

## DT1419ET

# 4 Ch Reversible 500 V/200 $\mu$ A Desktop HV Power Supply Module (USB/Ethernet/T.screen)



## Features



- 4 independent channels in a Desktop case (110/220V AC Powered)
- 500 V / 200 $\mu$ A output range
- Channels with individually selectable positive or negative polarity
- SHV coaxial output connectors
- Common floating return
- Low Ripple
- Under/over-voltage alert, overcurrent and max. voltage protection
- Interlock logic for board enable and Individual channel kill
- 5 nA Current monitor resolution (with x10 Imon-Zoom: 500 pA)
- 2.8" color touch screen display
- Local and Remote control (USB2.0/Ethernet)
- Daisy-chain capability
- Software Tools for easy channel management

## Description

The CAEN **Mod. DT1419ET** provides **4** independent High Voltage channels in a Desktop package (110/220V AC Powered). Each channel can provide a **±500V** max voltage and a **200 µA** max current. The output polarity is independently selectable for each channel.

Channels have **common floating return** (common return insulated from the crate ground); HV 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÷50 V/s in 1 V/s steps. The module features 5 nA Iset/Imon resolution. Zoom (x 10) for Imon increases resolution to 500 pA.

### SHV connector

Radial R317580 HV coaxial connector for Mod.DT1419ET

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 **free software Tools** is available to control this unit: **GECO2020** with user friendly GUI and **CAEN HV Wrapper library** for custom SW development. **EPICS** and **LabVIEW** also supported.

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

<b>Channels</b>	can be enabled or disabled through the Global Interlock logic.
<b>Overvoltage and Undervoltage warning</b>	warning when the output voltage differs from the programmed value by more than 2% of set value (minimum 10V).
<b>Overcurrent detection</b>	if a channel tries to draw a current larger than its programmed limit, it enters TRIP status, keeping the maximum allowed value for a programmable time (TRIP), before being switched off.
<b>Hardware VMAX</b>	Programmable VMAX protection limit.
<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 239x84x184 mm<sup>3</sup> (WxHxD) Aluminium case
- Weight: ~5.2 kg

### Output channels

- 4 channels, Common Floating Return, SHV connector
- Positive or Negative Polarity (requires internal setting)

### Output ranges

500 V / 200 $\mu$ A

### Max. Ch. Output Power

0.1W

### Vset Resolution

10 mV

### Vmon Resolution

10 mV

### Iset Resolution

5 nA

### Imon Resolution

5 nA (IMonRange = High)  
500 pA (IMonRange = Low) - Imon Zoom Active

### Vmax

- 0 ÷ 510 V Absolute maximum HV level that the channel is allowed to reach, independently from the preset value Vset.
- Output voltage cannot exceed the preset value Vmax. The accuracy is 1 %  $\pm$  0.5 V

### Vmax resolution

$\pm$  0.1 V

### Alarm output

Open collector, 100 mA maximum sink current

### Interlock input

LOW: <1V; current~5mA; HIGH: 4÷6 V

### 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.
- Trip range: 0 ÷ 999.9 s; 1000 s = INFINITE. Step = 0.1 s (If trip= INFINITE, “overcurrent” lasts indefinitely)

## Voltage Ripple

- 20 ÷ 1000 Hz: Typical: 5 mVpp / Maximum: 10 mVpp
- 1 ÷ 20000 kHz: Typical: 3 mVpp / Maximum: 5 mVpp

## Vmon vs. Vout Accuracy

±0.02% of read value ±0.2V

## Vset vs. Vout Accuracy

±0.02% of set value ±0.2V

## Imon vs. Iout Accuracy

±2% of read ±20 nA (IMonRange = High)  
±2% of read ±2 nA (IMonRange = Low)

## Iset vs. Iout Accuracy

±2% of read ±30 nA (IMonRange = High)  
±2% of read ±3 nA (IMonRange = Low)

## Ventilation Fan

60 x 60 24 V; 62 dBA maximum noise level

## Humidity range

0 ÷ 80%

## Storage temperature

-10 ÷ 70°C

## Operating temperature

0 ÷ 45°C

## Vout / Temperature coefficient

max. 50 ppm / °C

## Imon / Temperature coefficient

max 100 ppm / C°; max 300 ppm / C° with Imon zoom

## Long term stability Vout vs. Vset

± 0.02% (after one week @ constant temperature)

## Ordering Options

Code	Description
WDT1419ETXAA	DT1419ET - 4 Channel 500V/200uA Desktop HV PowerSupply Module with Ethernet & 2.8" Touchscreen <span data-bbox="1406 271 1477 309">RoHS</span>

## Accessories

### A148x



Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

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### 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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### 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

## Related Software Libraries

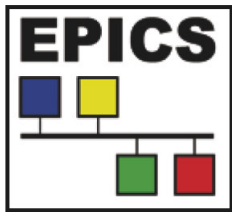
### CAEN HV Wrapper Library



Library for CAEN Power Supply Control

## Related Products

### EPICS IOC (PSM Power Supply Modules)



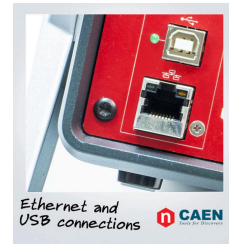
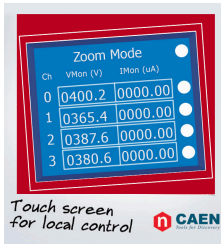
EPICS IOC for Power Supply Modules

### LabVIEW Driver (PSM - Power Supply Modules)



LabVIEW Instrument Driver for Power Supply Modules

# Gallery



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