

BRAKE MOTOR

剎車馬達

構造 (斷電剎車型) CONSTRUCTION (POWER-OFF BRAKE TYPE)

本公司的電磁煞車馬達為激磁作動型，當電磁鐵的激磁線圈，一加上電壓，與彈簧對抗的電磁鐵會將活動片吸住，於是煞車被放開，馬達軸心便可以自由地轉動。

Our brake motor is an excitation type motor. Once voltage is introduced into the coil, the magnet working against the spring will hold the moving plate, releasing the brake, and allowing the motor shaft to move freely.

■ 絕緣阻抗 INSULATION RESISTANCE

線圈與外殼間以DC 500V高阻計量測，測定值在10MΩ以上。
Tested value at 10MΩ and above, measured by DC 500V Hi-Resistance meter between the coil and housing.

■ 絕緣耐力 HI-POT RESISTANCE

線圈與外殼間以60Hz, 1kV加入一分鐘無異狀。
No damages caused after 1kV at 60Hz was tested for one minute between the coil and housing.



剎車間隙的調整 ADJUSTMENT OF THE BRAKE CLEARANCE

在電磁線圈與活動片之間間隙稱之為剎車間隙。出廠時我們會設定在0.15mm的理想值(約一張名片的厚度)。當使用一段時間後，會因煞車來令片的磨耗而使煞車間隙變大。若煞車間隙大於0.3mm時，送廠檢修或更新來令片將間隙調回0.15mm。

Brake clearance is the gap between magnetic coils and moving plate. The ideal pre-setting is 0.15mm (around the thickness of a name card). After a period of usage, the clearance is widened due to lining friction and wear. If the clearance is bigger than 0.3mm, please contact us or replace the lining.

特徵 FEATURES

■ 高煞車力及保持力

HIGH BRAKING & HOLDING FORCE

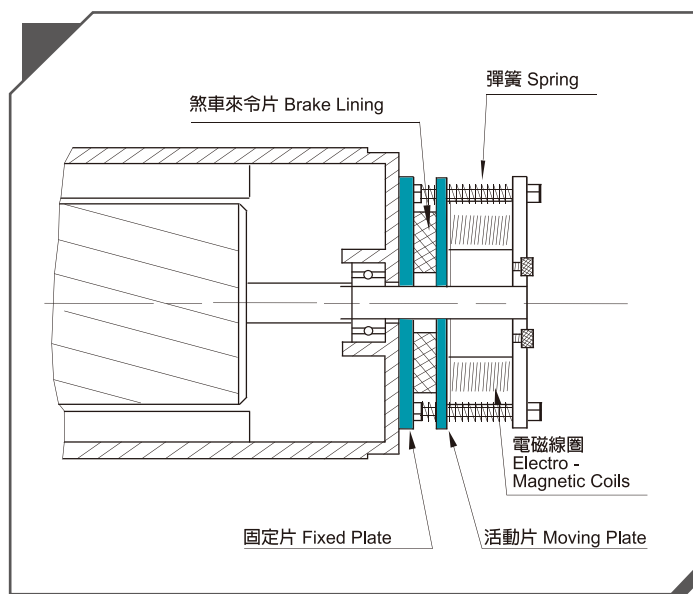
內建激磁作動的電磁煞車：當電源被切斷時，不但能迅速的停住馬達，而且能很確實的保持住負荷，所以最適合用於緊急時的安全煞車。

Built-in excitation brake: as the power is shut off, it can stop the motor instantly and accurately holds the load, making it most suitable for emergency braking.

■ 煞車精度高 BRAKE PRECISION

不論馬達轉速多少，電磁煞車均能使馬達本體的過轉控制在2-3轉內，因此適用於頻繁正逆轉的操作。

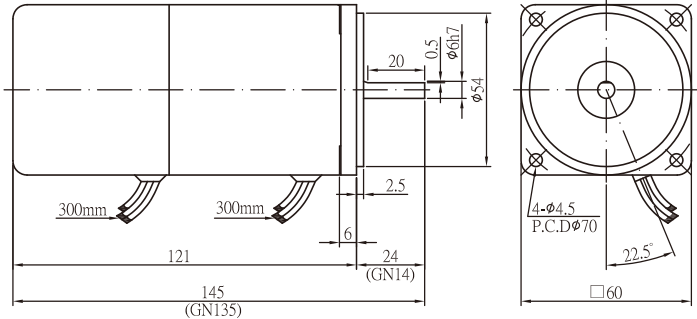
Regardless of rpm, the magnetic brake can control the overturns within 2-3 turns, making it suitable for frequent forward/reverse operation.



ELECTRO-MAGNETIC INDUCTION BRAKE MOTOR -IP22

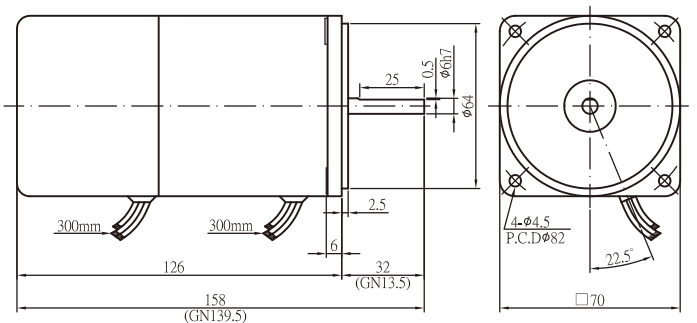
感應式電磁剎車馬達 防護等級IP22

- 外形圖與規格表
- OUTLINE & SPECIFICATION
- 單位/UNIT : mm



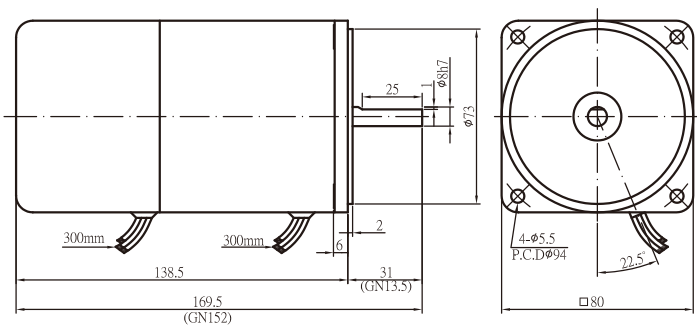
6W外型圖

6W機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
2IK6A(GN)-AM	6	1φ100/110	50/60	4	1150/1400	30分鐘/minutes	0.7/0.63	0.5/0.41	0.22/0.21	2.5/300V
2IK6A(GN)-CM	6	1φ200/220	50/60	4	1150/1550	30分鐘/minutes	0.65/0.7	0.51/0.54	0.1/0.11	0.7/450V
2IK6A(GN)-CEM	6	1φ230/240	50	4	1100/1200	30分鐘/minutes	0.74/0.77	0.55/0.5	0.11/0.1	0.7/450V



15W外型圖

15W機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
3IK15A(GN)-AM	15	1φ100/110	50/60	4	1150/1650	30分鐘/minutes	0.88/1.04	1.22/0.91	0.36/0.35	5/300V
3IK15A(GN)-CM	15	1φ200/220	50/60	4	1150/1600	30分鐘/minutes	0.75/1.1	1.12/0.93	0.18/0.18	1.2/450V
3IK15A(GN)-CEM	15	1φ230/240	50	4	1300/1300	30分鐘/minutes	1.06/1.06	1.14/1.13	0.17/0.17	1.2/450V



25W外型圖

25W機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
4IK25A(GN)-AM	25	1φ100/110	50/60	4	1250/1600	30分鐘/minutes	1.4/1.4	1.93/1.51	0.57/0.45	6/300V
4IK25A(GN)-CM	25	1φ200/220	50/60	4	1250/1600	30分鐘/minutes	1.57/1.38	1.91/1.52	0.28/0.25	1.5/450V
4IK25A(GN)-CEM	25	1φ230/240	50	4	1300/1300	30分鐘/minutes	1.38/1.55	1.9/1.86	0.25/0.24	1.5/450V
4IK25A(GN)-SM	25	3φ220	50/60	4	1300/1550	30分鐘/minutes	5.12/4.04	1.89/1.56	0.22/0.19	-
4IK25A(GN)-UM	25	3φ380	50/60	4	1200/1350	30分鐘/minutes	3.96/2.97	2.04/1.79	0.11/0.11	-

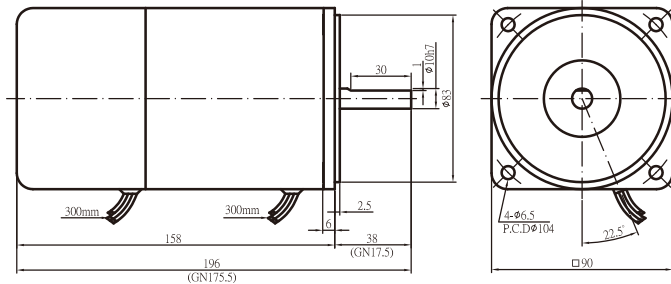
備註 NOTES :

- 感應式電磁剎車馬達之使用頻率不可大於10次/分。The applicable frequency for the ELECTRO-MAGNETIC INDUCTION BRAKE MOTOR should not exceed more than 10 times per minute.
- 感應式電磁剎車馬達之靜摩擦轉矩：6W~25W: 4Kg.cm, 40W~90W: 10Kg.cm. Static friction torque of a ELECTRO-MAGNETIC INDUCTION BRAKE MOTOR is: 6W~25W: 4Kg.cm, 40W~90W: 10Kg.cm.

