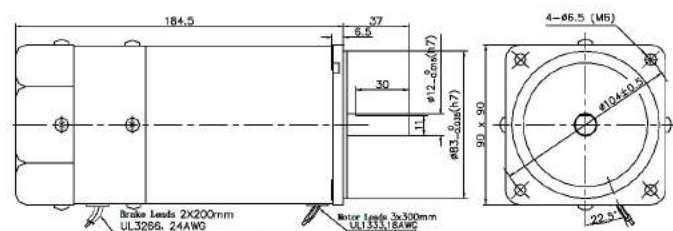
- Motor Dimensions:



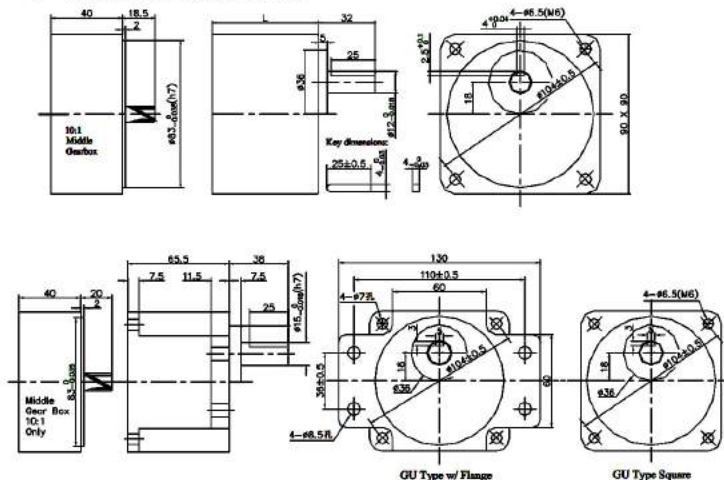
- Motor Dimensions:



- Motor Dimensions:



- Gearhead dimensions:



Suntech
90W

Induction Motors 90W
Frame Size: $\square 90$ mm ($\square 3.54$ in.)

Reversible Motors 90W
Frame Size: $\square 90$ mm ($\square 3.54$ in.)

Speed Control Motors 90W
Frame Size: $\square 90$ mm ($\square 3.54$ in.)

Magnetic Brake Motors 90W
Frame Size: $\square 90$ mm ($\square 3.54$ in.)

Item	Ratio	L	Weight	
		mm	Kg	lb
Gearhead (5GNxxK)	3 - 200	60	1.13	2.49
10:1 middle gearbox		40	0.6	1.32
Motor		169	2.4	5.28

Item	Ratio	L	Weight	
		mm	Kg	lb
Gearhead (5GUxxK)	3 - 9	65.5	1.21	2.66
	10~18		1.30	2.86
	20 - 75		1.40	3.08
	90 - 200		1.45	3.19
10:1 middle gearbox		40	0.6	1.32
Motor		184	3.4	7.48

● Induction motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
5IK90GN-CF	5IK90A-CF	90	1ph220	50	0.72	450	700	1250	5/450
			1ph230		0.7			1450	
5IK90GU-AF	5IK90A-AF	90	1ph100	50	1.55	450	700	1250	25/250
				60	1.85			1550	
5IK90GU-CF	5IK90A-CF	90	1ph220	50	0.72	450	700	1250	5/450
			1ph230		0.7			1450	
5IK90GU-YF	5IK90A-YF	90	3ph220	50	0.6	1350	700	1250	-
				60	0.55	1100		1550	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Reversible motor specifications-30 minute Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
5RK90GN-CF	5RK90A-CF	90	1ph220	50	0.82	560	700	1250	6
			1ph230		0.81			1450	
5RK90GU-AF	5RK90A-AF	90	1ph100	50	1.78	600	700	1250	30
				60	2.35			1550	
5RK90GU-CF	5RK90A-CF	90	1ph220	50	0.82	560	700	1250	6
			1ph230		0.81			1450	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Speed Control motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Speed Range	Allowable Torque		Starting Torque	Current	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	r/min	1200rpm	90rpm	mN.m	Amp	μF/V
5IK90RGN-CF	5IK90RA-CF	90	1ph220	50	90~1400	710	230	410	1.2	5/450
5IK90RGU-AF	5IK90RA-AF	90	1ph100	50	90~1400	710	230	405	2.75	25/250
				60	90~1700	490	260	35	0.28	
5IK90RGU-CF	5IK90RA-CF	90	1ph220	50	90~1400	710	230	410	1.2	5/450

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

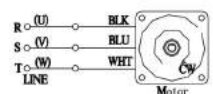
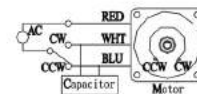
● Brake motor specifications (leads wire type)

Model				Duty	Output power	Voltage	Freq.	Current	Starting torque	Rated torque	Rated speed	CAP
(Lead wire type)												
Pinion	Shaft	Round	Shaft									
5IK90GN-CM		5IK90A-CM		Cont.	90	1ph220 1ph230	50	0.82 0.81	560	700	1250	6
5IK90GU-CM		5IK90A-CM		Cont.	90	1ph220 1ph230	50	0.82 0.81	560	700	1250	6
5IK90GN(U)-YM		5IK90A-YM		Cont.	90	3ph220	50 60	0.6 0.55	1350 1100	700	1200 1550	-

● Connection Diagrams:

● Lead Wire Single Phase

● Lead Wire Three Phase



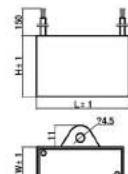
● Gear Motor-Torque Table

Model	Gear Ratio		X:1	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200						
	Efficiency		%	81										73					66					59						
	Speed		50Hz	RPM	500	417	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3	7.5					
			60Hz	RPM	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	9					
5RK90GU-AM 5RK90GU-CM 5IK90GU-SM	5GU-CKB	50Hz	Nm	1.7	2	2.8	3.4	4.3	5.1	6.4	7.7	9.2	11.6	13.9	16.6	20	20	20	20	20	20	20	20	20	20					
			Kg.cm	17.3	20.4	28.6	34.7	43.9	52	65.3	78.6	93.9	118	142	169	200	200	200	200	200	200	200	200	200	200					
		60Hz	Nm	1.4	1.7	2.3	2.8	3.5	4.2	5.2	6.2	7.5	9.4	11.3	13.5	18.8	20	20	20	20	20	20	20	20	20	20				
			Kg.cm	14.3	17.3	23.5	28.6	35.7	42.9	53.1	63.3	76.5	95.9	115	128	192	200	200	200	200	200	200	200	200	200	200				
				50Hz	Nm	1.7	2	2.8	3.4	4.3	5.1	6.4	7.7	9.2	11.6	13.9	16.6	20	20	20	20	20	20	20	20	20	20			
				60Hz	Nm	1.4	1.7	2.3	2.8	3.5	4.2	5.2	6.2	7.5	9.4	11.3	13.5	18.8	20	20	20	20	20	20	20	20	20			

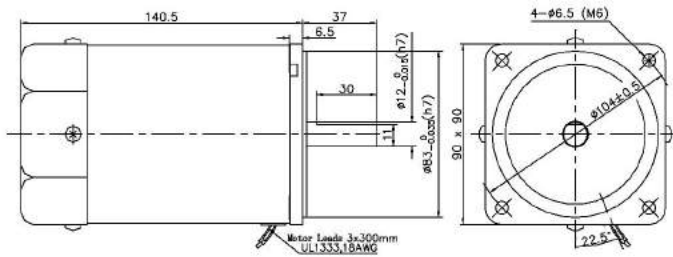
- Enter the gear ratio in the box □. Colored background indicates the output shaft rotate in the same direction as the motor shaft.
- The speed is calculated based on the synchronous speed (50 Hz: 1500rpm; 60Hz: 1800 rpm) by the gear ratio.
- Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1 only). Using Middle Gearbox limits Max. torque to 3Nm (30kg.cm)

● Capacitor:

Value	Dimensions			
μF	V	L	H	W
3.5 - 4.0	250		18	28
1.8 - 2.5	450	37		
20 - 30	250	57	32	46
10 - 15	450			

