

TPG[®]

MOTORS & DRIVES

- 信頼性ある製品 TECHNOLOGY
- 卓越したの性能 PERFECTION
- 保証したの品質 GUARANTEE



CE-N-0713-14-05-01-1A
CE-N-0713-14-09-02-1A

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CA 系列 向量變頻器
VECTOR INVERTER

阪神電機
TPG MOTORS & DRIVES

TPG CA series inverter are specifically designed for general AC motors to adjust speed, variable torque or constant torque or constant horsepower applications. The general application is for all machines including conveyors, pumps, fans, material handling equipment, etc. Provides adjustable speed operation over a wide speed range, as well as the technical features as below.

1. Can be applied upon TENV, TEFC, ODP AC motors.
2. Steady & Precise output speed $\pm 0.5\%$.
3. Low speed with high torque small torque ripple.
4. Precise motor parameter self learning.
5. Uninterruptible power system installed.
6. Supply wide range of input voltage from 220V to 480V, $\pm 15\%$.
7. EMC design specifications improved.
8. Meet EMC directive 2004/108/CE Electromagnetic compatibility directive and LVD directive.
9. Anti-dust design and cover keep inverter clean.
10. Anti-corrosion paint spraying surface to prevent from the rusting.
11. Thermal protectors for overheating protection.
12. Low temperature rising while operation to keep environment safely.
13. Energy saving new design in production & material process.
14. Compact shape design save much installation space in machine.
15. Various functions choices available -- 51kinds.
16. Flexible communication interface application
17. Free maintenance cost.

1. 適用各式交流電機。
2. 提供穩定與準確的輸出轉速($\pm 0.5\%$)。
3. 低速高扭矩及抑制速矩脈動...等低速特性。
4. 具備精確的馬達自動演算功能。
5. 具備UPS功能,電力系統不穩定時,提供瞬時保護。
6. 輸入電壓可選擇220/380/480Vac。
7. 產品符合EMC(電磁兼容性)指令。
8. 符合CE 2004 / 108電磁相容與電磁耐受標準。
9. 防塵、防水外罩設計,永保變頻器清潔。
10. 防腐蝕油漆外罩以防止生鏽落漆。
11. 過熱溫控設計,自行斷電安全可靠。
12. 低溫昇確保使用環境的安全。
13. 現代化的生產流程與原料管理。
14. 緊湊的設計規化,節省安裝空間。
15. 51項參數可供設定。
16. 多項通訊介面。
17. 免維護成本。



CA-201 A

CA-203 A

CA-409 S9

CA-405 S



Fan Industry



Textile Industry



Winding Machine



Machine Tool Industry



Coal Mining Industry



Power Industry



Pump



Injection Molding Machine



Hoisting



Photovoltaic



Petroleum Industry



Compressor



Chemical Industry



Heating System



Iron And Steel Industry



Conveyor

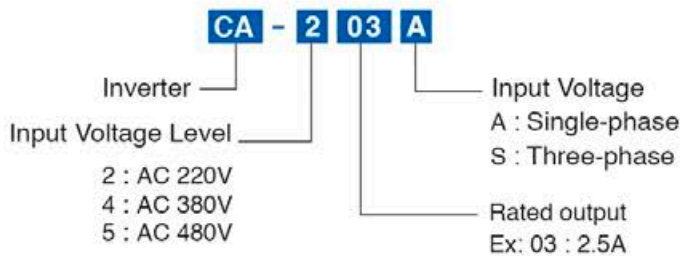


● 信頼性ある製品 ● 卓越したの性能 ● 保証したの品質

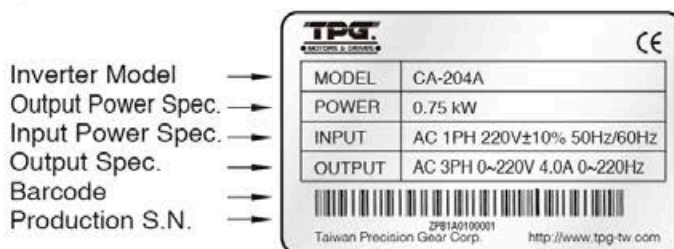
型號總表

Power(KW)	Input Voltage 1phase 220V	Input Voltage 3phase 220V±15%	Input Voltage 3phase 380V±15%	Input Voltage 3phase 480V±15%	Series
	Model No.	Model No.	Model No.	Model No.	
0.1	CA-201 A	--	--	--	2系列
0.2	CA-202 A	--	--	--	
0.75	CA-204 A	CA-204 S	CA-403 S	--	3系列
1.5	CA-207 A	CA-207 S	CA-404 S	--	
2.2	CA-210 A	CA-210 S	CA-405 S	--	
3.7	--	--	CA-408 S	--	
2.2	--	--	--	CA-505 S9	9系列
4	CA-216 A9	CA-216 S9	CA-409 S9	CA-508 S9	
5.5	CA-225 A9	CA-225 S9	CA-413 S9	CA-511 S9	
7.5	CA-232 A9	CA-232 S9	CA-417 S9	CA-515 S9	
11	--	CA-245 S9	CA-425 S9	CA-522 S9	
15	--	CA-260 S9	CA-432 S9	CA-527 S9	
18	--	CA-275 S9	CA-437 S9	CA-534 S9	
22	--	--	CA-445 S9	CA-540 S9	

