

Innovation
Enthusiasm
Integrity



PSEF series
SYNCHRONOUS SERVO MOTOR
同步伺服馬達

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SYNCHRONOUS SERVO MOTOR
同步伺服馬達

▶ 一般條件 General Data

安裝方式	Mounting	IM 2001(B35)
防護等級	Protection Level	IP54
絕緣等級	Insulation H Class	H 級
絕緣耐壓	Voltage Endurance	1500 Vrms/min
絕緣阻抗	Insulation Resistance	ABOVE 500 VDC 10MΩ
冷卻方式	Cooling Method	強制通風 Forced Air Cooled
溫度開關	Thermal Protection	溫度開關 120℃ ±5%(常閉) Thermal Protector120℃ ±5% (NC)
噪 音	Noise	80dBA
周 溫	Ambient Temp.	-15℃ ~40℃
高 度	Altitude	最高海拔 1000 米 Less than 1000 meter
編 碼 器	Encoder	標準型：RESOLVER，可選配 Push pull, Line-driver Standard type: Resolver, optional for Push-pull or Line-driver type 1ø230V 50/60Hz 46/41W (F#112,132)
風 扇	Elec.Fan	1ø230V 50/60Hz 75/70W (F#145)
驅 動 器	Driver	適用於任何同步馬達驅動器 Apply to any PMS motor drive

PSEF series

SYNCHRONOUS SERVO MOTOR



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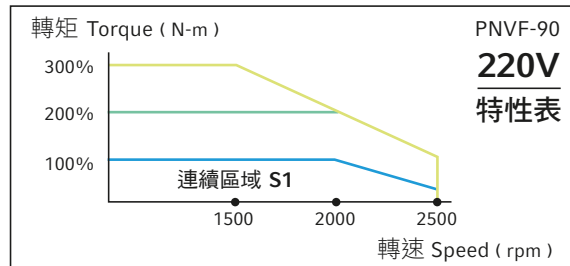
PNVF-90

SYNCHRONOUS SERVO MOTOR
同步伺服馬達

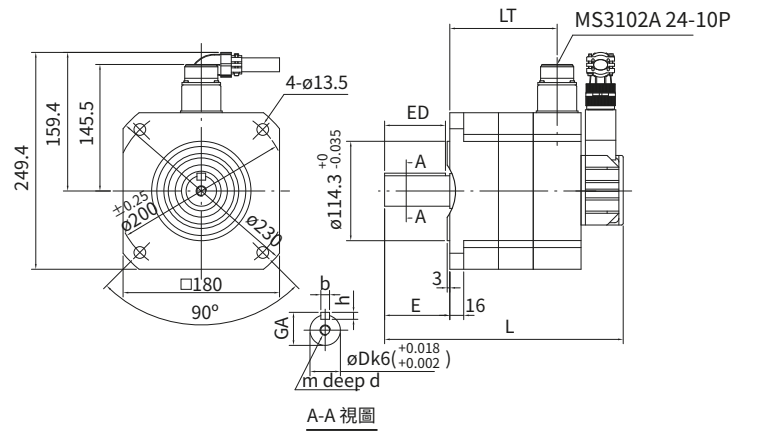
220V FUKUTA SYNCHRONOUS
SERVO MOTOR

▶ 產品規格 Specification

框 號	Frame No.	90S	90M	90L	90X
極 數	Poles	8	8	8	8
轉動慣量	Rotor Inertia (kg·m ²)	0.0035	0.0061	0.0078	0.0096



