

Lambda 10-B OPTICAL FILTER CHANGER

SUTTER INSTRUMENT



The Lambda 10-B is a high performance, microprocessor-controlled filter wheel for imaging applications requiring a single filter wheel. The latest release in Sutter's optical filter changer product line, the Lambda 10-B, uses recent advances in motor technology to achieve switching times of 40msec between adjacent filters. When used with the high-speed 4 position wheels, the Lambda 10-B achieves switching times of less than 31msec. It features both USB and serial port interfaces as well as keypad control. The Lambda 10-B is capable of controlling both the SmartShutter™ as well as the Uniblitz® shutter. The Lambda 10-B is a low-cost alternative and ideal for imaging applications requiring a single filter wheel. The Lambda 10-B can operate with switching times as brief as 40msec with our standard 25mm filter wheel as well as our 32mm wheel. The user can select from seven speeds, allowing the speed to be adjusted in accordance with the load of the wheel. Except for the 4 position compact wheel, our filter wheels employ a direct drive system: a feature that prevents belt slippage or backlash. An optional shutter installation is also available. Filter selection can be made directly from the keypad or from a computer via the serial or USB port. The Lambda 10-B controller determines the shortest route to the selected filter and an acceleration/deceleration algorithm minimizes vibrations during the movement of the wheel. The current filter position is displayed on the front panel. Inter-nal sensors monitor the position of the filter wheel to insure that the correct filter is in place. The drive uses switching mode current regulation, which is more economical than the linear supply of the Lambda 10-2. Although this is not a problem with most imaging

applications, the Lambda 10-2 may be more appropriate for systems where electrophysiology is performed. Both serial and USB input ports are provided to allow complete and easy control from a remote computer. The serial port accepts RS232 level signals through a DB-9 connector. USB input is made through a standard connector and can be directly connected to a USB port. The Lambda 10-B's USB port interface supports multiple USB devices simultaneously, allowing a user to run in tandem as many units as USB ports. The universal power supply will automatically switch to accommodate local line voltage.

OPTIONS:

The basic system for the Lambda 10-B includes our popular 10 position 25mm filter wheel. A significant advantage of the Lambda 10-B controller is that it can accommodate a variety of Sutter filter wheels to suit your particular requirements. The controller will automatically detect and determine the model of wheel installed and adjust for the number of positions and filter size. Our 32mm wheel was designed to remedy the problem of vignetting that may occur with a 25mm filter format in certain microscope systems, and can achieve the same 40msec switching times as our 25mm wheel.

For applications requiring a larger aperture opening, there is a 5 position 50mm filter wheel. If additional speed is required, we offer a high-speed, 4 position 25mm wheel which is capable of achieving 31msec switching times between adjacent filters. An optional liquid light guide is available for applications requiring absolute vibration isolation, and/or spatial uniformity independent of wavelength. The Lambda 10-B is also capable of controlling either the SmartShutter™ or the Uniblitz shutter.

Features

- 40 msec between adjacent filters (10 position wheel)
- 31 msec between adjacent filters (4 position wheel)
- Serial and USB interfaces
- Can control a variety of 25mm, 32mm and 50mm wheels
- Controls one wheel and one optional shutter or two Smartshutters™
- Can accommodate Smartshutter and Uniblitz® shutter
- Command set compatible with Lambda 10-C
- Chopper drives
- Universal power supply

Dimensions of Control Box

14.9 cm x 20.8 cm x 13 cm

Weight

11kg

Electrical

100/240 V

50/60 Hz power line, 75 W max.

SYSTEMS

Controller

LB10-B/IQ Includes one Lambda 10-B controller unit, serial and USB cables, power cable and manual

25mm Filter Wheels – 10 positions

LB10-NW 10 positions 25mm filter wheel without shutter

LB10-NW1Q 10 positions 25mm filter wheel with *SmartShutter*™

LB10-NWS 10 positions 25mm filter wheel with Uniblitz® shutter

LB10-NWE 10 positions 25mm filter wheel set up for emission

25mm Dual Filter Wheels

LB10-WD Back to back mounting of two 25mm filter wheels without shutter. No drop-in filter holders

LB10-WDIQ Back to back mounting of two 25mm filter wheels with *SmartShutter*™ and one slide-in filter holder

LB10-WDS Back to back mounting of two 25mm filter wheels with one Uniblitz® shutter and one slide-in filter holder

50mm Filter Wheels – 5 positions

LB10-W50 5 positions 50mm filter wheel without shutter

25mm Filter Wheels – 4 positions

LB10-WHS4 4 positions 25mm filter wheel without shutter

LB10-WHS4IQ 4 positions 25mm filter wheel with *SmartShutter*™

LB10-WHS4E 4 positions 25mm filter wheel set up for emission

32mm Filter Wheels – 10 positions

LB10-W32 10 positions 32mm filter wheel without shutter

LB10-W32IQ 10 positions 32mm filter wheel with *SmartShutter*™

LB10-W32S 10 positions 32mm filter wheel with Uniblitz® shutter

Specialty Wheels

LB10-W12 10 positions 12.5mm filter wheel without shutter

LB4-W Belt drive 4 positions 25mm filter wheel without shutter

SmartShutter™ systems see on *SmartShutter*™-page.

Mounting Adapters for Nikon, Zeiss, Leica and Olympus microscopes are available.