



Making Data Acquisition Easy

CAGE/NCAGE CODE: 3FNFO

M-7016

2-channel Strain Gauge Voltage Input & Current Input Data Acquisition Module

Quick Start Guide

Product Website:

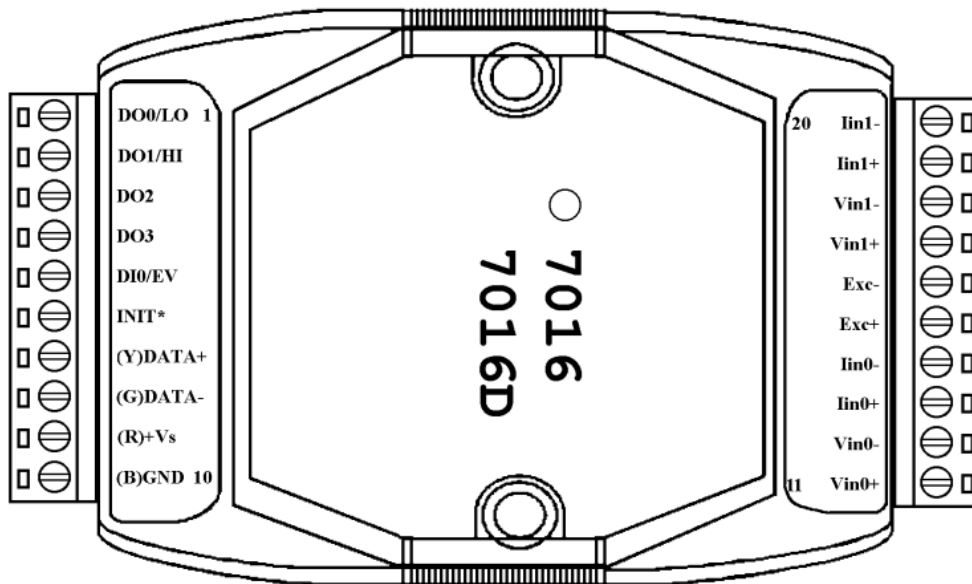
https://www.icpdas-usa.com/m_7016d

http://www.icpdas-usa.com/dcon_utility_pro.html

1. Introduction

The M-7016 supports full-bridge strain gauges and provides 2 Analog Input channels, 1 excitation voltage output channel, 1 Digital Input channels and 4 Digital Output channels. The module provides a programmable input range (± 15 mV, ± 50 mV, ± 100 mV, ± 500 mV, ± 1 V, and ± 2.5 V) and each Analog Input channel can be individually configured. Excitation voltage output can be in the range of 0 ~ +10 V, with a 40 mA driving efficiency. Digital Output channels can also be set as high or low alarm outputs. The M-7016 supports both the Modbus RTU and DCON protocols, which can be configured via software, and all hardware specifications are the same as the I-7016.

