

## 8 Channel RS232 IO Controller Command

This product supports two kinds of instructions, AT command (ASCII code) and 8-byte command (HEX format).

Automatic recognition of two kinds of commands, no need to switch..

### AT command (ASCII code)

Note: AT commands must be uppercase, lowercase invalid.

9600 Band ,8 Data bits, None Parity, 1 Stop Bit. This command has a delay function

Read Status:

Channel 1: AT+R1

Channel 2: AT+R2

Channel 3: AT+R3

Channel 4: AT+R4

Channel 5: AT+R5

Channel 6: AT+R6

Channel 7: AT+R7

Channel 8: AT+R8

Open :

Channel 1 : AT+O1

Channel 2 : AT+O2

Channel 3: AT+O3

Channel 4: AT+O4

Channel 5: AT+O5

Channel 6: AT+O6

Channel 7: AT+O7

Channel 8: AT+O8

Close:

Channel 1 : AT+C1

Channel 2 : AT+C2

Channel 3 : AT+C3

Channel 4 : AT+C4

Channel 5: AT+C5

Channel 6: AT+C6

Channel 7: AT+C7

Channel 8: AT+C8

Toggle (Self-locking)

Channel 1: AT+T1

Channel 2: AT+T2

Channel 3: AT+T3  
Channel 4: AT+T4  
Channel 5: AT+T5  
Channel 6: AT+T6  
Channel 7: AT+T7  
Channel 8: AT+T8

#### Latch (Inter-locking)

Channel 1: AT+L1  
Channel 2: AT+L2  
Channel 3: AT+L3  
Channel 4: AT+L4  
Channel 5: AT+L5  
Channel 6: AT+L6  
Channel 7: AT+L7  
Channel 8: AT+L8

#### Momentary (Non-locking)

Channel 1: AT+M1  
Channel 2: AT+M2  
Channel 3: AT+M3  
Channel 4: AT+M4  
Channel 5: AT+M5  
Channel 6: AT+M6  
Channel 7: AT+M7  
Channel 8: AT+M8

#### Delay

Channel 1: AT+D1=XXXX  
Channel 2: AT+D2=XXXX  
Channel 3: AT+D3=XXXX  
Channel 4: AT+D4=XXXX  
Channel 5: AT+D5=XXXX  
Channel 6: AT+D6=XXXX  
Channel 7: AT+D7=XXXX  
Channel 8: AT+D8=XXXX

XXXX refers to the 0000 to 9999 figures, Unit is seconds

#### All Relays Open

AT+AO

#### All Relays Close

AT+AC

Return command : OpenX, CloseX (X = 1/2/3/4/5/6/7/8/A)

Example 1:

Send command "AT+D1=0010", Channel 1 is "Open", after delay of 10 seconds, channel 1 is "Close"

Send command "AT+D2=0100", Channel 2 is "Open", after delay of 100 seconds, channel 2 is "Close"

Example 2:

Send command "AT+L1", Channel 1 is "Open", other Channels is "Close"

Send command "AT+L2", Channel 2 is "Open", other Channels is "Close"

### 8-byte command (HEX format)

**Note : The data must be in HEX format.**

9600 Band ,8 Data bits,None Parity,1 Stop Bit. This commands has no delay function

Control command format:

| Bytes Number   | 1          | 2 | 3              | 4 | 5 | 6                                                                                                                                            | 7       | 8                                                            |
|----------------|------------|---|----------------|---|---|----------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------------------------------------------|
|                | Frame head |   | Reserved bytes |   |   | Channel                                                                                                                                      | Command | checksum                                                     |
| Reading status | 0x5556     |   | 0x000000       |   |   | 0x01 Channel 1<br>0x02 Channel 2<br>0x03 Channel 3<br>0x04 Channel 4<br>0x05 Channel 5<br>0x06 Channel 6<br>0x07 Channel 7<br>0x08 Channel 8 | 00      | 0xAB<br>0xAC<br>0xAD<br>0xAE<br>0xAF<br>0xB0<br>0xB1<br>0xB2 |
| Relay open     | 0x5556     |   | 0x000000       |   |   | 0x01 Channel 1<br>0x02 Channel 2<br>0x03 Channel 3<br>0x04 Channel 4<br>0x05 Channel 5<br>0x06 Channel 6<br>0x07 Channel 7<br>0x08 Channel 8 | 01      | 0xAD<br>0xAE<br>0xAF<br>0xB0<br>0xB1<br>0xB2<br>0xB3<br>0xB4 |
| Relay close    | 0x5556     |   | 0x000000       |   |   | 0x01 Channel 1<br>0x02 Channel 2<br>0x03 Channel 3                                                                                           | 02      | 0xAE<br>0xAF<br>0xB0                                         |