Explanation



Instructions on nameplate

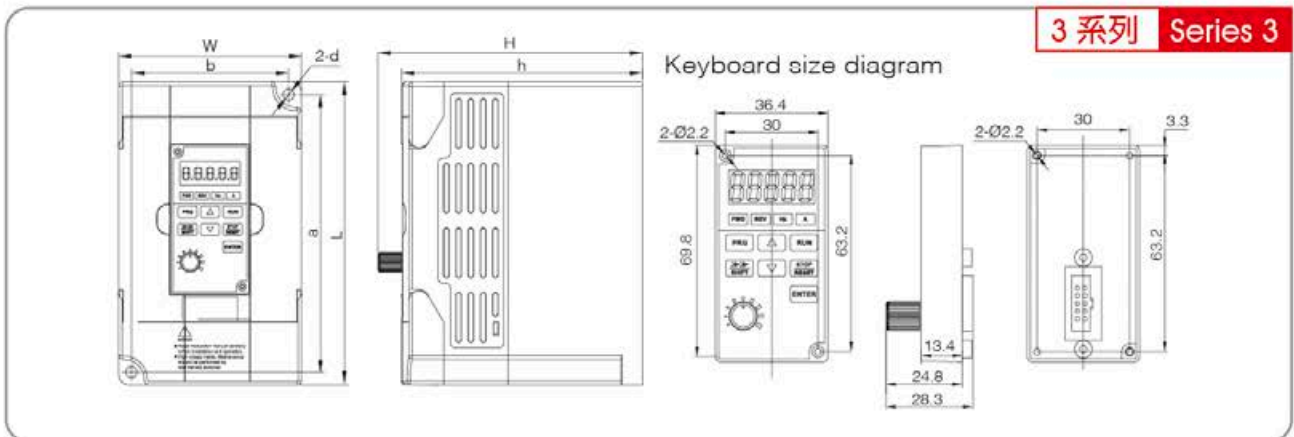
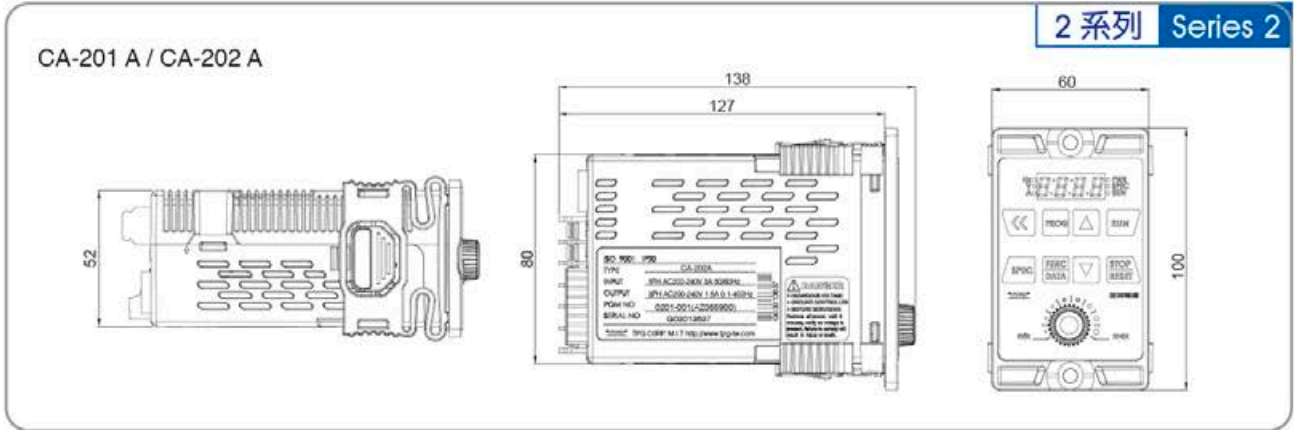


