

LVA 100 SYMMETRIC AMPLIFIER

TECHNICAL DATA

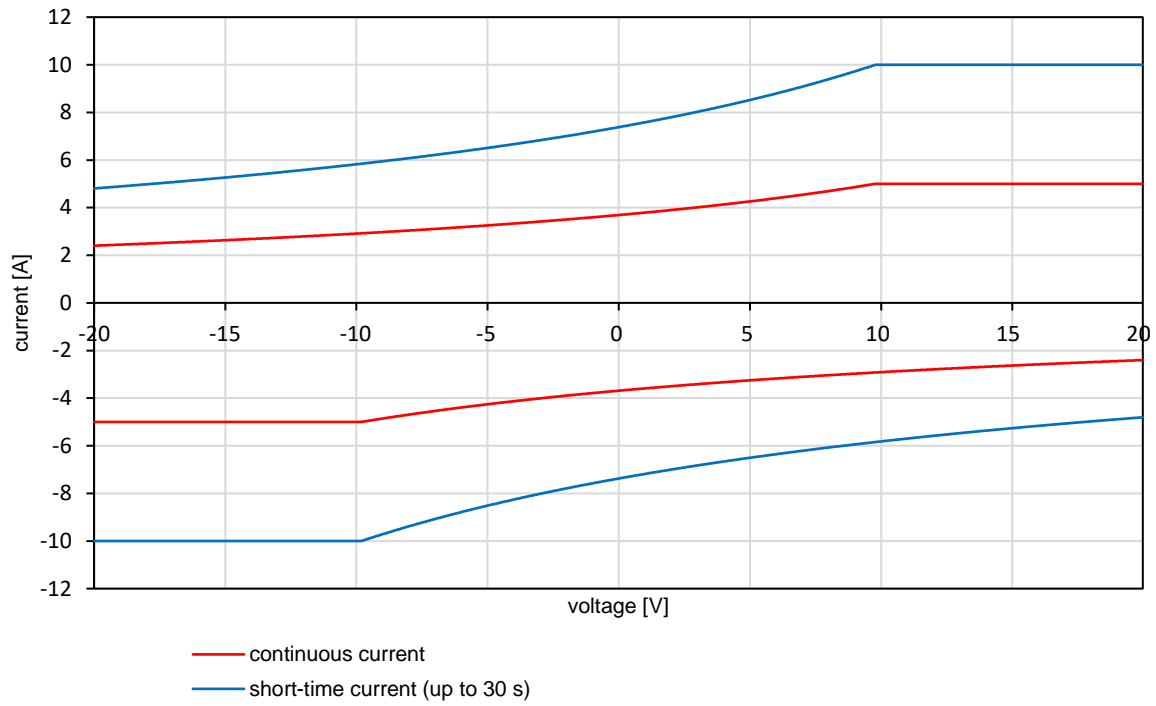
		LVA 100			
Nominal voltage range (DC) (LVA 100 is a single-range amplifier, available in four versions)		±20 V	±36 V	±54 V	±70 V
Max. continuous current capability		5 A (range depending, see diagrams)			
Max. short-time current capability (up to 30 s)		10 A (range depending, see diagrams)			
Max. peak current capability (up to 50 ms)		20 A			
Frequency bandwidth		large signal: DC ... 50 kHz (-3 dB) small signal (10%): DC ... 250 kHz (-3 dB)			
Slew rate (at resistive load = 50 Ω)		> 10 V/μs			
Rise time (at resistive load = 50 Ω)		< 2 μs			
Noise at output (RMS)		< 20 mV (< 20 MHz)			
Load regulation: 0 ... nominal load		max. 0.2 %, typ. < 0.1 %			
Protection circuits		overload / short circuit / overtemperature			
Source resistance		Ri programmable: 0 ... 500 mΩ			
Floating output		max. voltage between earth and the amplifier's ground output: < 300 V (RMS)			
Internal oscillator unit					
	Type	4-channel synthesiser			
	Wave forms	DC, sine, square, triangle, ramp, arbitrary			
	Amplitude resolution	17 Bit			
	Frequency range	DC ... 1 MHz			
	Frequency resolution	1 μHz			
	Frequency accuracy	25 ppm			
	Phase range	0° ... 360°			
	Phase resolution	0.001°			
	Memory depth	1 MSample			
	Synthesiser functions	ADD, AM, FM, PM, PWM			
	Sequence memory	1024 steps			
Internal control unit					
	Display	7.0" touchscreen (17.8 cm, resolution 800 x 480)			
	Sequencer	integrated sequences: amplitude pulse, frequency pulse (lin/log) user defined sequence memory			
	User interface	touchscreen / front panel button / incremental encoder webinterface			
	Digital I/O	8 digital DC inputs: +5 V ... +24 V 8 digital DC outputs: +5 V (internal U _{cc}), I _L = 40 mA (external DC input U _{cc} : +5 V ... +24 V, I _L = 250 mA)			
Measurement					
	Voltage measurement ranges (DC)	20 V / 40 V / 80 V			
	Voltage accuracy	DC: ±(0.5 % of reading + 0.1 % of range)			
	Peak current measurement range	20 A			
	Current accuracy	DC: ±(0.5 % of reading + 0.1 % of range)			

