

DVPF02-H2 INSTRUCTION SHEET

安裝說明 安 裝 說 明

- ▲ PROFIBUS DP Slave Communication Module
- ▲ PROFIBUS DP 從站通訊模組
- ▲ PROFIBUS DP 從站通訊模塊



Warning

- Please read this instruction sheet carefully before use and follow this instruction to operate the device in order to prevent damages on the device or injuries to staff.
- Switch off the power before wiring.
- This instruction sheet only provides introductory information on electrical specification, functions, wiring, trouble shooting the peripherals for DVPF02-H2. Details of PROFIBUS DP protocol are not included in this sheet. For more information on PROFIBUS DP protocol, please refer to relevant reference or literature.
- DVPF02-H2 is an OPEN-TYPE device and therefore should be installed in an enclosure free of airborne dust, humidity, electric shock and vibration. The enclosure should prevent non-maintenance staff from operating the device (e.g. key or specific tools are required to open the enclosure in case damage and damage on the device may occur).
- DVPF02-H2 is to be used for controlling the operating machine and equipment. In order not to damage it, only qualified professional staff familiar with the structure and operation of it can install, operate, wire and maintain it.
- DO NOT connect input AC power supply to any of the I/O terminals, otherwise serious damage may occur. Check off the wiring again before switching on the power, and DO NOT touch any terminal when the power is switched on. Make sure the ground terminal is correctly grounded in order to prevent electromagnetic interference.

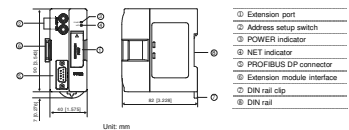
Introduction

Thank you for choosing Delta DVPF02-H2 PROFIBUS DP communication module. DVPF02-H2 can be applied to the connection with DVP-EH2 series PLC MPU in a PROFIBUS DP network. DVPF02-H2 does not need to be connected to an external power supply. The power will be supplied from DVP-EH2 once it is connected to DVP-EH2.

Features

- Supports loop-type data exchange between DP master and many slaves.
- Supports GSD files in PROFIBUS DP network configuration tools.
- Supports 4 slots in PROFIBUS DP network configuration tools.
- Auto-detects baud rates, supports Max. 12Mbps.
- The length of I/O data can be freely configured through PROFIBUS DP network configuration tools. Max. input data length = 100 words (the sum of 4 slots); Max. output data length = 100 words (the sum of 4 slots).
- Error code diagnosis.

Product Profile & Outline



Specifications

PROFIBUS DP Connector	
Interface	D09 connector
Transmission method	High speed RS-485
Transmission cable	Shielded twisted pair cable
Electrical isolation	500V DC
Communication	
Message type	Loop-type data exchange
Equipment ID	0AFC (hex)
Serial transmission speed supported (auto-detection)	9.6kps; 19.2kps; 93.75kps; 187.5kps; 500kps; 1.5Mbps; 3Mbps; 6Mbps; 12Mbps (bits per second)
Environment	
Standards	IEC 61131-2/LUL508
Storage/operation	Storage: -25°C ~ 70°C (temperature), 5 ~ 95% (humidity) Operation: 0°C ~ 55°C (temperature), 50 ~ 95% (humidity), pollution degree 2
Shock/vibration immunity	International standards: IEC 61131-2, IEC 68-2-6 (TEST Fc)/IEC 61131-2 & IEC 68-2-27 (TEST Ea)
Interference immunity	RFI (IEC 61131-2, IEC 61000-4-3): 80MHz ~ 1000MHz, 1.4GHz ~ 2GHz, 10V/m EFT (IEC 61131-2, IEC 61000-4-4): Analog & Communication I/O: 1KV ESD (IEC 61131-2, IEC 61000-4-2): 8KV Air Discharge
Certificates	CE, UL

Components

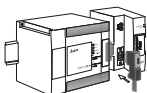
PROFIBUS DP Connector

To connect to PROFIBUS DP network, use standard DP connector for the wiring.

Pin	Pin name	Definition
1	-	Not defined
2	-	Not defined
3	Rx/TxID-P	Sending/receiving data P(B)
4	-	Not defined
5	DGND	Data reference potential
6	VP	Power voltage: positive
7	-	Not defined
8	Rx/TxID-N	Sending/receiving data N(A)
9	-	Not defined



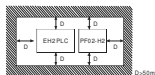
Connecting to PROFIBUS DP Connector



Insert the PROFIBUS DP bus connector into the PROFIBUS DP connector on DVPF02-H2. Screw it tight to ensure DVPF02-H2 and the PROFIBUS DP bus are properly connected.

Installation & Wiring

- Install DVPF02-H2 in an enclosure with sufficient space around it to allow heat dissipation (see the figure).
- DO NOT place the I/O signal wires and power supply wire in the same wiring circuit.



Control Register

The control registers (CR) are the registers inside DVPF02-H2. See the table below for the definitions of all the CRs. DVP-EH2 series PLC MPU can read or write the CR allowed through DFROM/OTO instructions.

