

Thermometer and Thermostat DS1631

20140106

Reference;
i2c_utility_0.1.f
DS1631_0.2.f

DS1631 operate from -55degree to +125degree.
DS1631_0.2.f is incomplete yet but basic function operate finely.

```
Prop0 Cog6 ok
i2c_detect
  0 1 2 3 4 5 6 7 8 9 A B C D E F
00: -----
10: -----
20: -----
30: -----
40: ----- 48 -----
50: 50 -----
60: -----
70: -----
i2c_device:2
```

Register on power-up below;
Register-values refer page7[Tablr3] in “DS1631-DS1731.pdf”.

Prop0 Cog6 ok <-- After power-up(default status)

```
disp_reg
Temperature: C400 -60 .0000
Temp-High: 0F00 15 .0000
Temp-Low: 0A00 10 .0000
Configuration: 8C
```

-- Set TH to 20.7500degree

```
Prop0 Cog6 ok
hC0 h14 wr_TH
```

```
Prop0 Cog6 ok
disp_reg
Temperature: C400 -60 .0000
Temp-High: 14C0 20 .7500
Temp-Low: 0A00 10 .0000
Configuration: 8C
```

Temperature-Hi-Flag rise up when TL-register's value exceed Temperature-value.
 But this flag must be erased by user.
 To reset TempFlag must clear corresponding bit in configuration register.

Prop0 Cog6 ok

measure

| Temp | TH | TL | TempFlag |
|----------|----------|----------|----------|
| 20 .5625 | 20 .7500 | 10 .0000 | 0 |
| 20 .5625 | 20 .7500 | 10 .0000 | 0 |
| 20 .5625 | 20 .7500 | 10 .0000 | 0 |
| 20 .5625 | 20 .7500 | 10 .0000 | 0 |
| 20 .5625 | 20 .7500 | 10 .0000 | 0 |
| 20 .5625 | 20 .7500 | 10 .0000 | 0 |
| 20 .1250 | 20 .7500 | 10 .0000 | 0 |
| 20 .1250 | 20 .7500 | 10 .0000 | 0 |
| 20 .1250 | 20 .7500 | 10 .0000 | 0 |
| 20 .1250 | 20 .7500 | 10 .0000 | 0 |
| 20 .1250 | 20 .7500 | 10 .0000 | 0 |
| 20 .3125 | 20 .7500 | 10 .0000 | 0 |
| 20 .3125 | 20 .7500 | 10 .0000 | 0 |
| 20 .3125 | 20 .7500 | 10 .0000 | 0 |
| 20 .3125 | 20 .7500 | 10 .0000 | 0 |
| 20 .3125 | 20 .7500 | 10 .0000 | 0 |
| 20 .6875 | 20 .7500 | 10 .0000 | 0 |
| 20 .6875 | 20 .7500 | 10 .0000 | 0 |
| 20 .6875 | 20 .7500 | 10 .0000 | 0 |
| 20 .6875 | 20 .7500 | 10 .0000 | 0 |

| Temp: | TH | TL | TempFlag |
|----------|----------|----------|----------|
| 20 .6875 | 20 .7500 | 10 .0000 | 0 |
| 20 .6875 | 20 .7500 | 10 .0000 | 0 |
| 21 .0000 | 20 .7500 | 10 .0000 | 2 |
| 21 .0000 | 20 .7500 | 10 .0000 | 2 |
| 21 .0000 | 20 .7500 | 10 .0000 | 2 |
| 21 .0000 | 20 .7500 | 10 .0000 | 2 |
| 21 .0000 | 20 .7500 | 10 .0000 | 2 |
| 21 .0000 | 20 .7500 | 10 .0000 | 2 |
| 21 .3125 | 20 .7500 | 10 .0000 | 2 |
| 21 .3125 | 20 .7500 | 10 .0000 | 2 |
| 21 .3125 | 20 .7500 | 10 .0000 | 2 |
| 21 .3125 | 20 .7500 | 10 .0000 | 2 |
| 21 .3125 | 20 .7500 | 10 .0000 | 2 |
| 21 .4375 | 20 .7500 | 10 .0000 | 2 |
| 21 .4375 | 20 .7500 | 10 .0000 | 2 |
| 21 .4375 | 20 .7500 | 10 .0000 | 2 |
| 21 .4375 | 20 .7500 | 10 .0000 | 2 |
| 21 .4375 | 20 .7500 | 10 .0000 | 2 |
| 21 .4375 | 20 .7500 | 10 .0000 | 2 |
| 21 .5625 | 20 .7500 | 10 .0000 | 2 |
| 21 .5625 | 20 .7500 | 10 .0000 | 2 |

| Temp: | TH | TL | TempFlag |
|----------|----------|----------|----------|
| 21 .5625 | 20 .7500 | 10 .0000 | 2 |
| 21 .5625 | 20 .7500 | 10 .0000 | 2 |
| 21 .5625 | 20 .7500 | 10 .0000 | 2 |
| 21 .5000 | 20 .7500 | 10 .0000 | 2 |
| 21 .5000 | 20 .7500 | 10 .0000 | 2 |
| 21 .5000 | 20 .7500 | 10 .0000 | 2 |
| 21 .5000 | 20 .7500 | 10 .0000 | 2 |
| 21 .5000 | 20 .7500 | 10 .0000 | 2 |

[illegible]

| | | | |
|-------|----|----|----------|
| Temp: | TH | TL | TempFlag |
|-------|----|----|----------|

[illegible]

| | | | |
|-------|----|----|----------|
| Temp: | TH | TL | TempFlag |
|-------|----|----|----------|

| | | | |
|----------|----------|----------|---|
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .1250 | 20 .7500 | 10 .0000 | 2 |
| 21 .0625 | 20 .7500 | 10 .0000 | 2 |
| 21 .0625 | 20 .7500 | 10 .0000 | 2 |
| 21 .0625 | 20 .7500 | 10 .0000 | 2 |
| 21 .0625 | 20 .7500 | 10 .0000 | 2 |
| 21 .0625 | 20 .7500 | 10 .0000 | 2 |
| 21 .0625 | 20 .7500 | 10 .0000 | 2 |
| 21 .0000 | 20 .7500 | 10 .0000 | 2 |
| 21 .0000 | 20 .7500 | 10 .0000 | 2 |
| 21 .0000 | 20 .7500 | 10 .0000 | 2 |
| 21 .0000 | 20 .7500 | 10 .0000 | 2 |

| | | | |
|-------|----|----|----------|
| Temp: | TH | TL | TempFlag |
|-------|----|----|----------|

21 .0000 20 .7500 10 .0000 2

| | | | |
|---------------|----------|----------|----------|
| 20 .6875 | 20 .7500 | 10 .0000 | 2 |
| 20 .6875 | 20 .7500 | 10 .0000 | 2 |
| 20 .6875 | 20 .7500 | 10 .0000 | 2 |
| 20 .6875 | 20 .7500 | 10 .0000 | 2 |
| Temp: | TH | TL | TempFlag |
| 20 .6875 | 20 .7500 | 10 .0000 | 2 |
| 20 .6875 | 20 .7500 | 10 .0000 | 2 |
| 20 .6875 | 20 .7500 | 10 .0000 | 2 |
| 20 .6875 | 20 .7500 | 10 .0000 | 2 |
| 20 .6875 | 20 .7500 | 10 .0000 | 2 |
| 20 .6875 | 20 .7500 | 10 .0000 | 2 |
| Prop0 Cog6 ok | | | |