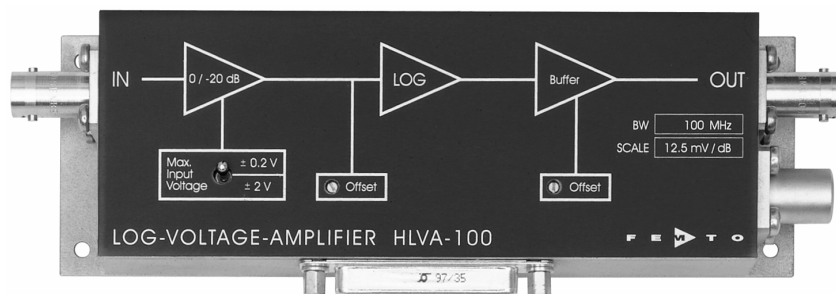
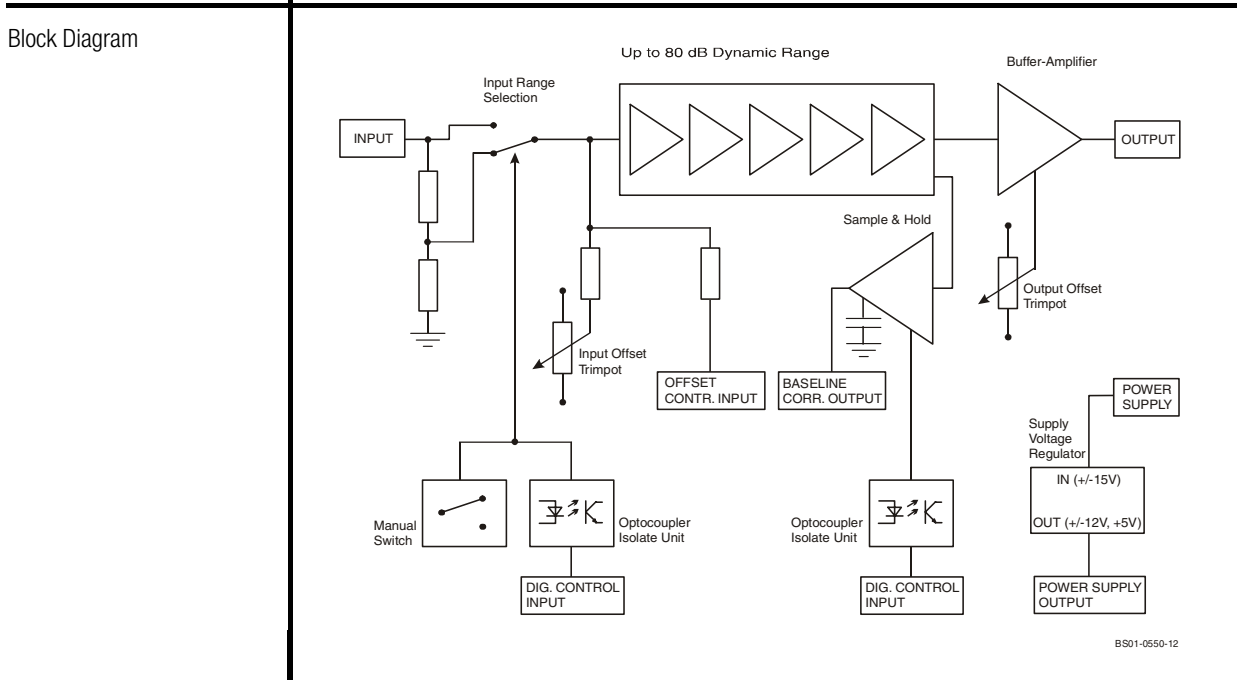


# Logarithmic Voltage Amplifier



Features	<ul style="list-style-type: none"> <li>• <b>Wide Dynamic Range typ. 60 dB, max. 80 dB,</b></li> <li>• <b>5 ns Rise/Fall Time @ 40 dB step</b></li> <li>• <b>Accuracy <math>\pm 1</math> dB @ pulse width of min. 20 ns</b></li> <li>• <b>Switchable Input Range <math>\pm 20 \mu\text{V} \dots \pm 200 \text{ mV}</math> or <math>\pm 200 \mu\text{V} \dots \pm 2 \text{ V}</math></b></li> <li>• <b>DC coupled input</b></li> <li>• <b>Local and Remote Control</b></li> <li>• <b>Integrated Sample &amp; Hold Baseline Correction</b></li> </ul>
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	<ul style="list-style-type: none"> <li>• <b>LIDAR systems</b></li> <li>• <b>Signal Compression, Pulse Measurements</b></li> <li>• <b>Time-Resolved Pulse and Transient Measurements</b></li> <li>• <b>Mass Spectroscopy</b></li> <li>• <b>Particle Detection</b></li> </ul>
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**Logarithmic Wideband Voltage Amplifier**

