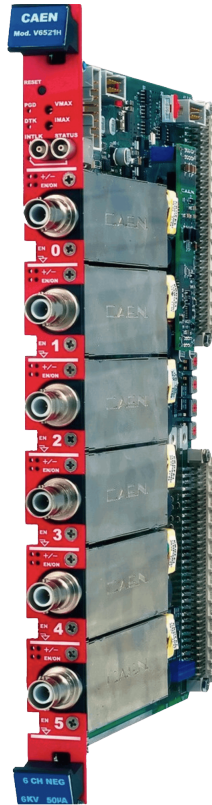


# V6521

## 6 Channel 6 kV/300 $\mu$ A VME HV Power Supply Module



## Features



- 6 independent channels in 1 unit wide VME 6U module
- 6 kV / 300  $\mu$ A output range
- Available with positive, negative or mixed polarity
- SHV coaxial output connectors
- Common floating return
- Low Ripple
- Under/Overtoltage alert, overcurrent and max. voltage protection
- 5 nA Current monitor resolution (with x10 Imon-Zoom: 500 pA)
- Interlock logic for board enable
- Individual channel enable
- Optional DC Input Power Equalizer
- Module control via software Tools

## Description

The CAEN **Mod.V6521** is a **1-unit wide VME 6U** module housing **6** High Voltage Power Supply Channels **6 kV, 300  $\mu$ A**. The board is available with either positive or negative output polarity; mixed version with 3 positive and 3 negative channels is also available. The channels share a **common floating return**, which allows on-detector grounding reducing the noise level. HV outputs are delivered through SHV connectors.

### SHV connector

Single width (5 TE wide), 6 channels for Mod. V6521

Consult our **connectors reference page** for technical information.

The HV output RAMP-UP and RAMP-DOWN rates may be selected independently for each channel in the 1÷500 V/s range with 1 V/s steps.

The module features 5nA Iset/Imon resolution. Features include Imon Zoom, increasing resolution to 500pA. The modules fit into both VME/VME64 standard and V430 crates. Functional parameters can be programmed and monitored via VMEbus.

A complete set of free software Tools is available to control this unit: **GECO2020** with user friendly GUI and **CAEN HV Wrapper library** for custom SW development. **OPC** Server also supported.

Safety features allows the module to perform as a current generator and includes:

<b>Channels</b>	can be enabled or disabled through the Global Interlock logic. Channels individually enabled via front panel jumpers (passive or active mode available).
<b>Overvoltage and Undervoltage</b>	warning when the output voltage differs from the programmed value.
<b>Overcurrent detection</b>	when a channel attempts to exceed the programmed current limit, it signalled to be in "overcurrent" and enter in a TRIP status. The output voltage is varied to keep the current below the programmed limit for a programmable TRIP time, then the channel is switched off. If TRIP is set to "constant current mode", the channel behaves like a current generator.
<b>Hardware VMAX and IMAX</b>	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.

### Available Options:

- **A6580** DC Input Power Equalizer.
- 10 Imon Zoom, increasing Imon resolution to 500 pA.

These modules are provided with a USB VCP interface and can be programmed via PC by connecting the PC USB port with the N14xx USB B-type port; the featured controller (FT232BM chip) requires a driver available on **this page** or at **www.ftdichip.com**

## Technical Specifications

### Package

1-unit wide VME 6U module

### No. of Channels

6 (Common floating return)

### Output Voltage

0÷6 kV

### Polarity

Positive / Negative depending on purchased version

### Max. Output Current

300  $\mu$ A, Max. 30  $\mu$ A with Imon Zoom

### Voltage Set Resolution

100 mV

### Voltage Monitor Resolution

100 mV

### Current Set Resolution

5 nA

### Current Monitor Resolution

5 nA (500 pA with Imon Zoom)

### VMAX hardware

0÷6.1 kV common for all the board channels

### VMAX hardware accuracy

$\pm$  2% of FSR

### VMAX software

0÷6 kV settable for each channel

### VMAX software resolution

100 mV

### 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 in order 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.

