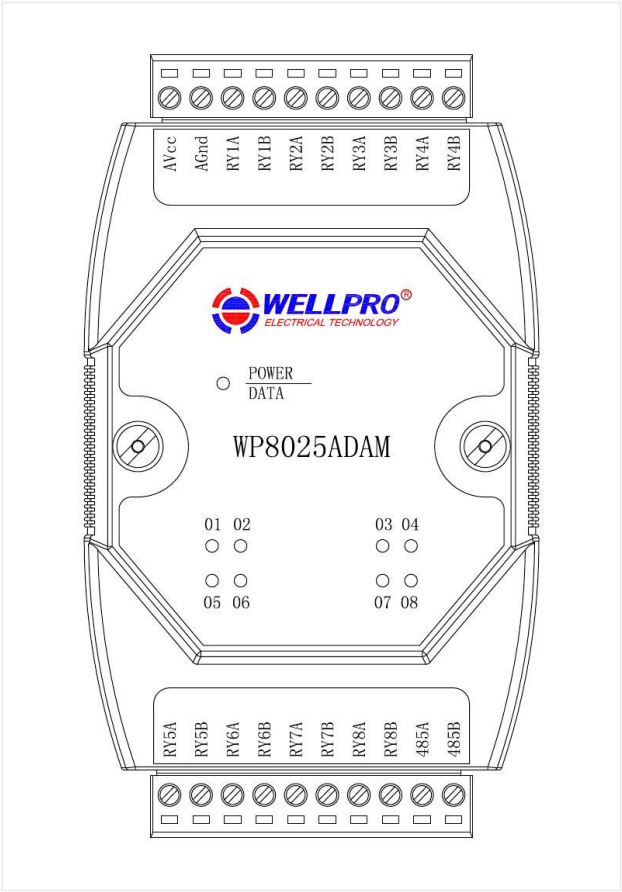
WP8025ADAM

User's Manual

Version 1.42



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1、Product description

- 8ch relay output (SPST).
- 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

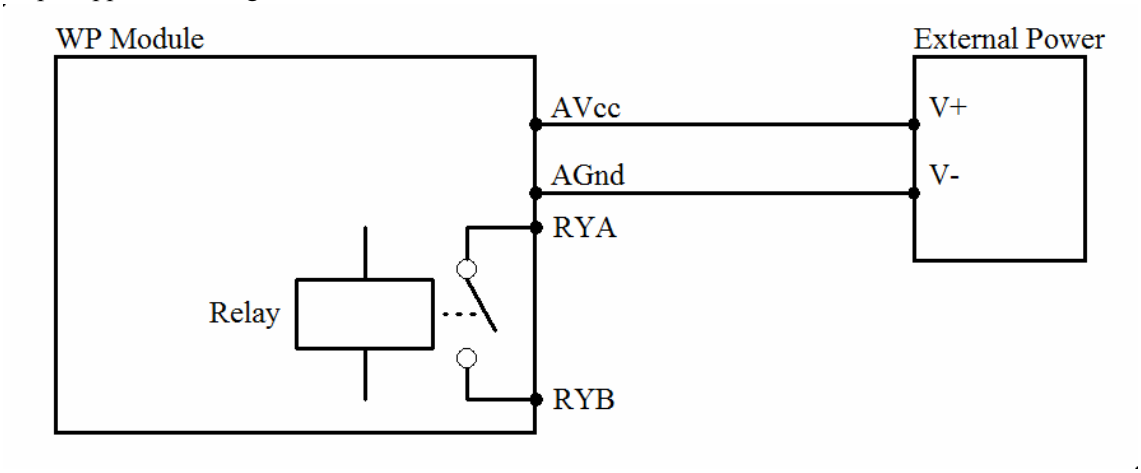
2、Specification

- Relay output 8ch (SPST)
- Relay contact capacity 2A/250VAC 2A/30VDC
- 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
RY1A	Normally open contact A of the relay output in 1st way
RY1B	Normally open contact B of the relay output in 1st way
RY2A	Normally open contact A of the relay output in 2nd way
RY2B	Normally open contact B of the relay output in 2nd way
RY3A	Normally open contact A of the relay output in 3rd way
RY3B	Normally open contact B of the relay output in 3rd way
RY4A	Normally open contact A of the relay output in 4th way
RY4B	Normally open contact B of the relay output in 4th way
RY5A	Normally open contact A of the relay output in 5th way
RY5B	Normally open contact B of the relay output in 5th way
RY6A	Normally open contact A of the relay output in 6th way
RY6B	Normally open contact B of the relay output in 6th way
RY7A	Normally open contact A of the relay output in 7th way
RY7B	Normally open contact B of the relay output in 7th way
RY8A	Normally open contact A of the relay output in 8th way
RY8B	Normally open contact B of the relay output in 8th way
485A	RS485 signal A+
485B	RS485 signal B-

4、Relay output 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 output (several controls)：

