

LVA 7500 4-quadrant amplifier

AUTOMOTIVE SUPPLY SIMULATION AT IT'S BEST



Example: LVA 5000 Front panel

- ✓ Extremely low harmonic distortion - even under very non-linear load conditions
- ✓ Very fast slew rate > 20V/ μ s
- ✓ Operates from DC up to 100kHz large signal bandwidth (-3dB)
- ✓ Small signal bandwidth up to 300kHz
- ✓ High short-term overload characteristic (for 30s)
- ✓ Very high peak-load ability (up to 200ms)
- ✓ Programmable internal resistance 0 ... 200m Ω
- ✓ Sink operation mode can be disabled
- ✓ Touch panel operation 7" 800x480
- ✓ Optional overvoltage protection device OPD

The relating standards:

ISO 7637-2/-3

ISO 16750-2

ISO 21848

LV 124

VDA 320 (LV 148)

SAE J 1113-11

BMW GS 95002

BMW GS 95003-2

BMW GS 95024-2-2

BMW GS 95026

Ford FMC 1278

General Motors GMW 3097

JLR-EMC-CSv1.4

Mercedes-Benz MBN

LV124-1

PSA B21 7110

Renault 36-00-808/--M

VW TL 81000

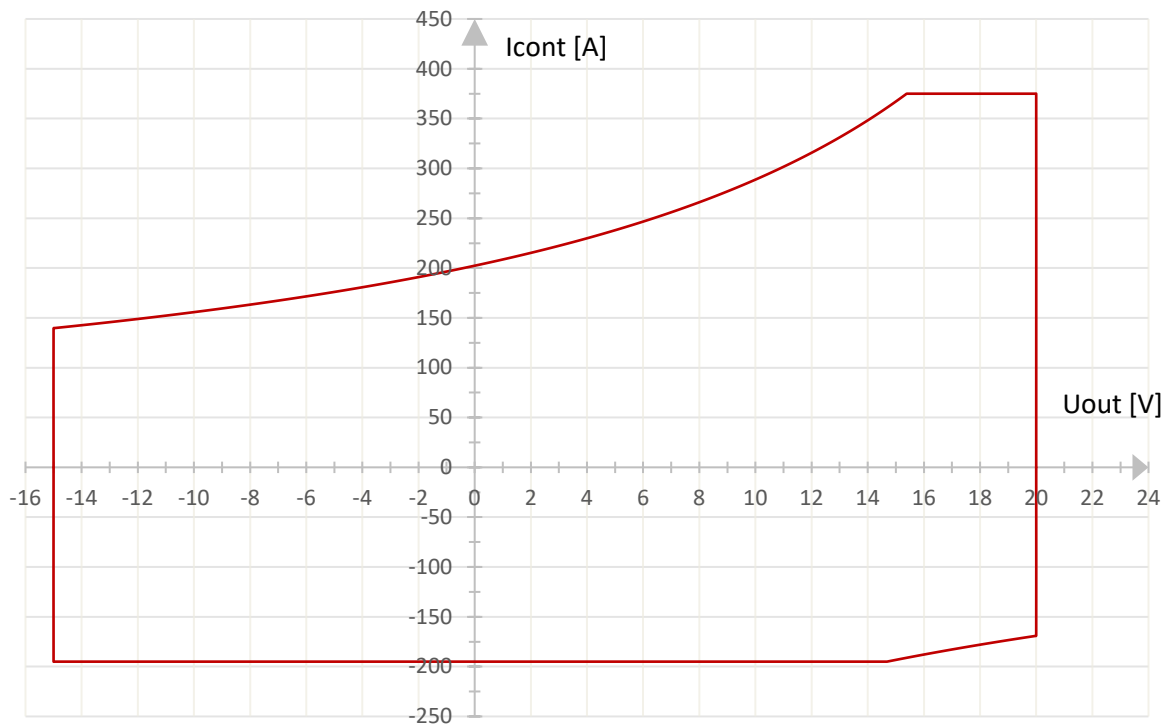
VW 80000

VW 82148

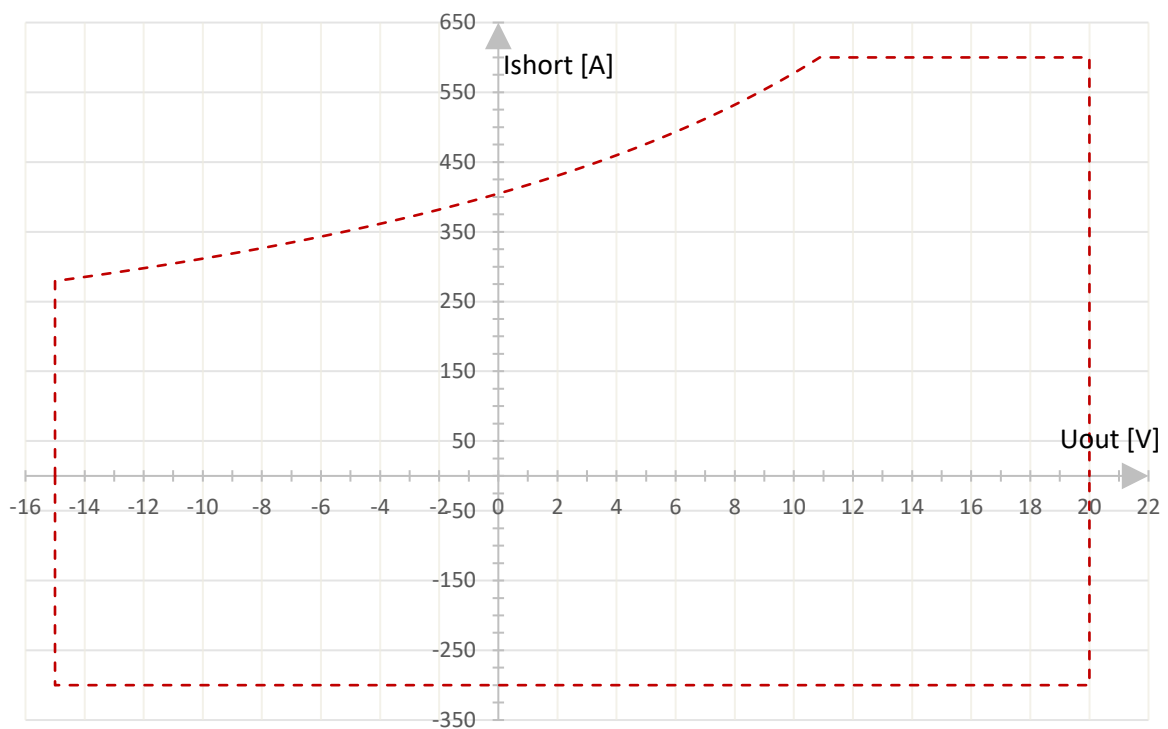
THE REFERENCE SOURCE FOR AUTOMOTIVE APPLICATIONS

