

V6534

6 Channel 6 kV/1 mA VME HV Power Supply Module



Features



- 6 independent channels in 1 unit wide VME 6U module
- 6 kV / 1 mA output range (9W max)
- Available with positive, negative or mixed polarity
- SHV coaxial output connectors
- Common floating return
- Low Ripple
- Under/Overtoltage alert, overcurrent and max. voltage protection
- 20 nA Current monitor resolution (with x10 Imon-Zoom: 2 nA)
- Interlock logic for board enable
- Individual channel enable
- Optional DC Input Power Equalizer
- Module control via software Tools

Description

The CAEN Mod.

V6534

is a **1-unit wide VME 6U module** housing **6 High Voltage Power Supply Channels**
6 kV,

1 mA. The board is available with either positive or negative output polarity; mixed version with 3 positive and 3 negative channels is also available.

SHV connector

Single width (1-unit wide VME 6U), 6 channels for Mod. V6534

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

The channels share a **common floating return**, which allows on-detector grounding reducing the noise level. HV outputs are delivered through SHV connectors.

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 20nA Iset/Imon resolution. Features include Imon Zoom, increasing resolution to 2nA. 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 and is available to control these units, from low level libraries to graphical application software.

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

Technical Specifications

Package

1-unit wide VME 6U module

No. of Channels

6 (Common floating return)

Polarity

Positive or Negative; common floating return

Output Voltage

0÷6 kV (connector output)

Max. Output Current

1 mA, Max. 0.1 mA with Imon Zoom (optional)

Voltage Set Resolution

100 mV

Voltage Monitor Resolution

100 mV

Current Set Resolution

20 nA

Current Monitor Resolution

20 nA (2 nA with Imon Zoom)

VMAX hardware

0÷6 kV common to all channel

VMAX hardware accuracy

2% of FSR

IMAX hardware

0÷1 mA common to all board channels

VMAX hardware accuracy

2% of FSR

VMAX software

0÷6 kV selectable for each channel

VMAX software resolution

1 V

Interlock input

LOW: <1V; current~5mA; HIGH: 4÷6 V

Power Requirements

	Without A6580	With A6580
Output	+5V, ±12V	+5V, ±12V
1kV/1mA (1 ch. ON)	0.2A, 0.4A	1.7A, 0.25A
3kV/1mA (1 ch. ON)	0.2A, 0.45A	2A, 0.27A
6kV/1mA (1 ch. ON)	0.2A, 0.6A	2A, 0.3A
1kV/1mA (6 ch. ON)	0.2A, 1.45	4.5A, 0.8A
3kV/1mA (6 ch. ON)	0.2A, 0.1.65A	5A, 0.95
6kV/1mA (6 ch. ON)	-, -	7.5A, 1.3A

Ramp Up/Down

1÷500 V/s, 1 V/s 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: <10 mVpp typical; < 15 mVpp maximum
- 1 ÷ 20000 kHz: <10 mVpp typical; < 15 mVpp maximum

Vmon vs. Vout accuracy

- Typical: ± 0.05% ± 1 V
- Max: ± 0.05% ± 2 V

Vset vs. Vmon accuracy

- Typical: ± 0.05% ± 1 V
- Max: ± 0.05% ± 2 V

Imon vs. Iout accuracy

- Typical: ± 2% ± 40 nA
- Max: ± 2% ± 100 nA

Iset vs. Imon accuracy

- Typical: ± 2% ± 40 nA
- Max: ± 2% ± 100 nA

Voltage Ripple

10 - 1000Hz: Typical: 10 mVpp; Max: 15 mVpp
1kHz - 20MHz: Typical: 10 mVpp; Max: 15 mVpp

Humidity range

0 ÷ 80%

Operating temperature

0 ÷ 45°C

Storage temperature

-10 ÷ 70°C

Vout / Temperature coefficient

Typ: 50 ppm / °C Max: 100 ppm / °C

I_{mon} / Temperature coefficient

Max: 100 ppm/°C; Max: 500 ppm/°C with x10 I_{mon} zoom

Long term stability Vout vs. Vset

± 0.02% (after one week @ constant temperature)

Ordering Options

Code	Description	
WV6534MAAAAA	V6534M - 6 Channel VME Programmable High VoltagePower Supply (3 ch -6 kV 1 mA, 3 ch +6 kV 1 mA)	RoHS
WV6534XAAAAA	V6534N - 6 Channel VME Programmable High VoltagePower Supply (-6 kV 1 mA)	RoHS
WV6534XPAAAA	V6534P - 6 Channel VME Programmable High VoltagePower Supply (+6 kV 1 mA)	RoHS

Accessories

A148x



Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

A1484

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

HV CABLES

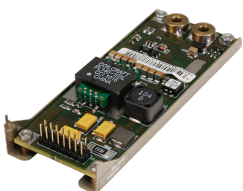


High Voltage Cable Assemblies

A1483

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

A6580



DC Power Input Equalizer for V65XX Family

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

V4718



VME to USB 3.0/Ethernet/Optical Link Bridge

VME8100



8U 21 Slot VME64/64X Enhanced Crate Series

VME8011



7U 21 Slot VME64 Low Cost Crate

CAEN Upgrader



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

VME8004A



2U 4 Slot VME64 Mini Crate

NV8020A



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

VME8008X



4U 8 Slot VME64X Mini Crate

VME8200



9U 21Slot VME64X Enhanced Crate series

VME8002



5U 9 Slot VME64 Mini Crate

VME8010



7U 21 Slot VME64 Low Cost Crate

VME8004



2U 4 Slot VME64 Mini Crate

V3718



VME to USB 2.0 / Optical Link Bridge

VME8008B



4U 8 Slot VME64 Mini Crate

VME8001



1U 2 Slot VME64 Mini Crate



This document, or parts thereof, may not be reproduced in any form or by any means without written permission from Caen S.p.A. Although every effort has been made to ensure the accuracy of information presented in this catalog, Caen S.p.A reserves the right to modify its products specifications without giving any notice; for up to date information please visit www.caen.it © Caen S.p.A - 2024

CAEN S.p.A.

Via Vetraia 11
55049 - Viareggio
Italy

Phone +39.0584.388.398

Fax +39.0584.388.959

info@caen.it

www.caen.it

CAEN GmbH

Brunnenweg 9
64331 Weiterstadt, Germany

Phone +49 (0)212.254.4077

Mobile +49 (0)151.16.548.484

info@caen-de.com

www.caen-de.com

CAEN Technologies, Inc.

1 Edgewater Street - Suite 101
Staten Island, NY 10305
USA

Phone +1.718.981.0401

Fax +1.718.556.9185

info@caentechnologies.com

www.caentechnologies.com

CAENspa India Private Limited

B205, BLDG42, B Wing,
Azad Nagar Sangam CHS,
Mhada Layout, Azad Nagar, Andheri West
Mumbai, Maharashtra 400053, India

info@caen-india.in

www.caen-india.in

