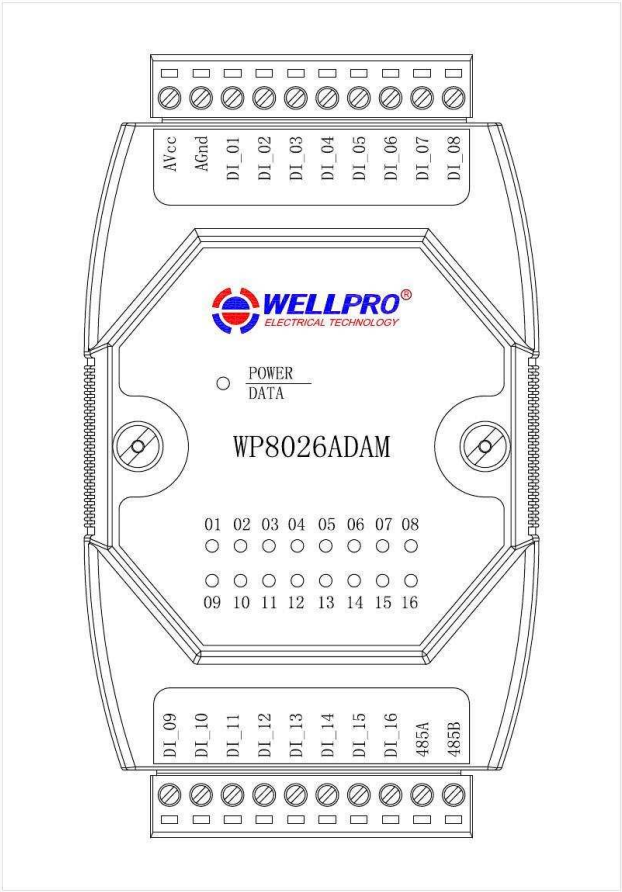
WP8026ADAM

User's Manual

Version 1.42A



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1、Product description

- Sixteen optoelectronic isolation digital input channel (Low level input)
- RS485 MODBUS RTU standard communication protocol
- Netted with configuration software, PLC or industry touch panel
- Communication, digital input and digital output status LED
- Communication circuit designed for thunder protection and interference immunity
- Used for signal collection and control in industrial field

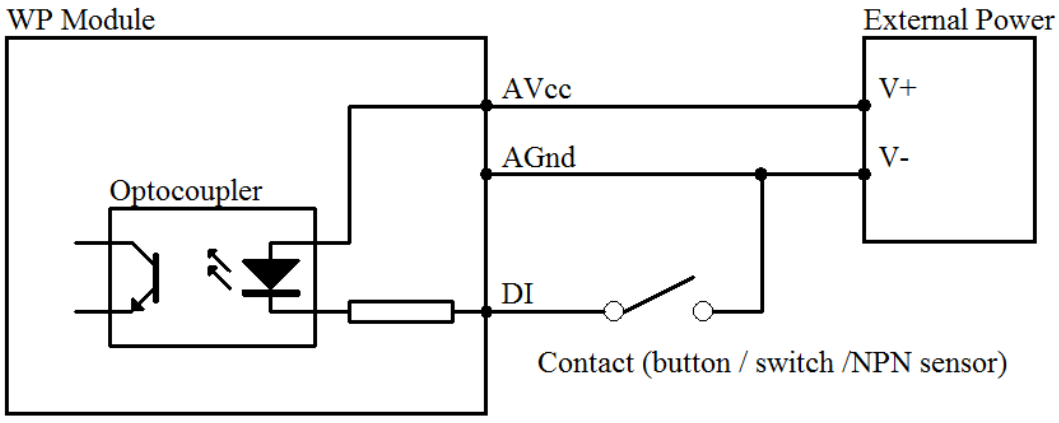
2、Specification

- Digital input channel 16ch (Low level input)
- Working temperature -20~70℃
- External power supply DC9V~30V/2W
- Isolation protection DC1500V
- Installation method Standard DIN slide rail or screw
- Dimension 125×73×35mm

3、Interface description

AVcc	External power supply input positive
AGnd	External power supply input negative / Power ground
DI_01	Digital input channel 1
DI_02	Digital input channel 2
DI_03	Digital input channel 3
DI_04	Digital input channel 4
DI_05	Digital input channel 5
DI_06	Digital input channel 6
DI_07	Digital input channel 7
DI_08	Digital input channel 8
DI_09	Digital input channel 9
DI_10	Digital input channel 10
DI_11	Digital input channel 11
DI_12	Digital input channel 12
DI_13	Digital input channel 13
DI_14	Digital input channel 14
DI_15	Digital input channel 15
DI_16	Digital input channel 16
485B	RS485 signal B-
485A	RS485 signal A+

4、Digital input application diagram



5、Communication description

5.1、Communication parameter: 9600, None, 8, 1 (default setting)

