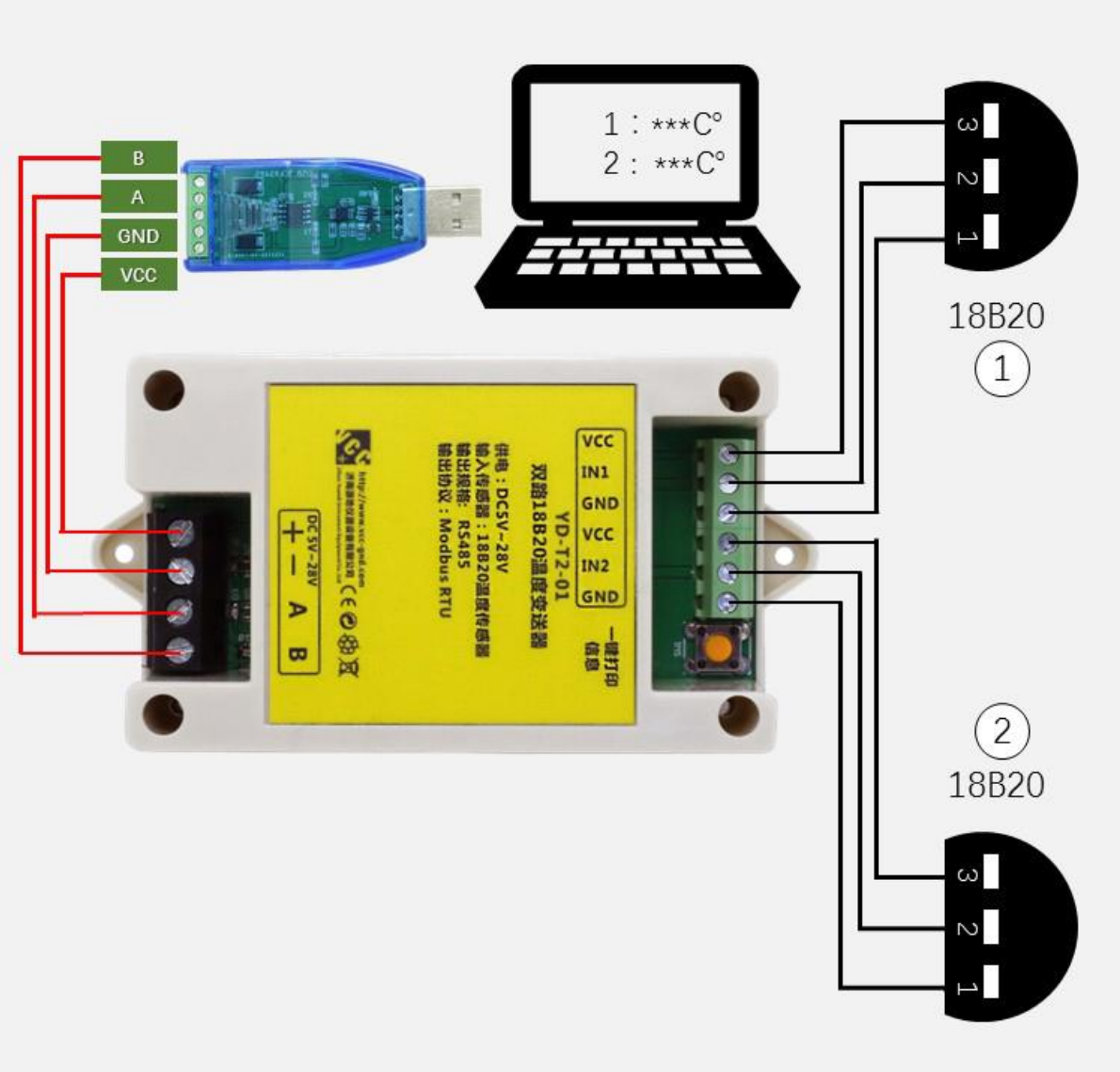
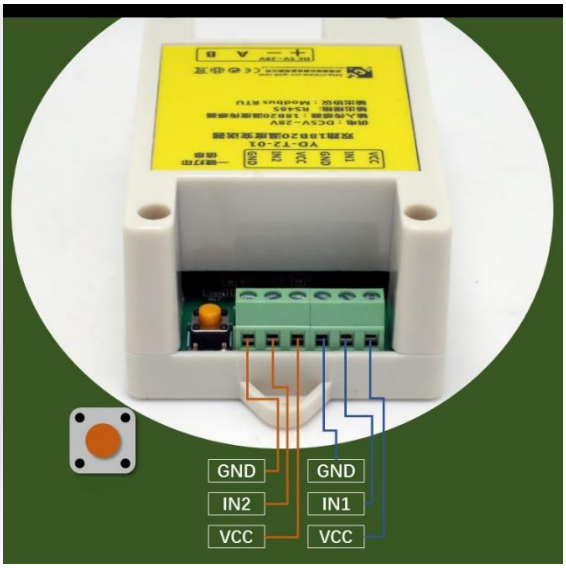
CWT-TM-2DS temperature acquisition module Manual