ELECTRO-MAGNETIC INDUCTION BRAKE MOTOR -IP22

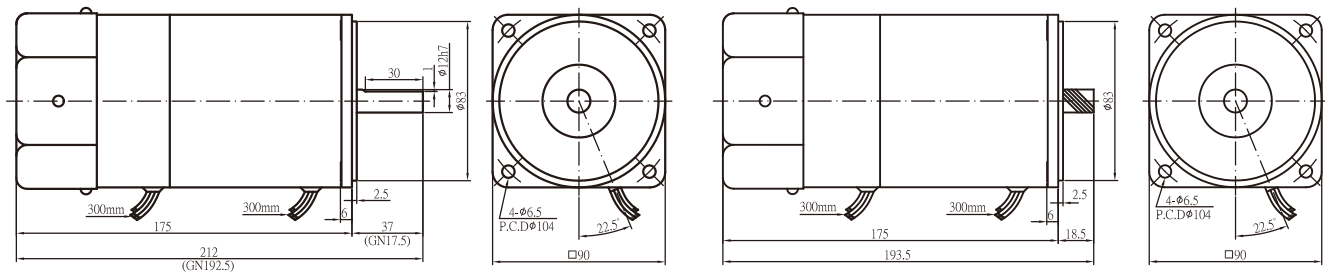
感應式電磁剎車馬達 防護等級IP22

- 外形圖與規格表
- OUTLINE & SPECIFICATION
- 單位/UNIT : mm



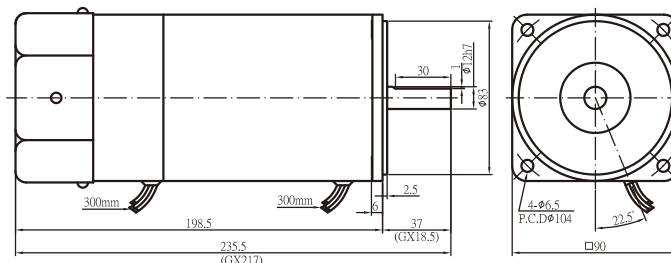
40W外型圖

40W機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
5IK40A(GN)-AM	40	1ø100/110	50/60	4	1250/1600	30分鐘/minutes	2.14/2.66	3.17/2.41	0.87/0.76	10/300V
5IK40A(GN)-CM	40	1ø200/220	50/60	4	1300/1650	30分鐘/minutes	1.75/2.17	3.01/2.35	0.4/0.34	2.5/450V
5IK40A(GN)-CEM	40	1ø230/240	50	4	1350/1350	30分鐘/minutes	2.3/2.58	2.87/2.84	0.32/0.32	2.5/450V
5IK40A(GN)-SM	40	3ø220	50/60	4	1400/1600	30分鐘/minutes	10.51/7.83	2.83/2.4	0.32/0.28	-
5IK40A(GN)-UM	40	3ø380	50/60	4	1350/1600	30分鐘/minutes	9.25/6.68	2.85/2.45	0.16/0.15	-



60W/60W-GX外型圖

60W/60W-GX機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
5IK60GX-AFM	60	1ø100/110	50/60	4	1200/1650	30分鐘/minutes	2.6/2.94	5.0/3.5	1.8/1.12	16/300V
5IK60A(GN)-AFM	60	1ø200/220	50/60	4	1250/1600	30分鐘/minutes	3.62/4.41	4.64/3.63	0.64/0.54	4/450V
5IK60GX-CFM	60	1ø230/240	50	4	1300/1350	30分鐘/minutes	4.14/5.22	4.56/4.4	0.56/0.55	4/450V
5IK60A(GN)-CFM	60	1ø230/240	50	4	1300/1350	30分鐘/minutes	4.14/5.22	4.56/4.4	0.56/0.55	4/450V
5IK60GX-CEFM	60	1ø230/240	50	4	1300/1350	30分鐘/minutes	4.14/5.22	4.56/4.4	0.56/0.55	4/450V
5IK60A(GN)-CEFM	60	1ø230/240	50	4	1300/1350	30分鐘/minutes	4.14/5.22	4.56/4.4	0.56/0.55	4/450V
5IK60GX-SFM	60	3ø220	50/60	4	1300/1550	30分鐘/minutes	13.72/10.70	4.47/3.77	0.41/0.39	-
5IK60A(GN)-SFM	60	3ø220	50/60	4	1300/1550	30分鐘/minutes	13.72/10.70	4.47/3.77	0.41/0.39	-
5IK60GX-UFM	60	3ø380	50/60	4	1400/1550	30分鐘/minutes	14.33/10.15	4.2/3.79	0.21/0.22	-
5IK60A(GN)-UFM	60	3ø380	50/60	4	1400/1550	30分鐘/minutes	14.33/10.15	4.2/3.79	0.21/0.22	-



90W外型圖

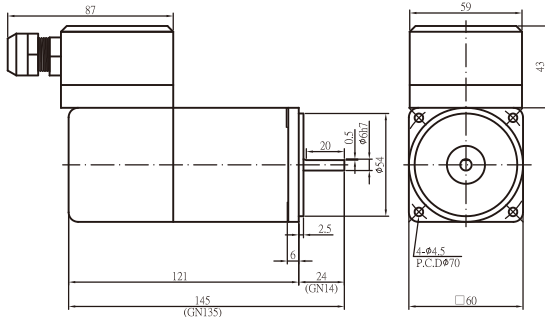
90W機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
5IK90A(GX)-AFM	90	1ø100/110	50/60	4	1300/1650	30分鐘/minutes	4.76/5.86	6.68/5.33	1.5/1.41	22/250V
5IK90A(GX)-CFM	90	1ø200/220	50/60	4	1300/1650	30分鐘/minutes	4.3/4.21	6.89/5.34	0.76/0.72	5/450V
5IK90A(GX)-CEFM	90	1ø230/240	50	4	1350/1350	30分鐘/minutes	4.93/5.08	6.44/6.42	0.66/0.68	5/450V
5IK90A(GX)-SFM	90	3ø220	50/60	4	1400/1650	30分鐘/minutes	23.3/18.25	6.4/5.3	0.7/0.6	-
5IK90A(GX)-UFM	90	3ø380	50/60	4	1400/1650	30分鐘/minutes	23.3/18.14	6.27/5.23	0.4/0.3	-

Products due to human error, natural disasters or other factors lead to poor or damaged, will not be covered under warranty. 產品因人為原因或天災等因素導致不良或損壞，不在保固範圍內。

ELECTRO-MAGNETIC INDUCTION BRAKE MOTOR, TERMINAL BOX TYPE -IP54

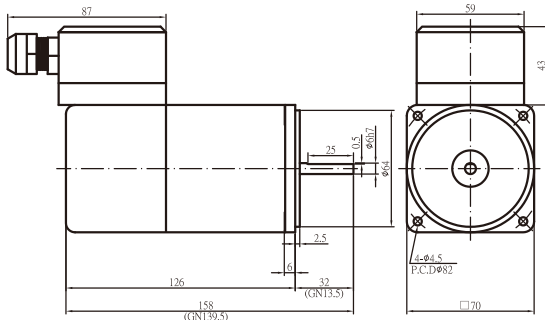
感應式電磁剎車馬達 接線盒式-防護等級IP54

- 外形圖與規格表
- OUTLINE & SPECIFICATION
- 單位/UNIT : mm



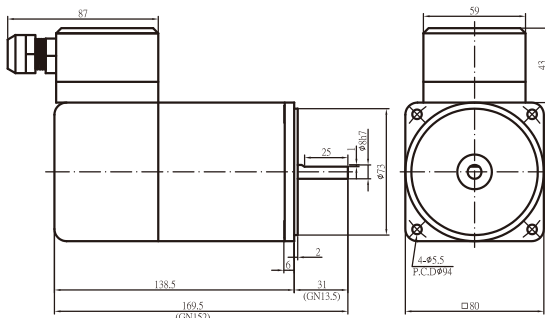
6W外型圖

6W機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
2IK6A(GN)-AMT	6	1ø100/110	50/60	4	1150/1400	30分鐘/minutes	0.7/0.63	0.51/0.41	0.22/0.21	2.5/300V
2IK6A(GN)-CMT	6	1ø200/220	50/60	4	1150/1550	30分鐘/minutes	0.65/0.7	0.51/0.54	0.1/0.11	0.7/450V
2IK6A(GN)-CEMT	6	1ø230/240	50	4	1100/1200	30分鐘/minutes	0.74/0.77	0.55/0.5	0.11/0.1	0.7/450V



15W外型圖

15W機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
3IK15A(GN)-AMT	15	1ø100/110	50/60	4	1150/1650	30分鐘/minutes	0.88/1.04	1.22/0.91	0.36/0.35	5/300V
3IK15A(GN)-CMT	15	1ø200/220	50/60	4	1150/1600	30分鐘/minutes	0.75/1.1	1.12/0.93	0.18/0.18	1.2/450V
3IK15A(GN)-CEMT	15	1ø230/240	50	4	1300/1300	30分鐘/minutes	1.06/1.06	1.14/1.13	0.17/0.17	1.2/450V



