

V6521H

6 Channel 6 kV/20 μ A VME HV Power Supply Module



Features



- 6 independent channels in 1 unit wide VME 6U module
- 6 kV / 20 μ A output range
- Available with positive, negative or mixed polarity
- SHV coaxial output connectors
- Common floating return
- Low Ripple
- Under/Overvoltage alert, overcurrent and max. voltage protection
- 1 nA Current monitor resolution (with x10 Imon-Zoom: 100 pA)
- Interlock logic for board enable
- Individual channel enable
- Optional DC Input Power Equalizer
- Module control via software Tools

Description

The CAEN **Mod.**

V6521H

is a **1-unit wide VME 6U module** housing

6

High Voltage Power Supply Channels

6kV, 20 μ 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 (1U wide), 6 channels for Mod. V6521H

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 1 nA Iset/Imon resolution. Features include Imon Zoom, increasing resolution to 100pA. 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:

Channels can be enabled or disabled through the Global Interlock logic. Channels individually enabled via front panel jumpers (passive or active mode available).

Overvoltage and Undervoltage warning when the output voltage differs from the programmed value.

Overcurrent detection if a channel tries to draw a current larger than its programmed limit, it enters TRIP status, keeping the maximum allowed value for a programmable time (TRIP), before being switched off. If TRIP is set to "constant current mode", the channel behaves like a current generator.

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.

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

Max. Output Current

20 μ A, Max. 2 μ A with Imon Zoom (optional)

Voltage Set Resolution

100 mV

Voltage Monitor Resolution

100 mV

Current Set Resolution

1 nA

Current Monitor Resolution

1 nA (0.1 nA with Imon x10 Zoom)

VMAX hardware

0÷6 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: $\pm 2\% \pm 0.005 \mu\text{A}$
- Max: $\pm 2\% \pm 0.01 \mu\text{A}$

Iset vs. Imon accuracy

- Typical: $\pm 2\% \pm 0.005 \mu\text{A}$
- Max: $\pm 2\% \pm 0.01 \mu\text{A}$

Ordering Options

Code	Description	
WV6521HAAAAA	V6521HN - 6 Channel VME Programmable High Voltage Power Supply (-6 kV 20μA/1nA res)	RoHS
WV6521HMAAAAA	V6521HM - 6 Ch VME Programmable High Voltage Power Supply (3ch -6 kV 20μA, 3ch +6kV 20μA/1nA res)	RoHS
WV6521HPAAAAA	V6521HP - 6 Channel VME Programmable High Voltage Power Supply (+6 kV 20μA/1nA res)	RoHS

Accessories

HV CABLES



High Voltage Cable Assemblies

A148x

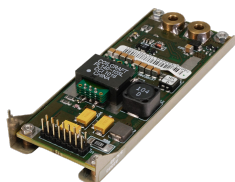


Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

A1484

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

A6580



DC Power Input Equalizer for V65XX Family

A1483

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

Related Software

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

GECO2020



General Control Software for CAEN HV Power Supplies

Related Software Libraries

CAEN HV Wrapper Library



Library for CAEN Power Supply Control

Related Products

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

VME8004B



2U 4 Slot VME64 Mini Crate

NV8020A



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

VME8010



7U 21 Slot VME64 Low Cost Crate

VME8008X



4U 8 Slot VME64X Mini Crate

VME8200



9U 21Slot VME64X Enhanced Crate series

VME8002



5U 9 Slot VME64 Mini Crate

VME8001



1U 2 Slot VME64 Mini Crate

V3718



VME to USB 2.0 / Optical Link Bridge

V4718

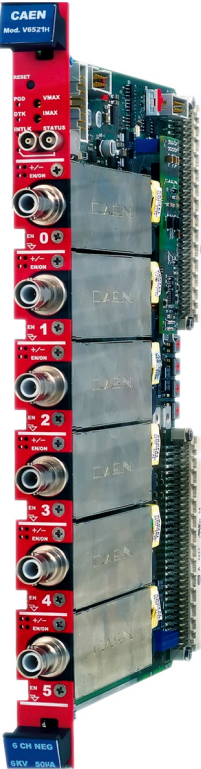


VME to USB 3.0/Ethernet/Optical Link Bridge

VME8008B



4U 8 Slot VME64 Mini Crate



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