AMPLIFIER CHARACTERISTIC – OUTPUT CURRENT CAPABILITY

20V Range continuous current I_{cont} : **LVA7500**

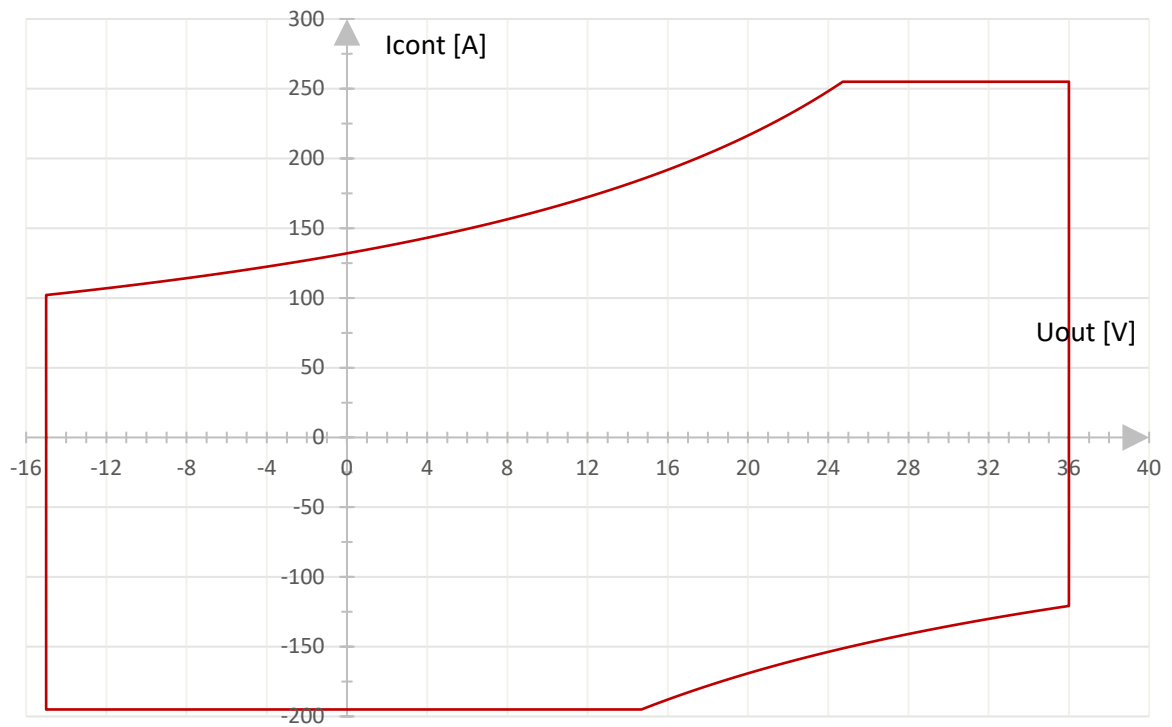


20V Range short-time current I_{short} : **LVA7500**

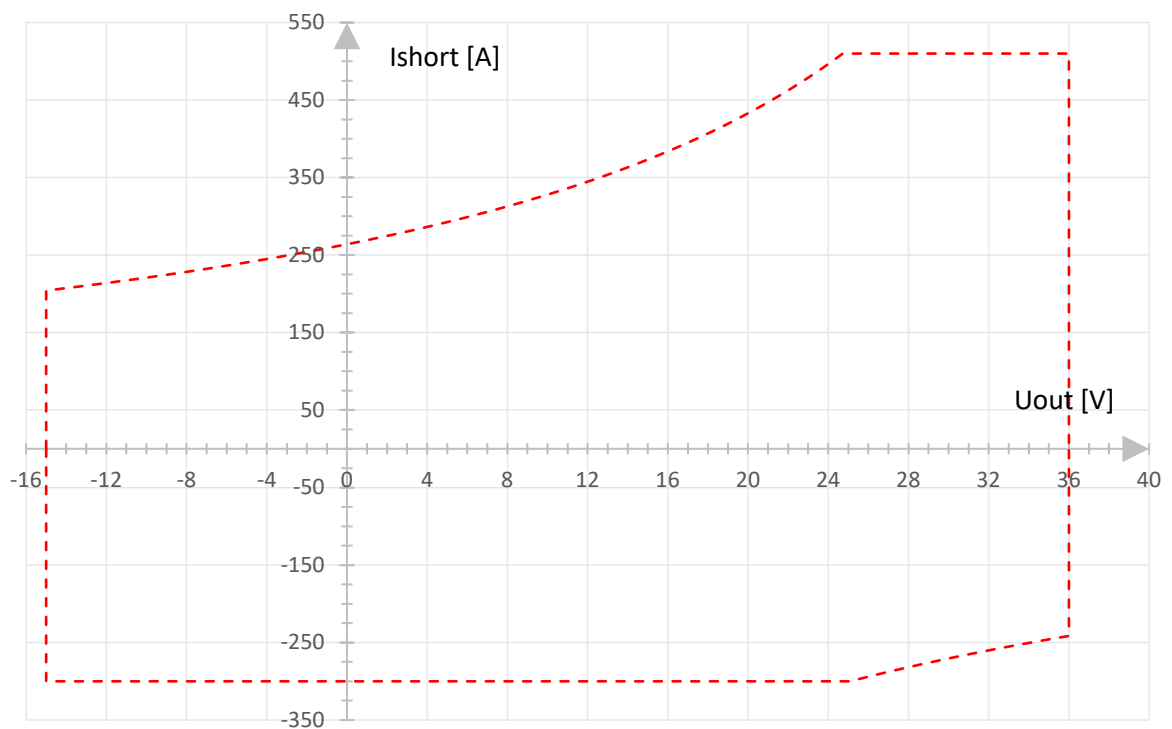


AMPLIFIER CHARACTERISTIC – OUTPUT CURRENT CAPABILITY

36V Range continuous current I_{cont} : LVA7500

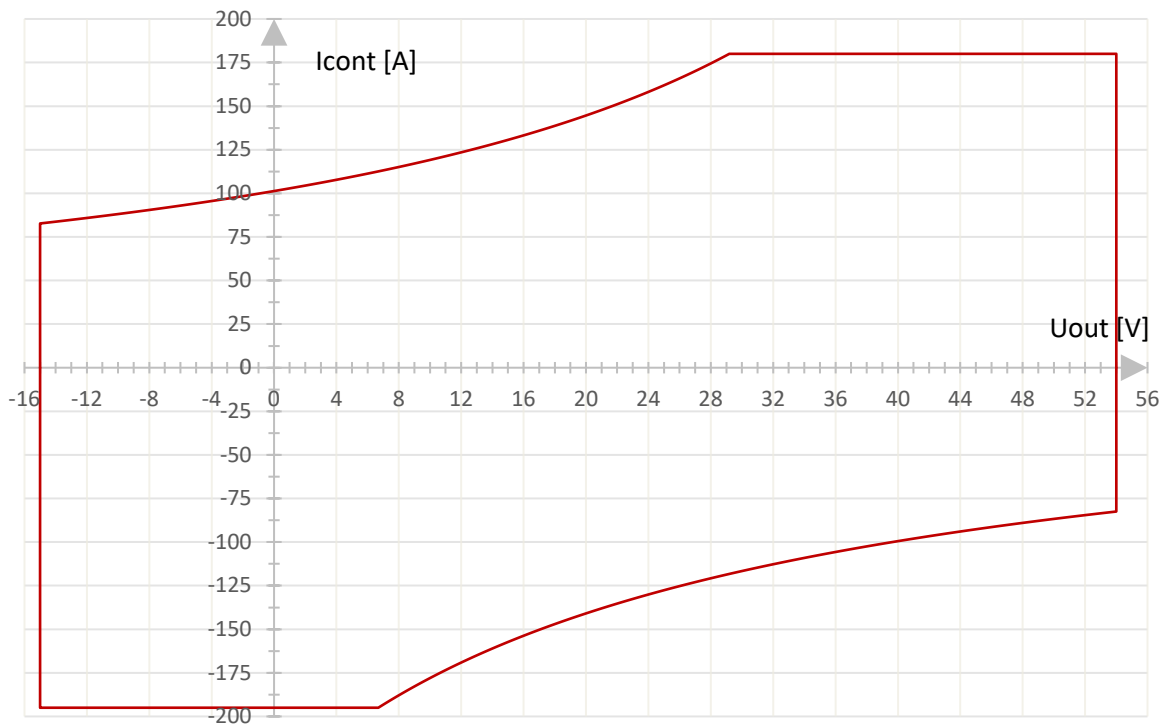


36V Range short-time current I_{short} : LVA7500

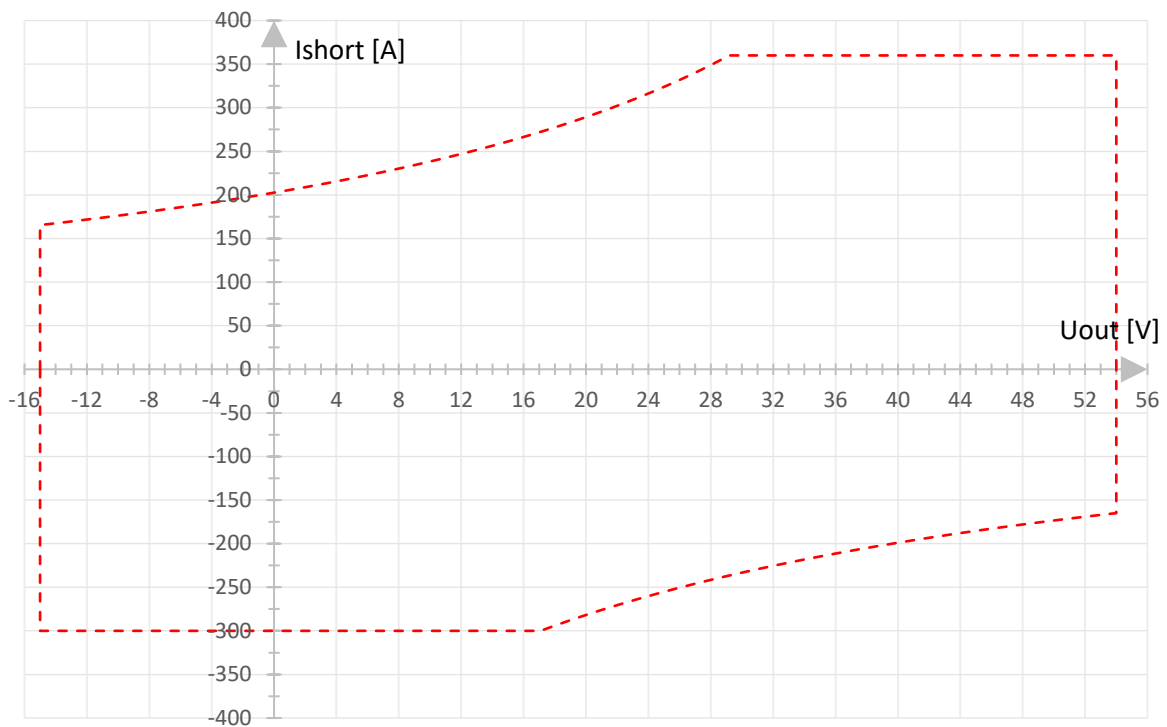


AMPLIFIER CHARACTERISTIC – OUTPUT CURRENT CAPABILITY

54V Range continuous current I_{cont} : **LVA7500**

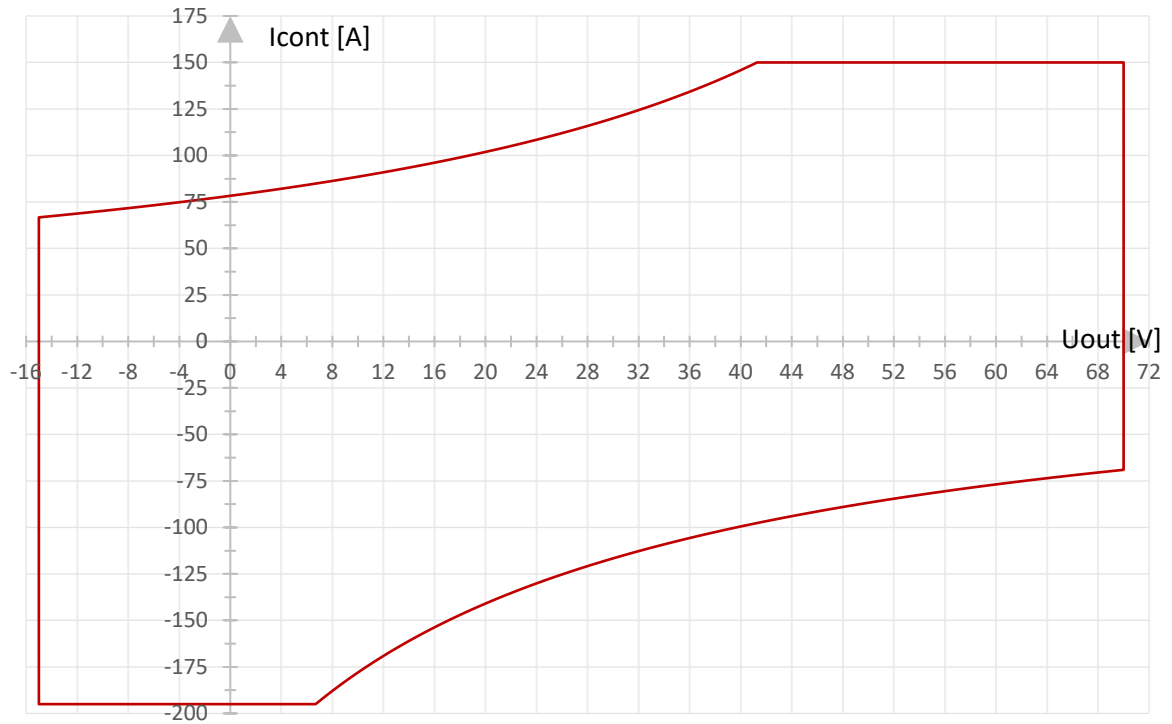


54V Range short-time current I_{short} : **LVA7500**

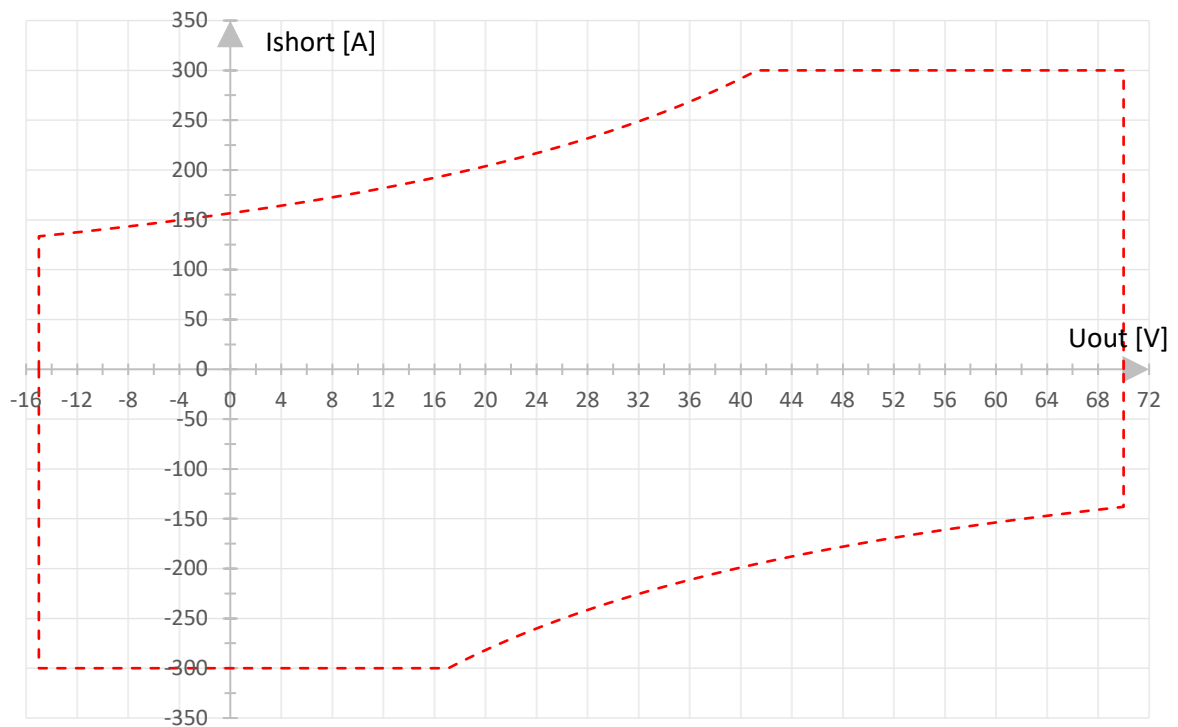


AMPLIFIER CHARACTERISTIC – OUTPUT CURRENT CAPABILITY

70V Range continuous current I_{cont} : **LVA7500**



