

DVP-EH

INSTRUCTION SHEET

安裝說明 安装说明

▲ High-Speed, Multi-Functional Programmable Logic Controller

- ▲ 高速、多功能可程式控制器
- ▲ 高速、多功能可編程邏輯控制器



www.delta.com.tw/industrialautomation

Specifications

Item	Model	16EH000	20EH000	32EH000	32EH00M	40EH000	48EH000	64EH000	80EH000	
Power supply voltage		100 ~ 240V AC (±15% ~ 10%), 50/60Hz ± 5%								
Fuse capacity		2A250V AC								
Power consumption		50VA	50VA	60VA	60VA	60VA	60VA	80VA	80VA	
DC24V current supply		500mA	500mA	500mA	500mA	500mA	500mA	500mA	500mA	
Power protection		DC24V: output short-circuit 1.500V AC (Primary-secondary), 1.500V AC (Primary-PE), 500V AC (Secondary-PE)								
Withstand voltage		> 5kV (L to I/O point-to-ground; 500V DC)								
Insulation resistance		ESD: 8kV Air Discharge, EFT Power Line: 2kV, Digital I/O: 1kV, Analog & Communication I/O: 250V								
Noise immunity		Damped Oscillatory Wave: Power Line: 1kV, Digital I/O: 1kV, RS: 26MHz ~ 1GHz, 10V/m 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.)								
Earth		Operation: 0°C ~ 55°C (temperature), 50 ~ 95% (humidity), pollution degree: 2 Storage: -40°C ~ 70°C (temperature), 5 ~ 95% (humidity)								
Operation/storage		International standard: IEC61131-2, IEC 68-2-6 (TEST F); IEC61131-2 & IEC 68-2-27 (TEST Ea)								
Vibration/shock immunity		Weight (g)								
Weight (g)		500/480	520/500	652/612	644	710/675	748/688	830/756	948/848	

Input Point Specification

Items	Spec.	24V DC single common port input		Note
		5VDC two inputs	Low speed	
Input wiring type	Independent wiring	Change wiring from S/S to SINK or SOURCE		1. Differential input is only for X0, X1, X4 and X5 on DVP32EH00M. 2. Only X0, X1, X4 and X5 on DVP32EH00M are equipped with high-speed input.
Input indicator	LED display, light on - ON, light off - OFF			
Input voltage	5V DC	24V DC		
Active Level	Off - On	> 5mA	X0~X7, X12, X13, X16, X17, X20~X47: > 18.5V X10, X11, X14, X15: > 16.5V	
On - Off	< 2mA	X0~X47: < 8V DC		
Response time/ noise immunity	0.5μs	10ms	0.5μs	Input point X0 ~ X7, X10 ~ X17 can conduct 10 ~ 60ms digital filter adjustment

Output Point Specification

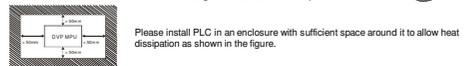
Items	Spec.	Single common port transistor output		Single common port relay output
		Low speed	High speed	
Max. frequency	200KHz	10KHz	200KHz	Load ON/OFF control
Output indicator	LED display, light on - ON, light off - OFF			
Min. load		5 ~ 30V DC		2mA/DC power supply
Working voltage	5V DC			< 250V AC, 30V DC
Insulation	Line Driver	Photocoupler		Magnetic
Current specification	< 25mA	0.3A/1 point @ 40°C	30mA	2A/1 point (SAC/COM) 75VA (conductive), 90W (resistive)
Max. output delay time	0.2μs	Off - On, 20μs On - Off, 30μs	0.2μs	10ms
Over-current protection		N/A		

Note: Differential output points are only Y0 ~ Y3 on DVP32EH00M; other output points are for relay output.

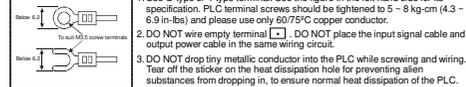
Installation & Wiring

3.1 PLC Mounting Arrangements and Wiring Notes

How to install DIN rail:
DVP-PLC can be secured to a cabinet by using the DIN rail of 35mm in height and 7.5mm in depth. When mounting PLC to DIN rail, be sure to use the end bracket to stop any side-to-side movement of PLC and reduce the chance of wiring loosening. A small retaining clip is at the bottom of PLC. To secure PLC to DIN rail, place the clip onto the rail and gently push it up. To remove it, pull the retaining clip down and gently remove PLC from DIN rail, as shown in the figure.



Please install PLC in an enclosure with sufficient space around it to allow heat dissipation as shown in the figure.



Wiring:

1. Use O-type or Y-type terminal. See the figure in the left hand side for its specification. PLC terminal screws should be tightened to 5 ~ 8 kg-cm (4.3 ~ 6.9 in-lbs) and please use only 60/75°C copper conductor.
2. DO NOT wire empty terminal []. DO NOT place the input signal cable and output power cable in the same wiring circuit.