2. Terminal Assignment

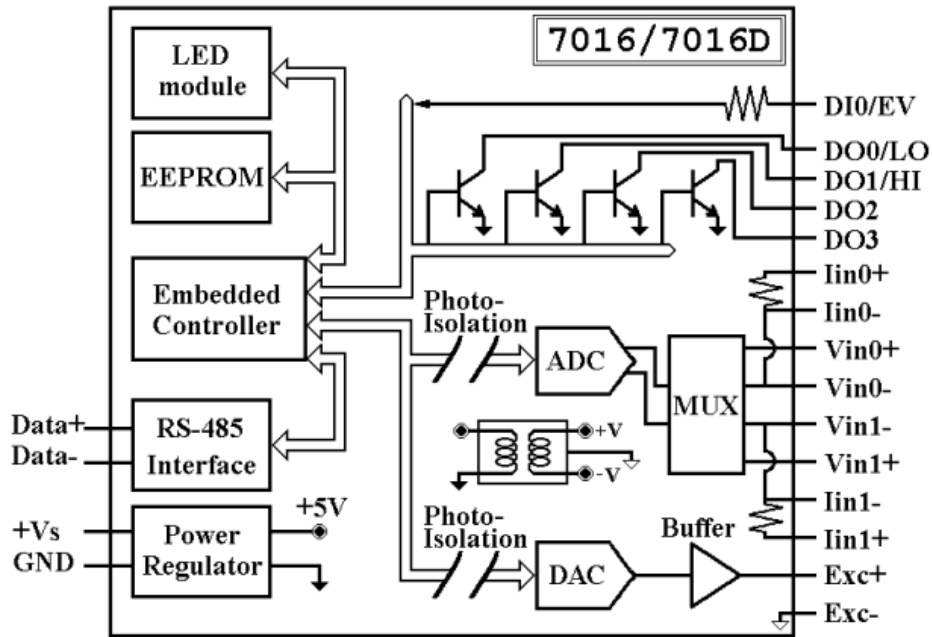




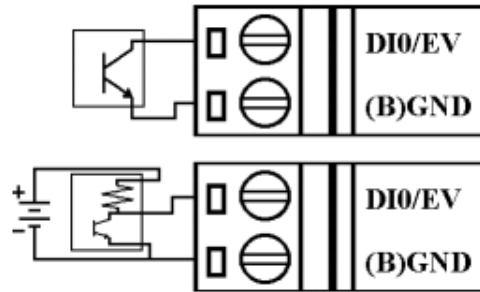
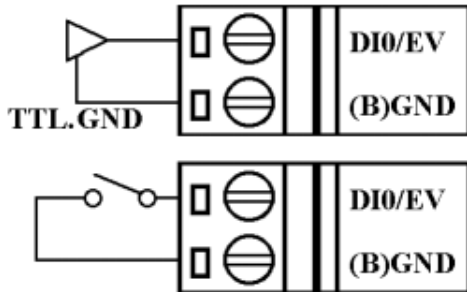
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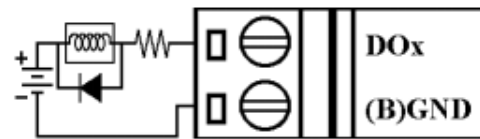
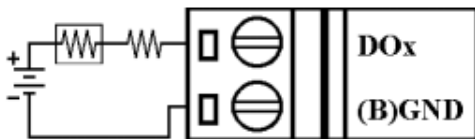
3. Block/ Wiring Diagram



Digital Input Wire Connection



Digital Output Wire Connection

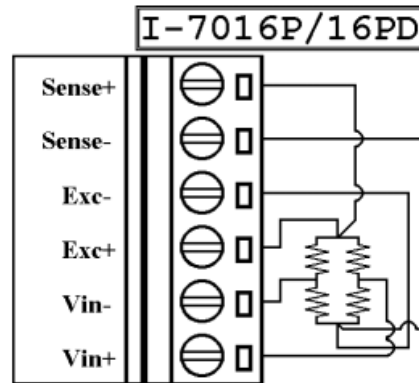
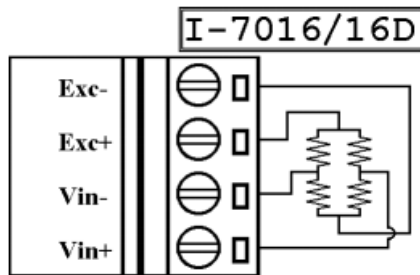




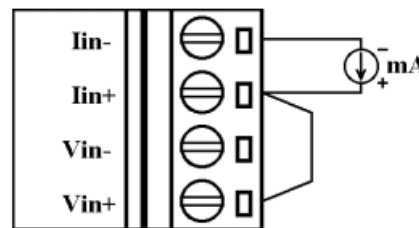
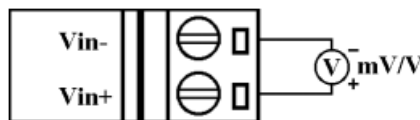
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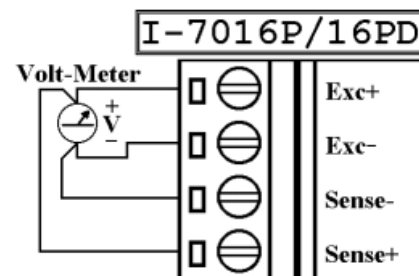
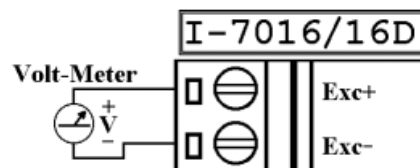
Bridge Sensor/Load Cell/Strain Gauge Wire Connection