Series 2

Series 3

Series 9

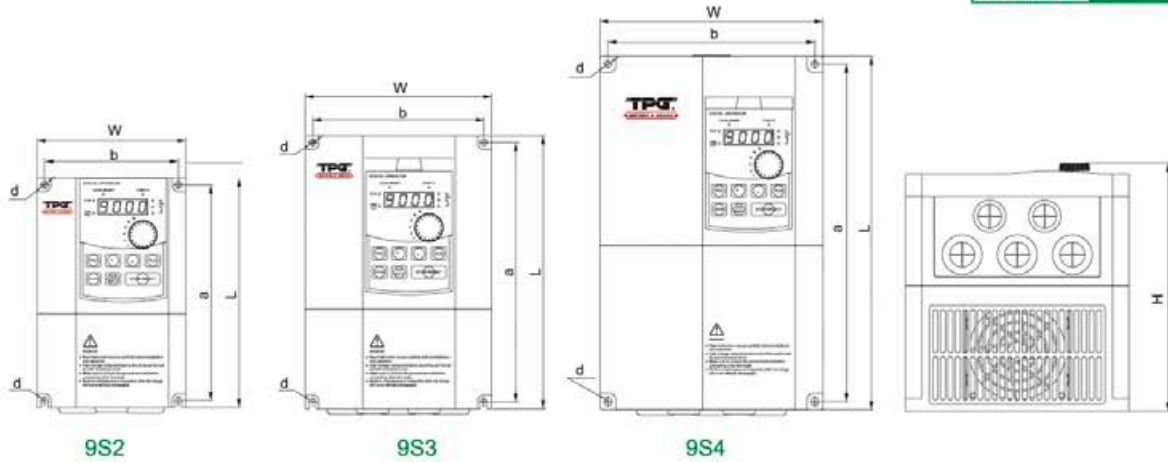
外型總表



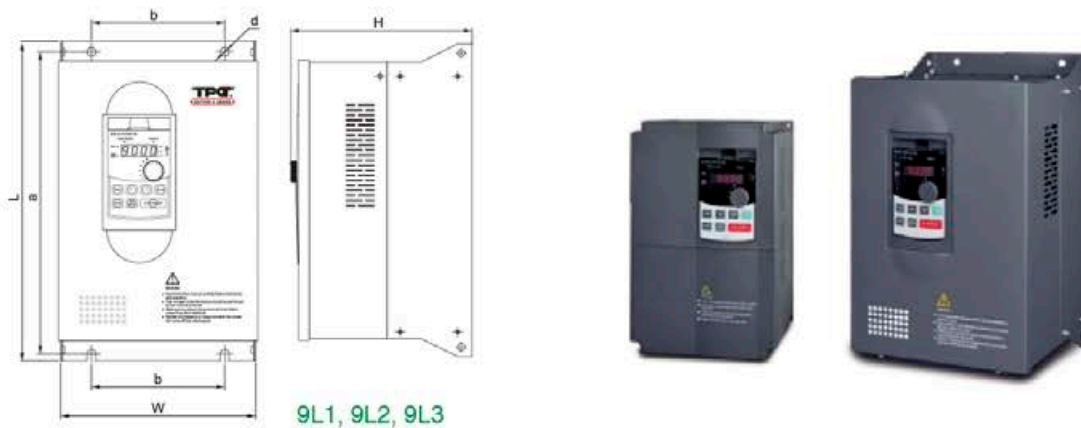
Model No.	Power supply level Power(kW)	Dimensions(mm)			InstallationSize(mm)				Approximate weight(kg)	Type
		L	W	H	h	a	b	d		
CA-204A	Single phase 220V 0.75	142	85	122.8	112	130	73	Ø5.3	0.8	3S1
CA-204S	Three phase 220V 0.75									
CA-207A CA-210A	Single phase 220V 1.5~2.2	151.6	100.6	127.5	116.6	139.7	88.7	Ø5.3	1	3S2
CA-207S CA-210S	Three phase 220V 1.5~2.2									
CA-403S CA-404S CA-405S CA-408S	Three phase 220V 0.75~3.7									

外型總表

9 系列 Series 9



9 系列 Series 9



Model No.	Power supply level Power (kW)	Dimensions (mm)			Installation Size (mm)			Approximate weight (kg)	Type
		L	W	H	a	b	d		
CA-216A9	Single phase 220V 4	285	180	200	272	167	Ø5.3	5	9S4
CA-225A9	Single phase 220V 5.5	360	220	225	340	150	Ø10	9	9L1
CA-232A9	Single phase 220V 7.5	360	220	225	340	150	Ø10	9	9L1

