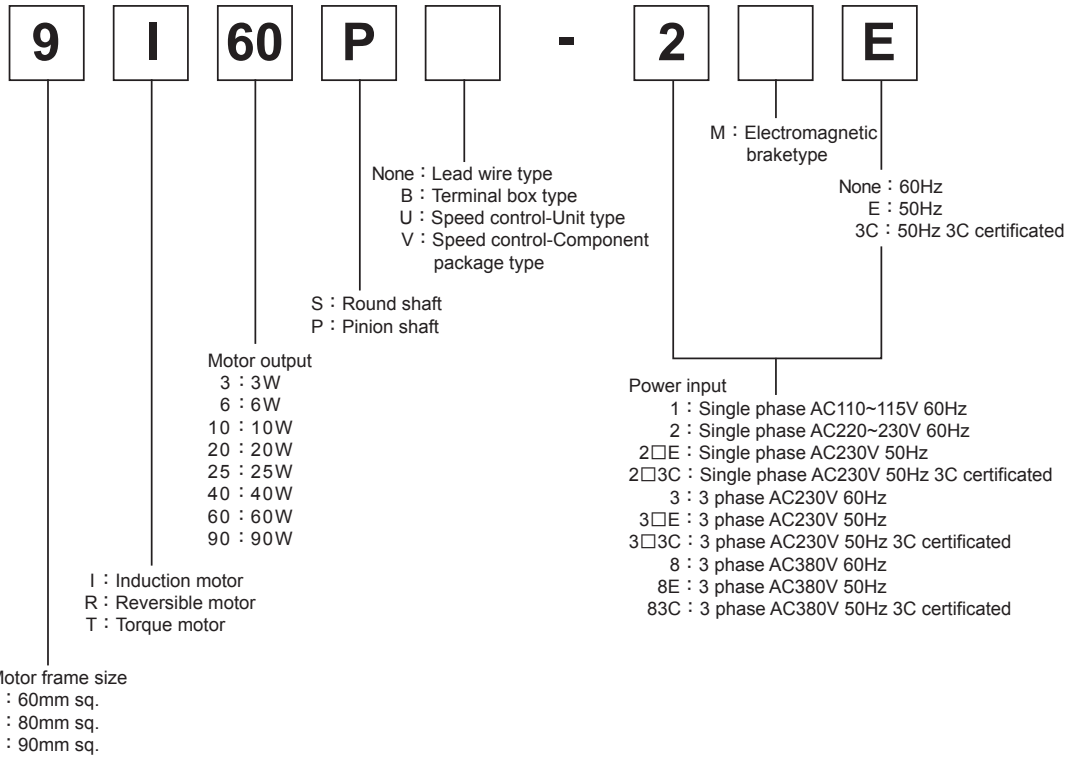
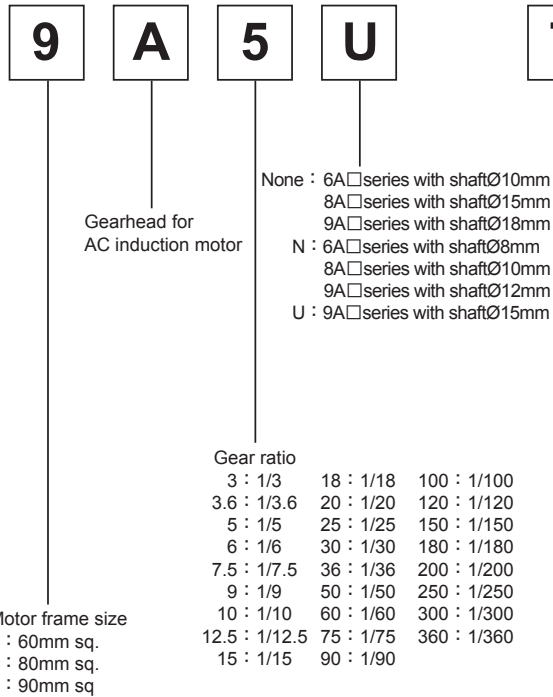


## Product number code

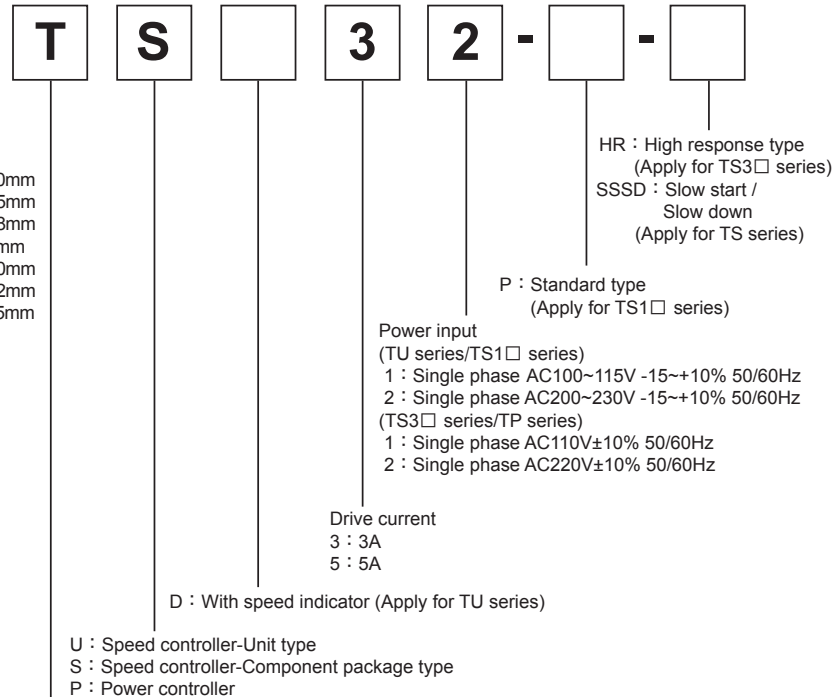
### Motor



### Gearhead



### Controller



TROY

Common technical information

Product number code

Induction motor

Reversible motor

Speed control motor

Electromagnetic brake motor

Torque motor



### ■ Specs

Motor output	6W				
Round shaft type	6I6S-1		6I6S-2		6I6S-2E 6I6S-23C
Pinion shaft type	6I6P-1		6I6P-2		6I6P-2E 6I6P-23C
Capacity of capacitor (μF)	2.5		0.6		0.5
Power input (V)	Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230
Power frequency (Hz)	60				50
Rated current (A)	0.20	0.20	0.10	0.10	0.11
Starting torque (kgcm)	0.40		0.40		0.38
Rated torque(kgcm)	0.41		0.41		0.49
Rated speed (r/min)	1500		1500		1200
Permissible inertia (GD <sup>2</sup> )	0.25 kgcm <sup>2</sup>				
Ambient temperature	Single phase 110V/115V:-10~+50°C ; Single phase 220V/230V:-10~+40°C				
Ambient humidity	Max.85%RH				