|                  |        |          |                                                                                                                                              |    |                                                              |
|------------------|--------|----------|----------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------------------------------------------------|
|                  |        |          | 0x04 Channel 4<br>0x05 Channel 5<br>0x06 Channel 6<br>0x07 Channel 7<br>0x08 Channel 8                                                       |    | 0xB1<br>0xB2<br>0xB3<br>0xB4<br>0xB5                         |
| Relay toggle     | 0x5556 | 0x000000 | 0x01 Channel 1<br>0x02 Channel 2<br>0x03 Channel 3<br>0x04 Channel 4<br>0x05 Channel 5<br>0x06 Channel 6<br>0x07 Channel 7<br>0x08 Channel 8 | 03 | 0xAF<br>0xB0<br>0xB1<br>0xB2<br>0xB3<br>0xB4<br>0xB5<br>0xB6 |
| Relay Interlock  | 0x5556 | 0x000000 | 0x01 Channel 1<br>0x02 Channel 2<br>0x03 Channel 3<br>0x04 Channel 4<br>0x05 Channel 5<br>0x06 Channel 6<br>0x07 Channel 7<br>0x08 Channel 8 | 04 | 0xB0<br>0xB1<br>0xB2<br>0xB3<br>0xB4<br>0xB5<br>0xB6<br>0xB7 |
| Relay momentary  | 0x5556 | 0x000000 | 0x01 Channel 1<br>0x02 Channel 2<br>0x03 Channel 3<br>0x04 Channel 4<br>0x05 Channel 5<br>0x06 Channel 6<br>0x07 Channel 7<br>0x08 Channel 8 | 05 | 0xB1<br>0xB2<br>0xB3<br>0xB4<br>0xB5<br>0xB6<br>0xB7<br>0xB8 |
| All Relays Open  | 0x5556 | 0x000000 | 0X00 All Relay                                                                                                                               | 07 | B2                                                           |
| All Relays Close | 0x5556 | 0x000000 | 0X00 All Relay                                                                                                                               | 08 | B3                                                           |

## 5 Control commands:

### 1. Reading status (reading the status of the relay (on/off))

Channel 1 : 55 56 00 00 00 01 00 AC

Channel 2 : 55 56 00 00 00 02 00 AD

Channel 3 : 55 56 00 00 00 03 00 AE

Channel 4 : 55 56 00 00 00 04 00 AF

Channel 5 : 55 56 00 00 00 05 00 B0  
Channel 6 : 55 56 00 00 00 06 00 B1  
Channel 7 : 55 56 00 00 00 07 00 B2  
Channel 8 : 55 56 00 00 00 08 00 B3

2. Relay open (issue this command , Relay open , COM connect to NO )

Channel 1 : 55 56 00 00 00 01 01 AD  
Channel 2 : 55 56 00 00 00 02 01 AE  
Channel 3 : 55 56 00 00 00 03 01 AF  
Channel 4 : 55 56 00 00 00 04 01 B0  
Channel 5 : 55 56 00 00 00 05 01 B1  
Channel 6 : 55 56 00 00 00 06 01 B2  
Channel 7 : 55 56 00 00 00 07 01 B3  
Channel 8 : 55 56 00 00 00 08 01 B4

3. Relay close (issue this command , Relay close , COM disconnect NO , and COM connect to NC )

Channel 1 : 55 56 00 00 00 01 02 AE  
Channel 2 : 55 56 00 00 00 02 02 AF  
Channel 3 : 55 56 00 00 00 03 02 B0  
Channel 4 : 55 56 00 00 00 04 02 B1  
Channel 5 : 55 56 00 00 00 05 02 B2  
Channel 6 : 55 56 00 00 00 06 02 B3  
Channel 7 : 55 56 00 00 00 07 02 B4  
Channel 8 : 55 56 00 00 00 08 02 B5

4. Relay toggle (Relay status reversal, if COM connect to NO, this commands will Disconnect COM to NO and Reverse COM connect to NC, and vice versa)

Channel 1 : 55 56 00 00 00 01 03 AF  
Channel 2 : 55 56 00 00 00 02 03 B0  
Channel 3 : 55 56 00 00 00 03 03 B1  
Channel 4 : 55 56 00 00 00 04 03 B2  
Channel 5 : 55 56 00 00 00 05 03 B3  
Channel 6 : 55 56 00 00 00 06 03 B4  
Channel 7 : 55 56 00 00 00 07 03 B5  
Channel 8 : 55 56 00 00 00 08 03 B6