Model No.	Power supply level Power (kW)	Dimensions (mm)			Installation Size (mm)			Approximate weight (kg)	Type
		L	W	H	a	b	d		
CA-216S9	Three phase 220V 4	280	180	200	272	167	Ø5.3	5	9S4
CA-225S9	Three phase 220V 5.5	360	220	225	340	150	Ø10	9	9L1
CA-232S9	Three phase 220V 7.5	360	220	225	340	150	Ø10	9	9L1
CA-245S9	Three phase 220V 11	435	275	258	415	165	Ø10	18	9L2
CA-260S9	Three phase 220V 15	435	275	258	415	165	Ø10	25	9L3
CA-275S9	Three phase 220V 18	480	296	262	460	200	Ø10	25	9L3
CA-409S9	Three phase 380V 4	220	150	182	209	138	Ø5.3	3	9S3
CA-413S9	Three phase 380V 5.5	220	150	182	209	138	Ø5.3	3	9S3
CA-417S9	Three phase 380V 7.5	280	180	200	272	167	Ø5.3	5	9S4
CA-425S9	Three phase 380V 11	280	180	200	272	167	Ø5.3	5	9S4
CA-432S9	Three phase 380V 15	360	220	225	340	150	Ø10	9	9L1
CA-437S9	Three phase 380V 18	360	220	225	340	150	Ø10	9	9L1
CA-445S9	Three phase 380V 22	435	275	258	415	165	Ø10	18	9L2
CA-505S9	Three phase 480V 2.2	185	120	165	174	108	Ø5.3	2	9S2
CA-508S9	Three phase 480V 4	220	150	182	209	138	Ø5.3	3	9S3
CA-511S9	Three phase 480V 5.5	220	150	182	209	138	Ø5.3	3	9S3
CA-515S9	Three phase 480V 7.5	285	180	200	272	167	Ø5.5	5	9S4
CA-522S9	Three phase 480V 11	285	180	200	272	167	Ø5.5	5	9S4
CA-527S9	Three phase 480V 15	360	220	225	340	150	Ø10	9	9L1
CA-534S9	Three phase 480V 18	360	220	225	340	150	Ø10	9	9L1
CA-540S9	Three phase 480V 22	435	275	258	415	165	Ø10	18	9L2

配線圖

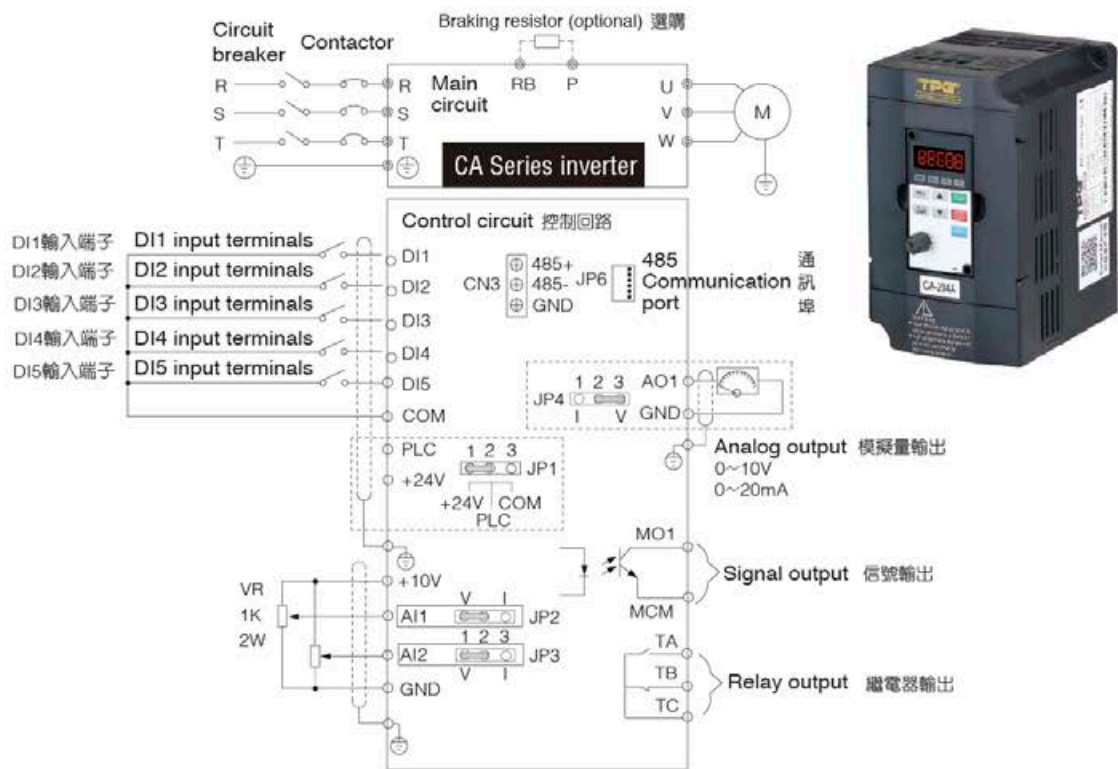
2 系列 Series 2

1. Cleaning of Environment: The installed location of drive must consider the ventilation, cleanliness and moisture.
2. Due to the heat dissipating requirement during the drive operation, the drive must keep enough space for heat dissipation
3. Surrounding temperature -10°C~+45°C(14°F~122°F)
4. Due to the heat dissipating requirement during the drive operation, the drive must keep enough space for heat dissipation. Please keep the least clearance space when installation. (shown as below figure):