### ■ 6I6P-□ + 6A□ Series Gearhead Specs & Permissible Torque/Permissible Inertial Load(GD<sup>2</sup>)When Gearhead Attached

Gear ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Rotation speed (r/min)	600	500	360	300	240	200	180	144	120	100	90	72	60
	Permissible torque(kgcm) -1,-2 type	1.1	1.3	1.8	2.2	2.7	3.3	3.7	4.6	5.5	6.6	7.4	9	11
50 Hz	Rotation speed (r/min)	500	417	300	250	200	167	150	120	100	83	75	60	50
	Permissible torque(kgcm) -2E,-23C type	1.3	1.6	2.2	2.6	3.3	4	4.4	5.5	6.6	7.9	8.8	11	13
Permissible inertia load GD <sup>2</sup> (kgcm <sup>2</sup> )		2.3	3.3	6.3	9	14	20.3	25	39	56.3	81	100	156	225

Gear ratio		36	50	60	75	90	100	120	150	180	200	250	300	360
60 Hz	Rotation speed (r/min)	50	36	30	24	20	18	15	12	10	9	7	6	5
	Permissible torque(kgcm) -1,-2 type	13	18	21	26	32	35	40	50	60				
50 Hz	Rotation speed (r/min)	42	30	25	20	17	15	13	10	8	8	6	5	4
	Permissible torque(kgcm) -2E,-23C type	15	21	25	32	38	42	48	60					
Permissible inertia load GD <sup>2</sup> (kgcm <sup>2</sup> )		324	625				625							

※1 : Gearhead 6A□series , please enter the gear ratio 3~360 in the box□

※2 : 60Hz : The max synchronous speed is 1800r/min ; 50Hz : The max synchronous speed is 1500r/min

※3 : 「Permissible torque」 It refers to the value of load torque driven by the gearhead's output.Each value is shown for the corresponding gear ratio.-1 type:It indicates 6I6P-□ is single phase 110V/115V 60Hz ; -2 type:Single phase 220V/230V 60Hz ; -2E/23C type:Single phase 230V 50Hz ; the other types please refer to the above table.

※4 : A colored  background indicates gear shaft rotation in the opposite direction as the motor shaft.No marking indicates rotation in the same direction

## ■ Permissible Overhung Load/Permissible Thrust Load

Round shaft type

Model	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
	10mm from shaft end	20mm from shaft end	
6I6S-□	5	11	Permissible thrust load do not exceed the weight of motor 1/2.If exceed the rated weight will decrease the service life of motor. Please using indirect transmission machinery such as coupling, belt,chain.As the applications which will need the thrust load

Pinion shaft type(Gearhead attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit:kg f )
		10mm from shaft end	20mm from shaft end	
6I6P-□	3, 3.6, 5	10	15	3
	6, 7.5, 9, 10, 12.5, 15, 18, 20	15	20	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	20	30	

## ■ Dimensions

◆ Lead wire type

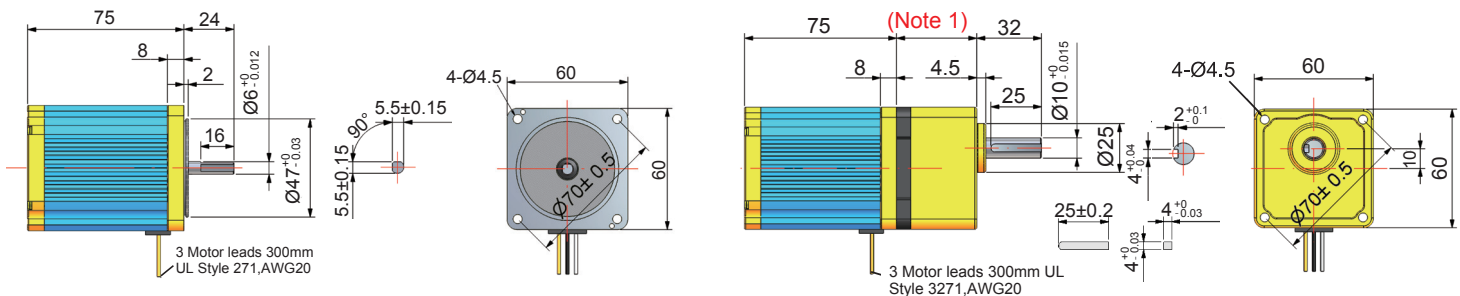
Round shaft 6I6S-□

Motor Weight : 990g

Pinion shaft type 6I6P-□+6A□

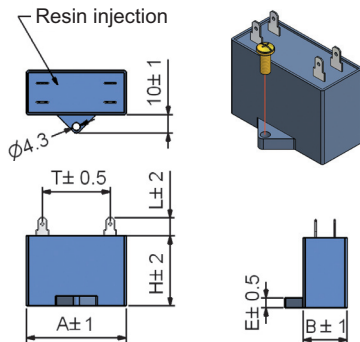
Motor Weight : 980g

Unit : mm



## ■ Capacitor Dimensions (Included with single phase motors)

\*(Note 1)



6A□Gearhead Length/Weight		
Model	Length (mm)	Weight (g)
6A3~6A100	39.5	400
6A120~6A360	43.5	440

