

DVPDNET-SL



5011668202-DL03

Instruction Sheet

安裝說明 安 裝 說 明

DeviceNet Network Scanner

DeviceNet 掃描模組

DeviceNet 扫描模块

Vendor ID 799 (Delta Electronics Inc.)

Electrical Specification

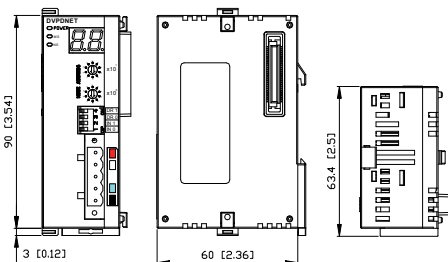
DeviceNet	Module power voltage: All other power derived from PLC controller power supply
	Network power input: 11 ~ 25V DC; Current: less than 50mA (25V DC)

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): 26MHz ~ 1GHz, 10V/m
Environment	Operation: 0°C ~ 55°C (temperature); 5 ~ 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	

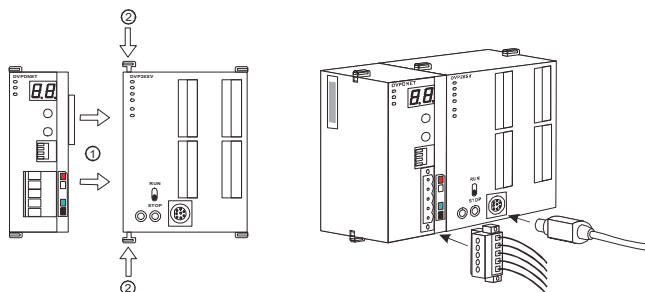
Installation

Dimension



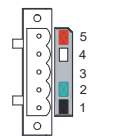
in millimeter and [inch]

Installing DVPDNET-SL With PLC MPU



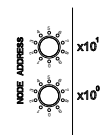
PIN Definition Of DeviceNet Connection Port

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



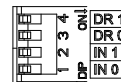
MAC ID Setting

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.
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.

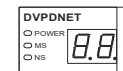
Baud rates (bps)	125K	250K	500K
Length (m)	500	250	100

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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 and MS LED display 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.
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.

Warning

ENGLISH

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.

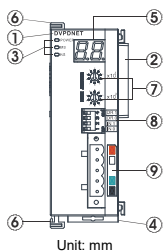
DVPDNET-SL is an OPEN-TYPE device and therefore should be installed in an enclosure free of airborne dust, humidity, electric shock and vibration. The enclosure should prevent non-maintenance staff from operating the device (e.g. key or specific tools are required for opening the enclosure) in case danger 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 ElinkConfigurator 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



①	Model name
②	Extension port
③	Power, MS, NS LED
④	DIN rail clip
⑤	Digit Indicator
⑥	Extension clip
⑦	Address switch
⑧	Function switch
⑨	DeviceNet connection port

Unit: mm

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

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