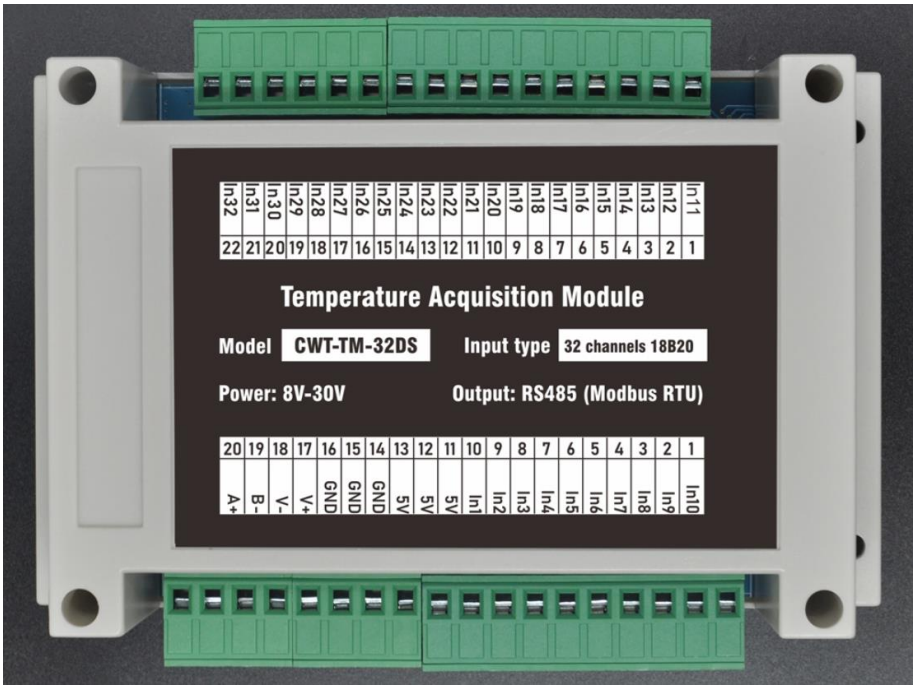
CWT-TM-32DS 32-channel DS18B20 RS485 module Manual



