WP8026ADAM

User's Manual

Version 1.42

Shanghai Wellpro Electrical Technology Co., Ltd.
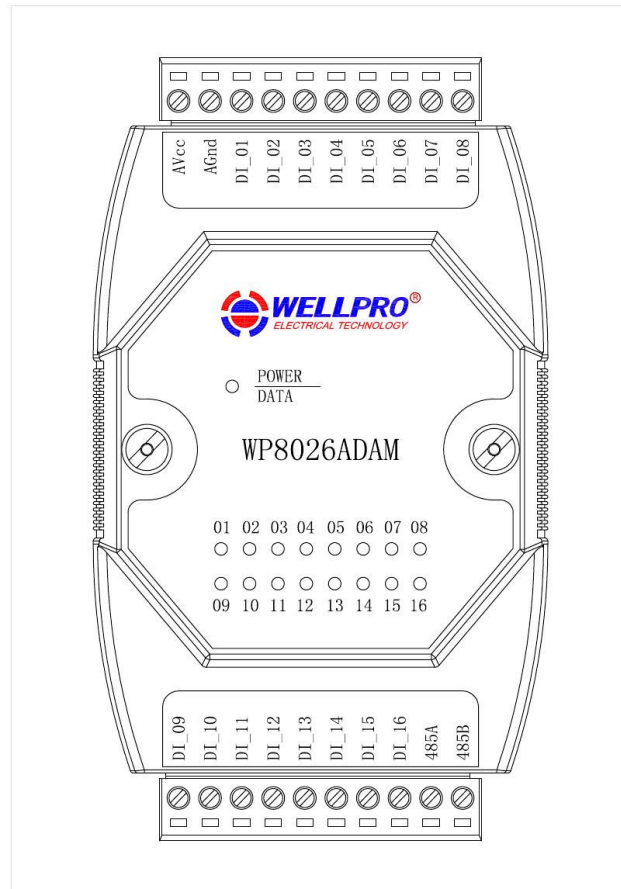**www.shwellpro.com**

1、Product description
- 16ch optoelectronic isolation digital input
- Using RS485 MODBUS RTU communication standard. It can be netted with configuration software, PLC and industry touch pad
- Communication, input and output status LED
- Communication circuit designed for lightening protection and interference immunity
- Could be used for signal collection and control of Industrial field apparatus
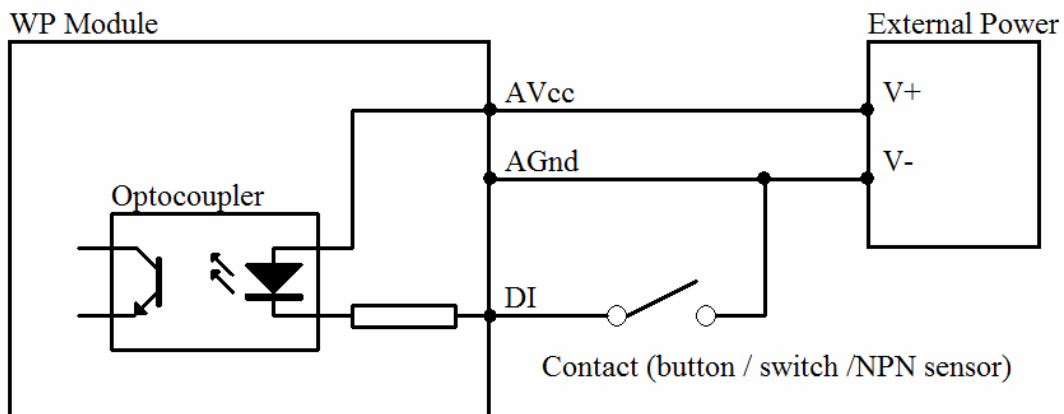- 3 Year's quality assurance for normal use

2、Specification
- Digital input   16ch
- Working Temperature   -20～70℃
- External power supply   DC 9V～30V/2W
- Isolation protect   1500VDC
- Installation method   Standard DIN slide rail or screw
- Dimension   125×73×35mm

3、Interface definition

AVcc	External PSU positive terminal input
AGnd	External PSU negative terminal input
DI_01	1st way digital input
DI_02	2nd way digital input
DI_03	3rd way digital input
DI_04	4th way digital input
DI_05	5th way digital input
DI_06	6th way digital input
DI_07	7th way digital input
DI_08	8th way digital input
DI_09	9th way digital input
DI_10	10th way digital input
DI_11	11th way digital input
DI_12	12th way digital input
DI_13	13th way digital input
DI_14	14th way digital input
DI_15	15th way digital input
DI_16	16th way digital input
485A	RS485 signal A+
485B	RS485 signal B-

4、Digital input application diagram

5、Communication Instruction

5.1、Communication parameter (default setting)： 9600，N，8，1

Parameter	Description
9600	baud rate
N(no check)	check bit
8	data bit
1	stop bit

5.2、Command for digital input collection：

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

data	byte	data description	remark
01	1	module address	Address range 01-FE
02	1	function code	02-read input bit
0000	2	input address(1x mode)	0000-initial address of input bit
0010	2	read input length	0010-read 16 input bit
79C6	2	CRC check code	CRC check code for all data

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

data	byte	data description	remark
01	1	module address	Address range 01-FE
02	1	function code	02-read input bit
02	1	byte numbers	02-read 2 byte length
21A0	2	read data	21A0-read input bit status
A190	2	RC check code	CRC check code for all data

Converting reading data "21" to 2 hexadecimal results "0010 0001". From left to right, it represents the 8 digital input DI_08-DI_01.Converting reading data "A0" to 2 hexadecimal results "1010 0000". From left to right, it represents the 8 digital input DI_16-DI_09. Here it means DI_16、DI_14、DI_06 and DI_01 have input but others no.

