```
/**************************************************
  Thermo meter displaying on LCD
  lcd display by 4040B counter with PIC10F222
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  Ver 0.6 11/20/2010
  Hitech C & MPLAB

   PIC16F222 + lcd
   PIN Assign   #5 GP0:Thermo meter input
                #4 GP1:pulse out for TC4040
                #3 GP2:EN

   4040B pin
                #10 clock in
                #11 rst (70uS delayed #10 high state )
                #9  DB4
                #7  DB5
                #6  DB6
                #5  DB7
                #3  RS
                #13 NC
                #12 NC
                #14 NC

   OSC internal RC 8MHz

 Development Circumstance
  MPLAB IDE V8.56   HiTECH C V9.80

 Thermometer DATA  Compare with 5V(Vdd-Vss)/256
 Thermometer Output is relayed as 10mV*DEG-600mv
 Because of signed char range disply value is +/-62
 If minus g-seg lighted
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#define pic_clk 8000000

#define MHz 000000
#define _XTAL_FREQ 8MHz


#include <htc.h>
#include "delay.h"
#include <pic.h>
#include <stdio.h>
#include "222_lcd.h"

__CONFIG( OSC_8MHZ & MCPUEN & UNPROTECT & WDTDIS & MCLREN );

void main(){
        unsigned char i, minus,disp_data ;
        signed char temp_data ,decimal;
        short adc_data;

        TRISGPIO = 0b00001001;                  // GP0,3 input the others output
        GPIO = 0b00000000;                      // GPIO : 0b0000

        OSCCAL = OSCCAL+0b11111110;             // FOSC=0

        OPTION = 0b00000000;                    // No option portb weak pull up

        ADCON0 = 0b01000001;                    // 0=AN1:GP1,1=AN0:GP0,CHS:00

        for(i=0;i<20;i++){                      // 2sec timing
        __delay_ms(100);
        }

        lcd_init();
        __delay_ms(10);
        lcd_goto(0);                            // select first line

        lcd_putch(0xb5); lcd_putch(0xdd); lcd_putch(0xc4); lcd_putch(0xde); // ondo
```

```
while(1){
        ADCON0 = 0b01000011;                    // A2S conversion START

        while((ADCON0&0b00000010)==0){
        }

        lcd_goto(0x8);                          // select 2nd line

        i=0;
        minus=0;
        adc_data=0;
        i=19;
        while(i>0){                             // Calculate
                adc_data=adc_data+ADRES;        // ADRES*19
                i--;
        }
        i=0;
        while(adc_data>0){                      // ADRES*19/10
                adc_data=adc_data-10;
                i++;                            // i=ADRES*19/10+60
        }

        temp_data=(signed char)(i-1-60 );       // Calculate adc to degree
        if (temp_data < 0 ){                    // If minus value
        temp_data = -temp_data;                 // +- inverting
        lcd_putch('-');                         // - display
        }
        else{ lcd_putch(' '); }

        disp_data=0;
        while(temp_data>0){                     // devide 10
                temp_data=temp_data-10;         //
                disp_data++;                    // Get digit data

        }
        temp_data=temp_data+10;                 // Recover plus value
        lcd_putch(disp_data-1 | 0x30 );         // Display 1st digit

        lcd_putch(temp_data | 0x30 );           // Display 2nd digit

        lcd_goto(12);                           // select 12th char
        lcd_putch(0xdf);                        //  display
        lcd_putch('C');                         //  C display

        for(i=0;i<20;i++){                      // 2sec timing
        __delay_ms(100);
        }
}
}
```