

8-way communication protocol description (Ver.2)

Serial port settings : Baud rate 9600, 8 data bits, one stop bit, no parity.

Data frame : each data frame consists of 8 bytes. Are: header, address, function code, the four bytes of data, the checksum.

Host sends (8 bytes):

Header a byte 0x55

Destination address a byte

Function code one byte 0x13: according to the actual transmission

Four bytes of data: The first byte is sent first, then the second, third, four bytes

And a checksum byte, the data obtained by adding all the previous.

Function Code Description:

0x13 : fourth byte of the data of eight representatives 16, 1: Pick 0: off (set according to the actual status of all relays)

Checksum all the previous data obtained by adding (corresponding bit together, pay attention to Carry)

Lower machine returns:

Header a byte 0x22

The machine address a byte

Data type a byte 0

Four bytes of data:

Data 0 meaningless

Data 1 is a meaningless

Data 2 used for the expansion of 16

8 relay data 3 represents the current state of

Checksum all the previous data obtained by adding (corresponding bit together, pay attention to Carry)

Example (assuming address is 1)

Host sends:

55 01 13 00 00 00 00 69 disconnect all 8 relay namely: 0B00000000 (each one represents all the way) Each channel will pull the corresponding bit to write a

Suck each path individually code below:

55 01 13 00 00 00 01 6A pull the first relay that: 0B00000001 (each one represents all the way)

55 01 13 00 00 00 02 6B pull second relay namely: 0B00000010 (each one represents all the way)

55 01 13 00 00 00 04 6D pull third relay namely: 0B00000100 (each one represents all the way)

55 01 13 00 00 00 08 71 pull fourth relay namely: 0B00001000 (each one represents all the way)

55 01 13 00 00 00 10 79 pull fifth relay namely: 0B00010000 (each one represents all the way)
 55 01 13 00 00 00 20 89 pull sixth relay namely: 0B00100000 (each one represents all the way)
 55 01 13 00 00 00 40 A9 pull seventh relay namely: 0B01000000 (each one represents all the way)
 55 01 13 00 00 00 80 E9 pull eighth relay namely: 0B10000000 (each one represents all the way)

If you pull multiplexer, such as: pull compared to 1234 Road 55 01 13 00 00 00 0F 78 namely: 0B00001111
 For example: pull compared to 5678 Road 55 01 13 00 00 00 F0 59 namely: 0B00001111

If you disconnect a certain way, it will correspond to the write is 0;
 1234 Road in pull such a state, that code number 55 01 13 00 00 00 0F 78; disconnect the second way that
 you want to set the status is sent to 0B00001101 55 01 13 00 00 00 0D 76

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Note: The code can use PC software, you can use the serial debugging assistant, because using MODBUS protocol, parity bit is sent before 7 data encryption and therefore requires a personal computer serial debugging assistant over trouble spots, use a serial send code debugging assistant detailed calculation methods attached.

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Serial debugging assistant : (Calculation method) Through more than a few road code data can be drawn: the first six codes that are invariant

55 01 13 00 00 00 then added and the six code $55+01+13+00+00+00=69$, which is the digit adder. Seventh code data is to control 8-way relay is assumed that this data is 08 us code, then the checksum (that is, the eighth code) is $08+69=6(8+9)=6(17)$: Description brackets shows the calculation for the decomposition, because the hexadecimal code, every 16 into 1, so $08+69 = (6+1)(17-16)=71$, then 8 code

55 01 13 00 00 00 08 71; Again we seventh data code AB is (A=10) (B=11), the checksum is $69+AB=69+(10)(11)=(6+10)(10+11)=(16)(20)=(16-16+1)(20-16)=14$, the point to note 16 to carry high but we only 8-bit numbers, so directly into the rounded value of the bit; will have issued a code for 55 01 13 00 00 00 AB 14.

If you use PC software: PC has been set up inside, can be applied directly

Next crew replied: 22 01 00 00 00 00 XX HH

Address is 1 relay board with 8 relays XX represents the state

XX represents the 8 relay real-time status on behalf of HH checksum

Description: Agreement meaningless bytes reserved for future upgrades