Specifications	<i>Test Conditions</i>	<i>Vs = ± 15 V, Ta = 25°C, System Impedance = 50 Ω</i>
Dynamic Performance	Dynamic Range	typ. 60 dB (for accurate amplitude measurements) max. 80 dB (signal detection)
	Input Voltage Range	± 20 μV ... ± 200 mV / ± 200 μV ... ± 2 V switchable
	Scaling	12.5 mV/dB equals 250 mV/ decade (@ 50 Ω Load)
	Linearity	± 1 dB (for pulse of min. 20 ns pulse width)
Pulse Response	Rise/Fall time	5 ns @ 40 dB step
Input	Input Impedance	50 Ω
	Input Voltage Drift	0.6 μV/K
	Equivalent Input Voltage Noise	2 nV/√Hz
	Input BIAS Current	< 4 μA
	Input Offset Voltage	± 2.5 mV, adjustable by Offset-Trimpot and external Control Voltage
Output	Output Impedance	50 Ω
	Output Voltage Range	+50 ... +1075 mV typ. (@ 50 Ω Load) (if Output is adjusted to 1V at 100mV Input)
	Output Offset Voltage Range	± 500 mV, adjustable by Offset-Trimmer
Digital Control	Control Input Voltage Range	Low: - 0.8 ... + 0.8 V High: + 3 ... + 12 V, TTL / CMOS compatible
	Control Input Current	Low: 0 mA High: + 1.5 mA @ + 5 V (Input Range Control) + 7 mA @ + 5 V (Baseline Correction Control)
Baseline Correction	Acquisition Time	30 μs (min. sample pulse width)
	Baseline Hold Droop Rate	1 μV/s (typ. @ 25°C)
	Loop cut-off frequency	1.5 kHz
Ext. Offset Control	Control Voltage Range	± 10 V (for ± 2.5 mV Offset Control)
	Offset Control Input Impedance	100 kΩ
Power Supply	Supply Voltage	± 15 V
	Supply Current	+ 90 / -120 mA typ.
	Stabilized Power Supply Output	± 12 V / max. 100 mA, + 5 V / max. 50 mA
Case	Weight	320 gr. (0.74 lbs)
	Material	AlMg4.5Mn, nickel-plated
Temperature Range	Storage Temperature	- 40 ... + 100 °C
	Operating Temperature	0 ... + 60 °C

Absolute Maximum Ratings	Power Supply Voltage	± 20 V
	Signal Input Voltage	± 3 V @ ± 2 V Input Range Setting - 3 V / + 300 mV @ ± 200 mV Input Range Setting
	Digital Control Input Voltage	+ 16 V / - 5 V

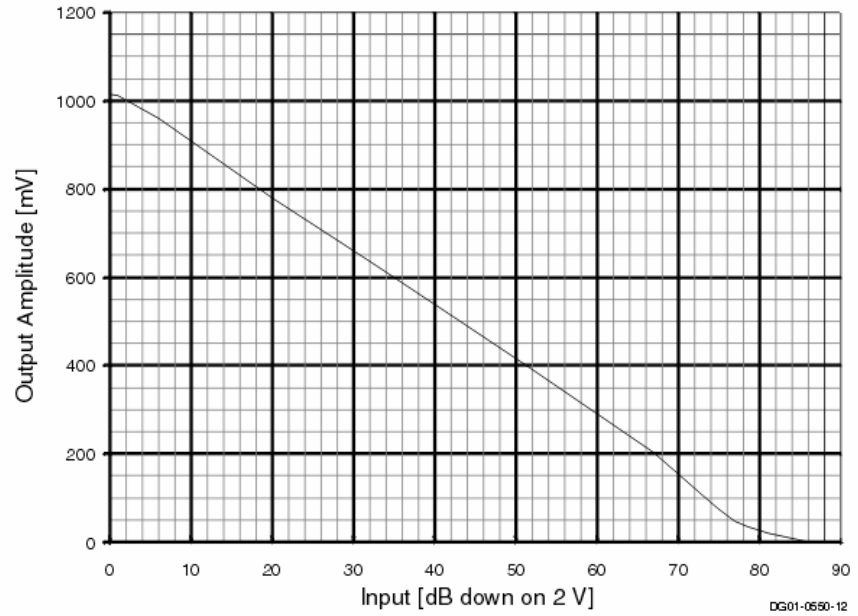
**Logarithmic Wideband Voltage Amplifier**

