New

A1632H

8 Channel 6kV/100-20µA Individual Floating Channel Dual Range Board

Features

- 8 independently controllable High Voltage channels
- Output voltage:0 ÷ 6000 V
- Dual range current:
  - High Power: 100 µA (1 nA monitor resolution)
  - High resolution: 20 µA (50 pA monitor resolution)
- Available with Negative / Positive Polarity
- SHV connectors
- **Floating Type**: Individual Floating
- Low ripple
- Under/over-voltage alert, overcurrent and max. voltage protection
- Interlock logic for unit enable
- Software Tools for easy channel management

Description

The CAEN Mod A1632H is a single width board (5 TE wide) that houses 8 independent high voltage channels.

All channels have independent floating returns, isolated up to 50 V from each other and from chassis/crate ground (Individual Floating channel) The board is available with positive or negative output polarity. Channels are delivered with **SHV** connectors. Consult our **connectors reference page** for technical information.

The output voltage range is **0 ÷ 6000 V**, with **100 mV** monitor resolution. The output channels offer **dual current ranges** (software selectable):

High Power: 0 ÷ 100 µA	**High Resolution:** 0 ÷ 20 µA
I set resolution: 2 nA	I set resolution: 2 nA
I mon resolution: 1 nA	I mon resolution: 50 pA

Independently programmable for each channel:

Output voltage:	0 ÷ 6000 V	Step: 100 mV
Current limit (Iset):	0 ÷ 100 / 20 µA selectable	Step: 2 nA
V Ramp up/down:	1 ÷ 500 V/s	Step: 1 V/s
TRIP parameter:	0 ÷ 999.9 s; 1000 s = Infinite	Step: 0.1 s

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.
- **Overcurrent detection:** when a channel attempts to exceed the programmed current limit, it signals an "overcurrent" condition and enters TRIP status. The output voltage is adjusted to keep the current below the programmed limit for a programmable TRIP time, after which the channel is switched off. If TRIP is set to "constant current mode", the channel behaves as a current source.
- **Hardware VMAX:** maximum output voltage can be set, via front panel potentiometer, at the same common value for all the board channels. VMAX value can be read out via software.

CAEN provides a complete software range to control, monitor and configure its Power Supply products.

- **GECO2020 GEneral COntrol Software**
- **CAEN HV Wrapper Library**
- **HiVoCS web tool**
- **OPC Server for CAEN Power Supplies**
- **EPICS Service**

These tools, which support the most used operating systems, ranging from low level libraries (**CAEN HV Wrapper Library**), to be used as a source for customer designed software, to the WEB interface (**HIVOCS**) available on each mainframe, up to the all-inclusive Control Software (**GECO2020**) with user friendly graphical interfaces, to meet any application needs.

Advanced control via OPC Server (**CAEN OPC Server**) and EPICS (**EPICS IOC**) is supported, to easily include CAEN power supplies within existing setups featuring such standards.

- **All tools are available for free download**.

Universal Multichannel Power Supply Systems (Mainframes)

Universal Multichannel Power Supply Systems, or Mainframes, are modular systems designed to house and control High Voltage (HV) and Low Voltage (LV) boards, providing power for particle detectors and their associated electronics in standard 19” racks. CAEN offers four mainframe versions:

- **SY4527:** A large experimental system. This 19” wide / 8U high mainframe can house **up to 16 HV/LV boards**. It offers a power output from 600W up to a maximum of **4200W**, depending on installed Power Supply Units and display type. Local control is optionally available via a 10.4” or 5.7” LCD Touchscreen.

- **SY5527:** A more compact laboratory version. This 19” wide / 4U high mainframe can house **up to 6 HV/LV boards**. Its power output ranges from 600W up to a maximum of **1800W**, depending on Power Supply Units. Optional local control is available via a 5.7” LCD Touchscreen.
- **SY4527LC:** A cost-effective alternative with a shorter depth (~20cm compared to standard SYx527). This 19” wide / 8U high mainframe houses **up to 10 boards** and includes a **600W power supply**. It does not include an LCD display. It is fully compatible with SY4527 and SY5527 boards.
- **SY5527LC:** Also a cost-effective, shorter depth alternative (~20cm compared to standard SYx527). This 19” wide / 4U high mainframe houses **up to 4 boards** and includes a **400W power supply**. It does not include an LCD display. It is fully compatible with SY4527 and SY5527 boards.