※We also have gearhead 6A□N with shaft Ø8.For details please refer to the P.4

Capacity of capacitor (µF/VAC)	A	B	H	L	T	E
2.5/250	37	12.5	22	8	28	5
0.6/450	37	14	23	7	24	4
0.5/450	37	12.5	22	9	24	5

## AC Induction Motor Lead Wire Type & Terminal Box Type 25W



### Specs

Motor output	25W										
Round shaft type	8I25S(B)-1		8I25S(B)-2		8I25S(B)-3		8I25S(B)-8		8I25S(B)-2E	8I25S(B)-3E	8I25S(B)-8E
									8I25S(B)-23C	8I25S(B)-33C	8I25S(B)-83C
Pinion shaft type	8I25P(B)-1		8I25P(B)-2		8I25P(B)-3		8I25P(B)-8		8I25P(B)-2E	8I25P(B)-3E	8I25P(B)-8E
									8I25P(B)-23C	8I25P(B)-33C	8I25P(B)-83C
Capacity of capacitor (μF)	6.5		1.5		-		-		1.2	-	-
Power input (V)	Single phase	Single phase	Single phase	Single phase	Three phase	Three phase	Single phase	Three phase	Three phase		
	110	115	220	230	230	380	230	230	380		
Power frequency (Hz)	60						50				
Rated current (A)	0.43		0.26		0.23		0.10		0.35	0.28	0.12
Starting torque (kgcm)	1.40		1.40		1.70		1.70		1.20	2.20	2.20
Rated torque(kgcm)	1.70		1.70		1.70		1.70		2.10	2.20	2.20
Rated speed (r/min)	1500						1200				
Permissible inertia (GD <sup>2</sup> )	1.2 kgcm <sup>2</sup>										
Ambient temperature	Single phase 110V/115V:-10~+50°C ; Single phase 220V/230V:-10~+40°C										
Ambient humidity	Max.85%RH										

※8I25S-□/8I25P-□ are lead wire type , 8I25SB-□/8I25PB-□ are terminal box type.

### 8I25P(B)-□ + 8A□Series Gearhead Specs & Permissible Torque/Permissible Inertial Load(GD<sup>2</sup>)When Gearhead Attached

Gear ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
60 Hz	Rotation speed (r/min)	600	500	360	300	240	200	180	144	120	100	90	72	60	
	Permissible torque(kgcm)	-1,-2 type	4.6	5.5	7.7	9.2	11.5	13.8	15.3	19.1	23	27.5	30.6	37	44
		-3,-8 type	4.6	5.5	7.7	9.2	11.5	13.8	15.3	19.1	23	27.5	30.6	37	44
50 Hz	Rotation speed (r/min)	500	417	300	250	200	167	150	120	100	83	75	60	50	
	Permissible torque(kgcm)	-2E,-23C type	5.7	6.8	9.5	11.3	14.2	17	18.9	23.6	28.3	34	37.8	45	54
		-3E,-33C,-8E,-83C type	5.9	7.1	9.9	11.9	14.9	17.8	19.8	24.8	29.7	35.6	39.6	47	57
Permissible inertia load GD <sup>2</sup> (kgcm <sup>2</sup> )		10.8	15.6	30	43.2	67.5	97.2	120	187.5	270	389	480	750	1080	

Gear ratio		36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Rotation speed (r/min)	50	36	30	24	20	18	15	12	10	9	7	6	5	
	Permissible torque(kgcm)	-1,-2 type	53	73	88	110	132	150	150						
		-3,-8 type	53	73	88	110	132	150	150						
50 Hz	Rotation speed (r/min)	42	30	25	20	17	15	13	10	8	8	6	5	4	
	Permissible torque(kgcm)	-2E,-23C type	65	90	108	136	150		150						
		-3E,-33C,-8E,-83C type	68	95	114	142	150		150						
Permissible inertia load GD <sup>2</sup> (kgcm <sup>2</sup> )		1555	3000					3000							

※1 : Gearhead 8A□series , please enter the gear ratio 3~360 in the box□

※2 : 60Hz : The max synchronous speed is 1800r/min ; 50Hz : The max synchronous speed is 1500r/min

※3 : 「Permissible torque」 It refers to the value of load torque driven by the gearhead's output.Each value is shown for the corresponding gear ratio.-1 type:It indicates 8I25P(B)-□ is single phase 110V/115V 60Hz ; -2 type:Single phase 220V/230V 60Hz ; -2E/23C type:Single phase 230V 50Hz ; the other types please refer to the above table.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft.No marking indicates rotation in the same direction



## ■ Permissible Overhung Load/Permissible Thrust Load

### Round shaft type

Model	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit : kg f)
	10mm from shaft end	20mm from shaft end	
8I25S(B)-□	9	14	Permissible thrust load do not exceed the weight of motor 1/2.If exceed the rated weight will decrease the service life of motor. Please using indirect transmission machinery such as coupling, belt,chain.As the applications which will need the thrust load

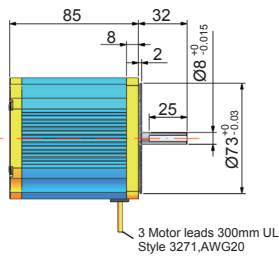
### Pinion shaft type(Gearhead attached)

Model	Gear Ratio	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
		10mm from shaft end	20mm from shaft end	
8I25P(B)-□	3, 3.6, 5	20	25	5
	6, 7.5, 9, 10, 12.5, 15, 18, 20	30	35	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	45	55	