<p>Connectors</p>	<table border="0"> <tr> <td data-bbox="560 309 863 338">Input</td> <td data-bbox="874 309 919 338">BNC</td> </tr> <tr> <td data-bbox="560 367 863 396">Output</td> <td data-bbox="874 367 919 396">BNC</td> </tr> <tr> <td data-bbox="560 425 863 454">Power Supply</td> <td data-bbox="874 425 1201 539">                     LEMO Series 1S, 3-pin fixed Socket                      Pin 1: + 15V                      Pin 2: - 15V                      Pin 3: GND                 </td> </tr> <tr> <td data-bbox="560 568 863 598">Control Port</td> <td data-bbox="874 568 1410 913">                     Sub-D 25-pin, female, Qual. Class 2                      Pin 1: +12V (Stabilized Power Supply Output)                      Pin 2: -12V (Stabilized Power Supply Output)                      Pin 3: AGND (Analog Ground)                      Pin 4: +5V (Stabilized Power Supply Output)                      Pin 5 - 6: NC                      Pin 7: Baseline Correction Output                      Pin 8: Offset Control Voltage Input                      Pin 9: DGND (Ground f. Digital Control Pin 10 - 25)                      Pin 10: Digital Control Input: Input Voltage Range                      Pin 11: Digital Control Input: Baseline Correction                      Pin 12 - 25: NC                 </td> </tr> </table>	Input	BNC	Output	BNC	Power Supply	LEMO Series 1S, 3-pin fixed Socket Pin 1: + 15V Pin 2: - 15V Pin 3: GND	Control Port	Sub-D 25-pin, female, Qual. Class 2 Pin 1: +12V (Stabilized Power Supply Output) Pin 2: -12V (Stabilized Power Supply Output) Pin 3: AGND (Analog Ground) Pin 4: +5V (Stabilized Power Supply Output) Pin 5 - 6: NC Pin 7: Baseline Correction Output Pin 8: Offset Control Voltage Input Pin 9: DGND (Ground f. Digital Control Pin 10 - 25) Pin 10: Digital Control Input: Input Voltage Range Pin 11: Digital Control Input: Baseline Correction Pin 12 - 25: NC																
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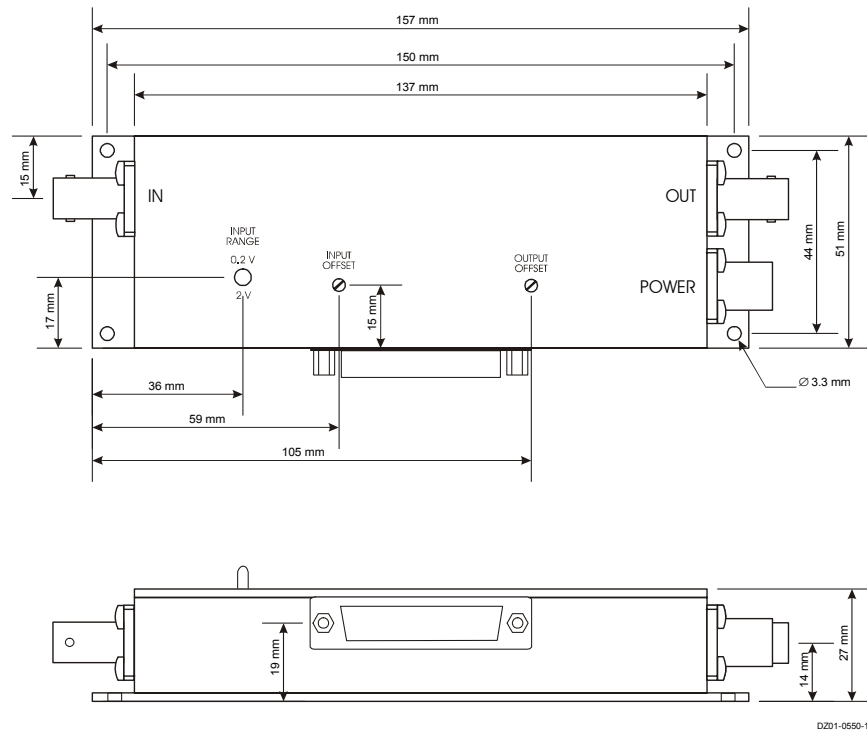
# Logarithmic Wideband Voltage Amplifier

Typical Performance Characteristics

Logarithmic Response (@ ± 2 V Input Range Setting)



Dimensions



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 Klosterstr. 64  
 D-10179 Berlin · Germany  
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