

Hello Optotune Lens

Labview Instructions

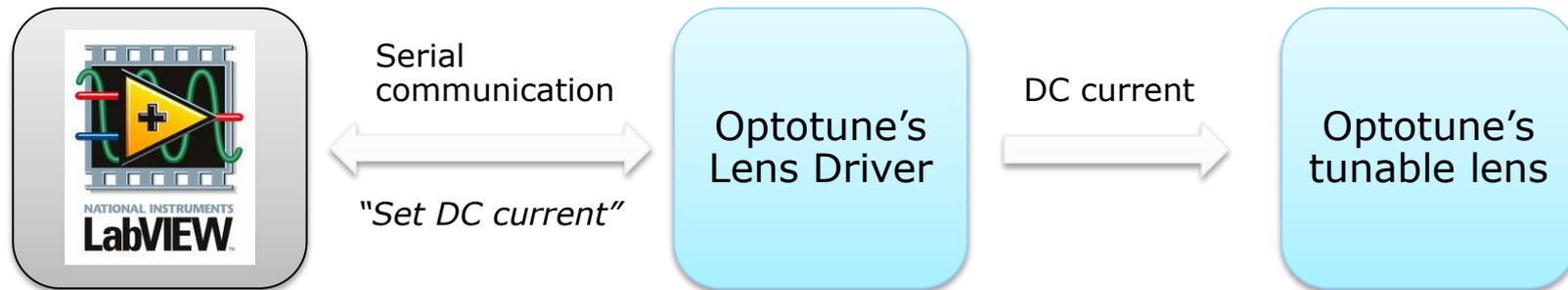
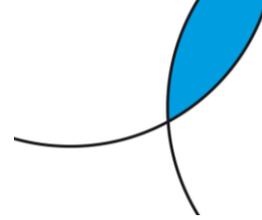
shaping the future of optics



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Application Engineer

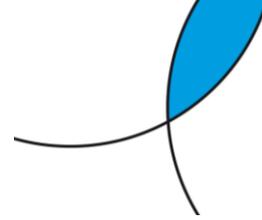
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Overview



- The project "Hello Optotune lens" is created in Labview 2013 SP1
- The project demonstrates how to set a DC current given in mA to Optotune's tunable lens
- All Labview functions that are needed are included in the basic Labview package
- Communication is done via standard VISA port
- Contact sales@optotune.com for technical support

Front Panel

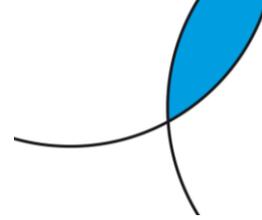


The front panel is divided into several functional sections:

- Configuration (Left):** Includes a 'VISA resource name' field set to 'COM4', an 'ID' field set to '0', and an 'error in (no error)' status indicator showing a green checkmark and 'code' '0'. A 'stop' button with a red 'X' and 'STOP VI' text is located at the bottom left.
- Calibration (Top Left):** A vertical stack of controls for 'Calibration' values: Max Current A (293 mA), Max Current B (293 mA), UCL A (300 mA), LCL A (0 mA), UCL B (300 mA), and LCL B (0 mA).
- Control (Middle):** Features a 'Read Temperature' button labeled 'READ TEMP', a 'Current Ch A (mA)' field set to '200', a 'Send command' button labeled 'SEND', and a 'Command to Port' field containing the hex string 'Aw'.
- Monitoring (Right):** Contains a 'VISA resource name out' field set to 'COM4', a 'Data' field, an 'error out' status indicator with a green checkmark and 'code' '1073676294', and a 'Calibration 2' section with values: Max Current A (292.84 mA), Max Current B (292.84 mA), UCL A (292.769 mA), LCL A (0 mA), UCL B (292.769 mA), and LCL B (0 mA). A temperature display shows 'TA (°C)' as '29.25'.

Annotations with arrows point to specific elements:

- 'Choose correct COM port' points to the 'VISA resource name' field.
- 'Set Calibration values' points to the 'Calibration' section.
- 'Read Temperature from Sensor' points to the 'READ TEMP' button.
- 'Set current in mA to Channel A' points to the 'Current Ch A (mA)' field.
- 'Sent actual current value' points to the 'SEND' button.
- 'Command in correct byte format that is sent to the Lens Driver (see code for details)' points to the 'Command to Port' field.
- 'If answer exists from Lens Driver it is displayed here' points to the 'Data' field.
- 'Response from Read Temperature in degree celsius' points to the 'TA (°C)' display.
- 'Stop application' points to the 'STOP VI' button.



- The code illustrates the basic steps required to communicate with the Lens Driver via serial port
- Concept: open port – initialize Lens Driver – send example command – close port
- **“Write Read Lens Driver” vi** implements communication at basic level
- Type casting important to interpret command from user into byte command to Lens Driver
- Complete serial communication protocol can be obtained from Optotune
- More detailed documentation is given directly in the code

