CAMAC CERN-CE 300W

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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 300W 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
- All CE power supplies have improved AC to fan connection
- CEP 22M: CERN spec. high precision linear regulated NIM power supplies for 300W power output, all 6 DC voltages +/-6V, +/-12V +/-24V provided, lowest noise (<3mV_{pp}) technology
- CEP 22M dimensions: 430mm x 132mm x 215mm (whd), weight: 16.5kg

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/CEL 03M Fan Tray

- Intelligent fan tray with 3 controlled DC-fans (variable fan speed)
- 3 status LED´s and high visibility alpha-numeric display / diagnostic system
- Optional CAN-bus interface for crate remote control
- CE version with separated AC wiring to power supply
- Dimensions: 19” (483mm) x 2U (86mm) x 260mm [whd], weight: ca. 5 Kg

UEP/CEP 22M CAMAC Power Supply

- CERN spec. high precision linear regulated CAMAC power supplies for 300W power output,
- All 6 DC voltages +/-6V, +/-12V +/-24V provided, lowest noise (<3mV_{pp}) technology
- Power supplies are protected against short circuit, over / under voltage and over temperature
- 100V, 110V, 220V or 240V 50Hz/60Hz AC input (to be selected / changeable)
- Power supplies are equipped with status control and CERN-spec. monitoring output (PG28)
- “CE” power supplies have improved AC to fan connection
- Dimensions: 430mm x 132mm x 215mm (whd), weight: 16.5kg

Standard Crate configurations (other possible on request)

Type	Height	Fan	P.S.	+6V/-6V	+12V/-12V	+24V/-24V	115VAC	Power
CAMAC 300CE_x	7U	CEL03M	CEP22M	17A/17A	3.4A/3.4A	3.4A/3.4A	0.5A	300W
CAMAC 300_x	7U	UEL03M	UEP22M	17A/17A	3.4A/3.4A	3.4A/3.4A	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-inn 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.

NIM / CAMAC Power Supply UEP 22M

Linear regulated low noise power supply with 300W DC output, cut-off-protection for "overload", "over voltage", and "over temperature"-failures. Outfitted with same monitoring and control facilities as UEP 10M88, the UEP 22M can be used to power NIM- or CAMAC-Crates. After cut off, caused by invalid operation, reset of »M« power supplies is possible by toggling the mains switch off and on again or feeding a 24VDC signal to the "rearming" input at the monitor connector. Standard mains voltage range is 230 / 115VAC, selectable internally.

UEP 22M is foreseen for convection cooling at full output performance. Forced air-cooling can increase the total power availability up to 400W.

Power supply DC-Outputs:	**max. power**	**regulation**	**application**
UEP22M	300W	linear	NIM /CAMAC
UEP22MS	300W	linear	NIM

	+6V	**-6V**	**+12V**	**-12V**	**+24**	**-24V**	**115VAC**
UEP22M	17A	17A	3.4A	3.4A	3.4A	3.4A	0.5A
UEP22MS	-	-	15A	15A	1A	1A	0.5A

UEP/CEP22M	
Input voltage, 47-63Hz	100V(+/-10%) , 115V or 230V
Soft start	yes
Output: Noise and Ripple: Full load / 80% rated output	<3mVpp / 1mVpp, <0,6mV$_{RMS}$

Regulation static: Change of output voltage versus load change 10-100%	<0,05%
Regulation static: change of output voltage versus line change +/-10%	<0,02%
Recovery time versus load change 10-100%	<0,15ms
Output impedance: Static / Dynamic(at 100kHz)	0,2mOhm / 0,5 Ohm
Temperature Error	<0,005%/K
Thermal Protection (No. of thermal switches)	(3x)
Output Current Characteristics (Ishort <3A in foldback regulators), reverse bias diodes!	Foldback and trip off
Dual tracking for complementary outputs	yes
Calibration ranges Voltage / Currents	+/-5% / 20%
Sense compensation ranges, all DC voltages	0,5V
Status Control for all voltages (Over- Under-Voltage Comparator, defaults +/-0,3%)	bad/good, Status LED-signal
Overvoltage Protection, trip off thresholds (defaults)	Crow bars 7,3V, 14,5V, 24,5V
Derating	>40°C with 2% up to 60°C max.

Optional CAN-bus interface for DC voltage monitoring and remote on/off via rear 9 pin sub D connector

Product Data Sheet

CAMAC CERN-CE 300W:	Print Product Data Sheet

Documentation

Manual and Tech-Notes :	Manual_NIM-CAMAC_crates
Introduction:	WIENER_NIM_CAMAC_introduction.pdf