25W外型圖

25W機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
4IK25A(GN)-AMT	25	1ø100/110	50/60	4	1250/1600	30分鐘/minutes	1.4/1.4	1.93/1.51	0.57/0.45	6/300V
4IK25A(GN)-CMT	25	1ø200/220	50/60	4	1250/1600	30分鐘/minutes	1.57/1.38	1.91/1.52	0.28/0.25	1.5/450V
4IK25A(GN)-CEMT	25	1ø230/240	50	4	1300/1300	30分鐘/minutes	1.38/1.55	1.9/1.86	0.25/0.24	1.5/450V
4IK25A(GN)-SMT	25	3ø220	50/60	4	1300/1550	30分鐘/minutes	5.12/4.04	1.89/1.56	0.22/0.19	-
4IK25A(GN)-UMT	25	3ø380	50/60	4	1200/1350	30分鐘/minutes	3.96/2.97	2.04/1.79	0.11/0.11	-

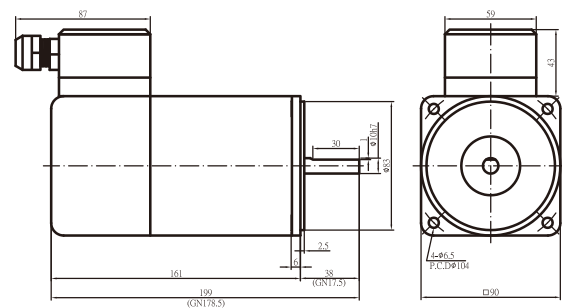
備註 NOTES :

- 感應式電磁剎車馬達之使用頻率不可大於10次/分。The applicable frequency for the ELECTRO-MAGNETIC INDUCTION BRAKE MOTOR should not exceed more than 10 times per minute.
- 感應式電磁剎車馬達之靜摩擦轉矩：6W~25W: 4Kg.cm, 40W~90W: 10Kg.cm. Static friction torque of a ELECTRO-MAGNETIC INDUCTION BRAKE MOTOR is: 6W~25W: 4Kg.cm, 40W~90W: 10Kg.cm.

ELECTRO-MAGNETIC INDUCTION BRAKE MOTOR, TERMINAL BOX TYPE -IP54

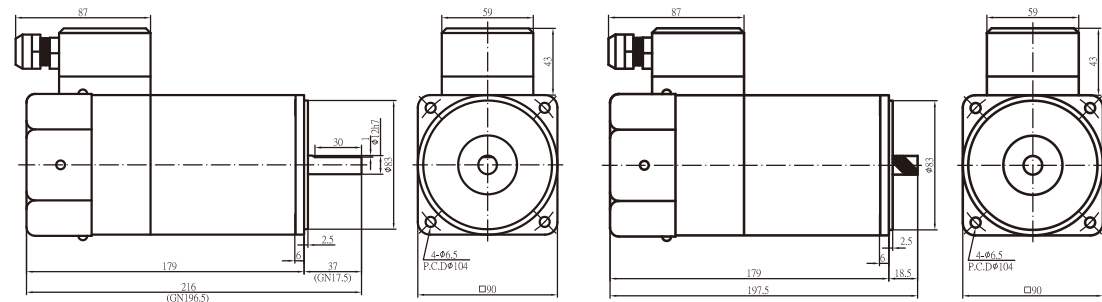
感應式電磁剎車馬達 接線盒式-防護等級IP54

- 外形圖與規格表
- OUTLINE & SPECIFICATION
- 單位/UNIT : mm



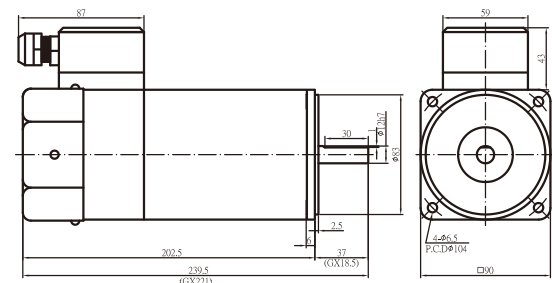
40W外型圖

40W機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RRATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
5IK40A(GN)-AMT	40	1ø100/110	50/60	4	1250/1600	30分鐘/minutes	2.14/2.66	3.17/2.41	0.87/0.76	10/300V
5IK40A(GN)-CMT	40	1ø200/220	50/60	4	1300/1650	30分鐘/minutes	1.75/2.17	3.01/2.35	0.4/0.34	2.5/450V
5IK40A(GN)-CEMT	40	1ø230/240	50	4	1350/1350	30分鐘/minutes	2.3/2.58	2.87/2.84	0.32/0.32	2.5/450V
5IK40A(GN)-SMT	40	3ø220	50/60	4	1400/1600	30分鐘/minutes	10.51/7.83	2.83/2.4	0.29/0.27	-
5IK40A(GN)-UMT	40	3ø380	50/60	4	1350/1600	30分鐘/minutes	9.25/6.68	2.85/2.45	0.16/0.15	-



60W/60W-GX外型圖

60W/60W-GX機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
5IK60A(GN)-AFMT 5IK60GX-AFMT	60	1ø100/110	50/60	4	1200/1650	30分鐘/minutes	2.6/2.94	5.0/3.5	1.8/1.12	16/300V
5IK60A(GN)-CFMT 5IK60GX-CFMT	60	1ø200/220	50/60	4	1250/1600	30分鐘/minutes	3.62/4.41	4.64/3.63	0.64/0.54	4/450V
5IK60A(GN)-CEFMT 5IK60GX-CEFMT	60	1ø220/240	50	4	1300/1350	30分鐘/minutes	4.14/5.22	4.56/4.40	0.56/0.55	4/450V
5IK60A(GN)-SFMT 5IK60GX-SFMT	60	3ø220	50/60	4	1300/1550	30分鐘/minutes	13.72/10.70	4.47/3.77	0.41/0.39	-
5IK60A(GN)-UFMT 5IK60GX-UFMT	60	3ø380	50/60	4	1400/1550	30分鐘/minutes	14.33/10.15	4.2/3.79	0.21/0.22	-



90W外型圖

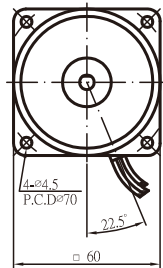
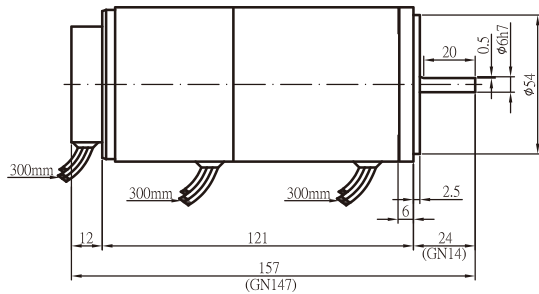
90W機型MODEL	出力(W) OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	額定轉數(rpm) RATED SPEED	額定時間 RATED TIME	起動轉矩(Kg.cm) STARTING TORQUE	額定轉矩(Kg.cm) RATED TORQUE	額定電流(A) RATED CURRENT	電容量(μF) CAPACITY
5IK90A(GX)-AFMT	90	1ø100/110	50/60	4	1300/1650	30分鐘/minutes	4.76/5.86	6.68/5.33	1.5/1.41	22/250V
5IK90A(GX)-CFMT	90	1ø200/220	50/60	4	1300/1650	30分鐘/minutes	4.3/4.21	6.89/5.34	0.76/0.72	5/450V
5IK90A(GX)-CEFMT	90	1ø220/240	50	4	1350/1350	30分鐘/minutes	4.93/5.08	6.44/6.42	0.66/0.68	5/450V
5IK90A(GX)-SFMT	90	3ø220	50/60	4	1400/1650	30分鐘/minutes	23.3/18.25	6.4/5.3	0.7/0.6	-
5IK90A(GX)-UFMT	90	3ø380	50/60	4	1400/1650	30分鐘/minutes	23.3/18.14	6.3/5.3	0.4/0.3	-

Products due to human error, natural disasters or other factors lead to poor or damaged, will not be covered under warranty. 產品因人為原因或天災等因素導致不良或損壞，不在保固範圍內。

ELECTRO-MAGNETIC VARIABLE SPEED BRAKE MOTOR

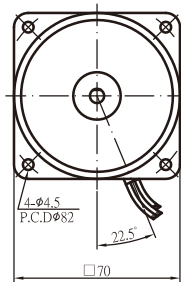
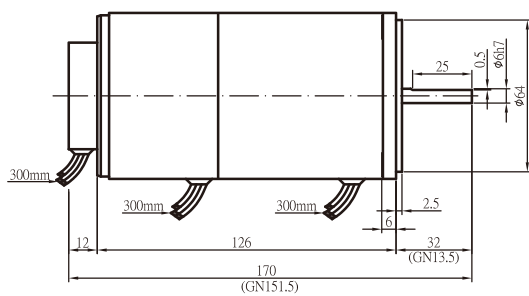
無段變速電磁剎車馬達

