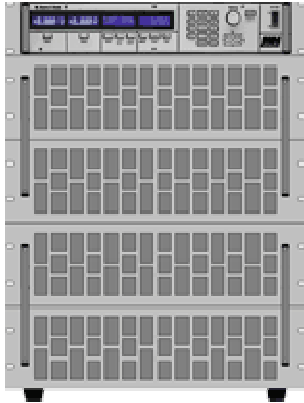


## DATASHEET 1311-U-1V20C160

### Output:

- Voltage: -1 V ... 20 V
- Current: -160 A ... 160 A
- Power: 3200 W



The specified accuracies refer to an ambient temperature of 25°C ±5°C.

The specified accuracies are valid when the unit is connected to undisturbed voltages (Ripple and Noise <0.1%). At voltages with higher disturbance values the accuracy can change for the worse.

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### Accuracy of Setting

	of setting	of corresponding range
Voltage	±0.1%	±0.05%
Current	±0.2%	±0.05%
Voltage Limitation	±0.1%	±0.05%
Current Limitation	±0.2%	±0.05%
Resolution Setting		16 Bit
Ripple		±0.05% RMS of range
Load Effect 0-100%		0.1%
Line Effect AC ±10%		0.02%

## Accuracy of Display:

	of measured value (real value)	of corresponding range
Voltage	$\pm 0.1\%$	$\pm 0.05\%$
Current	$\pm 0.2\%$	$\pm 0.05\%$
Resistance	<b>Quotient of voltage and current</b>	
Power	<b>Product of voltage and current</b>	

## Accuracy of Analog Programming:

**-5V ... 0 ... 5V / -10V ... 0 ... 10V for Current, Voltage**

	of setting	of corresponding range
Voltage	$\pm 0.2\%$	$\pm 0.15\%$
Current	$\pm 0.4\%$	$\pm 0.15\%$
Voltage Limitation * (upper and lower)	$\pm 0.2\%$	$\pm 0.15\%$
Current Limitation * (upper and lower)	$\pm 0.4\%$	$\pm 0.15\%$

\* only -10V ... 0 ... +10V

Input impedance of the analog inputs: > 10k $\Omega$   
GND max.  $\pm 2V$  against negative output terminal<sup>1)</sup>

## Accuracy of Analog Monitor Outputs:

**-10V ... 0 ... 10V for Current, Voltage**

	of analog signal of the real value	offset voltage
Voltage	$\pm 0.1\%$	$\pm 15mV$
Current	$\pm 0.2\%$	$\pm 15mV$

GND max.  $\pm 2V$  against negative output terminal<sup>1)</sup>  
Minimum loading capacity 2k $\Omega$

## Accuracy of Measurement, Reading via Data Interface:

	of measured value (real value)	of corresponding range
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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 (free running)	<b>330ms</b> not triggerable	

### Accuracy of Measurement, Reading via Data Interface: NL13 Option

	of measured value (real value)	of corresponding range
Voltage	<b>±0.15%</b>	<b>±0.07%</b>
Current	<b>±0.3%</b>	<b>±0.07%</b>
Resolution Measurement	<b>13 Bit</b>	
Reading Rate	<b>min. 200µs</b> (in memory) triggerable	

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### Power

Nominal Power	up to $T_A = 21\text{ °C}$
Derating	-1.2% / °C for $T_A > 21\text{ °C}$

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**Input Impedance** > 50 kΩ in standby

**Operating Temperature** 5°C ... 40°C

**External Control Functions**

- Stand-by
- Trigger input and output
- Mode switching
- Emergency shutdown

**Protection Equipment**

- Current and voltage limitation
- Over-temperature deactivation

**Rise and Fall Time** <sup>2)</sup> **200 µs**

**Parallel Operation** up to 3 devices in master-slave operation  
(hardware-controlled in current mode only)

**Cooling** Current and temperature-controlled fans

<b>Dimension<sup>3)</sup>, Weight</b>	<b>19" / 14 HU, 105 kg</b>
<b>Mains Supply</b>	<b>230/400 VAC -16A ± 10%</b> <b>50 ... 60Hz</b>
<b>Power Consumption</b>	<b>5300 VA</b>
<b>Electric Safety</b>	DIN EN 61010-1
<b>EMC, CE-Mark</b>	DIN EN 61326-1 DIN EN 61000-3-2 DIN EN 61000-3-3

**Measuring Device Category** CAT I

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**Permissible Operating Voltages: Negative Output Terminal- Case**

±125V DC

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**Permissible Operating Voltages:  
Analog Interface - Negative Output Terminal**

Standard	±2V DC
with NL06 Option	±125V DC

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**Colour**

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

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1) ±125V with NL06 Option

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

3) 1HU = 44.45mm