LAMBDA SC
*SMART*SHUTTER™ CONTROLLER

(Shown with IQ35-SA and stand)

The **Lambda SC** is a full-featured microprocessor controlled shutter driver for the ***Smart*Shutter™**. It supports the same shutter command set used for our other Lambda controllers and offers enhanced performance through additional modes of operation. The additional operating modes allow programmable control over the exposure time, and the delay between trigger and shutter opening.

In the Lambda 10 family of filter wheel controllers, shutter timing is controlled directly by the time of occurrence of commands or TTL input. In most cases, the system software used with these controllers has provisions for controlling the timing of the shutter. The **Lambda SC** shutter controller may be used in applications that would benefit from enhanced control options built into the controller. The controller can operated remotely from a computer through the USB port, or opened and closed using a logic level input.

In the free running mode, the shutter will open and close repeatedly. The time between closing and reopening can either be directly timed, or set as an interval for the entire cycle. Delay and exposure intervals can be set by the user for up to 5 hours with millisecond resolution. This mode can be set to continuously run or loop for a specific number of cycles. The mode is initiated from power up, or a trigger pulse, and can be interrupted by using a stop command.

Because the ***Smart*Shutter** incorporates a microprocessor controlled motor/wiper design, the trajectory of each move can be controlled and the motion of the blade optimized for speed or for smoothness. When speed is the most important condition, the user can select the fast mode. If the modest amount of vibration in the fast mode is objectionable and speed is not important, the "soft" mode can be selected, moving the blade slower through the overall travel.

The neutral density mode results in a partial opening of the ***Smart*Shutter**. Any one of the 144 steps from a fully closed to fully open can be selected. Using this variable aperture opening along with a liquid light guide acts to spatially homogenize the light to produce a uniform spatial illumination that's independent of the geometry of the input illumination.

**FEATURES
> LAMBDA SC**

Microprocessor based controller

Serial, USB and TTL interfaces

User can produce a variable aperture by selecting the degree of shutter opening

"Soft" action mode provides minimum vibration

TTL activation of the shutter can be set to high, low, or Toggle on rising/falling edge

Programmable delay and exposure intervals of up to 5 hours with millisecond resolution

Commands can run continuously or loop a specified number of times

Programmable delayed sync out

Universal power supply

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**FEATURES
> *SMART*SHUTTER™**

Robust design

Life tested to 100 million cycles

Modular repairable design

Opening time 8msec from trigger (for 25mm and 35mm versions)

Continuous operation frequencies as high as 40Hz

Stand-alone or use with Sutter filter wheel

Mountable in **Lambda LS** and **Lambda DG-4/DG-5**