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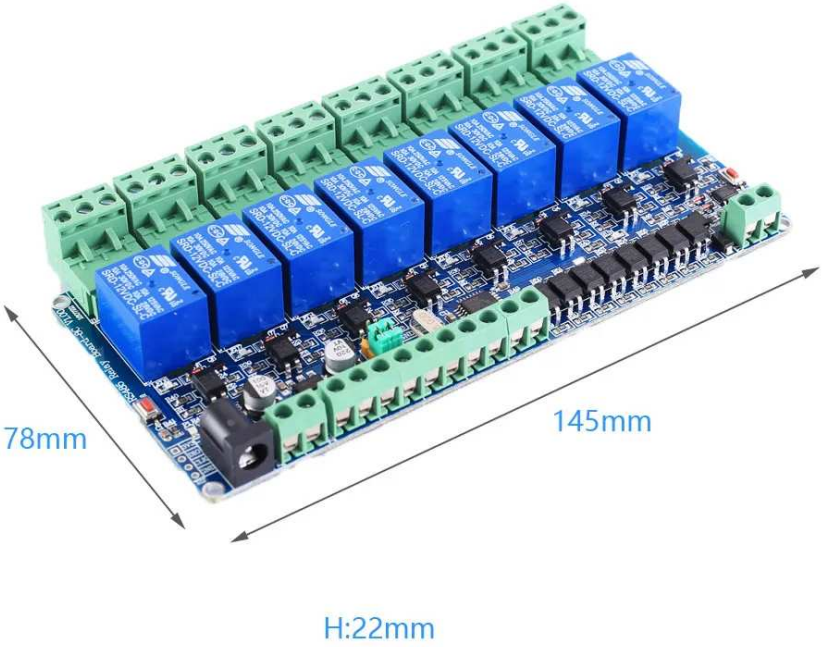
REL485-8CH-12V

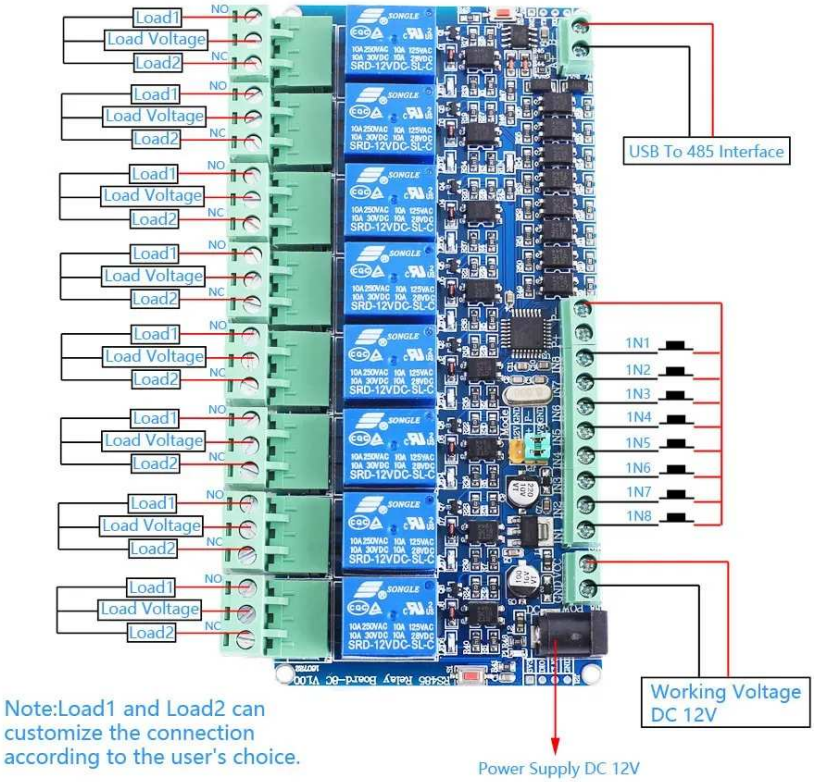


1.Description:

It is a 8-Channels ModbusRTU relay module equipped with mature and stable 8-bit MCU and RS485 level communication chip,adopt standard MODBUS RTU format RS485 communication protocol. It can realize 8bit input signal detection and 8bit relay output. It can be used for digital detection or power control occasions..

