

# I-7013(D), M-7013P(D) Quick Start

Ver. 1.2 2015.3.25

## Warranty

All products manufactured by ICP DAS are under warranty regarding defective materials for a period of one year from the date of delivery to the original purchaser.

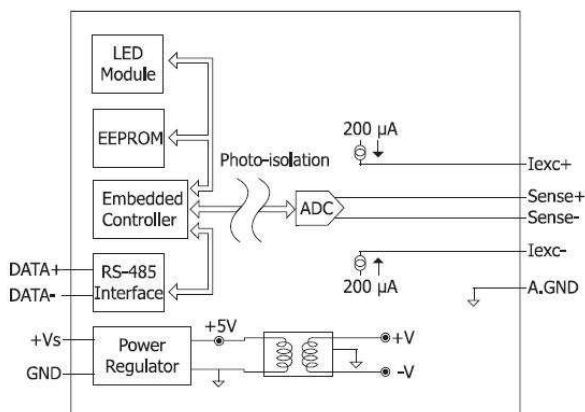
## Warning

ICP DAS assumes no liability for damages resulting from the use of this product. ICP DAS reserves the right to change this manual at any time without notification. The information furnished by ICP DAS is believed to be accurate and reliable. However, no responsibility is assumed by ICP DAS for its use, or for any infringements of patents or other rights of third parties resulting from its use.

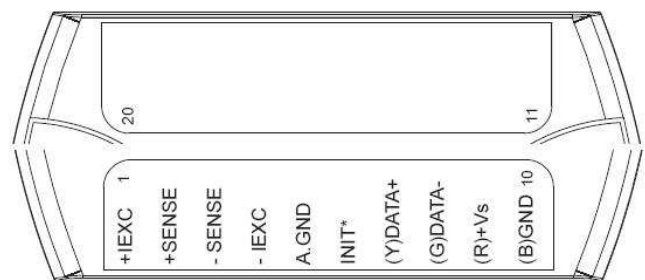
## Packing List

<p>I-7013(D), M-7013P(D)</p> 	<p>Plastic Rail</p> 	<p>CD</p> 	<p>Quick Start Guide</p> 
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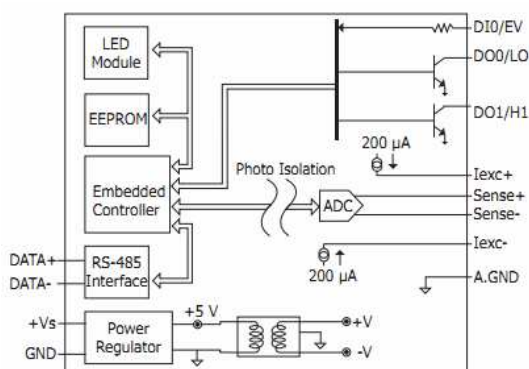
## Internal I/O Structure < I-7013(D) >



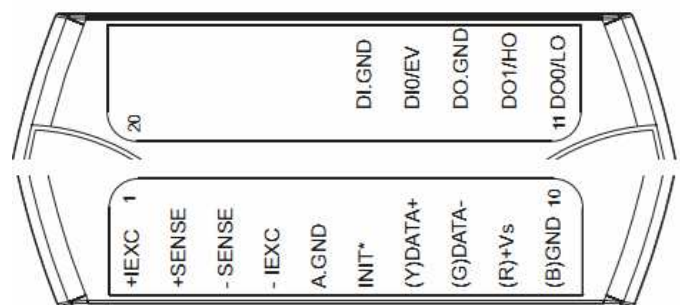
## Pin Assignments < I-7013(D) >



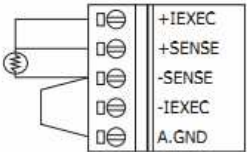
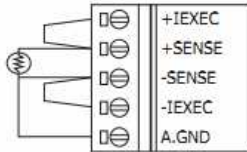
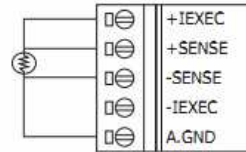
## Internal I/O Structure < M-7013P(D) >