## Voltage Ripple

- 10 ÷ 1000 Hz: <5 mVpp typical; < 10 mVpp maximum
- 1 ÷ 20000 kHz: <3 mVpp typical; < 5 mVpp maximum

## Vmon vs. Vout accuracy

- typical:  $\pm 0.05\% \pm 1 \text{ V}$
- max:  $\pm 0.05\% \pm 2 \text{ V}$

## Vset vs. Vout accuracy

- typical:  $\pm 0.05\% \pm 1 \text{ V}$
- max:  $\pm 0.05\% \pm 2 \text{ V}$

## Imon vs. Iout accuracy

- typical:  $\pm 2\% \pm 0.05 \mu\text{A}$
- max:  $\pm 2\% \pm 0.1 \mu\text{A}$

## Iset vs. Imon accuracy

- typical:  $\pm 2\% \pm 0.05 \mu\text{A}$
- max:  $\pm 2\% \pm 0.1 \mu\text{A}$

## Ordering Options

Code	Description	
WV6521MAAAAA	V6521M - 6 Channel VME Programmable High Voltage Power Supply (3 ch -6 kV 300 $\mu$ A, 3 ch +6 kV 300 $\mu$ A)	RoHS
WV6521XAAAAA	V6521N - 6 Channel VME Programmable High Voltage Power Supply (-6 kV 300 $\mu$ A)	RoHS
WV6521XPAAAA	V6521P - 6 Channel VME Programmable High Voltage Power Supply (+6 kV 300 $\mu$ A)	RoHS

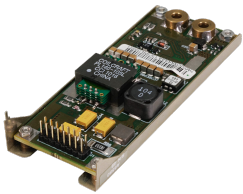
## Accessories

### A1484

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

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### A6580



DC Power Input Equalizer for V65XX Family

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### A1483

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

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## HV CABLES



High Voltage Cable Assemblies

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### A148x

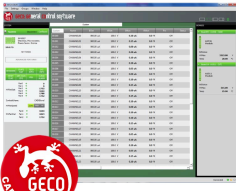


Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

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## Related Software

### GECO2020



General Control Software for CAEN HV Power Supplies

### CAEN Toolbox



Multi-Functional Software Suite for the Upgrade of Front-end Boards, Bridges and Power Supplies

### OPC Server



OPC Server for CAEN Power Supplies

## Related Software Libraries

### CAEN HV Wrapper Library



Library for CAEN Power Supply Control

## Related Products

### VME8200



9U 21Slot VME64X Enhanced Crate series

### VME8001



1U 2 Slot VME64 Mini Crate

### V3718



VME to USB 2.0 / Optical Link Bridge

### V4718



VME to USB 3.0/Ethernet/Optical Link Bridge

### VME8011



7U 21 Slot VME64 Low Cost Crate

### VME8004X



2U 4 Slot VME64X Mini Crate

### VME8100



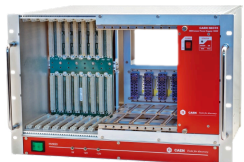
8U 21 Slot VME64/64X Enhanced Crate Series

### CAEN Upgrader



Firmware Upgrade Tool for Front-end Boards Bridges & VME Power Supply

### NV8020A



7U CRATE VME/NIM 8 slot VME64 365W, 5 slot NIM 150W

### VME8004B



2U 4 Slot VME64 Mini Crate

## VME8008X



4U 8 Slot VME64X Mini Crate

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## VME8010



7U 21 Slot VME64 Low Cost Crate

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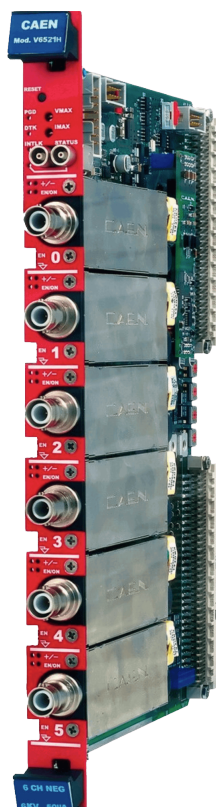
## VME8002



5U 9 Slot VME64 Mini Crate

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# Gallery



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