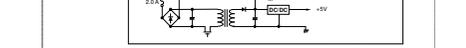
DO NOT drop any metal conductor into the PLC while screwing and wiring. Tear off the sticker on the heat dissipation hole for preventing alien substances from dropping in, to ensure normal heat dissipation of the PLC.

3.2 Wiring Notes

Power Input Wiring

The power input of DVP-EH series is AC. When operating the PLC, please make sure that:

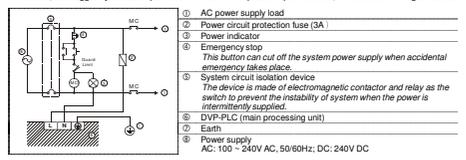
1. The input voltage should be current and its range should be 100 ~ 240V AC. The power should be connected to L and N terminals. Wiring AC110V or AC220V to +24V terminal or input terminal will result in serious damage on the PLC.
2. The AC power input for PLC MPU and I/O extension modules should be ON or OFF at the same time.
3. Use wires of 1.6mm (or longer) for the grounding of PLC MPU. The power shutdown of less than 10ms will not affect the operation of the PLC. However, power shutdown time that is too long or the drop of power voltage will stop the operation of the PLC and all outputs will go OFF. When the power supply turns normal again, the PLC will automatically return to its operation. Please be aware of the latched auxiliary relays and registers inside the PLC when programming.



0.5A is the maximum power supply for +24V power supply output terminal. DO NOT connect other external power supplies to this terminal. Every input terminal requires 6 ~ 7mA to be driven; e.g., the 15-point input will require approximately 100mA. Therefore, +24V cannot give output to external load that is more than 400mA.

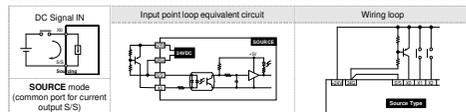
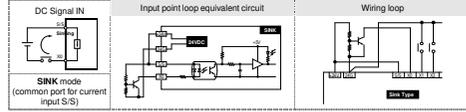
Safety Wiring

Since a PLC controls many devices, actions of any device may affect actions of other devices, and the breakdown of any one device may cause the breakdown of the whole auto-control system and danger. Therefore, we suggest you wire a protection circuit at the power input terminal, as shown in the figure below.



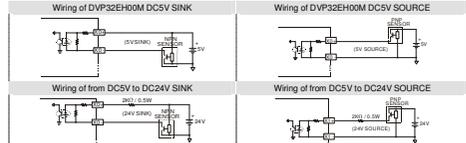
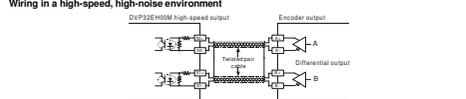
Input Point Wiring

There are two types of DC inputs, SINK and SOURCE.



Wiring of Differential Input

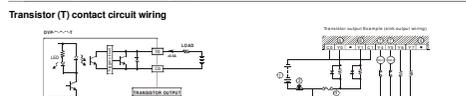
X0 ~ X1 and X4 ~ X5 of DVP32EH00M are all high-speed input circuit and others are DC24V input. The working frequency of high-speed input circuit can reach up to 200KHz and is mainly for connecting to differential (double-wire) LINE DRIVER output circuit. In an low-noise and low-frequency (less than 50KHz) environment, you may also use DC2V SINK/SOURCE input of a single port or series-connect a 2KΩ/0.5W resistance for transferring into DC24V SINK/SOURCE input of a single port.



Output Point Wiring

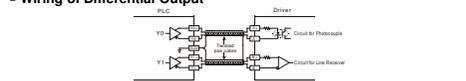


- ① Flywheel diode: To extend the life span of contact
- ② Emergency stop: Uses external switch
- ③ Fuse: Uses 5 ~ 10A fuse at the common port of output contacts to protect the output circuit.
- ④ Varistor: To reduce the interference on AC load
- ⑤ Empty terminal: not in use
- ⑥ Neon indicator
- ⑦ DC power supply
- ⑧ AC power supply
- ⑨ Manually exclusive output: Uses external circuit and forms an interlock, together with the PLC internal program, to ensure safety protection in case of any unexpected errors.



- ① DC power supply
- ② Emergency stop
- ③ Circuit protection fuse
- ④ Empty terminal
- ⑤ Due to all outputs are Open Collectors, if Y0 is set as pulse output, the output current has to be bigger than 0.1A to ensure normal operation of the transistor module.
- ⑥ Due to all outputs are Open Collectors, if Y1 is set as pulse output, the output current has to be bigger than 0.1A to ensure normal operation of the transistor module.
- ⑦ Manually exclusive output: Uses external circuit and forms an interlock, together with the PLC internal program, to ensure safety protection in case of any unexpected errors.

