



Optical Finesse LCC1-33

Versatile Liquid-Crystal Controller



The **LCC1-33** is a versatile, single-channel liquid-crystal controller, designed to run continuously-variable LC devices such as variable retarders, polarization switches, shutters, attenuators, and tunable color filters. LC voltages up to 33 V_{RMS} are controlled by two preset amplitude knobs. True calibrated root-mean-square (RMS) voltage amplitude readout is provided by a front-panel display.

The rugged output stage of the **LCC1-33** can drive cells up to 900 nF capacitance, and will withstand continuous shorts while recovering automatically when the short is removed. Output can be toggled between two preset amplitudes manually, or by either internal or external trigger.



Features

- 2 kHz balanced AC waveform generation up to 33 V_{RMS}
- Drives large-area cells up to 900 nF of capacitance
- Two 10-turn front-panel knobs for amplitude control
- True RMS LC output voltage readout on large 3-digit LCD or LED display
- Dual BNC and SMA connectors for LC output
- Automatic full-recovery short-circuit protection on LC output
- Switch-selectable Internal or External Modulation; Internal Modulation rates from 0.5 to 50 Hz
- RoHS compliant

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LC OUTPUT & INTERFACE

Number of LC channels	• One, with dual-connector output
Output waveform	• Bipolar DC-balanced square wave
Carrier frequency	• 2.00 ± 0.02 kHz
Amplitude range	• 0.0 to 32.0 V _{RMS} guaranteed
Amplitude control	• Two 10-turn preset amplitude knobs; toggling between amplitudes determined by operating mode
Residual DC	• < 5 mV at any amplitude level
Voltmeter display	• Calibrated 3-digit true root-mean-square measurement of LC output
Operating modes	<ul style="list-style-type: none"> • Manual toggle (External Modulation with no source connected) • Internal Modulation (toggle rate controlled by Internal Frequency knob) • External Modulation (with external source)
Internal Modulation rate	• 0.5 to 50 Hz, 50% duty cycle
External Modulation	• TTL logic-level controlled, asynchronously to 500 Hz
Drive capability	• Output can drive cells up to 900 nF capacitance
Short circuit	<ul style="list-style-type: none"> • Full-recovery short-circuit protection on LC output • Front-panel "Fault" LED will illuminate when output is shorted

PHYSICAL

Dimensions	• 4.6 in W x 6.0 in L x 1.9 in H
Weight	• 2.8 lbs (controller + power supply)
Chassis material	<ul style="list-style-type: none"> • Black anodized aluminum, rubber bottom feet • Machined aluminum front & back panels, black-anodized and laser etched
Front panel	<ul style="list-style-type: none"> • Power and Fault LEDs • Two 10-turn amplitude preset knobs • Two-position preset toggle switch (selects amplitude in manual toggle mode) • 3-digit LCD or LED voltmeter display (specify when ordering)
Back panel	<ul style="list-style-type: none"> • 50-ohm BNC female bulkhead for LC voltage output (primary) • 50-ohm SMA female bulkhead for LC voltage output (secondary) • Two-position Internal/External Modulation toggle switch • Internal Frequency knob (three-quarters turn, controls amplitude toggle rate in Internal Modulation mode) • 50-ohm BNC female bulkhead for External Modulation source • 2.1 mm power jack receptacle • 12V power ON/OFF switch
RoHS compliance	• 100% compliant (no exemptions used)
CE compliance	• Certification to FCC Class A emissions level upon special arrangement
Operating temperature	• 5 to 45° C
Power supply	<ul style="list-style-type: none"> • Separate, supplied with controller • International +12V, 18W, 100-240VAC 50-60Hz input, UL/CE listed • 2.1 x 5.5 mm center-positive plug
Warranty	• One year

In keeping with our commitment to continuous product improvement, these specifications are subject to change without notice.



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