

MAX6955.c

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2 * MAX6955.c
7 #include "main.h"
8
9 I2C_HandleTypeDef hi2c2;
10
11 static const uint8_t MAX6955_ADDR = 0x60 << 1; // Use 8-bit address
12 uint8_t REG_CONF;
13 uint8_t buf[15];
14
15 void SS_Start(uint8_t Test){
16
17     // Decode Mode Register (0x01) Table 15
18     // - 0x00 = Geen decoder gebruiken
19     // - 0xFF = Hexadecimale decoder gebruiken voor alle digits
20     REG_CONF = 0x01;
21     buf[0] = 0xFF;
22
23     HAL_I2C_Mem_Write(&hi2c2, MAX6955_ADDR, REG_CONF, 1, buf, 1, HAL_MAX_DELAY);
24
25     // Global Intensity Register (0x02) Table 27
26     // - 0x00 = 1/16 (min on)
27     // - 0x0F = 15/16 (max on)
28     REG_CONF = 0x02;
29     buf[0] = 0x07;
30
31     HAL_I2C_Mem_Write(&hi2c2, MAX6955_ADDR, REG_CONF, 1, buf, 1, HAL_MAX_DELAY);
32
33     // Scan Limit Register (0x03) Table
34     // - 0x00 alleen digit 0
35     // - 0x07 alle digits
36
37     REG_CONF = 0x03;
38     buf[0] = 0x07;
39
40     HAL_I2C_Mem_Write(&hi2c2, MAX6955_ADDR, REG_CONF, 1, buf, 1, HAL_MAX_DELAY);
41
42     // Configuration Register (0x04) uitleg blz 11
43     // - 0x00 Shutdown
44     // - 0x01 Normal operation
45     // - ...
46
47     REG_CONF = 0x04;
48     buf[0] = 0b00000001;
49
50     HAL_I2C_Mem_Write(&hi2c2, MAX6955_ADDR, REG_CONF, 1, buf, 1, HAL_MAX_DELAY);
51
52     // Digit Type Register (0x0C) Table 13
53     // - 0xFF digits 0-7 zijn 14-segment digits
54     // - 0x00 digits 0-7 zijn 16- of 7-segment digits
55     REG_CONF = 0x0C;
56     buf[0] = 0x00;
57
58     HAL_I2C_Mem_Write(&hi2c2, MAX6955_ADDR, REG_CONF, 1, buf, 1, HAL_MAX_DELAY);
59
60     // Display Test Register (0x07) Table 37
61     // - 0x00 Display Test Off
62     // - 0x01 Display Test On
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63     REG_CONF = 0x07;
64     if (Test == 1){
65         buf[0] = 0x01;
66     } else {
67         buf[0] = 0x00;
68     }
69
70     HAL_I2C_Mem_Write(&hi2c2, MAX6955_ADDR, REG_CONF, 1, buf, 1, HAL_MAX_DELAY);
71
72     // Stuur eerst naar planes om te beginnen
73     // Hierna moet men enkel schrijven vanaf 0x86
74     REG_CONF = 0x60;
75
76     buf[0] = 0x80; // Het getal 0 met DP
77     buf[1] = 0x81; // Het getal 1 met DP
78     buf[2] = 0x82;
79     buf[3] = 0x83;
80
81     buf[4] = 0x84;
82     buf[5] = 0x85;
83     buf[6] = 0x86;
84     buf[7] = 0x87;
85
86     buf[8] = 0x88;
87     buf[9] = 0x89;
88     buf[10] = 0x8a; // De klinker A met DP
89     buf[11] = 0x8b; // De klinker B met DP
90
91     buf[12] = 0x8c;
92     buf[13] = 0x8d;
93     buf[14] = 0x8e;
94     buf[15] = 0x8f;
95
96     HAL_I2C_Mem_Write(&hi2c2, MAX6955_ADDR, REG_CONF, 1, buf, 16, HAL_MAX_DELAY);
97 }
98
```