



FLCC2-30 Ferroelectric Liquid-Crystal Controller

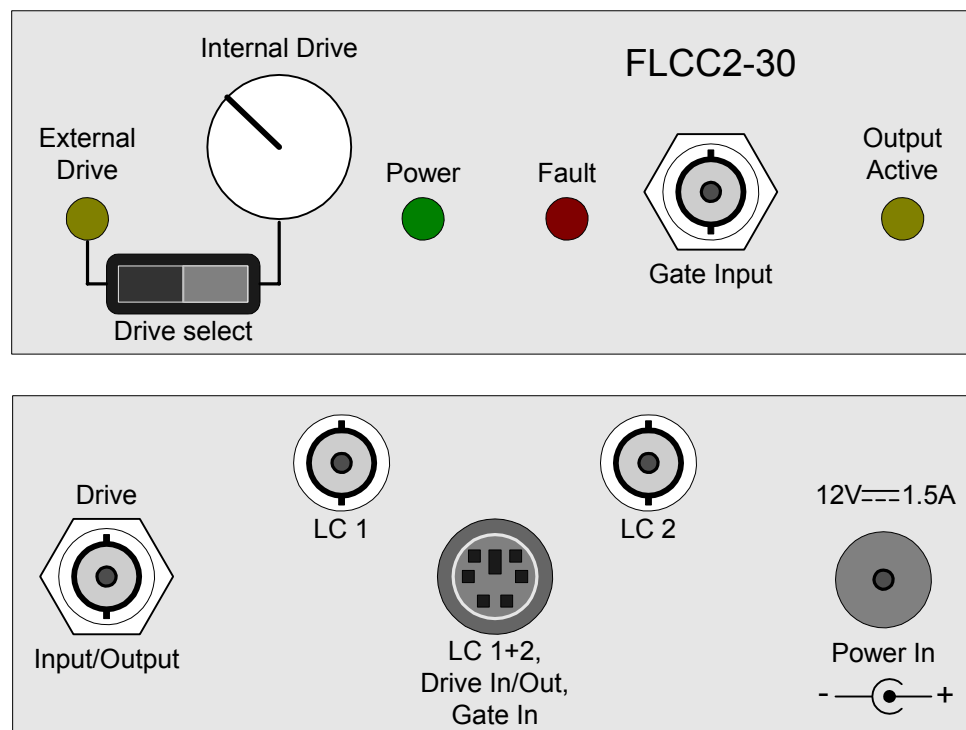
The **FLCC2-30** is a two-channel liquid-crystal controller specifically designed to drive ferroelectric liquid-crystal (FLC) devices such as the Boulder Nonlinear Systems MS series and the Micron LV series of optical shutters and polarization rotators.

The FLCC2-30 incorporates two channels driven 180 degrees out of phase and fully short-circuit protected. The pre-stored controller waveforms are optimized for FLC devices. The waveforms can be tailored by an array of four parameter switches located interior to the controller. FLC outputs are available on both mini-DIN6 and BNC connectors.

The controller is 100% RoHS compliant and is powered by a separate 12V international power supply. Custom configurations are available upon request.

Features

- Two FLC channels driven 180 degrees out of phase, with V_{RMS} amplitudes up to 31.6V
- Optimized waveforms for driving FLC devices
- Drives large-area cells up to 650 nF capacitance per channel
- Switch-selectable External or Internal Drive; Internal Drive rates from 1 Hz to 10 kHz
- Compact, rugged, lightweight 5.3 x 5.3 x 2 in. form factor
- RoHS compliant





LC OUTPUT & INTERFACE

Number of LC channels	Two, running identical programs 180 degrees out of phase
Output waveform	Bipolar $\pm 15V$ peak voltage, $\pm 5V$ holding voltage; waveform can be modified by FLC program parameter switches
Amplitude resolution	16-bit; 1 mV voltage resolution
Residual DC	Less than 2 mV at any output
Drive capability	Each channel can drive cells up to 650 nF capacitance
Short circuit	- Full-recovery short-circuit protection on both LC channels - Front-panel "Fault" LED will illuminate when channel is shorted
Operating modes (switch-selectable)	- Internal Drive mode: FLC frequency set by front-panel knob - External Drive mode: FLC frequency set by external signal
Internal Drive	1 to 10,000 Hz, 50% duty cycle, frequency controlled by front-panel 10-turn knob, range set by three-position parameter switch. Internal Drive TTL signal can be optionally routed to Drive BNC bulkhead
External Drive	TTL logic-level controlled (arbitrary duty cycle), asynchronously to 20 kHz. Logic HI = positive negative waveform on LC 1 2, logic LO = negative positive waveform on LC 1 2
FLC program parameters switches (interior to controller)	- One three-position slider switch (sets Internal Drive freq range) - One 10-position rotary DIP switch - Two two-position slider switches

PHYSICAL

Dimensions	5.3 in W x 5.3 in L x 2.0 in H (13.5 cm W x 13.5 cm L x 5.1 cm H)
Weight	- 0.8 lbs (0.4 kg) controller alone - 1.6 lbs (0.7 kg) controller + power supply
Chassis material	- Black ABS plastic - Machined aluminum front & back panels, black-anodized and laser-etched
Front panel	- Two-position External/Internal Drive toggle switch - 10-turn Internal Drive frequency knob - Power and Fault LED's; External Drive and Output Active LED's - 50-ohm BNC female bulkhead for Gate Input (logic LO holds LC outputs at zero volts regardless of drive select or signal)
Back panel	- 50-ohm BNC female bulkhead for Drive Input/Output - Mini-DIN6 connector and two 50-ohm BNC female bulkheads for LC outputs (mini-DIN6 also routes Drive Input/Output & Gate In) - 2.1 mm power jack receptacle
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 (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.