Wiring of Differential Output

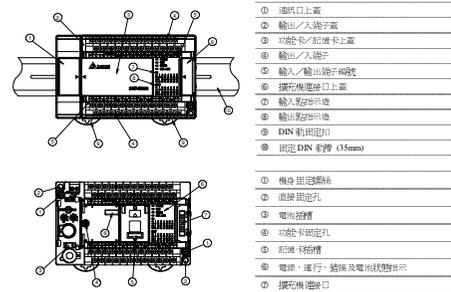


注意事項

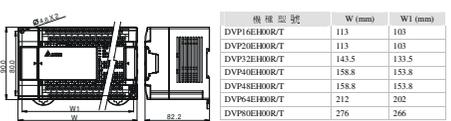
- ✓ 本說明書提供電氣規格、功能規格、安裝規格等說明，其它詳細之程式設計及指令與 SV 系列相若，詳細說明請見 DVP-PLC 應用技術手冊【程式編】、選購之組態表詳細說明請見產品隨機手冊或 DVP-PLC 應用技術手冊【特殊規格編】。
- ✓ 本機為開放型 (OPEN TYPE) 機殼，因此使用者使用本機時，必須將其安裝於具備防塵、防濕及電氣絕緣保護之外殼殼體內，且必須具備防浪湧功能，以特殊之工具及鑄造零件訂正防止非維護人員操作及意外衝擊本機，造成故障及損傷。
- ✓ 交流輸入電源可連接於輸入、輸出端，否則可能引起嚴重損傷，請在上電之前再次確認電源線接，請在上電時確保任何端子，本體上之接地端子 ④ 務必正確的接地，可提升其抗噪能力。

產品簡介

產品外觀及各部介紹



外觀及尺寸



電氣規格

項目	機種	100 ~ 240V AC (±15% ~ 10%), 50/60Hz ± 5%							
		16EH000	20EH000	32EH000	32EH00M	40EH000	48EH000	64EH000	80EH000
電氣規格		2 A/250VAC							
電氣規格		2 A/250VAC							
容許電流		50VA	50VA	60VA	60VA	60VA	60VA	80VA	80VA
DC24V (供應)電流		500mA	500mA	500mA	500mA	500mA	500mA	500mA	500mA
電氣規格		DC24V 輸出規格							
突波電壓耐受力		1.500V AC (Primary-secondary), 1.500V AC (Primary-PE), 500V AC (Secondary-PE)							
電氣規格		5 MΩ 以上，所有輸入/輸出端之阻抗							
電氣規格		ESD: 8kV Air Discharge, EFT Power Line: 2kV, Digital I/O: 1kV, Analog & Communication I/O: 250V Damped Oscillatory Wave: Power Line: 1kV, Digital I/O: 1kV, RS: 26MHz ~ 1GHz, 10V/m							
電氣規格		接地 接地電阻之規格不得低於 10Ω 之規格 (多台 PLC 同時使用時，請務必分開接地)							
操作/儲存環境		操作: 0°C ~ 55°C (溫度), 50 ~ 95% (濕度), 污染等級 2 儲存: -40°C ~ 70°C (溫度), 5 ~ 95% (濕度)							
符合標準		國際標準規格: IEC61131-2, IEC 68-2-6 (TEST F); IEC61131-2 & IEC 68-2-27 (TEST Ea)							
重量 (約重)		500/480	520/500	652/612	644	710/675	748/688	830/756	948/848

輸入點規格

項目	規格	24V DC 單向線性輸入		備註
		5VDC 二輸入	低速	
輸出線路型式	獨立線路	由端子 S/S 接線規格 SINK or SOURCE		1. 點動輸入點動限 DVP32EH00M 具備 X0, X1, X4, X5 具備
輸入動作指示	LED 指示	燈亮表示為 'ON'; 不亮表示為 'OFF'		
輸入信號電壓	5V DC ± 10%	24V DC ± 10%		2. DVP32EH00M 具備 高壓輸入點; 且僅有 X0, X1, X4, X5 具備
動作	Off - On	> 5mA	X0~X7, X12, X13, X16, X17, X20~X47: > 18.5V X10, X11, X14, X15: > 16.5V	
On - Off	< 2mA	X0~X47: < 8V DC		
反應時間/ 雜訊抑制	0.5μs	10ms	0.5μs	輸入點 X0 ~ X7, X10 ~ X17 可作 10 ~ 60ms 數位濾波調整。

輸出點規格

項目	規格	單向線性輸出		備註
		低速	高速	
高頻交換 (工作) 頻率	200KHz	10KHz	200KHz	負載 ON/OFF 控制使用。
輸出動作指示	LED 指示	燈亮表示為 'ON'; 不亮表示為 'OFF'		
最大負載	5VDC ± 10%	5 ~ 30V DC	< 250V AC, 30V DC	2mA/DC 電壓
隔離方式	線路隔離隔離	光耦合隔離		電氣性隔離
電氣規格	25mA 以下	0.3A/1 點 @ 40°C	30mA	2A/1 點 (SAC/COM) 75VA 電感性 / 90W 電阻性
最大輸出	Off - On	0.2us	20us	0.2us
反應時間	On - Off		30ms	10ms
輸出電壓/電流		無		

註: 1. 點動輸出規格 DVP32EH00M 具備，且僅有 Y0 ~ Y3 具備，其它輸出點為繼電器輸出。

