PS 2102
CAMAC SWITCHING POWER SUPPLY
1000W

Description

SEN Electronics has now developed a line of high-output power supplies to fill the ever-increasing power requirements of CAMAC electronics used in high-energy physics applications. Following its 120W, 300W and 500W units, SEN is now offering power supplies capable of delivering 1000W of power.

Due to the high power levels and heat dissipation requirements involved, advanced switching technology has been incorporated in the development of this unit.

The PS 2102 conforms to all EUR CAMAC specifications as well as CERN-EP Technical Specifications 82-01.

Specifications

DC outputs:

+6.0V (+5.2V), 65A
-6.0V (-5.2V), 65A
+24V, 10A
-24V, 10A

+6V and +24V outputs are adjustable. Max. combined power: 1000W
ADDITIONAL FEATURES

Stabilized and meter-monitored. Impedance < 0.3 ohms. PARD (Periodic and Random Duration) 50mVpp
Hold time: 10 ms with Power Failure signal

Indicator Lamps:
- Green LED: indicates correct operation of power supply
- Yellow LED: indicates fan failure
- Orange Neon: AC power ON
- Yellow LED: overheat indicator, activated by thermal switch at 55 degrees C.

Packaging

This unit is totally enclosed by an integrated metal electrostatic shield, incorporating heat sinks and a single fan ventilator. The unit slides in and out on bearing strips fitted with an automatic lock.

Power Requirements

220VAC ±10% at 50Hz
CAMAC SWITCHING POWER SUPPLY REGULATION PROCEDURE

I. REMOTE MONITORING

A special monitoring connector located at the rear of the power supply provides the inputs and outputs shown in the Wiring Diagram.

I.1 DC_MONITOR_OUTPUTS

Number of pins: 4

+6V: pin 3 +24V: pin 1

-6V: pin 4 -24V: pin 6

DC regulated outputs are monitored at their nominal value via a 1Kohm resistor.

I.2 POWER_FAILURE_MONITOR_OUTPUT

Number of pins: 1

---> pin 12

A Power Failure (PF) signal is provided which informs the plug-in CAMAC controller that mains power is dropping. This signal is available 5 msec prior to any DC line going beyond its specified limits, and is used as a high priority interrupt (LAM 24 in Crate Controller). The signal standard is identical to that of LAM.

The signal output level is in accordance with EUR 4100e specifications, and possesses an output current of 15mA at OV (1 state), indicating warning ON condition.

I.3 STATUS_MONITOR_INPUT

Number of pins: 2

---> pins 11 and 23

The power supply is considered as operating properly when the ±6V (or ±5.2V) and the ±24V are within 2% to 5% of their nominal value. In this case an LED on the control unit indicates correct status, and 0 impedance should exist between the two pins of the monitoring connector (i.e., contacts closed), with both pins floating with respect to ground. If one or more of the voltages should exceed the specified range, an infinite impedance (i.e., contacts open) will exist between these same pins and the Status LED will extinguish, thus indicating incorrect status. Once power supply operation has returned to normal, the status LED will again indicate correct status, but the infinite impedance between the remote status lines on the monitoring connector will remain until a Rearming Input Signal is provided.
I.4 REARMING_INPUT_SIGNAL

Number of pins: 2 --> + pin: 35
  o pin: 34

A rearming input signal has been provided so as to reset the status bit. This
signal also serves to reset the power supply in the case of trip-off.

The input signal is 5V for 10 ms at an input current of 15mA. Moreover, this
input is protected for a maximum input voltage of up to 25V as well as for
reverse polarity voltage.

I.5 INHIBIT_INPUT_SIGNAL

Number of pins: 1 --> pin 26

An inhibit input is provided so as to disable the power supply when required.
A TTL low signal (0.5V) or short circuit to the OV signal line will disable
the power supply; while a TTL high signal (12.0V) or open circuit will enable
it. This input is protected against reverse polarity input voltage.

I.6 DISABLE_INPUT

Number of pins: 1 --> pin 28

The disable input is provided in order to inhibit trip-off. Disabling is
achieved by connecting the OV Signal to the Disable contact.

I.7 OV_MONITOR_AND_OV_SIGNAL

Number of pins: 2 -->  OV Monitor: pin 9
                            OV Signal: pin 8

The OV monitor serves as the return of the monitored outputs; while the OV
signal serves as the return of the PF (Power Failure) signal of the Inhibit
and Disable inputs.

II. VOLTAGE_REGULATION

II.1 It is possible to reduce the ±6V voltages to ±5.2V. (N.B.: The 2 volt-
tages must be the same so as to ensure correct operation of the protection
circuit.

In order to reduce the ±6V voltages to ±5.2V, proceed as follows:

First of all, connect pin 28 (Disable Input) of the monitor connector to pin 8
(OV Signal).
+6V_Adjustment

Adjust the +6V potentiometer accessed via the hole located on the upper right portion of the top cover (with the rear of the power supply—i.e. ventilator side—facing you). The potentiometer to be adjusted is located on the printed circuit board next to a 1uF capacitor.

The voltage level may be checked using either the indicator located on the ventilator unit or, if greater precision is required, by means of an external voltmeter connected to pins 3 and 9 of the monitor connector.

-6V_Adjustment

Adjust the -6V potentiometer accessed via the hole located on the lower right portion of the top cover (approx. 10.5 cm below the +6V access hole mentioned above). The potentiometer to be adjusted is located next to a 1uF capacitor.

The voltage level may be checked using either the indicator located on the ventilator unit or, if greater precision is required, by means of an external voltmeter connected to pins 4 and 9 of the monitor connector.

During adjustment the warning buzzer will sound until the two voltages are equal. Once the voltages have been adjusted, disconnect Disable from ground.

II.2 ±24V_Voltage_Adjustment

As in the case of the ±6V voltages, ±24V voltages are also adjustable. The location of the two potentiometers to be adjusted is as follows:

+24V_Adjustment

The +24V potentiometer is accessed via the hole located on the bottom left portion of the top cover (just above the leftmost radiator).

-24V_Adjustment

The -24V potentiometer is accessed via the hole on the bottom left portion of the top cover (just above the radiator located to the left of the cooling fan).
PS 2102 - réseau 110V
avec ventilateur 110V

Filtre PNG12 - 10/07
ZN 1 = ERZ C20 DX341
Porte-Fusible FER031 2001
Fusible 12,5 A - 6,3 x 32
relais RM 235 615 (110V)

[Signature]
13 juin 84
Components Location

+24V Regulator
P1 → Voltage
P5 → second. overload
P3 → primary overload

* implantation de T7:
vue de dessus: coll. émet.
bâse

C. imp. n°4652
Circuit de contrôle