Analog Input Wire Connection



Analog Output Wire Connection



4. Default Settings

Default setting for M-7016/16D/16P/16PD :

- z Address : 01
- z Analog Input Type : Type 05, -2.5 to +2.5 V
- z Baudrate : 9600 bps
- z Checksum disable, engineer unit format, 60Hz filter



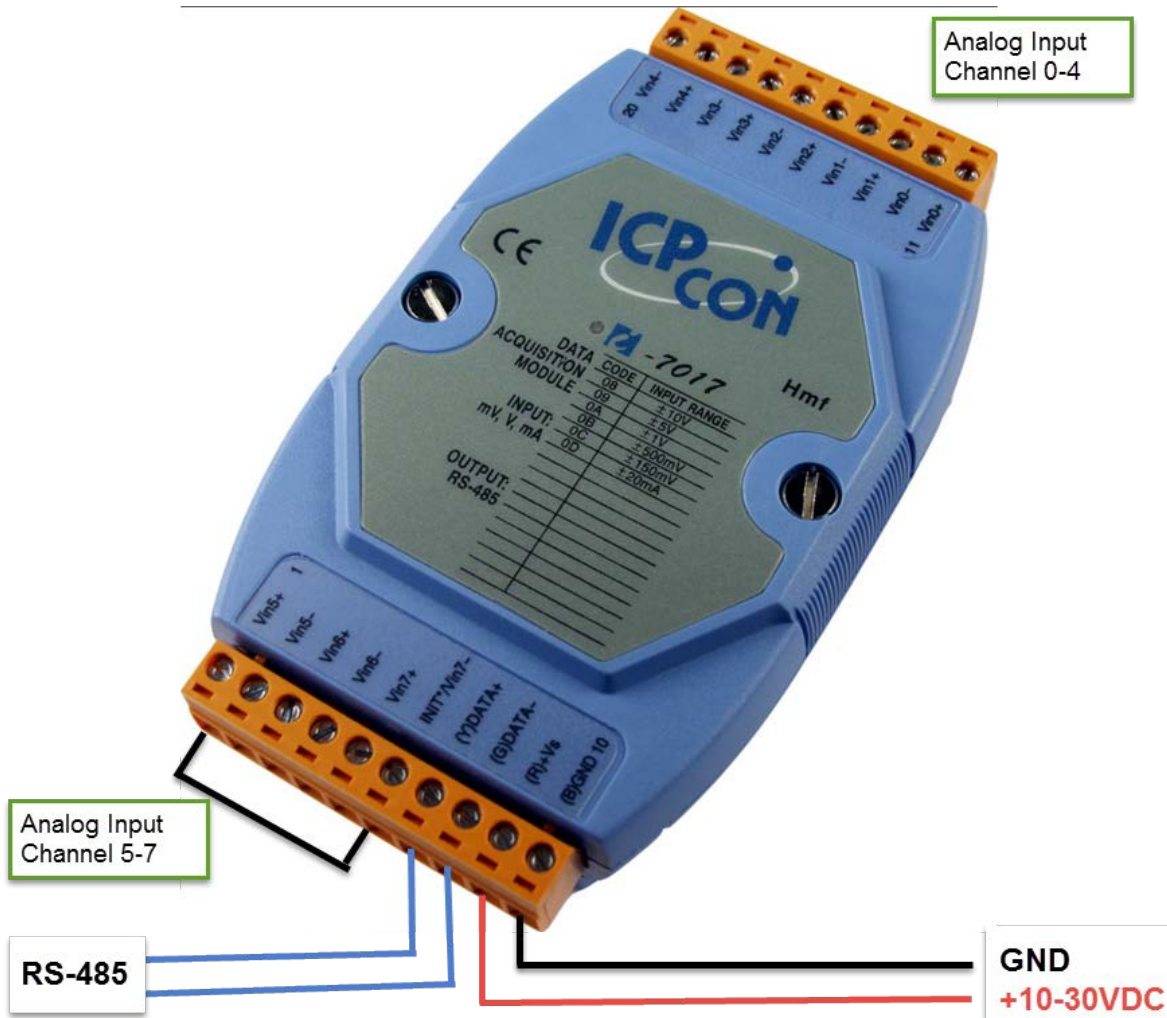
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5. Configuration

To install the module, follow the steps below:

1. Connect the thermistor analog input.
2. Connect the module to the RS-485 network using the DATA+ and DATA- terminals. If the host is only equipped with an RS-232 interface, then an RS-232 to RS-485 converter will be required.
3. Connect the module to the power supply using the +Vs and GND terminals. Note that the voltage supplied should be in the range of +10 to +30V DC.