Interface	Ethernet 100 Mbit/s (HiSLIP SCPI) USB 2.0 Host
Synchronisation bus (<i>multiple devices</i>)	device synchronisation and internal communication optical fibre, LC duplex: - synchronised sequence start - parallel operation - only one ethernet connection required
Insulation resistance	> 1 MΩ
Peak withstand voltage (<i>max. 10 s, output to earth</i>)	> 2000 V
Cooling	temperature-controlled forced air cooling
Ambient temperature	+10 °C up to +40 °C
Storage temperature	-25 °C up to +60 °C
Relative humidity	non condensing, max. 80 % for temperature < 31 °C, decreasing linearly to 50 % at 40 °C
Ingress protection	IP20
Power supply (± 10 %, 50/60 Hz)	230 V
Line protection, connection	T4A micro fuse, Schuko
Housing	desktop unit or plug-in, colour light grey (RAL 7035)
	<i>Amplifier</i> 1/2 19", 4 U
	<i>approx. dimension (H x W x D)</i> 178 x 222 x 450 mm
Weight	<i>Amplifier (approx.)</i> 13 kg

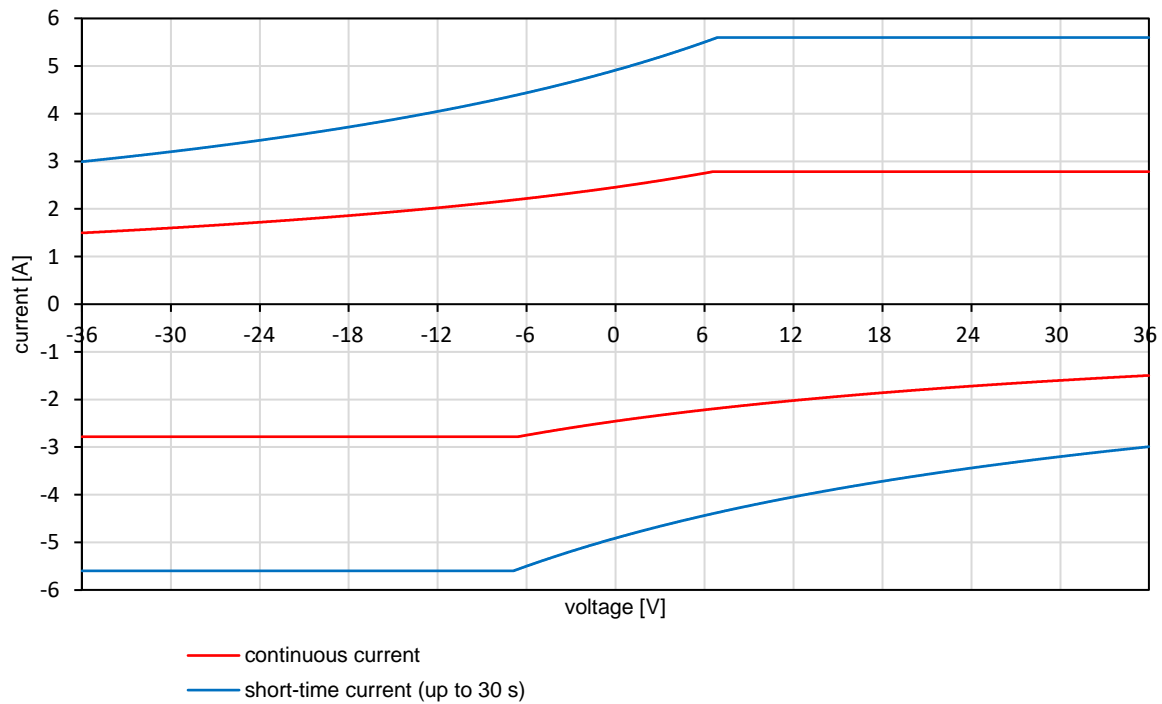
OPTIONS AND ACCESSORIES

Options			
OPT.01	IEEE488	Not in combination with OPT.02	not available
OPT.02	RS232	Not in combination with OPT.01	optional