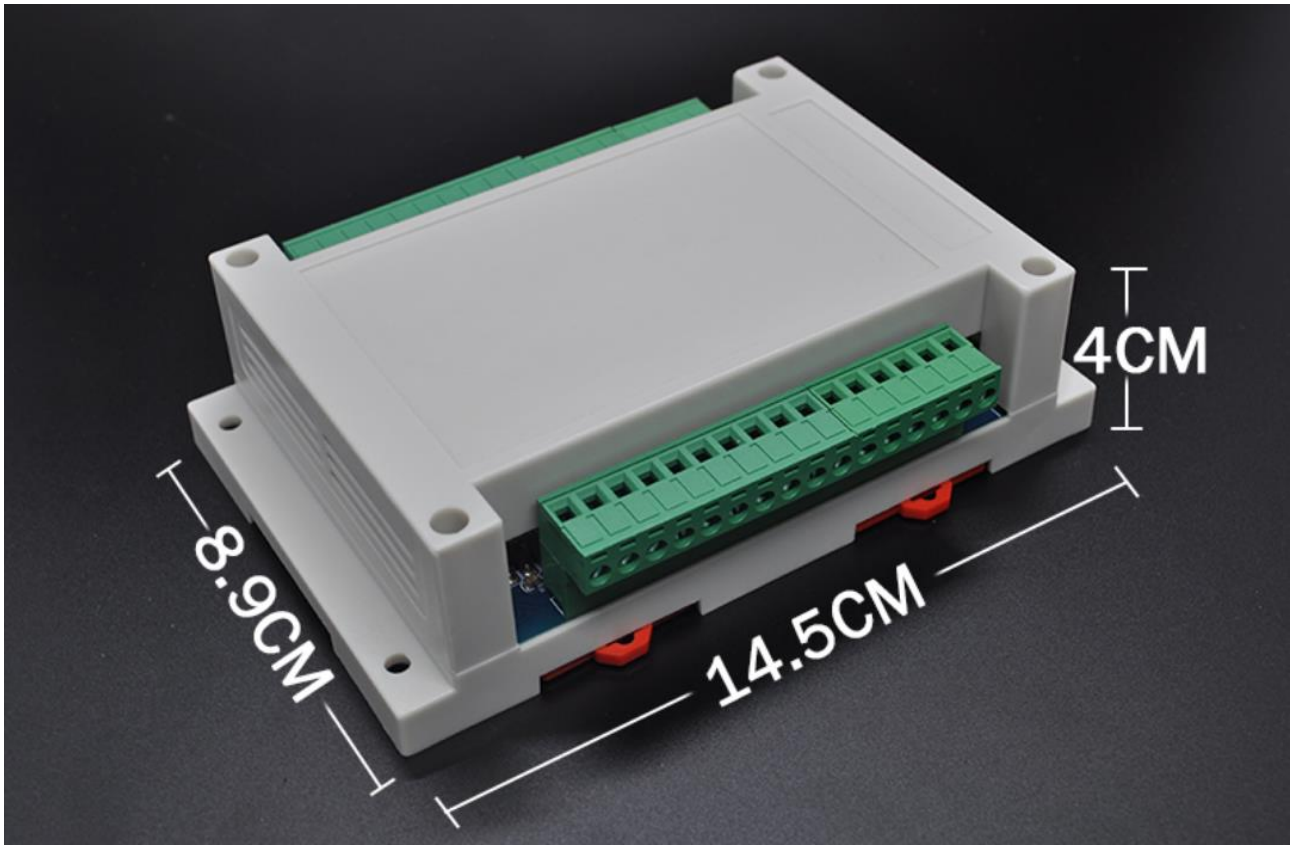
Basic parameters

Power supply	DC8~30V
Power consumption	20mA@30V,23mA@24V, 46mA@12V, 65mA@8V
Input	• Input sensor type: DS18B20 • Measure range: -55℃ ~ +125℃ • Resolution 0.1℃
Output	RS485 （Modbus RTU protocol）, isolation design
Working environment	-30~+55℃ / 0 -95%RH
Material	ABS
mounting type	35mm Din-rail
Dimensions	145*90*40mm

Terminal description

Terminals	description
+V	Power +
GND	Power -
Vout	DS18B20 +
INx	DS18B20 output
GND	DS18B20 GND
A（D+）	RS485 +
B（D-）	RS485 -

Size



RS485 communication (Modbus RTU protocol)

Default parameters: 9600,n,8,1

Default device address is 1

Modbus register map

1. Parameter register map

Function code: 03H (read), 06H (write)

Address (hex)	Byte order	Meaning	Description	Property
10	LO	Communication parameters initial value: 00	BIT<7:5> reserve BIT<4:3> 00=none 01=even 10=odd （11= odd） BIT<2:0> 000=9600 001=1200 010=2400 011=4800 100=9600 101=14400 110=19200	RW
	Hi	address initial value: 01	1-250	RW

2. Data register map

Function code: 03H (read)