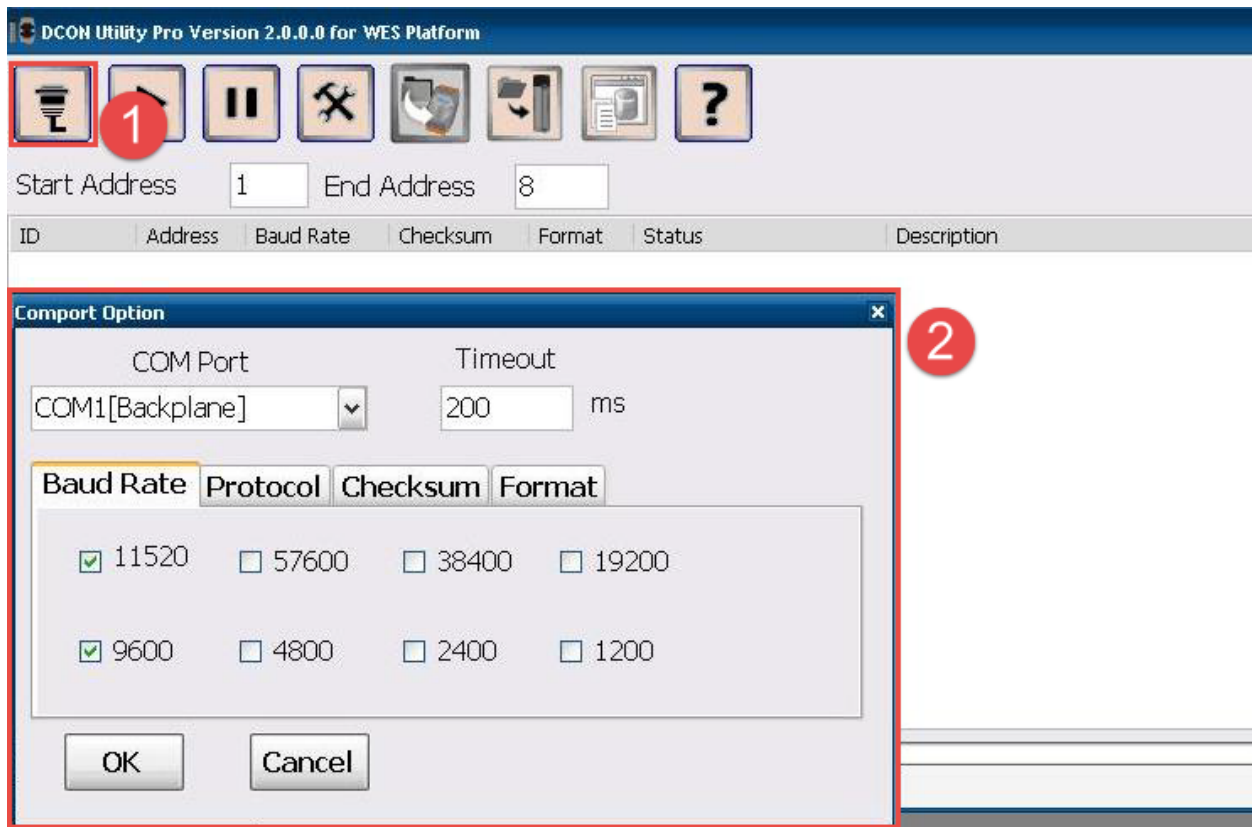
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4. Open DCON utility pro

- 1 click on COM port(first icon).
- 2 It can select multi-options such as Baud Rate, Protocol, Checksum, and Format to search module. The default settings for the module can be found in Section 3. Click OK after selecting the COM port setting.