OPT.05	U/I monitor	Galvanically isolated voltage and current measurement outputs accessible via BNC sockets (includes OPT.14)	not available
NT.11.70S	Additional voltage range	Symmetrical DC voltage range (e.g. for magnetic field tests) U: 0 ... ± 70 V	not available
OPT.14	External input	0 ... $U_{Ext\ max}$ $U_{Ext\ max}$ peak is adjustable between ± 2 V ... ± 25 V OPT.14 includes a digital low pass input filter Type Bessel or Butterworth, order 1 ... 6 (adjustable) Filter frequency selectable 100 Hz ... 10 MHz	not available
OPT.24	Programmable internal resistance	Programmable internal resistance R: 0 mΩ ... 500 mΩ / accuracy: ± 2 mΩ	included
OPT.25	Constant current mode		included
OPT.30	Optical link	Optical interface to real time simulator LC duplex interface / Aurora 8B/10B protocol / 2 Gb/s data rate	optional
OPD	Overvoltage protection device	Voltage suppression for DC voltage range: -15 V ... +20 V	not available
OPT.70	Disable sink mode of amplifier	Only in combination with option OPD	not available

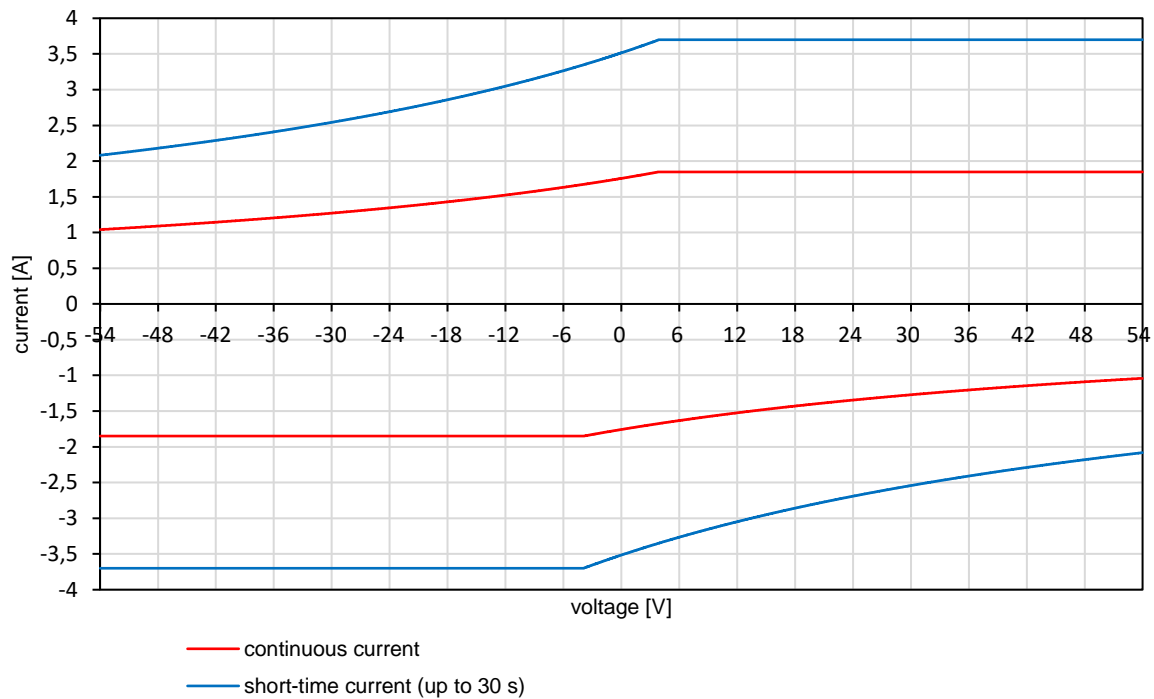
OUTPUT CURRENT CAPABILITY¹⁾ - 20 V Range



