

CAMAC CERN-CE 600W

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WIENER offers a line of modular designed CAMAC crates compliant with ESONE and CERN standards. This CAMAC crates series is configured with 600W ... 650W linear regulated, low noise plug-in power supplies.

The modular concept of the CERN NIM and CAMAC standard allows you to easily insert / remove and exchange fan trays and power supplies. All CERN spec. components` as bins, fan trays and power supplies are interchangeable between other WIENER CAMAC and even NIM crates.

All power supplies show the features defined by the CERN standard including the monitoring connector and provide protection against short circuit, over / under voltage and over temperature.

The CE versions provide improved internal AC wiring.

Main Features

- 7U bin UEC 01 for 25 CAMAC slots with 2U space for fan tray
- Heavy duty steel-aluminum construction with stainless-steel card guide frame
- 25 slot multilayer CAMAC dataway, noise reduced design, current rails up to 100A
- Microprocessor controlled fan tray
- With 3 individually controlled high performance DC-fans, variable fan speed
- 3 status LED's and high visibility alpha-numeric display for voltages, currents, fan speed / diagnostic system

- Optional CAN-bus, HS CAENET or GPIB interfaces for crate remote control
- CERN spec. high precision regulated NIM power supplies for up to 650W power output, all 6 DC voltages +/-6V, +/-12V +/-24V provided, lowest noise (<3mV_{pp}) technology,
- special CAMAC version with increased + or -6V power and no +/-12V

UEC 01VH12 CAMAC bin

- 7U bin UEC 01 for 25 CAMAC slots with 2U space for fan tray
- Heavy duty steel-aluminum construction with stainless-steel card guide frame
- 25 slot multilayer CAMAC dataway, noise reduced design, current rails up to 100A
- Protected high performance CAMAC connectors
- CERN compatible bin mechanics and wiring
- Dimensions: 19" (482mm) x 7U (311mm) x 525mm (whd), 550mm deep with inserted power supply

UEL 03M Fan Tray

- Microprocessor controlled fan tray
- With 3 individually controlled high performance DC-fans, variable fan speed
- 3 status LED's and high visibility alpha-numeric display for voltages, currents, fan speed / diagnostic system
- Optional CAN-bus, HS CAENET or GPIB interfaces for crate remote control
- Dimensions: 19" (482mm) x 2U (89mm) x 260mm (whd), weight: ca. 5 – 6 Kg

UEP/CEP 10Mxx 600W Power Supply

- CERN spec. high precision regulated CAMAC power supplies for 600W / 650W power output, 4 or 6 DC voltages +/-6V, +/-12V +/-24V provided, lowest noise (<3mV_{pp}) technology
- Power supplies are plugged-in to the rear of the CAMAC bin for easy tool free exchange
- UEP10M52 and UEP10M53 are special CAMAC version with increased + or -6V power and no +/-12V
- Provide short circuit, over / under voltage and over temperature protection
- 230V/50Hz or 110V/60Hz AC input
- Power supplies are equipped with status control and CERN-spec. monitoring output (PG28)
- Dimensions: 430mm x 172mm x 215 (whd), weight: 17.5kg

Standard Crate configurations (other possible on request)

Type	Height	Fan	P.S.	+6V/-6V	+12V/-12V	+24V/-24V	115VAC	Power
CAMAC 600_CE_x	7U	CEL03M	CEP 10M88	45A/45A	8A/8A	8A/8A	0.5A	600W
CAMAC 650+_CE_x	7U	CEL03M	CEP 10M52	65A/32A	-	8A/8A	0.5A	600W
CAMAC 650-_CE_x	7U	CEL03M	CEP 10M53	32A/65A	-	8A/8A	0.5A	600W
CAMAC 600_x	7U	UEL03M	UEP 10M88	45A/45A	8A/8A	8A/8A	0.5A	600W
CAMAC 650+_x	7U	UEL03M	UEP 10M52	65A/32A	-	8A/8A	0.5A	600W
CAMAC 650-_x	7U	UEL03M	UEP 10M53	32A/65A	-	8A/8A	0.5A	600W

Note: $_x$ = defines the AC input voltage, factory default is 220V AC (without index)

x = B: 110V AC

x = J: 100V AC

x = E: 240V AC

(* *usable slots*)

UEC01 CAMAC Bin 7U

7U CAMAC bin, 25 slot, depth 525mm acc. to CERN-CAMAC-Note 46-04 with 2U fan tray space. Power bus system with current ratings of 78A for +/-6V. Module connectors have been centered by metal guides before plugging into CAMAC dataway. Power supply plugged in and locked from rear side, fan tray from front side.

VH12 technology uses Y1 / Y2 in parallel to the +/-6V rails for enlarged current capability of the +/-6V. 6V-, Y-, and Ground-Pins are contacted to large current bus bars to obtain connector pin cooling and excellent low drop power distribution.

Current maximum ratings:

Voltage Line	Current / slot	Current / bin	Comment
+/-6V	13A	65A	sensed
+/-12V	13A	13A (26A optional)	sensed
+/-24V	13A	5A / 5A	sensed
115V AC		0.5A	Secondary

Details of construction

CERN specifications consider for 7U bins easily interchangeable fan trays. The fan tray has been fixed by two knurled head screws at front side. With these screws extraction and insertion of fan trays becomes possible without use of special tools.

Plug and socket connections are floated arranged with leading locating pins. Also fan tray connectors are assembled with lathed massive brass contacts, gold-plated.

Leading protection earth pin!