框號 Fr. No.	額定輸出	額定轉速	額定電流	額定轉矩	最大轉矩	額定頻率	Ke(E.M.F)	轉矩常數	最高轉速	轉動慣量	重量
	Rated Output	Rated Speed	Rated Current	Rated Torque	Max. Torque	Rated Frequency	vRMS/1000rpm	Kt	Max Speed	Inertia	Weight
	kw	RPM	A	Nm	Nm	Hz	Vrms	Nm/Arms	rpm	kg· m ²	kg
90S	1	1000	3.4	9.6	28.7	66.7	175.0	2.8	2000	0.0035	16
	1.5	1500	5.1	9.6	28.7	100.0	115.0	1.9	2500	0.0035	16
	2	2000	6.8	9.6	28.7	133.3	85.0	1.4	3000	0.0035	16
	3	3000	10.2	9.6	28.7	200.0	55.0	0.9	4000	0.0035	16
90M	1.9	1000	6.3	17.8	53.5	66.7	175.0	2.8	2000	0.0061	29
	2.8	1500	9.5	17.8	53.5	100.0	115.0	1.9	2500	0.0061	29
	3.7	2000	12.5	17.8	53.5	133.3	85.0	1.4	3000	0.0061	29
	5.6	3000	19.0	17.8	53.5	200.0	55.0	0.9	4000	0.0061	29
90L	2.3	1000	7.7	21.7	65.1	66.7	175.0	2.8	2000	0.0078	37
	3.4	1500	11.5	21.7	65.1	100.0	115.0	1.9	2500	0.0078	37
	4.5	2000	15.2	21.7	65.1	133.3	85.0	1.4	3000	0.0078	37
	6.8	3000	23.0	21.7	65.1	200.0	55.0	0.9	4000	0.0078	37
90X	2.8	1000	9.2	26.3	78.9	66.7	175.0	2.9	2000	0.0096	45
	4.1	1500	13.8	26.3	78.9	100.0	115.0	1.9	2500	0.0096	45
	5.5	2000	18.5	26.3	78.9	133.3	85.0	1.4	3000	0.0096	45
	8.3	3000	27.6	26.3	78.9	200.0	55.0	1.0	4000	0.0096	45

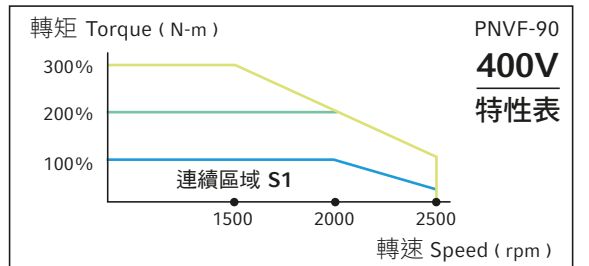


▼	D	bxh	mxh	GA	E	ED	L	LT
90S	35	10x8	M12x28	38	75	70	274.5	123.5
90M	35	10x8	M12x28	38	75	70	304.5	153.5
90L	35	10x8	M12x28	38	75	70	324.5	173.5
90X	42	12x8	M16x36	45	110	105	379.5	193.5

400V FUKUTA SYNCHRONOUS
SERVO MOTOR

▶ 產品規格 Specification

框 號	Frame No.	90S	90M	90L	90X
極 數	Poles	8	8	8	8
轉動慣量	Rotor Inertia (kg·m ²)	0.0035	0.0061	0.0078	0.0096



框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	額定電流 Rated Current	額定轉矩 Rated Torque	最大轉矩 Max. Torque	額定頻率 Rated Frequency	Ke(E.M.F) vRMS/1000rpm	轉矩常數 Kt	最高轉速 Max Speed	轉動慣量 Inertia	重量 Weight
	kw	RPM	A	Nm	Nm	Hz	Vrms	Nm/Arms	rpm	kg- m ²	kg
90S	1	1000	2.1	9.6	28.7	66.7	300.0	4.5	2000	0.0035	16
	1.5	1500	3.2	9.6	28.7	100.0	200.0	3.0	2500	0.0035	16
	2	2000	4.1	9.6	28.7	133.3	150.0	2.3	3000	0.0035	16
	3	3000	6.4	9.6	28.7	200.0	100.0	1.5	4000	0.0035	16
90M	1.9	1000	3.7	17.8	53.5	66.7	300.0	4.8	2000	0.0061	29
	2.8	1500	5.6	17.8	53.5	100.0	200.0	3.2	2500	0.0061	29
	3.7	2000	7.5	17.8	53.5	133.3	150.0	2.4	3000	0.0061	29
	5.6	3000	11.2	17.8	53.5	200.0	100.0	1.6	4000	0.0061	29
90L	2.3	1000	4.7	21.7	65.1	66.7	300.0	4.6	2000	0.0078	37
	3.4	1500	7.0	21.7	65.1	100.0	200.0	3.1	2500	0.0078	37
	4.5	2000	9.3	21.7	65.1	133.3	150.0	2.3	3000	0.0078	37
	6.8	3000	14.1	21.7	65.1	200.0	100.0	1.5	4000	0.0078	37
90X	2.8	1000	5.6	26.3	78.9	66.7	300.0	4.7	2000	0.0096	45
	4.1	1500	8.4	26.3	78.9	100.0	200.0	3.1	2500	0.0096	45
	5.5	2000	11.0	26.3	78.9	133.3	150.0	2.4	3000	0.0096	45
	8.3	3000	16.8	26.3	78.9	200.0	100.0	1.6	4000	0.0096	45