- 外形圖與規格表
- OUTLINE & SPECIFICATION
- 單位/UNIT : mm



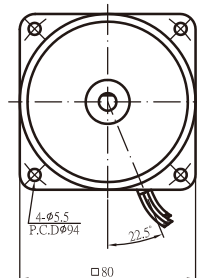
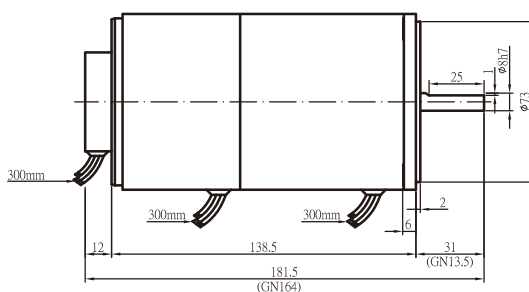
6W外型圖

6W機種名稱 TYPE	額定出力(W) RATED OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	電流(A) CURRENT	調速範圍(rpm) ADJUSTABLE RANGE	起動轉矩(Kg.cm) STARTING TORQUE	容許轉矩(Kg.cm)/ 設定迴轉數 MAXIMUM TORQUE/ PRE-SET TURNINGS		電容器CAPACITOR	
								1200rpm	90rpm	容量(μF) CAPACITY	耐電壓(VAC) WITHSTAND VOLTAGE
2IK6RA(GN)-AM	6	100/110	50/60	4	0.22/0.21	90~1400/90~1700	0.7/0.63	0.4/0.55	0.72/0.5	2.5	300
2IK6RA(GN)-CM	6	200/220	50/60	4	0.1/0.11	90~1400/90~1700	0.65/0.7	0.44/0.66	0.6/0.7	0.7	450
2IK6RA(GN)-CEM	6	230/240	50	4	0.11/0.1	90~1400	0.74/0.77	0.39/0.52	0.72/0.8	0.7	450



15W外型圖

15W機種名稱 TYPE	額定出力(W) RATED OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	電流(A) CURRENT	調速範圍(rpm) ADJUSTABLE RANGE	起動轉矩(Kg.cm) STARTING TORQUE	容許轉矩(Kg.cm)/ 設定迴轉數 MAXIMUM TORQUE/ PRE-SET TURNINGS		電容器CAPACITOR	
								1200rpm	90rpm	容量(μF) CAPACITY	耐電壓(VAC) WITHSTAND VOLTAGE
3IK15RA(GN)-AM	15	100/110	50/60	4	0.36/0.35	90~1400/90~1700	0.88/1.04	0.9/1.5	1.0/1.1	5	300
3IK15RA(GN)-CM	15	200/220	50/60	4	0.18/0.18	90~1400/90~1700	0.75/1.1	1.1/1.5	1.0/1.1	1.2	450
3IK15RA(GN)-CEM	15	230/240	50	4	0.17/0.17	90~1400	1.06/1.06	1.40/1.32	1.02/1.25	1.2	450



25W外型圖

25W機種名稱 TYPE	額定出力(W) RATED OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	電流(A) CURRENT	調速範圍(rpm) ADJUSTABLE RANGE	起動轉矩(Kg.cm) STARTING TORQUE	容許轉矩(Kg.cm)/ 設定迴轉數 MAXIMUM TORQUE/ PRE-SET TURNINGS		電容器CAPACITOR	
								1200rpm	90rpm	容量(μF) CAPACITY	耐電壓(VAC) WITHSTAND VOLTAGE
4IK25RA(GN)-AM	25	100/110	50/60	4	0.57/0.45	90~1400/90~1700	1.4/1.4	2.17/2.5	1.4/1.4	6	300
4IK25RA(GN)-CM	25	200/220	50/60	4	0.28/0.25	90~1400/90~1700	1.57/1.38	2.1/2.4	1.6/1.3	1.5	450
4IK25RA(GN)-CEM	25	230/240	50	4	0.25/0.24	90~1400	1.38/1.55	2.2/2.4	1.5/1.7	1.5	450

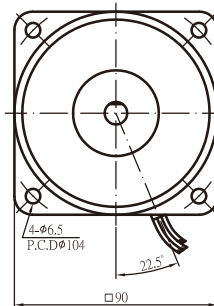
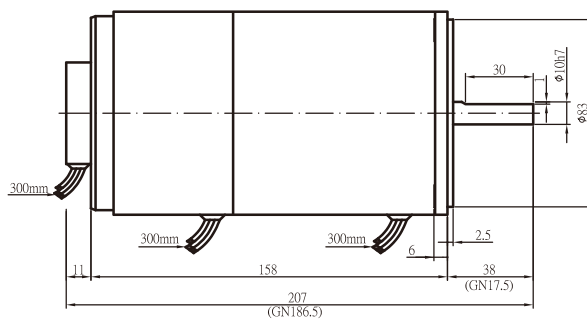
備註 NOTES :

- 感應式電磁剎車馬達之使用頻率不可大於10次/分。The applicable frequency for the ELECTRO-MAGNETIC INDUCTION BRAKE MOTOR should not exceed more than 10 times per minute.
- 感應式電磁剎車馬達之靜摩擦轉矩：6W~25W: 4Kg.cm, 40W~90W: 10Kg.cm. Static friction torque of a ELECTRO-MAGNETIC INDUCTION BRAKE MOTOR is: 6W~25W: 4Kg.cm, 40W~90W: 10Kg.cm.

ELECTRO-MAGNETIC VARIABLE SPEED BRAKE MOTOR

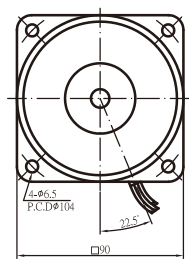
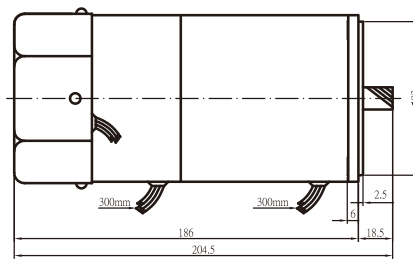
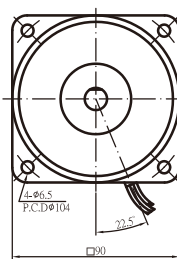
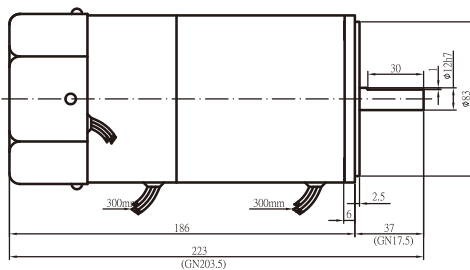
無段變速電磁剎車馬達

- 外形圖與規格表
- OUTLINE & SPECIFICATION
- 單位/UNIT : mm



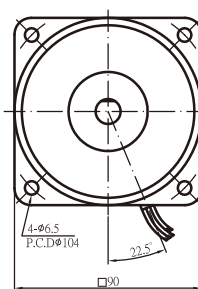
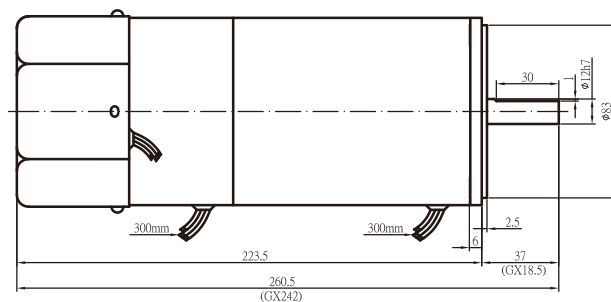
40W外型圖

40W機種名稱 TYPE	額定出力(W) RATED OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	電流(A) CURRENT	調速範圍(rpm) ADJUSTABLE RANGE	起動轉矩(Kg.cm) STARTING TORQUE	容許轉矩(Kg.cm)/ 設定迴轉數 MAXIMUM TORQUE/ PRE-SET TURNINGS		電容器CAPACITOR	
								1200rpm	90rpm	容量(μF) CAPACITY	耐電壓(VAC) WITHSTAND VOLTAGE
5IK40RA(GN)-AM	40	100/110	50/60	4	0.87/0.76	90~1400/90~1700	2.14/2.66	3.18/4.2	2.2/2.8	10	300
5IK40RA(GN)-CM	40	200/220	50/60	4	0.4/0.34	90~1400/90~1700	1.75/2.17	3.6/4.2	1.8/2.1	2.5	450
5IK40RA(GN)-CEM	40	230/240	50	4	0.32/0.32	90~1400	2.3/2.58	4.4/4.6	2.4/2.6	2.5	450



60W/60W-GX外型圖

60W/60W-GX機種名稱 TYPE	額定出力(W) RATED OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	電流(A) CURRENT	調速範圍(rpm) ADJUSTABLE RANGE	起動轉矩(Kg.cm) STARTING TORQUE	容許轉矩(Kg.cm)/ 設定迴轉數 MAXIMUM TORQUE/ PRE-SET TURNINGS		電容器CAPACITOR	
								1200rpm	90rpm	容量(μF) CAPACITY	耐電壓(VAC) WITHSTAND VOLTAGE
5IK60RA(GN)-AFM 5IK60RGX-AFM	60	100/110	50/60	4	1.8/1.12	90~1400/90~1700	2.6/2.94	5.6/6.9	3.5/4.0	16	300
5IK60RA(GN)-CFM 5IK60RGX-CFM	60	200/220	50/60	4	0.64/0.54	90~1400/90~1700	3.62/4.41	5.9/6.9	4.6/4.4	4	450
5IK60RA(GN)-CEFM 5IK60RGX-CEFM	60	230/240	50	4	0.56/0.55	90~1400	4.1/5.22	6.17/7.2	4.37/5.2	4	450