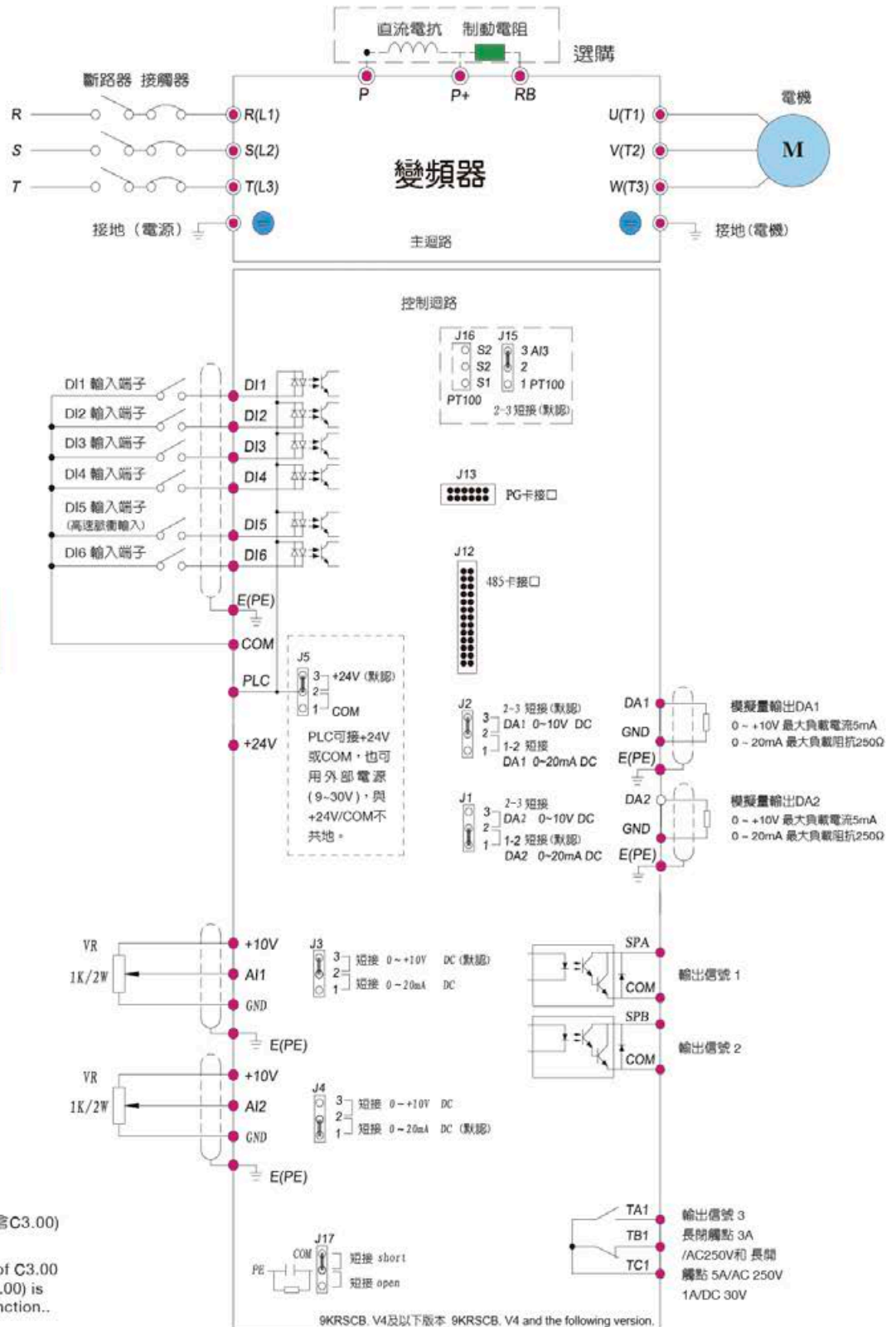


3 系列 Series 3

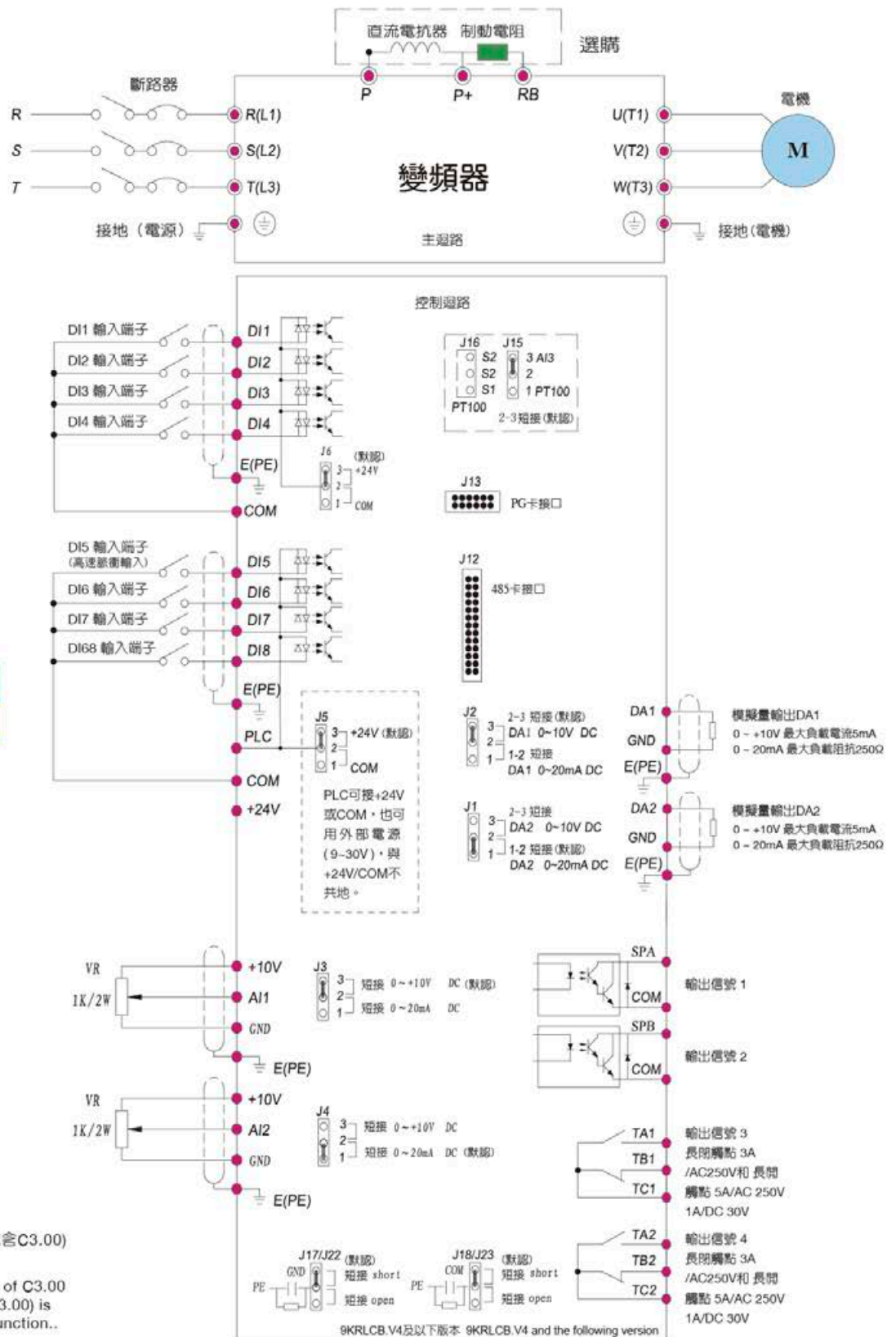
變頻器配線，分為主回路及控制回路兩部分。用戶必須依照下圖所示的配線回路正確連接。
The wiring of inverter is divided into two parts of main circuit and control circuit. User must correctly connect in accordance with the wiring circuit as shown in the following figure.