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SYNCHRONOUS SERVO MOTOR

同步伺服馬達

220V

FUKUTA SYNCHRONOUS
SERVO MOTOR

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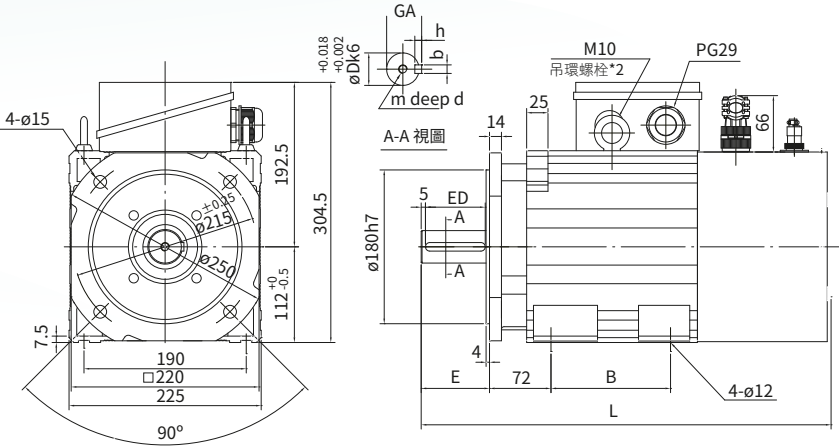
產品規格 Specification

框 號	Frame No.	112SA	112SB	112M	112L	112X
極 數	Poles	8	8	8	8	8
轉動慣量	Rotor Inertia (kg- m ²)	0.0062	0.0074	0.009	0.012	0.014

轉矩 Torque (N·m)

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220V
特性表

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	額定電流 Rated Current	額定轉矩 Rated Torque	最大轉矩 Max. Torque	額定頻率 Rated Frequency	Ke(E.M.F) vRMS/1000rpm	轉矩常數 Kt	最高轉速 Max Speed	轉動慣量 Inertia	重量 Weight
	kw	RPM	A	Nm	Nm	Hz	Vrms	Nm/Arms	rpm	kg- m ²	kg
112SA	4.4	1000	15.0	42.0	126.1	66.7	175.0	2.8	2000	0.0062	40
	6.6	1500	22.5	42.0	126.1	100.0	115.0	1.9	2500	0.0062	40
	8.8	2000	30.0	42.0	126.1	133.3	85.0	1.4	3000	0.0062	40
	13.2	3000	45.0	42.0	126.1	200.0	55.0	0.9	4000	0.0062	40
112SB	5.7	1000	19.3	54.0	162.0	66.7	175.0	2.8	2000	0.0074	45
	8.5	1500	29.0	54.0	162.0	100.0	115.0	1.9	2500	0.0074	45
	11.3	2000	38.7	54.0	162.0	133.3	85.0	1.4	3000	0.0074	45
	17	3000	58.0	54.0	162.0	200.0	55.0	0.9	4000	0.0074	45
112M	7.8	1000	26.5	74.0	222.0	66.7	175.0	2.8	2000	0.009	51
	11.6	1500	39.7	74.0	222.0	100.0	115.0	1.9	2500	0.009	51
	15.5	2000	52.9	74.0	222.0	133.3	85.0	1.4	3000	0.009	51
	23.3	3000	79.4	74.0	222.0	200.0	55.0	0.9	4000	0.009	51
112L	9.4	1000	32.1	89.8	269.3	66.7	175.0	2.8	2000	0.012	56
	14.1	1500	48.2	89.8	269.3	100.0	115.0	1.9	2500	0.012	56
	18.8	2000	64.3	89.8	269.3	133.3	85.0	1.4	3000	0.012	56
	28.2	3000	96.4	89.8	269.3	200.0	55.0	0.9	4000	0.012	56
112X	11.3	1000	38.5	107.6	322.8	66.7	175.0	2.8	2000	0.014	66
	16.9	1500	57.8	107.6	322.8	100.0	115.0	1.9	2500	0.014	66
	22.5	2000	77.1	107.6	322.8	133.3	85.0	1.4	3000	0.014	66
	33.8	3000	115.6	107.6	322.8	200.0	55.0	0.9	4000	0.014	66



