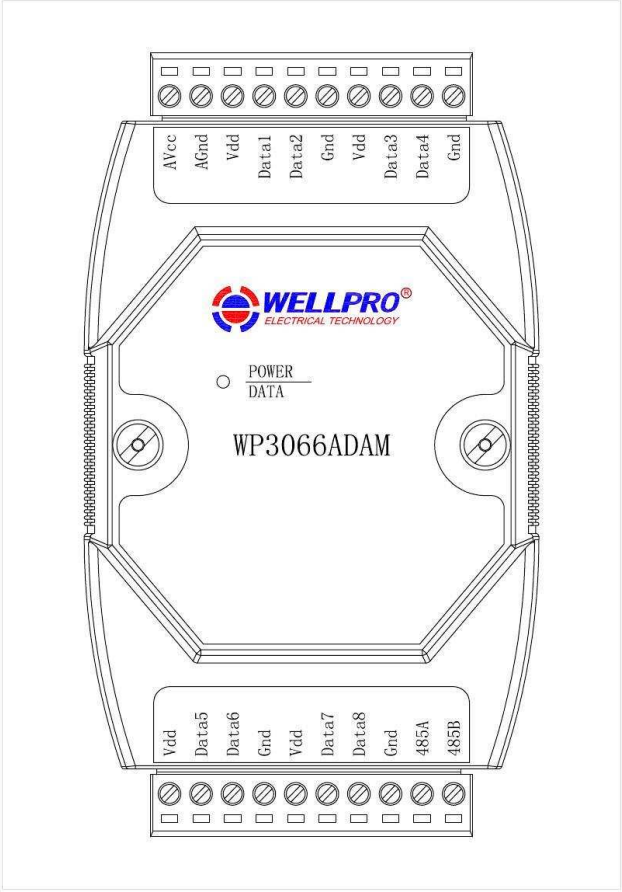
WP3066ADAM

User's Manual

Version 1.42A



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1、Product description

- Eight temperature input channel: DS18B20 sensor
- RS485 MODBUS RTU standard communication protocol
- Netted with configuration software, PLC or industry touch panel
- Communication status LED
- Communication circuit designed for thunder protection and interference immunity
- Used for signal collection and control in industrial field

