

# UEP6021

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UEP6021



The UEP 6021 Power Supply is a very high density, high sophisticated microprocessor controlled modular power unit. It is designed in WIENER "Low-Noise-Cavity-VHF-switching technology" which features extremely low ripple and noise (PARD).

This technology prevents uncontrolled RF emissions by proper internal shielding and containing of switching parts as well as an efficient deflection of magnetically induced RF currents.

Excellent balanced thermal design secures extraordinary long time stability and high MTBF. Up to 3kW (3Ubox) or 6kW (6Ubox) DC output power can be provided. The modular design with programmable power modules (DC-to-DC converters) allow it to be tailored to any application or chassis requirements..

## Main Features

- high density / lowest-noise power supply in WIENER "Cavity-VHF" switch-mode technology with excellent RF-shielding,
- modular and expandable design with self-ventilated universal power blocks, up to 8 floating DC outputs
- build-in auxiliary power supply to provide monitoring- and control logic as well as the fan tray with adequate power
- micro-processor controlled with monitoring- and alarm-circuit including programmable current limits and over- / under voltage trip off points, self calibrating system
- 92V to 265V 50Hz/60Hz world-wide auto-range AC input, with power factor correction,
- up to 3 kW(3U) / 6 kW (6U) output power

- flexible power supply configuration with 5 (3U) or 10 (6U) modules per chassis

## UEP 6021 Power Supply

- High density power supply in WIENER "Cavity-VHF" switching technology with excellent RF-shielding, ripple < 10... 15 mVpp or < 2m Vrms, optionally ultra low noise < 3mVpp (all voltages <12V), other rails <10mV
- Modular and expandable design with self-ventilated universal power blocks, individually sensed and floating DC outputs
- Micro-processor controlled, programmable voltage adjustment, current limits and over-/ under voltage trip off points, temperature limits
- Self protected against any failure as under/over voltage, over current, over temperature, etc
- 94V – 260V, 50/60Hz world-wide auto-range AC input, with power factor correction, CE
- integrated RS232 & CAN-bus interface for programming / monitoring of all power supply as well as fan tray / bin data
- high efficiency of 75% ... 85%
- high M T B F
- High power density, up to 3 kW (3U) or 6kW (6U power box) DC output power,
- Dimensions: 430mm x 3U (133mm) or 6U (267mm) x 250mm [whd], weight: from 9.6 to 30 kg depending on the number of power modules

### Standard power modules

Type	Voltage range	Channels per module	Peak output / Power
MEH	2V ... 7V	1	115A / 550W
MEH	7V ... 16V	1	46A / 550W
MEH	12V ... 30V	1	23A / 550W
MEH	30V ... 60V	1	13,5A / 650W
MDH	2V ... 7V	2	+/- 30A / 210W (420W total)
MDH	7... 16V	2	+/- 20A / 250W (500W total)
MDL	7... 24V	2	+/- 11,5A / 275W (550W total)

## UEP 6021 Power Supplies

High density, highly sophisticated modular power supplies designed with WIENER's "Low-Noise-Cavity-VHF-switching technology" which features **extremely low ripple and noise** (PARD) figures. This technology prevents uncontrolled RF emissions by proper internal shielding and containing of switching parts as well as an efficient deflection of magnetically induced RF currents. A well-balanced thermal design secures excellent long term stability and high MTBF.

Up to eight independent regulated DC outputs. For higher current capability, power modules can work in parallel. All **outputs are floating**. Therefore common- or separated grounds can be realized at backplane level (for example analog- and digital- grounds isolated). Wide compatibility ranges become possible by automatic programming of voltage levels and current limits to reference-values that are stored in a bin-memory (Power Protection Memory, PPM system). Incompatibility between bin/backplane and power supply prompts the PPM to keep the power supply off.

Two types of power boxes are available: **3U box** with 92-265VAC input for 1kW-3kW DC-output. **6U boxes** offer space

for a second A/C mains input (PFC) to utilize up to 6kW DC performance (230VAC mains input!). Power boxes include:

- Mains filter in connection with a power factor corrected mains input module (PFC) and soft start circuit,
- auxiliary power supply to provide monitoring and control logic as well as provide power for the fan tray,
- Monitoring and alarm circuit supported by a self-calibrating microprocessor system.
- Five, six (3U box) or 10 slots (6U box) for power modules (DC-to-DC converters)
- CAN-bus interface, processing all power supply, fan tray, and bin data
- Power modules and mains inputs are equipped with long life cooling fans.

Serial connections between power supply, fan tray and bin (plug & play) allows communication and exchange of data between all crate.

