TSB PT1000 Software Reference Manual

Temperature Sensors Board PT1000 Commands Description

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Introduction

The TSB emulate the mini-crate protocol communications and implement only the command concerning the temperature sensors.

At power on the board transmit the following data:

    char 0xDA
    char HVersion;   High version of the firmware.
    char LVersion;   Low version of the firmware.
    float m;   m coefficient for conversion.
    float q;   q coefficient for conversion

The commands:

Watchdog Reset, code 0xF8:
This command force CPU to enter in a infinite loop to force a watchdog reset. CPU will be reset after sent return data.

Return data:
    char 0xFC;
    char 0xF8;

HD Watchdog Reset, code 0xF7:
This command force CPU to enter in a infinite loop to force a watchdog reset. CPU will be reset after sent return data.

Return data:
    char 0xFC;
    char 0xF7;

Temperature, code 0x3C:
Read temperature.

Return data:
    char 0x3D;
    float temp[6];   The temperatures.

Status, code 0xEA:
Return some info on the firmware and sensors.

Return data:
    char 0xDB;
    char HVersion;   High version of the firmware.
    char LVersion;   Low version of the firmware.
    float m;   m coefficient for conversion.
    float q;   q coefficient for conversion.

Set CFG, code 0xDD:
Set m and q coefficents..
Arguments:
    float m;   m coefficient for conversion.
    float q;   q coefficient for conversion.
Return data:
    char 0xDE;
    float m;   m coefficient stored in EEPROM.
    float q;   q coefficient stored in EEPROM.

Retransmit , code 0xB5:
This command can be used to request the last transmission data.

Special codes:

The special code can be added to the head of all commands. A command can have more than a special code added to the head, but of different value.

Host, code 0xEC:
This code followed by one byte argument can be used from a server program to mark the commands send by client. The return data from the CCB have to the head the same code and argument. The argument can assume any value.

Split, code 0xB6:
This code followed by one byte argument can be used to split large return data from mini-crate.
When mini-crate receive a command with this code at the head, following by the argument that define the size to split data, it if the return data exceed the specified size data, transmit only amount of the size data specified. The data are marked at the head by code 0xB6 following by one byte that define the data offset and one byte that define the data size remaining to transmit. To receive remaining data mini-crate must receive command code 0xB7 describe below.

Send Remaining, code 0xB7:
This is a standard command used to read remaining return split data.
Arguments:
      char offset;
Return data:
      char 0xB6;
      char offset;   data offset.
      char remaining;   reaming data to transmit.
      char data[size];   size is the value specified with the split code.