## ■ Dimensions

### ◆ Lead wire type

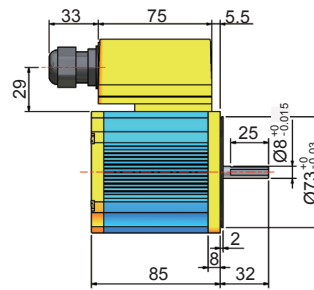
#### Round shaft 8I25S-□



Motor Weight : 1970g

### ◆ Terminal Box Type

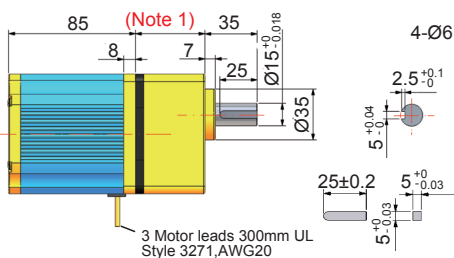
#### Round shaft type 8I25SB-□



Unit : mm

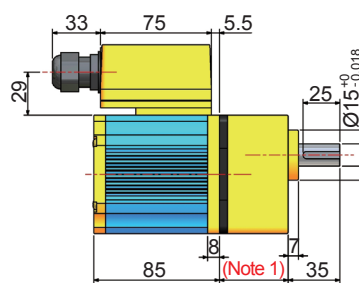
Motor Weight : 2170g

#### Pinion shaft 8I25P-□+8A□



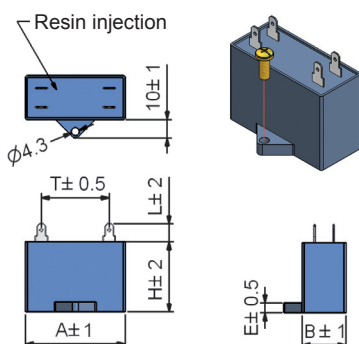
Motor Weight : 1950g

#### Pinion shaft type 8I25PB-□+8A□



Motor Weight : 2150g

## ■ Capacitor Dimensions (Included with single phase motors)



\*(Note1)

8A□ Gearhead Length/Weight		
Model	Length (mm)	Weight (g)
8A3~8A100	46.5	880
8A120~8A360	50.5	940

※We also have gearhead 8A□N with shaft Ø10.For details please refer to the P.4

Capacity of capacitor (µF/VAC)	A	B	H	L	T	E
6.5/250	48	17	27	9	34	5
1.5/450	38	17	26	9	24	5
1.2/450	38	17	26	8	28	5

## AC Induction Motor Lead Wire Type & Terminal Box Type 40W



### ■ Specs

Motor output	40W											
Round shaft type	9I40S(B)-1		9I40S(B)-2		9I40S(B)-3		9I40S(B)-8		9I40S(B)-2E 9I40S(B)-23C	9I40S(B)-3E 9I40S(B)-33C	9I40S(B)-8E 9I40S(B)-83C	
Pinion shaft type	9I40P(B)-1		9I40P(B)-2		9I40P(B)-3		9I40P(B)-8		9I40P(B)-2E 9I40P(B)-23C	9I40P(B)-3E 9I40P(B)-33C	9I40P(B)-8E 9I40P(B)-83C	
Capacity of capacitor (μF)	10		2.5		—		—		2		—	
Power input (V)	Single phase 110	Single phase 115	Single phase 220	Single phase 230	Three phase 230	Three phase 380	Single phase 230	Three phase 230	Three phase 380			
Power frequency (Hz)	60						50					
Rated current (A)	0.75	0.77	0.38	0.39	0.36	0.26	0.39	0.42	0.28			
Starting torque (kgcm)	2.60		2.60		2.70		2.70		2.40	4.50	5.30	
Rated torque(kgcm)	2.70		2.70		2.70		2.70		3.20	3.50	3.30	
Rated speed (r/min)	1550		1550		1500		1500		1300	1200	1250	
Permissible inertia (GD <sup>2</sup> )	3 kgcm <sup>2</sup>											
Ambient temperature	Single phase 110V/115V:-10~+50°C ; Single phase 220V/230V:-10~+40°C											
Ambient humidity	Max.85%RH											

※9I40S-□/9I40P-□ are lead wire type , 9I40SB-□/9I40PB-□ are terminal box type.

### ■ 9I40P(B)-□ + 9A□ Series Gearhead Specs & Permissible Torque/Permissible Inertial Load(GD<sup>2</sup>)When Gearhead Attached

Gear ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
60 Hz	Rotation speed (r/min)	600	500	360	300	240	200	180	144	120	100	90	72	60	
	Permissible torque(kgcm)	-1,-2 type	7.3	8.7	12.2	14.6	18.2	21.9	24.3	30.4	36.5	43.7	48.6	58	70
		-3,-8 type	7.3	8.7	12.2	14.6	18.2	21.9	24.3	30.4	36.5	43.7	48.6	58	70
50 Hz	Rotation speed (r/min)	500	417	300	250	200	167	150	120	100	83	75	60	50	
	Permissible torque(kgcm)	-2E,-23C type	8.6	10.4	14.4	17.3	21.6	25.9	28.8	36	43.2	51.8	57.6	69	83
		-3E,-33C,-8E,-83C type	9.5	11.3	15.8	18.9	23.6	28.4	31.5	39.4	47.3	56.7	63	75	90
Permissible inertia load GD <sup>2</sup> (kgcm <sup>2</sup> )		27	39	75	108	169	243	300	469	675	972	1200	1875	2700	


  

Gear ratio		36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Rotation speed (r/min)	50	36	30	24	20	18	15	12	10	9	7	6	5	
	Permissible torque(kgcm)	-1,-2 type	84	116	139	174	209	232	262	328	394	400			
		-3,-8 type	84	116	139	174	209	232	262	328	394	400			
50 Hz	Rotation speed (r/min)	42	30	25	20	17	15	13	10	8	8	6	5	4	
	Permissible torque(kgcm)	-2E,-23C type	99	138	165	206	248	275	311	389	400				
		-3E,-33C,-8E,-83C type	108	151	181	226	271	301	341	400					
Permissible inertia load GD <sup>2</sup> (kgcm <sup>2</sup> )		3888	7500					7500							

※1 : Gearhead 9A□series , please enter the gear ratio 3~360 in the box□

※2 : 60Hz : The max synchronous speed is 1800r/min ; 50Hz : The max synchronous speed is 1500r/min

※3 : 「 Permissible torque 」 It refers to the value of load torque driven by the gearhead's output.Each value is shown for the corresponding gear ratio.-1 type:It indicates 9I40P(B)-□ is single phase 110V/115V 60Hz ; -2 type:Single phase 220V/230V 60Hz ; -2E/23C type:Single phase 230V 50Hz ; the other types please refer to the above table.

