

Betreff: Re: Holiday
Von: "Howard, Alan" <Alan.Howard@frm2.tum.de>
Gesendet: 11.09.2020 08:31:26
An: "Langhoff, Andreas" <Andreas.Langhoff@frm2.tum.de>;

----- Message from Langhoff, Andreas <Andreas.Langhoff@frm2.tum.de> -----
Date: Fri, 11 Sep 2020 07:50:46 +0200
From: "Langhoff, Andreas" <Andreas.Langhoff@frm2.tum.de>
Subject: Re: Holiday
To: "Howard, Alan" <Alan.Howard@frm2.tum.de>

i Alan,

1.) Unfortunately I was sent into home office and I am just reading the email right now.

Current status is that I can connect and listen to messages from the igesHV.
I can already receive configuration data from the igesHV, the part setting and checking the current limits is not ready yet. After your holidays a working system should be ready so then we can come together for tryout and testing.

2.)

I defined 3 groups in which channels are grouped into logical units. One can easily define other groups,
If you have time, could you give me the actual parameters for the 2 real devices (Erwin small and Erwin)?

Below my example config file, should be self-explanatory. I may change the parameter handling slightly as I am not so happy with the topology yet. Ideas are always welcome.

Have a nice holiday

Andreas

```
["test/Erwin/HV-Powersupply"]  
type = "iseg.CC2x.PowerSupply"
```

```
address = '172.25.25.56'  
user = 'admin'  
password = 'password'  
absmin = 0  
absmax = 0
```

```

groups = ""
{
  "group": [
    {"entrancewindow": { "channels": ["0_0_0","0_0_1"], "operatingstate": "normal" }},
    {"anodewires": { "channels": ["0_0_2","0_0_3"], "operatingstate": "normal" }},
    {"anodeswireslower": { "channels": ["0_0_2","0_0_3"], "operatingstate": "moving" }},
    {"cathodestripes": { "channels": ["0_0_4","0_0_5"], "operatingstate": "normal" }}
  ]
}
""

operatingstates = ""
{
  "operatingstate":
  [
    {"normal": { "Control.voltageSet" : 2200,
                  "Control.voltageRampspeedUp" : 5,
                  "Control.voltageRampspeedDown" :10,
                  "Control.currentSet" : 1,
                  "Setup.delayedTripTime" : 100

    }},
    {"moving": { "Control.voltageSet" : 1900,
                  "Control.voltageRampspeedUp" : 5,
                  "Control.voltageRampspeedDown" : 10,
                  "Control_currentSet" : 1,
                  "Setup_delayedTripTime" : 100

    }}
  ]
}
""

```

----- Nachricht von Howard, Alan <Alan.Howard@frm2.tum.de> -----

Datum: Wed, 09 Sep 2020 09:24:14 +0200

Von: "Howard, Alan" <Alan.Howard@frm2.tum.de>

Betreff: Holiday

An: "Langhoff, Andreas" <Andreas.Langhoff@frm2.tum.de>

Hi Andreas,

I am going to be on holiday next week and the week after. Do you have time before then to meet for a quick chat about the status of the project? From tomorrow we should also have the prototype detector in operation in our lab again if you are interested in seeing the setup that we have there.

Best regards

Alan

-- *****

Dr. Alan Howard
Technische Universität München Tel: +49 (0)89 289 -54832
Forschungsneutronenquelle FRM II
Detektor- & Elektroniklabor
Lichtenbergstr. 1
85747 Garching
Germany

----- Ende der Nachricht von Howard, Alan <Alan.Howard@frm2.tum.de> -----

----- End message from Langhoff, Andreas <Andreas.Langhoff@frm2.tum.de> -----

Hi Andreas,

I hope you are well and the home office is just a precaution.

For the actual detectors we will need to define individual voltages for each anode channel. This is required in order to have uniform performance across the entire area. The other settings, like ramping speed and current limits can be shared by all anodes though. The two cathode stripes will also have different voltages, but otherwise will share a ramping speed and current limit. There is only a single window channel so this has a single set of parameters.

We don't know the final values for all the parameters yet, but an example configuration for the small detector could look something like:

Group: Anodes
Channels [0, 1, 2]
Voltages: [2075, 2100, 2085]
Ramp up: 2 V/s
Ramp down: 5 V/s
Current limit: 1 uA
Current trip time: 100 ms

Group: CathodeStripes

Channels: [4, 5]
Voltages: [75, 80]
Ramp up: 5 V/s
Ramp down: 10 V/s
Current limit: 1 μ A
Current trip time: 100 ms

Group: Window
Channel: 7
Voltage: -1000
Ramp up: 2 V/s
Ramp down: 5 V/s
Current limit: 1 μ A
Current trip time: 100 ms

For the large detector the only change in structure would be an increase in anode channels from 3 to 17.

For the 'Moving' condition, only the voltage on the anode wires needs to be changed and in this case a common voltage for all wires can be used - the ramping speed and current limits would be the same as those defined in the Anode group.

The transitions between different states (i.e. voltages off, on or in the Moving state) also need to be defined eventually. The rule we follow here is that the anode voltages should be off unless the window voltage is fully on.

Transition Off -> On
Step 1: Ramp up window voltage, wait until finished
Step 2: Ramp up anode voltages
Step 3: Ramp up cathode stripes

Transition On -> Off
Step 1: Ramp down anodes, wait until finished
Step 2: Ramp down cathode stripes
Step 3: Ramp down window

Transition On -> Moving
Ramp down anode voltages, wait until finished

Transition Moving -> On
Ramp up anode voltages, wait until finished

Transition Moving -> Off
Same as On -> Off

I hope that all makes sense, let me know if anything isn't clear.

Best regards

Alan

-- *****

Dr. Alan Howard

Technische Universität München Tel: +49 (0)89 289 -54832

Forschungsneutronenquelle FRM II

Detektor- & Elektroniklabor

Lichtenbergstr. 1

85747 Garching

Germany