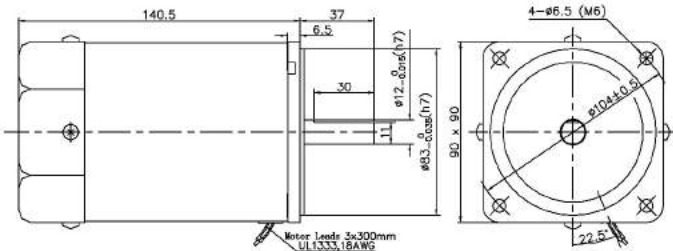


• Motor Dimensions:



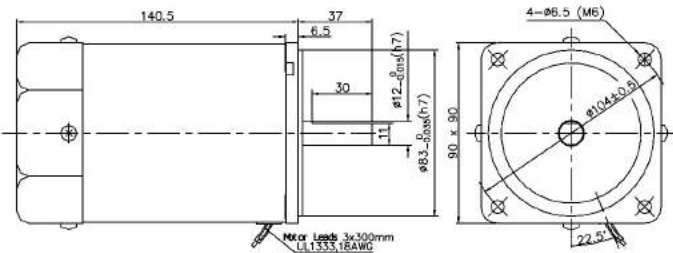
Induction Motors 120W
Frame Size: □90mm (□3.54 in.)

• Motor Dimensions:



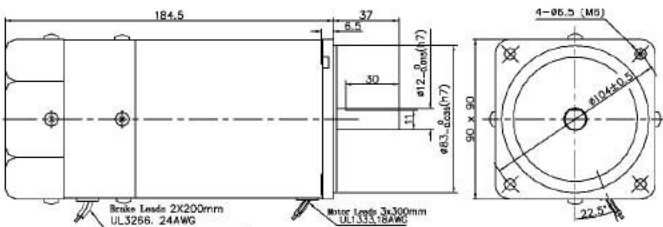
Reversible Motors 120W
Frame Size: □90mm (□3.54 in.)

• Motor Dimensions:



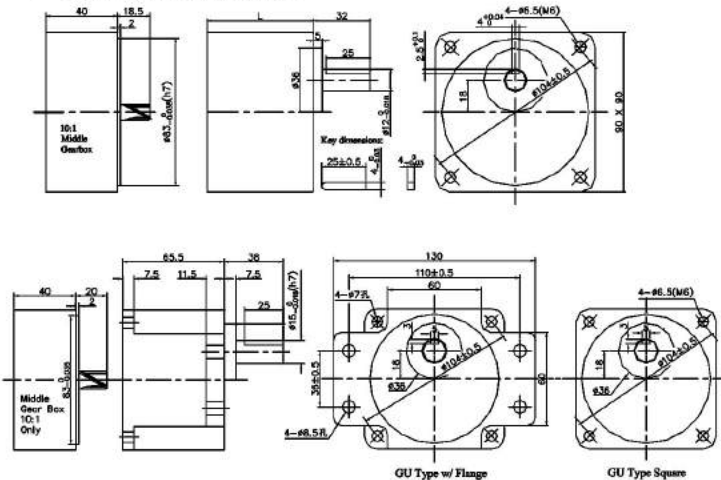
Speed Control Motors 120W
Frame Size: □90mm (□3.54 in.)

• Motor Dimensions:



Magnetic Brake Motors 120W
Frame Size: □90mm (□3.54 in.)

• Gearhead dimensions:



Item	Ratio	L	Weight	
		mm	Kg	lb
Gearhead (5GNxxK)	3 - 200	60	1.13	2.49
10:1 middle gearbox		40	0.6	1.32
Motor		169	2.4	5.28

Item	Ratio	L	Weight	
		mm	Kg	lb
Gearhead (5GUxxK)	3 - 9	65.5	1.21	2.66
	10~18		1.30	2.86
	20 - 75		1.40	3.08
	90 - 200		1.45	3.19
10:1 middle gearbox		40	0.6	1.32
Motor		184	3.4	7.48

● Induction motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
5IK120GN-CF	5IK120A-CF	120	1ph220	50	1	650	930	1250	7/450
			1ph230		0.95			1450	
5IK120GU-AF	5IK120A-AF	120	1ph100	50	2.1	600	930	1250	30/250
				60	2.5		750	1550	
5IK120GU-CF	5IK120A-CF	120	1ph220	50	1	650	930	1250	7/450
			1ph230		0.95			1450	
5IK120GN(U)-YF	5IK120A-YF	120	3ph220	50	0.7	1850	930	1250	-
				60	0.6	1600	750	1550	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Reversible motor specifications-30 minute Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
5RK120GN-CF	5RK120A-CF	120	1ph220	50	1.15	720	930	1250	8
			1ph230		0.95			1450	
5RK120GU-AF	5RK120A-AF	120	1ph100	50	2.25	700	930	1250	35
				60	2.85		750	1550	
5RK120GU-CF	5RK120A-CF	120	1ph220	50	1.15	720	930	1250	8
			1ph230		0.95			1450	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Speed Control motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Speed Range	Allowable Torque		Starting Torque	Current	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	r/min	1200rpm	90rpm	mN.m	Amp	μF/V
5IK120RGN-CF	5IK120RA-CF	120	1ph220	50	90~1400	750	330	530	1.5	7/450
5IK120RGU-AF	5IK120RA-AF	120	1ph100	50	90~1400	750	330	530	3.5	30/250
				60	90~1700	490	160	35	0.28	
5IK120RGU-CF	5IK120RA-CF	120	1ph220	50	90~1400	750	330	530	1.5	7/450

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Brake motor specifications (leads wire type)

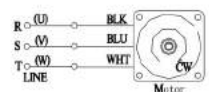
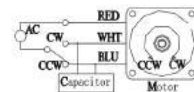
Model				Duty	Output power	Voltage	Freq.	Current	Starting torque	Rated torque	Rated speed	CAP
(Lead wire type)												
Pinion	Shaft	Round	Shaft									
5IK120GN-CM		5IK120A-CM		Cont.	120	1ph220 1ph230	50	1.15 0.81	720	930	1250	8
5IK120GU-CM		5IK120A-CM		Cont.	120	1ph220 1ph230	50	1.15 0.81	720	930	1250	8
5IK120GN(U)-YM		5IK120A-YM		Cont.	120	3ph220	50	0.7	1850	930	1250	-
							60	0.6	1600	750	1550	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Connection Diagrams:

- Lead Wire Single Phase

- Lead Wire Three Phase



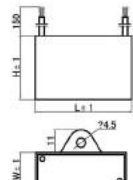
● Gear Motor-Torque Table

		Gear Ratio		X:1	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200			
Model	Efficiency		%	81										73					66					59				
	Speed	50Hz	RPM	500	417	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3	7.5	6	5		
		60Hz	RPM	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	9	8	7		
5IK120GU-A 5IK120GU-C 5IK120GU-S	5GU=KB	50Hz	Nm	2.3	2.7	3.8	4.5	5.6	6.8	8.5	10.2	12.2	15.3	18.4	20	20	20	20	20	20	20	20	20	20	20	20		
			Kg.cm	23.4	27.5	38.7	45.9	57.1	69.3	86.7	104	124	156	187	200	200	200	200	200	200	200	200	200	200	200	200		
		60Hz	Nm	1.8	2.2	3	3.6	4.5	5.5	6.8	8.2	9.8	12.4	14.9	17.8	20	20	20	20	20	20	20	20	20	20	20		
			Kg.cm	18.3	22.4	30.6	36.7	45.9	56.1	69.5	83.6	100	126	152	181	200	200	200	200	200	200	200	200	200	200	200		

