



Rev. 1 - May 20th, 2024

V5425 Quad VME Power Distributor



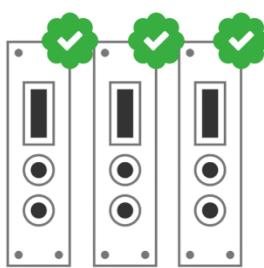
Register your device

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.



1
create a MyCAEN+ account



2
register your devices



3
get support and more!



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

Purpose of this User Manual



This document is the V5425 User's Manual; it contains information about the installation, the configuration and the use of the device.

Change Document Record

| Date | Revision | Changes |
|-------------------|----------|---|
| August 30th, 2023 | 0 | Preliminary Release |
| May 20th, 2024 | 1 | General Description, Technical Specifications |
| | | |
| | | |
| | | |
| | | |

Manufacturer Contacts



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Limitation of Responsibility

If the warnings contained in this manual are not followed, CAEN will not be responsible for damage caused by improper use of the device. The manufacturer declines all responsibility for damage resulting from failure to comply with the instructions for use of the product. The equipment must be used as described in the user manual, with particular regard to the intended use, using only accessories as specified by the manufacturer. No modification or repair can be performed.

Disclaimer

No part of this manual may be reproduced in any form or by any means, electronic, mechanical, recording, or otherwise, without the prior written permission of CAEN spa. The information contained herein has been carefully checked and is believed to be accurate; however, no responsibility is assumed for inaccuracies. CAEN spa reserves the right to modify its products specifications without giving any notice; for up to date information please visit www.caen.it.

Made in Italy

We remark that all our boards have been designed and assembled in Italy. In a challenging environment where a competitive edge is often obtained at the cost of lower wages and declining working conditions, we proudly acknowledge that all those who participated in the production and distribution process of our devices were reasonably paid and worked in a safe environment (this is true for the boards marked "MADE IN ITALY", while we cannot guarantee for third-party manufactures).



Index

| | |
|---|-----------|
| Purpose of this User Manual | 3 |
| Change Document Record | 3 |
| Manufacturer Contacts..... | 3 |
| Limitation of Responsibility | 3 |
| Disclaimer | 3 |
| Made in Italy | 3 |
| 1 Safety Notices | 5 |
| 2 General Description..... | 7 |
| Packaging and Compliancy | 7 |
| PID (Product Identifier) | 7 |
| 3 Technical Specifications..... | 8 |
| Output Connectors description | 9 |
| 4 Instructions for Cleaning..... | 10 |
| Cleaning the Touchscreen | 10 |
| Cleaning the air vents | 10 |
| General cleaning safety precautions | 10 |
| 5 Device decommissioning | 11 |
| 6 Disposal | 12 |
| 7 Technical Support..... | 13 |

1 Safety Notices

N.B. Read carefully the “SAFETY, STORAGE AND SETUP INFORMATION PRODUCT SUPPORT SERVICE AND REPAIR” document provided with the product before starting any operation.

The following HAZARD SYMBOLS may be reported on the unit:

| | |
|---|-----------------------------------|
|  | Caution, refer to product manual |
|  | Caution, risk of electrical shock |
|  | Protective conductor terminal |
|  | Earth (Ground) Terminal |
|  | Alternating Current |
|  | Three-Phase Alternating Current |

The following symbol may be reported in the present manual:

| | |
|---|---------------------------|
|  | General warning statement |
|---|---------------------------|

The symbol could be followed by the following terms:

- **DANGER:** indicates a hazardous situation which, if not avoided, will result in serious injury or death.
- **WARNING:** indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- **CAUTION:** indicates a situation or condition that, if not avoided, could cause physical injury or damage the product and / or its environment.

