

IFD9507

Instruction Sheet

安裝說明 安 装 说 明

Ethernet Communication Module

Ethernet 從站通訊模組

Ethernet 从站通讯模块

2013-03-05



■ RS-485 Connector

Connector	RJ-11
Interface	RS-485
Transmission speed	110/150/300/600/1,200/2,400/4,800/9,600/19,200/38,400/57,600/115,200
Communication format	Stop bit: 1, 2 Parity bit: None, Odd, Even Data bit: 7, 8 ASCII/RTU
Communication protocol	MODBUS, User Define

■ RS-232 Connector

Connector	Mini Dim
Interface	RS-232
Transmission speed	110/150/300/600/1,200/2,400/4,800/9,600/19,200/38,400/57,600/115,200
Communication format	Stop bit: 1, 2 Parity bit: None, Odd, Even Data bit: 7, 8 ASCII/RTU
Communication protocol	MODBUS, Delta Configuration, User Define
Transmission cable	DVPACAB215/DVPACAB230/DVPACAB2A30

■ Terminal Block

Connector	Feed-through terminal 10PIN
Interface	RS-485
Transmission distance	1,200m
Transmission speed	110/150/300/600/1,200/2,400/4,800/9,600/19,200/38,400/57,600/115,200
Communication format	Stop bit: 1, 2 Parity bit: None, Odd, Even Data bit: 7, 8 ASCII/RTU
Communication protocol	MODBUS, User Define

■ Electrical Specifications

Power voltage	24V DC (-15% ~ 20%) supplied by feed-through terminal
Power consumption	3W
Insulation voltage	500V
Weight	140g

■ 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 Input: ±2KV, Communication I/O: ±2KV RS (IEC 61131-2, IEC 61000-4-3): 80MHz ~ 1GHz, 10V/m. 1.4GHz ~ 2.0GHz, 10V/m Conducted Susceptibility Test (EN 61000-4-6, IEC 61131-2 9.10): 150kHz ~ 80MHz, 3V/m Surge Test (Biwave IEC 61132-2, IEC 61000-4-5): Power line 0.5KV DM, Ethernet 0.5KV CM, RS-485 0.5KV CM
Operation/storage	Operation: 0°C ~ 55°C (temperature), 5 ~ 95% (humidity), pollution degree 2 Storage: -25°C ~ 70°C (temperature), 5 ~ 95% (humidity)
Vibration/shock immunity	International standards: IEC 61131-2, IEC 68-2-6 (TEST Fc)/IEC 61131-2 & IEC 68-2-27(TEST Ea)
Certificates	CE, UL, RoHS



⚠ Warning

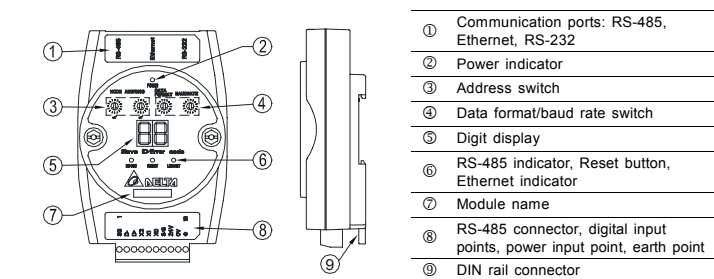
- ✓ This instruction sheet only provides introductory information on electrical specification, installation and wiring.
- ✓ Switch off the power before wiring. DO NOT touch any terminal when the power is switched on.
- ✓ IFD9507 is an OPEN-TYPE device and therefore should be installed in an enclosure 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 danger and damage on the device may occur.

1 Introduction

■ Features

- Auto-detects 10/100 Mbps transmission speed; MDI/MDI-X auto-detection.
- The monitor table temporarily stores the monitored data for the user to fast save or acquire the data.
- Supports MODBUS TCP protocol and EtherNet/IP protocol (supports Master and Slave mode).
- Able to send out emails after being triggered.
- The station address, RS-485 communication format and baud rate can be set up externally.
- The communication parameters can be set up through Web.

■ Product Profile & Outline



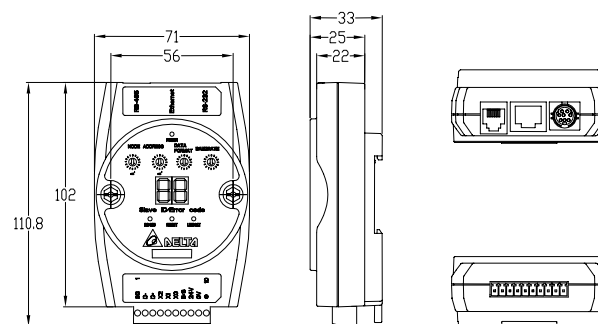
2 Specifications

■ Ethernet Connector

Connector	RJ-45 with Auto MDI/MDIX
Interface	Ethernet Type II
Transmission cable	Category 5e, 100m (Max)
Transmission speed	10/100 Mbps Auto-Detection
Network protocol	ICMP, IP, TCP, UDP, DHCP, SMTP, MODBUS TCP, EtherNet/IP, Delta Configuration

