

## DT8031

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



## Features

- 8 independent channels in a Desktop case (110/220V AC Powered)
- 100 V / 10 mA output range
- Channels with either positive or negative polarity
- BNC coaxial output connectors
- Temperature probe input
- Low Ripple
- Under/over-voltage alert, overcurrent and max. voltage protection
- Interlock logic for board enable and Individual channel kill
- 50 nA Current monitor resolution (with x10 Imon-Zoom: 5 nA)
- 2.8" color touch screen display
- Local and Remote control (USB2.0/Ethernet)
- Software Tools for easy channel management

## Description

The CAEN **Mod. DT8031** provides **8** independent 100 V/ 10 mA channels in a desktop package (110/220V AC Powered). Each channel can provide a **100V** max voltage and a **10 mA** max current. The unit is available with positive, negative and "mixed" (4 positive and 4 negative) channels.

### **BNC connector**

BNC type coaxial connector, 8 channels for Mod. DT8031P/N/M

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

Channels outputs are delivered through BNC connectors. The HV output RAMP-UP and RAMP-DOWN rates may be selected independently for each channel in the range 1÷50 V/s in 1 V/s steps. The module features 50 nA Iset resolution. 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:

|   |  |
|---|--|
| <b>Overvoltage and Undervoltage warning</b> | When the output voltage differs from the programmed value by more than 2% of set value (minimum 10V).  |
| <b>Overcurrent detection</b>                | 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. |
| <b>Hardware VMAX and IMAX</b>               | 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.  |
| <b>Safety Board Interlock</b>               | Common Interlock logic for channels enable/disable and individual inputs signal for channel Kill function.   |

## Technical Specifications

### Package

Desktop module housed in a 239 x 84 x 184 mm<sup>3</sup> (WxHxD) Aluminium case (110/220V AC Powered)

### Output channels

- 8 channels, BNC connector
- Positive, Negative or Mixed (4-8 positive and 4-8 negative) Polarity; common ground

### Output Voltage

0 ÷ 100 V

### Max. Output Current

10 mA

### Max. Ch. Output Power

1 W

### Vset Resolution

500 µV

### Vmon Resolution

500 µV

### Iset Resolution

50 nA

### Imon Resolution

50 nA (high range) / 5 nA (low range)

### Vmax

0 ÷ 100 V

### Vmax resolution

1 V

### IMAX hardware

10 mA

### IMAX hardware resolution

10 µA

### Ramp Up/Down

1 ÷ 50 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: <3 mVpp typ; <5 mVpp max
- 1 kHz - 20 MHz: <1 mVpp typ; <3 mVpp max

## Vmon vs. Vout Accuracy

± 0.02% ± 20mV

## Vset vs. Vout Accuracy

± 0.02% ± 20mV

## Imon vs. Iout Accuracy

± 0.5% ± 50µA

## Iset vs. Iout Accuracy

± 0.5% ± 50µA

## Humidity range

0 ÷ 80% non condensing

## Operating temperature

0 ÷ 45°C

## Storage temperature

-10 ÷ 70°C

## Vout / Temperature coefficient

±10 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  |      |
|--------------|--|------|
| WDT8031XAAAA | DT8031N - 8CH Desktop Programmable HV Power Supply(-100V 10mA) - BNC conn. - Common Gnd              | RoHS |
| WDT8031XMAAA | DT8031M - 8CH Desktop Programmable HV Power Supply(4ch +100V 10mA, 4ch -100V 10mA)- BNC conn. C. Gnd | RoHS |
| WDT8031XPAAA | DT8031P - 8CH Desktop Programmable HV Power Supply(+100V 10mA) - BNC conn. - Common Gnd              | RoHS |

## Accessories

### A1483

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

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### HV CABLES



High Voltage Cable Assemblies

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### A148x



Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

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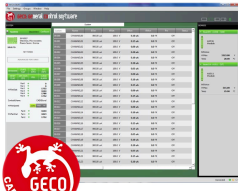
### A1484

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

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## Related Software

### GECO2020



General Control Software for CAEN HV Power Supplies

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## Related Products

### CAENHVWRAPPERLIB

#### DT8033



8 Channel 4 kV/ 3 mA (6W) 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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