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Purpose of this Guide

This document is the N5424 User's Manual; it contains information about the installation, the configuration and the use of the board.

Change Document Record

Date	Revision	Changes
06 December 2012	0	PRELIMINARY RELEASE
15 February 2013	1	Power consumption values, led operation
24 September	2	Updated specifications
18 November 2022	3	Noise performance section

Reference Document

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Disposal of the Product The product must never be dumped in the Municipal Waste. Please check your local regulations for disposal of electronics products.

MADE IN ITALY : We stress the fact that all the boards are made in Italy because in this globalized world, where getting the lowest possible price for products sometimes translates into poor pay and working conditions for the people who make them, at least you know that who made your board was reasonably paid and worked in a safe environment. (this obviously applies only to the boards marked "MADE IN ITALY", we cannot attest to the manufacturing process of "third party" boards).



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Overview



The CAEN N5424 is a 4-channel NIM power distribution and control module.

The individual Voltage outputs ($\pm 6V$, $\pm 12V$ and $\pm 24V$) are protected by electronic fuses which automatically recover after short circuit. All six voltages are surveyed for each of the four outputs. The status is displayed by LEDs.

Leds are ON if the power supplies work properly; if overcurrent is detected (see current limits in External Connections section), the relevant power supply is shut down and the corresponding led blinks.

The module also helps to check the correct voltage levels of a NIM-bin. If a NIM-bin without ± 24 Volts is used, the corresponding LEDs get off, and the voltage survey of those voltages is skipped.

Low-noise preamplifiers (as CAEN **Mod. A1422**) require dc power that is free of interference generated by other modules inserted in the bin. The mod. N5424 ensures this low-noise capability by filtering the power lines separately at each connector.

Code	Model	Description
WN5424XAAAAA	N5424	N5424 - Quad NIM Power Distributor for Preamplifiers

Mechanical Packaging

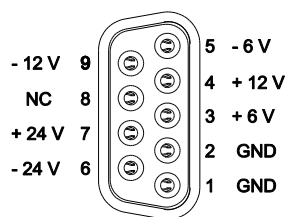
The N5424 is housed in a one unit NIM mechanics.

Power requirements

The N5424 derives its power from a NIM bin power supply, such as the NIM8301-N8315

External Connections

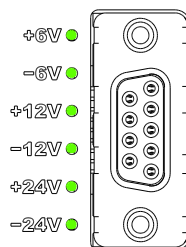
Name	Function	Type
PreAmp 1,2,3,4	1A @ $\pm 6V$, 1A @ $\pm 12V$ and 100mA @ $\pm 24V$ output	4 SubD9 female connectors
PWS Monitor	GND, $\pm 6V$, $\pm 12V$ and $\pm 24V$ test point	Test point for probe



Pin	Voltage	Max current
1, 2	GND	-
3	+ 6 V	1.1 ÷ 1.5 A
4	+ 12 V	1.1 ÷ 1.5 A
5	- 6 V	1.1 ÷ 1.5 A
6	- 24 V	110 ÷ 150 mA
7	+ 24 V	110 ÷ 150 mA
8	NC	-
9	- 12 V	1.1 ÷ 1.5 A

N.B.: maximum drop at full load is 5% on all voltages

Displays



Each channel hosts 6 green Voltage LEDs.

- If voltage is < 90% of the nominal value the corresponding LEDs get off.
- If a NIM-bin without ± 24 Volts is used, the corresponding LEDs get off.
- If overcurrent occurs then LEDs blink (see current limits in table above)

Noise performance

± 6 OUT on Preamp 1÷4 connectors: ripple 2 mVpp

$\pm 12V$ OUT, $\pm 24V$ OUT on Preamp 1÷4 connectors: ripple 3 mVpp

Measurement conditions:

20 MHz bandwidth limited oscilloscope, AC-coupled; capacitive load 100 nF on OUT in measurement, OUT at full load (1A on $\pm 6V$ OUT, 1A on $\pm 12V$ OUT, 100mA on $\pm 24V$ OUT).

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