3 Installation

■ Dimension



Unit: mm

■ Address Switch

Switch setting	Content
01 ... F7	Valid MODBUS communication address

■ Data Format Switch

Switch setting	Format	Switch setting	Format
0	7-N-1	8	7-N-2
1	8-N-1	9	8-N-2
2	7-O-1	A	7-O-2
3	8-O-1	B	8-O-2
6	7-E-1	E	7-E-2
7	8-E-1	F	8-E-2

■ Baud Rate Switch

Switch setting	Baud rate (bps)	Switch setting	Baud rate (bps)
1	110	7	4,800
2	150	8	9,600
3	300	9	19,200
4	600	A	38,400
5	1,200	B	57,600
6	2,400	C	115,200

■ RJ-11 PIN Definition

PIN	Signal	Definition
1	--	N/C
2	--	N/C
3	D+	Positive pole for data

■ RJ-45 PIN Definition

PIN	Signal	Definition
1	Tx+	Positive pole for data transmission
2	Tx-	Negative pole for data transmission
3	Rx+	Positive pole for data receiving
4	--	N/C

■ RS-232 PIN Definition

PIN	Signal	Definition
1	--	N/C
2	--	N/C
3	--	N/C
4	Rx	Reception data

■ Feed-through Terminal PIN Definition

PIN	Signal	Definition
1	SG	Ground of signal
2	D-	Data-
3	D+	Data+
4	X2	Digital input 2
5	X1	Digital input 1
6	X0	Digital input 0
7	S/S	Ground of digital input
8	24V	+24V
9	0V	0V
10	--	Earth ground

4 LED Indicators & Trouble-Shooting

There are 3 LED indicators and a digital display on IFD9507. POWER indicator displays the status of the working power. RS-485 and LINK/ACT indicators display the connection status of the communication. The digital display shows the address of and errors in IFD9507 and the error messages from the slave.

■ POWER LED

LED status	Indication	How to correct
OFF	Working power is abnormal	Check if the working power of IFD9507 is normal.
Green light ON	Working power is normal	--

■ RS-485 LED

LED status	Indication	How to correct
OFF	No communication or RS-485 connection is abnormal.	1. If the LED is off during the communication, check if the RS-485 in IFD9507 is normally connected. 2. Check at least 1 node on the network is communicating normally.
Constantly ON	Abnormal RS-485 connection	Switch D+ and D-
Green light flashes	RS-485 connection is normal.	--

■ LINK/ACT LED

LED status	Indication	How to correct
OFF	No power, or no network connection	1. Check the power of IFD9507 and make sure the network connection is normal. 2. Re-power IFD9507. If the error still exists, send your IFD9507 back to the factory for repair.
Green light ON	The connection is normal, but no data transmission.	--
Green light flashes	The data transmission is normal.	--

■ Codes in Digital Display

Code	Indication	How to correct
01 ~ F7	The node address of IFD9507 when in normal operation	--
F0	Returning to default setting	--
F1	IFD9507 is booting.	--
F2	Working power in low voltage	Check if the working power is normal.
F3	Internal memory error	1. Re-power IFD9507. If the error still exists, try step 2. 2. Reset IFD9507. If the error still exists, send it back to the factory for repair.
F4	Internal error caused by manufacturing in the factory	1. Re-power IFD9507. If the error still exists, try step 2. 2. Reset IFD9507. If the error still exists, send it back to the factory for repair.
F5	Network connection error	Check if IFD9507 is normally connected to the network.
F6	Full number of devices connected in the network	Check if the number is too much.
F7	UART setting error.	Check if the RS-485, RS-232 communication format is correct.
FA	Setting of MODBUS station address is error	Setting station address to 1~247 by DCISoft or Address Switch
E1	Alarm 1 triggered	Check Alarm Input Point 1
E2	Alarm 2 triggered	Check Alarm Input Point 2
E3	Alarm 3 triggered	Check Alarm Input Point 3
01	Incorrect MODBUS function	Check if the MODBUS instruction is correct.
02	Incorrect address	Check if the MODBUS instruction is correct.
03	Incorrect data	Check if the MODBUS instruction is correct.
04	CRC error	1. Check if IFD9507 and RS-485 is connected normally. 2. Check if the series transmission speed is consistent with that of other nodes on the network.
0b	No response from the station	1. Check if IFD9507 and RS-485 is connected normally. 2. Check if the series transmission speed is consistent with that of other nodes on the network.