CR#	Attribute	Content	High byte	Low byte
#0	Read	Model name	DVPF02-H2 model code = H0250	
#1	Read	Firmware version	Displaying the current firmware version in hex, e.g. V1.00 is indicated as H0100.	
#2	Read	Length of I/O data	Length of output I/O data / Length of input I/O data	
#3 ~ #102	Write/read	Input data mapping	Area for storing data from DVPF02-H2 to PROFIBUS DP master	
#103 ~ #202	Read	Output data mapping	Area for storing data from PROFIBUS DP master to DVPF02-H2	
#203 ~ #250			Set up by the system. DO NOT use it.	
#251 ~ #259	Reserved			
#260 ~ #269	Reserved	Register for storing errors. See ❸ for error codes.		
#270 ~ #279	Reserved			
#280 ~ #289	Reserved			
#290 ~ #299	Reserved			
#300 ~ #309	Reserved			
#310 ~ #319	Reserved			
#320 ~ #329	Reserved			
#330 ~ #339	Reserved			
#340 ~ #349	Reserved			
#350 ~ #359	Reserved			
#360 ~ #369	Reserved			
#370 ~ #379	Reserved			
#380 ~ #389	Reserved			
#390 ~ #399	Reserved			
#400 ~ #409	Reserved			
#410 ~ #419	Reserved			
#420 ~ #429	Reserved			
#430 ~ #439	Reserved			
#440 ~ #449	Reserved			
#450 ~ #459	Reserved			
#460 ~ #469	Reserved			
#470 ~ #479	Reserved			
#480 ~ #489	Reserved			
#490 ~ #499	Reserved			
#500 ~ #509	Reserved			
#510 ~ #519	Reserved			
#520 ~ #529	Reserved			
#530 ~ #539	Reserved			
#540 ~ #549	Reserved			
#550 ~ #559	Reserved			
#560 ~ #569	Reserved			
#570 ~ #579	Reserved			
#580 ~ #589	Reserved			
#590 ~ #599	Reserved			
#600 ~ #609	Reserved			
#610 ~ #619	Reserved			
#620 ~ #629	Reserved			
#630 ~ #639	Reserved			
#640 ~ #649	Reserved			
#650 ~ #659	Reserved			
#660 ~ #669	Reserved			
#670 ~ #679	Reserved			
#680 ~ #689	Reserved			
#690 ~ #699	Reserved			
#700 ~ #709	Reserved			
#710 ~ #719	Reserved			
#720 ~ #729	Reserved			
#730 ~ #739	Reserved			
#740 ~ #749	Reserved			
#750 ~ #759	Reserved			
#760 ~ #769	Reserved			
#770 ~ #779	Reserved			
#780 ~ #789	Reserved			
#790 ~ #799	Reserved			
#800 ~ #809	Reserved			
#810 ~ #819	Reserved			
#820 ~ #829	Reserved			
#830 ~ #839	Reserved			
#840 ~ #849	Reserved			
#850 ~ #859	Reserved			
#860 ~ #869	Reserved			
#870 ~ #879	Reserved			
#880 ~ #889	Reserved			
#890 ~ #899	Reserved			
#900 ~ #909	Reserved			
#910 ~ #919	Reserved			
#920 ~ #929	Reserved			
#930 ~ #939	Reserved			
#940 ~ #949	Reserved			
#950 ~ #959	Reserved			
#960 ~ #969	Reserved			
#970 ~ #979	Reserved			
#980 ~ #989	Reserved			
#990 ~ #999	Reserved			

LED Indicators & Trouble-Shooting

There are 2 LED indicators on DVPF02-H2. POWER indicator displays the status of the working power. NET indicator displays the connection status of the communication.

POWER LED

LED status	Indication	How to deal with it?
Green light on	The power is normal.	--
Off	No power	1. Check if the power of DVP-EH2 is normal. 2. Check if the connection between DVPF02-H2 and DVP-EH2 is normal.

NET LED

LED status	Indication	How to deal with it?
Off	No power	1. Check if the power of DVP-EH2 is normal. 2. Check if the connection between DVPF02-H2 and DVP-EH2 is normal.
Red light on	DVPF02-H2 is operating but is not connected to PROFIBUS DP bus.	Check if DVPF02-H2 is normally connected to PROFIBUS DP bus.
Red light flashes	Depending on the value in CR#251	See the error code table for how to deal with it.
Green light on	DVPF02-H2 is in data exchange status.	--

Error Codes

Code	Description	How to deal with it?
00	DVPF02-H2 operates normally.	--
01	Hardware error	Send your DVPF02-H2 back to the factory for repair.
02	PROFIBUS DP watch dog error	Check if DVPF02-H2 is normally connected to PROFIBUS DP bus.
03	Address setup error (0, or exceeding 0x01 ~ 0x7D)	Set the address within the range 0x01 ~ 0x7D and re-power DVP-EH2.
04	24V low voltage error	Check if the power voltage of DVP-EH2 is normal; check if DVPF02-H2 is normally connected to DVP-EH2.
05	5V low voltage error	Send your DVPF02-H2 back to the factory for repair.