2.Features:
1>.Support Modbus RTU protocol
2>.Support RS485/TTL UART interface
3>.Output indicator in multi mode
4>.Address can be set
5>.Support input reverse connection protection
6>.Relay switch output
7>.Support parameter memory function
8>.Optocoupler isolation

3.Parameters:
1>.Product name: 8Bit MODBUS RTU Relay Module
3>.Work voltage:DC 12V
3>.Work current:1A
4>.Baud rate:4800/9600/19600bps(default 9600bps)
5>.Optocoupler input signal:DC 12V
6>.Set address:1~255
7>.Relay control mode: ON/OFF,Delay_ON,Delay_OFF mode
8>.Delay time: 0~25.5s
9>.Load: AC 250V 10A or DC 30V 10A
10>.Protocol:Modbus RTU
11>.Interface:RS485/TTL UART
12>.Control channel: 8channel
13>.Work Temperature:-20℃~85℃
14>.Work Humidity:10%~85%RH
15>.PCB Size:145*78*22mm



4.MODBUS RTU Command:

1>.Baud rate: 9600,8,None,1

/***********Set Device Address**/

2>.Set device address to 0x01: 00 10 00 00 00 01 02 00 01 6A 00

3>.Set device address to 0x02: 00 10 00 00 00 01 02 00 02 2A 01

4>.Set device address to 0x03: 00 10 00 00 00 01 02 00 03 EB C1

/***********Command Format**/

5>.Read device address: 00 03 00 00 00 01 85 db

Return:00 03 02 00 01 44 44 //01 is device address.

6>.Set command format:

Turn ON 1# relay: 01 05 00 01 01 00 9d 9a

Note_1:The 1st byte is device address.

Note_2:The 2nd byte is function code.

Note_3:The 3rd and 4th byte are relay/register addresses. So it can be 0x0000, 0x0001, 0x0002, 0x0003, 0x0004, 0x0005, 0x0006, 0x0007.

Note_4:The 5th and 6th byte are relay/register data. 01 means turn ON relay and 00 means turn OFF relay.

Note_5:The 7th and 8th byte are CRC code.

/***********Turn ON/OFF Relay**/

7>.Turn ON 0# relay: 01 05 00 00 FF 00 8C 3A

Turn OFF 0# relay: 01 05 00 00 00 00 CD CA

8>.Turn ON 1# relay: 01 05 00 01 FF 00 DD FA

Turn OFF 1# relay: 01 05 00 01 00 00 9C 0A

9>.Turn ON 2# relay: 01 05 00 02 FF 00 2D FA

Turn OFF 2# relay: 01 05 00 02 00 00 6C 0A

10>.Turn ON 3# relay: 01 05 00 03 FF 00 7C 3A

Turn OFF 3# relay: 01 05 00 03 00 00 3D CA

11>.Turn ON 4# relay: 01 05 00 04 FF 00 CD FB

Turn OFF 4# relay: 01 05 00 04 00 00 8C 0B

12>.Turn ON 5# relay: 01 05 00 05 FF 00 9C 3B

Turn OFF 5# relay: 01 05 00 05 00 00 DD CB

13>.Turn ON 6# relay: 01 05 00 06 FF 00 6C 3B

Turn OFF 6# relay: 01 05 00 06 00 00 2D CB

14>.Turn ON 7# relay: 01 05 00 07 FF 00 3D FB

Turn OFF 7# relay: 01 05 00 07 00 00 7C 0B

/**********Read Relay Status**********/
15>.Read 0# relay status: 01 01 00 00 00 01 FD CA
16>.Read 1# relay status: 01 01 00 01 00 01 AC 0A
17>.Read 2# relay status: 01 01 00 02 00 01 5C 0A
18>.Read 3# relay status: 01 01 00 03 00 01 0D CA
19>.Read 4# relay status: 01 01 00 04 00 01 BC 0B
20>.Read 5# relay status: 01 01 00 05 00 01 ED CB
21>.Read 6# relay status: 01 01 00 06 00 01 1D CB
23>.Read 7# relay status: 01 01 00 07 00 01 4C 0B
24>.Read all relay status: 01 01 00 00 00 08 3D CC

/**********Turn ON Delay Mode**********/
25>.Function: Relay will turn ON for a delay time and then turn OFF.
26>.The unit of delay time is 100ms[It means 1 is 100ms]
27>.Control 1# device 0# relay: 01 05 02 00 07 00 CE 42 //7*100ms = 700ms
28>.Control 1# device 1# relay: 01 05 02 01 08 00 9A 72 //800MS
29>.Control 2# device 0# relay: 02 05 02 00 05 00 CF 11 //500MS
30>.Control 2# device 1# relay: 02 05 02 01 06 00 9E 21 //600MS
31>.Turn ON all relay: 01 0F 00 00 00 08 01 00 FE 95
32>.Turn ON all relay: 01 0F 00 00 00 08 01 FF BE D5
/**********Reverse Output State**********/
33>.Reverse 0# relay: 01 05 00 00 55 00 F2 9A
34>.Reverse 1# relay: 01 05 00 01 55 00 A3 5A
35>.Reverse 2# relay: 01 05 00 02 55 00 53 5A
36>.Reverse 3# relay: 01 05 00 03 55 00 02 9A
37>.Reverse 4# relay: 01 05 00 04 55 00 B3 5B
38>.Reverse 5# relay: 01 05 00 05 55 00 E2 9B
49>.Reverse 6# relay: 01 05 00 06 55 00 12 9B
40>.Reverse 7# relay: 01 05 00 07 55 00 43 5B
41>.Reverse all relay: 01 05 00 00 5A 00 F7 6A
/**********Read 8-Bit Input State**********/
42>.Send: 01 02 00 00 00 08 79 CC
43>.Receive:01 02 01 00 A1 88