▼	D	bxh	mxh	GA	E	ED	L	B
112SA	38	10x8	M10x20	41	80	70	480	140
112SB	38	10x8	M10x20	41	80	70	480	140
112M	38	10x8	M10x20	41	80	70	520	140
112L	38	10x8	M10x20	41	80	70	560	140
112X	42	12x8	M10x20	45	110	100	620	210

400V

FUKUTA SYNCHRONOUS
SERVO MOTOR

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產品規格 Specification

框 號	Frame No.	112SA	112SB	112M	112L	112X
極 數	Poles	8	8	8	8	8
轉動慣量	Rotor Inertia (kg- m ²)	0.0062	0.0074	0.009	0.012	0.014

轉矩 Torque (N·m)

PSEF-112
400V
特性表

框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	額定電流 Rated Current	額定轉矩 Rated Torque	最大轉矩 Max. Torque	額定頻率 Rated Frequency	Ke(E.M.F) vRMS/1000rpm	轉矩常數 Kt	最高轉速 Max Speed	轉動慣量 Inertia	重量 Weight
	kw	RPM	A	Nm	Nm	Hz	Vrms	Nm/Arms	rpm	kg- m ²	kg
112SA	4.4	1000	8.7	42.0	126.1	66.7	300.0	4.8	2000	0.0062	40
	6.6	1500	13.1	42.0	126.1	100.0	200.0	3.2	2500	0.0062	40
	8.8	2000	17.5	42.0	126.1	133.3	150.0	2.4	3000	0.0062	40
	13.2	3000	26.2	42.0	126.1	200.0	100.0	1.6	4000	0.0062	40
112SB	5.7	1000	11.3	54.0	162.0	66.7	300.0	4.8	2000	0.0074	45
	8.5	1500	16.9	54.0	162.0	100.0	200.0	3.2	2500	0.0074	45
	11.3	2000	22.5	54.0	162.0	133.3	150.0	2.4	3000	0.0074	45
	17	3000	33.8	54.0	162.0	200.0	100.0	1.6	4000	0.0074	45
112M	7.8	1000	15.1	74.0	222.0	66.7	300.0	4.9	2000	0.009	51
	11.6	1500	22.7	74.0	222.0	100.0	200.0	3.3	2500	0.009	51
	15.5	2000	30.3	74.0	222.0	133.3	150.0	2.4	3000	0.009	51
	23.3	3000	45.4	74.0	222.0	200.0	100.0	1.6	4000	0.009	51
112L	9.4	1000	18.5	89.8	269.3	66.7	300.0	4.9	2000	0.012	56
	14.1	1500	27.7	89.8	269.3	100.0	200.0	3.2	2500	0.012	56
	18.8	2000	36.9	89.8	269.3	133.3	150.0	2.4	3000	0.012	56
	28.2	3000	55.4	89.8	269.3	200.0	100.0	1.6	4000	0.012	56
112X	11.3	1000	22.1	107.6	322.8	66.7	300.0	4.9	2000	0.014	66
	16.9	1500	33.2	107.6	322.8	100.0	200.0	3.2	2500	0.014	66
	22.5	2000	44.3	107.6	322.8	133.3	150.0	2.4	3000	0.014	66
	33.8	3000	66.4	107.6	322.8	200.0	100.0	1.6	4000	0.014	66

