DIGITAL POWERSUPPLY CONTROLLER DATACONCENTRATOR DPC$_D$C

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Abstract

To be able to connect our PSI digital power supplies to Ethernet, and at the same time provide an interface for fast control (like orbit feedback) we have developed the DPC$_D$C (Digital Power supply Controller Data Concentrator.) Up to eight digital power supplies can be connected to and controlled through one DPC$_D$C. The circuit fits into a compact aluminum case 10^6 x 52 x 200 mm. It has the following connectors: 2 RJ45 Ethernet (1 for control access, 1 for local access), 8 optical transmitter / receiver optical fiber (POF) links, 2 RocketIO (SFP) connections for fast control and one optical receiver/ transmitter for trigger functions. It is possible to run embedded LINUX with EPICS on the Virtex XC4VFXFX60 FPGA, with128 MB DDR RAM and 64 MB FLASH. The prototype has been tested with an Ethernet connection between a laptop (LabView) and the DPC$_D$C and a digital PS connected to one of the eight channels.

CONTRIBUTION NOT RECEIVED

Reconfigurable Hardware