25 Slot CAMAC Dataway

Modern, multilayer CAMAC backplane with press-in 86-pin edge card connectors, compact designed with integrated current rails. The WIENER CAMAC dataway is outfitted with connectors having two-point contacts, for optimized contacting of old CAMAC boards. Older and frequently plugged modules make an impact of weak connections due to galling and corrosion of the module connector part. The springy two-point contact makes it possible to work smooth even with worn module connectors.

RF filter capacitors, assembled at the back side, improve the dynamic response with varying load currents and reduce any influence of RF distortions.

Centering of CAMAC modules

Before gliding into the bin connector the CAMAC module edge card is vertically centered by the upper and lower cross aluminum alignment rails. Thus CAMAC connector damages due to the given mechanical tolerance levels of Cassettes and Bin are avoided. The V-shaped scoop card guide of the connector housings centers the modules horizontally.

Shape (edges and alongside) of the module connector must be chamfered to 45° as noted in CAMAC module-specification for easy and trouble free frequently plugging.

CERN specified Rugged construction

CERN spec. bins are made with 6mm thick side panels and heavy transversal module guiding grids Power supply (and fan tray) are designed for exchanging easily. The power supply slips in and has been fixed by a locking slider only.

When power supplies are inserted, the total mounting depth will increased to 570mm. The electrical connection between power supply and bin is made by means of mechanically floating plug connection.

Intelligent NIM / CAMAC Fan Tray UEL03 / CEL03

- CERN spec. conform fan tray unit equipped with alphanumeric monitoring and three long life DC axial fans, either with frontal or bottom air entry (400m³/h or >540m³/h airflow).
- Static pressure up to 8 mm H2O column.
- Fan speed is variable from 1200 to 3000 rpm
- MFOT (Maintenance Free Operation Time) > 65 000h / 40°C.
- Display: voltages, currents, fan speed, air inlet temperature, total power dissipation by inserted modules, network address (if installed). In case of malfunction the type of error will be displayed.
- LED's for Status, Fan-Fail, Over-Heat
- The fan tray monitoring can be set to Programming Mode when used with PS/Cs236 or 336 power supply.
- Optionally available with CAN-bus interface for remote monitoring and control.

CE conform Crate versions / CE conform mains connection

CERN spec. wired bins allow to switch crates on and off via the mains switch at the fan tray. Current rules as CE60950 and UL1950 claim for primary to secondary isolations, which are not considered in the appropriate CERN specifications. Therefore WIENER formed a compromise to fulfill CE and UL safety restriction as well as CERN specifications by separating the mains wiring.

UEP/CEP 10M52 and 53 CAMAC Power Supplies

Linear regulated

Four-fold linear regulated low noise power supply with 600W power output, cut-off-protection for “overload”, “overvoltage”, and “overtemperature”-failures according to CERN-CAMAC-Note 46-04.

Equipped with monitoring, status control and all alarming facilities. Status output »good« if all DC- Voltages are within their tolerance. UEP 10M52 / 53 have an integrated long life fan to cool heat sink, transformer and other components. The volume to power relation of high density, high sophisticated power supplies like the UEP 10M52 / 53 is extremely low for a high precision linear regulated 600W.

Experience and knowledge in energy management at WIENER resulted in a special designed filter and storage capacitor bank, the “Energy-Tank” of UEP 10M. A special capacitor development with very low internal resistance and non-inductive bonding shapes the UEP 10 as a reference for power und reliability.

Different versions for either 100VAC or 115VAC or 230VAC (standard) are available.

DC-Outputs:	+6V	-6V	+12V	-12V	+24
UEP10M52	65A	32A	-	-	6A
UEP10M53	32A	65A	-	-	6A
UEP10M88	45A	45A	8A	8A	8A

Power supply DC-Outputs:	-24V	max. power (*: 92-265VAC)	regulation	application
UEP10M52	6A	650W	linear	CAMAC
UEP10M53	6A	650W	linear	CAMAC
UEP10M88	8A	600W	linear	NIM/CAMAC

UEP / CEP10M52 / 53 / 88

Input voltage, 47-63Hz

100V (+/-10%) or 115V or 230V

Soft start

yes

Output: Noise and Ripple: Full load / 80% rated output (0-20Mhz Bandwidth)<3mVpp / <1mVpp, <0,6mV_{RMS}**Regulation static: Change of output voltage versus load change 10-100%**

<0,05%, <0,1% for 65A

Regulation static: change of output voltage versus line change +/-10%

<0,02%

Regulation dynamic: Change of output voltage versus load change +/-25%**Recovery time versus load change 10-100%
Recovery time versus load change +/-25%**

<0,15ms

Output impedance: Static / Dynamic(at 100kHz, 6V output)

0,15mOhm / 0,3 Ohm

Temperature Error

<0,005%/K

Thermal Protection (No. of thermal switches)

(3x)

Output- Current Characteristics, reverse bias diodes!

Foldback (Ishort <3-5A) and trip off

Dual tracking for complementary outputs

yes

Calibration ranges Voltage / Currents

Manually +/-5% / 20%

Sense compensation ranges, all DC voltages

0,5V

Status Control for all voltages (Over- Under-Voltage Comparator, defaults +/-0,3%)

bad/good- signal, Status LED- output

Overvoltage Protection, trip off thresholds (defaults)

Crow bars 7,3V, 14,5V, 24,5V

Derating, max. operating temperature

>40°C with 2% up to 60°C max.

Product Data Sheet

CAMAC CERN-CE 600W:

[Print Product Data Sheet](#)

Documentation

Manual and Tech-Notes : [Manual NIM-CAMAC crates](#)

Introduction: [WIENER NIM CAMAC introduction.pdf](#)

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