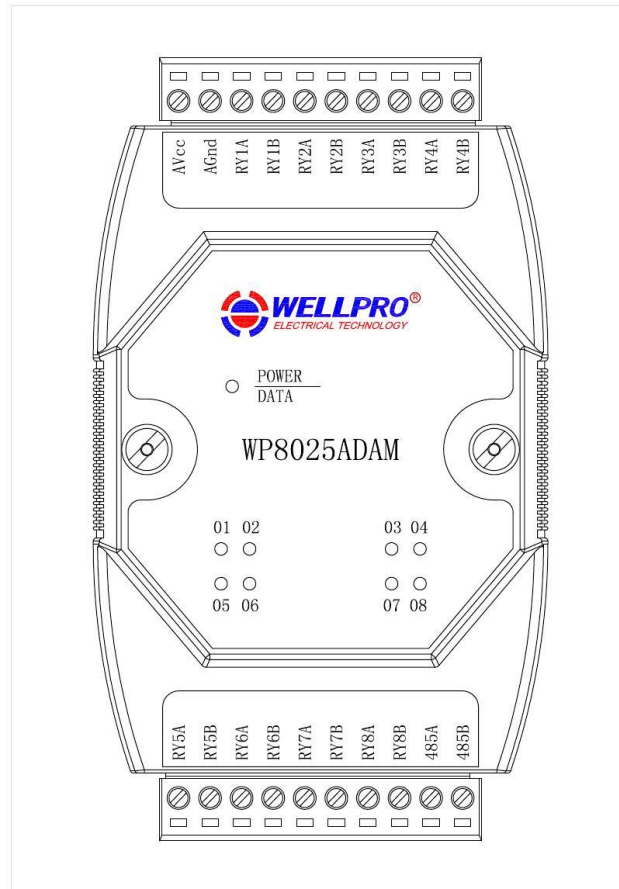


WP8025ADAM

User's Manual

Version 1.42A



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1、Product description

- Eight relay output channel (SPST)
- 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

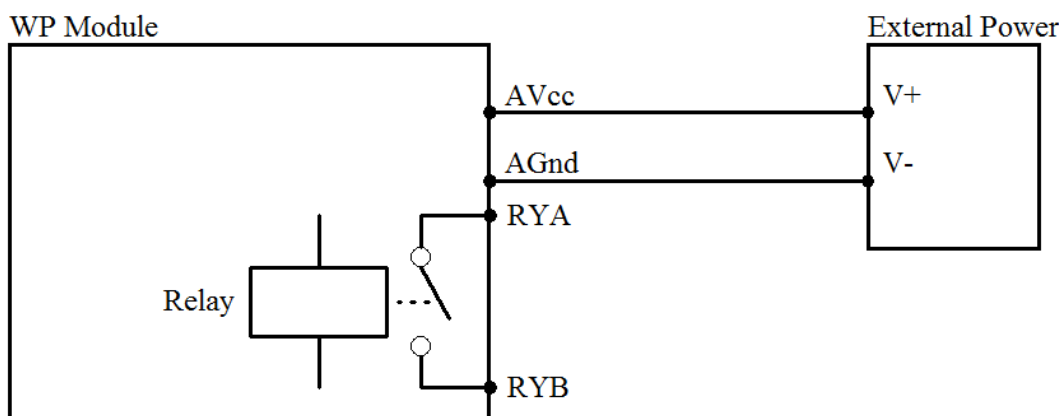
2、Specification

- Relay output channel 8ch (SPST)
- Relay contact capacity 2A/250VAC 2A/30VDC
- Working temperature -20~70°C
- External power supply DC9V~30V/5W
- 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 |
| RY1A | Relay output channel 1 normally open contact A |
| RY1B | Relay output channel 1 normally open contact B |
| RY2A | Relay output channel 2 normally open contact A |
| RY2B | Relay output channel 2 normally open contact B |
| RY3A | Relay output channel 3 normally open contact A |
| RY3B | Relay output channel 3 normally open contact B |
| RY4A | Relay output channel 4 normally open contact A |
| RY4B | Relay output channel 4 normally open contact B |
| RY5A | Relay output channel 5 normally open contact A |
| RY5B | Relay output channel 5 normally open contact B |
| RY6A | Relay output channel 6 normally open contact A |
| RY6B | Relay output channel 6 normally open contact B |
| RY7A | Relay output channel 7 normally open contact A |
| RY7B | Relay output channel 7 normally open contact B |
| RY8A | Relay output channel 8 normally open contact A |
| RY8B | Relay output channel 8 normally open contact B |
| 485B | RS485 signal B- |
| 485A | RS485 signal A+ |

