

DT5471

1 Ch 3 kV/500 μ A (1 W) USB-Powered Desktop HV Power Supply



Features



- Single Desktop HV channel powered and controlled by USB
- 3 kV / 500 μ A output range (1 W max)
- Available with positive or negative polarity
- SHV output connector
- Low Ripple
- Under/over-voltage alert, overcurrent and max. voltage protection
- Interlock logic for board enable and Individual channel kill
- 10 nA Current monitor resolution (with x10 Imon Zoom: 1 nA)
- Software Tools for easy channel management

Description

The CAEN **Mod. DT5471** is a desktop module housing one High Voltage Power Supply Channels **3 kV / 50 0µA** (1W max). The unit is available with either positive or negative output polarity; it is **supplied via USB link**. HV output is delivered through SHV connector. The HV output RAMP-UP and RAMP-DOWN rates may be selected independently for each channel in the $1 \div 500$ V/s range with 1 V/s steps. The module features 10 nA Iset/Imon resolution. Zoom (x 10) for Imon increases resolution to 1nA. Functional parameters can be programmed and monitored via USB.

SHV connector

Radiall R317580 HV coaxial connector for Mod.DT5471

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

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

Channel	can be enabled or disabled through the front panel manual switch or via Interlock logic.
Overvoltage and Undervoltage warning	warning when the output voltage differs from the programmed value.
Overcurrent detection	when a channel attempts to exceed the programmed current limit, it signaled 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	maximum output voltage can be set via front panel potentiometer. VMAX value can be read out via software.

Software available (Windows):

- **LabVIEW Instrument Driver**
- **DT547x Control software:** LabVIEW Control software with Logging Capability. DT547x Control software allows to set and monitor, through a Graphical User Interface, all the unit's functional parameters. When DT547x Control Software runs, it creates a data-log file that records the changes of the monitoring parameters.

Technical Specifications

Package

- Alloy box: 81 W x 43 H x 127 L mm³ (without connectors) / 81 W x 43 H x 171 L mm³ (including connectors)
- Weight: 280g

Output Voltage

0 ÷ 3 kV

Polarity

Positive / Negative depending on purchased version

Max. Output Current

500 µA

Maximum output power

1W

Voltage Set Resolution

500 mV

Voltage Monitor Resolution

50 mV

Current Set Resolution

100 nA

Current Monitor Resolution

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

Current Set Maximum Value

510 µA

VMAX hardware

3100 V

VMAX hardware resolution

1 V

VMAX hardware accuracy

± 0.3% of full scale ±5V

Ramp Up/Down

1 ÷ 500 Volt/sec, 1 Volt/sec step

Temperature Resolution

1°C

TRIP

0-999s; 1000 = Infinite (current generator)

Voltage Ripple

<20 mVpp Typical

Interlock input

LOW: <1V; current~5mA; HIGH: 4÷6 V

Vmon vs. Vout accuracy

± 0.05% of full scale ±1V

Vset Vs. Vout accuracy

± 0.05% of full scale ±1V

Imon vs. Iout accuracy

±1% of read ±200 nA

Iset vs. Iout Accuracy

±1% of read ±200 nA

Humidity range

0 ÷ 80%

Operating temperature

0 ÷ 45°C

Storage temperature

-10 ÷ +70°C

Vout / Temperature coefficient

100 ppm

Imon / Temperature coefficient

100 ppm

Long term stability Vout vs. Vset

0,05% (after one week @ constant temperature)

Ordering Options

Code	Description	
WDT5471XNAAA	DT5471N - USB High Voltage Power Supply -3kV/500uA (1W max)	RoHS
WDT5471XPAAA	DT5471P - USB High Voltage Power Supply +3kV/500uA (1W max)	RoHS

Accessories

HV CABLES



High Voltage Cable Assemblies

Related Products

LabVIEW Driver (PSM - Power Supply Modules)



LabVIEW Instrument Driver for Power Supply Modules

Gallery



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