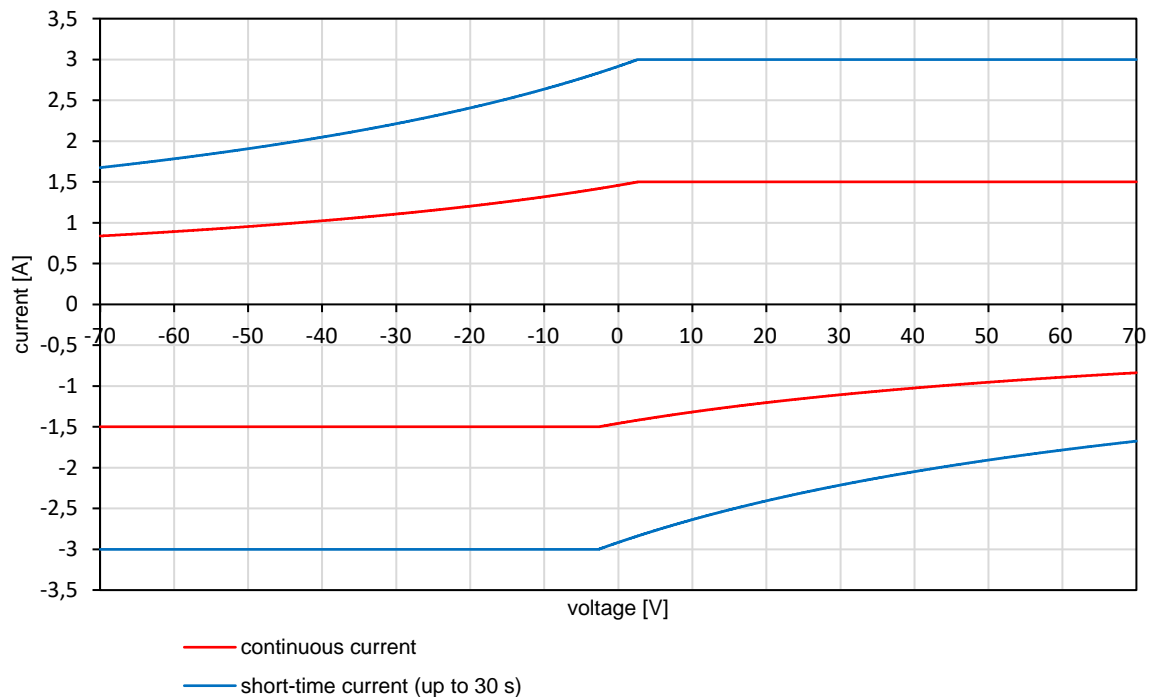
OUTPUT CURRENT CAPABILITY¹⁾ - 36 V Range



OUTPUT CURRENT CAPABILITY¹⁾ - 54 V Range



OUTPUT CURRENT CAPABILITY¹⁾ - 70 V Range



Remarks:

- Diagrams refer to a supply voltage of 230 V and 23 °C ambient temperature