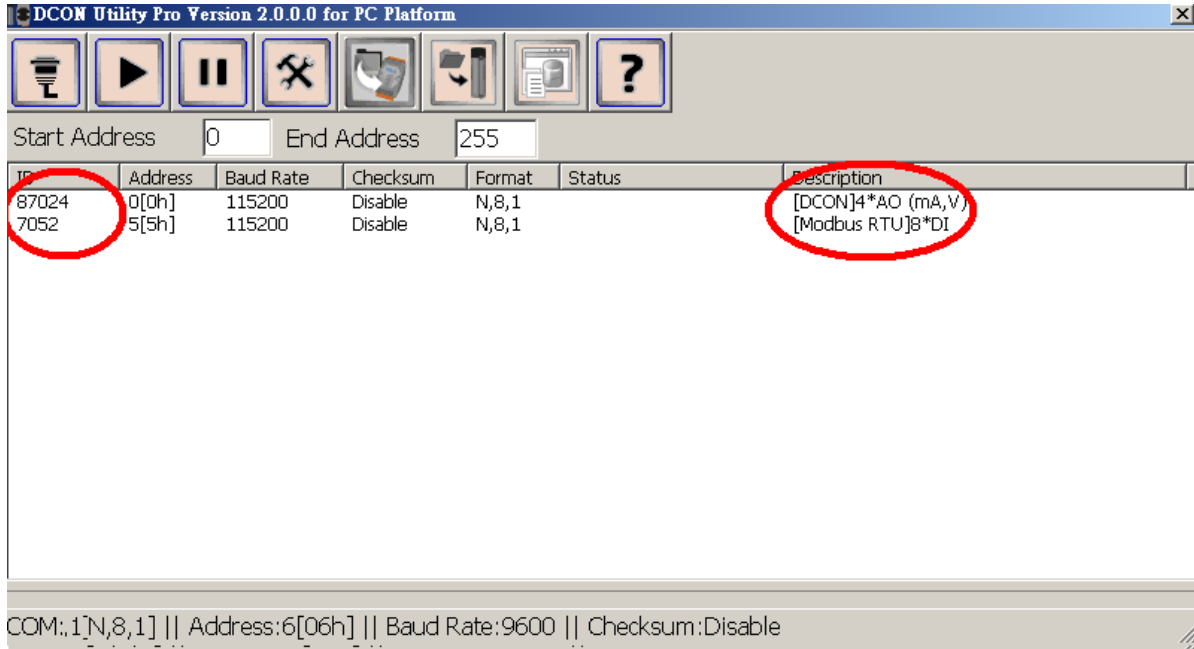




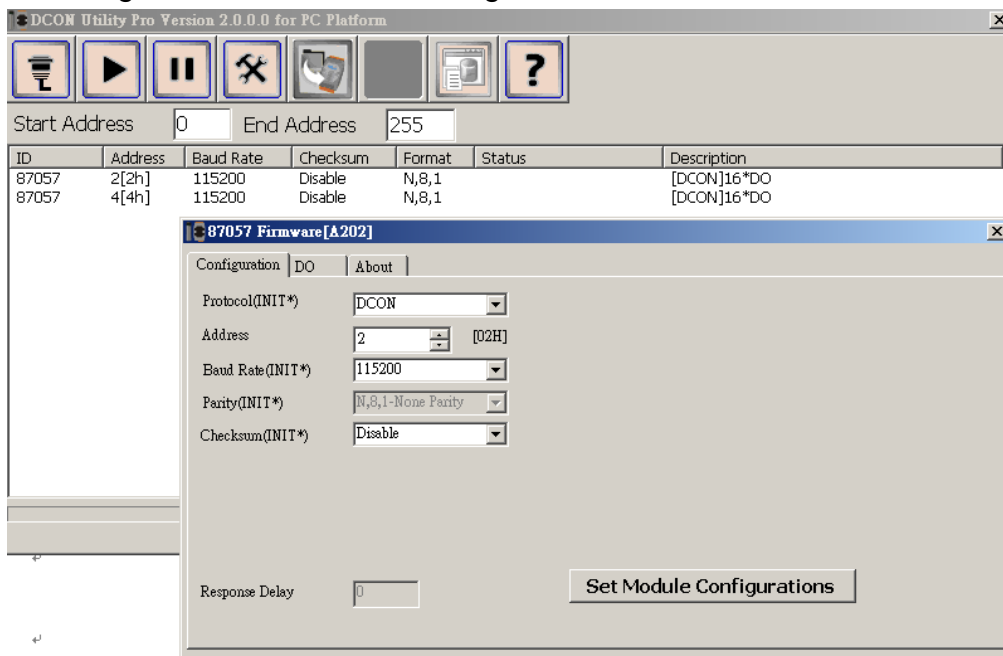
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5. DCON utility pro will search for the selected COM port according the setting previously set. DCON Utility Pro supports DCON and Modbus protocol for all ICPDAS and the others modules.



