DECam

Vicor LVPS Information

• General Notes For Vicor MegaPAC used on DECam Front End Electronics
DECam
Vicor LVPS Information

- General Notes For Vicor MegaPAC
Module End
DECam
Vicor LVPS Information

• General Notes For Vicor MegaPAC
AC End
Slot Arrangement

- Slot 8  +5VAnalog
- Slot 7  -5VAnalog
- Slot 6  +15VAnalog
- Slot 5  -15VAnalog
- Slot 4  -28VAnalog  AKA Vdd
- Slot 3  +48VAnalog  AKA Vsub
- Slot 2  +3.3VDigital
- Slot 1  +5VDigital
Output Adjustments

- All modules have output voltage adjustment option ‘D’
- This option allows an adjustment from 90% to 110% of the nominal range.

<table>
<thead>
<tr>
<th></th>
<th>90%</th>
<th>110%</th>
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<tbody>
<tr>
<td>3.3</td>
<td>2.97</td>
<td>3.63</td>
</tr>
<tr>
<td>5</td>
<td>4.5</td>
<td>5.5</td>
</tr>
<tr>
<td>15</td>
<td>13.5</td>
<td>16.5</td>
</tr>
<tr>
<td>28</td>
<td>25.2</td>
<td>30.8</td>
</tr>
<tr>
<td>48</td>
<td>43.2</td>
<td>52.8</td>
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• Interface Connector J10

1-E/D Slot 1 7-E/D Slot 7
2-E/D Slot 2 8-E/D Slot 8
3-E/D Slot 3 9-Vcc +5V, 0.3A
4-E/D Slot 4 10-SIGNAL GROUND
5-E/D Slot 5 11-AC POWER OK
6-E/D Slot 6 12-GEN SHUTDOWN
Vicor

- DC OK Connector J3

4- Vcc
3- Power Good
2- Power Good Inverted
1- Signal Ground
Power Up Sequencing for Air Cooled Crates Only

1. Bring-up Digital voltages before Analog.
2. Bring-up Analog voltages before Vsub (+48V)
3. Use the DC Good signal from the +5D or +3.3D to control the Analog voltages, +15VA to control the +48V.

Make a cable that has the following connections.

J3 (slot 1)  J3 (slot 6)  J10
Using the MegaPAC's standard Input Interface Connector (J10) along with the ConverterPAC's optional DC OK Option, it is possible to implement unique output voltage power up and power down sequences. Below is an example showing how this may be done.

* DC OK Option is not available for 1st Generation dual output DualPACs.

**Requirement:** 3V must start before the 3.3V output. If the 3V output is lost, the 3.3V output must turn off.

The first step in meeting this requirement is to configure the 3V ModuPAC with the DC OK Option, which is indicated by a "D" designation in the ModuPAC's part number, located on the top surface of each ModuPAC above the +Vout. Any ModuPAC that has the DC OK option will also have the 4-pin J3 DC OK connector installed. To order a ModuPAC with the DC OK option, please contact Wester's customer service department for assistance. The DC OK option monitors the output voltage of a given ConverterPAC and provides a TTL logic signal depending on its output voltage.

**Figure 1.** ModuPAC Pinout

**Figure 2.** J3 DC OK Connector

**Figure 3.** Output Sequencing Wires Interconnect

Figure 3 shows the correct wiring connections between the Power Good Connector (J3) of a 3V ModuPAC and the Input Interface Connector (J10) of a typical PFC MegaPAC configuration. In this example, the 3.3V ModuPAC is located in the slot #7 and the 3V ModuPAC (with the DC OK option) is located in slot #6. In order for the Power Good option to properly function, it requires a 5V source to provide the necessary Vcc pull up. This 5V source is conveniently available using the +5V aux source from the Input Interface Connector (J10-9 and J10-10). With a Vcc voltage properly applied to the 5V ModuPAC's Power Good Connector (J3-1 and J3-4), the Power Good signal (J3-3) can now be connected to the Enable/Disable control pin for slot #7 (J10-7). The 3V ModuPAC's Power Good signal will remain low until its output has reached approximately 95% of its nominal output voltage. This will keep the 3.3V output in disabled mode allowing the 5V output to reach regulation first. In addition, should the 5V output drop below 85% the Power Good signal will drop low and disable the 3.3V output. Figure 4 and 5 show the startup and shutdown waveforms for the circuit shown in Figure 3.
Output Sequencing (contd)

Channel #1: 5V Output
Channel #2: 3.3V Output
Channel #3: 5V DC OK signal

Figure 4. Startup Waveforms

Figure 5. Shutdown Waveforms