Address (hex)	PLC address	Description	Format	scale	Number of bytes	Property
20H	40033	Channel 1	UINT16	0.1	2	R
21H	40034	Channel 2	UINT16	0.1	2	R
22H	40035	Channel 3	UINT16	0.1	2	R
23H	40036	Channel 4	UINT16	0.1	2	R
24H	40037	Channel 5	UINT16	0.1	2	R
25H	40038	Channel 6	UINT16	0.1	2	R
26H	40039	Channel 7	UINT16	0.1	2	R
27H	40040	Channel 8	UINT16	0.1	2	R
28H	40041	Channel 9	UINT16	0.1	2	R
29H	40042	Channel 10	UINT16	0.1	2	R
2AH	40043	Channel 11	UINT16	0.1	2	R
2BH	40044	Channel 12	UINT16	0.1	2	R
2CH	40045	Channel 13	UINT16	0.1	2	R
2DH	40046	Channel 14	UINT16	0.1	2	R
2EH	40047	Channel 15	UINT16	0.1	2	R
2FH	40048	Channel 16	UINT16	0.1	2	R
30H	40049	Channel 17	UINT16	0.1	2	R
31H	40050	Channel 18	UINT16	0.1	2	R
32H	40051	Channel 19	UINT16	0.1	2	R
33H	40052	Channel 20	UINT16	0.1	2	R
34H	40053	Channel 21	UINT16	0.1	2	R
35H	40054	Channel 22	UINT16	0.1	2	R
36H	40055	Channel 23	UINT16	0.1	2	R
37H	40056	Channel 24	UINT16	0.1	2	R
38H	40057	Channel 25	UINT16	0.1	2	R
39H	40058	Channel 26	UINT16	0.1	2	R
3AH	40059	Channel 27	UINT16	0.1	2	R
3BH	40060	Channel 28	UINT16	0.1	2	R
3CH	40061	Channel 29	UINT16	0.1	2	R
3DH	40062	Channel 30	UINT16	0.1	2	R
3EH	40063	Channel 31	UINT16	0.1	2	R
3FH	40064	Channel 32	UINT16	0.1	2	R

Set slave ID

E.g., set slave ID=2, baud=9600, parity=none,

Master sends

Address	Function Code	Start Address (Hi)	Start Address (Lo)	ID	baud and parity	Error Check (Lo)	Error Check (Hi)
0x01	0x06	0x00	0x10	0x02	0x04	0x88	0xAC

ID=02 (HEX) = 2 (DEC)

Band and parity=0000 0100 (BIN) = 04 (HEX)

Sensor responds:

Address	Function Code	Start Address (Hi)	Start Address (Lo)	ID	baud and parity	Error Check (Lo)	Error Check (Hi)
0x01	0x06	0x00	0x10	0x02	0x04	0x88	0xAC

Enquiry slave ID, baud and parity

Master sends

Address	Function Code	Start Address (Hi)	Start Address (Lo)	Number of Points (Hi)	Number of Points (Lo)	Error Check (Lo)	Error Check (Hi)
0x00	0x03	0x00	0x10	0x00	0x01	0x84	0x11

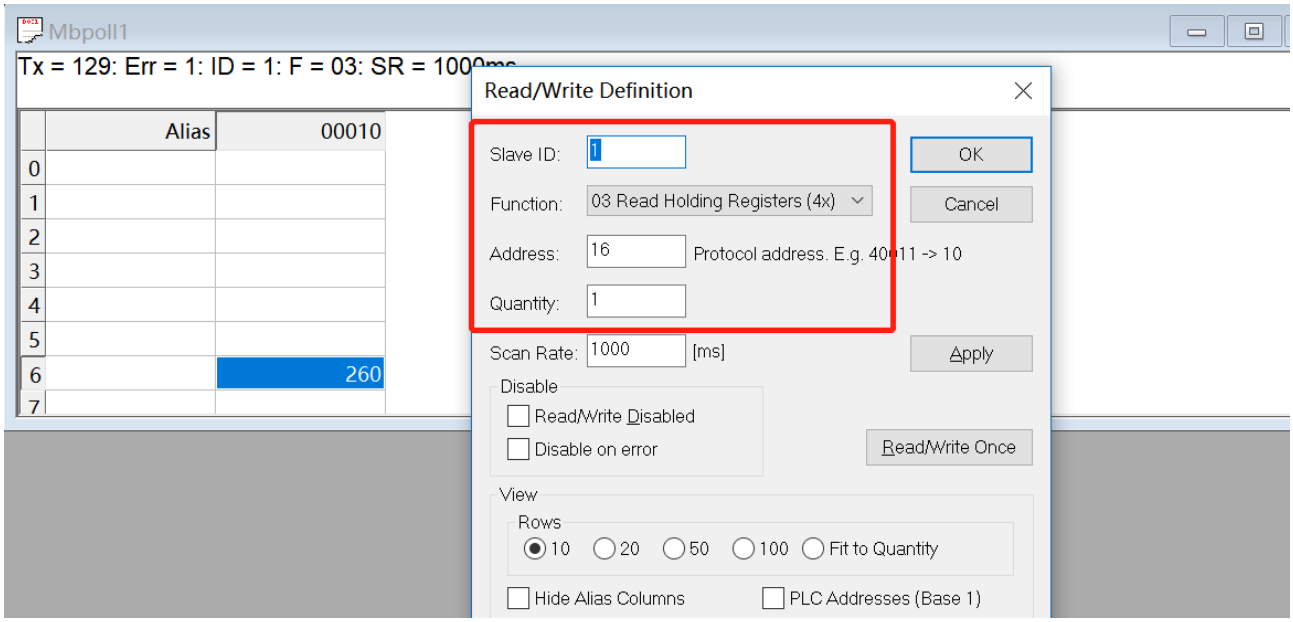
Sensor responds:

Address	Function Code	Number of Points	ID	baud and parity	Error Check (Lo)	Error Check (Hi)
0x01	0x03	0x02	0x01	0x0B	0xF8	0x13

ID=01 (HEX) = 1 (DEC)
baud and parity =0B (HEX) = 0000 1011 (BIN)
so, baud = 011 = 4800, parity = 01 = even

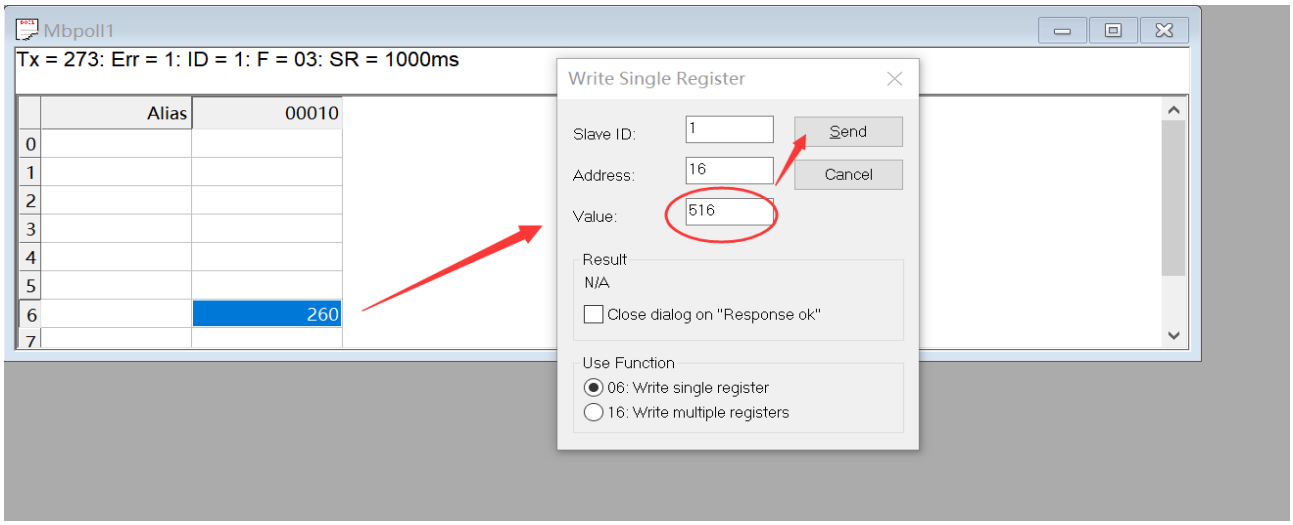
Set id by Modbus poll