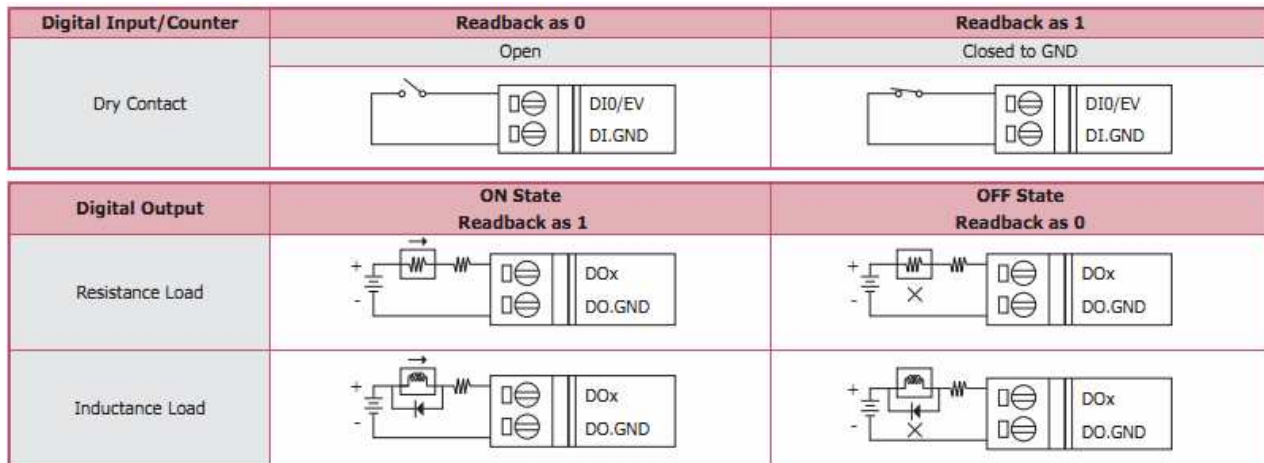
## Pin Assignments < M-7013P(D) >



## Wire Connections < I-7013(D) , M-7013P(D) >

2-wire RTD Connection	3-wire RTD Connection	4-wire RTD Connection
		

## ■ Wire Connections < M-7013P(D) >



## ■ Modbus Table

Address	Description	R/W	Address	Description	R/W
30001	Analog input value of channel 0	R	10001	Digital input channel 0	R
30097	Counter value of DI 0	R	00033 ~	Digital outputs	R/W
40225 ~	Low/high alarm limits	R/W	00097 ~	Safe values of digital outputs	R/W
40226			00193 ~	Power on values of digital outputs	R/W
40481	Firmware version (low word)	R	00257	Protocol, 0: DCON, 1: Modbus RTU	R/W
40482	Firmware version (high word)	R	00259	Filter setting, 0: 60Hz rejection, 1: 50Hz rejection	R/W
40483	Module name (low word)	R	00260	Modbus host watchdog mode 0: same as I-7000 1: can use AO and DO command to clear host watchdog timeout status	R/W
40484	Module name (high word)	R	00261	1: enable, 0: disable host watchdog	R/W
40485	Module address	R/W	00262	1: enable, 0: disable alarm	R/W
40486	Baud rate	R/W	00263	1: latch, 0: momentary alarm	R/W
40487	Type code	R/W	00264	1: clear latch alarm	W
40488	Modbus response delay time in ms	R/W	00266	1: clear counter	W
40489	Host watchdog timeout value, 0 ~ 255, in 0.1s	R/W	00269	Data format, 0: hex, 1: engineering	R/W
40492	Host watchdog timeout count, write 0 to clear	R/W	00270	Host watch dog timeout status, write 1 to clear host watch dog timeout status	R/W
40495	LED mode, 1: controlled by module, 2: controlled by host (for M-7011D only)	R/W	00273	Reset status, 1: first read after power d on, 0: not the first read after powered on	R
40496	LED data for host control mode, valid ranges: -19999 ~ + 19999 (for M-7011D only)	W			
30865	Low word of resistance value of channel 0 in 0.01 ohm	R			
30866	High word of resistance value of channel 0 in 0.01 ohm	R			

## ■ DCON Protocol

Functions	Command	Response	Notes
Read module name	\$AAM	!AA(Data)	AA: address number
Read module firmware version	\$AAF	!AA(Data)	
Read analog input data	#aa	>(data)	

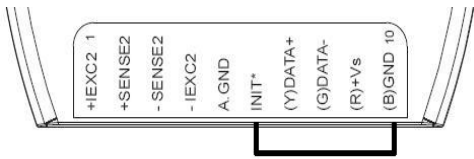
If you want to know the detail DCON protocol, please check it from CD or web

CD path: \\napdos\7000>manual\

Web: ftp://ftp.icpdas.com/pub/cd/8000cd/napdos/7000/manual/

**Module test and configuration**

**Step 1: INIT Operation**



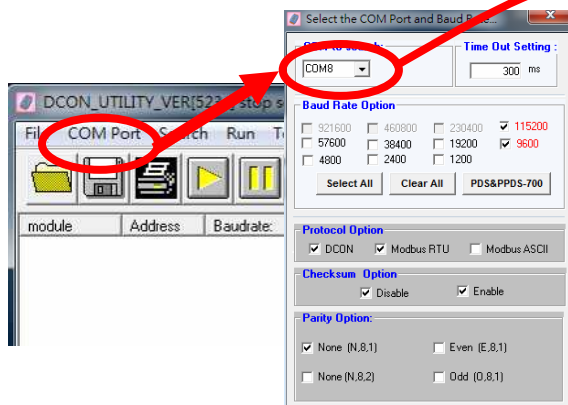
1. Short the INIT\* pin and the GND pin.
2. Reboot the module

**Step 2: Install & Run DCON Utility**

1. Please Install DCON Utility first  
You can find the software in the CD.  
CD path:  
<Driver>:\napdos\driver\dcon\_utility\  
Web link:  
[http://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon\\_utility/](http://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon_utility/)
2. Run DCON utility