Parameter	Description
9600	baud rate
None	check bit
8	data bit
1	stop bit

5.2、Command for digital input data reading

Send: 01 02 00 00 00 10 79 C6 （example/hex）

data	byte	data description	remark
01	1	module address	address range:01-FE
02	1	function code	02-read digital input register
0000	2	register address (1X type)	0000-starting register address
0010	2	register number	0010-read 16 registers
79C6	2	CRC check code	CRC check code for all data

Receive: 01 02 02 21 A0 A1 90 （example/hex）

data	byte	data description	remark
01	1	module address	address range:01-FE
02	1	function code	02-read digital input register
02	1	byte of data	02-read 2 bytes
21A0	2	read data	21A0-digital input data
A190	2	CRC check code	CRC check code for all data

This command reads module's digital input data.
The data of the digital input is "21", it will be "00100001" after converting to binary data. The eight bits of data correspond to DI_08~DI_01. It means DI_06 and DI_01 are ON.
The data of the digital input is "A0", it will be "10100000" after converting to binary data. The eight bits of data correspond to DI_16~DI_09. It means DI_16 and DI_14 are ON.

5.3、Command for module address setting

Send：00 06 00 64 00 01 08 04 （example/hex）

date	byte	data description	remark
00	1	module address	00-broadcast address
06	1	function code	06-write single holding register
0064	2	register address (4X type)	0064-module address register
0001	2	write data	0001- module address, range:0001-00FE
0804	2	CRC check code	CRC check code for all data

Receive：00 06 00 64 00 01 08 04 （example/hex）

This command sets module address (slave address) as "01" (default setting). This setting could be saved when power off.
This is a broadcast command. It needs to ensure that only one module is connected to the master.
When module receives correct command, it will send response back to the master.

5.4、Command for communication parameter setting

Send：01 06 00 65 00 02 18 14 （example/hex）

data	byte	data description	remark
01	1	module address	address range:01-FE
06	1	function code	06-write single holding register
0065	2	register address (4X type)	0065-communication parameter register
0002	2	write data	0001- 4800, None, 8, 1 0002- 9600, None, 8, 1 0003- 19200, None, 8, 1 0004- 38400, None, 8, 1 0005- 4800, Even, 8, 1 0006- 9600, Even, 8, 1 0007- 19200, Even, 8, 1 0008- 38400, Even, 8, 1
1814	2	CRC check code	CRC check code for all data

Receive：01 06 00 65 00 02 18 14 （example/hex）

This command sets communication parameter as "9600, None, 8, 1" (default setting). This setting could be saved when power off.
When module receives correct command, it will send response back to the master.

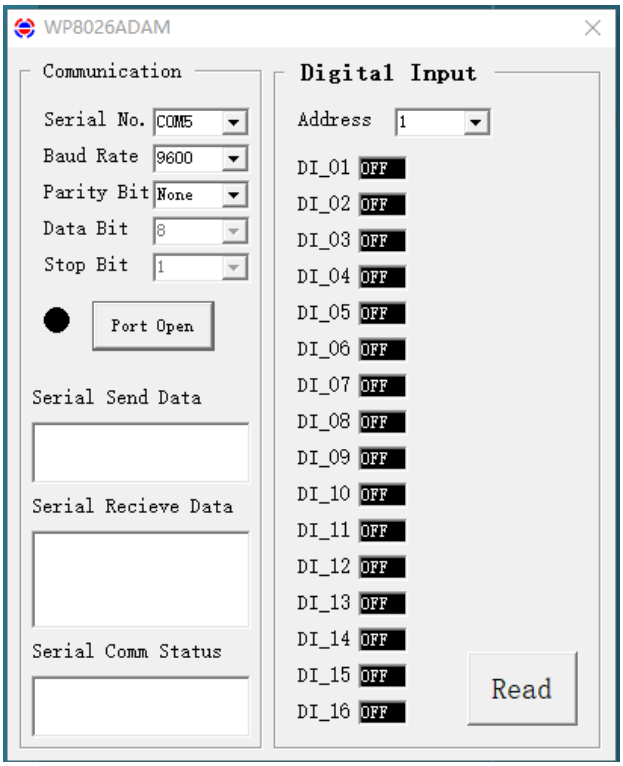
6、POWER/DATA LED description

- **When module powered on, LED is green.**
- **When module is under communication, LED is twinkling.**
- **When module receives correct command, LED is green.**
- **When module receives incorrect command or other module's command, LED is red.**

7、PC debugging description

We provide a debugging software for function testing and parameter setting. Please follow the steps below:

- **Connect computer to module with RS485 converter.**
- **Connect DC12V or DC24V power to module and power on. To avoid any unnecessary damage, please make sure the power positive and negative terminals are correctly connected before power on.**
- **Open the software and select the model of module, you will see the window of function testing or parameter setting.**
- **Set communication parameter and open the serial port.**
- **Select corresponding setting and click "Read" or "Write" button.**



8、RS485 network diagram