1. Read Parameter register (address = 10 Hex = 16)



2. E.g., Set id=2, baud=9600, parity=none (corresponding value= 02 04 H = 516)

Double click register value, enter 516 and click send



Read channel 1 - channel 32 in unit16

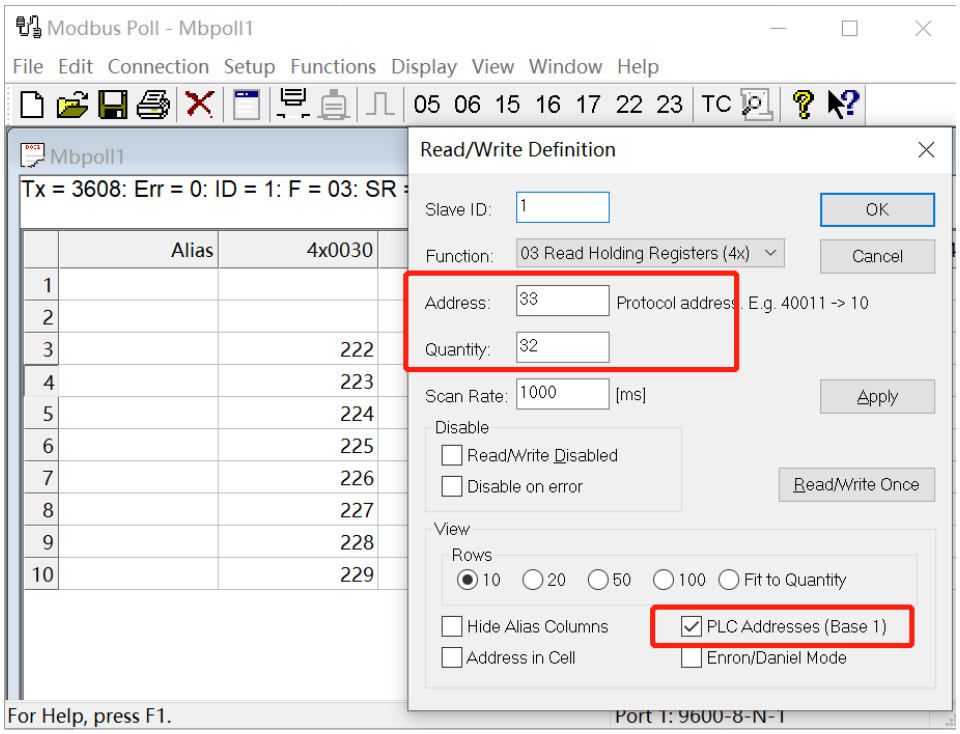
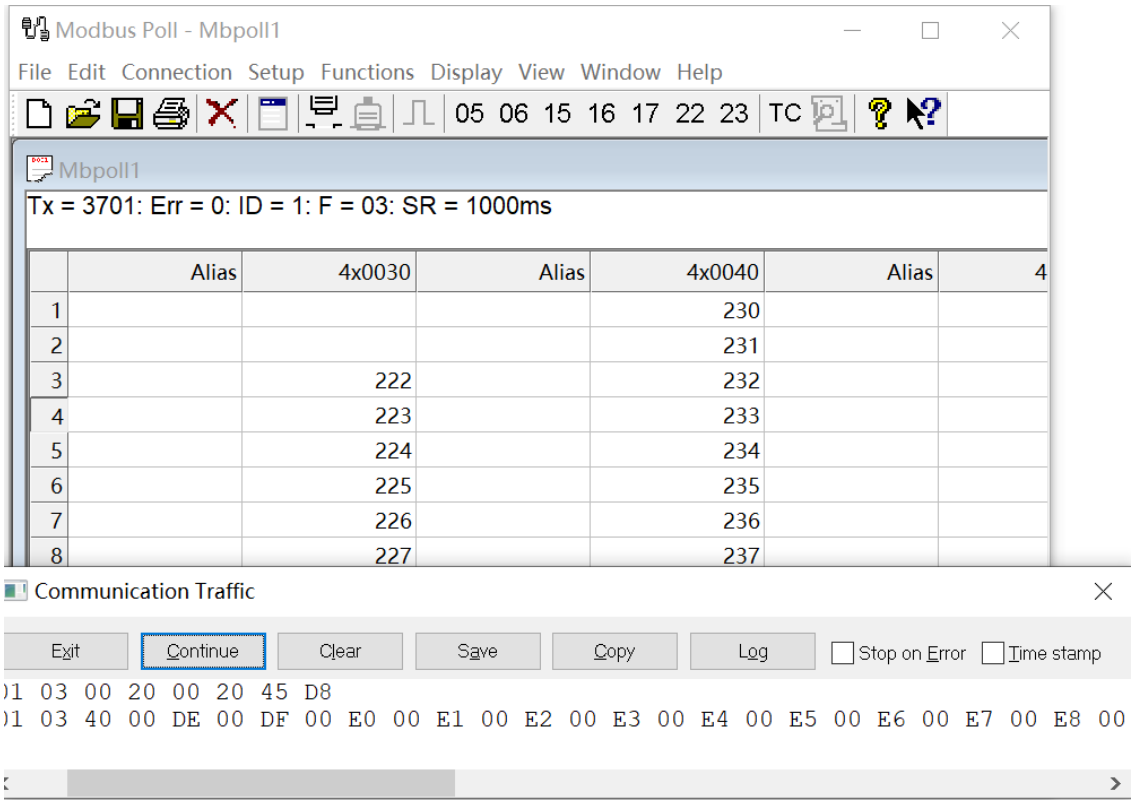
Master sends

