Ethernet Protocol – The data packet format is shown in following diagram.

START OF FRAME	COMMAND TYPE	DATA LENGTH	DATA BYTES	DATA CHECKSUM	END OF FRAME

Start of Frame –
Length: 1Byte
Value: ENQ
This byte indicates the starting of the communication packet.

Command Type –
Length: 1Byte
Value: 0x01 – Command1, 0x02– Command2, 0x03– Command3, 0x04– Command4, 0x05– Command5, 0x06 – Command6
Command1 – Start Acquisition of events
Command2 – Stop Acquisition of events
Command3 – Parameter File *
Command4 – Time & Date Update **
Command5 – Reserved
Command6 – Reserved
Data Length – This field indicates the number of bytes in the data field.
Length: 1 Byte
Value: Number of Data bytes (0 to 255)
Data Checksum – XOR result of all data bytes
Length: 1Byte
Value: XOR result of all data bytes
End of Frame – Indicates the ending of the frame
Length: 1Byte
Value: ETX

* **Parameter File Format –**

```
struct PARAMETER_FILE
        {
        unsigned int aiThreshold[4];
        unsigned char AI_ChnStatus[4];
        unsigned char diThreshold[16];
        unsigned char DI_ChnStatus[16];
        unsigned int dBuffer_Threshold;
        unsigned int diBuffer_pointer;
        unsigned int aiBuffer_pointer;
        unsigned int diBuffer_maxSize;
        unsigned int aiBuffer_maxSize;
        unsigned int diFilter_Coff;
        unsigned int aiFilter_Coff;
        //struct IPaddr IP1;
        };
xdata at 0x1db5 struct PARAMETER_FILE pf;
```

**** Time & Date Update**

```
struct RTC
        {
          unsigned char volatile sec;                    +
          unsigned char volatile sec_alarm;
          unsigned char volatile min;                    +
          unsigned char volatile min_alarm;
          unsigned char volatile hour;                   +
          unsigned char volatile hour_alarm;
          unsigned char volatile dow;//(day of week)     +
          unsigned char volatile dom;//(day of month)    +
          unsigned char volatile month;                  +
          unsigned char volatile year;                   +
          unsigned char volatile reg_a;
          unsigned char volatile reg_b;
          unsigned char volatile reg_c;
          unsigned char volatile reg_d;
          //unsigned char volatile arr[50];
          unsigned int volatile msec;                    +  // correction
        };
xdata at 0xc000 struct RTC rtc_ptr;
```

Data Format of Transmitted File

```
struct TX_PACKET
        {
        unsigned char dType; //1 for AI, 0 for DI
        unsigned char chNum;//channel number
        unsigned char dByte0;//data byte
        unsigned char dByte1;//data byte

        unsigned int volatile msec;          // correction
        unsigned char volatile sec;
        unsigned char volatile min;
        unsigned char volatile hour;
        unsigned char volatile dom;
        unsigned char volatile month;
        unsigned char volatile year;
        };
```

+ Fields are required

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Command 0x07 2 bytes to be sent