配線圖



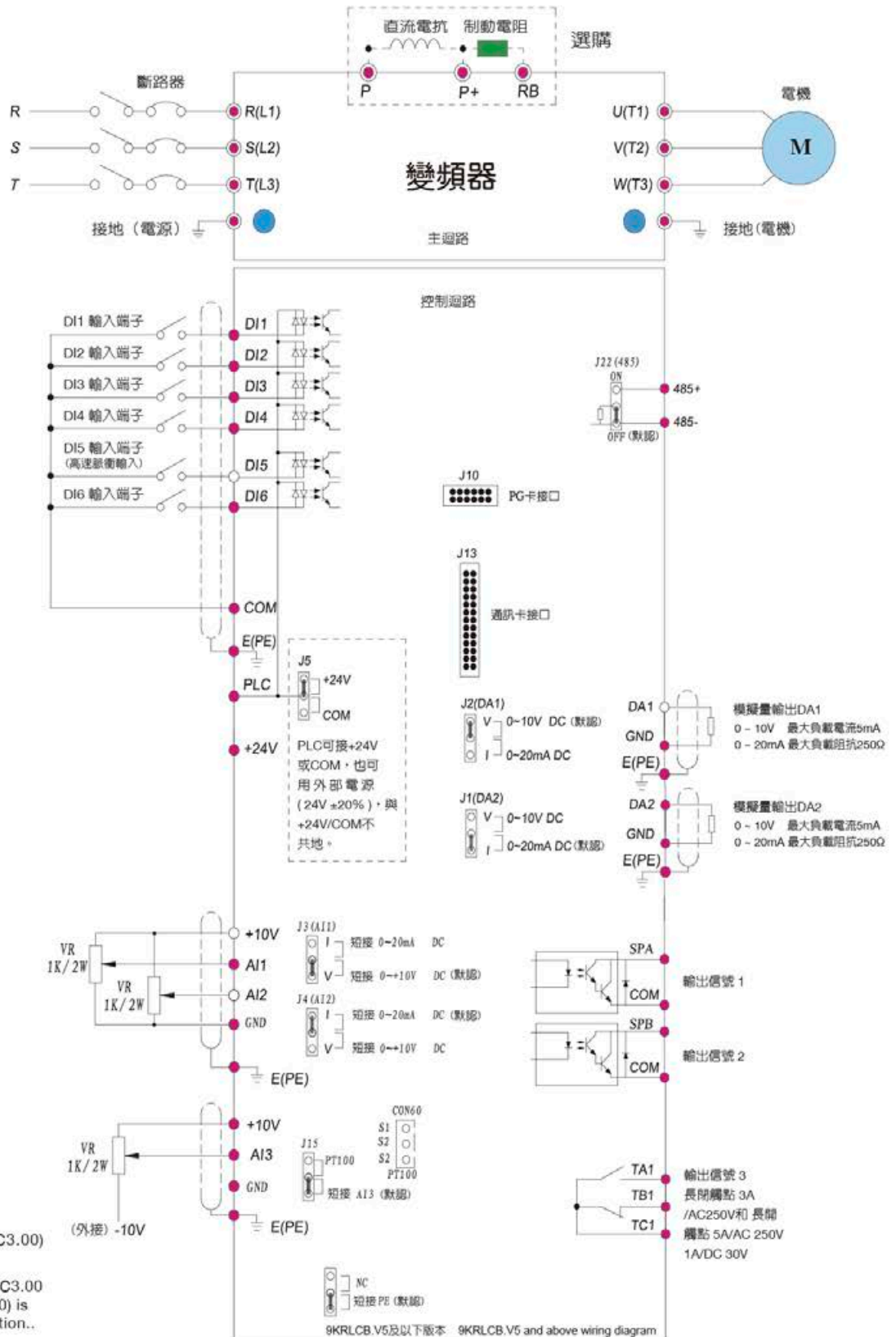
配線圖



9 系列 Series 9
11~22kW

註：韌體版本C3.00 以上(包含C3.00) 才具備有J16 功能。
Note: The software version of C3.00 or more (including C3.00) is equipped with J16 function..

配線圖



9 系列 Series 9
11~22kW

註：軟體版本C3.00 以上(包含C3.00)才具備有J16 功能。

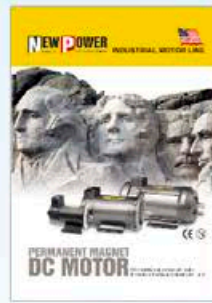
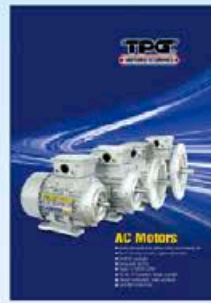
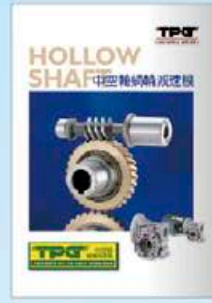
Note: The software version of C3.00 or more (including C3.00) is equipped with J16 function..