All systems offer modular design for simplified upgrades and maintenance and can be controlled remotely via Ethernet.

Technical Specifications

No. of Channels

8 Individual Floating (±50V isolation)

Polarity

Available positive or negative

Output Voltage

0 ÷ 6000 V

Max Current

- High range: 100 µA
- Low range: 20 µA

Voltage Set Resolution

100 mV

Voltage Monitor Resolution

100 mV

Current Set Resolution

2nA

Current Monitor Resolution

- Low range: 50 pA
- High range: 1 nA

VMAX hardware

0÷6000 V common to all channels

VMAX software

0÷6000 V settable to all channels

VMAX software resolution

1V

Ramp Up/Down

1÷500 Volt/sec, 1 Volt/sec step

Trip

Max. time an “overcurrent” is allowed to last (seconds). A channel in “overcurrent” works as a current generator; output voltage varies to keep the output current lower than the programmed value. “Overcurrent” lasting more than set value (1 to 9999) causes the channel to “trip”. Output voltage will drop to zero either at the Ramp-down rate or at the fastest available rate, depending on Power Down setting; in both cases the channel is put in the off state. If trip= INFINITE, “overcurrent” lasts indefinitely. TRIP range: 0 ÷ 999.9 s; 1000 s = Infinite. Step = 0.1 s

Ripple (@ max load with 1nF)

1 KHz ÷ 20 MHz

- maximum: <5 mV pp
- typical: <3 mV pp

10 Hz ÷ 1 KHz

- maximum: <10 mV pp
- typical: <5 mV pp

Voltage Monitor vs Output Voltage Accuracy

- typical: ±0.05 % ±0.2 V
- maximum: ±0.05 % ±0.5 V

Voltage Set vs Output Voltage Accuracy

- typical: ±0.05 % ±0.2 V
- maximum: ±0.05 % ±0.5 V

Current Monitor vs. Output Current Accuracy

- high range typical: ±1% ±20 nA
- high range maximum: ±1% ±50 nA
- low range typical: ±1% ±200 pA
- low range maximum: ±1% ±500 pA

Current Set vs. Output Current Accuracy

- typical: ±1% ±20 nA
- maximum: ±1% ±50 nA

Output Connectors

SHV

Power Requirements

40W max

Ordering Options

Code	Description	
WA1632HNAAAA	A1632HN - SYx527 negative H.V. -6 KV 100 uA - SHV Connector Individual floating (8 ch)	RoHS
WA1632HPAAAA	A1632HP - SYx527 positive H.V. +6 KV 100 uA - SHV Connector Individual floating (8 ch)	RoHS

Related Software

GECO2020

GEneral COntrol Software for CAEN HV Power Supplies

Related Products

SY5527

Universal Multichannel Power Supply System / 19”wide, 4U-high (6 slot)

SY5527LC

Universal Multichannel Power Supply System Low Cost / 19”wide, 4U-high (4 slot)

A1619

16 Channel 250 V/1 mA - 100µA Full Floating Channel Dual Range Board

SY4527

Universal Multichannel Power Supply System / 19”wide, 8U-high (16 slot)

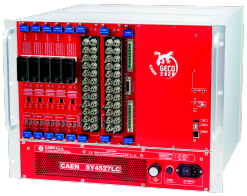
A1626

16 Channel 1kV/10 - 1mA Individual Floating Channel Board

A1625

8 Channel 1kV/20 - 2mA Individual Floating Channel Board

SY4527LC



Universal Multichannel Power Supply System Low Cost / 19”wide, 8U-high (10 slot)

Gallery


CAEN
A1632HN
ON
VMAX
CH
0
1
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INTERLOCK
8 CH NEG
6kV 100µA

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