Rev. 3 - 18 Nov 2022

N5424

Quad NIM Power distributor for A1422 preamplifiers

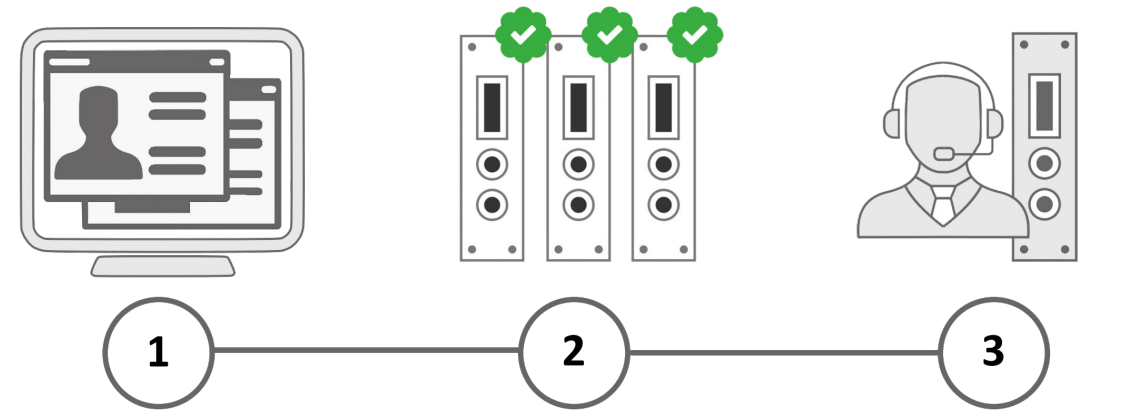
CAEN
Tools for Discovery

User Manual
UM2777

Register your device

Register your device to your **MyCAEN+** account and get access to our customer services, such as notification for new firmware or software upgrade, tracking service procedures or open a ticket for assistance. **MyCAEN+** accounts have a dedicated support service for their registered products. A set of basic information can be shared with the operator, speeding up the troubleshooting process and improving the efficiency of the support interactions.

MyCAEN+ dashboard is designed to offer you a direct access to all our after sales services. Registration is totally free, to create an account go to https://www.caen.it/become-mycaenplus-user and fill the registration form with your data.



https://www.caen.it/become-mycaenplus-user/

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

CAEN S.p.A.
Via Vetraia, 11 55049 Viareggio (LU) - ITALY
Tel. +39.0584.388.398 Fax +39.0584.388.959
info@caen.it
www.caen.it

Index

Overview

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

The individual Voltage outputs (±6V, ±12V and ±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

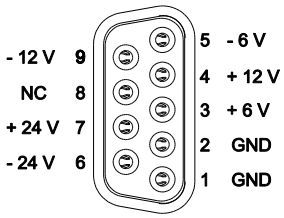
The N5424 is housed in a one unit NIM mechanics.

Power requirements

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

External Connections

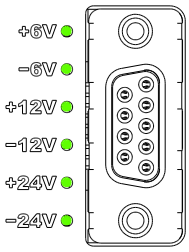
Name	Function	Type
PreAmp 1,2,3,4	1A @ ±6V, 1A @±12V and 100mA @±24 V output	4 SubD9 female connectors
PWS Monitor	GND, ±6V, ±12V and ±24V test point	Test point for probe



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
±12V OUT, ±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 ±6V OUT, 1A on ±12V OUT, 100mA on ±24V OUT).

CAEN GmbH
Brunnenweg 9
64331 Weiterstadt
Germany
Tel. +49 (0)212 254 4077
Mobile +49 (0)151 16 548 484
info@caen-de.com
www.caen-de.com

CAEN Technologies, Inc.
1 Edgewater Street - Suite 101
Staten Island, NY 10305
USA
Phone: +1 (718) 981-0401
Fax: +1 (718) 556-9185
info@caentechnologies.com
www.caentechnologies.com

CAEN S.p.A.
Via Vetraia 11
55049 - Viareggio
Italy
Phone +39 0584 388 398
Fax +39 0584 388 959
info@caen.it
www.caen.it

CAENspa INDIA Private Limited
B205, BLDG42, B Wing,
Azad Nagar Sangam CHS,
Mhada Layout, Azad Nagar, Andheri (W)
Mumbai, Mumbai City,
Maharashtra, India, 400053
info@caen-india.in
www.caen-india.in