※4 : A colored  background indicates gear shaft rotation in the opposite direction as the motor shaft.No marking indicates rotation in the same direction

## ■ Permissible Overhung Load/Permissible Thrust Load

Round shaft type

Model	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
	10mm from shaft end	20mm from shaft end	
9I40S(B)-□	14	20	Permissible thrust load do not exceed the weight of motor 1/2.If exceed the rated weight will decrease the service life of motor. Please using indirect transmission machinery such as coupling, belt,chain.As the applications which will need the thrust load

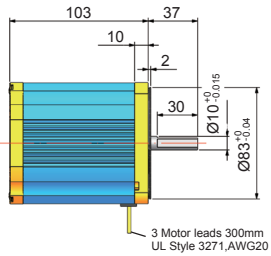
Pinion shaft type(Gearhead attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit:kg f )
		10mm from shaft end	20mm from shaft end	
9I40P(B)-□	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

## ■ Dimensions

### ◆ Lead wire type

Round shaft 9I40S-□



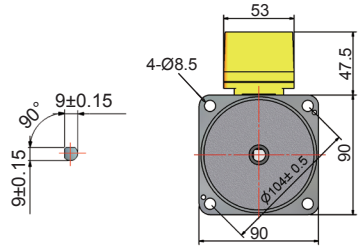
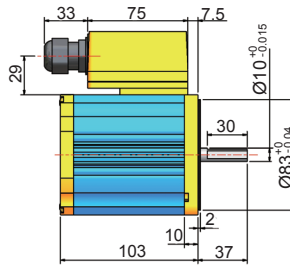
Motor Weight : 2970g

### ◆ Terminal Box Type

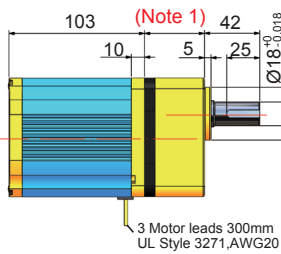
Round shaft type 9I40SB-□

Unit : mm

Motor Weight : 3120g



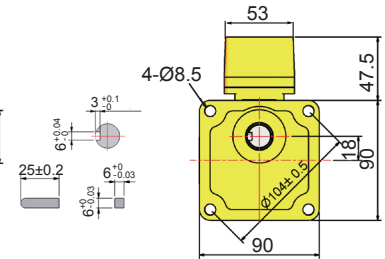
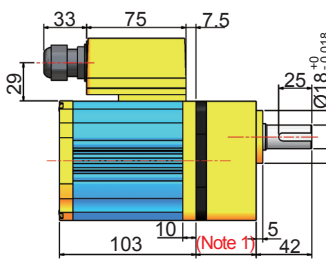
Pinion shaft 9I40P-□+9A□



Motor Weight : 2950g

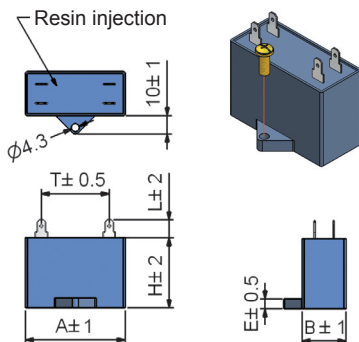
Pinion shaft type 9I40PB-□+9A□

Motor Weight : 3100g



## ■ Capacitor Dimensions (Included with single phase motors)

\*(Note1)



9A□ Gearhead Length/Weight		
Model	Length (mm)	Weight (g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

※We also have gearhead 9A□N with shaft Ø12.For details please refer to the P.4

Capacity of capacitor (µF/VAC)	Capacity of capacitor					
	A	B	H	L	T	E
10/250	49	21	31.5	8	38	5
2.5/450	48	17	27	9	34	5
2/450	38	20	29	8	24	4.5

## AC Induction Motor Lead Wire Type & Terminal Box Type 60W



### ■ Specs

Motor output	60W										
Round shaft type	9I60S(B)-1		9I60S(B)-2		9I60S(B)-3		9I60S(B)-8		9I60S(B)-2E	9I60S(B)-3E	9I60S(B)-8E
									9I60S(B)-23C	9I60S(B)-33C	9I60S(B)-83C
Pinion shaft type	9I60P(B)-1		9I60P(B)-2		9I60P(B)-3		9I60P(B)-8		9I60P(B)-2E	9I60P(B)-3E	9I60P(B)-8E
									9I60P(B)-23C	9I60P(B)-33C	9I60P(B)-83C
Capacity of capacitor (μF)	18		4		—		—		3.5	—	—
Power input (V)	Single phase	Single phase	Single phase	Single phase	Three phase	Three phase	Single phase	Three phase	Three phase		
	110	115	220	230	230	380	230	230	380		
Power frequency (Hz)	60						50				
Rated current (A)	1.39	1.44	0.62	0.63	0.80	0.39	0.45	1.00	0.45		
Starting torque (kgcm)	3.40		3.40		5.60		5.50		3.40	7.00	6.60
Rated torque(kgcm)	4.20		4.20		4.30		4.20		4.95	5.43	5.00
Rated speed (r/min)	1450		1500		1450		1500		1250	1150	1250
Permissible inertia (GD <sup>2</sup> )	4.6 kgcm <sup>2</sup>										
Ambient temperature	Single phase 110V/115V:-10~+50°C ; Single phase 220V/230V:-10~+40°C										
Ambient humidity	Max.85%RH										

※9I60S-□/9I60P-□ are lead wire type , 9I60SB-□/9I60PB-□ are terminal box type.

