

TCP/IP Communication Protocol

1. Open Relay CODE and Open Relay time

Command :

SOF	LEN	CMD	Parameters1	Parameters2	CC
Data0	Data1	Data2	Data3	Data4	Data5
A0	04	FB	01 , 02	01-FF	checksum

Data3 : 01 : Open RED Relay ; 02 : Open GREEN Relay ;

Data4 : 01* 0.5S) -FF* 0.5S,Max60S

Answering :

1.

Host send : A0 04 FB 01 ** checksum

Device answer : E4 04 FB 01 status checksum

Status = 00 : Write Success ;

Status = Other Value : Write Failure ;

2.

Host send : A0 04 FB 02 ** checksum

Device answer : E4 04 FB 02 status checksum

Status = 00 : Write Success ;

Status = Other Value : Write Failure ;

2. Delete All date collected

Command :

SOF	LEN	CMD	CC
0xA0	2	0xF9	checksum

Answering :

SOF	LEN	STATUS	CC
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0xE4	2	0x00	checksum
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3. Inquiry data groups stored

Command :

SOF	LEN	CMD	CC
0xA0	2	0xF8	checksum

Answering :

SOF	LEN	STATUS	CNT	CC
0xE4	4	0x00	2 Bytes	checksum

4. Data Collect

Command :

SOF	LEN	CMD	CNT	CC
0xA0	3	0xF7	N	

CNT : the data group collected this time (less than 255)

Answering1 :

SOF	LEN	CMD	CNT	CC
0xE4	0x03	0xF7	N	checksum

Answering2 :

SOF	LEN	CMD	CNT	DATA	CC
0xE4	0x15	0xF7	N (auto - increasing)	18*N Bytes	checksum

CNT : data feedback

DATA : data feedback , 18byte (12BYTE/ID+1BYTE/ANT+5BYTE/TIMER)

TIMER :

```
mon;          /* Month          */
day;          /* Day            */
hour;         /* Hour           */
min;          /* Minute         */
sec;          /* Second         */
```

Example :

E403F70D14

E415F7 00 1234567890ABABCDFFFF789001090B152A35 BA

E415F7 01 1234567890ABABCDFFFF789001090B152A35 B9
 E415F7 02 1234567890ABABCDFFFF789001090B152A35 B8
 E415F7 03 1234567890ABABCDFFFF789001090B152A35 B7
 E415F7 04 1234567890ABABCDFFFF789001090B152A35 B6
 E415F7 05 1234567890ABABCDFFFF789001090B152A35 B5

Steps : Inquiry stored data group NEXT Data Collect NEXT Delete all data collected

5. Time Setting /Inquiry (**Note: special device with RTC**)

Command1 :

SOF	LEN	CMD	F	Par1	Par2	Par3	Par4	Par5	CC
Data0	Data1	Data2	Data3	Data4	Data5	Data6	Data7	Data8	Data9
A0	08	FA	FU	Year-H	Year-L	Mon	Day	Mow	checksum

FU : 00 Initial Date

Answering1 :

Success answering : E4 , 03 , FA , Status , CheckSum ;

Status = 00 : Write Success ;

Status = Other Value : Write Failure ;

Command2 :

SOF	LEN	CMD	F	Par1	Par2	Par3	CC
Data0	Data1	Data2	Data3	Data4	Data5	Data6	Data7
A0	06	FA	FU	Hour	Min	Sec	checksum

FU : 01 Initialize Clock

Answering2 :

Success feedback : E4 , 03 , FA , Status , CheckSum ;

Status = 00 : Write Success ;

Status = Other Value : Write Failure ;

FU : 02 Read Date and Time ;

Command3 :

Host send : A0 , 03 , FA , 01 , CheckSum ;

Answering3 :

Success feedback : E4 , 0A , FA , Year-H , Year-L , Mon , Day , Mow , Hour , Min , Sec ,
checksum

Erro feedback : E4 , 03 , FA , 01 , CheckSum ;

6. Send the data to TCP initiative

Data :

ID NO:1234567890ABABCDFFFF7890;ANT NO:01;User Code: (00-FF) 0x0D 0x0A(Enter)

Answering :

SOF	LEN	CMD	CC
0xA0	2	0xF6	checksum

7. Heartbeats Package

Data :

SOF	LEN	CMD	CC
0xA0	2	0xF6	checksum

No feedback signal, only for knowing device working

Data Frequency : every minute 1 time minimum

Note : 1. All the functions above available on DEMO software testing

2. adding a “/”after every Data, if HEX format then add “2F”

Examin and calculating (c language)

```
unsigned char CheckSum(unsigned char *uBuff, unsigned char uBuffLen)
{
    unsigned char i,uSum=0;
    for(i=0;i<uBuffLen;i++)
    {
```

```
        uSum = uSum + uBuff[i];
    }
    uSum = (~uSum) + 1;
    return uSum;
}
```