N.O.	Command	Instruction	Return value	Explanation
1	Set the address to 01	00 10 00 00 00 01 02 00 01 6A 00	———	Modified to 01
2	Set the address to 02	00 10 00 00 00 01 02 00 02 2A 01	———	Modified to 02
3	Set the address to 03	00 10 00 00 00 01 02 00 03 EB C1	———	Modified to 03
4	Read address	00 03 00 00 00 01 85 db	00 03 02 00 01 44 44	01 is the device address

N.O.	Instruction Explanation (01 05 00 01 01 00 9d 9a)	Command (Set No. 1 Relay)
1	Byte 1: 01	Device address
2	Byte 2: 05	Function code
3	Byte 3,4: 00 01	Represents the register address
4	Byte 5,6: 01 00	Register data
5	Byte 7,8: 9d 94	CRC check

N.O.	Command	Instruction
1	Relay 0 turns ON	01 05 00 00 FF 00 8C 3A
2	Relay 0 turns OFF	01 05 00 00 00 00 CD CA
3	Relay 1 turns ON	01 05 00 01 FF 00 DD FA
4	Relay 1 turns OFF	01 05 00 01 00 00 9C 0A
5	Relay 2 turns ON	01 05 00 02 FF 00 2D FA
6	Relay 2 turns OFF	01 05 00 02 00 00 6C 0A
7	Relay 3 turns ON	01 05 00 03 FF 00 7C 3A
8	Relay 3 turns OFF	01 05 00 03 00 00 3D CA
9	Relay 4 turns ON	01 05 00 04 FF 00 CD FB
10	Relay 4 turns OFF	01 05 00 04 00 00 8C 0B
11	Relay 5 turns ON	01 05 00 05 FF 00 9C 3B
12	Relay 5 turns OFF	01 05 00 05 00 00 DD CB
13	Relay 6 turns ON	01 05 00 06 FF 00 6C 3B
14	Relay 6 turns OFF	01 05 00 06 00 00 2D CB
15	Relay 7 turns ON	01 05 00 07 FF 00 3D FB
16	Relay 7 turns OFF	01 05 00 07 00 00 7C 0B

N.O.	Command	Instruction
1	Read relay status 0	01 01 00 00 00 01 FD CA
2	Read relay status 1	01 01 00 01 00 01 AC 0A
3	Read relay status 2	01 01 00 02 00 01 5C 0A
4	Read relay status 3	01 01 00 03 00 01 0D CA
5	Read relay status 4	01 01 00 04 00 01 BC 0B
6	Read relay status 5	01 01 00 05 00 01 ED CB
7	Read relay status 6	01 01 00 06 00 01 1D CB
8	Read relay status 7	01 01 00 07 00 01 4C 0B
9	Read all relay status	01 01 00 00 00 08 3D CC

N.O.	Command	Instruction	Return value	Explanation
1	Relay 0 Instantaneous trigger	01 05 02 00 07 00 CE 42 // 700MS=7*100MS=700MS	01 05 02 00 07 00 CE 42 // 700MS=7*100MS=700MS	Address 1
2	Relay 1 Instantaneous trigger	01 05 02 01 08 00 9A 72 // 800MS	01 05 02 01 08 00 9A 72 // 800MS	Address 1
3	Relay 0 Instantaneous trigger	02 05 02 00 05 00 CF 11 // 500MS	02 05 02 00 05 00 CF 11 // 500MS	Address 2
4	Relay 1 Instantaneous trigger	02 05 02 01 06 00 9E 21 // 600MS	02 05 02 01 06 00 9E 21 // 600MS	Address 2
5	Completely destroyed	01 0F 00 00 00 08 01 00 FE 95	——	
6	Full bright	01 0F 00 00 00 08 01 FF BE D5	——	

N.O.	Command	Instruction
1	Relay 0 flip	01 05 00 00 55 00 F2 9A
2	Relay 1 flip	01 05 00 01 55 00 A3 5A
3	Relay 2 flip	01 05 00 02 55 00 53 5A
4	Relay 3 flip	01 05 00 03 55 00 02 9A
5	Relay 4 flip	01 05 00 04 55 00 B3 5B
6	Relay 5 flip	01 05 00 05 55 00 E2 9B
7	Relay 6 flip	01 05 00 06 55 00 12 9B
8	Relay 7 flip	01 05 00 07 55 00 43 5B
9	All flip instructions:	01 05 00 00 5A 00 F7 6A

N.O.	Command	Instruction	Return value	Explanation
1	Read all interface input status	01 02 00 00 00 08 79 CC	01 02 01 00 A1 88	Read 8 input states

5.Application:

1>.Embedded system control

2>.Industrial control

3>.Micro mobile device control