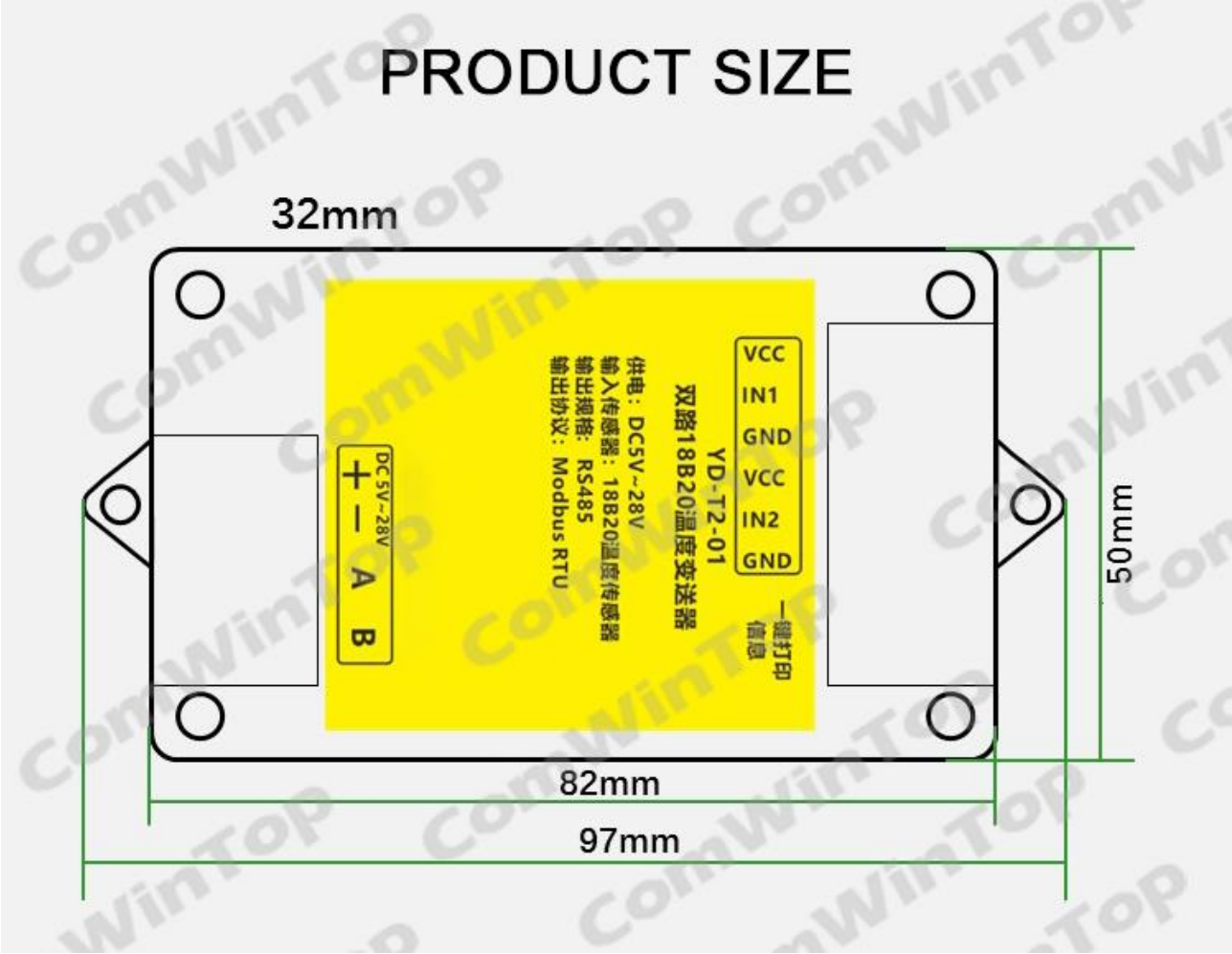
Basic parameters

Power supply	DC8~30V
Power consumption	20mA@30V,23mA@24V, 46mA@12V, 65mA@8V
Input	• 2 channel, sensor type: DS18B20 • Measure range: -55℃ ~ +125℃ • Resolution 0.1℃
Output	RS485 （Modbus RTU protocol）, isolation design
Working environment	-10~+55℃ / 0 -95%RH
Material	ABS
mounting type	Wall mounted
Dimensions	82*50*32mm



