

- Extremely compact
- Power up to 2800 W
- Efficiency 90%

- AC- and DC-Input
- Single and Multi-Output
- Externally controllable



### Kurzbeschreibung

The power supply H1k provides a PFC (Power Factor Correction) in its mains input to meet the standard EN61000 part 3-2. Also a DC input voltage between 110-220V is possible. The primary-secondary conversion working in phaseshift mode empowers an efficiency factor up to 90%. It can be used as a voltage or current source with various optional features, thus offering a wide range of possible applications.

The case may hold up to 4 modules of a width of 100 mm. The available power may be used for redundancy applications or for 2 independent outputs. Alternatively the unit can feature one main supply and several Point-of-Load-Converters or additional DC/DC-Converters. The base plate is prepared to suite many different modules for mechanical and thermal adaption and may even be adapted to customers' specific needs.

### Options

- Power switch (front)
- Output voltage selector
- Oring diode
- Error relais
- Battery management with monitoring and lifetime prediction (option M7)

### Analogue interface

Current 0 - 5 V  
Voltage 0 - 5 V  
Current sense-Signal

### Digital Interface

Current and voltage digitally programmable via I<sup>2</sup>C, RS232 or CAN  
Powershare with redundancy check

### Varianten

Maximum output voltage: 150 V  
Maximum output current: 2\*35 A

Variante	Spannung	Strom	
H1k/V408	27.6 V	2x35A	Redundant
H1k/V409	27.6 V	35 A	
H1k/V410	55.2 V	2x24 A	Redundant
H1k/V411	55.2 V	24 A	With batterie management option M7*
H1k/V439	48/54/60/69 V	20 A	
H1k/V448	12 V	2x35 A	Redundant
Further variations on demand			
* = µC-Batteriemanagement M7 with use time surveillance, deep discharge protection, battery circuit active, lifetime prediction, over and under voltage monitoring			

**Input (per 1.4 kW-module)**

Input voltage nom.	230 V <sub>AC</sub> / 220 V <sub>DC</sub>
Input voltage range	90 - 265 V <sub>AC</sub> ; 100 - 375 V <sub>DC</sub> ; 90 V <sub>AC</sub> : power derating of 40% 110 V <sub>DC</sub> : power derating of 40%
Input current	<10 A
Inrush current	<16 A <sub>pk</sub> limited by thermistor
Input power	Max. output power +15%
Input frequency	47 - 63 Hz or DC
Power factor	0.99 at maximum load

**Output (per 1.4 kW-module)**

Output voltage	Max. 150 V, see table, more variations on demand, up to 400 V
Output current	Max. 35 A, see table, more variations on demand
Efficiency	Typ. 90%, (see chart)
Ripple	<0.2% rms; <1% pp (freq. range 30 Mhz)
Dyn. load regulation	±2% power deviation 40% / 60%
Line regulation control	0.02%
Load regulation	1%
Temperature coefficient	0.2%/°K
Scaling range	Approx. ±15%
Sense connections	Optional, max. ±200 mV
Hold up time	>10 ms for nominal output voltage at full load
Parallel operation	Possible, option decoupling diode

### Ambient Conditions

Environmental temperature 0°C to 45°C  
range

Storage temperature range -20°C bis +85°C

Humidity 0 – 90% non-condensing

### Standards

Low voltage directive 2006/95/EG

Safety EN 60950, EN 61010

High voltage test EN 60950 compliant

Clearance and creeping distances 8 mm input - output / 4 mm input - chassis / 2 mm output - chassis

Leakage current <3.5 mA at 50 Hz and 265 V<sub>AC</sub>

PFC EN 61000-3-2

EMC (electromagnetic compatibility) EN 55011 level B

ESD EN 61000-4-2: 8 kV

Burst EN 61000-4-4: 4 kV

Surge EN 61000-4-5

RFI EN 55011 class B

Appliance class Class I

Ingress protection rating IP20

### Protection

Current limiting Constant current >105%

Power limiting 105% ±5%

Overvoltage protection 105–130%, depends on variation resettable by input voltage disconnection