4、Digital output 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 output data setting (Control of multiple channels)

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

| data | byte | data description | remark |
|------|------|----------------------------|---|
| 01 | 1 | module address | address range:01-FE |
| 0F | 1 | function code | 0F-write multiple digital output register |
| 0000 | 2 | register address (0X type) | 0000-starting register address |
| 0008 | 2 | register number | 0008-write 8 registers |
| 01 | 1 | byte of data | 01-write 1 byte |
| A4 | 1 | write data | A4-digital output data |
| FF2E | 2 | CRC check code | CRC check code for all data |

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

This command sets module to output multiple channels.

The data of the digital output is "A4", it will be "10100100" after converting to binary data. The eight bits of data correspond to RY8~RY1. It means RY8, RY6 and RY3 are ON.

When module receives correct command, it will send response back to the master.

5.3. Command for digital output data setting (Control of single channel)

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

| data | byte | data description | remark |
|------|------|----------------------------|--|
| 01 | 1 | module address | address range:01-FE |
| 05 | 1 | function code | 05-write single digital output register |
| 0000 | 2 | register address (0X type) | 0000-digital output channel 1 register 0001-digital output channel 2 register 0002-digital output channel 3 register 0003-digital output channel 4 register 0004-digital output channel 5 register 0005-digital output channel 6 register 0006-digital output channel 7 register 0007-digital output channel 8 register |
| FF00 | 2 | write data | FF00-ON, 0000-OFF |
| 8C3A | 2 | CRC check code | CRC check code for all data |

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

This command sets module to output single channel.

When module receives correct command, it will send response back to the master.

5.4. Command for digital output data reading

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

| data | byte | data description | remark |
|------|------|----------------------------|---------------------------------|
| 01 | 1 | module address | address range:01-FE |
| 01 | 1 | function code | 01-read digital output register |
| 0000 | 2 | register address (0X type) | 0000-starting register address |
| 0008 | 2 | register number | 0008-read 8 registers |
| 3DCC | 2 | CRC check code | CRC check code for all data |

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

| data | byte | data description | remark |
|------|------|------------------|---------------------------------|
| 01 | 1 | module address | address range:01-FE |
| 01 | 1 | function code | 01-read digital output register |
| 01 | 1 | byte of data | 01-read 1 byte |
| A4 | 1 | read data | A4-digital output data |
| 5033 | 2 | CRC check code | CRC check code for all data |

This command reads module's digital output data.

The data of the digital output is "A4", it will be "10100100" after converting to binary data. The eight bits of data correspond to RY8~RY1. It means RY8, RY6 and RY3 are ON.

5.5. 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.

5.6. 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.

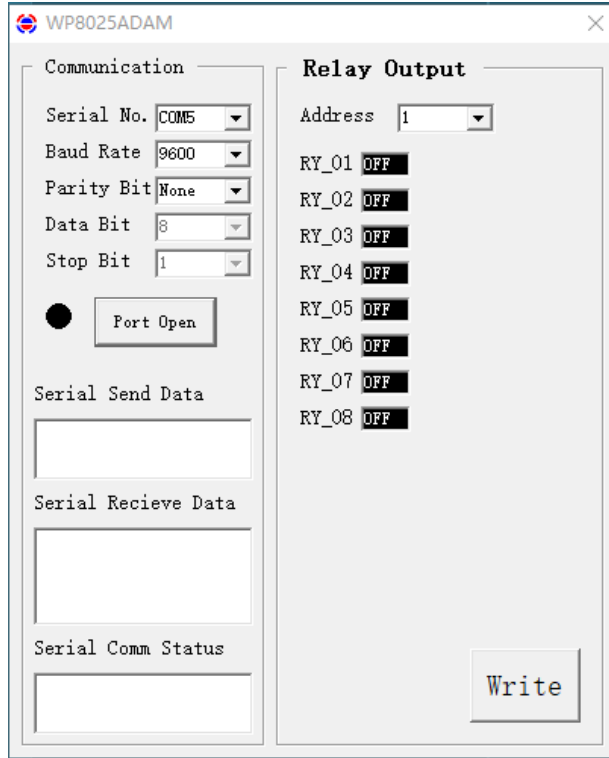
6. POWER/DATA LED description

- 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