90W外型圖

90W機種名稱 TYPE	額定出力(W) RATED OUTPUT	電壓(V) VOLTAGE	頻率(HZ) FREQ.	極數(P) POLE	電流(A) CURRENT	調速範圍(rpm) ADJUSTABLE RANGE	起動轉矩(Kg.cm) STARTING TORQUE	容許轉矩(Kg.cm)/ 設定迴轉數 MAXIMUM TORQUE/ PRE-SET TURNINGS		電容器CAPACITOR	
								1200rpm	90rpm	容量(μF) CAPACITY	耐電壓(VAC) WITHSTAND VOLTAGE
5IK90RA(GX)-AFM	90	100/110	50/60	4	1.5/1.41	90~1400/90~1700	4.76/5.86	8.4/10.2	5/6.1	22	250
5IK90RA(GX)-CFM	90	200/220	50/60	4	0.76/0.72	90~1400/90~1700	4.3/4.21	8/8.7	4.4/4.4	5	450
5IK90RA(GX)-CEFM	90	230/240	50	4	0.66/0.68	90~1400	4.93/5.08	9.8/10.2	5.2/5.6	5	450

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ELECTRONIC INSTANT BRAKE

電子式瞬時煞車器 (SB Series)



■ 使用頻率及界限

OPERATING FREQUENCY AND LIMITATION

雖然IN機形可用於寸動功能，如果使用頻率太高，馬達不斷的啟動、制動，會使溫度變高。所以馬達的表面溫度超過90°時，請暫停使用。

Although the "IN" model could be used for inch movement, a rise in temperature would result from frequent start-stop action of the motor. Please suspend operation temporarily if the surface temperature of the motor exceeds 90°C.

■ 制動原理 BRAKING PRINCIPLES

電子制動回路是以被半波整流的脈動直流，流入馬達而產生之定向磁場，將馬達瞬間停止。制動電流是由控制器產生，僅在一短時間流入馬達，而後便無作用制動電流的流入時間（約0.5秒）是由控制器內的定時電路控制。因為是用電器特性來產生制動，所以無磨損，動作確實且壽命長。

Electronic brake circuit is design to introduce pulsated direct current rectified by the half wave into motor, to produce directional magnetic field and stop the motor instantly. Brake current is produced by the controller and introduced into motor in a very short time only. The time frame for brake current enter into the motor (approx 0.5 seconds) is controlled by timing circuit inside the controller. No friction created between parts, therefore lifespan is extended.

■ 安裝時應注意事項 INSTALLATION CAUTIONS.

- 一台馬達請用一台電子式制動器。
- 馬達出力不同結線方法也不同，所以請依47頁的結線圖結線。
- 開關SW1切向運轉側，馬達開始運作。切向制動側，馬達瞬時停止。
- 端子間有200V 以上電壓，所以結線時請特別注意。
- 開關繼電器、閘刀開關請使用規格品。SB32-IN及SB32S-IN使用開關接點容量AC200V、5A 以上。
- 結線圖範例，表示從馬達軸側看，為順時針方向旋轉的結線方式。
若要做反時針旋轉之結線時：1. 感應式馬達：黃色線與白色導線對換。2. 可逆式馬達：切換SW2開關。
CW：順時鐘方向旋轉 CCW：反時鐘方向旋轉
- 在正逆轉操作的場合，當制動開關（SW1）動作後，需有0.5秒以上才能切換方向開關（SW2）。
- 在制動頻繁的情況下，外接電阻會相當熱，安裝時需特別注意。
- 馬達起動時及制動操作後0.5秒內，請勿作反向旋轉之操作。
- 馬達為感應性負荷，故接點關閉時會有火花產生，為了保護接點，必須連接如結線圖上突波吸收用之CR回路。
 $R_o=5\sim 200\Omega$ (1/2W以上) $C_o=0.1\sim 0.2\ \mu F$ (400VAC以上)
- Apply only one electronic brake onto one motor.
- Motor wiring depends on motor output, please follow the wire diagram to make the wire connection.
- When SW1 is switched from "run" to "brake", the electronic brake is applied to stop the motor instantly.
- Be cautious about the 200 and above voltage among terminals when wiring.
- Apply industrial standard relay switch and gate switch. SB32-IN and SB32S-IN contact capacity is above AC200V, 5A.
- Wire-diagram, it is based on motor shaft point of view, as for clockwise rotate connectivity.
For conduct counter-clock rotation: 1. induction motor: yellow line and white wire on the exchange. 2. reversible motor: switch SW2 switches.
CW: clockwise CCW: counter-clockwise rotation
- For operated a reversible motor, it is require more than 0.5 second to switch its reversible mode.
- In the case of frequent braking, its external resistance will be very hot. For the installation, should pay particular attention.
- Within 0.5 seconds after motor start and operation, please do not perform reversible operation.
- To protect power connect spot from spark light when power on or off, it is require to enforce the connectivity via wire diagram such as surge absorber with CR circuit. $R_o=5\sim 200\Omega$ (1/2W above) $C_o=0.1\sim 0.2\ \mu F$ (400VAC above)

● 規格表 SPECIFICATIONS

品名 MODEL	電壓(V) VOLTAGE(V)	相數 PHASE	制動保持力 BRAKE HOLDING FORCE	制動精度 BRAKE PRECISION	馬達出力(W) MOTOR OUTPUT	工作環境溫度 TEMPERATURE
SB31-IN	100 ~ 125	1 ϕ 單相 Single Phase	0.5秒 / Second	200°	6 ~ 90	-10°C ~ +40°C
SB32-IN	200 ~ 240	1 ϕ 單相 Single Phase	0.5秒 / Second	200°	6 ~ 90	-10°C ~ +40°C
SB32S-IN	200 ~ 240	3 ϕ 三相 Three Phase	0.5秒 / Second	200°	6 ~ 90	-10°C ~ +40°C

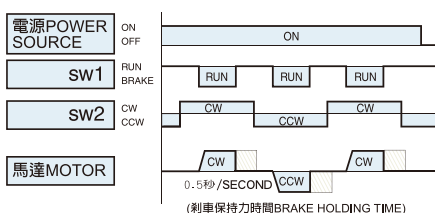
■ 絕緣阻抗 INSULATING RESISTANCE :

線圈與外殼間以DC 500V高阻計量測，測定值在10M Ω 以上。
Tested value at 10M Ω and above, measured by DC 500V hi-resistance meter between the coil and housing.

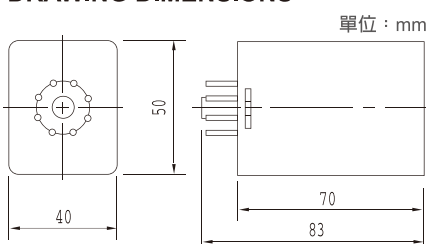
■ 絕緣耐力 INSULATION ENDURANCE :

線圈與外殼間以60Hz, 1kV加入一分鐘無異狀。
No damages caused after 1kV at 60Hz was tested for one minute between the coil and housing.

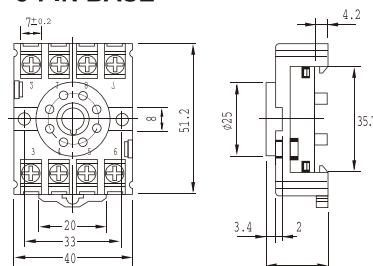
■ 電子式制動器作動時序圖 OPERATIONAL STEPS OF AN ELECTRONIC BRAKE



■ 外型尺寸圖 DRAWING DIMENSIONS



■ 腳座 8-PIN BASE :