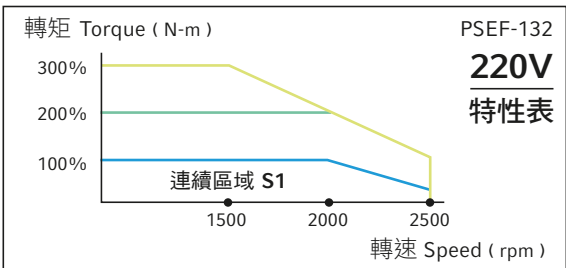


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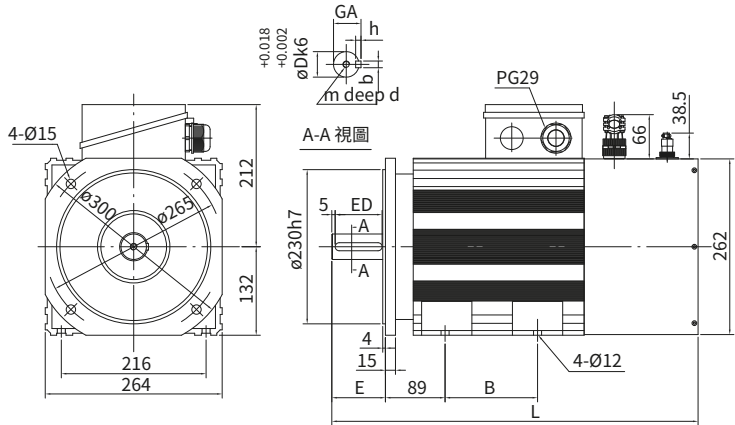
SYNCHRONOUS SERVO MOTOR

同步伺服馬達

220V FUKUTA SYNCHRONOUS SERVO MOTOR				
產品規格 Specification				
框 號 Frame No.	132S	132M	132L	
極 數 Poles	8	8	8	
轉動慣量 Rotor Inertia (kg- m ²)	0.0231	0.0309	0.0400	

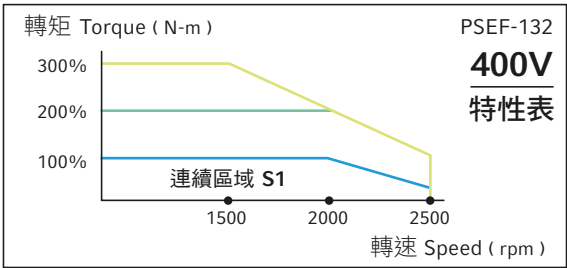


框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	額定電流 Rated Current	額定轉矩 Rated Torque	最大轉矩 Max. Torque	額定頻率 Rated Frequency	Ke(E.M.F) vRMS/1000rpm	轉矩常數 Kt	最高轉速 Max Speed	轉動慣量 Inertia	重量 Weight
	kw	RPM	A	Nm	Nm	Hz	Vrms	Nm/Arms	rpm	kg- m ²	kg
132S	12.4	1000	41.8	117.4	352.3	66.7	175.0	2.8	1500.0	0.0231	70
	18.5	1500	62.4	117.5	352.6	100.0	115.0	1.9	2000.0	0.0231	70
	22	2000	74.2	105.1	315.2	133.3	85.0	1.4	2500.0	0.0231	70
	32	3000	108.0	101.9	305.6	200.0	55.0	0.9	3500.0	0.0231	70
132M	15	1000	50.6	142.4	427.1	66.7	175.0	2.8	1500.0	0.0309	82
	22	1500	74.2	140.4	421.1	100.0	115.0	1.9	2000.0	0.0309	82
	30	2000	101.3	143.3	429.8	133.3	85.0	1.4	2500.0	0.0309	82
	45	3000	152.0	143.3	429.8	200.0	55.0	0.9	3500.0	0.0309	82
132L	20	1000	67.5	191.0	573.0	66.7	175.0	2.8	1500.0	0.0400	98
	30	1500	101.3	191.0	573.0	100.0	115.0	1.9	2000.0	0.0400	98
	37	2000	118.3	176.7	530.0	133.3	85.0	1.5	2500.0	0.0400	98
	55	3000	185.7	175.1	525.3	200.0	55.0	0.9	3500.0	0.0400	98



