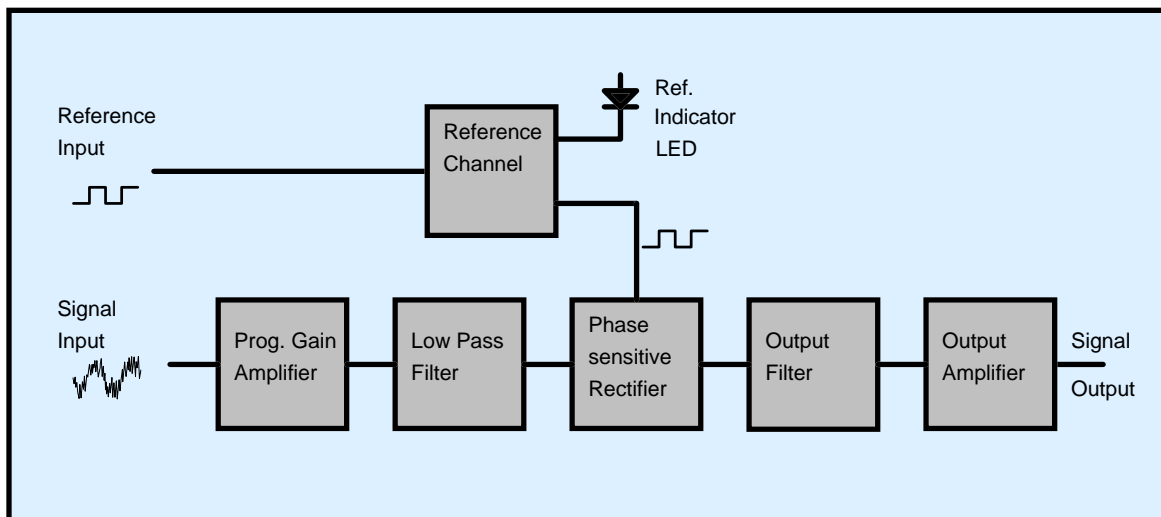


LIM-100

Lock-in Amplifier Module

- **Wide Frequency Range:** 50 Hz to >1 MHz
- **Wide Gain Range:** 2 to 200 000
- **Low Noise:** 4.5 nV/ $\sqrt{\text{Hz}}$
- **Wide Supply Voltage Range:** $\pm 5 \text{ V}$ to $\pm 12 \text{ V}$
- **Small Size:** Module for Front End Applications



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intelligent
measurement
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LIM-100

Signal Channel

Input Impedance	1M Ω / 30 pF*	
Preamplifier Gain (Switch Selectable)	100 / 1000 / 10000 or 10 / 100 / 1000 or 1 / 10 / 100	(LIM-100-100) (LIM-100-10) (LIM-100-1)
Amplifier Bandwidth (-3 dB) (Low Pass Filter set to Maximum)	Gain = 100: Gain = 1000: Gain = 10000:	50 Hz* to 5 MHz 50 Hz* to 1.5 MHz 50 Hz* to 1.1 MHz
Phase Shift at -3 dB Points	typ. 90°. To obtain correct amplitude information near the bandwidth limits provide a means for reference phase adjustment or keep away from the -3dB points by a factor of 2.	
Input Voltage Noise	100 Hz: 9 nV / $\sqrt{\text{Hz}}$ 1kHz: 6 nV / $\sqrt{\text{Hz}}$ 10kHz: 4,5 nV / $\sqrt{\text{Hz}}$	
Input Current Noise (100 Hz)	2 fA / $\sqrt{\text{Hz}}$	
Low Pass Filter (2 Ranges, Switch Selectable)	1.5 kHz to 150 kHz and 150 kHz to 5 MHz (continuously adjustable within selected range)	
Output Filter Time Constant	10 ms to 1 s (standard) 100 μ s to 10 ms (please specify*)	
Output Amplifier Gain	2 to 20 (continuously adjustable)	
Preamplifier-Out Monitor Signal	Vee + 2V to Vcc -2V, from 1 kOhm	
Output Signal	Vee + 1V to Vcc - 1V into 1 kOhm, max 20 mA	

Reference Channel

Input Impedance	50 k Ω , pull up to + 2.5 V*
Polarity (Switch Selectable)	H or L active
Threshold	TTL / CMOS
Reference Input Frequency	0 to 20 MHz
Phase Stability	< 2ns
Reference Indicator	LED
Reference Monitor Output	CMOS

Power Supply

Vcc	+5 V to +12 V
Vee	-5 V to - 12 V

Mechanical Data

Connectors	SMA
Dimensions	111 x 60 x 31 mm

* Special versions available on request, see also datasheet of LIM-100-LF

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