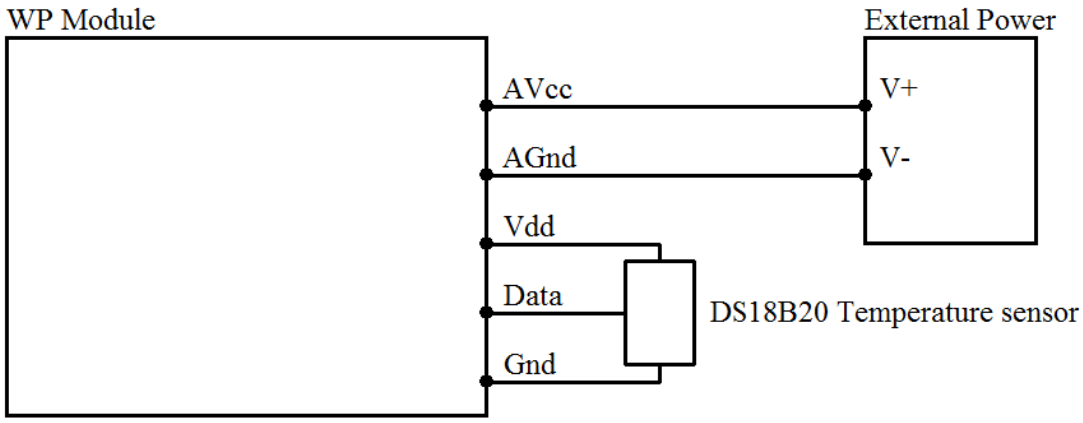
2、Specification

- Temperature input channel 8ch (DS18B20 sensor)
- Temperature input range -55~125℃
- Temperature input accuracy ±0.5℃
- Temperature input resolution 0.1℃
- Effective connection distance ≤25 meters (normal cable for sensor)
- Working temperature -20~70℃
- External power supply DC9V~30V/2W
- 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
Vdd	DS18B20 pin Vdd / +5V
Data1	DS18B20 channel 1 pin DQ
Data2	DS18B20 channel 2 pin DQ
Gnd	DS18B20 pin Gnd / 0V
Vdd	DS18B20 pin Vdd / +5V
Data3	DS18B20 channel 3 pin DQ
Data4	DS18B20 channel 4 pin DQ
Gnd	DS18B20 pin Gnd / 0V
Vdd	DS18B20 pin Vdd / +5V
Data5	DS18B20 channel 5 pin DQ
Data6	DS18B20 channel 6 pin DQ
Gnd	DS18B20 pin Gnd / 0V
Vdd	DS18B20 pin Vdd / +5V
Data7	DS18B20 channel 7 pin DQ
Data8	DS18B20 channel 8 pin DQ
Gnd	DS18B20 pin Gnd / 0V
485B	RS485 signal B-
485A	RS485 signal A+

4、Temperature 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 temperature input data reading

Send: 01 03 00 00 00 08 44 0C （example/hex）

data	byte	data description	remark
01	1	module address	address range:01-FE
03	1	function code	03-read holding register
0000	2	register address (4X type)	0000-starting register address
0008	2	register number	0008-read 8 registers
440C	2	CRC check code	CRC check code for all data

Receive: 01 03 10 00 F2 FF FF FF FF FF FF FF FF FF FF FF FF FF FF 68 9C （example/hex）

data	byte	data description	remark
01	1	module address	address range:01-FE
03	1	function code	03-read holding register
10	1	byte of data	10-read 16 bytes
00F2 FFFF FFFF FFFF FFFF FFFF FFFF FFFF	16	read data	00F2–temperature input channel 1 data FFFF–temperature input channel 2 data FFFF–temperature input channel 3 data FFFF–temperature input channel 4 data FFFF–temperature input channel 5 data FFFF–temperature input channel 6 data FFFF–temperature input channel 7 data FFFF–temperature input channel 8 data
689C	2	CRC check code	CRC check code for all data

This command reads module's temperature input data.
The data is hexadecimal data which needs to be converted to decimal data. Put it in the formula and calculate.
A、If data = 65535, the temperature sensor is not connected
B、If data > 10000 and data < 65535, the temperature is below 0℃
TEMP = -(DATA-10000)/10
C、if data < 10000, the temperature is over 0℃
TEMP = DATA/10

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-new 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.

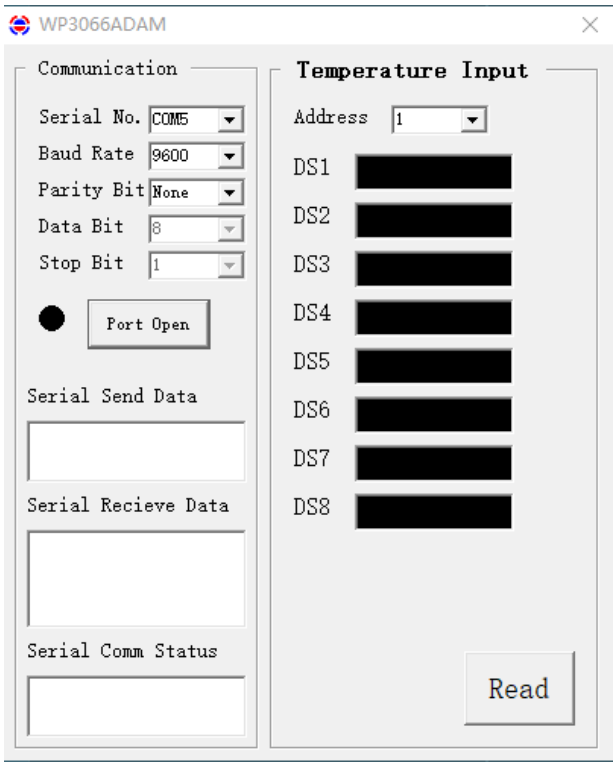
6、POWER/DATA LED description

- **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