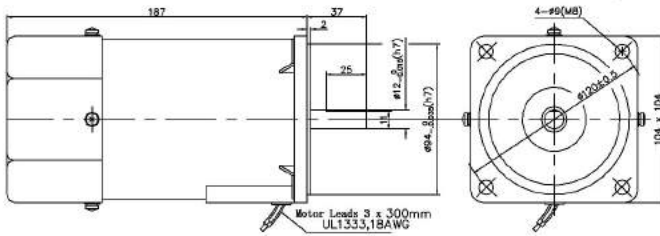
- Enter the gear ratio in the box □. Colored background indicates the output shaft rotate in the same direction as the motor shaft.
- The speed is calculated based on the synchronous speed (50 Hz: 1500rpm; 60Hz: 1800 rpm) by the gear ratio.
- Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1 only). Using Middle Gearbox limits Max.torque to 3Nm (30kg.cm)

● Capacitor:

Value	Dimensions
μF	V L H W
3.5 - 4.0	250 37 18 28
1.8 - 2.5	450 37 18 28
20 - 30	250 57 32 46
10 - 15	450 57 32 46

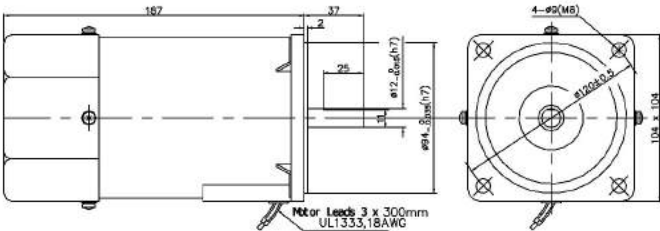


● Motor Dimensions:



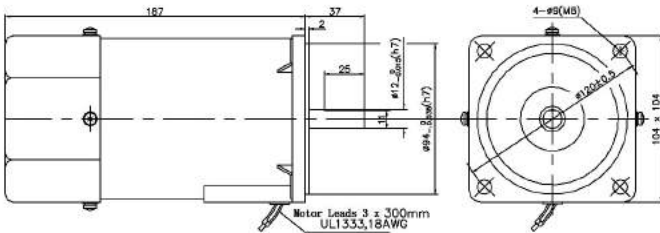
Induction Motors 180W
Frame Size: □104mm (□4.1 in.)

● Motor Dimensions:



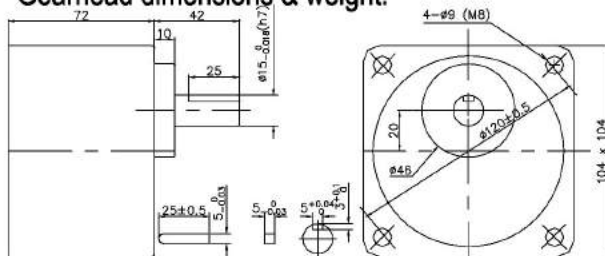
Speed Control Motors 180W
Frame Size: □104mm (□4.1 in.)

● Motor Dimensions:



Magnetic Brake Motors 180W
Frame Size: □104mm (□4.1 in.)

● Gearhead dimensions & weight:



Item	Ratio	L	Weight	
		mm	Kg	lb
Gearhead (6GUxxK)	3 - 9	72	1.87	4.11
	10~18		2.10	4.62
	20 - 200		2.75	6.05
Motor		187	4.8	10.56

● Permissible load for gearheads

Frame Size	Gear Ratio	Maximum Permissible torque		Permissible overhung load (from end of shaft)				Permissible thrust load	
				10 mm		20 mm			
		lb-in	N.m	lb	N	lb	N	lb	N
6GU	3~200	354	40	247.2	1100	337.1	1500	67	300

● Induction motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	Amp	mN.m	mN.m	r/min	μF/V
6IK180GU-AF	6IK180A-AF	180	1ph100	50	3.2	900	1385	1250	45/250
				60	3.5		1120	1550	
6IK180GU-CF	6IK180A-CF	180	1ph220	50	1.4	1100	1385	1250	12/450
			1ph230		1.15			1450	
6IK180GU-YF	6IK180A-YF	180	3ph220	50	1.2	3400	1385	1250	-
				60	1	2700	1120	1550	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Speed Control motor specifications-continuous Rating (leads wire type)

Model		Output Power	Voltage	Freq.	Speed Range	Allowable Torque		Starting Torque	Current	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	r/min	1200rpm	90rpm	mN.m	Amp	μF/V
6IK180RGU-AF	6IK180RA-AF	180	1ph100	50	90~1400	920	500	700	5.25	40/250
				60	90~1700	490	160	35	0.28	
6IK180RGU-CF	6IK180RA-CF	180	1ph220	50	90~1400	920	500	700	2.28	12/450

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Brake motor specifications (leads wire type)

Model				Duty	Output power	Voltage	Freq.	Current	Starting torque	Rated torque	Rated speed	CAP
(Lead wire type)												
Pinion	Shaft	Round	Shaft									
				W	V	Hz	A	mN.m	mN.m	r/min	μF/VAC	
6IK180GU-AM		6IK180A-AM		Cont.	180	1ph100	50	3.2	900	1385	1250	45
							60	3.5		1120	1550	
6IK180GU-CM		6IK180A-CM		Cont.	180	1ph220	50	1.4	1100	1385	1250	12
						1ph230		1.15				
6IK180GU-YM		6IK180A-YM		Cont.	180	3ph220	50	1.2	3400	1385	1250	-
							60	1	2700	1120	1550	

- These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

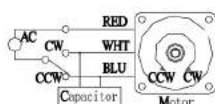
● Gear Motor-Torque Table

Model	Gear Ratio		X:1	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200	
	Efficiency		%	81						73			66												
	Speed	50Hz	RPM	500	417	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3	7.5	
		60Hz	RPM	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	9	
6GU□K		50Hz	Nm	3.4	4	5.6	6.7	8.4	10.1	12.6	15.2	18.2	22.8	27.4	32.9	40	40	40	40	40	40	40	40	40	
			Kg.cm	34.6	40.8	57.1	68.3	85.6	103	128	155	185	232	279	335	400	400	400	400	400	400	400	400	400	
		60Hz	Nm	2.7	3.3	4.5	5.4	6.8	8.2	10.2	12.3	14.7	18.5	22.2	26.6	37	40	40	40	40	40	40	40	40	
			Kg.cm	27.5	33.6	45.9	55.1	69.3	83.6	104	125	150	188	226	271	377	400	400	400	400	400	400	400	400	400

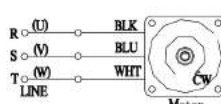
- Enter the gear ratio in the box □. Colored background indicates the output shaft rotate in the same direction as the motor shaft.
- The speed is calculated based on the synchronous speed (50 Hz: 1500rpm; 60Hz: 1800 rpm) by the gear ratio.
- Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1 only). Using Middle Gearbox limits Max.torque to 3Nm (30kg.cm)

● Connection Diagrams:

- Lead Wire Single Phase

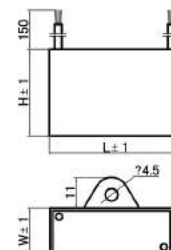


- Lead Wire Three Phase



● Capacitor:

Value		Dimensions		
μF	V	L	H	W
3.5 - 4.0	250	37	18	28
1.8 - 2.5	450			
20 - 30	250	57	32	46
10 - 15	450			



连结图 CONNECTION DIAGRAMS

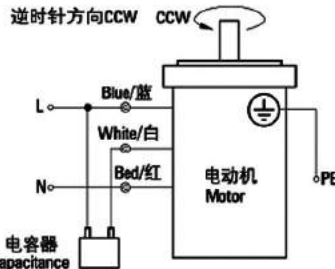
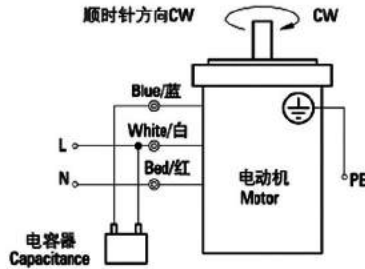
运转方向指从电动机轴端来看的方向。CW表示顺时针方向，CCW表示逆时针方向。

表中所记型号为齿轮轴型，圆轴型亦同。

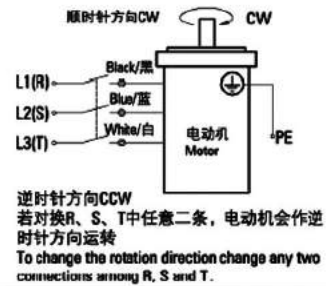
The direction of motor rotation is as viewed from the shaft end of motor .CW represents the clockwise direction,while CCW represents the counterclockwise direction
Conenction diagrams are also valid for the equivalent round shaft type.