	D	bxh	mxh	GA	E	ED	L	B
132S	38	10x8	M10x25	41	80	70	546.5	138
132M	42	12x8	M10x25	45	110	100	631.5	178
132L	42	12x8	M10x25	45	110	100	701.5	287

400V FUKUTA SYNCHRONOUS SERVO MOTOR				
產品規格 Specification				
框 號 Frame No.	132S	132M	132L	
極 數 Poles	8	8	8	
轉動慣量 Rotor Inertia (kg- m ²)	0.0231	0.0309	0.0400	



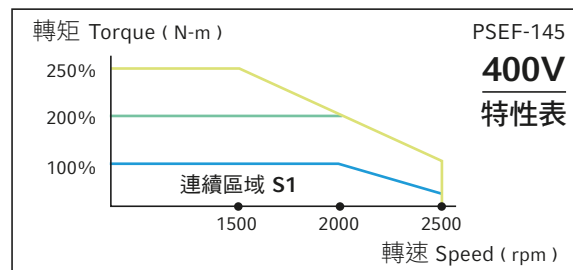
框號 Fr. No.	額定輸出 Rated Output	額定轉速 Rated Speed	額定電流 Rated Current	額定轉矩 Rated Torque	最大轉矩 Max. Torque	額定頻率 Rated Frequency	Ke(E.M.F) vRMS/1000rpm	轉矩常數 Kt	最高轉速 Max Speed	轉動慣量 Inertia	重量 Weight
	kw	RPM	A	Nm	Nm	Hz	Vrms	Nm/Arms	rpm	kg- m ²	kg
132S	12.4	1000	24.6	117.4	352.3	66.7	300.0	4.8	1500.0	0.0231	70
	18.5	1500	36.7	117.5	352.6	100.0	200.0	3.2	2000.0	0.0231	70
	22	2000	43.7	105.1	315.2	133.3	150.0	2.4	2500.0	0.0231	70
	32	3000	67.5	101.9	305.6	200.0	100.0	1.5	3500.0	0.0231	70
	45	3000	95.0	143.3	429.8	200.0	100.0	1.5	3500.0	0.0309	82
132M	15	1000	29.8	142.4	427.1	66.7	300.0	4.8	1500.0	0.0309	82
	22	1500	43.7	140.4	421.1	100.0	200.0	3.2	2000.0	0.0309	82
	30	2000	59.6	143.3	429.8	133.3	150.0	2.4	2500.0	0.0309	82
	45	3000	95.0	143.3	429.8	200.0	100.0	1.5	3500.0	0.0309	82
132L	20	1000	43.5	191.0	573.0	66.7	300.0	4.4	1500.0	0.0400	98
	30	1500	65.3	191.0	573.0	100.0	200.0	2.9	2000.0	0.0400	98
	37	2000	80.5	176.7	530.0	133.3	150.0	2.2	2500.0	0.0400	98
	55	3000	119.5	175.1	525.3	200.0	100.0	1.5	3500.0	0.0400	98



