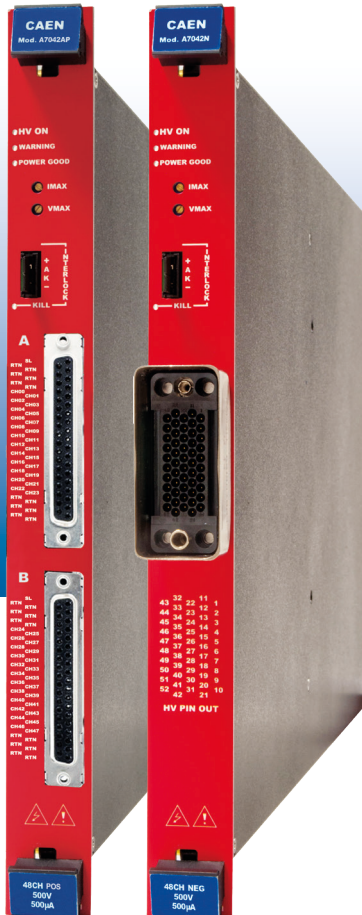


A7042

48 Channel 500 V / 500 μ A High Voltage Power Supply Family



Full control of the channel with
unprecedented density

Features

- 48 independently controllable High Voltage channels
- Common floating return shared by all channels
- 0 ÷ 500 V output voltage
- 500 μ A maximum output current
- Radiall 52 pin or DB37 connectors
- Available with positive or negative polarity
- 1 mV voltage monitor resolution
- 1 nA current monitor resolution
- Low Ripple
- Independently programmable for each channel:
 - Output voltage (10 mV resolution)
 - Current limit (10 nA resolution)
 - Ramp up/down (1÷100 Volt /sec)
 - TRIP parameter

Overview

The new line of power supply offers you all the safety, performance and control of a completely independent channel technology with unprecedented density.

A7042 houses 48 independent high voltage channels available with either positive, negative polarity, compatible with the CAEN Universal Multichannel Power Supply Systems (SY1527, SY2527, SY3527, SY4527, SY5527).

A7042 is supplied in different versions equipped with DB37 or with Radiall Multipin connector.

The output voltage range is 0 ÷ 500 V, with 1 mV monitor resolution. The maximum output current is 500 μ A with 1 nA monitor resolution.

Independently programmable for each channel:

- Output voltage: 0 ÷ 500 V step: 10 mV
- Current limit (Iset): 0 ÷ 500 μ A step: 10 nA
- HV Ramp up/down: 1 ÷ 100 V/sec step: 1 V/sec
- TRIP parameter

Safety features include:

- Channels can be enabled or disabled through the Global Interlock logic.
- Overvoltage and Undervoltage warning when the output voltage differs from the programmed value.



- Hardware VMAX and IMAX: maximum output voltage and maximum current value can be fixed, via front panel potentiometer, at the same common value for all the board channels. IMAX and VMAX values can be read out via software.
- Overcurrent detection: when a channel attempts to exceed the programmed current limit (Iset), it is signaled to be in “overcurrent” and enter in a TRIP status: the channel is switched off after a programmable TRIP time. The output current is

permitted to exceed Iset value, the channel behaves like a current generator only if the IMAX current value is reached.

- Safety Board Interlock: this protection disables the HV generation when the HV outputs are not connected to their loads (only for Multipin Connector versions).



SY4527 rear view with A7042 boards (768 channels)

Universal Multichannel System - Mainframes



Modularity, Compatibility, Connectivity, Usability and Solidity are the keywords of the system design. The Mainframes

have been specifically designed to power all detector technologies found in modern Physics Experiments, such as photomultipliers, wire chambers, streamers tubes, silicon detectors and others.

The systems are modular, flexible and match not only the requirements of major experiments with large number of channels but also the practical needs of test laboratories, where simple manual operations on a limited number of channels are often desired.



All CAEN Control Software is available for free download on the web site.

Control Software available: GECO2020 with user friendly GUI, CAEN HV Wrapper library for custom SW development and HiVoCS Web Interface. EPICS and OPC Server also supported.



GECO2020 Control Software

Ordering Option

Code	Description
WA7042NXAAA4	A7042N - SYx527 H.V. channels -500V/500µA - Multipin Conn. common floating (48 ch)
WA7042PXAAA4	A7042P - SYx527 H.V. channels +500V/500µA - Multipin Conn. common floating (48 ch)
WA7042ANXAA4	A7042AN - SYx527 H.V. channels -500V/500µA - DB37 Conn. common floating (48 ch)
WA7042APXAA4	A7042AP - SYx527 H.V. channels +500V/500µA - DB37 Conn. common floating (48 ch)