

2013-08-15

DVP-SLIM

Instruction Sheet

安 裝 說 明

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Digital I/O Extension Unit (Pin Headed)

數位I/O擴充機 (排針式)

数字I/O扩展机 (排针式)

● Specifications

■ Electrical Specifications

Item	Model	DVP32SM11N	DVP32SN11TN
Power supply voltage		24V DC (-15% ~ 20%) (with DC input polarity reverse protection)	
Motion specification		Within 5ms of the momentary power loss, the device will keep on operating.	
Power consumption		1W	1W
Insulation resistance		> 5 MΩ (all I/O point-to-ground: 500V DC)	
Noise immunity		ESD (IEC 61131-2, IEC 61000-4-2): 8KV Air Discharge EFT (IEC 61131-2, IEC 61000-4-4): Power Line: 2KV, Digital I/O: 1KV, Analog & Communication I/O: 1KV Damped-Oscillatory Wave: Power Line: 1KV, Digital I/O: 1KV RS (IEC 61131-2, IEC 61000-4-3): 26MHz ~ 1GHz, 10V/m	
Earth		The diameter of grounding wire shall not be less than that of L, N terminal of the power. (When many PLCs are in use at the same time, please make sure every PLC is properly grounded.)	
Operation/storage environment		Operation: 0°C ~ 55°C (temperature); 5 ~ 95% (humidity); pollution degree 2 Storage: -25°C ~ 70°C (temperature); 5 ~ 95% (humidity)	
Shock/vibration immunity		International standards: IEC 61131-2, IEC 68-2-6 (TEST Fc) / IEC 61131-2 & IEC 68-2-27 (TEST Ea)	
Weight (g)		70g	70g

■ I/O Point Specifications

Input Point		Output Point		Temp. & Load Current
Input type	DC (SINK or SOURCE)	Output type	Transistor – T (NPN)	
Input current	24VDC, 5mA	Current spec.	0.1A/point	
Active level	Off → On more than 16.5VDC	Voltage spec.	5 ~ 30 VDC	
Response time	Approx. 20ms	Maximum load	55°C/1.0A (COM), 25°C/2.2A (COM)	
Circuit isolation / operation instruction	By photocoupler / LED On	Response time	Off → On less than 0.1ms On → Off less than 0.3ms	

(Current/COM)

2.2A
1.8A
1.4A
1.0A

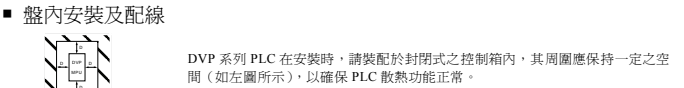
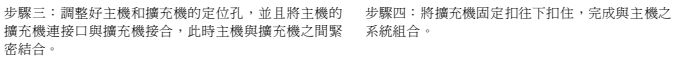
25°C 35°C 45°C 55°C (T°C)

● Installation & Wiring


■ Terminals of Digital I/O Extension Unit

DVP32SM11N	DVP32SN11TN	
X0 X2 X4 X6 X8 X10 X12 X14 X16 X18 X20 X22 X24 X26 X28 X30 X32 X34 X36 X38 X40 X42 X44 X46 X48 X50 X52 X54 X56 X58 X60 X62 X64 X66 X68 X70 X72 X74 X76 X78 X80 X82 X84 X86 X88 X90 X92 X94 X96 X98 X100 X102 X104 X106 X108 X110 X112 X114 X116 X118 X120 X122 X124 X126 X128 X130 X132 X134 X136 X138 X140 X142 X144 X146 X148 X150 X152 X154 X156 X158 X160 X162 X164 X166 X168 X170 X172 X174 X176 X178 X180 X182 X184 X186 X188 X190 X192 X194 X196 X198 X200 X202 X204 X206 X208 X210 X212 X214 X216 X218 X220 X222 X224 X226 X228 X230 X232 X234 X236 X238 X240 X242 X244 X246 X248 X250 X252 X254 X256 X258 X260 X262 X264 X266 X268 X270 X272 X274 X276 X278 X280 X282 X284 X286 X288 X290 X292 X294 X296 X298 X300 X302 X304 X306 X308 X310 X312 X314 X316 X318 X320 X322 X324 X326 X328 X330 X332 X334 X336 X338 X340 X342 X344 X346 X348 X350 X352 X354 X356 X358 X360 X362 X364 X366 X368 X370 X372 X374 X376 X378 X380 X382 X384 X386 X388 X390 X392 X394 X396 X398 X400 X402 X404 X406 X408 X410 X412 X414 X416 X418 X420 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步驟一：利用螺絲起子將擴充側蓋打開，會出現擴充機連接口。



適合 35mm 之 DIN 軌軌，主機欲掛於軌軌時，先將主機（或擴充機）下方之固定塑膠片壓入，再將主機（或擴充機）由上方掛上再往下壓即可。欲取下主機時，主機背面下之固定塑膠片，以一字形起子插入凹槽，向上撐開即可。該固定機構塑膠片為保持型，因此該固定片撐開後便不會彈回去，當所有的固定片撐開後，再將主機往上下方取出。

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1. 輸出/輸入配線端請使用 22-16AWG (1.5mm) 單芯裸線或多芯線，端子規格如左所示。
PLC 端子線扭扭力為 1.95 kg-cm (1.7 in-lbs)。
 2. 輸入點信號線與輸出點等動力線請勿置於同一線槽內或使用同一多芯之電纜線。
 3. 只能使用 60/75°C 的銅導線。



