

DATASHEET 1312-32012

Operating Modes Setting

Current:	Voltage:	Resistance:	Power:
0 ... 466 A	0 ... 40	4.2 Ω ... 2.85	0 ... 10666 W
0 ... 1400 A	0 ... 120 V	1.4 Ω ... 0.95	0 ... 32000 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:

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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	

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

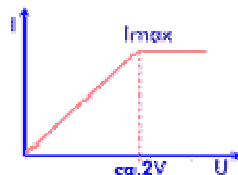
External Control

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

Protection Equipment

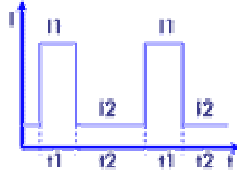
- Current and power limitation
- Over-voltage protection up to 110% of rated voltage
- Protection against reverse polarity up to rated current (diode)³⁾
- Over-temperature deactivation
- Transient protection

Minimum voltage



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

Modulator



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

Rise and Fall Time ⁵⁾	500 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)

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)