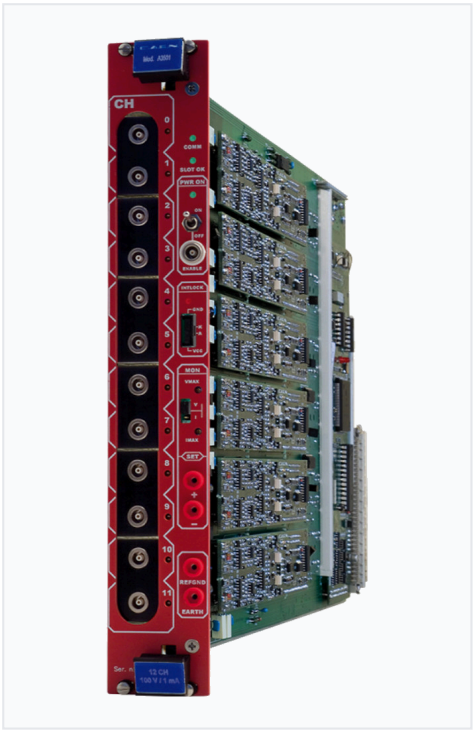
A3501

12 Channels 100 V / 1 mA Power Supply Board

12	SHV	10
No. of Channels	Connectors	No. max of boards per crate

The A3501 is a 12-channel EASY subsystem power supply board with individual floating outputs rated at 100 V / 1 mA, designed for operation in magnetic fields and radioactive environments. Available in negative (A3501N) and positive (A3501P) versions, it provides 100 mV output-voltage monitor resolution and 100 nA current-monitor resolution. Each channel features software-programmable SVMAX protection, overvoltage, undervoltage and overcurrent monitoring, TRIP protection, and current-generator operation. Outputs are provided on a 12-channel LEMO type coaxial connector.



CAEN
Tools for Discovery

Overview

Product Highlights

- EASY Subsystem Power Supply Module
- Magnetic field and radiation tolerant
- 12 100 V / 1 mA channels
- Available with positive and negative floating channels

Product Description

The CAEN Mod. A3501 is a 12 Channel 100 V / 1 mA Power Supply Board, developed for operation in magnetic field and radioactive environment. Each A3501 houses 12 individual floating channels, each rated 100 V / 1 mA, and the board is available in a negative version (A3501N) and a positive version (A3501P).

The output voltage can be set with 100 mV monitor resolution, while the output current is monitored with 100 nA resolution. For each channel, a voltage protection limit, SVMAX, can be fixed via software with 100 mV resolution, and the output voltage cannot be programmed beyond this value.

The outputs are available on a 12-channel LEMO type coaxial connector. For further technical details, please refer to our connectors reference page.

Its safety features allow the module to perform as a current generator. All channels can be enabled or disabled through the Global Interlock logic. If the output voltage differs from the programmed value by more than 3% of the voltage full scale range, the channel is signalled to be in either Overvoltage or Undervoltage condition.

If a channel tries to draw a current larger than its programmed limit, it is signalled to be in Overcurrent condition and enters TRIP status: the SY1527 system detects this state as a fault and reacts according to the setting of the TRIP parameter. The output voltage is varied to keep the current below the programmed limit for a programmable TRIP time, after which the channel is switched off. If TRIP is set to “constant current mode”, the channel behaves like a current generator.

Finally, the Hardware VMAX and IMAX values, which set the maximum output voltage and the maximum current, can be fixed via a front panel potentiometer at the same common value for all the board channels, and can be read out via software.

AT A GLANCE	
No. of Channels	**12**
Connectors	**SHV**
No. max of boards per crate	**10**
Width (slots)	**2**
Max power per channel (W)	**0.1**
Iset/Imon resolution	**100 nA**

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Technical Specifications

No. of Channels	12
Polarity	Individual Floating
Output Voltage	0 ÷ 100 V (connector output)
Max. Output Current	1 mA
Voltage Set/Monitor Resolution	100 mV
Current Set/Monitor Resolution	100 nA
VMAX hardware	0 ÷ 100 V
VMAX hardware accuracy	± 2% of FSR
VMAX software	0 ÷ 100 V
VMAX software resolution	100 mV
Voltage Ripple	< 30 mV pp (From 10 Hz to 20 MHz at full load)
Voltage Monitor vs. Output Voltage Accuracy	• Typical: ± 0.3% ± 0.5 V • Maximum: ± 0.3% ± 1 V
Voltage Set vs. Output Voltage Accuracy	• Typical: ± 0.3% ± 0.5 V • Maximum: ± 0.3% ±1 V
Current Monitor vs. Output Current Accuracy	• Typical: ± 2% ± 1 µA • Maximum: ± 2% ± 2 µA
Current Set vs. Output Current Accuracy	• Typical: ± 2% ± 1 µA • Maximum: ± 2% ± 2 µA

Ordering Information

ORDERING CODE	DESCRIPTION
WE3501XAAAAA	A3501N 12CH 100V 1MA NEG
WE3501XPAAAA	A3501P 12CH 100V 1MA POS

1. Ordering codes and descriptions are reproduced from the product record. Availability is confirmed at order entry.

Related Products

A3512 — 6 Channel 12 kV / 1 mA Power Supply Board

A3535 — 32 Channel 3.2 kV / 0.5 mA / 1.1 W Board

A3540 — 12 Channel 4 kV / 1 mA Power Supply Board

A3802 — 128 Channel DAC Board

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