CAUTION: To avoid potential hazards



**USE THE PRODUCT ONLY AS SPECIFIED.
ONLY QUALIFIED PERSONNEL SHOULD PERFORM SERVICE PROCEDURES**

CAUTION: Avoid Electric Overload



**TO AVOID ELECTRIC SHOCK OR FIRE HAZARD, DO NOT POWER A LOAD
OUTSIDE OF ITS SPECIFIED RANGE**

CAUTION: Avoid Electric Shock



**TO AVOID INJURY OR LOSS OF LIFE, DO NOT CONNECT OR DISCONNECT
CABLES WHILE THEY ARE CONNECTED TO A VOLTAGE SOURCE**

CAUTION: Do Not Operate without Covers



**TO AVOID ELECTRIC SHOCK OR FIRE HAZARD, DO NOT OPERATE THIS
PRODUCT WITH COVERS OR PANELS REMOVED**

CAUTION: Do Not Operate in Wet/Damp Conditions



**TO AVOID ELECTRIC SHOCK, DO NOT OPERATE THIS PRODUCT IN WET
OR DAMP CONDITIONS**

CAUTION: Do Not Operate in an Explosive Atmosphere



**TO AVOID INJURY OR FIRE HAZARD, DO NOT OPERATE THIS PRODUCT
IN AN EXPLOSIVE ATMOSPHERE**

CAUTION: This product needs proper handling



**THE UNIT DOES NOT SUPPORT LIVE INSERTION (HOT-SWAP)! REMOVE
OR INSERT THE BOARD WHEN THE CRATE IS POWERED OFF!**

CAUTION: This product needs proper cooling



**USE ONLY CRATES WITH FORCED COOLING AIR FLOW SINCE
OVERHEATING MAY DEGRADE THE MODULE PERFORMANCES!**



**THIS DEVICE SHOULD BE INSTALLED AND USED BY SKILLED TECHNICIAN
ONLY OR UNDER HIS SUPERVISION**



**ALL CABLES MUST BE REMOVED FROM THE FRONT PANEL BEFORE
EXTRACTING THE BOARD FROM THE CRATE!**



**DO NOT OPERATE WITH SUSPECTED FAILURES.
IF YOU SUSPECT THIS PRODUCT TO BE DAMAGED, PLEASE CONTACT
THE TECHNICAL SUPPORT**

2 General Description



The Mod. V5425 is a 4-channel VME power distribution module; it converts the power supplies provided by a VME crate into ± 6 V, ± 12 V and ± 24 V outputs, suitable for preamplifiers and other devices.

Output voltages are delivered through 4 Sub D9 female connectors.

The total output power is 36W (24W for ± 6 V and ± 24 V outputs).

Electronic fuses, automatically recovering after short circuit, protect the individual voltage outputs. All voltages are monitored and their status is displayed by LEDs.

Low-noise preamplifiers require DC power that is free of interference generated by other modules inserted in the VME crate. The mod. V5425 ensures this low-noise capability by filtering the power lines separately at each connector.

Packaging and Compliancy

The delivered package contains 1 Mod. V5425 4-channel VME power distribution module. The module is a 1-unit wide, 6U VME card; the backplane is provided with P1 connector. The device is inspected by CAEN before the shipment, and it is guaranteed to leave the factory free of mechanical or electrical defects.

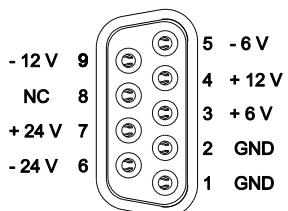
PID (Product Identifier)

PID is the CAEN product identifier, an incremental number greater than 10000 that is unique for each product. The PID is on a label affixed to the product, under the lower VME hook.

