

DT8033

8 Channel 4 kV/ 3 mA (6W) Desktop Power Supply Module (USB/Ethernet/Touchscreen)



Features

- 8 independent channels in a Desktop package (110/220V AC Powered)
- 4 kV / 3mA output ranges
- Channels with either positive or negative polarity
- SHV coaxial output connectors
- Low Ripple
- 10 mV Vset resolution
- 10 nA Iset resolution
- Under/over-voltage alert, overcurrent and max. voltage protection
- Programmable ramp-up / ramp-down (1-500 V/s)
- 2.8" color touch screen display
- Local and Remote control (USB2.0/Ethernet)
- Interlock logic for board enable and Individual channel kill
- Software Tool for easy channel management

Description

The CAEN **Mod. DT8033** provides **8** independent 4 kV/ 3 mA (6W) channels in a desktop package (110/220V AC Powered). Each channel can provide a **4 kV** max voltage and a **3 mA** max current (up to 6W). The unit is available with positive, negative and "mixed" (4 positive and 4 negative) channels.

Channels outputs are delivered through SHV connectors. The HV output RAMP-UP and RAMP-DOWN rates may be selected independently for each channel in the range 1÷500 V/s in 1 V/s steps. The module features 10 nA Iset resolution.

SHV connector

HV coaxial connector, 8 channels for Mod. DT8033

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

Module control can take place either **locally** thanks to a **2.8" Touchscreen Graphic color 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 these units; the user can freely download low level libraries, LabVIEW driver and Graphical application software.

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

Overvoltage and Undervoltage warning

When the output voltage differs from the programmed value by more than 2% of set value (minimum 10V).

Overcurrent detection

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.

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.

Safety Board Interlock

Common Interlock logic for channels enable/disable and individual inputs signal for channel Kill function.

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 ÷ 4 kV

Max. Output Current

3 mA

Max. Ch. Output Power

6 W

Vset Resolution

10mV

Vmon Resolution

10mV

Iset Resolution

10 nA

Imon Resolution

10 nA (high range) / 1 nA (low range)

Vmax

0 ÷ 4 kV

Vmax resolution

1 V

IMAX hardware

3 mA

IMAX hardware resolution

10µA

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% ± 2µA

Iset vs. Iout Accuracy

± 0.2% ± 2µA

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)

±0.02% / full scale

Local Control

LCD touchscreen

Remote Control

USB & Ethernet

Ordering Options

Code	Description	
WDT8033XAAA	DT8033N - 8CH Desktop Programmable HV Power Supply(-4KV 3mA) -SHV conn. - Common Gnd	RoHS
WDT8033XMAAA	DT8033M - 8CH Desktop Programmable HV Power Supply(4ch +4KV 3mA, 4ch -4KV 3mA)-SHV conn. C. Gnd	RoHS
WDT8033XPAAA	DT8033P - 8CH Desktop Programmable HV Power Supply(+4KV 3mA) -SHV conn. - Common Gnd	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

Related Software

GECO2020



General Control Software for CAEN HV Power Supplies

Related Software Libraries

CAEN HV Wrapper Library



Library for CAEN Power Supply Control

Related Products

DT8031



8 Channel 100 V/ 10 mA Desktop Power Supply Module (USB/Ethernet/Touchscreen)

DT8034



8 Channel 6 kV/ 1 mA Desktop Power Supply Module (USB/Ethernet/Touchscreen)

DT8032



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

LabVIEW Driver (PSM - Power Supply Modules)



LabVIEW Instrument Driver for Power Supply Modules

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