

TC0521

PROTOCOL OF SERIAL INTERFACE



For more information about our products and services, please send us an email
cs@perfectprime.com

**Perfect
Prime**[®]

The command of Digital Output is list below:

RS232 command	Function	Remarks
A(ASC 41H)	Send encoded data	Return encoded 64 byte
C(ASC 43H)	°C°F button	
E(ASC 45H)	REC button	
H(ASC 48H)	HOLD button	
K(ASC 4BH)	Ask for model No.	Return 4 bytes
M(ASC 4DH)	MAX/MIN button	
N(ASC 4EH)	Exit MAX/MIN mode	
R	Recall command	
m	MEM function	

Note:you have to send 7 byte to meter, for example, if you want to send A comand, the format will be 0x02 0x41 0x00 0x00 0x00 0x00 0x03

Example in C++

```
WORD wPID=0x04D9;
WORD wVID=0xE000;
unsigned char pCmd[7]={0x02,0x41,0x00,0x00,0x00,0x00,0x03};
unsigned char pBuf[64];
```

```
//send command
HTUSB_Close();
if(HTUSB_Open(wPID, wVID) != 0)
    return false;
else
    {
```

```

        if(HTUSB_Set-
Timeouts(500, 500 )!=HT_SUCCESS)
            return false;
        else
        {
            HTUSB_WriteCmd(7, pCmd);
        }
    }

//receive data
HTUSB_ReadData(64, pBuf)

HTUSB_Close();
```

Command K:

Return 4 bytes. For example, when sends command "K" to meter, it will return "5","2","1", ASCII(13) .

Command M:

Equivalent to one pushing on the MAX/MIN button and no message is returned.

Command N:

Equivalent to one pushing and hold the MAX/MIN button for two seconds to exit MAX/MIN mode.

Command E:

Equivalent to one pushing on the REC button and no message is returned.

Command A : (Return 64 Byte)

1st BYTE

The first byte is the start byte , it value is 02.

2nd BYTE

bat_status
 3->3 cells
 2->2 cells
 1->1 cells
 0->empty

3rd BYTE

bit 0 1 -> display T1-T2
 bit 1 1-> recall mode
 bit 2 1->T1 xxxx 0-> xxx.x
 bit3: 1->T2 xxxx 0-> xxx.x
 bit4: 1->T3 xxxx 0-> xxx.x
 bit5: 1->T4 xxxx 0-> xxx.x
 bit6: 1->T1-T2 xxxx 0-> xxx.x
 bit7: 1->C 0->F

4th BYTE

bit 0 1 -> alarm
 bit 1 1-> reading exceed high alarm
 bit 2 1-> reading below low alarm
 bit3: 1->recording
 bit4: 1->memory is full
 bit5: 1->HOLD mode
 bit6: 1->MAX/MIN mode
 bit7: 1->blue tooth enabled

5th BYTE

bit 0 1 -> MAX
 bit 1 1-> MIN
 bit 2 1-> AVG
 bit3: 1->MAX/MIN/AVG flash
 bit4: 1->
 bit5: 1->
 bit6: 1->
 bit7: 1

6th BYTE

0->K type
 1->J type
 2->E type
 3->T type

7th BYTE

bit 0 -> 1->T1_OL
 bit 1 -> 1->T2_OL
 bit 2 -> 1->T3_OL
 bit 3 -> 1->T4_OL
 bit 4 -> 1->T1_unplug
 bit 5 -> 1->T1_unplug
 bit 6 -> 1->T1_unplug
 bit 7 -> 1->T1_unplug

For example: 10th and 11th byte are 0x01 0x02 then T1 will be 0x0102 that is 258 in decimal , then divided by 10 , that is 25.8 degree

10th BYTE and **11th BYTE**: channel 1 value
12th BYTE and **13th BYTE**: channel 2 value
14th BYTE and **15th BYTE**: channel 3 value
16th BYTE and **17th BYTE**: channel 4 value;
18th BYTE and **19th BYTE**: T1-T2 value

39~61 (38~60)lcd segment

62 N/A

63rd checksum BYTE(Not included start byte 02 , end byte 03)

64th BYTE

The last byte is the end byte , it value is 03, first and last byte are used to check frame error.