感应/可逆/转矩电动机接线图 Induction/Reversible/Torque Motor Wiring Diagram

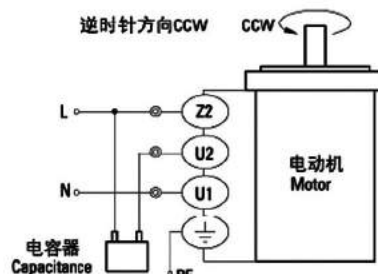
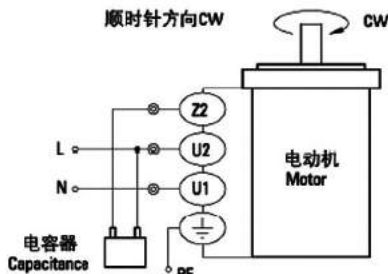
导线型单相电动机 Lead Wire Type Single-phase Motor



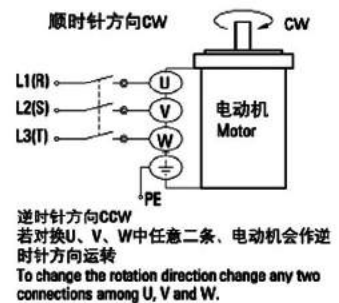
导线型三相电动机 Lead Wire Type Three-phase Motor



带端子箱型单相电动机 Terminal Box Type Single-phase Motor

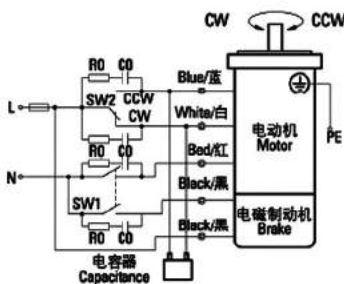


带端子箱型三相电动机 Terminal Box Type Three-phase Motor

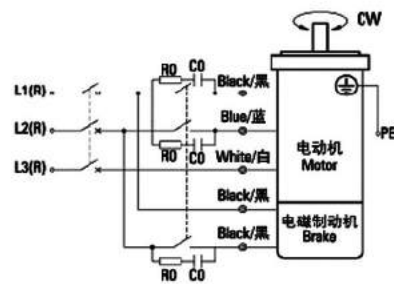


无励磁动作型电磁制动电动机 Power Off Activated Type Electromagnetic Brake Motor

单相电动机 Single-phase Motor

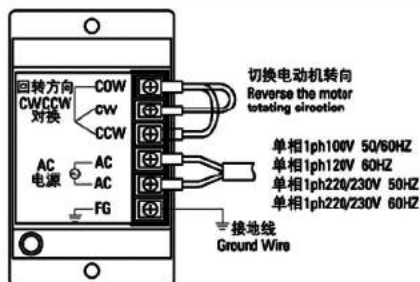


三相电动机 Three-phase Motor

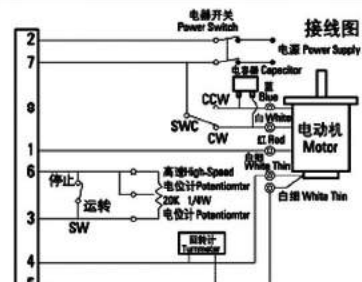


调速电动机 Speed Control Motors

US型/US Type



SS型/SS Type



控制器型号说明 DESCRIPTION OF GOVERNOR MODEL

U

调速器种类
Speed Controller Type

U: 组合型
U: Combination

S: 分离型
S: Separation

S

调速器功能
Speed Controller Function

S: 速度控制器
S: Speed Governor

11

电压
Voltage

11: 单相110V50Hz
11: Single Phase 110V50Hz

22: 单相220V50Hz
22: Single Phase 220V50Hz

33: 数字显示器
33: Digital Display

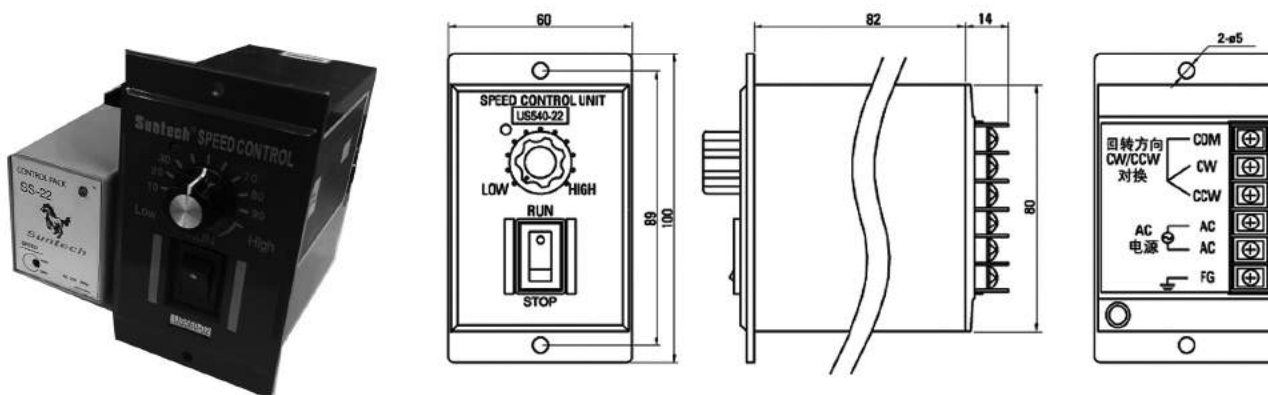
A

电容安装方式
Capacitor Mounting Type

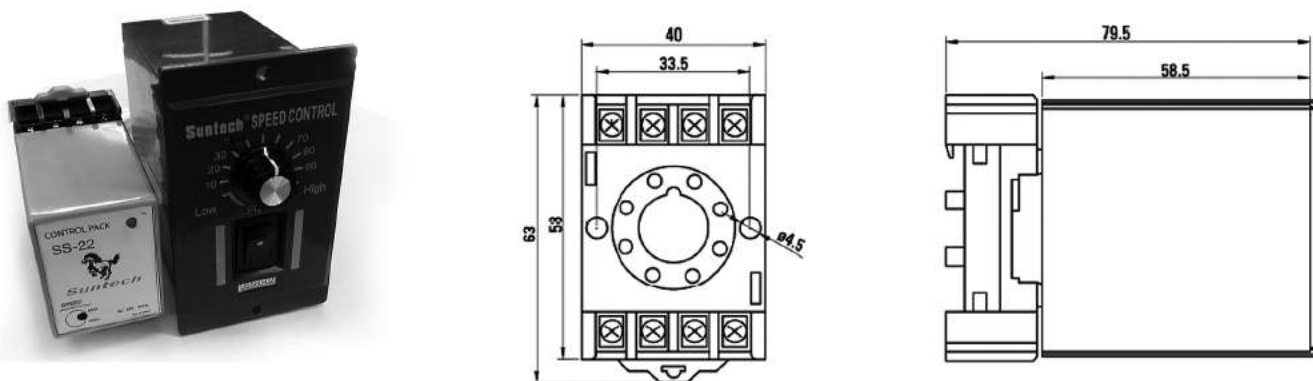
A: 内置式电容器
A: Built-in Capacitor

B: 外置式电容器
B: External Capacitor

组合型 COMBINATION US11、US22 正、反转变速 CLOCKWISE AND ANTI-CLOCKWISE SPEED CHANGE



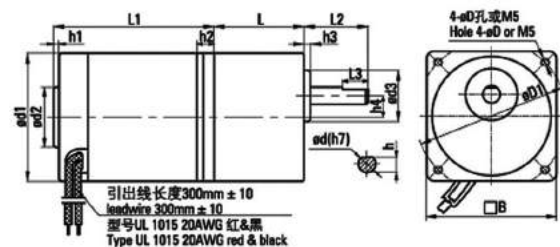
分离型 SEPARATION SS11、SS22 正、反转变速 CLOCKWISE AND ANTI-CLOCKWISE SPEED CHANGE