Send: 01 0F 00 00 00 08 01 A4 FF 2E （example/hexadecimal）

data	byte	data description	remark
01	1	module address	address range 01-FE
0F	1	function code	0F-write multiple coil
0000	2	coil address(0x mode)	0000-initial address of coil
0008	2	write coil length	0008-write 4 coils
01	1	write data byte	01-write one byte data
A4	2	write data	A4-write 8 coil's output status
FF2E	2	check code	CRC check code for all data

Receive: 01 0F 00 00 00 08 54 0D （example/hexadecimal）

Converting input data "A4" to 2 hexadecimal results "10100100". From left to right, it represent the 8 relay output status RY8-RY1,here it means RY8、RY6 and RY3 has output but others no.Module will take corresponding action after receiving correct command and send the response back to master. It means successful communication.

5.3、Command for digital output (single control)：

Send: 01 05 00 00 FF 00 8C 3A （example/hexadecimal）

01	1	module address	address range 01-FE
05	1	function code	05-write single coil
0000	2	coil address(0x mode)	0000-relay output(RY1)coil address 0001-relay output(RY2)coil address 0002-relay output(RY3)coil address 0003-relay output(RY4)coil address 0004-relay output(RY5)coil address 0005-relay output(RY6)coil address 0006-relay output(RY7)coil address 0007-relay output(RY8)coil address
FF00	2	write data	FF00-coil open，0000-coil close
8C3A	2	check code	CRC check code for all data
01	1	module address	address range 01-FE

Receive: 01 05 00 00 FF 00 8C 3A （example/hexadecimal）

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 state collection of digital output：

Send: 01 01 00 00 00 08 3D CC （example/hexadecimal）

data	byte	data description	remark
01	1	module address	address range 01-FE
01	1	function code	01-read coil status
0000	2	coil address(0x mode)	0000-initial address of coil
0008	2	read coil length	0008-read 8 coil status
3DCC	2	check code	CRC check code for all data

Receive: 01 01 01 A4 50 33 （example/hexadecimal）

data	byte	data description	remark
01	1	module address	address range 01-FE
01	1	function code	01-read coil status
01	1	byte number	01-read one byte length
A4	1	read data	A4-read coil status

5033	2	check code	CRC check code for all data

Converting input data "A4" to 2 hexadecimal results "10100100". From left to right, it represent the 8 relay output status RY8-RY1,here it means RY8、RY6 and RY3 has output but others no.

5.5、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.

5.6、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

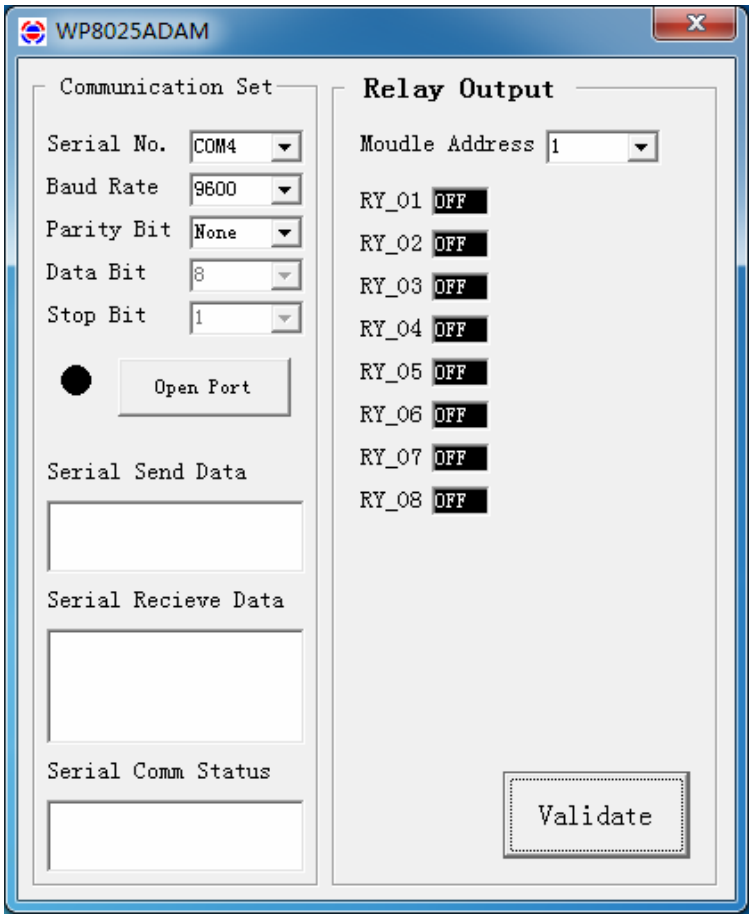
- When module powered on, Led is green.
- When module is under communication, LED is twinkling.
- when module receive correct command, LED is green.
- when module receive incorrect command or command for other modules, LED is red.

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