

AG7435

12/24 Channel 3.5 kV, 3.5/0,35 mA (9W) Common Ground Dual Range Boards



Features



- 12 / 24 independently controllable High Voltage channels
- Output Voltage: 3500 V
- Dual range current:
 - High Power: 3 mA (10 nA monitor resolution)
 - High resolution: 0.35 mA (1 nA monitor resolution)
- Available with Negative / Positive Polarity
- SHV /Radiall 52 connectors
- Floating Type: Common Ground
- Low ripple
- Under/over-voltage alert, overcurrent and max. voltage protection
- Interlock logic for unit enable
- Software Tool for easy channel management

Description

The power supplies of the AG7435 Family house 12 / 24 independent high voltage channels.

The channels share a Common Ground, with all output returns hardwired to the chassis/crate ground. The board is available with positive or negative output polarity Channels are delivered with SHV /Radial 52 connectors. Consult our **connectors reference page** for technical information.

The output voltage range is **0 ÷ 3500 V**, with **5 mV** monitor resolution. The output channels offer **dual current ranges** (software selectable):

High Power: 0 ÷ 3 mA
I set resolution: 10 nA
I mon resolution: 10 nA

High Resolution: 0 ÷ 0.35 mA
I set resolution: 10 nA
I mon resolution: 1 nA

Independently programmable for each channel:

Output voltage: 0 ÷ 3500 V Step: 5 V
Current limit (Iset): 0 ÷ 3.5 / 0.35 mA selectable Step: 10 nA
V Ramp up/down: 1 ÷ 500 V/s Step: 1 V/sec
TRIP parameter 0 ÷ 999.9 s; 1000 s = Infinite Step: 0.1 s

Safety features includes:

- **Channels:** can be enabled or disabled through the Global Interlock logic.
- **Overvoltage and Undervoltage warning:** when the output voltage differs from the programmed value.
- **Overcurrent detection:** When a channel attempts to exceed the programmed current limit, it signalled to be in "overcurrent" and enter in a TRIP status. The output voltage 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 and IMAX** Maximum output voltage and maximum current value can be fixed, via front panel potentiometer, at the same common value for all the board channels. IMAX and VMAX values can be read out via software.
- **Safety Board Interlock** This protection disables the HV generation when the HV outputs are not connected to their loads (only for Multipin Connector versions).

To create cables compatible with versions equipped with Radial 52 connectors, CAEN provides two accessories: the Mate cable connector (Model A996) and the corresponding insertion/extraction tool (Model A995).

CAEN provides a complete software range to control, monitor and configure its Power Supply products.

- **GECO2020 GEneral CONTROL Software**
- **CAEN HV Wrapper Library,**
- **HiVoCS web tool**
- **OPC Server for CAEN Power Supplies**
- **EPICS Service**

These tools, which support the most used operating systems, spread from low level libraries (**CAEN HV Wrapper Library**), to be used as a source for customer designed software, to the WEB interface (**HIVOCS**) available on each mainframe, up to the all-inclusive Control Software (**GECO2020**) with user friendly graphical interfaces, to meet any application need.

Advanced control via OPC Server (**CAEN OPC Server**) and EPICS (**EPICS IOC**) is supported, to easily include

CAEN power supplies within existing setups featuring such standards. **All CAEN Control Software are available for free download.**

Technical Specifications

No. of Channels

12 or 24 (Common Ground)

Output Voltage

0÷3.5 kV

Polarity

Positive / Negative depending on purchased version

Max. Output Current

Dual Range:

- high power: 3.5 mA
- high resolution: 350 μ A

Voltage Set Resolution

5 mV

Voltage Monitor Resolution

5 mV

Current Set Resolution

10 nA

Current Monitor Resolution

- High Power: 10 nA
- High Resolution: 1 nA

VMAX hardware

0÷3.5 kV common for all the board channels

VMAX hardware accuracy

\pm 1% of FSR

VMAX software

0÷3.5 kV settable for each channel

VMAX software resolution

1 V

IMAX hardware

0÷3.5 mA common for all the board channels

IMAX hardware accuracy

\pm 1% of FSR

Ramp Up/Down

1 ÷ 500 Volt/sec, 1 Volt/sec step settable for each channel

Voltage Ripple

- 20 ÷ 1000 Hz: < 7 mVpp (typ); < 15 mVpp (max)
- 1 ÷ 20000 kHz: < 7 mVpp (typ); < 10 mVpp (max)

Voltage Monitor vs. Output Voltage Accuracy

±0.01% of reading ± 0.03% of Max Output Voltage

Voltage Set vs. Output Voltage Accuracy

±0.01% of reading ± 0.03% of Max Output Voltage

Current Monitor vs. Output Current Accuracy

- High Power: ± 0.02% ± 5 µA
- High Resolution: ± 0.02% ± 1 µA

Current Set vs. Output Current Accuracy

- High Power: ± 0.02% ± 5 µA
- High Resolution: ± 0.02% ± 1 µA

Maximum output power

9W per channel (software safety limit)

Consumption @ full power

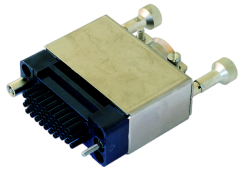
- 24 channels (AG7435, AG7435S): 300 W
- 12 channels (AG7435D): 155 W

Ordering Options

Code	Description	
WAG7435DNXA1	AG7435DN - SYx527 H.V. channels -3.5kV 3.5mA (9W) - SHV Conn. common ground (12 ch)	RoHS
WAG7435DPXA1	AG7435DP - SYx527 H.V. channels +3.5kV 3.5mA (9W) - SHV Conn. common ground (12 ch)	RoHS
WAG7435NXAA2	AG7435N - SYx527 H.V. channels -3.5kV 3.5mA (9W) - Multipin Conn. common ground (24 ch)	RoHS
WAG7435NXAR2	AG7435NR - SYx527 H.V. channels -3.5kV 3.5mA (9W) - Redel Conn. common ground (24 ch)	RoHS
WAG7435PXAA2	AG7435P - SYx527 H.V. channels +3.5kV 3.5mA (9W) - Multipin Conn. common ground (24 ch)	RoHS
WAG7435PXAR2	AG7435PR - SYx527 H.V. channels +3.5kV 3.5mA (9W) - Redel Conn. common ground (24 ch)	RoHS
WAG7435SNXA2	AG7435SN - SYx527 H.V. channels -3.5kV 3.5mA (9W) - SHV Conn. common ground (24 ch, 10TE)	RoHS
WAG7435SPXA2	AG7435SP - SYx527 H.V. channels +3.5kV 3.5mA (9W) - SHV Conn. common ground (24 ch, 10TE)	RoHS

Accessories

A996



52 pin cable connector

HV CABLES



High Voltage Cable Assemblies

R647



24 Channel Multipin Radial to SHV connector Adapter (Max: 8 kV - 19" Rack)

A995



Insertion/extraction tool for A996

A647



24 Channel Multipin Radial to SHV connector Adapter (Max: 8 kV - Desktop)

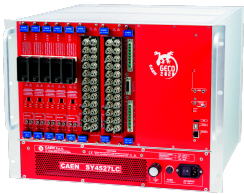
Related Products

SY4527



Universal Multichannel Power Supply System / 19"wide, 8U-high (16 slot)

SY4527LC



Universal Multichannel Power Supply System Low Cost / 19"wide, 8U-high (10 slot)

SY5527LC



Universal Multichannel Power Supply System Low Cost / 19"wide, 4U-high (4 slot)

SY5527



Universal Multichannel Power Supply System / 19"wide, 4U-high (6 slot)

Gallery



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