ELECTRONIC INSTANT BRAKE

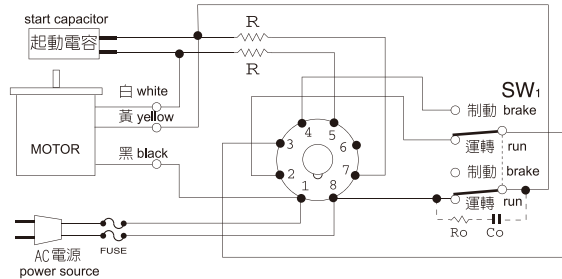
電子式瞬時煞車器

■ SB31-IN(單相110~125V) SINGLE PHASE 110~125V

■ SB32-IN(單相200~240V) SINGLE PHASE 200~240V

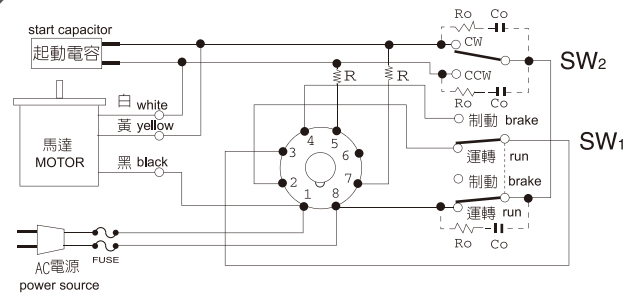
出力6W~25W，單一方方向運轉

OUTPUT 6W~25W · SINGLE DIRECTION ROTATION



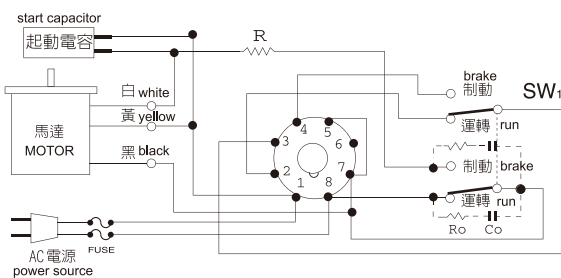
出力6W~25W，正逆轉

OUTPUT 6W~25W · REVERSIBLE



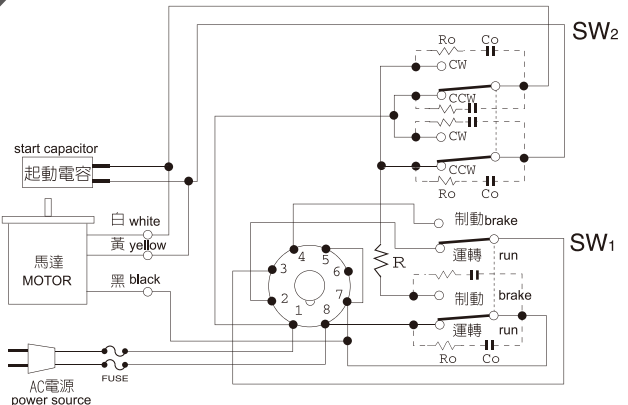
出力40W~90W，單一方方向運轉

OUTPUT 40W~90W · SINGLE DIRECTION ROTATION



出力40W~90W，正逆轉

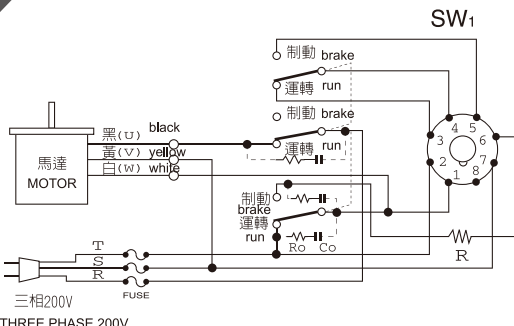
OUTPUT 40W~90W · REVERSIBLE



■ SB32S(三相200~240V) THREE PHASE 200~240V

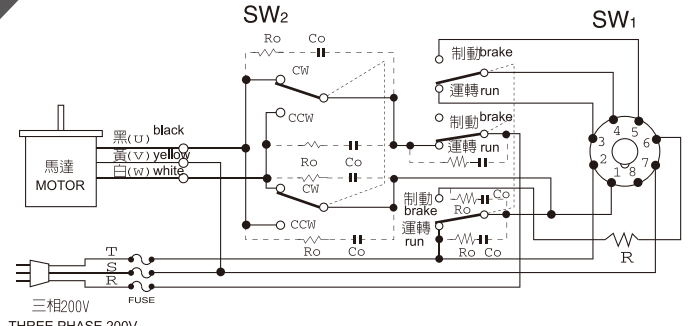
出力25W~90W，單一方方向運轉

THREE PHASE 200V



出力25W~90W，正逆轉

THREE PHASE 200V



■ 外接電阻之選擇 SELECTION OF EXTERNAL RESISTANCE

- 出力6W ~ 25W 的外接電阻為20W / 20 Ω。(品名: DDR20W20 ΩJ)
- 在制動頻率很高的情況下，外接電阻的溫度會很熱，請改用30W / 20 Ω的外接電阻(品名: DDR30W / 20 ΩJ)
- 出力40W ~ 90W 的外接電阻為50W / 50 Ω。(品名: DDR50W50 ΩJ)
- 在制動頻率很高的情況下，外接電阻的溫度會很熱，請改用80W / 50 Ω的外接電阻。(品名: DDR80W50 ΩJ)
- Output 6W~25W: external resistance 20W/20Ω. (Model:DDR20W20 ΩJ)
- In frequent braking situation, temperature of external resistance would be very high. please use external resistance 30W20Ω. (Model:DDR30W20ΩJ)
- Output 40W~90W: external resistance 50W/50Ω. (Model:DDR50W50 ΩJ)
- In frequent braking situation, temperature of external resistance would be very high. please use external resistance 80W50Ω. (Model:DDR80W50ΩJ)

SPEED REDUCER

減速機

- 外形圖與規格表
- OUTLINE & SPECIFICATION
- 單位/UNIT : mm

減速機之選定 HOW TO SELECT A SPEED REDUCER

■ 與減速機直結後的回轉數及轉矩 ROTATION AND TORQUE GIVEN FROM CONJUNCTION WITH SPEED REDUCER

與減速機直結後的回轉數及轉矩可由以下公式算出
Following is the calculation formula:

$$\text{回轉速 Rotations: } N_G = \frac{N_M}{i}$$

$$\text{轉矩 Torque: } T_G = T_M \cdot i \cdot \eta$$

N_G : 加減速機後之回轉數 Rotations after conjunction with speed reducer (rpm)

N_M : 馬達本體之回轉數 Rotations of Motor (rpm)

i : 減速機減速比 Speed Reducer's reduce ratio

T_G : 加減速機後之轉矩 Torque after conjunction with speed reducer (kg·m)

T_M : 馬達本體之轉矩 Torque of Motor (kg·m)

η : 減速機之傳動效率 The transmission efficiency of the Speed Reducer

■ 最大容許轉矩 MAXIMUM TORQUE ALLOWED

限於材料或其他條件的限制，減速機能承受的轉矩是有極限的，當減速比變大時，請參考後面各章節。

The maximum torque a speed reducer can tolerate is limited due to materials or other specs. Please see the specification of speed reducer for maximum torque allowed at different ratio.

■ 容許側向負載及容許軸向負載

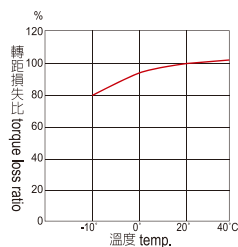
ALLOWABLE RADIAL LOAD AND AXIAL LOAD

所謂側向負載，就是出力軸在1/2處可以承受的彎曲負載，一般使用於以鏈條連結的機構。若是使用的連結器傳動的方式，可以不考慮。因為側向負載與軸向負載會影響減速機的壽命及強度，請勿超負載使用。

Radial load refers to the bending load of output shaft at the 1/2 point, commonly used in units linked by chains. Radial load can be disregarded if a coupling is used. Do not over-load since radial load and axial load may affect service life and strength.

■ 依溫度調整減速比 ADJUSTED THE SPEED REDUCER RATIO VIA ENVIRONMENT TEMPERATURE

環境溫度對於減速機的傳動效率有明顯的影響。上表的傳動效率是在室溫20°C時的量測值。當機台使用在寒帶地區時，請用右表的轉矩損失比來乘標示的轉矩。例如：若機台使用在-10°C的環境，其轉矩將減少20%。(僅供參考用)



Transmission efficiency of a speed reducer apparently does affected by the environment temperature. The graphic display the torque loss percentage at different ambient temperature (for reference only).

■ 馬達有圓軸及齒輪軸兩種，只有齒輪軸才能夠與減速機直結。 MOTOR EQUIP WITH ROUND SHAFT AND GEAR SHAFT, ONLY GEAR SHAFT CAN CONJUNCT WITH SPEED REDUCER.

減速機 Speed Reducer

4GN15K



馬達(齒輪軸) Motor (Gear shaft)

4IK25GN-A



馬達(圓軸) Motor (Round shaft)

4IK25A-A



減速機 Speed Reducer

4GN15K



中間減速機 Intermediate Speed Reducer

4GN10X



馬達(齒輪軸) Motor (Gear shaft)

4IK25GN-A



■ 負載形態與減速機壽命 LOAD PATTERNS VS. LIFESPAN OF SPEED REDUCER

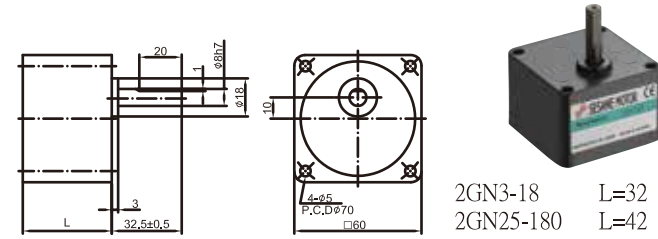
減速機的壽命會因負載方式，每日運轉時間及軸承種類之不同而改變。下表是假設減速機的負載低於最大容許轉矩。(僅供設計人員參考用)

Speed Reducer lifespan will be vary by ways of loading including but not limit to operation time frame, different type of bearing. The following table assumes that the load gear is under the maximum permissible torque. (Reference for engineers)

單位：小時 hrs

負載形態 LOAD PATTERN	含油軸承 BEARING			滾珠軸承 BALL BEARING			應用說明 Application Instructions.
	5 hrs/day	8 hrs/day	24 hrs/day	5 hrs/day	8 hrs/day	24 hrs/day	
固定負載 FIXED LOAD	2000	1500	1000	6250	5000	3400	單方向運轉，如：輸送機。 Operated in one direction, such as conveyors.
輕微衝擊 SLIGHT IMPACT	1500	1250	800	4200	3400	2500	經常起動/停止的機構，凸輪運轉。 Frequent start/stop, ex. cam operation.
強烈衝擊 STRONG IMPACT	800 ~1000	700 ~1000	600 ~700	2000 ~2500	1700 ~2500	1400 ~1700	可逆馬達的瞬間正逆轉，用 車器瞬間制動。 Reversible motors, instant moment reversed, with brake system in an instant brake.

