N8032

8 Channel 500 V / 10 mA NIM Power Supply Module (USB/Ethernet/Touchscreen)

8	500 V	10 mA
No. of Channels	Max Output V	Max Output I

The N8032 is an 8-channel, 500 V / 10 mA high-voltage power supply in a double-width 2U NIM module. It is available with positive, negative or mixed channels (4 positive and 4 negative), with SHV outputs and independently programmable ramp-up and ramp-down rates from 1 to 100 V/s in 1 V/s steps. Each channel provides 50 nA Iset resolution and includes over/undervoltage warnings, overcurrent protection with programmable TRIP, hardware VMAX and IMAX limits, common interlock and individual kill inputs. Local touchscreen, USB 2.0 and Ethernet control are supported.

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Overview

Product Highlights

- 8 independent channels in a 2U NIM module
- Channels with either positive or negative polarity
- Low Ripple
- Interlock logic for board enable and Individual channel kill
- 2.8″ color touch screen display
- Software Tools for easy channel management
- 500 V / 10 mA output range
- SHV coaxial output connectors
- Under/over-voltage alert, overcurrent and max. voltage protection
- 50 nA Current monitor resolution (with x10 Imon-Zoom: 5 nA)
- Local and Remote control (USB2.0/Ethernet)

Product Description

The CAEN **Mod. N8032** provides **8** independent 500 V / 10 mA channels in a double-width NIM module. Each channel delivers up to **500 V** and **10 mA**. The unit is available with positive, negative or “mixed” channels (4 positive and 4 negative).

The Mod. N8032 delivers its 8 channel outputs through SHV connectors; for further technical information, consult our connectors reference page. Ramp-up and ramp-down rates can be set independently for each channel from 1 to 100 V/s in 1 V/s steps, and the module offers 50 nA Iset resolution.

The module can be controlled **locally**, through a **2.8″ color touchscreen LCD display** with a completely redesigned user interface, or **remotely** via **USB 2.0** or **Ethernet**. A complete set of **software tools** is available to control the unit, and users can freely download low-level libraries, the LabVIEW driver and graphical application software, allowing them to monitor the module status and configure the HV parameters of each channel in real time.

The module also includes dedicated safety features that allow it to operate as a current generator. An overvoltage and undervoltage warning is issued when the output voltage differs from the programmed value by more than 2% of the set value (minimum 10 V). When a channel attempts to exceed its programmed current limit, it is flagged as being in “overcurrent” 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 generator. Hardware VMAX and IMAX limits can be set via front panel potentiometers to the same common value for all channels of the board, and both values can be read out via software. Finally, a common safety board interlock logic enables or disables the channels, while individual input signals provide a kill function for each channel.

AT A GLANCE

No. of Channels	**8**
Max Output V	**500 V**
Max Output I	**10 mA**
Vset/Vmon Resolution	**2 mV**
Iset/Imon Resolution	**Iset: 50 nA Imon: 50 / 5 nA**
Max. Ramp Up/Down Rate	**100 V/s**

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Technical Specifications

Package	Double width NIM mechanics. Weight: ~2.6 kg
Output channels	8 channels, SHV connector Positive, Negative or Mixed (4-8 positive and 4-8 negative) Polarity; common ground
Output Voltage	0÷500 V
Output Current	10 mA
Max. Ch. Output Power	5 W
Vset Resolution	2mV
Vmon Resolution	2mV
Iset Resolution	50 nA
Imon Resolution	50 nA (high range) / 5 nA (low range)
Vmax	0 ÷ 500 V
Vmax resolution	1 V
IMAX hardware	10 mA
IMAX hardware resolution	10 µA
Ramp Up/Down	1÷100 Volt/s, 1 Volt/s step
Trip	Max. time an “overcurrent” can 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. TRIP range: 0 ÷ 999.9s; 1000 s = Infinite. Step = 0.1 s
Voltage Ripple	• 10 – 1000 Hz: < 4 mVpp typ; < 6 mVpp max • 1kHz – 20 MHz: < 2 mVpp typ; < 4 mVpp max
Vmon vs. Vout Accuracy	± 0.02% ± 100 mV
Vset vs. Vout Accuracy	± 0.02% ± 100 mV
Imon vs. Iout Accuracy	± 0.5% ± 50 µA
Iset vs. Iout Accuracy	± 0.5% ± 50 µA
Humidity range	0 ÷ 80% non condensing
Operating temperature	0 ÷ 45°C
Storage temperature	-10 ÷ 70°C
Vout / Temperature coefficient	±50 ppm/°C typ
Long Term stability (1 week after 1h warmup)	±0.04% / full scale
Local Control	LCD touchscreen
Remote Control	USB & Ethernet

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Ordering Information

ORDERING CODE	DESCRIPTION
WN8032XAAAAA	N8032N – 8 Channel NIM Programmable High Voltage Power Supply (-500V 10mA) – SHV Common Ground
WN8032XMAAAA	N8032M – 8 Channel NIM Programmable High Voltage Power Supply (4ch-500V 10mA, 4ch+500V 10mA) – SHV
WN8032XPAAAA	N8032P – 8 Channel NIM Programmable High Voltage Power Supply (+500V 10mA) – SHV Common Ground

1. Ordering codes and descriptions are reproduced from the product record. Availability is confirmed at order entry.

Accessories

A148x — Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

HV CABLES — High Voltage Cable Assemblies

Related Products

DT8032 — 8 Channel 500 V/ 10 mA Desktop Power Supply Module (USB/Ethernet/Touchscreen)

R8032 — 8-16 Channel 500 V/10 mA 19" Power Supply Module (USB/Ethernet/Touchscreen)

Software & Control Tools

CAEN HV Wrapper Library — Library for CAEN Power Supply Control

GECO2020 — GEneral COntrol Software for CAEN HV Power Supplies

LabVIEW Driver (PSM – Power Supply Modules) — LabVIEW Instrument Driver for Power Supply Modules

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