## 5. Relay Interlock

Channel 1 : 55 56 00 00 00 01 04 B0  
 Channel 2 : 55 56 00 00 00 02 04 B1  
 Channel 3 : 55 56 00 00 00 03 04 B2  
 Channel 4 : 55 56 00 00 00 04 04 B3  
 Channel 5 : 55 56 00 00 00 05 04 B4  
 Channel 6 : 55 56 00 00 00 06 04 B5  
 Channel 7 : 55 56 00 00 00 07 04 B6  
 Channel 8 : 55 56 00 00 00 08 04 B7

## 6. Relay momentary (Relay COM connect to NO, disconnect after 500MS )

Channel 1 : 55 56 00 00 00 01 05 B1  
 Channel 2 : 55 56 00 00 00 02 05 B2  
 Channel 3 : 55 56 00 00 00 03 05 B3  
 Channel 4 : 55 56 00 00 00 04 05 B4  
 Channel 5 : 55 56 00 00 00 05 05 B5  
 Channel 6 : 55 56 00 00 00 06 05 B6  
 Channel 7 : 55 56 00 00 00 07 05 B7  
 Channel 8 : 55 56 00 00 00 08 05 B8

## 7 All Relays Open

55 56 00 00 00 00 07 B2

## 8 All Relays Close

55 56 00 00 00 00 08 B3

Once issue a command, will have a return fame , 7th byte of return fame mean the satus of realy .

Return command format:

| Bytes Number      | 1          | 2 | 3              | 4 | 5 | 6                                                                                                        | 7       | 8                                            |
|-------------------|------------|---|----------------|---|---|----------------------------------------------------------------------------------------------------------|---------|----------------------------------------------|
|                   | Frame head |   | Reserved bytes |   |   | Channel                                                                                                  | Command | checksum                                     |
| Return relay open | 0x333C     |   | 0x000000       |   |   | 0x01 Channel 1<br>0x02 Channel 2<br>0x03 Channel 3<br>0x04 Channel 4<br>0x05 Channel 5<br>0x06 Channel 6 | 01      | 0x71<br>0x72<br>0x73<br>0x74<br>0x75<br>0x76 |

|                           |        |          |                                                                                                                                              |    |                                                              |
|---------------------------|--------|----------|----------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------------------------------------------------|
|                           |        |          | 0x07 Channel 7<br>0x08 Channel 8                                                                                                             |    | 0x77<br>0x78                                                 |
| Return all<br>Relay open  | 0x333C | 0x000000 | 0X00 All Relay                                                                                                                               | 01 | 0X70                                                         |
| Return<br>relay close     | 0x333C | 0x000000 | 0x01 Channel 1<br>0x02 Channel 2<br>0x03 Channel 3<br>0x04 Channel 4<br>0x05 Channel 5<br>0x06 Channel 6<br>0x07 Channel 7<br>0x08 Channel 8 | 02 | 0x72<br>0x73<br>0x74<br>0x75<br>0x76<br>0x77<br>0x78<br>0x79 |
| Return all<br>Relay close | 0x333C | 0x000000 | 0X00 All Relay                                                                                                                               | 02 | 0X71                                                         |

## 2 return command

### 1、Return relay open (return this command, mean COM connect to NO )

Channel 1 : 33 3C 00 00 00 01 01 71  
 Channel 2 : 33 3C 00 00 00 02 01 72  
 Channel 3 : 33 3C 00 00 00 03 01 73  
 Channel 4 : 33 3C 00 00 00 04 01 74  
 Channel 5 : 33 3C 00 00 00 05 01 75  
 Channel 6 : 33 3C 00 00 00 06 01 76  
 Channel 7 : 33 3C 00 00 00 07 01 77  
 Channel 8 : 33 3C 00 00 00 08 01 78

### 2、Return relay close (return this command, mean COM disconnect NO , and COM connect to NC )

Channel 1 : 33 3C 00 00 00 01 02 72  
 Channel 2 : 33 3C 00 00 00 02 02 73  
 Channel 3 : 33 3C 00 00 00 03 02 74  
 Channel 4 : 33 3C 00 00 00 04 02 75  
 Channel 5 : 33 3C 00 00 00 05 02 76  
 Channel 6 : 33 3C 00 00 00 06 02 77  
 Channel 7 : 33 3C 00 00 00 07 02 78  
 Channel 8 : 33 3C 00 00 00 08 02 79