

DATASHEET 1310-4230

Operating Modes Setting

Current:	Voltage:	Resistance:	Power:
0 ... 30 A	0 ... 100 V	0.067 Ω ... 111 Ω	0 ... 2400 W
0 ... 90 A	0 ... 300 V	0.022 Ω ... 37 Ω	0 ... 7200 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:
0 ... 5V / 0 ... 10V for Current, Voltage, Power**

	of setting	of corresponding range
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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 ²⁾

	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	

Power

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Nominal Power

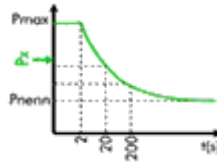
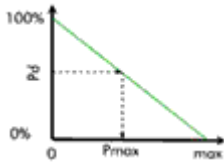
up to $T_A = 21\text{ °C}$

Derating

-1.2% / °C for $T_A > 21\text{ °C}$

Overload

7200 W



The height of the possible overload P_{max} depends on the temperature of the device and therefore on the dissipated power previously

The possible overload duration t depends on the height of the overload power P_x

Input Impedance

> 50 kΩ at deactivated load input

Input Capacitance

approx. 2μF / 1000W

Operating Temperature

5°C ... 40°C

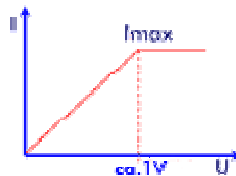
External Control

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

Protection Equipment

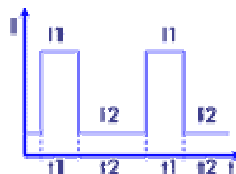
- Current and power limitation
- Over-voltage protection up to 110% of rated voltage ³⁾
- Protection against reverse polarity up to rated current (diode) ⁴⁾
- Over-temperature deactivation
- Transient protection

Minimum voltage



Full current up from approx. 1V.
Below 1V linear Derating.

Modulator



Puls t1: 100μs ... 1s
Puls t2: 100μs ... 1s

	(in two ranges) Load level: each 0 ... 100%
Rise and Fall Time ⁶⁾	50 µs
Parallel Operation	up to 3 devices in master-slave operation (hardware-controlled)
Cooling	infinitely variable controlled fans
Noise max. ⁷⁾	73 dB(A)
Case ⁸⁾ , Weight	19" / 5 HU, 39 kg
Mains Supply	115/230V ± 10%, 50 ... 60Hz
Power Consumption	220 VA
Permissible Operating Voltages: Negative Load Input - Case	
Standard	125V AC
with Option ZS06	500V AC ⁵⁾
Colour	
Front Panel	RAL7032 (pebble grey)
Sides, Lid	RAL7037 (stone grey)
Electric Safety	DIN EN 61010-1
EMC, CE-Mark	DIN EN 61326-1 DIN EN 61000-3-2 DIN EN 61000-3-3

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- 1) 500 V with option ZS06 (except a Zero-Volt-Option is installed)
 - 2) for units with 3 and 4 setting ranges the power monitoring signal is referred to the highest range
 - 3) 101% for 800V devices
 - 4) no protection against reverse polarity at installed Zero-Volt-Option
 - 5) except a Zero-Volt-Option is installed
 - 6) Rise and fall times are defined as 10%...90% and 90%...10% of the maximum current (measured in constant current mode - FAST)
 - 7) measured at the front panel at 1m distance
 - 8) 1HU = 44.45mm