New LED System for Fluorescence Microscopy

The use of LED's as an excitation source for fluorescence microscopy offers a range of advantages over conventional illumination systems. The new LumenLED system from Prior Scientific goes even further with the introduction of new functionality which brings the technology into mainstream fluorescence microscopy.

LumenLED offers two modes of operation which means the LED's can be optimised for specific applications. In Constant Light Mode, a photodiode is used to provide a closed loop feedback mechanism to ensure long term stability of illumination intensity, essential for FRET applications for example. For more general imaging applications, Constant Current Mode is available to assure maximum illumination intensity.

A choice of up to 10 LED modules are currently available which are mounted in either a 2 position or a 4 position combiner providing either 2 or up to 4 LED wavelengths. In addition, the combiner is coupled directly to the microscope to avoid light loss associated with fibre guides and to ensure maximum light efficiency. LED modules are exchanged in a matter of seconds so it's very easy to modify the illumination source to match your applications. Of course, fast shuttering comes standard thanks to the nature of LED's and a 10,000+ hour lifetime eliminates the need for bulb replacement and alignment while minimising operating costs.

Imaging software that already supports Prior's filter wheels and shutters can be used to operate the LumenLED using a compatibility mode whereby the LED system emulates a filter wheel and shutter. However, an advanced SDK is also provided to facilitate software integration where more advanced features may be required.

LumenLED can also be used alongside Prior's wide range of microscope automation accessories providing the most comprehensive and versatile automation solutions.

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