+
-
A
B


GND
IN2
VCC
GND
IN1
VCC


PRODUCT SIZE
32mm
50mm
82mm
97mm
VCC
IN1
GND
VCC
IN2
GND
YD-T2-01
双路18B20温度变送器
供电：DC5V~28V
输入传感器：18B20温度传感器
输出规格：RS485
输出协议：Modbus RTU
DC 5V~28V
+ — A B
一键打印信息

RS485 communication (Modbus RTU protocol)

Default parameters: 9600,n,8,1

Default device address is 1

Modbus register map

Read status registers, read function code: 0x30					
Register address (Hex)	PLC Address (decimal)	meaning	Number of bytes	unit	remark
0200	40513	Temperature 1	2	0.1℃	Read
0201	40514	Temperature 2	2	0.1℃	Read
Parameters registers, read function code: 0x30, write function code: 0x60					
0100	40257	Slave ID	2	1-254	Read/Write
0101	40258	Baud	2	00:1200 01:2400 02:4800 03:9600 04:14400 05:19200 06:115200	Read/Write

E.g., master read temperature:

Address	Function Code	Start Address (Hi)	Start Address (Lo)	Number of Points (Hi)	Number of Points (Lo)	Error Check (Lo)	Error Check (Hi)
0x01	0x03	0x02	0x00	0x00	0x01	0x85	0XB2

Sensor responds:

Address	Function Code	Number of byte	Temperature	Error Check (Lo)	Error Check (Hi)
0x01	0x03	0x02	0x00 0xEA	0x39	0xCB

Temperature calculates:
Channel 1: EA (HEX) = 234 (DEC), temperature is 23.4

master read channel 1 and channel 2:

Address	Function Code	Start Address (Hi)	Start Address (Lo)	Number of Points (Hi)	Number of Points (Lo)	Error Check (Lo)	Error Check (Hi)
0x01	0x03	0x02	0x00	0x00	0x02	0xC5	0XB3

Sensor responds:

Address	Function Code	Number of byte	Temperature	Error Check (Lo)	Error Check (Hi)
0x01	0x03	0x04	0x00 0xEA 0x00 0XF2	0x5A	0x42

Temperature calculates:
Channel 1: EA (HEX) = 234 (DEC), temperature is 23.4
Channel 2: EA (HEX) = 242 (DEC), temperature is 24.2

Master read ID:

Address	Function Code	Start Address (Hi)	Start Address (Lo)	Number of Points (Hi)	Number of Points (Lo)	Error Check (Lo)	Error Check (Hi)
0x01	0x03	0x01	0x00	0x00	0x01	0x85	0xF6

Sensor responds:

Address	Function Code	Number of byte	Temperature	Error Check (Lo)	Error Check (Hi)
0x01	0x03	0x02	0x00 0x01	0x79	0x84

Set slave ID

E.g., set slave ID=2, Master sends

Address	Function Code	Start Address (Hi)	Start Address (Lo)	ID	Error Check (Lo)	Error Check (Hi)
0x01	0x06	0x01	0x00	0x00 0x02	0x09	0xF7

Sensor responds:

Address	Function Code	Start Address (Hi)	Start Address (Lo)	ID	Error Check (Lo)	Error Check (Hi)
0x01	0x06	0x01	0x00	0x00 0x02	0x09	0XF7

Set Baud

00:1200 01:2400 02:4800 03:9600 04:14400 05:19200 06:115200

E.g., set Baud=115200, Master sends

Address	Function Code	Start Address (Hi)	Start Address (Lo)	Baud	Error Check (Lo)	Error Check (Hi)
0x01	0x06	0x01	0x01	0x00 0x06	0x59	0xF4

Sensor responds:

Address	Function Code	Start Address (Hi)	Start Address (Lo)	Baud	Error Check (Lo)	Error Check (Hi)
0x01	0x06	0x01	0x01	0x00 0x06	0x59	0xF4