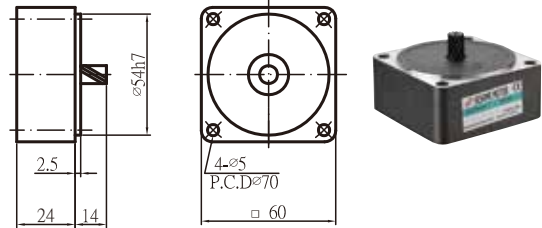
2 GN KE . 2 GN 減速機/ SPEED REDUCER



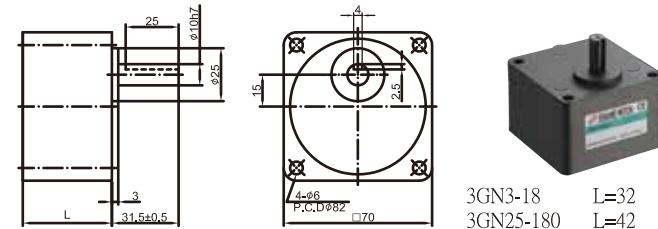
2GN3-18 L=32
2GN25-180 L=42

迴轉速/ SPEED(rpm)	500	300	200	180	150	120	100	60	50	30	20	15	10
減速比/ SPEED REDUCTION RATIO 50HZ	3	5	7.5	-	10	12.5	15	25	30	50	75	100	150
減速比/ SPEED REDUCTION RATIO 60HZ	3.6	6	9	10	-	15	18	30	36	60	90	120	180
最大容許轉矩/ (kgf.cm) MAX. TORQUE	1.1	1.8	2.7	3.0	3.9	4.5	5.4	8.1	9.7	15	23	25	25

2GN10X . 2GN10XK 中間減速機/ INTERMEDIATE SPEED REDUCER



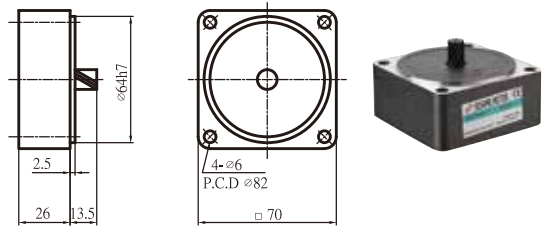
3 GN KE . 3 GN 減速機/ SPEED REDUCER



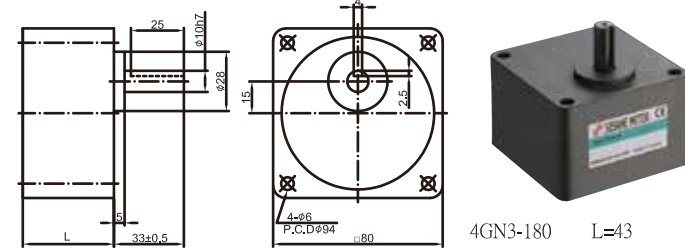
3GN3-18 L=32
3GN25-180 L=42

迴轉速/ SPEED(rpm)	500	300	200	180	150	120	100	60	50	45	37.5	30	20	15	10
減速比/ SPEED REDUCTION RATIO 50HZ	3	5	7.5	-	10	12.5	15	25	30	-	40	50	75	100	150
減速比/ SPEED REDUCTION RATIO 60HZ	3.6	6	9	10	-	15	18	30	36	40	-	60	90	120	180
最大容許轉矩/ (kgf.cm) MAX. TORQUE	2.6	4.4	6.6	7.4	9.8	11	13	20	24	24	32	36	50	50	50

3GN10X . 3GN10XK 中間減速機/ INTERMEDIATE SPEED REDUCER



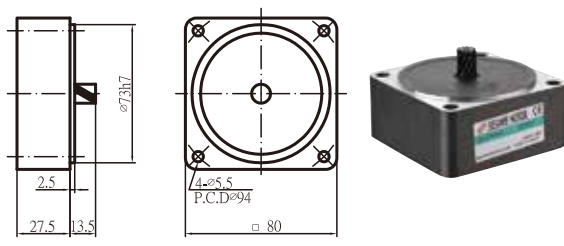
4 GN KE . 4 GN 減速機/ SPEED REDUCER



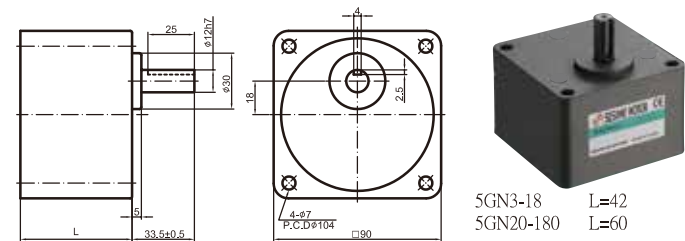
4GN3-180 L=43

迴轉速/ SPEED(rpm)	500	300	200	180	150	120	100	60	50	45	37.5	30	20	15	10
減速比/ SPEED REDUCTION RATIO 50HZ	3	5	7.5	-	10	12.5	15	25	30	-	40	50	75	100	150
減速比/ SPEED REDUCTION RATIO 60HZ	3.6	6	9	10	-	15	18	30	36	40	-	60	90	120	180
最大容許轉矩/ (kgf.cm) MAX. TORQUE	4.4	7.4	11	12	15	11	22	33	40	40	50	60	80	80	80

4GN10X . 4GN10XK 中間減速機/ INTERMEDIATE SPEED REDUCER



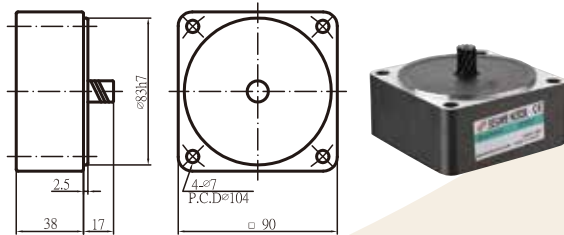
5 GN KE . 5 GN 減速機/ SPEED REDUCER



5GN3-18 L=42
5GN20-180 L=60

迴轉速/ SPEED(rpm)	500	300	200	180	150	120	100	90	75	60	50	45	37.5	30	20	15	10
減速比/ SPEED REDUCTION RATIO 50HZ	3	5	7.5	-	10	12.5	15	-	20	25	30	-	40	50	75	100	150
減速比/ SPEED REDUCTION RATIO 60HZ	3.6	6	9	10	-	15	18	20	-	30	36	40	-	60	90	120	180
最大容許轉矩/ (kgf.cm) MAX. TORQUE	10	17	26	29	36	43	52	52	65	78	93	93	100	100	100	100	100

5GN10X . 5GN10XK 中間減速機/ INTERMEDIATE SPEED REDUCER



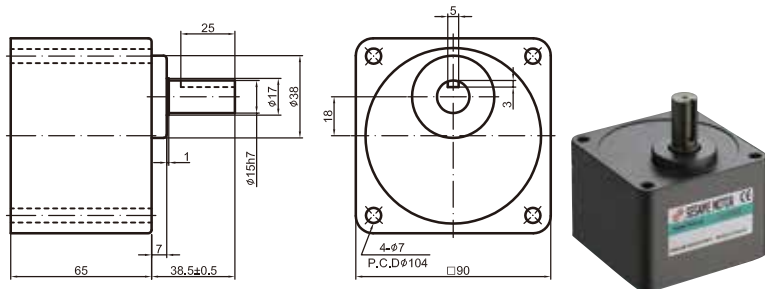
SPEED REDUCER

減速機

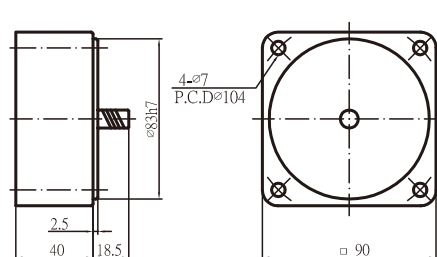
- 外形圖與規格表
- OUTLINE & SPECIFICATION
- 單位/UNIT : mm



