

DVPDNET-SL

INSTRUCTION SHEET

安裝說明

安裝说明

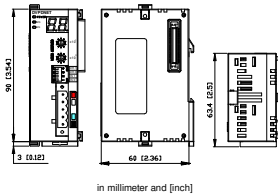
- ▲ DeviceNet Network Scanner
- ▲ DeviceNet 掃描模組
- ▲ DeviceNet 扫描模块



■ Communication	
Message type	I/O polled, bit-strobe, change of state/cyclic
Baud rates	125 Kbps; 250 Kbps; 500 Kbps
Product code	64
Product type	12
Vendor ID	799 (Delta Electronics Inc.)
■ Electrical Specification	
DeviceNet	Module power voltage: All other power derived from PLC controller power supply Network power input: 11 ~ 25V DC; Current: less than 50mA (25V DC)
■ Environment	
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): 20MHz ~ 1GHz, 10V/m
Environment	Operation: 0°C ~ 55°C (temperature); 50 ~ 95% (humidity); pollution degree 2 Storage: -40 °C ~ 70°C (temperature); 5 ~ 95% (humidity)
Vibration/shock resistance	Standard: IEC1131-2, IEC 68-2-6 (TEST Fc)/IEC1131-2 & IEC 68-2-27 (TEST Ea)
Certificates	CE, UL, RoHS

■ Installation

■ Dimension



Baud rates (bps)	125K	250K	500K
Length (m)	500	250	100

■ LED Indicator & Troubleshooting

There are three LED indicators and one digit indicator on DVPDNET-SL. POWER LED displays if the power of DVPDNET-SL is working normally. NS LED displays the communication connection status of DVPDNET-SL. digit indicator displays the node addresses, error information and the error messages from the slave.



■ POWER LED			
LED Status	Indication	How to correct	
Off	Power is abnormal.	Make sure the scanner is powered.	
Green light On	Power is normal.	--	
■ NS LED			
LED Status	Indication	How to correct	
Off	No power or duplicate ID check has not completed	1. Make sure the scanner is powered. 2. Make sure at least 1 node or more are communicating in the network.	
Green light flashing	No communication	No correction is needed, or refer to digit-indicator.	
Green light On	Normal operation	--	
Red light flashing	Error in communication	Refer to digit-indicator.	
Red light On	Network error; cannot check duplicate ID; Bus-off (please refer to digit-indicator)	1. Make sure all the devices have their unique address. 2. Check the network for correcting media installation and baud rate. 3. Check if the node address of RTU-DNET is valid. 4. Check if the network power is normal.	
■ MS LED			
LED Status	Indication	How to correct	
Off	No power	Make sure the scanner is powered.	
Green light flashing	The master is not configured.	Configure the scan list and re-download it to the scanner.	
Green light On	Normal operation	--	
Red light flashing	Some slaves encounter communication error.	Refer to digit-indicator and check the scanner setup.	
Red light On	Internal fault in the scanner module (please refer to digit-indicator)	Check if the configuration is valid. If the internal error still exists, replace the scanner with a new one.	
■ NS & MS LED			
LED Status	Indication		How to correct
NS LED	MS LED		
Off	Off	No power	Make sure the scanner is powered.

■ 注意事項

- ✓ 此安裝手冊只提供電氣規格，一般規格、安裝及配線等。
- ✓ 配線時請務必關閉電源，請勿在上電時觸摸任何端子。
- ✓ 本機為開放型 (OPEN TYPE) 機殼，因此使用者使用本機時，必須採之安裝於其防護，防塵及免受電擊、衝擊意外之外殼保護箱內，另必須具備保護措施 (如：特殊之工具或鑰匙才可打開)，防止非維護人員操作或意外衝擊本體，造成危險及損壞。

■ 產品簡介

- 支持第二組伺服器 (Group 2 server) 從站和僅限第二組伺服器 (Group 2 only server) 從站。
- 支援 DeviceNet 主站模式和從站模式。
- 在 ElnkConfigurator 組態軟體中支援 EDS 檔瀏覽。
- 支持總站建立各種 I/O 連接：輪詢 (Polled)、位週週 (Bit-Strobe)、狀態改變 (Change of State)、週期循環 (Cyclic)。
- 在預定義的主/從連接組中文檔欄位連接 (屬性欄文)。
- 提供 380 位元組的空間作為 I/O 輸入資料區，同時也提供 380 位元組空間作為 I/O 輸出資料區。

■ 產品外觀



■ 功能規格

■ DeviceNet 連接器	
接頭	可插拔式連接 (5.08mm)
傳輸方式	CAN
傳輸電壓	2 條通訊線、2 條電源線、1 條地線
電壓規格	500V DC

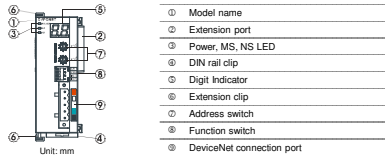
■ Warning

- ✓ This Instruction Sheet only provides descriptions for electrical specifications, general specifications, installation and wiring.
- ✓ Switch off the power when wiring. DO NOT touch any terminal when the power is switched on.
- ✓ DVPDNET-SL 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 for opening the enclosure) in case danger and damage on the device may occur.