⚠ 注意事項

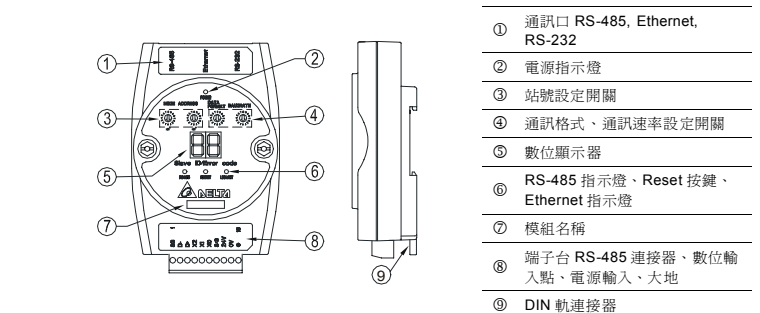
- ✓ 此安裝手冊只提供電氣規格、一般規格、安裝及配線等。
- ✓ 配線時請務必關閉電源，請勿在上電時觸摸任何端子。
- ✓ 本機為開放型 (OPEN TYPE) 機殼，因此使用者使用本機時，必須將之安裝於具防塵、防潮及免於電擊 / 衝擊意外之外殼配線箱內。另必須具備保護措施 (如：特殊之工具或鑰匙才可打開)，防止非維護人員操作或意外衝擊本體，造成危險及損壞。

1 產品簡介

■ 功能特色

- 自動偵測 10/100 Mbps 傳輸速率，MDI/MDI-X 自動偵測。
- 提供 Monitor table 可暫存監控的資料，讓使用者快速存取。
- 支援 MODBUS TCP 協定和 EtherNet/IP 協定(支援 Master 和 Slave 模式)。
- 經觸發後發送電子郵件。
- 可由外部設定站號、RS-485 通訊格式、速率。
- 可由 Web 設定通訊參數。

■ 產品外觀



2 功能規格

■ Ethernet 連接器

接頭	RJ-45 with Auto MDI/MDIX
傳輸介面	Ethernet Type II
傳輸電纜	Category 5e, 100 公尺 (Max)
傳輸速率	10/100 Mbps Auto-Detection
網路協定	ICMP, IP, TCP, UDP, DHCP, SMTP, MODBUS TCP, EtherNet/IP, Delta Configuration

■ RS-485 連接器

接頭	RJ-11
傳輸介面	RS-485
傳輸速率	110/150/300/600/1,200/2,400/4,800/9,600/19,200/38,400/57,600/115,200
通訊格式	Stop bit: 1, 2 Parity bit: None, Odd, Even Data bit: 7, 8 ASCII/RTU
通訊協定	MODBUS, User Define

■ RS-232 連接器

接頭	Mini Dim
傳輸介面	RS-232
傳輸速率	110/150/300/600/1,200/2,400/4,800/9,600/19,200/38,400/57,600/115,200
通訊格式	Stop bit: 1, 2 Parity bit: None, Odd, Even Data bit: 7, 8 ASCII/RTU
通訊協定	MODBUS, Delta Configuration, User Define
傳輸電纜	DVPACAB215/DVPACAB230/DVPACAB2A30

■ 端子台連接器

接頭	歐式端子台 10PIN
傳輸介面	RS-485
傳輸距離	1,200m
傳輸速率	110/150/300/600/1,200/2,400/4,800/9,600/19,200/38,400/57,600/115,200
通訊格式	Stop bit: 1, 2 Parity bit: None, Odd, Even Data bit: 7, 8 ASCII/RTU
通訊協定	MODBUS, User Define

■ 電氣規格

電源電壓	24V DC (-15% ~ 20%) 由歐式端子台輸入
消耗電力	3W
絕緣電壓	500V
重量	140g

■ 環境規格

雜訊免疫力	ESD (IEC 61131-2, IEC 61000-4-2): 8KV Air Discharge EFT (IEC 61131-2, IEC 61000-4-4): Power Line:±2KV, Digital Input: ±2KV, Communication I/O: ±2KV RS (IEC 61131-2, IEC 61000-4-3): 80MHz ~ 1GHz, 10V/m. 1.4GHz ~ 2.0GHz, 10V/m Conducted Susceptibility Test (EN 61000-4-6, IEC 61131-2 9.10): 150kHz ~ 80MHz, 3V/m Surge Test (Biwave IEC 61132-2, IEC 61000-4-5): Power line 0.5KV DM, Ethernet 0.5KV CM, RS-485 0.5KV CM
操作 / 儲存環境	操作: 0°C ~ 55°C (溫度) · 5 ~ 95% (濕度) · 污染等級 2 儲存: -25°C ~ 70°C (溫度) · 5 ~ 95% (濕度)
耐震動 / 衝擊	國際標準規範 IEC 61131-2, IEC 68-2-6 (TEST Fc)/IEC 61131-2 & IEC 68-2-27 (TEST Ea)
標準	CE, UL, RoHS