➔ 差異比較總表

Model	2系列 Series 2	3系列 Series 3	9系列 Series 9
功能特點 Technical standard			
電壓頻率等級 Voltage and frequency level	單相220V, 50/60Hz Single-phase 220V, 50/60Hz	單相220V, 50/60Hz 三相220V, 50/60Hz 三相380V, 50/60Hz Single-phase 220V, 50/60Hz Three-phase 220V, 50/60Hz Three-phase 380V, 50/60Hz	單相220V, 50/60Hz 三相220V, 50/60Hz 三相380V, 50/60Hz 三相480V, 50/60Hz Single-phase 220V, 50/60Hz Three-phase 220V, 50/60Hz Three-phase 380V, 50/60Hz Three-phase 480V, 50/60Hz
變頻器功率 Power	220V 0.1 - 0.2kW	0.7 - 3.7kW	2.2 - 22kW
開環向量控制 Open loop vector control	無 No	有 Yes	有 Yes
轉矩控制 Vector control	有 Yes	有，簡易控制效果 Yes, simple level	有，簡易控制效果 Yes, simple level
帶PG向量控制 Vector control with PG	無 No	無 No	有 Yes
最高頻率 Max. frequency	400HZ	400HZ	向量控制：0~300Hz, V/F控制：0~3200Hz Vector control: 0~300Hz, V/F control: 0~3200Hz
PID控制 PID Control	無 No	有，功能比較少 Yes	有 Yes
主+輔頻率疊加 Main-auxiliary frequency stack	無 No	A1+A2 (Brief)	可以根據需要實現各種頻率疊加 More complicated frequency stack according to requirement
穩度精度 Stability & precision	0.1Hz	無PG向量控制：≤±0.5% (額定同步轉速) Vector control without PG：≤±0.5% (Rated synchronous speed)	無PG向量控制：≤±0.5% (額定同步轉速) 帶PG向量控制：≤±0.02% (額定同步轉速) Vector control without PG：≤±0.5% (Rated synchronous speed) Vector control with PG：≤±0.5% (Rated synchronous speed)
鍵盤顯示 Keyboard display	LED	LED	DELO / DEL
參數拷貝 Parameter copy	無 No	無 No	有 Yes
通信 Communication	RS485	RS485	RS485
可擴展卡 Expansion cards	無 No	無 No	RS485卡 / CAN BUS卡 / PROFIBUS DP卡 RS485 Car/CAN BUS Car/PROFIBUS DP Car
參數保護功能 Parameter protection function	可鎖定，無密碼保護 Parameter lock	通過設定管理員密碼和解碼，保護變頻器參數 Protect inverter parameters by setting administrator password and decoding.	
高速脈衝輸入端子 High speed pulse input terminal	無 No	無 No	有 Yes
DI多功能端子 DI Multi-function terminal	無 No	24種功能供用戶選擇 24 Functions can be selected	51種功能供用戶選擇 51 Functions can be selected

差異比較總表

Model	2系列 Series 2	3系列 Series 3	9系列 Series 9
功能特點 Technical standard			
命令源選擇 Command source selection	2種 2 Functions	3種 3 Functions	5種 5 Functions
簡易PLC Simple PLC	計數功能 Counter	無 No	有 Yes
虛擬DI/DO Virtual DI/DO	無 No	有 Yes	有 Yes
模擬量輸入 Analog input	1 Way	2 Way (AI1/AI2)	2 Way (AI1/AI2) · V5控制板多一路AI3
數位量輸入(DI) Digital input (DI)	無 No	5 Way	11kW以下6路 · 11kW以上8路 6 way for 11kW and following version 8 way for over 11kW and above version
模擬量輸出(DA) Analog output (DA)	無 No	1 Way	2 Way
數位輸出(SPA) Digital output (SPA)	無 No	1 Way	2 Way
繼電器輸出(TA-TC) Relay output (TA-TC)	1 Way	1 Way	11kW以下1路 · 11kW以上2路 1 way for 11kW and following version 2 way for over 11kW and above version
數位量輸出功能選擇 Digital output function selection	無 No	8種功能可供用戶選擇 8 functions can be selected	40種功能可供用戶選擇 40 functions can be selected
模擬量輸出功能選擇 Analog output function selection	無 No	8種功能可供用戶選擇 8 functions can be selected	17種功能可供用戶選擇 17 functions can be selected
繼電器輸出功能選擇 Relay output function selection	15種功能(開集極) 15 functions (open collector)	8種功能可供用戶選擇 8 functions can be selected	40種功能可供用戶選擇 40 functions can be selected
變頻器運行狀態監視 Inverter running state monitoring	8種 8 sets	21種 21 sets	42種 42 sets
多功能鍵定義 Multi-function key definition	有 Yes	無 No	MCU鍵盤有 Yes
電機類型 Motor type	交流電機 Asynchronous motor	交流電機 Asynchronous motor	交流電機 · 同步電機(必須加裝編碼器及PG卡) Asynchronous motor + Synchronous motor
鍵盤指示燈 Keyboard indicator	4個	4個	7個
比例聯動 Proportion of linkage	無 No	無 No	有 Yes
休眠功能 Power nap	無 No	無 No	有 Yes
紅外功能 Infrared function	無 No	無 No	有 Yes
鍵盤按鍵鎖 Keyboard lock	無 No	有 Yes	無 No



For TPG product information, please scan QR code for details.



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ISO 9001 : 2015

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