■ Introduction

- **■ Functions**
- Supports Group 2 server device and Group 2 only server device.
- Supports DeviceNet Master mode and Slave mode.
- Supports EDS file configure in ElnkConfigurator software.
- Supports network establishing all kinds of IO connections: polled, bit-strobe, change of state and cyclic.
- Supports explicit connection via Predefined Master/Slave Connection Set. (explicit message)
- Offers 380 bytes for I/O input data and 380 bytes for I/O output data.

■ Product Profile

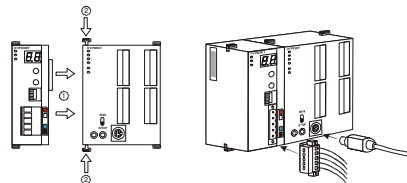


■ Specifications

■ DeviceNet Connection

Interface	Removable connector (5.08mm)
Transmission method	CAN
Transmission cable	2-wire twisted shielded cable with 2-wire bus power cable and drain
Electrical isolation	500V DC

Installing DVPDNET-SL With PLC MPU



■ PIN Definition Of DeviceNet Connection Port

PIN	Signal	Color	Content
1	V-	Black	0V DC
2	CAN_L	Blue	Signal-
3	Drain	-	Shield
4	CAN_H	White	Signal+
5	V+	Red	24V DC

■ MAC ID Setting

Switch setting	Content
0..63	Valid DeviceNet MAC ID setting
Others	Invalid DeviceNet MAC ID setting

■ Function Switch Setting

DR1	DR0	Baud Rate
OFF	OFF	125K bps
OFF	ON	250K bps
ON	OFF	500K bps
Retain I/O data setting		
IN0	ON	Retain the previous I/O data when the connection is off.
	OFF	Clear the previous I/O data when the connection is off.
IN1		Reserved

■ Cable Length and Baud Rates

The maximum cable length in a segment depends on the transmission speed. DeviceNet communicates at speeds from 125K bps to 500K bps over distances from 100 to 500 meters.

Off	Green	Duplicate ID check has not completed.	Make sure at least 1 node or more are communicating in the network and the baud rate is the same as the setting in DVPDNET.
Red	Green	MAC ID detection failure or Bus-off	Change the MAC ID setting and re-power DVPDNET.
Red	Red flashing	No 24V DC power from DeviceNet network	Check if the network cable is correctly connected to DVPDNET. Check the 24V DC network power.
Red	Red	Hardware error and no network power	Go to your manufacturer or distributor for problem-solving.

■ Digit Indicator LED

Code	Indication	How to correct
0 ~ 63	Node address of scanner, normal operation	--
F0	Duplicate MAC ID check failure	Change the address and re-power DNET scanner.
F1	No scan list is active in the module	No slave device in the scan list. Configure the scanner and download it to the scanner.
F2	Low voltage is detected	Check if the power of the scanner and PLC MPU is normal.
F3	Entering Test Mode	Switch IN1 from ON to OFF and re-power the scanner.
F4	Bus-off detected	1. Check if the network cable is normal. 2. Check if the baud rate is correct. 3. Re-power the scanner.
F5	No network power	Make sure the cable is correctly connected and check if the network power is normal.
F6	Internal error; Flash or Ram check error	If the error still exists after re-power, replace the scanner with a new one.
F7	Internal error; GPIO check error	If the error still exists after re-power, replace the scanner with a new one.
F8	Error in factory manufacturing	If the error still exists after re-power, replace the scanner with a new one.
F9	Internal error; EEPROM access failure	If the error still exists after re-power, replace the scanner with a new one.
E0	Device key parameter does not match scan list table.	Make sure that the device parameter in scan list matches the desired key parameter, including vendor ID, product code, device type and version.
E1	Data size returned does not match scan list.	Re-configure scan list using correct data size.
E2	Slave device in scan list does not exist.	The desired slave device does not exist in the network. Add device to the network.
E3	Module fails to transmit a message	Make sure that the connection is valid and check if the baud rate is correct.
E4	Error detected in sequence of fragmented I/O messages from device.	Fragmented I/O data is invalid from slave device.
E5	Slave device returns error response when the scanner attempts to communicate with it.	Check if the slave is normal.
E6	Data size returned is bigger than expected.	Check slave device configuration and scan list configuration.
E7	Device is checking MAC ID.	No correction is needed, or check if the network connection is normal.

■ 通訊

訊息類型	I/O 輸出, 位元週週, 狀態改變/循環 關性
串列傳輸速率	125 Kbps; 250 Kbps; 500 Kbps
產品代碼	64
產品類型	12
廠商 ID	799 (Delta Electronics Inc.)

■ 電氣規格

DeviceNet	工作電壓: 由 PLC 主機提供電壓 網路電壓 電壓規格: 11 ~ 25V DC; 電流規格: 小於 50mA (25V DC)
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■ 環境規格

電氣免疫力	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): 20MHz ~ 1GHz, 10V/m
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)
抗震/衝擊	國際標準規範: IEC 1131-2, IEC 68-2-6 (TEST Fc)/IEC 1131-2 & IEC 68-2-27 (TEST Ea)
標準	CE, UL, RoHS

■ 安裝

■ 外觀