<b>Rated mains input range</b>	106- 230VAC $\pm$ 15% (90...265VAC)
<b>Rated input current</b>	Sinusoidal 16A for suffix H input, 32A for suffix K input
<b>Inrush current:</b>	limited to rated input current (cold unit)
<b>Input fuse:</b>	external, intern on special request
<b>Isolation (Inp.- outp.)</b>	CE EN 60950, ISO 380, VDE 0805, UL 1950, C22.2.950
<b>DC output power:</b>	<b>H</b> for 1000... <3000W (92 ...265VAC) <b>K</b> for 2000... <6000W (92 ...265VAC)

**H** input outfitted with removable power cord (3\*1,5mm<sup>2</sup>) for 16A nominal input current,

**K** input (6U power box) is equipped with 2m fixed power cord for up to 32A nominal.

## Regulation

<b>Regulation static:</b>	MEH 550W/650W	<15mV	(+/-100% load, +/- full mains range)
	MDH (20A):	<0,05%	(+/-100% load, +/- full mains range)
	MDL / MDH	<0,1%	(+/-100% load, +/- full mains range)
<b>Regulation dynamic:</b>	MEH, MDH	<100mV	(+/-25% load)
	MDL / MDH	<0,7%	(+/-25% load)
<b>Recovery time</b>	+/-25% load:		within +-1%    within +-0,1%
	Modules 550W	0,2ms	0,5ms,
	Modules 650W	0,5ms	1,0ms
	MDL / MDH	0,0ms	1,0ms

(Conditions: Current slope  $\leq$ 1000A/ms, 21mF per 100A  $\triangleq$  1mF per slot)

**Sense compensation range:** difference between min. and max. output voltage

## Available modules

Type	Channels	Voltage range	Peak output / power	Noise and ripple
MEH	1	2... 7,0V	115A / 550W	10mVpp, (0-20MHz), <2mVrms (0-30MHz)
MEH	1	7...16V	46A / 550W	<15mVpp, (0-20MHz), <2mVrms (0-30MHz)
MEH	1	12...30V	23A / 550W	<15mVpp, (0-20MHz), <2mVrms (0-30MHz)
MEH	1	30...60V	13,5A / 650W	<15mVpp, (0-20MHz), <2mVrms (0-30MHz)
MDH	2	2...7,0V	(+/-) 30A / 210W (420W)	<15mVpp, (0-20MHz), <2mVrms (0-30MHz)
MDH	2	7...16V	(+/-) 20A / 250W (500W)	<15mVpp, (0-20MHz), <2mVrms (0-30MHz)
MDL	2	7...24V	(+/-) 11,5A / 275W. (550W)	<15mVpp, (0-20MHz), <2mVrms (0-30MHz)

### EMC Compatibility

EMA.	EN 61 000-6-3:2001	[RF emission]
	EN 55 022:1998 + Corr:2001 + A1:2000 Class B	conducted noise
	EN 55 022:1998+ Corr:2001 + A1:2000 Class B	radiated noise
	EN 61 000-3-2:2001	harmonics
	EN 61 000-3-3:1995 +Corr:1997 +A1:2001	flicker
EMB	EN 61 000-6-2:2001	[immunity]
	EN 61 000-4-6:1996 + A1:2001	injected HF currents
	EN 61 000-4-3:1996 + A1:1998 + A2:2001	radiated HF fields incl. "900MHz"
	EN 61 000-4-4:1995 + A1:2001	Burst
	EN 61 000-4-5:1995 + A1:2001	Surge
	EN 61 000-4-11:1994 + A1:2000	voltage variations
	EN 61 000-4-2:1995 + A1:1998 + A2:2001	ESD

**Operation temperature:** 0... 50°C ambient without derating, Storage:-30°C ... +85°C

**Temperature coefficient:** < 0,2% / 10K

**Stability:** 10mV or 0,1% / 24 hours, 25mV or 0,3% / 6 month (under constant conditions)

**Current limits:** adjustable to any lower level

**Voltage rise characteristics:** monotonic 50ms, processor controlled.

**Overvoltage protection:** crow bar protection trip off adjusted to 125% of nominal voltage each output

**DC Off (trip off):** within 5ms if >5% deviation from adjusted nominal values, after overload, overheat, overvoltage, undervoltage (bad status), and fan fail, if temperatures exceed 125°C at heat sinks  
Limits programmable. Outputs discharged by crow bars, when power supply tripped- or switched Off.

**Efficiency:** 75% ... 85%, depends on used modules

**M F O T** (Maintenance Free Operation Time):

*internal blowers:* 40°C ambient >65 000 h

25°C ambient 100 000 h

*electronics:* 40°C ambient >100 000 h

*Water cooled power supplies:* 40°C water >100 000 h

## Product Data Sheet

UEP6021: [Print Product Data Sheet](#)

## Documentation

Manual and Tech-Notes : [Crates 6000](#)

Introduction : [Power Supplies intro](#)

## Downloads

UEP6Control: [Download](#)

SNMP: [Download](#)

OPC-Server: [Download](#)

USB-to-IP: [Download](#)

Firmware MUH6 : [Download](#)