### ■ 9I60P(B)-□ + 9A□Series Gearhead Specs & Permissible Torque/Permissible Inertial Load(GD<sup>2</sup>)When Gearhead Attached


Gear ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
60 Hz	Rotation speed (r/min)	600	500	360	300	240	200	180	144	120	100	90	72	60	
	Permissible torque(kgcm)	-1,-2 type	11.3	13.6	18.9	22.7	28.4	34	37.8	47.3	56.7	68	76	90	108
		-3,-8 type	11.6	13.9	19.4	23.2	29	34.8	38.7	48.4	58.1	69.7	77	92	111
50 Hz	Rotation speed (r/min)	500	417	300	250	200	167	150	120	100	83	75	60	50	
	Permissible torque(kgcm)	-2E,-23C type	13.4	16	22.3	26.7	33.4	40.1	44.6	55.7	66.8	80.2	89	106	128
		-3E,-33C,-8E,-83C type	14.7	17.6	24.4	29.3	36.7	44	48.9	61.1	73.3	88	98	117	140
Permissible inertia load GD <sup>2</sup> (kgcm <sup>2</sup> )		41	60	115	166	259	373	460	719	1035	1490	1840	2875	4140	

Gear ratio		36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Rotation speed (r/min)	50	36	30	24	20	18	15	12	10	9	7	6	5	
	Permissible torque(kgcm)	-1,-2 type	130	181	217	271	325	361	400						
		-3,-8 type	133	185	222	277	333	370	400						
50 Hz	Rotation speed (r/min)	42	30	25	20	17	15	13	10	8	8	6	5	4	
	Permissible torque(kgcm)	-2E,-23C type	153	213	255	319	383	400	400						
		-3E,-33C,-8E,-83C type	168	233	280	350	400	400							
Permissible inertia load GD <sup>2</sup> (kgcm <sup>2</sup> )		5962	11500					11500							

※1 : Gearhead 9A□series , please enter the gear ratio 3~360 in the box□

※2 : 60Hz : The max synchronous speed is 1800r/min ; 50Hz : The max synchronous speed is 1500r/min

※3 : 「Permissible torque」 It refers to the value of load torque driven by the gearhead's output.Each value is shown for the corresponding gear ratio.-1 type:It indicates 9I60P(B)-□ is single phase 110V/115V 60Hz ; -2 type:Single phase 220V/230V 60Hz ; -2E/23C type:Single phase 230V 50Hz ; the other types please refer to the above table.

※4 : A colored  background indicates gear shaft rotation in the opposite direction as the motor shaft.No marking indicates rotation in the same direction

## ■ Permissible Overhung Load/Permissible Thrust Load

Round shaft type

Model	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
	10mm from shaft end	20mm from shaft end	
9I60S(B)-□	24	27	Permissible thrust load do not exceed the weight of motor 1/2.If exceed the rated weight will decrease the service life of motor. Please using indirect transmission machinery such as coupling, belt,chain.As the applications which will need the thrust load

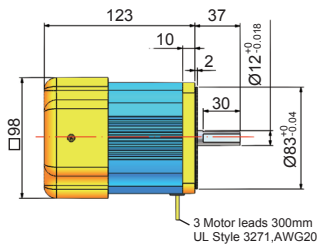
Pinion shaft type(Gearhead attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit:kg f )
		10mm from shaft end	20mm from shaft end	
9I60P(B)-□	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

## ■ Dimensions

### ◆ Lead wire type

Round shaft 9I60S-□



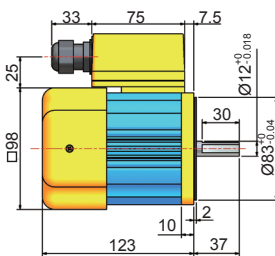
Motor Weight : 3210g

### ◆ Terminal Box Type

Round shaft type 9I60SB-□

Unit : mm

Motor Weight : 3360g

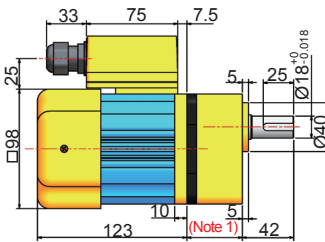
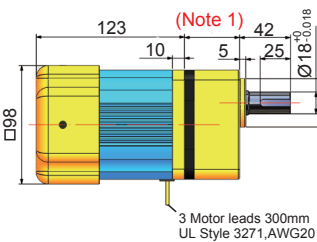


Pinion shaft 9I60P-□+9A□

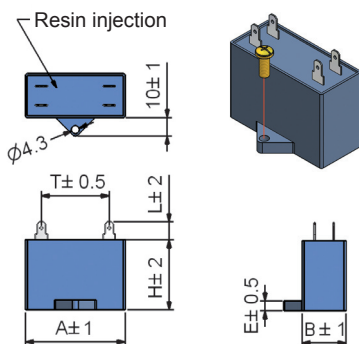
Motor Weight : 3180g

Pinion shaft type 9I60PB-□+9A□

Motor Weight : 3330g



## ■ Capacitor Dimensions (Included with single phase motors)



\*(Note1)

9A□ Gearhead Length/Weight		
Model	Length (mm)	Weight (g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

※We also have gearhead 9A□U with shaft Ø15.For details please refer to the P.4

Capacity of capacitor (µF/VAC)	Capacity of capacitor					
	A	B	H	L	T	E
18/250	59	23	35	7	48	4.2
4/450	49	21	31.5	9	34	5
3.5/450	49	21	31.5	8	34	5