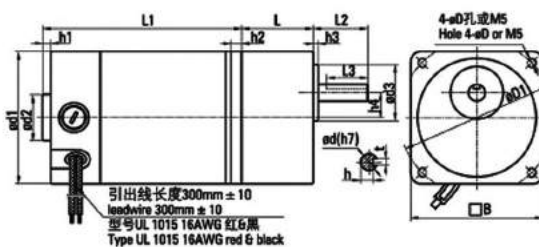
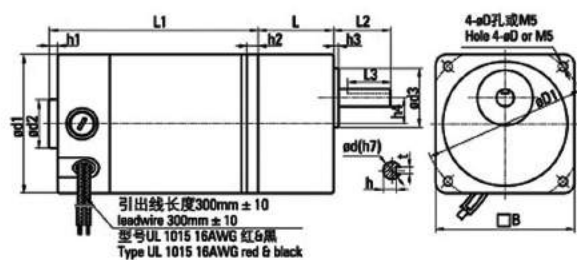
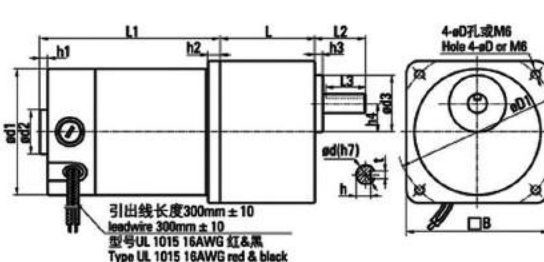
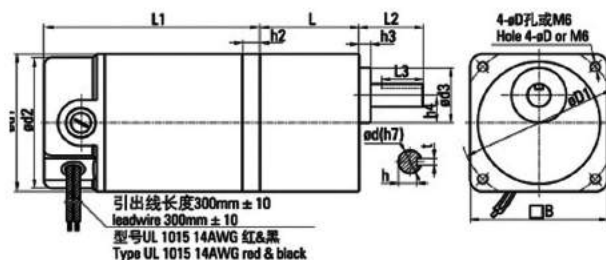
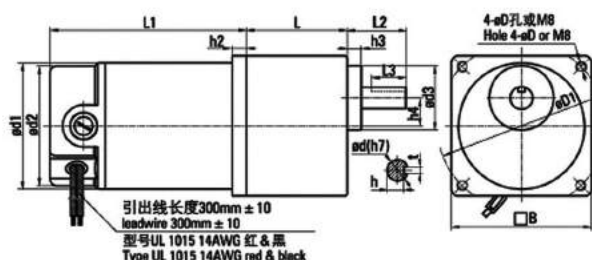
调速器特性表 LIST OF SPEED GOVERNOR CHARACTERISTICS

参数Parameter 型号Model	电压(V) Voltage(V)	频率(Hz) Voltage(Hz)	最大电流(A) Peak Current(A)	电机功率(W) Motor Power(W)	速度范围(r/min) Speed Range(r/min)	速度变速器 Speed Changer	速度应答器 Speed Responder	速度安定性 Speed Stability	工作环境温度 Working Ambient Temperature
US11	110V ± 10%	50/60	5	6~140	90/1350	3%	(0.5)	优 Excellent	-10℃ ~ +50℃
US22	220V ± 10%			6~180	90/1650				
SS11	110V ± 10%	50/60	5	6~140	90/1350	3%	(0.5)	优 Excellent	-10℃ ~ +50℃
SS22	220V ± 10%			6~180	90/1650				
SS33	110V ± 10%	50/60	5	6~140	90/1350	3%	(0.5)	优 Excellent	-10℃ ~ +50℃
	220V ± 10%			6~180	90/1650				

DIMENSION DC 6 – 250W



DC02

**DC03****DC04****DC05****DC055****DC06**

系列	名 称Type	直流电机整机外形安装尺寸 DC gear motor assembling dimension														单位:Unit(mm)			
Series	功率Power 尺寸Dimension	d	d1	d2	d3	D	D1	L	L1	L2	L3	h	h1	h2	h3	h4	t	B	
DC02	6/10W (GN)	8	60	28	25	4.5	70	32/41	75	30	27	7	2.5	5	3	10	-	60	
	15W (GN)	8	60	28	25	4.5	70	32/41	89	30	27	7	2.5	5	3	10	-	60	
DC03	20/25W (GN)	10	60	28	25	5.5	82	32/42	101	33	25	7.5	2.5	6	3	15	4	70	
DC04	30/40W (GN)	10	80	28	32	5.5	94	32/42.5	120.5	33	25	7.5	5	6.5	3	15	4	80	
DC05	40W (GN)	12	80	28	36	6.5	104	42/60	124	32	25	9.5	5	7.5	5	18	4	90	
	60/65W (GN)	12	80	28	36	6.5	104	65.5	143	38	25	12	5	7.5	7.5	18	4	90	
	60/65W (GU)	15	80	28	36	6.5	104	65.5	143	38	25	12	5	7.5	7.5	18	5	90	
	90/100W (GN)	12	80	28	36	6.5	104	65.5	143	38	25	12	5	7.5	7.5	18	4	90	
	90/100W (GU)	15	80	28	36	6.5	104	65.5	143	38	25	12	5	7.5	7.5	18	5	90	
	120W (GN)	12	80	28	36	6.5	104	65.5	143	38	25	12	5	7.5	7.5	18	4	90	
	120W (GU)	15	80	28	36	6.5	104	65.5	143	38	25	12	5	7.5	7.5	18	5	90	
DC055	250W (GU)	15	90	85.5	36	6.5	104	65.5	196	38	25	12	/	11	7.5	18	5	90	
DC06	250W (GU)KB	15	90	85.5	46	9	120	72	194.5	42	25	12	/	10	10	20	5	104	

备注: L部分尺寸, 斜线“/”前表示速比为3~18的齿轮箱长度, 斜线后表示速比为25~200的齿轮箱长度。

Note: L, the number before "I" represents the length of the gearbox with the reduction from 3 to 18, while the number after represents the length of the gearbox with the reduction from 25 to 200.

MOTOR PERFORMANCE PARAMETERS

TYPE	POWER W	VOLTAGE V	NO-LOAD PARAMETERS		LOAD PARAMETERS			BRUSH LIFE H	MOTOR weight
			SPEED r/min	CURRENT A	SPEED r/min	TORQUE mN.m	CURRENT A		
DC02	6	12	1800	0.6	1720	19	0.8	2000	0.6
	6	24	1800	0.3	1720	19	0.5	2000	0.6
	6	90	1800	0.1	1720	19	0.2	2000	0.6
	6	12	3200	0.6	2950	19	0.8	2000	0.6
	6	24	3200	0.3	2920	19	0.5	2000	0.6
	6	90	3200	0.1	2950	19	0.2	2000	0.6
DC03	20	12	1800	0.9	1720	68	2.4	2000	0.9
	20	12	1800	0.5	1720	68	1.2	2000	0.9
	20	90	1800	0.1	1720	68	0.32	2000	0.9
DC04	25	12	1800	1.0	1720	80	3.0	2000	1.0
	25	24	1800	0.6	1720	87	1.6	2000	1.0
	25	90	1800	0.2	1720	80	0.5	2000	1.0
	25	12	3200	1.0	2950	80	3.0	2000	1.0
	25	24	3200	0.6	2950	87	1.6	2000	1.0
	25	90	3200	0.2	2950	80	0.5	2000	1.0
DC04	30	12	1800	1.5	1720	105	4.6	2000	1.4
	30	24	1800	0.7	1720	105	1.8	2000	1.4
	30	90	1800	0.25	1720	105	0.6	2000	1.4
DC05	65	12	1800	2.5	1720	200	9.0	2000	2.2
	65	24	1800	1.2	1720	220	4.0	2000	2.2
	65	90	1800	0.3	1720	200	1.2	2000	2.2
	100	12	1800	3.3	1720	317	13.0	2000	2.4
	100	24	1800	1.7	1720	317	6.5	2000	2.4
	100	90	1800	0.8	1720	310	1.7	2000	2.4
	120	24	1800	1.6	1720	441	7.0	2000	2.4
	120	24	3100	1.6	2600	441	7.0	2000	2.4
	120	90	1800	0.3	1720	382	1.8	2000	2.4
DC055	250	24	1800	4.0	1720	746	16.0	2000	3.2
	250	24	3600	4.0	3200	746	16.0	2000	3.2
	250	90	3300	2.0	3000	796	4.2	2000	3.2
DC06	250	24	1800	4.0	1720	746	16.0	2000	5
	250	24	3600	4.0	3200	746	16.0	2000	5
	250	90	3300	2.0	3000	746	16.0	2000	5

