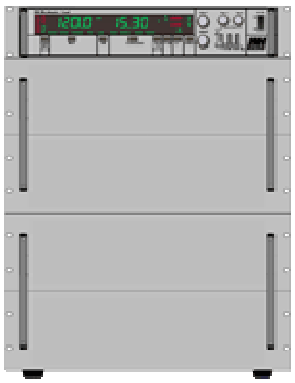
HEIDEN
COMPETENCE IN POWER

DATASHEET 1312-32006

Operating Modes Setting

Current:	Voltage:	Resistance:	Power:
0 ... 666 A	**0 ... 20**	**3 Ω ... 1**	**0 ... 10666 W**
0 ... 2000 A	**0 ... 60 V**	**1 Ω ... 0.33**	**0 ... 32000 W**



Accuracy of the Manual Setting, without Presetting:

	of setting	of corresponding range
Voltage	**±0.2%**	**±0.05%**
Current	**±0.2%**	**±0.05%**

Accuracy of Manual Setting with Presetting:

	of setting	of corresponding range
Voltage	**±0.6%**	**±0.05%**
Current	**±0.6%**	**±0.05%**
Resistance	**±1.4%**	**±0.3%** of current range
Power	**±1.4%**	**±0.5%**
Current Limitation	**±1.4%**	**±0.3%**
Trigger Voltage	**±1.4%**	**±0.3%**
Time Setting	**±1.4%**	**±0.5%** of B1 or B2

Time ranges for internal modulator

B1	**100ms**
B2	**1000ms**

Accuracy of Display:

	of measured value (real value)	of corresponding range
Voltage	**±0.2%**	**±0.05%**
Current	**±0.2%**	**±0.05%**

Accuracy of Analog Programming:

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0 ... 5V / 0 ... 10V for Current, Voltage, Power

	of setting	of corresponding range
Voltage	**±0.2%**	**±0.1%**
Current	**±0.2%**	**±0.1%**
Power	**±2%**	**±0.5%**
Current Limitation *	**±1%**	**±0.4%**
Trigger Voltage *	**±1%**	**±0.4%**

** only when option ZS08 is installed*
Input impedance of the analog inputs: > 10kΩ
GND max. ±2V against negative load input [1)]

Accuracy of Analog Monitor Outputs:
0 ... 10V for Current, Voltage, Power

	of the analog signal of the real value	offset voltage
Voltage	**±0.2%**	**±15mV**
Current	**±0.2%**	**±15mV**
Power	**±2%**	**±30mV**

GND max. ±2V against negative load input [1)]
Loading capacity minimum 2kΩ

Accuracy of Setting
Programming via Data Interface:

	of setting	of corresponding range
Voltage	**±0.2%**	**±0.05%**
Current	**±0.2%**	**±0.05%**
Resistance	**±1%**	**±3%** of current range
Power	**±1%**	**±0.5%**
Current Limitation	**±1%**	**±0.3%**
Trigger Voltage	**±1%**	**±0.3%**
Resolution Setting	**16 bit**	

Accuracy of Measurement, Reading via Data Interface:

	of measured value (real value)	of corresponding range
Voltage	**±0.1%**	**±0.05%**
Current	**±0.2%**	**±0.05%**
Resolution Measurement	**18 bit**	
Reading Rate	**330ms** not triggerable	

Accuracy of Measurement, Reading via Data Interface:
Option ZS13

	of measured value (real value)	of corresponding range
Voltage	**±0.2%**	**±0.05%**
Current	**±0.2%**	**±0.05%**
Resolution Measurement	**13 bit**	
Reading Rate	**min. 200µs** (into memory) triggerable	

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Cooling

cooling medium	**water or water-glycol-mixture**
Materials in the cooling circuit	**cooper, brass, plastic**
Max. Cooling Medium Temperature	**12°C for nominal power**
Min. Cooling Medium Temperature	**5°C**
Derating at higher Cooling Medium Temperature	**-5% / °C**
Pressure for Nominal Power	**min. 3 bar**
Max. Pressure	**5 bar**
Cooling Medium Connection	**1/2 inch per 8000W**
Minimum Input Voltage	**approx. 2V for full current**

Input Impedance

> 50 kΩ at deactivated load input

Input Capacitance

approx. 2µF / 1000W

Operating Temperature

5°C ... 40°C

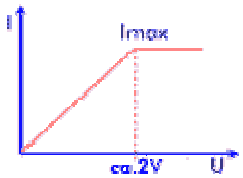
External Control

- Load switching
- Trigger input and output
- Range switching
- Mode switching
- Emergency shutdown

Protection Equipment

- Current and power limitation
- Over-voltage protection up to 110% of rated voltage
- Protection against reverse polarity up to rated current (diode) [3)]
- Over-temperature deactivation
- Transient protection

Minimum voltage



Full current up from approx. 2V.
Below 2V linear Derating.

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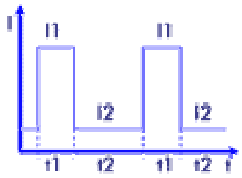
Modulator	 Puls t1: 100µs ... 1s Puls t2: 100µs ... 1s (in two ranges) Load level: each 0 ... 100%
Rise and Fall Time [5]	600 µs
Parallel Operation	up to 3 devices in master-slave operation (hardware-controlled)
Cooling	liquid cooled
Case [4], **Weight**	**19" / 14 HU, 195 kg**
Mains Supply	115/230V ± 10%, 50 ... 60Hz
Power Consumption	**180** VA
Electric Safety	DIN EN 61010-1
EMC, CE-Mark	DIN EN 61326-1 DIN EN 61000-3-2 DIN EN 61000-3-3

Permissible Operating Voltages: Negative Load Input - Case

Standard	125V AC
with Option ZS06	500V AC [3]

Colour

Front Panel	RAL7032 (pebble grey)
Sides, Lid	RAL7037 (stone grey)

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1) *500 V with option ZS06 (except a Zero-Volt-Option is installed)*

2) *no protection against reverse polarity at installed Zero-Volt-Option*

3) *except a Zero-Volt-Option is installed*

4) *1HU = 44.45mm*

5) *Rise and fall times are defined as 10%...90% and 90%...10% of the maximum current (measured in constant current mode - FAST)*

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