PSEF-145

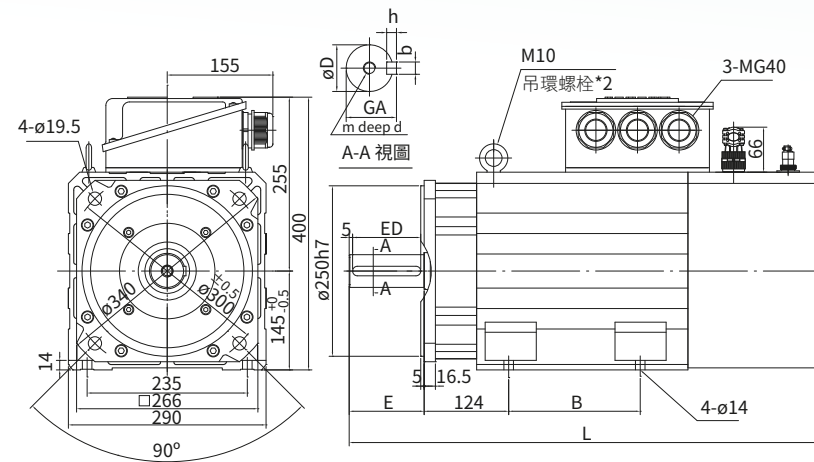
SYNCHRONOUS SERVO MOTOR 同步伺服馬達

400V		FUKUTA SYNCHRONOUS SERVO MOTOR		
▶ 產品規格 Specification		▼	▼	▼
框 號	Frame No.	145S	145M	145L
極 數	Poles	8	8	8
轉動慣量	Rotor Inertia (kg·m ²)	0.048	0.064	0.069



框號 Fr. No.	額定輸出	額定轉速	額定電流	額定轉矩	最大轉矩	額定頻率	Ke(E.M.F)	轉矩常數	最高轉速	轉動慣量	重量
	Rated Output	Rated Speed	Rated Current	Rated Torque	Max. Torque	Rated Frequency	vRMS/1000rpm	Kt	Max Speed	Inertia	Weight
	kw	RPM	A	Nm	Nm	Hz	Vrms	Nm/Arms	rpm	kg· m ²	kg
145S	20	1000	40.9	191.0	477.5	66.7	300.0	4.7	1500.0	0.048	112
	30	1500	63.3	191.0	477.5	100.0	200.0	3.0	2000.0	0.048	112
	37	2000	75.7	176.7	441.7	133.3	150.0	2.3	2500.0	0.048	112
	55	3000	116.0	175.1	437.7	200.0	100.0	1.5	3500.0	0.048	112
145M	25	1000	51.1	238.8	596.9	66.7	300.0	4.7	1500.0	0.064	130
	37	1500	75.7	235.6	588.9	100.0	200.0	3.1	2000.0	0.064	130
	45	2000	92.1	214.9	537.2	133.3	150.0	2.3	2500.0	0.064	130
	75	3000	153.4	238.8	596.9	200.0	100.0	1.6	3500.0	0.064	130
145L	30	1000	61.4	286.5	716.3	66.7	300.0	4.7	1500.0	0.069	150
	45	1500	92.1	286.5	716.3	100.0	200.0	3.1	2000.0	0.069	150
	55	2000	112.5	262.6	656.6	133.3	150.0	2.3	2500.0	0.069	150
	85	3000	173.9	270.6	676.5	200.0	100.0	1.6	3500.0	0.069	150

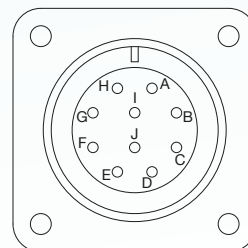
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▼	D	bxh	mxh	GA	E	ED	L	B
145S	48k6	14x9	M16x36	51.5	110	100	692.5	193
145M	48k6	14x9	M16x36	51.5	110	100	742.5	243
145L	55m6	16x10	M20x40	59	110	100	792.5	293

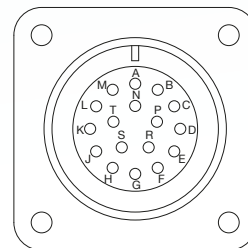
Remark:1.Tolerance of shaft End Diameter"D": k6:+0.018 ~ +0.002 m6:+0.030 ~ +0.011

▶ 編碼器資料 Encoder information



Standard Type

Type / Connector	Pin A	Pin B	Pin C	Pin D	Pin E	Pin F	Pin G	Pin H	Pin I	Pin J
Resolver	R+	R-	Sin+	Sin-	Cos+	Cos-				
Pushpull	A	B	Z				Shield	+Vcc	COM	
Line-driver	A	B	Z	A-	B-	Z-	Shield	+Vcc	COM	



Optional

Connector	Pin A	Pin B	Pin C	Pin D	Pin E	Pin F	Pin G	Pin H	
Line-driver	A	A-	B	B-	Z	Z-	U	U-	
	Pin J	Pin K	Pin L	Pin M	Pin N	Pin P	Pin R	Pin S	Pin T
	V	V-	W	W-	+Vcc	COM	Shield		

★ 編碼器之選用依客戶需求為主。

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