5.3、command for module address setting：

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

date	byte	data description	remark
00	1	module address	00-group sending
06	1	function code	06-write single register
0064	2	register address (4x mode)	0064-modify module address
0001	2	data writing	set new address for module, range 0001-00FE
0804	2	CRC check code	CRC check code for all data

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

This command means to send a code to a module, set the module address as 01, this setting could be saved when power off; default address of module is 01,each module address could be assigned separately when using multiple modules for network.Attentions is required that only one module could be used in 485 network when using multiple address sending, otherwise all the modules will share the same address in 485 network. When module receives correct command, it will make corresponding actions and send response back to the master. This is successful communication.

5.4、Command for communication parameter setting：

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

data	byte	data description	remark
01	1	module address	address range:01-FE
06	1	function code	06-write single register
0065	2	register address (4x mode)	0065-modify communication parameter
0002	2	data writing	0001-set communication parameter 4800,N(no check) ,8,1 0002-set communication parameter 9600,N(no check) ,8,1 0003-set communication parameter 19200,N(no check) ,8,1 0004-set communication parameter 38400,N(no check) ,8,1 0005-set communication parameter 4800,E(even check) ,8,1

			0006-set communication parameter 9600,E(even check) ,8,1
			0007-set communication parameter 19200,E(even check) ,8,1
			0008-set communication parameter 38400,E(even check) ,8,1
1814	2	CRC check code	CRC check code for all data

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

This command means to send a code to the module and set the communication parameter as "9600, N (No check), 8, 1".This setting could be saved when power off. The default communication parameter is "9600, N (no check), 8, 1". Attention is required, when electing the correct communication parameter in communication setting and restarting the communication terminal, setting will be done.Normally, the lower of baud rate, the lower of the transaction speed but the higher of transaction stability. The opposite is also true.When module receives correct command, corresponding action will be taken and response will be sent back to the master. This is successful communication.
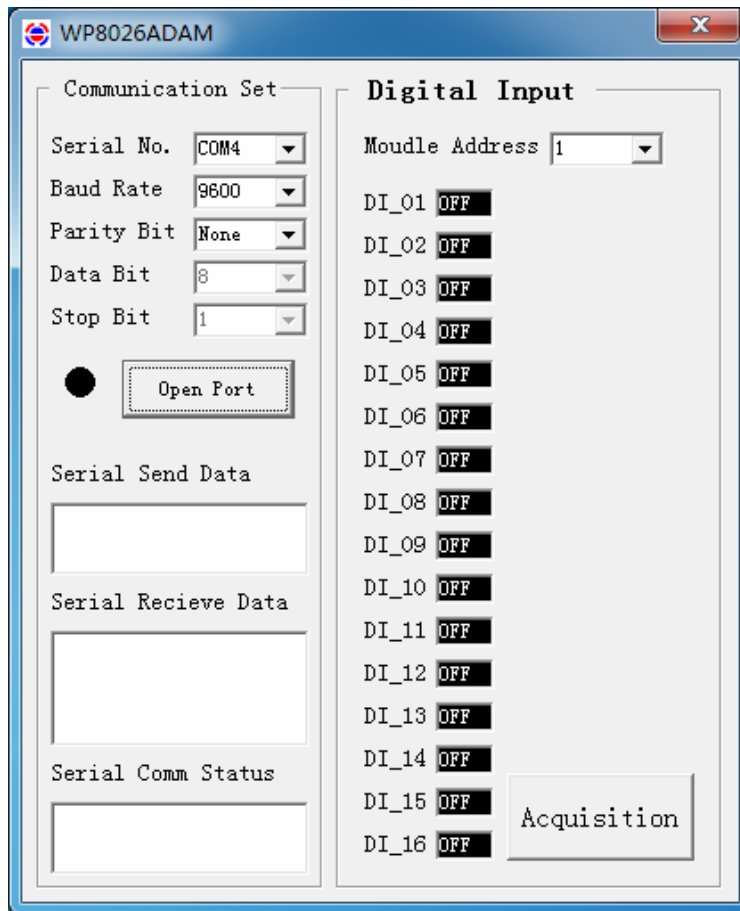
6、Indicator LED description
- When module powered on, Led is green.
- When module is under communication, LED is twinkling.
- when module receive correct command, LED is green.
- when module receive incorrect command or command for other modules, LED is red.

7、PC debugging instruction
This module provides software for parameter setting and function test. Please follow the steps below:
- Connect the module and computer using RS485 converter.
- Connect 12V or 24V power with module and power on. To avoid any unnecessary damage, please make sure the power positive & negative terminals are correctly connected before power on.
- Open the software, select the correct module number, you will see the window of function test or parameter setting.
- Set correct parameter, open communication interface.
- Select corresponding setting, collection and control items.

8、RS485 network diagram