DT8034H

8 Channel 6 kV/ 20 µA Desktop Power Supply Module (USB/Ethernet/Touchscreen)

8	6000 V	20 µA
No. of Channels	Max Output V	Max Output I

The DT8034H is an 8-channel desktop high-voltage power supply module, providing independent outputs up to 6 kV and 20 µA through SHV coaxial connectors. Channels are available with positive, negative or mixed polarity, with independently programmable 1–500 V/s ramp-up and ramp-down rates, 100 pA Iset resolution and 100 pA current-monitor resolution (10 pA with Imon-Zoom). A 2.8″ color touchscreen enables local control, while USB 2.0 and Ethernet support remote operation. Interlock, individual channel kill, trip and programmable VMAX protection are included.

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Overview

Product Highlights

- 8 independent channels in a Desktop case (110/220V AC Powered)
- 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
- 6 kV / 20 µA output range
- SHV coaxial output connectors
- Under/over-voltage alert, overcurrent and max. voltage protection
- 100 pA Current monitor resolution (with x10 Imon-Zoom: 10 pA)
- Local and Remote control (USB2.0/Ethernet)

Product Description

The CAEN **Mod. DT8034H** provides **8** independent 6 kV / 20 µA channels in a desktop package (110/220 V AC powered). Each channel delivers up to **6 kV** and **20 µA**. The unit is available with positive, negative or “mixed” channels (4 positive and 4 negative).

The Mod. DT8034H delivers its 8 channel outputs through SHV coaxial 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 500 V/s in 1 V/s steps, and the module offers 100 pA 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.

The module also includes dedicated safety features that allow it to operate as a current generator. A common safety board interlock logic enables or disables the channels globally, while individual input signals provide a kill function for each channel. 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). If a channel attempts to draw a current higher than its programmed limit, it enters TRIP status and holds the maximum allowed value for a programmable time (TRIP) before being switched off. A programmable hardware VMAX protection limit is also available.

AT A GLANCE

No. of Channels	**8**
Max Output V	**6000 V**
Max Output I	**20 µA**
Vset/Vmon Resolution	**20 mV**
Iset/Imon Resolution	**Iset: 100 pA Imon: 100 / 10 pA**
Max. Ramp Up/Down Rate	**500 V/s**

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Technical Specifications

Package	Desktop module housed in a 239x84x184 mm3 (WxHxD) Aluminium case (110/220V AC Powered)
Output channels	8 channels, SHV connector Positive, Negative or Mixed (4-8 positive and 4-8 negative) Polarity; common ground
Output Voltage	0÷6 kV
Max. Output Current	20 µA
Max. Ch. Output Power	0.12 W
Vset Resolution	20 mV
Vmon Resolution	20 mV
Iset Resolution	100 pA
Imon Resolution	100 pA (high range) / 10 pA (low range)
Vmax	0 ÷ 6 kV
Vmax resolution	2 V
IMAX hardware	20 µA
IMAX hardware resolution	20 nA
Ramp Up/Down	1÷500 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 – 1000Hz: <4mVpp typ; <8mVpp max 1kHz – 20MHz: <2mVpp typ; <5mVpp max
Vmon vs. Vout Accuracy	± 0.02% ± 1V
Vset vs. Vout Accuracy	± 0.02% ± 1V
Imon vs. Iout Accuracy	± 0.2% ± 20nA
Iset vs. Iout Accuracy	± 0.2% ± 20nA
Humidity range	0 ÷ 80% non condensing
Operating temperature	0 ÷ 45°C
Storage temperature	-10 ÷ 70°C
Vout / Temperature coefficient	±50 ppm / °C
Long Term stability (1 week after 1h warmup)	±0.02% / full scale
Local Control	LCD touchscreen
Remote Control	USB & Ethernet

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Ordering Information

ORDERING CODE	DESCRIPTION
WDT8034HXMAA	DT8034HM – 8CH Desktop Programmable HV Power Supply (4ch +6KV 20uA, 4ch -6KV 20uA) 50pA res -SHV con
WDT8034HXNAA	DT8034HN – 8CH Desktop Programmable HV Power Supply (-6KV 20uA) 50pA res -SHV conn. – Common Gn
WDT8034HXPAA	DT8034HP – 8CH Desktop Programmable HV Power Supply (+6KV 20uA) 50pA res -SHV conn. – Common Gnd

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

N8034H — 8 Channel 6 kV / 20 µA NIM Power Supply Module (USB/Ethernet/Touchscreen)

R8034H — 8-16 Channel 6 kV/20 µA Rack 19' HV Power Supply (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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