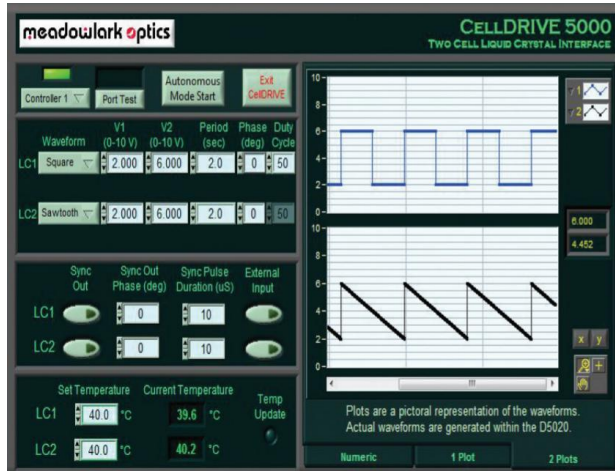


## Liquid Crystal Digital Interface – D5020

The D5020 Liquid Crystal Digital Interface is the next generation in the evolution of Meadowlark Optics Liquid Crystal Controllers. The Digital Controller is designed for user functionality and productivity. The D5020 provides a “set and go” function that allows the controller to run autonomously without a computer.



CellDRIVE 5000 User Interface

Controlling multiple Liquid Crystal cells has never been easier. CellDRIVE 5000 software provides a separate sync output for each channel as well as temperature sensing and control on both channels. The 2 kHz square wave output can be amplitude modulated with included sinusoidal, square, triangle, sawtooth and transient nematic effect waveforms, or arbitrarily via external voltage input.

### D5020 Package:

- D5020 Controller Unit
- Front Panel SMB I/O Connectors
- User Manual
- USB Cable
- Power Supply and Power Cable
- Temperature Sensing and Control capability
- CellDRIVE 5000 Software
- National Instruments LabVIEW™ virtual Instrument Drivers



### Key Features

• • •

Two channels of voltage and temperature sensing & control (TSC)

USB powered (unless using TSC)

Waveforms generated internally

Independent SMB I/O Connectors for each channel

Multiple external control options

Includes C++, LabVIEW™, MATLAB™, and Python code examples

### Liquid Crystal Suite

• • •

#### Variable Retarders

Liquid Crystal Variable Retarder

UV Variable Retarder

MWIR Variable Retarder

OEM LCVR

#### Rotators

Achromatic High Speed Rotator

Binary Rotator

Polarization Rotator

#### Shutters / Attenuators

Achromatic High Speed Shutter

High Contrast Shutter

Variable Attenuator

#### Controllers

Analog Controller

FLC Controller

LC Digital Interface Controller

Temperature Controller

Two Channel High Voltage Controller



## SPECIFICATIONS

<b>Fundamental Drive Waveform</b>	2 kHz AC square wave
<b>Modulation Amplitude</b>	0 – 10 Vrms (20 Vrms option available)
<b>Modulation Resolution</b>	1 mV (0.155 mV using LabVIEW™ subroutines)
<b>DC Offset</b>	< 5 mV
<b>Communications Interface</b>	USB
<b>LC Cell to Controller Connections</b>	SMA – SMB, 2 m cable length
<b>CE Compliant</b>	
<b>Dimensions (L x W x H)</b>	5.50 x 5.25 x 1.63 in.
<b>Weight</b>	1.8 lbs. (with cables)
<b>Modulation Waveforms</b>	External modulation Input (0 - 5 V) Sinusoidal Triangle Square Sawtooth Transient nematic effect
<b>Temperature Control (2 Channels)</b>	Active heating/passive cooling within $\pm 1^\circ\text{C}$ of nominal set point
<b>Sync Output</b>	TTL, user specified timing and phase
<b>System Requirements:</b> Windows™ 10 or 11 Requires LabVIEW™ version 2010 or higher for use with LabVIEW™ Requires MATLAB™ version R2021 or higher for use with MATLAB™. instrument Library	

## ORDERING INFORMATION

<i>Item</i>	<i>Part Number</i>
LC Digital Interface	D5020
LC Digital Interface (20V rms)	D5020-20V
SMA to SMB Cables	SMA-SMB
Sync Cables (SMB to BNC)	SMB-BNC

Please contact a sales engineer for more information.