70V Range short-time current I_{short} : **LVA7500**



TECHNICAL DATA

Max. peak current capability (up to 200ms)		900A _p
Continuous and short-time output current capability		range depending see diagrams
Nominal voltage ranges		U ₁ : -15V _{DC} ... 20V _{DC} U ₂ : -15V _{DC} ... 36V _{DC} U ₃ : -15V _{DC} ... 54V _{DC} U ₄ : -15V _{DC} ... 70V _{DC}
Digital instrument	Voltage range	Autoranging (20/40/80V _{DC} Ranges)
	Current range	125A _{DC} / 250A _{DC} / 500A _{DC} / 1000A _{DC}
Accuracy Voltage		DC: 1000ppm of reading / 200ppm of range value
Accuracy Current		DC: 2000ppm of reading / 400ppm of range value
Supply	Power Supply	230V/400V (±10%, 50/60Hz)
	Protection	32A
	Connector type	CEE
Housing		19"-rack, colour light grey (RAL 7035)
Dimensions (mm)		24" rack: 1320x600x1050 37" rack: 1920x600x1050
Weight		LVA integrated in 24" rack: approx. 460kg LVA integrated in 37" rack: approx. 500kg
General	Voltage adjustment	Touch panel / Remote / External input
	Load regulation: 0 ... nominal load	max. 0.2%, typ. <0.1%
	Internal resistance compensation	DC ... 1kHz (-3dB)
	Frequency range (no load)	DC ... 100kHz large signal bandwidth (-3dB) DC ... 300kHz small signal bandwidth (10% of range, -3dB)
	Noise at output	<5mV _{rms} (<100kHz), <10mV _{rms} (100kHz - 20MHz)
	Slew rate	SR: >20V/μs
	Adjustable current limitation	Accuracy see current measurement unit response time < 20μs
Floating output		Max. voltage between earth and amplifier output ground: 300V _{rms}
Internal control oscillator	Type	4-channel synthesizer
	Wave form	DC, Sine, Rectangle, Triangle, DC Offset, Arbitrary
	Amplitude resolution	17Bit
	Frequency range	DC ... 1MHz