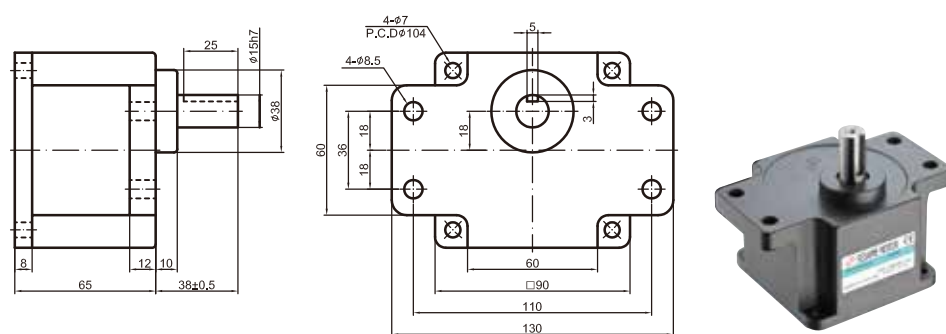
■ 5 GX□KB 減速機/ SPEED REDUCER



■ 5GX10XK 中間減速機/ INTERMEDIATE SPEED REDUCER

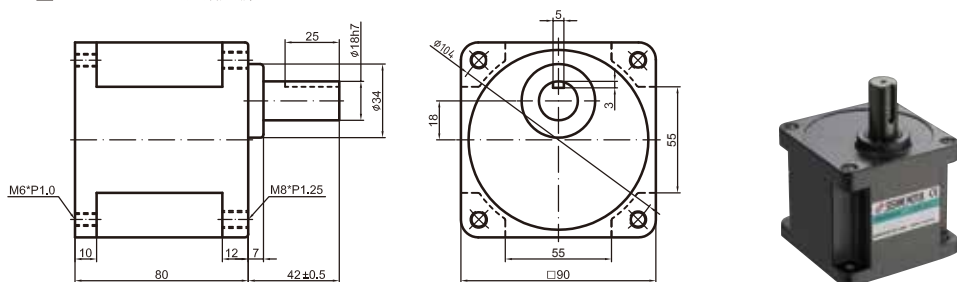


■ 5 GX□K 減速機/ SPEED REDUCER



迴轉速/ SPEED(rpm)	500	300	200	120	100	90	75	60	50	30	20	15	10	9	7.5
減速比/ SPEED REDUCTION RATIO 50HZ	3	5	7.5	12.5	15	-	20	25	30	50	75	100	150	-	200
減速比/ SPEED REDUCTION RATIO 60HZ	3.6	6	9	15	18	20	-	30	36	60	90	120	180	200	-
最大容許轉矩/ (kgf.cm) MAX. TORQUE	15	26	38	57	69	69	86	103	124	200	200	200	200	200	200

■ 5 GX□KBH 重力減速機/ GRAVITY FORCE TYPE REDUCER



迴轉速/ SPEED(rpm)	30	20	15	10	9	7.5
減速比/ SPEED REDUCTION RATIO 50HZ	50	75	150	150	-	200
減速比/ SPEED REDUCTION RATIO 60HZ	60	90	180	120	200	-
最大容許轉矩/ (kgf.cm) MAX. TORQUE	350	350	350	350	350	350

說明：

1. 減速機品名中□放入減速比。
2. 迴轉速是以馬達的同步轉速為基準(50 HZ : 1500rpm , 60Hz : 1800rpm)除以減速比；實際迴轉速應依負載之大小減少2%~20%。
3. 標示■的減速機旋轉方向與馬達方向相反，其他則與馬達同方向。
4. 齒箱使用注意事項及說明：減速機中若有金屬或異物仍勉強與馬達組合，將會使齒輪受傷而產生異常音，及減少減速機使用壽命，也可能發生意外，請特別注意。
5. 齒箱與馬達結合一定要核對編碼是否正確，否則無法組裝。

NOTES：

1. Please fill in the required speed reduction ratio in the □ (square) after the speed reducer model no.
2. Rotational speed is calculated by dividing the synchronous speed of the motor (50Hz: 1500rpm; 60Hz: 1800rpm) with the reduction ratio. Depending on total load, actual rotational speed is 2%~20% less.
3. Speed reducers marked in the highlighted areas have opposite rotational direction to the motor. Others unmarked have the same rotational direction as the motor.
4. Attention: metal chips or objects in speed reducer will result in gear damage, noise and shorten service-life when assembling with motor.
5. Please make sure that the shaft size of the motor matches to that of the accompanying reducer model before assembly, otherwise inconformity will occur.

Products due to human error, natural disasters or other factors lead to poor or damaged, will not be covered under warranty. 產品因人為原因或天災等因素導致不良或損壞，不在保固範圍內。

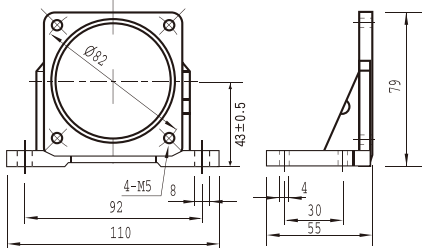
COMPONENTS

零組件類

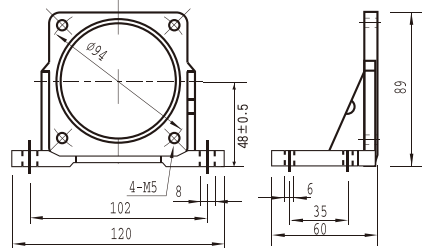
馬達安裝用L型腳座/ L TYPE BASE BRACKET FOR MOTOR INSTALLATION



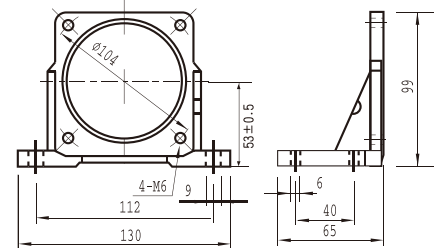
PAL-3N (□70mm用)



PAL-4N (□80mm用)

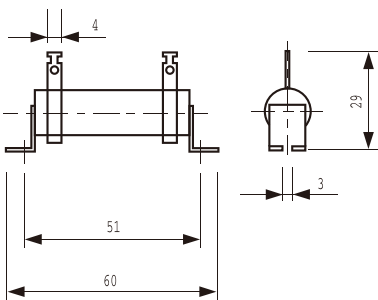


PAL-5N (□90mm用)

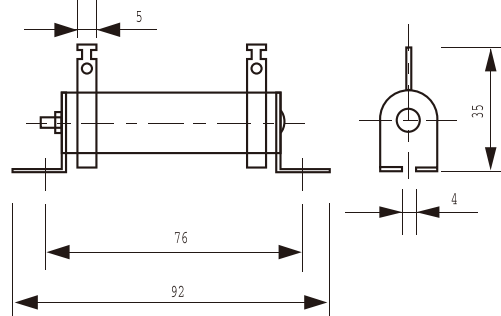


電子式剎車回路用外部電阻器/ EXTERNAL RESISTOR FOR ELECTRONIC BRAKE CIRCUITS

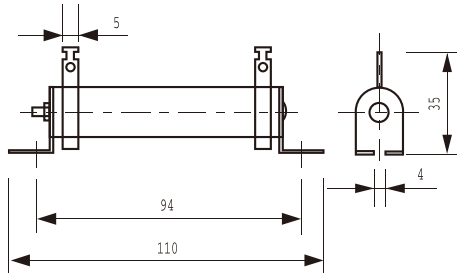
DDR10W10Ω J (10瓦/10歐姆)



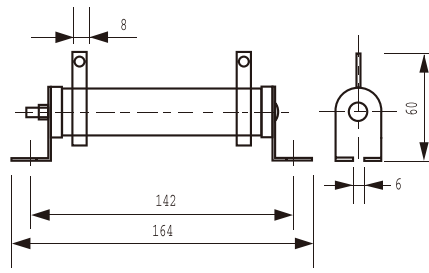
DDR20W20Ω J (20瓦/20歐姆)



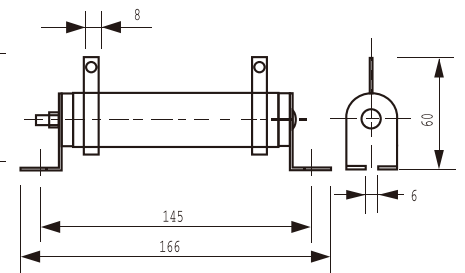
DDR30W20Ω J (30瓦/20歐姆)



DDR50W50Ω J (50瓦/50歐姆)

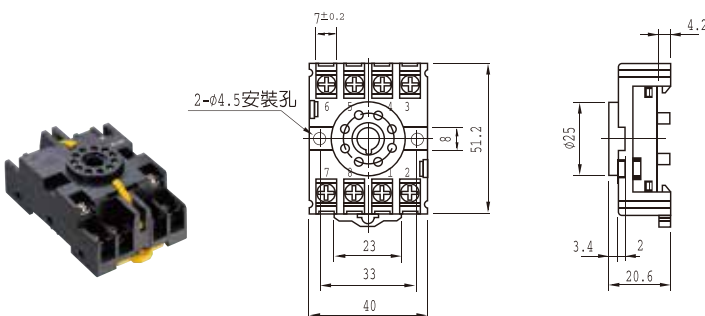


DDR80W50Ω J (80瓦/50歐姆)

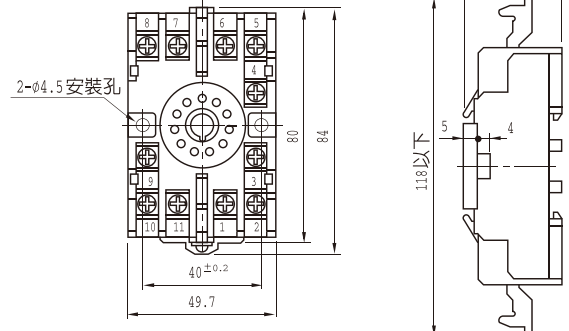


露出型腳座/ EXTENDED BASE BRACKET

PF-083A腳座 (8腳用)



11-PFA腳座 (11腳用)



泛用型馬達
GENERAL PURPOSE MOTOR

速度控制型馬達
SPEED CONTROLLED MOTOR

控制器
CONTROLLER

煞車馬達
BRAKE MOTOR

離合煞車馬達
CLUTCH BRAKE MOTOR

轉矩馬達
TORQUE MOTOR

減速機
SPEED REDUCER

零組件類
COMPONENTS