

The screenshot displays a Proteus simulation of a water temperature control system. At the top, a status window for 'DS1302 Clock - U11' shows the current time as 20:31:31 and the date as 08-03-21. The main circuit diagram features an AT89C52 microcontroller at its core. It is interfaced with three temperature sensors labeled '热水' (Hot Water), '温水' (Warm Water), and '冷水' (Cold Water). A DS1302 real-time clock module provides time data to an LCD1602 display, which shows 'WA: 1: 41°C Y 42' and '03-08 20:31:30'. The microcontroller also controls a relay module (RL1, RL2, RL3) and a motor (V1). A '红外人体检测' (Infrared Human Detection) module is connected to the microcontroller. The circuit includes various passive components like resistors (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100) and capacitors (C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100). The simulation is running, and the LCD display shows the current temperature and time.

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1  #include "lcd1602.h"
2  #include "ds18b20.h"
3  #include "DS1302.h"
4  #include "24C16B.h"
5  sbit      WN  = P3 ^ 7;
6  sbit      PE  = P3 ^ 4;
7  sbit      JIN = P3 ^ 5;
8  sbit      X0  = P3 ^ 2;
9  sbit      X1  = P3 ^ 3;
10 sbit      JIA = P1 ^ 3;
11 sbit      JIAN = P1 ^ 6;
12 uchar     n   = 1, count = 0, smb = 0;
13 uchar     war = 40;
14 extern char zhen_temp[5], *wendu;
15 extern bit  flag;
16 uchar code ds18b20_num1[8] = { 0xfd, 0x00, 0x00, 0x00, 0xb8, 0xc5, 0x45, 0x28 };
17 uchar code ds18b20_num2[8] = { 0x8e, 0x00, 0x00, 0x00, 0xb8, 0xc5, 0x30, 0x28 };
18 uchar code ds18b20_num3[8] = { 0xb9, 0x00, 0x00, 0x00, 0xb8, 0xc5, 0x31, 0x28 };
19 uchar code ds18b20_num4[8] = { 0xe0, 0x00, 0x00, 0x00, 0xb8, 0xc5, 0x32, 0x28 };
20
21 void delay( unsigned int time )
22 {
23     unsigned int i, j;
24     for ( i = 0; i < time; i++ )
25         for ( j = 0; j < 200; j++ )
26             ;

```