

# “Testing the Temperature Controller on 2014/12/08”

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## Summary:

Previously it was discovered that the output of the temperature controller was set to 5V. Here I provide the information that the controller returns when switching to 12V.

In summary, when at 12V, the LNA temperature is not trying to reach the setpoint (25 degC). In fact, the sensor temperature was  $\sim 20.5$  degC, and the power reported by the controller was -100% (trying to cool). This is inconsistent, since it should be heating to reach the setpoint.

The sensor temperature remained stable during measurements, no matter the state of the controller output. This was monitored during about half an hour. With the output ON or OFF, the temperature remained close to 20.5 deg C. Even though the output is supposedly pumping -100% of power, the temperature does not change one way or the other.

# Switching Output Voltage from 5V to 12V

SWITCHING TO 12V:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -volt12  
usbdev 3  
(stx=2a)001600002ee0b3(etx=d)  
status 10  
start to read  
status c resp *00002ee0ec^  
revcd from 00 = 12000 120.000000  
chkrec ec
```

READING SET VOLTAGE:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 46  
usbdev 3  
(stx=2a)0046000009c48a(etx=d)  
status 10  
start to read  
status c resp *00002ee0ec^  
revcd from 46 = 12000 120.000000  
chkrec ec
```

# Control Parameters

## TEMPERATURE SETPOINT:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 40  
usbdev 3  
(stx=2a)0040000009c484(etx=d)  
status 10  
start to read  
status c resp *000009c4c0^  
revcd from 40 = 2500 25.000000  
chkrec c0
```

## BANDWIDTH:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 41  
usbdev 3  
(stx=2a)0041000009c485(etx=d)  
status 10  
start to read  
status c resp *0000001485^  
revcd from 41 = 20 0.200000  
chkrec 85
```

## GAIN:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 42  
usbdev 3  
(stx=2a)0042000009c486(etx=d)  
status 10  
start to read  
status c resp *0000000080^  
revcd from 42 = 0 0.000000  
chkrec 80
```

## DERIVATIVE:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 43  
usbdev 3  
(stx=2a)0043000009c487(etx=d)  
status 10  
start to read  
status c resp *0000000080^  
revcd from 43 = 0 0.000000  
chkrec 80
```

# Monitoring Controller with Output OFF

## TURNING OFF OUTPUT:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -turnoff  
usbdev 3  
(stx=2a)001d0000000075(etx=d)  
status 10  
start to read  
status c resp *0000000080^  
revcd from 00 = 0 0.000000  
chkrec 80
```

## READING OUTPUT STATE:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 4d  
usbdev 3  
(stx=2a)004d000009c4b8(etx=d)  
status 10  
start to read  
status c resp *0000000080^  
revcd from 4d = 0 0.000000  
chkrec 80
```

## READING OUTPUT VOLTAGE:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 02  
usbdev 3  
(stx=2a)0002000009c482(etx=d)  
status 10  
start to read  
status c resp *0000000080^  
revcd from 02 = 0 0.000000  
chkrec 80
```

READING SENSOR TEMPERATURE:

-----  
loco@edges-pc:/media/DATA/EDGES\_codes/edges\_c\$ ./oven2\_raul -mode 01  
usbdev 3  
(stx=2a)0001000009c481(etx=d)  
status 10  
start to read  
status c resp \*0000500bb7^  
revcd from 01 = 20491 204.910000  
chkrec b7

READING POWER:

-----  
loco@edges-pc:/media/DATA/EDGES\_codes/edges\_c\$ ./oven2\_raul -mode 04  
usbdev 3  
(stx=2a)0004000009c484(etx=d)  
status 10  
start to read  
status c resp \*0000000080^  
revcd from 04 = 0 0.000000  
chkrec 80

# Monitoring Controller with Output ON

TURNING ON OUTPUT:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -turnon  
usbdev 3  
(stx=2a)001d0000000176(etx=d)  
status 10  
start to read  
status c resp *0000000181^  
revcd from 00 = 1 0.010000  
chkrec 81
```

READING OUTPUT STATE:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 4d  
usbdev 3  
(stx=2a)004d000009c4b8(etx=d)  
status 10  
start to read  
status c resp *0000000181^  
revcd from 4d = 1 0.010000  
chkrec 81
```

READING OUTPUT VOLTAGE:

```
-----  
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 02  
usbdev 3  
(stx=2a)0002000009c482(etx=d)  
status 10  
start to read  
status c resp *00002eec1f^  
revcd from 02 = 12012 120.120000  
chkrec 1f
```

READING SENSOR TEMPERATURE:

-----  
loco@edges-pc:/media/DATA/EDGES\_codes/edges\_c\$ ./oven2\_raul -mode 01  
usbdev 3  
(stx=2a)0001000009c481(etx=d)  
status 10  
start to read  
status c resp \*0000504cbc^  
revcd from 01 = 20556 205.560000  
chkrec bc

READING POWER:

-----  
loco@edges-pc:/media/DATA/EDGES\_codes/edges\_c\$ ./oven2\_raul -mode 04  
usbdev 3  
(stx=2a)0004000009c484(etx=d)  
status 10  
start to read  
status c resp \*ffffd55cc^  
revcd from 04 = -683 -6.830000  
chkrec cc