■ 减速机传动效率 η TRANSMISSION EFFICIENCY

型号	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200
2GN□K	81%										73%			66%							
3GN□K 4GN□K																					
5GN□K																					
5GU□KB (K)	81%					73%					66%					59%					
6GU□K																					

■ 减速机最大允许力矩 THE MAX ALLOWABLE TORQUE OF THE GEARBOX

型号type	2GN□K	3GN□K	4GN□K	5GN□K	5GU□KB (K)	6GU□K
最大允许扭矩N.m The max allowable torque	3.0	5.0	8.0	10.0	20.0	40.0



DUS21,22 Series

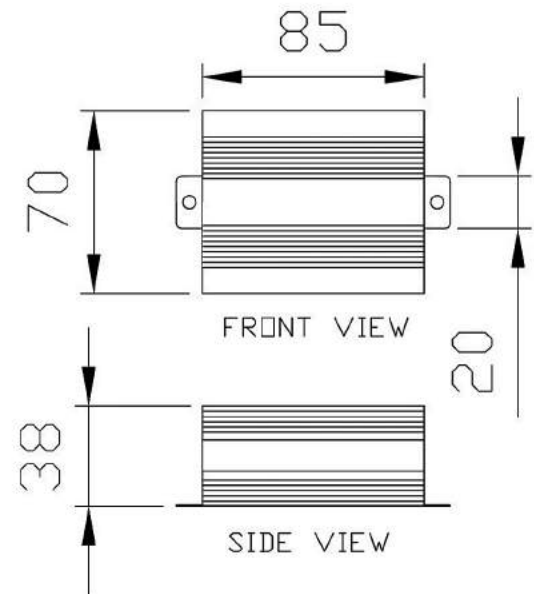
Speedcontrol DC24V Suntech

Power 350W

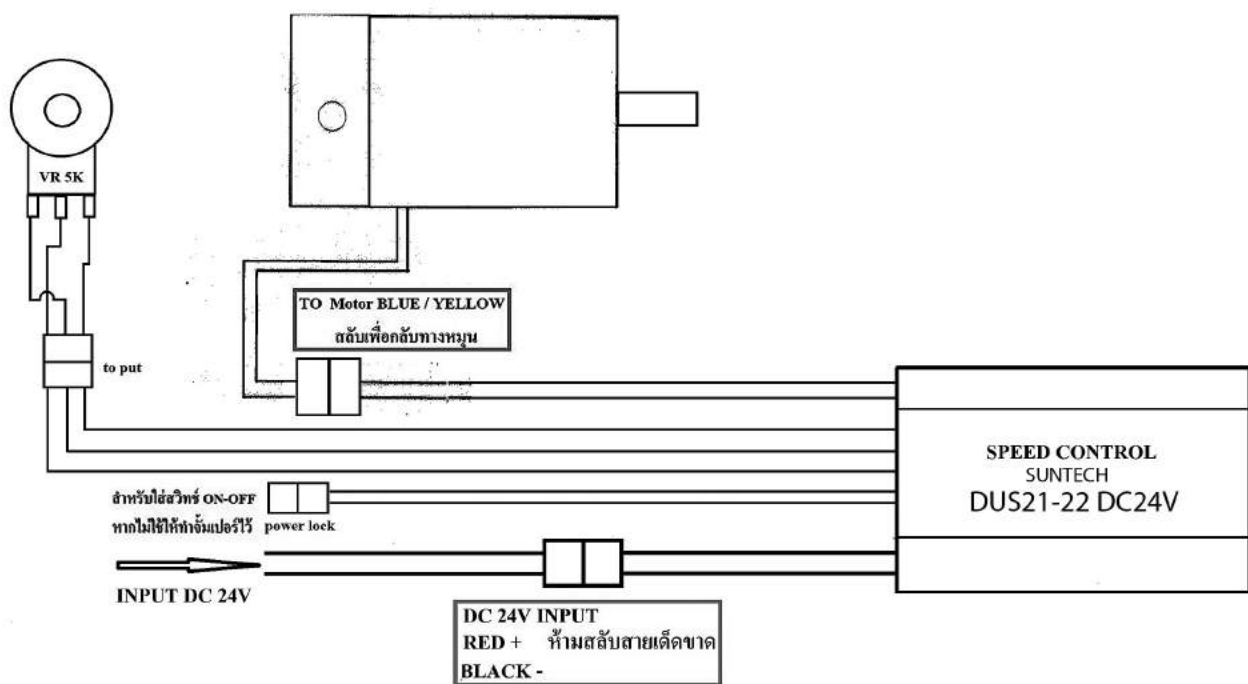
Input 24VDC

Output Voltage $20 \pm 0.5V$

Output Current $20 \pm 1A$

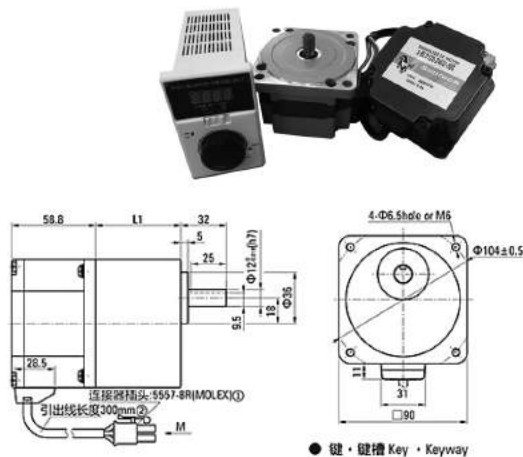
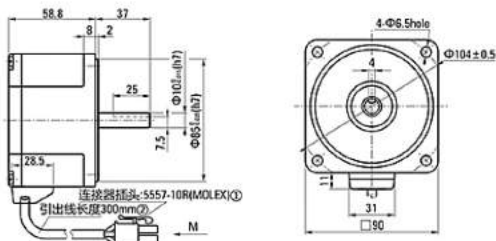


วิธีการต่อ DUS 21,22 กับมอเตอร์ DC 24V SUNTECH



■ 圆轴型光电机 Circular Shaft Type Optical Motor

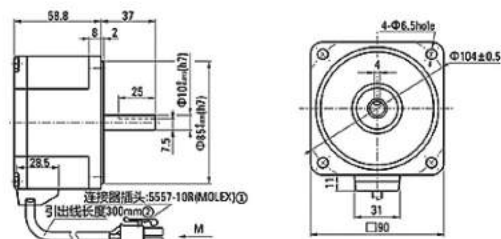
5 BLD 60-24GN-30S 60W 24VDC 3000RPM
5 BLD 60-220GN-25S 60W 220VAC 2500RPM



