

R1570ET

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



Features



- 2 or 4 independent channels in a 19" rack unit (110/220V AC Powered)
- 15 kV / 1 mA 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.R1570ET** provides **4 or 2** (depending on version) independent High Voltage channels in a 19" rack unit (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. 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÷500 V/s in 1 V/s steps.

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.

HV LEMO connector

19" 2U, 2/4 channels for Mod. R1570ET

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

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:

Interlock	Common Interlock logic for channels enable/disable and individual inputs signal for channel Kill function.
Overvoltage and Undervoltage	warning when the output voltage differs from the programmed value by more than 2% of set value (minimum 10V).
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.
VMAX	Programmable VMAX protection limit.

Technical Specifications

Packaging

19" rack (h: 2U; d: 360 mm)

Output channels

2/4 channels, Common Floating Return, 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 (<10 kV)
- 7W (>10 kV)

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

	7 kV/250 μA	10 kV/350 μA	14kV/500 μA
20 ÷ 1000 Hz	Typical: 7 mVpp Maximum: 10 mVpp	Typical: 12 mVpp Maximum: 15 mVpp	Typical: 20 mVpp Maximum: 25 mVpp
	7kV/250 μA	10kV/350 μA	14kV/500 μA
1 ÷ 20000 kHz	Typical: 4 mVpp Maximum: 10 mVpp	Typical: 6 mVpp Maximum: 15 mVpp	Typical: 20 mVpp Maximum: 25 mVpp

Vmon vs. Vout Accuracy

$\pm 0.02\%$ of read value $\pm 2V$

Vset vs. Vout Accuracy

$\pm 0.02\%$ of set value $\pm 2V$

Imon vs. Iout Accuracy

$\pm 2\%$ of read value $\pm 1 \mu A$ (IMonRange = High)
 $\pm 2\%$ of read value $\pm 100 nA$ (IMonRange = Low) - Imon Zoom Active

Iset vs. Iout Accuracy

$\pm 2\%$ of read value $\pm 1 \mu A$ (IMonRange = High)
 $\pm 2\%$ of read value $\pm 100 nA$ (IMonRange = Low) - Imon Zoom Active

Ventilation Fan

60x60 24V; 62 dBA maximum noise level

Humidity range

0 ÷ 80%

Storage temperature

-10 ÷ 70°C

Vout / Temperature coefficient

max. 50 ppm/°C

Imon / Temperature coefficient

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	
WR1570ETDXAA	R1570ETD - 4 Channel 15kV/1mA(10W) 19" HV Power Supply Module with Ethernet & 2.8" Touchscreen	RoHS
WR1570ETXAAA	R1570ET - 2 Channel 15kV/1mA(10W) 19" HV Power Supply Module with Ethernet & 2.8" Touchscreen	RoHS

Accessories

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

N1570



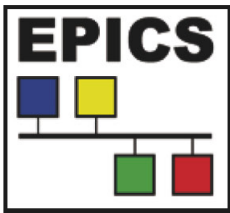
2 Channel 15 kV/1 mA (10 W) NIM HV Power Supply Module (USB/Ethernet/T.screen)

LabVIEW Driver (PSM - Power Supply Modules)



LabVIEW Instrument Driver for Power Supply Modules

EPICS IOC (PSM Power Supply Modules)



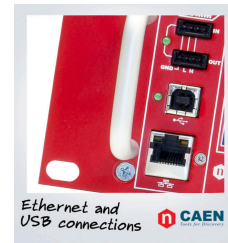
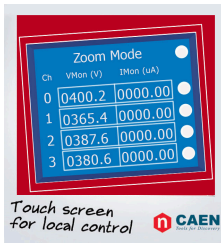
EPICS IOC for Power Supply Modules

DT1570ET



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

Gallery



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