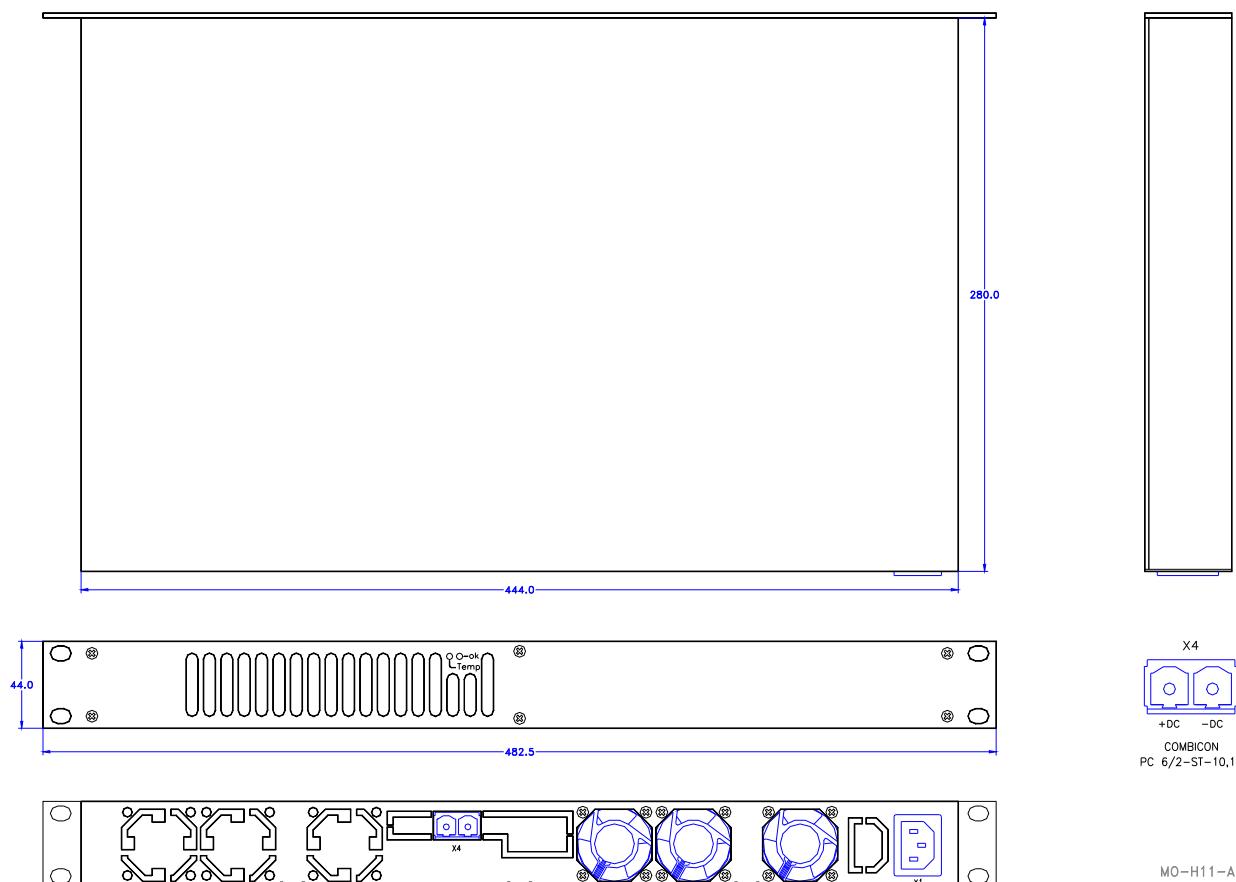
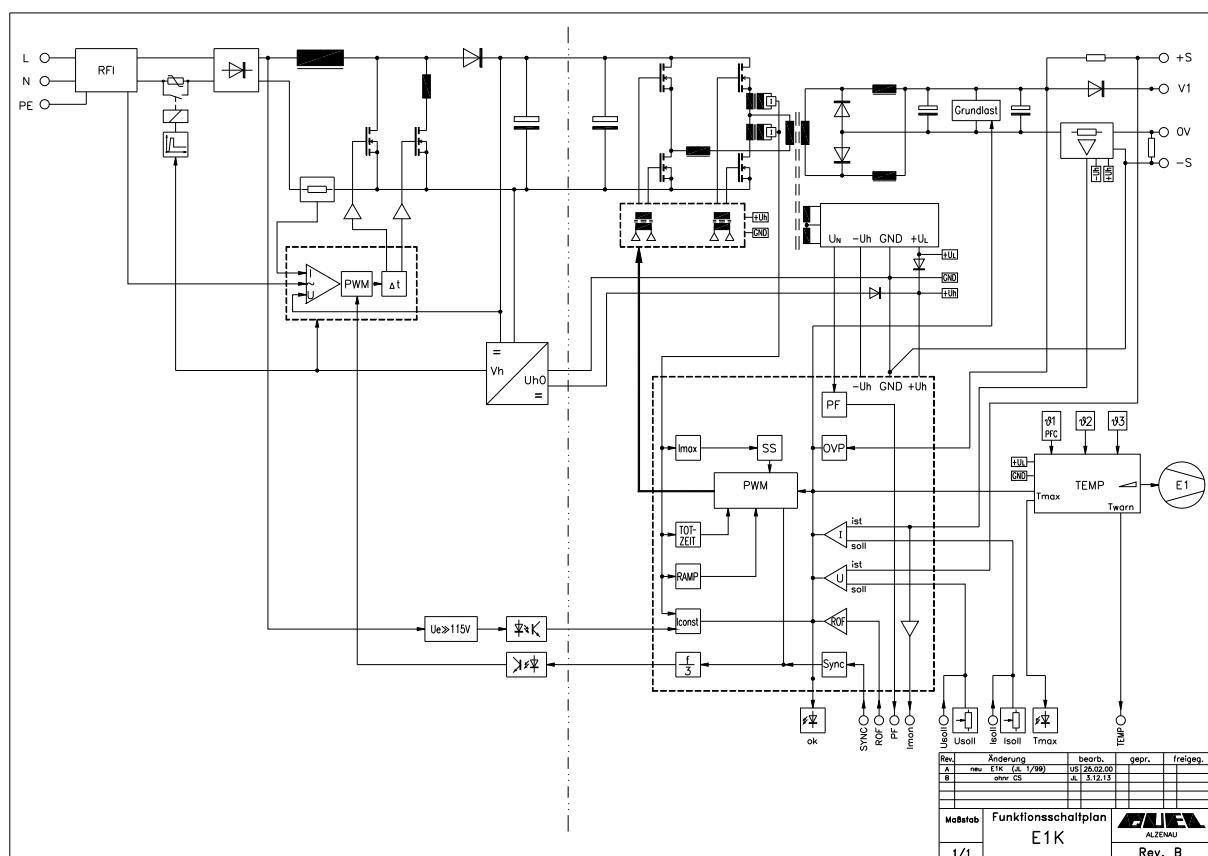
Overtemperature protection >50 C internally limited resettable by cooling down