	Frequency resolution	1μHz
	Frequency accuracy	25ppm
	Memory depth	1MSample
	Synth functions	ADD, AM, FM, PM
	Sequence memory	1024 steps
	External floating input	0 ... V _{ExtMax} (V _{ExtMax} is adjustable between ±2V _p ... ±25V _p)
	Digital I/O	8 digital inputs +5V _{DC} ... +24V _{DC} 8 digital outputs +5V _{DC} , I _L =40mA (external V _{CC} input: +5V _{DC} ... +24V _{DC} , I _L =500mA)

Monitoring unit ²⁾	voltage	current
<i>Max. output</i>		±10V _p
<i>Scaling factor (adjustable)</i>	0.2 ... 1000	0.1 ... 1000
<i>Bandwidth</i>	300kHz	200kHz
<i>Accuracy</i>		0.3%
<i>Noise of ADC measurement</i>	<20mV _{rms} (DC ... 300kHz)	<1.5mA _{rms} (DC ... 300kHz)
<i>Noise DAC output</i>	<0.2mV _{rms} (DC ... 300kHz)	
<i>Delay time</i>	<1µs	
<i>Output impedance</i>	220Ohm	
<i>Isolation</i>	earth / remaining electronics / each other	
<i>Protection</i>	short circuit	
Insulation resistance	>1MOhm	
Withstand voltage	>2000V _{DC}	
Ambient temperature	0°C up to 40°C	
Relative Humidity (non-condensing)	max. 80% for temperatures <31°C, decreasing linearly to 50% at 40°C	
System of protection	IP20	

LVA 7500 AMPLIFIER – OPTIONS

OPT.01	IEEE 488 Interface
OPT.02	RS 232 Interface (instead of IEEE 488 Interface)
OPT.05	Output voltage and current monitor (electrically isolated) Probe ratio free adjustable
NT.11.70S.	Symmetrical voltage range (for magnetic field tests) V:0 ... ± 70V _{DC} / I _{DC,cont} :20 A _{DC} / I _{DC,short} :25 A _{DC}
OPT.24.P.	Programmable internal resistance R:0mΩ ... 200.0mΩ / Accuracy: ±1% of range
OPT.25.	Constant current mode
OPD.	Overvoltage Protection Device

The LVA is also available as LVA 1000, LVA 2500 and LVA 5000 version.