

DT1570ET

2 Channel 15 kV/1 mA (10 W) Desktop HV Power Supply Module



Features



- 2 independent channels in a Desktop case (110/220V AC Powered)
- 15 kV / 1mA

output

range

- Max channel power: 10W (<10kV) or 7W (>10kV)
- Channels with individually selectable positive or negative polarity
- LEMO HV 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
- 20 nA Current monitor resolution (with x10 Imon-Zoom: 2 nA)
- 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. DT1570ET** provides 2 independent High Voltage channels in a desktop package (110/220V AC Powered). Each channel can provide a ± 15 kV max voltage, 1 mA max current and a 10 W max power.

The output

polarity

is independently selectable for each channel.

| Prova
| Sul PIM

La Prova
Tabella Sul PIM

Uno due
Uno sotto Due sotto
Uno due
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Channels have common floating return (common return insulated from the crate ground); HV outputs are delivered through Lemo HV connectors. The HV output Ramp-up and Ramp-down rates may be selected independently for each channel in the range $1 \div 500$ V/s in 1 V/s steps.

LEMO HV connector

2 channels for Mod. DT1570

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

The module features 20 nA Iset/Imon resolution. Zoom (x 10) for Imon increases resolution to 2 nA. 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 or Ethernet, taking advantage of the new **GECO2020** Control Software.

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:

Channels

Overvoltage and Undervoltage warning when the output voltage differs from the programmed value by more than 2% of set value.

Overvoltage and

Undervoltage warning

When the output voltage differs from the programmed value ($\pm 0.5\%$ of the set value, ± 3 V).

Overcurrent detection	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.
Hardware VMAX	Programmable VMAX protection limit.
Safety Board Interlock	Common Interlock logic for channels enable/disable and individual inputs signal for channel Kill function.

Technical Specifications

Packaging

Desktop package (239x84x184mm); Weight: ~5.2kg.

Output channels

2 Ch, Positive or Negative Polarity (requires internal setting)

Output ranges

15 kV / 1 mA (IMonRange = High)
15 kV / 100 μ A (IMonRange = Low) - Imon Zoom Active

Max. Ch. Output Power

10W (<10kV) 7W (>10kV)

Vset Resolution

500 mV

Vmon Resolution

400 mV

Iset Resolution

20 nA

Imon Resolution

20 nA (IMonRange = High)
2 nA (IMonRange = Low) - Imon Zoom Active

Vmax

0 ÷ 15100 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 5 V

Vmax resolution

\pm 1 V

Alarm output

Open collector, 100 mA maximum sink current

Interlock input

LOW: < 1 V; current~5 mA; HIGH: 4÷6 V

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

Voltage Ripple

20 ÷ 1000 Hz:

- 7kV/250µA Maximum: 10 mVpp
- 10kV/350µA Typical: 12 mVpp / Maximum: 15 mVpp
- 14kV/500µA Typical: 20 mVpp / Maximum: 25 mVpp

1 ÷ 20000 kHz:

- 7kV/250µA Maximum: 10 mVpp
- 10kV/350µA Typical: 6 mVpp / Maximum: 15 mVpp
- 14kV/500µA Typical: 20 mVpp / Maximum: 25 mVpp

Vmon vs. Vout Accuracy

±0.02% of read value ±2V

Vset vs. Vout Accuracy

±0.02% of set value ±2V

Imon vs. Iout Accuracy

±2% of read value ±1 µA (IMonRange = High)
±2% of read value ±100 nA (IMonRange = Low) - Imon Zoom Active

Iset vs. Iout Accuracy

±2% of read value ±1 µA (IMonRange = High)
±2% of read value ±100 nA (IMonRange = Low) - Imon Zoom Active

Humidity range

0 ÷ 80%

Storage temperature

-10 ÷ 70°C

Vout / Temperature coefficient

max. 50 ppm / °C

Imon / Temperature coeff.

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

Longterm stab. Vout vs. Vset

± 0.02% (after one week @ constant temperature)

Ordering Options

Code	Description
WDT1570ETXAA	DT1570ET - 2 Channel 15kV/1mA(10W) Desktop HV Power Supply Module with Ethernet & 2.8" Touchscreen RoHS

Accessories

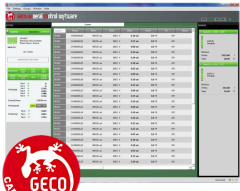
HV CABLES



High Voltage Cable Assemblies

Related Software

GECO2020



General Control Software for CAEN HV Power Supplies

Related Software Libraries

CAEN HV Wrapper Library



Library for CAEN Power Supply Control

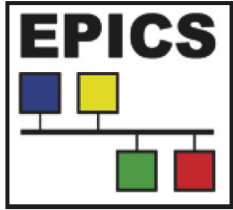
Related Products

R1570ET



4/2 Channel 15 kV/1 mA (10 W) Rack 19' HV Power Supply

EPICS IOC (PSM Power Supply Modules)



EPICS IOC for Power Supply Modules

N1570



2 Channel 15 kV/1 mA (10 W) NIM HV Power Supply Module (USB/Ethernet/T.screen)

LabVIEW Driver (PSM - Power Supply Modules)



LabVIEW Instrument Driver for Power Supply Modules



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