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	0x00	0x20	0x00	0x20	0X45	0XD8

Sensor responds:

Address	Function Code	Number of byte	value	Error Check (Lo)	Error Check (Hi)
0x01	0x03	0x40	0x00 0XDE 0X00 0Xdf 0x00 0Xe0 0x00 0xe1 0x00 0xe2 0x00 0xe3 0x00 0xe4 0x00 0xe5 0x00 0xe6 0x00 0xe7 0x00 0xe8 0x00 0xe9 0x00 0xea 0x00 0xeb 0x00 0xec 0x00 0xed 0x00 0xee 0x00 0xef 0x00 0xf0 0x00 0xf1 0x00 0xf2 0x00 0xf3 0x00 0xf4 0x00 0xf5 0x00 0xf6 0x00 0xf7 0x00 0xf8 0x00 0xf9 0x00 0xfa 0x00 0xfb 0x00 0xfc 0x01 0x0a	0xc5	0x78

Channel 1:DE H=>222 D=22.2
Channel 2:DF H=>223 D=22.3
Channel 3:E0 H=>224 D=22.4
Channel 4:E1 H=>225 D=22.5
Channel 5:E2 H=>226 D=22.6
Channel 6:E3 H=>227 D=22.7
Channel 7:E4 H=>228 D=22.8
Channel 8:E5 H=>229 D=22.9
Channel 9:E6 H=>230 D=23.0
Channel 10:E7 H=>231 D=23.1
Channel 11:E8 H=>232 D=23.2
Channel 12:E9 H=>233 D=23.3
Channel 13:EA H=>234 D=23.4
Channel 14:EB H=>235 D=23.5
Channel 15:EC H=>236 D=23.6
Channel 16:ED H=>237 D=23.7
Channel 17:EE H=>238 D=23.8
Channel 18:EF H=>239 D=23.9
Channel 19:F0 H=>240 D=24.0
Channel 20:F1 H=>241 D=24.1
Channel 21:F2 H=>242 D=24.2
Channel 22:F3 H=>243 D=24.3
Channel 23:F4 H=>244 D=24.4
Channel 24:F5 H=>245 D=24.5
Channel 25:F6 H=>246 D=24.6
Channel 26:F7 H=>247 D=24.7
Channel 27:F8 H=>248 D=24.8
Channel 28:F9 H=>249 D=24.9
Channel 29:FA H=>250 D=25.0
Channel 30:FB H=>251 D=25.1
Channel 31:FC H=>252 D=25.2
Channel 32:10A H=>266 D=26.6

Read by Modbus poll

Read channel 1- channel 32 in unit16