### ■ Specs

Motor output	90W										
Round shaft type	9I90S(B)-1		9I90S(B)-2		9I90S(B)-3		9I90S(B)-8		9I90S(B)-2E	9I90S(B)-3E	9I90S(B)-8E
									9I90S(B)-23C	9I90S(B)-33C	9I90S(B)-83C
Pinion shaft type	9I90P(B)-1		9I90P(B)-2		9I90P(B)-3		9I90P(B)-8		9I90P(B)-2E	9I90P(B)-3E	9I90P(B)-8E
									9I90P(B)-23C	9I90P(B)-33C	9I90P(B)-83C
Capacity of capacitor (μF)	20		6		-		-		5	-	-
Power input (V)	Single phase		Single phase		Three phase		Three phase		Single phase	Three phase	Three phase
	110	115	220	230	230	380	230	380	230	230	380
Power frequency (Hz)	60						50				
Rated current (A)	1.50	1.57	0.87	0.92	0.84	0.53	0.71	0.94	0.61		
Starting torque (kgcm)	4.50		4.50		7.50		7.50		4.50	9.40	9.40
Rated torque(kgcm)	5.87		6.05		6.10		6.10		7.14	7.50	7.50
Rated speed (r/min)	1550		1550		1500		1500		1300	1250	1250
Permissible inertia (GD <sup>2</sup> )	4.6 kgcm <sup>2</sup>										
Ambient temperature	Single phase 110V/115V:-10~+50°C ; Single phase 220V/230V:-10~+40°C										
Ambient humidity	Max.85%RH										

※9I90S-□/9I90P-□ are lead wire type , 9I90SB-□/9I90PB-□ are terminal box type.

### ■ 9I90P(B)-□ + 9A□Series Gearhead Specs & Permissible Torque/Permissible Inertial Load(GD<sup>2</sup>)When Gearhead Attached

Gear ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
60 Hz	Rotation speed (r/min)	600	500	360	300	240	200	180	144	120	100	90	72	60	
	Permissible torque(kgcm)	-1,-2 type	16.3	19.6	27.2	32.7	40.8	49	54.5	68.1	81.7	98	109	130	156
		-3,-8 type	16.5	19.8	27.5	32.9	41.2	49.4	54.9	68.6	82.4	98.8	110	131	157
50 Hz	Rotation speed (r/min)	500	417	300	250	200	167	150	120	100	83	75	60	50	
	Permissible torque(kgcm)	-2E,-23C type	19.3	23.1	32.1	38.6	48.2	57.8	64.3	80.3	96.4	115.7	129	154	184
		-3E,-33C,-8E,-83C type	20.3	24.3	33.8	40.5	50.6	60.8	67.5	84.4	101.3	121.5	135	161	194
Permissible inertia load GD <sup>2</sup> (kgcm <sup>2</sup> )		41	60	115	166	259	373	460	719	1035	1490	1840	2875	4140	

Gear ratio		36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Rotation speed (r/min)	50	36	30	24	20	18	15	12	10	9	7	6	5	
	Permissible torque(kgcm)	-1,-2 type	187	260	312	390	400	400							
		-3,-8 type	189	262	315	393	400	400							
50 Hz	Rotation speed (r/min)	42	30	25	20	17	15	13	10	8	8	6	5	4	
	Permissible torque(kgcm)	-2E,-23C type	221	307	368	400	400								
		-3E,-33C,-8E,-83C type	232	323	387	400	400								
Permissible inertia load GD <sup>2</sup> (kgcm <sup>2</sup> )		5962	11500					11500							

※1 : Gearhead 9A□series , please enter the gear ratio 3~360 in the box□

※2 : 60Hz : The max synchronous speed is 1800r/min ; 50Hz : The max synchronous speed is 1500r/min

※3 : 「Permissible torque」 It refers to the value of load torque driven by the gearhead's output.Each value is shown for the corresponding gear ratio.-1 type:It indicates 9I90P(B)-□ is single 110V/115V 60Hz ; -2 type:Single phase 220V/230V 60Hz ; -2E/23C type:Single phase 230V 50Hz ; the other types please refer to the above table.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft.No marking indicates rotation in the same direction

## ■ Permissible Overhung Load/Permissible Thrust Load

Round shaft type

Model	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
	10mm from shaft end	20mm from shaft end	
9I90S(B)-□	24	27	Permissible thrust load do not exceed the weight of motor 1/2.If exceed the rated weight will decrease the service life of motor. Please using indirect transmission machinery such as coupling, belt,chain.As the applications which will need the thrust load

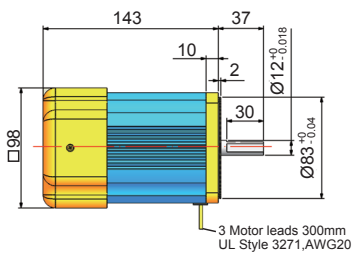
Pinion shaft type(Gearhead attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit:kg f)
		10mm from shaft end	20mm from shaft end	
9I90P(B)-□	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

## ■ Dimensions

### ◆ Lead wire type

Round shaft 9I90S-□



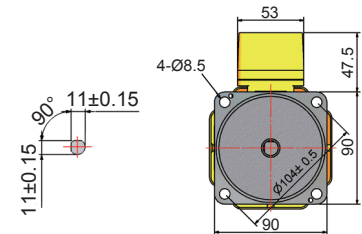
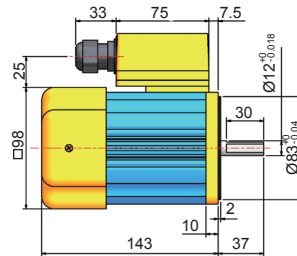
Motor Weight : 3910g

### ◆ Terminal Box Type

Round shaft type 9I90SB-□

Unit : mm

Motor Weight : 4060g

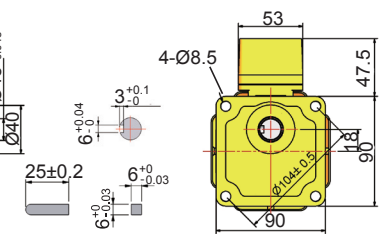
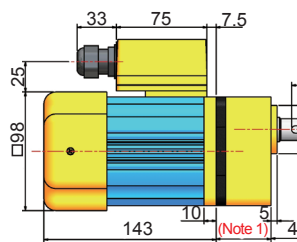
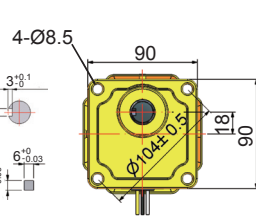
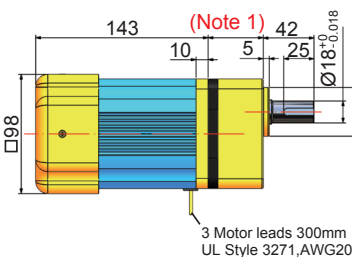


