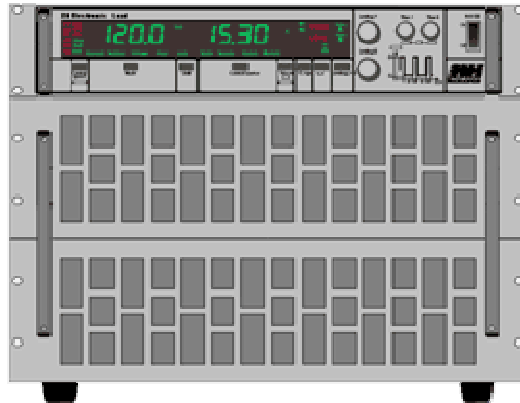


## DATASHEET 1310-8006

### Operating Modes Setting

| Current:    | Voltage:   | Resistance:                      | Power:        |
|-------------|------------|----------------------------------|---------------|
| 0 ... 250 A | 0 ... 20 V | 8 m $\Omega$ ... 2.67 $\Omega$   | 0 ... 6000 W  |
| 0 ... 750 A | 0 ... 60 V | 2.7 m $\Omega$ ... 0.89 $\Omega$ | 0 ... 18000 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          | <b>100ms</b>                 |
|                                    | B2          | <b>1000ms</b>                |

### Accuracy of Display:

|         | of measured value<br>(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              | <b>±0.2%</b> | <b>±0.1%</b>           |
| Current              | <b>±0.2%</b> | <b>±0.1%</b>           |
| Power                | <b>±2%</b>   | <b>±0.5%</b>           |
| Current Limitation * | <b>±1%</b>   | <b>±0.4%</b>           |
| Trigger Voltage *    | <b>±1%</b>   | <b>±0.4%</b>           |

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

## Accuracy of Analog Monitor Outputs: 0 ... 10V for Current, Voltage, Power <sup>2)</sup>

|         | of the analog signal<br>of the real value | offset voltage |
|---------|---|----------------|
| Voltage | <b>±0.2%</b>                              | <b>±15mV</b>   |
| Current | <b>±0.2%</b>                              | <b>±15mV</b>   |
| Power   | <b>±2%</b>                                | <b>±30mV</b>   |

GND max. ±2V against negative load input <sup>1)</sup>  
 Loading capacity minimum 2kΩ

## Accuracy of Setting Programming via Data Interface:

|                    | of setting    | of corresponding range      |
|--------------------|---------------|-----------------------------|
| Voltage            | <b>±0.2%</b>  | <b>±0.05%</b>               |
| Current            | <b>±0.2%</b>  | <b>±0.05%</b>               |
| Resistance         | <b>±1%</b>    | <b>±3%</b> of current range |
| Power              | <b>±1%</b>    | <b>±0.5%</b>                |
| Current Limitation | <b>±1%</b>    | <b>±0.3%</b>                |
| Trigger Voltage    | <b>±1%</b>    | <b>±0.3%</b>                |
| Resolution Setting | <b>16 bit</b> |                             |

## Accuracy of Measurement, Reading via Data Interface:

|                        | of measured value<br>(real value) | of corresponding range |
|------------------------|-----------------------------------|------------------------|
| Voltage                | <b>±0.1%</b>                      | <b>±0.05%</b>          |
| Current                | <b>±0.2%</b>                      | <b>±0.05%</b>          |
| Resolution Measurement | <b>18 bit</b>                     |                        |
| Reading Rate           | <b>330ms</b> not triggerable      |                        |

## Accuracy of Measurement, Reading via Data Interface: Option ZS13

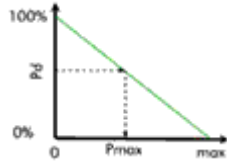
|                        | of measured value<br>(real value)              | of corresponding range |
|------------------------|--|------------------------|
| Voltage                | <b>±0.2%</b>                                   | <b>±0.05%</b>          |
| Current                | <b>±0.2%</b>                                   | <b>±0.05%</b>          |
| Resolution Measurement | <b>13 bit</b>                                  |                        |
| Reading Rate           | <b>min. 200µs</b> (into memory)<br>triggerable |                        |

## Power

Nominal Power

Derating

Overload



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

up to  $T_A = 21\text{ °C}$

-1.2% / °C for  $T_A > 21\text{ °C}$

**18000 W**



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 <sup>3)</sup>
- Protection against reverse polarity up to rated current (diode) <sup>4)</sup>
- 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 <sup>6)</sup>

**100 µs**

### Parallel Operation

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

### Cooling

infinitely variable  
 controlled fans

### Noise max. <sup>7)</sup>

**74 dB(A)**

### Case <sup>8)</sup>, Weight

**19" / 8 HU, 59 kg**

### Mains Supply

115/230V ± 10%, 50 ...  
 60Hz

### Power Consumption

**345 VA**

### Permissible Operating Voltages: Negative Load Input - Case

|                  |                       |
|------------------|-----------------------|
| Standard         | 125V AC               |
| with Option ZS06 | 500V AC <sup>5)</sup> |

### 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

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