● 键·键槽 Key·Keyway

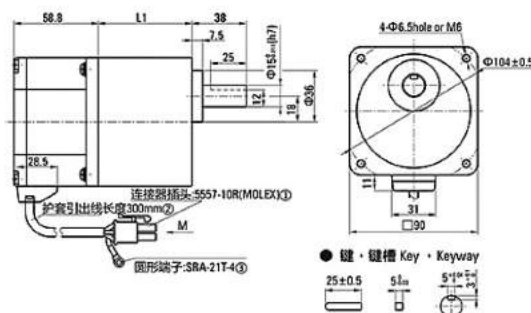
■ 圆轴型光电机 Circular Shaft Type Optical Motor

5 BLD 120-24GU-30S 120W 24VDC 3000RPM
5 BLD 120-220GN-25S 120W 220VAC 2500RPM
5 BLD 200-24GU-30S 200W 24VDC 3000RPM



① Connector: 5557-10R (MOLEX) ② Lead wire length 300mm

Suntech SERIES BRUSHLESS DC MOTOR



● 键·键槽 Key·Keyway

● 低压电机接线插孔对应信号说明

Low Voltage Wire Plughole Corresponding Signal Explanation



plughole	1	2	3	4
signal	U	W	Hz	Hu
plughole	5	6	7	8
signal	V	GND	Hw	Vcc

● 高压电机接线插孔对应信号说明

High Voltage Wire Plughole Corresponding Signal Explanation

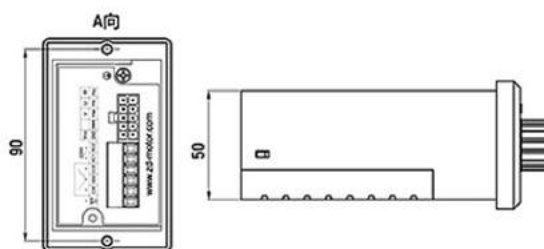
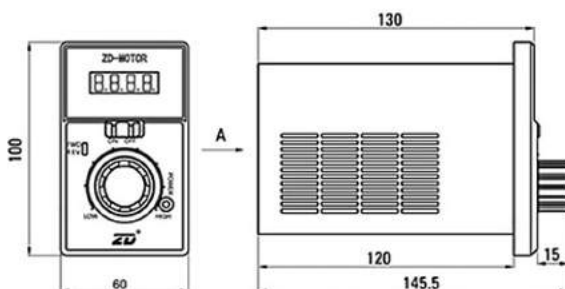


排线对应的意义									
1	2	3	4	5	6	7	8	9	10
蓝 (Blue)	黄 (Yellow)	灰 (Grey)	绿 (Green)	粉 (Pink)	棕 (Brown)	金属丝网	橙 (Orange)	白 (White)	
W	Hu	U	Hv	V	Hw		Vcc+5V	GND	

CONTROLLER

BLD CON-24A-60-J5-VH01 60W 24VDC
BLD CON-220A-60-J5-VH01 60W 220VAC

BLD CON-24A-120-J5-VH01 120W 24VDC
BLD CON-220A-120-J5-VH01 120W 220VAC

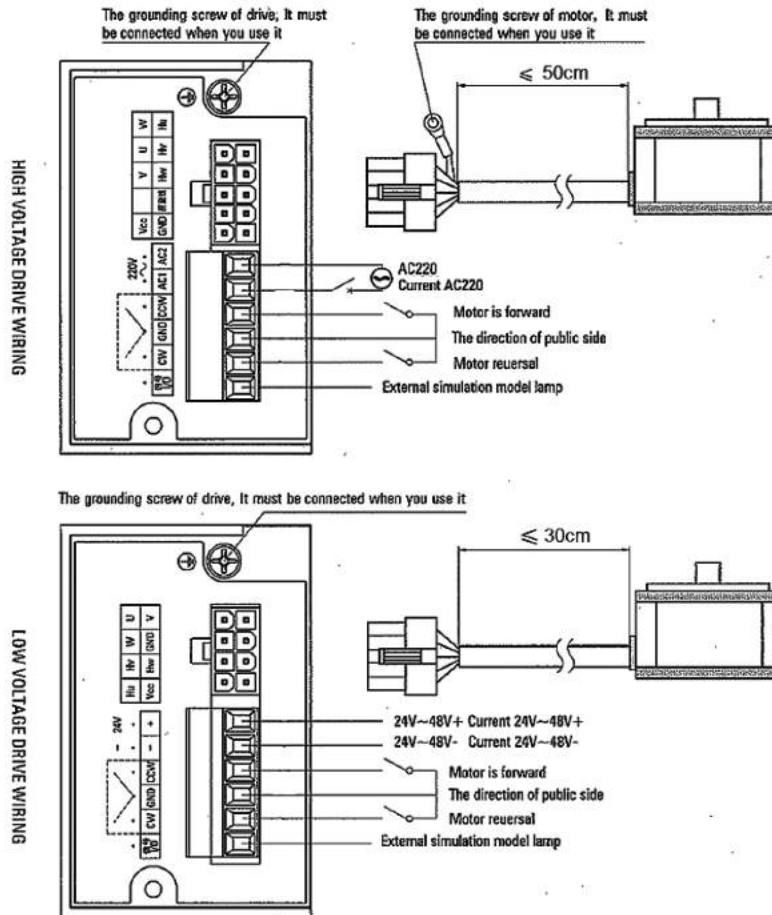


■ 特点 Characteristic

- Adopt new high voltage power module control technology, complete functions, superior performance.
- Holzer signal is used to speed closed-loop control, the system is stable and reliable. - digital display speed and alarm prompt, simple and intuitive.
- Can achieve the start of the acceleration speed adjustment, acceleration time 0.1~1.
- seconds adjustable, the factory value.
- for 0.5 seconds Vp can be panel operation, external switch operation or 485 communication operation.
- protection, protection of the action is sensitive and reliable.

Model : BLD CON - xxxA - xx - J5 - VH01

Connection Port Description



Suntech
SERIES BRUSHLESS DC MOTOR

IF the direction of the motor needs to be controlled remotely, it is necessary to control the direction of the relay or 485 communication. Must ensure that the drive and the motor grounding wire is good before the power use.

Power Supply, Control Terminal		Motor Connection End		
Lead Angle	Definition	Lead Angle	Definition	Colour
AC1	AC 220V live wire	U	Motor U phase	Ask (yellow)
AC2	AC 220V zero line	V	Motor V phase	Power (green)
I/O	External analog signal	W	Motor W phase	Blue (blue)
CW	Motor forward	Hu	Hozier signal U phase input	Yellow (yellow)
GND	Direction common	Hv	Hozier signal V phase input	Green (green)
GND	Motor reverse	Hw	Hozier signal W phase input	Brown (blue)
		Vcc	Hozier signal power line	Red (red)
		GND	Hozier signal ground	White (black)
		Shielding wire	Signal shielding line	Silver (silver)

Trouble

ERR1	Short-circuit anomaly	Check whether the drive, motor line is short circuit
ERR2	Holzer anomaly	Check motor connection end contact is good
ERR3	Current anomaly	Check if motor is locked up, beyond the rated load
ERR4	Voltage abnormality	Check whether the input voltage is normal
ERR5	Direction anomaly	Check motor direction signal is short circuit
ERR6	Overheat protection	Check whether the drive cooling environment is good
ERR7	Abnormal system	Internal system error

-To check eliminate the fault, we must cut off the total power supply, and then re power, if there is still a future, please contact us.

DBLS-01-S (Low voltage brushless DC Speed adjustable driver)

This driver is widely used in occasions which need speed adjustment, etc. It has a built-in signal receiving circuit containing hall signal sensor, the closed loop operation of brushless motor is realized. It can realize the output of rated torque at low speed and stable operation. There are a variety of speed control modes, built-in/ external speed control potentiometer, various input control signal (analog internal, external analog, external pulse width), can satisfy various requirements of control system. The new design of the input signal loop, can use an external active signal control start/stop, also external passive contact input (relay, limit switch), to control the motor start and stop.