Pinion shaft 9I90P-□+9A□

Motor Weight : 3880g

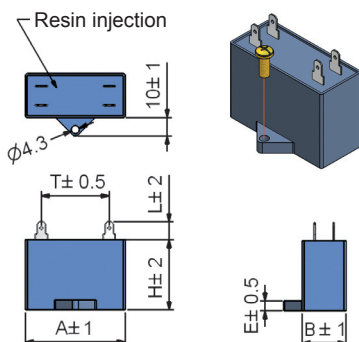
Pinion shaft type 9I90PB-□+9A□

Motor Weight : 4030g



## ■ Capacitor Dimensions (Included with single phase motors)

\*(Note1)



9A□ Gearhead Length/Weight		
Model	Length (mm)	Weight (g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

※We also have gearhead 9A□U with shaft Ø15.For details please refer to the P.4

Capacity of capacitor (µF/VAC)	9A□ Gearhead Length/Weight					
	A	B	H	L	T	E
20/250	59	23	35	10	48	4.2
6/450	59	23	35	9	44	4.2
5/450	50	22	35	9	38	5



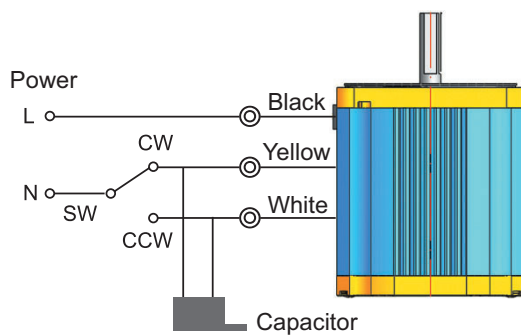
## Induction Motor Wiring Diagram

Lead Wire Type 6W · 25W · 40W · 60W · 90W  
Terminal Box Type 25W · 40W · 60W · 90W

### Lead wire type

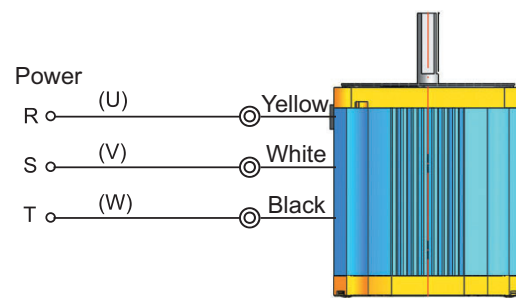
Applicable models : Single phase motor

6I6□-1 6I6□-2 6I6□-2E 6I6□-23C  
8I25□-1 8I25□-2 8I25□-2E 8I25□-23C  
9I40□-1 9I40□-2 9I40□-2E 9I40□-23C  
9I60□-1 9I60□-2 9I60□-2E 9I60□-23C  
9I90□-1 9I90□-2 9I90□-2E 9I90□-23C



Applicable models : 3 phase motor

8I25□-3 8I25□-3E 8I25□-33C 8I25□-8 8I25□-8E 8I25□-83C  
9I40□-3 9I40□-3E 9I40□-33C 9I40□-8 9I40□-8E 9I40□-83C  
9I60□-3 9I60□-3E 9I60□-33C 9I60□-8 9I60□-8E 9I60□-83C  
9I90□-3 9I90□-3E 9I90□-33C 9I90□-8 9I90□-8E 9I90□-83C

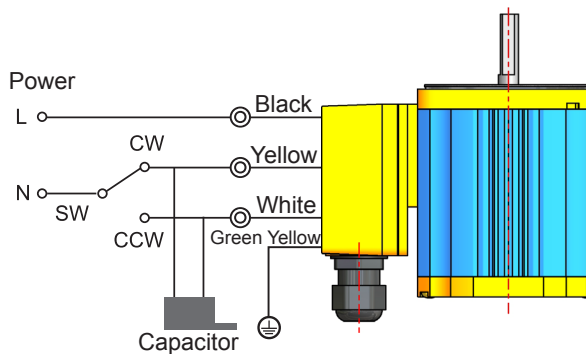


Note: Switching the any 2 lines of U · V · W randomly and motor rotate in counterclockwise direction.

### Terminal Box Type

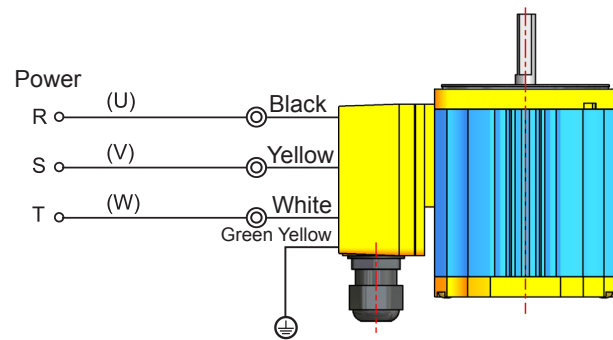
Applicable models : Single phase motor

8I25□B-1 8I25□B-2 8I25□B-2E 8I25□B-23C  
9I40□B-1 9I40□B-2 9I40□B-2E 9I40□B-23C  
9I60□B-1 9I60□B-2 9I60□B-2E 9I60□B-23C  
9I90□B-1 9I90□B-2 9I90□B-2E 9I90□B-23C



Applicable models : 3 phase motor

8I25□B-3 8I25□B-3E 8I25□B-33C 8I25□B-8 8I25□B-8E 8I25□B-83C  
9I40□B-3 9I40□B-3E 9I40□B-33C 9I40□B-8 9I40□B-8E 9I40□B-83C  
9I60□B-3 9I60□B-3E 9I60□B-33C 9I60□B-8 9I60□B-8E 9I60□B-83C  
9I90□B-3 9I90□B-3E 9I90□B-33C 9I90□B-8 9I90□B-8E 9I90□B-83C



Note: Switching the any 2 lines of U · V · W randomly and motor rotate in counterclockwise direction.