

DATASHEET 1312-40006

Operating Modes Setting

Current:	Voltage:	Resistance:	Power:
0 ... 833 A	0 ... 20	2.4 Ω ... 0.8	0 ... 13333 W
0 ... 2500 A	0 ... 60 V	0.8 Ω ... 0.267	0 ... 40000 W

Accuracy of the Manual Setting, without Presetting:

	of setting	of corresponding range
Voltage	$\pm 0.2\%$	$\pm 0.05\%$
Current	$\pm 0.2\%$	$\pm 0.05\%$

Accuracy of Manual Setting with Presetting:

	of setting	of corresponding range
Voltage	$\pm 0.6\%$	$\pm 0.05\%$
Current	$\pm 0.6\%$	$\pm 0.05\%$
Resistance	$\pm 1.4\%$	$\pm 0.3\%$ of current range
Power	$\pm 1.4\%$	$\pm 0.5\%$
Current Limitation	$\pm 1.4\%$	$\pm 0.3\%$
Trigger Voltage	$\pm 1.4\%$	$\pm 0.3\%$
Time Setting	$\pm 1.4\%$	$\pm 0.5\%$ 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	$\pm 0.2\%$	$\pm 0.05\%$
Current	$\pm 0.2\%$	$\pm 0.05\%$

Accuracy of Analog Programming:

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

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

* only when option ZS08 is installed
Input impedance of the analog inputs: > 10k Ω

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GND max. $\pm 2V$ 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	$\pm 0.2\%$	$\pm 15mV$
Current	$\pm 0.2\%$	$\pm 15mV$
Power	$\pm 2\%$	$\pm 30mV$

GND max. $\pm 2V$ against negative load input ¹⁾
Loading capacity minimum $2k\Omega$

**Accuracy of Setting
Programming via Data Interface:**

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

Accuracy of Measurement, Reading via Data Interface:

	of measured value (real value)	of corresponding range
Voltage	$\pm 0.1\%$	$\pm 0.05\%$
Current	$\pm 0.2\%$	$\pm 0.05\%$
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	$\pm 0.2\%$	$\pm 0.05\%$
Current	$\pm 0.2\%$	$\pm 0.05\%$
Resolution Measurement	13 bit	
Reading Rate	min. 200μs (into memory) triggerable	

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

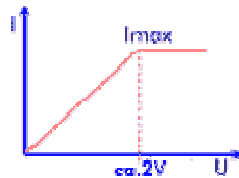
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Pressure for Nominal Power	min. 3 bar
Max. Pressure	5 bar
Cooling Medium Connection	1/2 inch per 8000W
Minimum Input Voltage	approx. 2V for full current
Input Impedance	> 50 k Ω at deactivated load input
Input Capacitance	approx. 2 μ F / 1000W
Operating Temperature	5°C ... 40°C
External Control	<ul style="list-style-type: none"> • Load switching • Trigger input and output • Range switching • Mode switching • Emergency shutdown

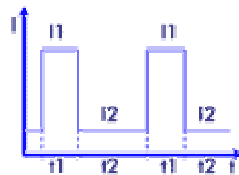
Protection Equipment	<ul style="list-style-type: none"> • Current and power limitation • Over-voltage protection up to 110% of rated voltage • Protection against reverse polarity up to rated current (diode)³⁾ • Over-temperature deactivation • Transient protection
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Minimum voltage



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

Modulator



Puls t1: 100 μ s ... 1s
Puls t2: 100 μ s ... 1s
(in two ranges)
Load level: each 0 ... 100%

Rise and Fall Time⁹⁾

600 μ s

Parallel Operation

up to 3 devices in master-slave operation
(hardware-controlled)

Cooling

liquid cooled

Case ⁴⁾, Weight **19" / 17 HU, 247 kg**

Mains Supply 115/230V ± 10%, 50 ...
60Hz

Power Consumption **240 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)

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)