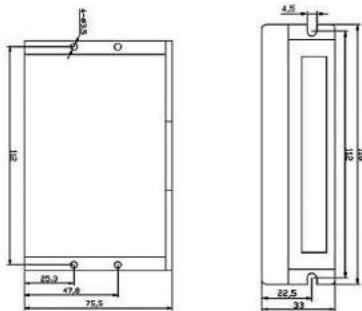
Specification and Description

- PID speed and current double loop regulator
- High performance, low price
- 20KHZ Chopper frequency
- Electrical stop to ensure the quick action of motor
- Over load ratio larger then 2, torque always can achieve the max in low speed
- Provide OVP, LVP, OCP, OTP, and other fault alarms.

System Characteristics:

- Input Voltage: 24VDC~48VDC
- Continuous input over-load protection current: 10A
- Max. peak current: 20A
- Working temp.: 0~+45 C
- Storage temp.: -20~+85 C
- Working & storage humidity: <85%

Dimensions: 118x76x33mm



Terminal Connections

1. Power Input

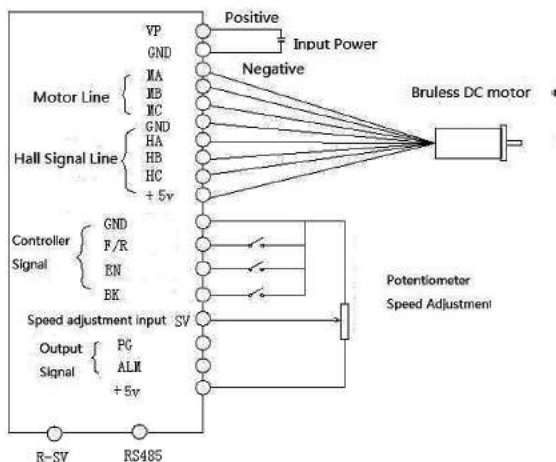
1	V+	24VDC~48VDC input
2	GND	GND input

2. Motor Input

1	MA	Motor A phase (Yellow)
2	MB	Motor B phase (Green)
3	MC	Motor C phase (Blue)
4	GND	GND (Black)
5	HA	Hall signal A phase input (Yellow)
6	HB	Hall signal B phase input (Green)
7	HC	Hall signal C phase input (Blue)
8	+5V	Hall signal power line (Red)



Connection Diagram of motor and driver

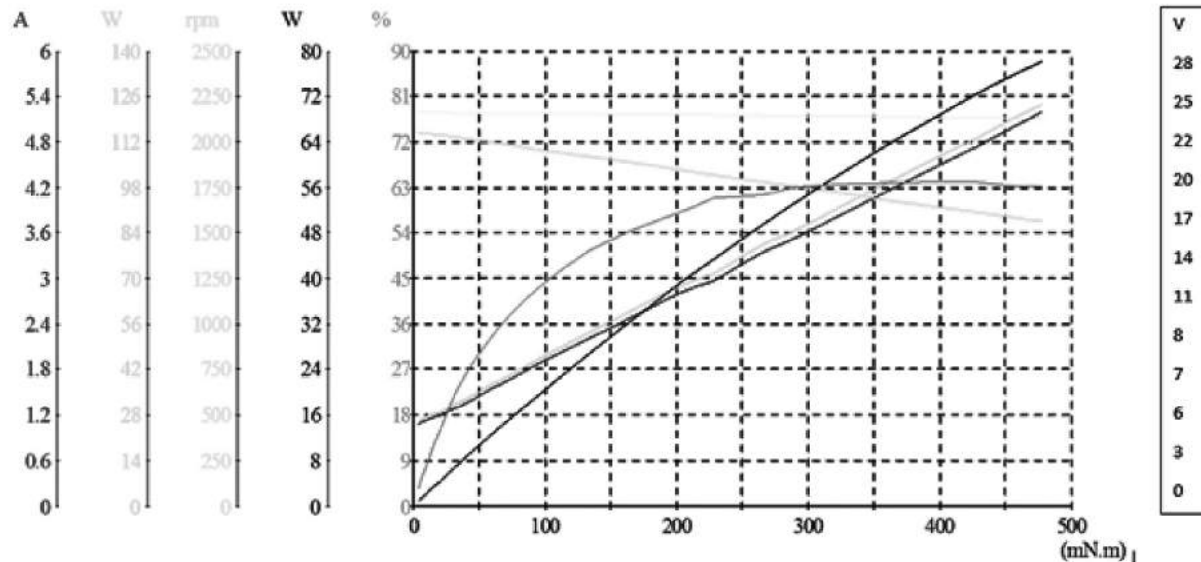


Specification and Description

1. PID speed and current double loop regulator
2. High performance, low price
3. 20KHZ Chopper frequency
4. Electrical stop to ensure the quickly action of motor
5. Over load ratio larger then 2, torque always can achieve the max in low speed
6. Provide OVP, LVP, OCP, OTP, illegal hall signal and other fault alarm.

DBLS-01-S (Low voltage brushless DC Speed adjustable driver)

PERFORMANCE CURVES Matched 42mm BLDC Motor



Function

1. Speed adjust method. This driver provides user below two adjust methods to choose:

Inner potentiometer speed adjustment: Rotate the potentiometer on the driver panel counterclockwise, the rotate speed of the motor become low, rotate the potentiometer on the driver panel clockwise. If you use external input to adjust speed, make sure the potentiometer is set in the minimum state.

External input adjustment: Connect the terminal of external potentiometer to the GND and +5V terminal, connect the regulator terminal to SV, not only make it possible to adjust speed by external potentiometer, but also can achieve speed adjust through other control unit (Such as PLC, Microcontroller, etc) input analog voltage to SV. The acceptance of SV is DC 0V~+5V, and the corresponding motor rotate speed is 0 to rated speed. You also can use external digital signal to adjust speed: apply PWM with 5V amplitude and 1KHz~2KHz Frequency between SV and GND to adjust the speed. the motor rotate speed is adjust by the duty ratio liner adjustment.

2. Motor operate/stop control (EN)

You can control the brushless motor to run or stop by controlling the terminal "EN" and "GND" connecting. The motor will running when we connect the terminal "EN" to "GND"; when shut down, the motor will stop naturally, and the stopping time will be decided by the inertia and load added on the motor.

3. Motor rotation direction control (F/R)

You can control the motor rotation direction by controlling the terminal "F/R" and "GND" connecting. When connect terminal "F/R" to terminal "GND", the motor will run at CCW (view from motor output side), and when shut down, the motor will run at another direction.

Attention: If you need to change the motor rotation direction, please stop the motor at first, otherwise the driver shall be caused to damage.

4. Brake the motor to stop (BK)

You can brake the motor to stop if need. Motor will run when the terminal "BK" not connect to "GND", but if you connect these two terminals together, motor will stop quickly. And the motor stopping time will be decided by inertia and load added on the motor.

Attention: If it is not necessary to stop the motor quickly, please DO NOT use this function, cause it has some electrical and mechanical impact on the motor and driver.

5. Speed signal output (PG)

The speed pulse output is 0C, output 30V/10mA maximum. You can connect a resistance (3K ohm ~10K ohm) with the input power to get speed pulse signal.

6. Alarm output (ALM)

The alarm output port is 0C, output 30V/10mA max. You can connect a resistance (3K ohm ~10K ohm) with the input power to get the alarm signal. When alarm, this port is connecting the GND (Low voltage), and the driver will stop working and keep in alarm status.

7. Drive failure

Over-voltage or over-current will lead the driver to a protection status, the driver will automatically stop working, the motor stop and blue light is flashing. As long as you enable terminal re-reset (EN and GND disconnected) or power Off, the driver will disarm the alarm. Please check the motor wiring if this failure occurs.

Using

1. Insure that motor line, hall line and power line connect correct, Motor and driver will be damaged if lines connected wrong
2. When using inner potentiometer speed adjustment, connect "EN" with "GND" terminal, connect SV terminal with 5V terminal, adjust speed by inner potentiometer
3. When using external potentiometer to adjust speed: adjust R-SV to 1.0 position, meanwhile connect EN to GND terminal, connect external potentiometer (middle connection) to SV terminal, the other two connect GND and +5V terminal
4. Motor will run the highest speed under closed loop, adjust attenuation potentiometer to get speed commanded.