

12 Channel 4 kV / 1 mA Power Supply Board



Features



- EASY Subsystem Power Supply Module
- Magnetic field and radiation tolerant
- 12 4 kV / 1 mA channels
- Channel floating up to 5 V between each other
- VMax and IMax set by trimmer
- Channel protections: overvoltage, overcurrent, overtemperature
- On/Off for each channel
- Interlock capability
- 48 V Service local and remote on/off

Description

The CAEN **Mod. A3540** 4 kV / 1 mA Power Supply Board is developed for operation in magnetic field and radioactive environment. One A3540 houses 12 **floating** (up to 5 V between each other) 4 kV / 1 mA channels. The output voltage can be set with 500 mV monitor resolution.

SHV connector

Radiall R317580 HV coaxial connector, 12 channels for Mod. A3540

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

If the output voltage differs from the programmed value by more than 3% of voltage full scale range, the channel is signalled to be either in Overvoltage and Undervoltage condition. Moreover, for each channel, a voltage protection limit SVMAX can be fixed via software with 500 mV resolution and the output voltage can not be programmed beyond this value.

Safety features allows the module to perform as a current generator and 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 by more than 3% of voltage full scale range. 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.
Overcurrent detection	
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 channel. IMAX and VMAX values can be read out via software.

Technical Specifications

No. of Channels

12

Polarity

Positive (A3540P) or Negative (A3540N), with individual floating return (up to 5 V between each other)

Output Voltage

0 ÷ 4 kV (connector output)

Max. Output Current

1 mA

Voltage Set/Monitor Resolution

500 mV

Current Set/Monitor Resolution

100 nA

VMAX hardware

0 ÷ 4 kV

VMAX hardware accuracy

± 2% of FSR

VMAX software

0 ÷ 4 kV

VMAX software resolution

500 mV

Voltage Ripple

< 30 mV pp From 10 Hz to 20 MHz at full load

Voltage Monitor vs. Output Voltage Accuracy

- Typical: ± 0.3% of reading ± 2.5 V
- Maximum: ± 0.3% of reading ± 5 V

Voltage Set vs. Output Voltage Accuracy

- Typical: ± 0.3% of setting ± 2.5 V
- Maximum: ± 0.3% of setting ± 5 V

Current Monitor vs. Output Current Accuracy

- Typical: $\pm 2\%$ of reading $\pm 1 \mu\text{A}$
- Maximum: $\pm 2\%$ of reading $\pm 2 \mu\text{A}$

Current Set vs. Output Current Accuracy

- Typical: $\pm 2\%$ of setting $\pm 1 \mu\text{A}$
- Maximum: $\pm 2\%$ of setting $\pm 2 \mu\text{A}$

Weight

2.7 kg

Ordering Options

Code	Description	
WE3540XAAAAA	A3540N - EASY3000 H.V. channels -4 KV 1 mA(12 ch)	
WE3540XPAAAA	A3540P - EASY3000 H.V. channels +4 KV 1 mA(12 ch)	

Related Products

A3802



128 Channel DAC Board

A3535



32 Channel 3.2 kV / 0.5 mA / 1.1 W Board

A3501

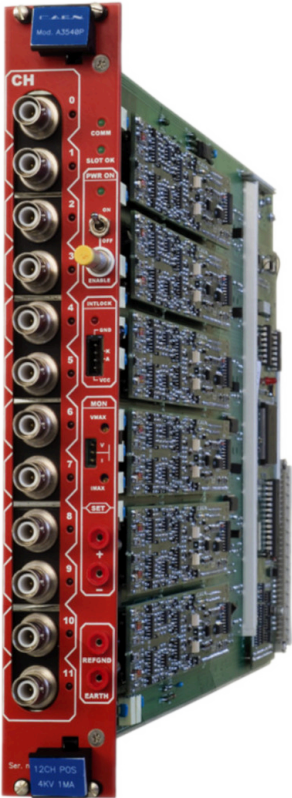


12 Channels 100 V / 1 mA Power Supply Board

A3512



6 Channel 12 kV / 1 mA Power Supply Board



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