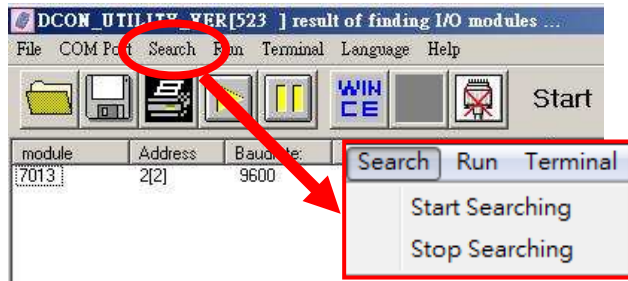
**Step 3: Set search configuration & search module**



Select COM Port Number

1. Click "COM Port"
2. Assign the communication information and click "OK"

Module Default Setting	
COM Port	Refer converter Port Number
Baud Rate	9600
Protocol	DCON for I-7000 Modbus RTU for M-7000
Parity Option	N,8,1



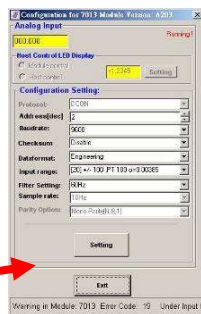
3. Click "Search" and select "Start Searching"  
Software will search the modules from COM Port
4. Click "Search" and select "stop searching"  
Manual stop when the modules searched

Note:  
When no module can be searched, please check the wire and communication information

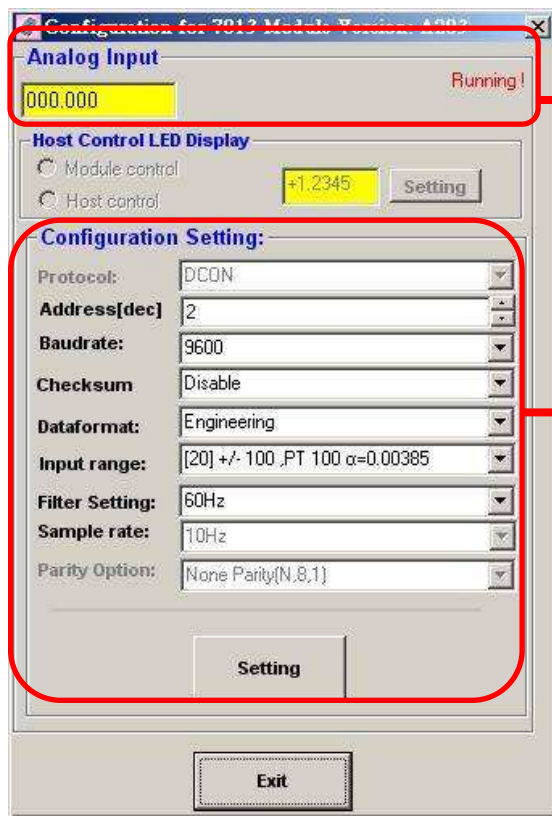
**Step 4: Select Module for testing and configuration**



Double click "select module"



## Step 5: Configuration Settings & Channel Settings

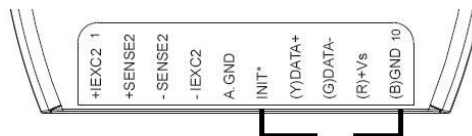


Channel Status

Module Settings	
Protocol	DCON / Modbus
Address	1~255 (0:INIT)
Baud rate	1200~115200
Parity option	N,8,1
Input range	Depends on signal sources

## Step 6: Change to normal mode and keep the settings

1. Disconnect the INIT\* pin from the GND pin.
2. Reboot the module



## ■ Trouble Shooting

### Q1. How to do when forgot module address or baud rate?

Please turn to INIT mode, and run DCON Utility to search.  
The module supports DCON protocol at the INIT mode.  
And the address is 0. The communication setting is "9600,N,8,1".

### Q2. How to configure the I-7000 and M-7000 modules?

ICP DAS provide DCON Utility to configure I-7000 and M-7000 modules.  
Please download the last version from: [http://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon\\_utility/](http://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon_utility/)

### Q3. How to calibrate the analog input module?

Usually it is not necessary to calibrate the analog input module.  
However, in case you need to perform this operation, we provide a function to calibrate the module.  
Please refer to user manual 1.9.

Notice:

1. Please update DCON Utility to version 5.2.3 or more.
2. Keep the module running more than 30 minutes to warm-up.

### Q4. How to programming with I-7000 or M-7000 by C#, VB, VC?

ICP DAS I-7000 and M-7000 series both support DCON protocol. And Only M-7000 series supports Modbus protocol.  
For DCON protocol, please download SDK and Demo from:  
[http://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon\\_dll\\_new/](http://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon_dll_new/)  
For Modbus protocol, please refer this web link:  
<http://www.icpdas.com/products/PAC/i-8000/modbus.htm>

If there is any other question, please feel free to contact us. Email: [service@icpdas.com](mailto:service@icpdas.com)  
Website: [http://www.icpdas.com.tw/contact\\_us/contact\\_us.html](http://www.icpdas.com.tw/contact_us/contact_us.html)