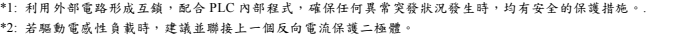
- 輸出入點序號排列：
無論使用任何點數的主機連接擴充機，所連接的第一台擴充機，輸入點編號由 X20 依序排列，輸出點編號亦由 Y20 開始依序排列，若使用者所連接的系統如下：

- 輸入點配線及規格：

輸入點之入力信號只有一種：爲直流電源 DC 輸入。DC 型式共有兩種接法，SINK 及 SOURCE，其配線如下：

● 電晶體輸出回路配線：

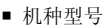
NPN 型電晶體輸出




主機或擴充機之正面均有一個 POWER 的 LED 指示燈，當主機通上電源時，該指示燈 LED（綠色）亮。如果主機通上電源時此指示燈不亮，表示 PLC 的直流電源供應有問題，此時請檢查 +24V 及 0V 之端子配線是否正確。若發現錯誤（ERROR）指示燈 LED 快速閃爍，則表示供應 PLC 電源 +24V 不足。擴充機正面另有一指示燈 L.V，

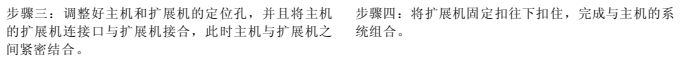
3. 結合上述兩項建議，於 55°C/1.0A (COM)、25°C/2.2A (COM)條件操作下，若超過此最大負載額定，將造成 I/O 壽命減少。

- ✓ 请在使用前，详细阅读本使用说明书。
- ✓ 实施布线，务必关闭电源。
- ✓ 本机为开放型（OPEN TYPE）机壳，因此使用者使用本机时，必须将其安装于具防尘、防潮及免于电击/冲击意外的外壳配电箱内。另必须配备保护措施（如：特殊的工具或钥匙才可打开）防止非维护人员操作或意外冲入本体，造成危险及损坏。
- ✓ 交流输入电源不可连接于输入/输出号端，否则将造成严重损坏！因此请在上电之前再次确认电源极性，请勿在上电时触接任何端子。




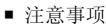
机种	电源	输入单元		输出单元		尺寸 (mm)			外形参考
		点数	形式	点数	形式				
DVP32SM11IN	24VDC	32	DC Type Sink/Source	0	无	25.2	90	60	
DVP32SN11TN		0	无	32	晶体管 (NPN) Transistor				

步骤一：利用螺丝起子将扩展侧盖打开，会出现扩展机 步骤二：再利用螺丝起子将扩展机固定扣往上拨。
连接口。



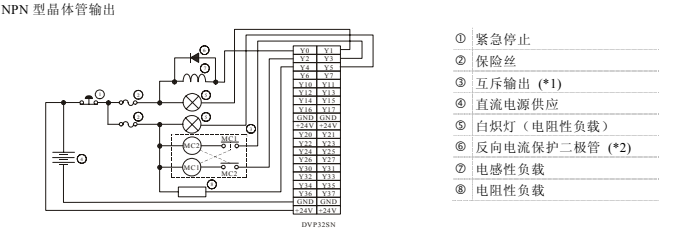
DVP 系列 PLC 在安装时,请装配于封闭式的控制箱内,其周围应保持一定的空间(如左图所示),以确保 PLC 散热功能正常。

-  1. 输出入配线端请使用 22-16AWG (1.5mm) 单芯裸线或多芯线，端子规格如左所示。
PLC 端子螺丝扭力为 1.95 kg·cm (1.7 in-lbs)。
2. 输入点信号线与输出点等动力线请勿置于同一线槽内或使用同一多芯的电缆线。
3. 只能使用 60/75°C 的铜导线。



- 施工注意:

- 输入点的输入信号只有一种：为直流电源 DC 输入。DC 型式共有两种接法，SINK 及 SOURCE，其配线如下：



- #### ④ 试运转

若发现错误 (ERROR) 指示灯 LED 快速闪烁, 则表示供应 PLC 电源+24V 不足。扩展机正面另有一指示灯 L.V., 当亮起时, 表示扩展机的输入电源电压不足, 此时扩展机输出全部禁止。

- 若主机 **ERROR** 指示灯没有闪烁, 使用外围装置下达 **RUN** 的命令, 此时 **RUN** 指示灯亮起。运转中可藉由 **HPP** 来监视定时器 (T)、计数器 (C)、寄存器 (D) 的设定值及暂存值, 并可强制输出点动作 **On/Off** 动作。若 **ERROR** 指示灯亮 (但不闪烁) 表示使用者程序中部份超过预设的逾时时间, 请使用者重新检查程序, 并将电源重新 **On/Off** 一次, 此时 **PLC** 自动回到 **STOP** 状态。

DVP 系列 PLC 并无使用消耗性零件, 所以大部分零件不需更换。但是如果输出晶体管使用在驱动大电流负载的话, 输出接点的寿命会减短。则需检查其状况, 是否接点发生永久性的开路或短路, 并同时注意下列各项:

1. 请勿将 DVP 置于太阳下直射并避开过热的物体，以免机器内温度过高影响功能。

2. 请定期清洁面板内空气灰尘或电子导

■ 操作建议

1. 若外部工作电

3. 结合上述两项建议, 于 55°C/1.0A (COM)、25°C/2.2A (COM) 条件操作下, 若超过此最大负载额定, 将造成 I/O 寿命减少。