3 Technical Specifications

| | | | | | |
|---|---|---|--|--|--|
| Mechanical packaging | 1-unit wide VME 6U module; weight: 280g | | | | |
| Power requirements | Output No Load $\pm 24V$ @ 0.25A, $\pm 12V$ @ 0.5A, -6V @ 1.5A, +6V @ 400mA (36W out total) | | Consumption $\pm 12V$: 0A; +5V: 200mA $\pm 12V$: 600mA; +5V: 6.1A | | |
| Output Connectors | Power Supply output; 4 Sub D9 female connectors | | | | |
| Displays | $\pm 6V$, $\pm 12V$, $\pm 24V$: green LEDs; power supply OK when ON. Fault: red LED, error status when ON | | | | |
| Push button | Rearm: restore operation after an error status (Fault LED) is detected; Fault cause must be removed before sending Rarm | | | | |
| Maximum output power | Total: 36 W; 24W from $\pm 6V$ and $\pm 24V$ | | | | |
| Current output | Voltage | Maximum current at full load | Nominal current | | |
| | +6V | 2.14A | 2A | | |
| | -6V | 1.62A | 1.5A | | |
| | +12V | 560mA | 500mA | | |
| | -12V | 530mA | 500mA | | |
| | +24V | 272mA | 250mA | | |
| | -24V | 275mA | 250mA | | |
| | Voltage | Drop (%) | | | |
| Voltage drop at full load | +6V | -4.7% | | | |
| | -6V | -4.2% | | | |
| | +12V | -1.9% | | | |
| | -12V | -1.9% | | | |
| | +24V | -0.2% | | | |
| | -24V | -0.3% | | | |
| | Voltage | Typical Voltage Ripple (16Hz ÷ 20MHz band width) | | | |
| | +6V | 1mVpp | | | |
| Voltage Ripple | $\pm 12V$ | 2mVpp | | | |
| | +24V | 3mVpp | | | |
| | -24V | 5mVpp | | | |
| | Voltage | Drift | | | |
| | +6V | 155 ppm/°C | | | |
| | -6V | 178 ppm/°C | | | |
| | +12V | 48 ppm/°C | | | |
| | -12V | 72 ppm/°C | | | |
| Vout / Temperature coefficient 10°C ÷ 60°C range | +24V | 18 ppm/°C | | | |
| | -24V | 72 ppm/°C | | | |
| | Indoor use | | | | |
| | -20 °C ÷ 50 °C | | | | |
| | 25% ÷ 95% RH non condensing | | | | |
| | -30 °C ÷ +80 °C | | | | |
| | 5% ÷ 90% RH non condensing | | | | |
| | ≤ 2000 m | | | | |
| Environmental | Altitude | | | | |
| | Pollution Degree | | | | |
| | Overvoltage Category | | | | |
| | EMC Environment | | | | |
| | IP Degree | | | | |
| | Regulatory | | | | |
| | <ul style="list-style-type: none"> EMC: CE 2014/30/EU Electromagnetic compatibility Directive Safety: CE 2014/35/EU Low Voltage Directive RoHS compliant | | | | |
| | | | | | |

Output Connectors description



| Pin | Voltage |
|------|--------------|
| 1, 2 | GND (shield) |
| 3 | +6 V |
| 4 | +12 V |
| 3 | +6 V |
| 5 | -6 V |
| 6 | -24 V |
| 7 | +24 V |
| 8 | NC |
| 9 | -12 V |

4 Instructions for Cleaning

The equipment may be cleaned with isopropyl alcohol or deionized water and air dried. Clean the exterior of the product only.

Do not apply cleaner directly to the items or allow liquids to enter or spill on the product.

Cleaning the Touchscreen

To clean the touchscreen (if present), wipe the screen with a towelette designed for cleaning monitors or with a clean cloth moistened with water.

Do not use sprays or aerosols directly on the screen; the liquid may seep into the housing and damage a component. Never use solvents or flammable liquids on the screen.

Cleaning the air vents

It is recommended to occasionally clean the air vents (if present) on all vented sides of the board. Lint, dust, and other foreign matter can block the vents and limit the airflow. Be sure to unplug the board before cleaning the air vents and follow the general cleaning safety precautions.

General cleaning safety precautions

CAEN recommends cleaning the device using the following precautions:

- Never use solvents or flammable solutions to clean the board.
- Never immerse any parts in water or cleaning solutions; apply any liquids to a clean cloth and then use the cloth on the component.
- Always unplug the board when cleaning with liquids or damp cloths.
- Always unplug the board before cleaning the air vents.
- Wear safety glasses equipped with side shields when cleaning the board.

5 Device decommissioning

After its intended service, it is recommended to perform the following actions:

Detach all the signal/input/output cable

Wrap the device in its protective packaging

Insert the device in its packaging (if present)



THE DEVICE SHALL BE STORED ONLY AT THE ENVIRONMENT CONDITIONS SPECIFIED IN THE MANUAL, OTHERWISE PERFORMANCES AND SAFETY WILL NOT BE GUARANTEED

6 Disposal

The disposal of the equipment must be managed in accordance with Directive 2012/19 / EU on waste electrical and electronic equipment (WEEE).



The crossed bin symbol indicates that the device shall not be disposed with regular residual waste.

7 Technical Support

To contact CAEN specialists for requests on the software, hardware, and board return and repair, it is necessary a MyCAEN+ account on www.caen.it:

<https://www.caen.it/support-services/getting-started-with-mycaen-portal/>

All the instructions for use the Support platform are in the document:



A paper copy of the document is delivered with CAEN boards.

The document is downloadable for free in PDF digital format at:

<https://www.caen.it/safety-information-product-support>



803x Series 8-16 Ch. Programmable HV Power Supplies



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