6. Configuration I/O module setting on PC

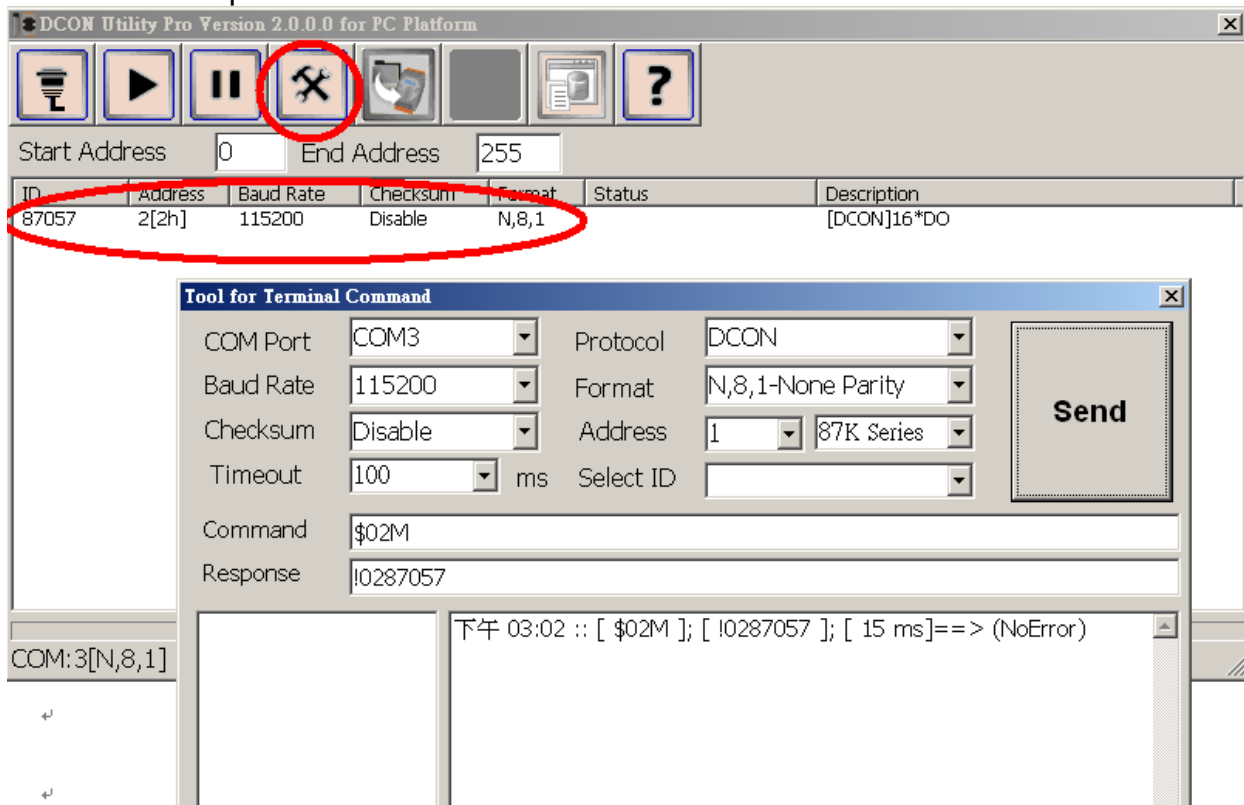




7. For M-7000 modules using the Modbus RTU protocol, configure the module using the following functions.

- Sub-function 04h of Function 46h, see user manual Section 3.3.2
- Sub-function 06h of Function 46h, see user manual Section 3.3.4
- Sub-function 08h of Function 46h, see user manual Section 3.3.6

For M-7000 modules using the Modbus RTU protocol, use Function 04h to read the data from the input channels. See user manual Section 3.2 for details.





8. If user doesn't know command, user can select Address and ID, it will show some refer commands as below. User can select necessary command to test or debug modules.

