

# A251x

## 8 Channel Low Voltage Power Supply Family



## Redefining the low voltage: extended flexibility with parallelizable/serializable channels and unprecedented digital control loop

### Features

- 8 independently controllable Low Voltage channels
- 3 models available: 5 V, 8 V and 15 V
- 8 pin D-Sub or DB37 (A2518/19 versions) connectors
- 50 W Max channel output power
- Channels can be paralleled for increased output power (2 and 4 modularity)
- Full Digital PID Control Loop
- Individual Floating channels
- Individual remote sense lines
- 1 mV voltage monitor resolution
- 1 mA current monitor resolution
- Voltage ripple smaller than 10 mVpp

The A251x is a new CAEN Family of LV Power Supply boards providing 8 independent Low Voltage Individual Floating channels, allowing on-detector grounding, thus reducing the noise level.

The channels are insulated from each other up to  $\pm 500$  V and can be connected in parallel with modularity 2 or 4, in order to obtain higher output power. The maximum channel power is 50 W (200 W with 4 paralleled channels).

Channels feature a PID (Proportional-Integrative-Derivative) digital controller, that allows to optimize the control loop to any load.

Moreover, the voltage drop over the cables can be compensated thanks to remote sensing lines.

Voltage Set/Monitor resolution is 1 mV, Current Set resolution is 10 mA and Current Monitor resolution is 1 mA (with 2 and 4 paralleled channels, Iset resolution is 100 mA and Imon resolution is 10 mA).

Three models are available with voltage spanning from 5 V to 15 V and current from 5 A to 15 A.

#### Safety features include:

- **Overvoltage detection:** if a channel voltage exceeds the programmed Overvoltage threshold value (OVVThr), it is signaled to be in "overvoltage" and is switched off.
- **Undervoltage detection:** if a channel voltage decreases below the programmed undervoltage threshold (UNVThr) it is signaled to be in "undervoltage" and is switched off.
- **Overcurrent detection:** if a channel tries to draw a current larger than its programmed limit, it is signaled to be in "overcurrent" and is switched off.
- **A global enable/disable connector** allows to disable the channels and it is also possible, via front panel logic signals, to enable individually each channel (A2518A and A2519A versions only).

## Universal Multichannel System - Mainframes



Modularity, Compatibility, Connectivity, Usability and Solidity are the keywords of the system design. The Mainframes have been specifically designed to power all

detector technologies found in modern Physics Experiments, such as photomultipliers, wire chambers, streamers tubes, silicon detectors and others.

The systems are modular, flexible and match not only the requirements of major experiments with large number of channels but also the practical needs of test laboratories, where simple manual operations on a limited number of channels are often desired.



All CAEN Control Software are available for **free download** on the web site.

Control Software available: GECO2020 with user friendly GUI, CAEN HV Wrapper library for custom SW development and HiVoCS Web Interface. EPICS and OPC Server also supported.



#### Model Compare

Model	Voltage Range	Maximum Current	Iset/Imon Resolution	N. of Channels
A2517	1 ÷ 5 V	15 A	10/1 mA	8
A2518	3 ÷ 8 V	10 A	10/1 mA	8
A2519	5 ÷ 15 V	5 A	10/1 mA	8

#### Ordering Option

Code	Description
WA2517XAAAAA	A2517 - SYx527 L.V. channels 5V 15A (50W) - Individual Floating (8 ch)
WA2518XAAAAA	A2518 - SYx527 L.V. channels 8V 10A (50W) - Individual Floating (8 ch)
WA2518AXAAAA	A2518A - SYx527 L.V. channels 8V 10A (50W) - DB37 conn. Individual Floating (8 ch)
WA2519XAAAAA	A2519 - SYx527 L.V. channels 15V 5A (50W) - Individual Floating (8 ch)
WA2519AXAAAA	A2519A - SYx527 L.V. channels 15V 5A (50W) - DB37 conn. Individual Floating (8 ch)



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**n** Small details  
Great differences



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Printed in March 2016 - ADOCUME00109 - BF3260 - rev06

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