

HIVOLTA (DT1415ET)

**8 Ch Reversible 1
kV/1 mA Desktop
HV Power Supply
High Accuracy
Module
(USB/Ethernet/T.scr
een)**



Features



- 8 independent channels in a Desktop package (110/220V AC Powered)
- 1 kV / 1 mA (0.6W) output range
- Floating Channels
- SHV coaxial output connectors
- Floating return up to 5kV
- Stacking channels capability: up to 5kV output
- Low Ripple
- Under/Over Voltage alert, overcurrent and max. voltage protection
- Interlock logic for board enable and Individual channel kill
- 1 nA Current monitor resolution (with x10 Imon-Zoom: 100 pA)
- 2.8" color touch screen display
- Local and Remote control (USB2.0/Ethernet)
- Software Tools for easy channel management

Description

The CAEN **Mod. DT1415ET (HiVolta)** provides 8 independent High Voltage 1 kV / 1mA (0.6W) channels in a desktop package; the unit is 110/220V AC Powered.

Channels can be used with either positive or negative polarity, independently from each other. The channels have independent floating return, insulated up to 5 kV one from another (**Full Floating channel**). Each channel is provided with one connector for the positive output and two "bridged" for the negative one, thus allowing to "stack" two or more adjacent channels. Module control can take place either locally, assisted by a 2.8" Touchscreen Graphic colour LCD display or remotely, via USB, or Ethernet. HV outputs are delivered through SHV connectors.

SHV connector

Radiall R317580 HV coaxial connector for Mod.DT1415ET

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

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 $\pm 1\% \pm 2V$ of set value.
Overcurrent detection	when a channel attempts to exceed the programmed current limit (Iset), it signaled to be in "overcurrent" and enter in a TRIP status. The output current 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, at the same common value for all the board channels. VMAX value 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

Packaging

Desktop package (255 x 140 x 330 mm); Weight: ~5.2 kg

No. of Channels

8

Output Voltage

1 kV

Polarity

Floating 5 kV Max.

Output Current

1 mA Max.

Channel Power

0.6W

Voltage Set/Monitor Resolution

20 mV

Current Set Resolution

20 nA

Current Monitor Resolution

High Power: 1 nA
High Resolution: 100 pA

Ramp Up/Down

1 ÷ 100 Volt/sec, 1 Volt/sec step, settable for each channel

Trip

Max. time an "overcurrent" is allowed to last (seconds). A channel in "overcurrent" works as a current generator; output voltage varies to keep the output current lower than the programmed value. "Overcurrent" lasting more than set value, causes the channel to "trip". Output voltage will drop to zero at the Ramp-down rate; in this case the channel is put in the off state. If trip= INFINITE, "overcurrent" lasts indefinitely. TRIP range: 0 ÷ 999.9 s; 1000 s = Infinite. Step = 0.1 s

"Zero" current

Zero Current Detect channel parameter allows to sample the present IMon value; this value (IMonZero) can be then subtracted via the Zero Current Adjust parameter ENABLE, from the monitored current (IMon), to compensate the current offset; if ZCAdjust = Enabled, then the IMon value is compensated. After the IMonZero value is sampled, Zero Current Detect, returns to Off. Allowed IMonZero values are from 0 to full scale. If Zero Current Adjust is DISABLED, the IMonZero compensation is neglected.

Voltage Ripple

Differential mode:

- 0 ÷ 1000 Hz: Typical: <10 mVpp / Maximum: <15 mVpp
- 1 ÷ 20000 kHz: Typical: <5 mVpp / Maximum: <10 mVpp

Common Mode:

- Typical: <10 mVpp / Maximum: <15 mVpp

Voltage Monitor vs. Output Voltage Accuracy

$\pm 0.2\%$ of VSet $\pm 0.2V$ from 10% to 100% f.s.

$\pm 0.2\%$ of VSet $\pm 0.5V$ from 3% to 10% f.s.

Voltage Set vs. Output Voltage Accuracy

$\pm 0.2\%$ of VSet $\pm 0.2V$ from 10% to 100% f.s.

$\pm 0.2\%$ of VSet $\pm 0.5V$ from 3% to 10% f.s.

Iset vs Output current accuracy

$\pm 0.5\%$ of ISet $\pm 0.5\mu A$ from 3% to 100% f.s.

Imon vs Output current accuracy

$\pm 0.5\% \pm 5 \text{ nA} \pm 50 \text{ ppm}/^\circ\text{C}$ with output current from 10% to 100% f.s. and constant voltage

$\pm 2\% \pm 5 \text{ nA} \pm 50 \text{ ppm}/^\circ\text{C}$ with output current from 1% to 10% f.s. and constant voltage

Power requirements

100-240 Vac; 50/60 Hz; 0.8A rms max; fuse: 2xT1A 6.3x32 250 Vac

Humidity range

0 ÷ 80% non condensing

Operating temperature

0 ÷ 45°C

Storage temperature

-10 ÷ 70°C

MTBF

28000 hours

Temperature coefficient

$\pm 50 \text{ ppm}/^\circ\text{C}$

Stability

< 150 mV (Vset = 750V; No Load; one day after 1 hour warm up)

Long term stability

< 200 mV (Vset = 750V; No Load; one week after 1 hour warm up)

Load regulation

< 0.2% (Vset = 600V, Iout from 60 μ A to 850 μ A)

EMC qualification

CE Standards

Safety Standard

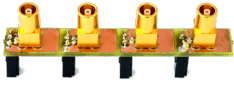
ROHS

Ordering Options

Code	Description
WDT1415ETXAA	DT1415ET - 8Ch Floating Reversible 1kV/1mA (600 mW) Desktop HV Power Supply Module for MPGD RoHS

Accessories

A1481



Kill Signal Adapter for N14XX series

A1484

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

A148x



Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

HV CABLES



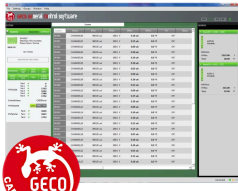
High Voltage Cable Assemblies

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

LabVIEW Driver (PSM - Power Supply Modules)



LabVIEW Instrument Driver for Power Supply Modules



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