

R1419ET

8/4 Ch Reversible 500 V/200 μ A 19" HV Power Supply Module (USB/Ethernet/T.scr een)



Features



- 4 or 8 independent channels in a 19" rack unit (110/220V AC Powered)
- 500 V / 200 μ 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 (4 channel only)
- Software Tools for easy channel management

Description

The CAEN **Mod. R1419ET** provides **8 or 4** (depending on version) independent High Voltage channels in a 19" rack unit (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.

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**.

SHV connector

19" 2U, 4/8 channels for Mod. R1419ET

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: 360mm). Weight: ~9kg (2-4 ch), 10.5kg (8 ch);

Output channels

4-8 channels, Common Floating Return, SHV connector
Positive or Negative Polarity (requires internal setting)

Output ranges

500 V / 200 μ A (IMonRange = High)
500 V / 20 μ A (IMonRange = Low) - Imon Zoom Active

Max. Ch. Output Power

0.1 W

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 5 V

Vmax resolution

\pm 0.1 V

Alarm output

Open collector, 100 mA maximum sink current

Interlock input

LOW: < 1 V; 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 ±0.2 V

Vset vs. Vout Accuracy

±0.02% of read value ±0.2 V

Imon vs. Iout Accuracy

±2% of read value ±20 nA (IMonRange = High)
±2% of read value ±2 nA (IMonRange = Low) - Imon Zoom Active

Iset vs. Iout Accuracy

±2% of read value ±30 nA (IMonRange = High)
±2% of read value ±3 nA (IMonRange = Low) - Imon Zoom Active

Ventilation Fan

60x60 24V; 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

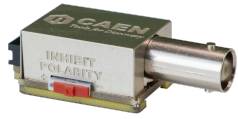
± 0.02% (after one week @ constant temperature)

Ordering Options

Code	Description	
WR1419ETDXAA	R1419ETD - 8 Channel 500V/200uA 19" HV Power Supply Module with Ethernet & 2.8" Touchscreen	RoHS
WR1419ETXAAA	R1419ET - 4 Channel 500V/200uA 19" HV Power Supply Module with Ethernet & 2.8" Touchscreen	RoHS

Accessories

A148x



Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

A1483

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

HV CABLES



High Voltage Cable Assemblies

A1484

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

Related Software

GECO2020



General Control Software for CAEN HV Power Supplies

Related Software Libraries

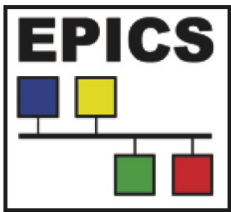
CAEN HV Wrapper Library



Library for CAEN Power Supply Control

Related Products

EPICS IOC (PSM Power Supply Modules)



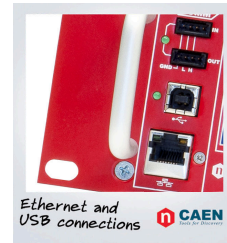
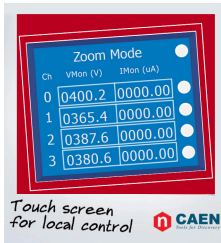
EPICS IOC for Power Supply Modules

LabVIEW Driver (PSM - Power Supply Modules)



LabVIEW Instrument Driver for Power Supply Modules

Gallery



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