注意事項

- 產品開箱前必須加貼防塵貼紙，並按照本手冊指示進行操作，以免造成產品損壞或人員受傷。
- 配線時請務必謹慎。
- 本產品說明書僅供參考，如欲瞭解、安裝、配線、故障排除及維護等部分說明，本產品說明書僅供參考。DVPF02-H2 產品說明書、入門手冊、PROFIBUS DP 說明書及安裝手冊等，如欲瞭解詳細內容，請參閱 PROFIBUS DP 說明書及安裝手冊。本產品說明書僅供參考，如欲瞭解詳細內容，請參閱 PROFIBUS DP 說明書及安裝手冊。
- 本產品為開放型機殼，環境溫度會受安裝時，必須請注意安裝於其防護、防塵及防電擊、防靜電等場所。請參閱說明書，並必須依照說明書安裝（如：特殊的、屏風櫃等才可安裝），防止靜電產生導致產品故障或意外發生。
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- 安裝前，電源線不正確接線，可能會造成、靜電產生及產品損壞、損壞上電前請先確認電源配線，並請參閱說明書及安裝手冊，並請參閱說明書及安裝手冊，並請參閱說明書及安裝手冊。
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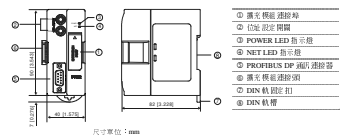
產品簡介

謝謝您使用台灣 DVPF02-H2 網路通訊模組，DVPF02-H2 為 PROFIBUS DP 網路通訊模組，可應用於 PROFIBUS DP 網路與 DVP-EH2 系列 PLC 主機連接，DVPF02-H2 無須另接電源，與 DVP-EH2 主機連接後由 DVP-EH2 主機提供電源。

功能特色

- 支持 DP 主站與多個從站之間的双向數據傳輸。
- 在 PROFIBUS DP 網路配置工具中支持 GSD 文件。
- 在 PROFIBUS DP 網路配置工具中支持 4 槽 16 槽 32 槽 64 槽 128 槽。
- 自動檢測網路速率，最高網路速率支持 12Mbps。
- IO 資料可透過 PROFIBUS DP 網路通訊工具自由讀取/輸入資料長度與最大可配置 100 個 word。（4 槽 4 槽配置長度之和），輸出資料長度與最大可配置 100 個 word（4 槽 4 槽配置長度之和）。
- 網路通訊診斷功能。

產品外觀及各部介紹



功能規格

項目	規格
傳輸方式	高速 RS-485
傳輸距離	遠式雙絞線
電氣隔離	500V DC

通訊

通訊規格	遠端通訊規格
設備 ID	0AFC(hex)
支援通訊速率	支持 9.6kps; 19.2kps; 93.75kps; 187.5kps; 500kps; 1.5Mbps; 3Mbps; 6Mbps; 12Mbps (位元 / 秒)

環境規格

標準	IEC 61131-2/LUL508 標準
儲存 / 儲存環境	儲存: -25°C ~ 70°C (溫度), 5 ~ 95% (濕度) 操作: 0°C ~ 55°C (溫度), 50 ~ 95% (濕度), 污染等級 2
耐震 / 衝擊	國際標準規格 IEC 61131-2, IEC 68-2-6 (TEST Fc)/IEC 61131-2 & IEC 68-2-27 (TEST Ea)
耐震 / 衝擊	IEC 61131-2, IEC 61000-4-3: 80MHz ~ 1000MHz, 1.4GHz ~ 2GHz, 10V/m EFT (IEC 61131-2, IEC 61000-4-4): Analog & Communication I/O: 1KV ESD (IEC 61131-2, IEC 61000-4-2): 8KV Air Discharge
耐震 / 衝擊	IEC 61131-2, IEC 61000-4-2: 8KV Air Discharge
耐震 / 衝擊	IEC 61131-2, IEC 61000-4-2: 8KV Air Discharge

各部分件介紹

PROFIBUS DP 通訊連接器

與 PROFIBUS DP 網路通訊，使用標準 PROFIBUS DP 連接器（D09 型）。

編號	名稱	定義說明
1	-	未指定
2	-	未指定
3	Rx/TxID-P	網路 / 發送資料 P (B)
4	-	未指定
5	DGND	資料參考 / 網路
6	VP	電源電壓 / 網路
7	-	未指定
8	Rx/TxID-N	網路 / 發送資料 N (A)
9	-	未指定



兩個旋轉式位址設定開關以十六進位形式設定 PROFIBUS DP 網路上的節點位址。設定範圍：0x01 ~ 0x7D (0 或 0x7E ~ 0xFF 不可用)。