

496 DSP Lock-In Amplifier Module Brochure



Overview

The 496 dual channel DSP lock-in amplifier module is utilised in chopped light (AC) measurements for the purposes of signal recovery, delivering exceptional versatility and uncompromised performance.

This free running and fully automated amplifier measures both channels simultaneously whilst a display reports magnitude, phase, signal to noise ratio and frequency. Data acquisition is fully automated over the USB interface.

Core benefits

- ✓ Free running lock-in amplifier
- ✓ No user intervention required
- ✓ Two simultaneously running channels
- ✓ Signal sampling using high precision ADCs

Features

- ◆ Double width module housed within the 417/417T unit
- ◆ Front panel or USB 2.0 control
- ◆ Dual input for use with multiple detector configurations
- ◆ Digital signal processing
- ◆ Displays magnitude, phase, frequency, and SNR

496 DSP Lock-In Amplifier Module Specifications

Electrical	Model	496 DSP Lock-In Amplifier Module
	Channel 1 input	Voltage input to lock-in amplifier
	Channel 2 input	Voltage input to lock-in amplifier
	Input Range	0 to 10V
	Input Impedance	100M Ω /25pF, pseudo differential
	Reference Input	0 to 5V
	Frequency Range	10Hz - 2kHz
	Dynamic Reserve	Not applicable - digital demodulation
	Gain Ranges	Binary gain, 2-6 to 214
	Gain Accuracy	\pm 0.15%
	Gain Stability	200ppm/ $^{\circ}$ C
	Output Stability	5ppm/ $^{\circ}$ C to 500ppm/ $^{\circ}$ C depending on sensitivity
	Time Constant	10ms to 10s
	ADC Resolution	16 bit
ADC Speed	52 kHz	
Interface and Mechanical	Interface	USB via 417/417T Unit (I2C)
	Control	Front panel/ USB
	Front Panel Controlled Features	Input select, gain range select, integration time select
	Dimensions	Dual width module, 3U high
	Connector	BNC
	Display	LCD display of signal, frequency, phase, and SNR

Ordering Information

S400_496	496 DSP Lock-In Amplifier Module
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