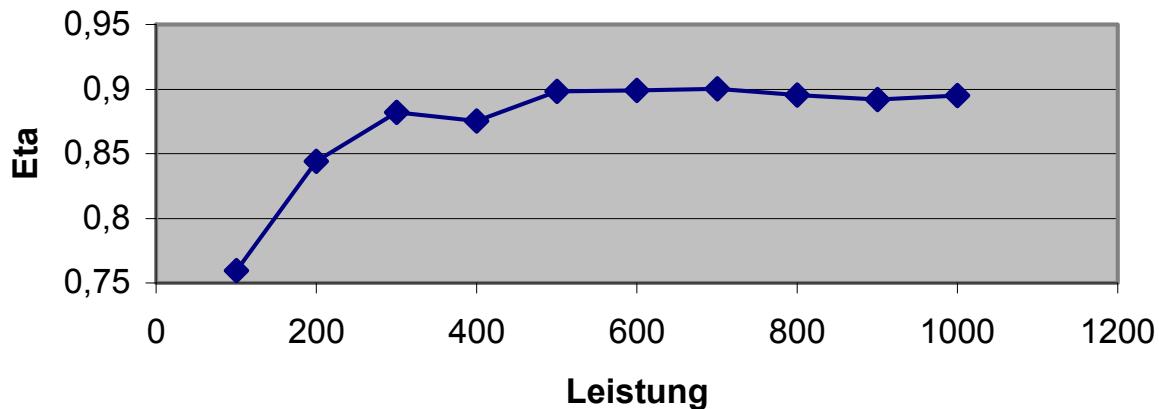
### Interfaces and Signals

LED green	Power supply in normal operation
LED red	Overtemperature
LED yellow	Option: e.g. input voltage ok
Power Fail	Optional
Remote On/Off	Optional
DC-Good-Relay	Floating changeover contacts (60 V / 1 A) optional
Voltage control	Analogue (5/10 V or 20 mA) or digital, optional
Current control	Analogue (5/10 V or 20 mA) or digital, optional
Output voltage monitoring	Optional (e.g. 100 mV/V)
Output current monitoring	Optional (e.g. 100 mV/A)
I <sup>2</sup> C-Bus	Optional

### Mechanics / Mounting

Cooling system	Internal fan, temperature controlled
Mounting	19"- rack, DIN-rail- or wall mounting <b>custom built application design-in on demand!</b>
Dimensions	See drawing
Weight	3.5 kg

**Mechanics H1k 19“ / 3 U / 26 HP (standard series)****Block diagram H1k-Power supply (standard series, 1,4 kW-module)**

Efficiency ( $U_{out} = 60$  V)**Wirkungsgrad H1k ohne Entkoppeldiode**

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