

# X-Cite®

Fluorescence Illumination • In Control

## X-Cite TURBO

### Powerful LED Illumination Solution for all Your Fluorophores

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LaserLED Hybrid Drive™ for maximum excitation  
output and uniformity

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High power, multi-wavelength fluorescence illumination

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Simple controls to advanced triggering

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Instant ON/OFF and fast color-switching

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**EXCELITAS**  
TECHNOLOGIES®

X-Cite  
provid  
simult

Leading the next generation of fluorescence illuminators is the X-Cite TURBO with our innovative LaserLED Hybrid Drive. This multi-wavelength, powerful LED illumination solution provides six fast-switching channels and fine intensity control with exceptional uniformity to excite all of your fluorophores ranging from DAPI to Cy5.



### All Colors in a Single Unit

X-Cite TURBO enables individual or simultaneous excitation of fluorophores ranging from DAPI to Cy5. With the ability to use up to six high-powered LEDs with fine excitation control, users are able to balance illumination intensity individually between channels while protecting samples against photodamage. In fixed cell imaging, users can excite the common dyes used including DAPI, FITC, Cy3 and Cy5. For those imaging live cells or animals, TURBO can excite CFP, GFP, YFP, mCherry or mStrawberry, all by simply switching the available six LEDs with a single push of a button.

### Easy Operation & Low Maintenance

X-Cite TURBO redefines ease and convenience in fluorescence excitation. Designed with intuitive controls and no bulbs or modules to install, set-up and operation has never been simpler. Along with the intrinsic benefits of LED technology such as high power, long lifetimes, mercury-free operation, virtually zero maintenance, and instant ON/OFF capabilities, X-Cite TURBO lets you focus on your experiments instead of equipment maintenance.

### Wavelength Specificity & Fast Switching

X-Cite TURBO allows filtering of excitation light before it enters the light guide which enables the use to define the exact bandwidth of light desired to reach the fluorophore for maximum excitation efficiency. This capability also enables fast switching of excitation light for high throughput or live cell imaging without having to rely on the speed of a filter wheel.

### Exceptional Uniformity & Illumination Stability

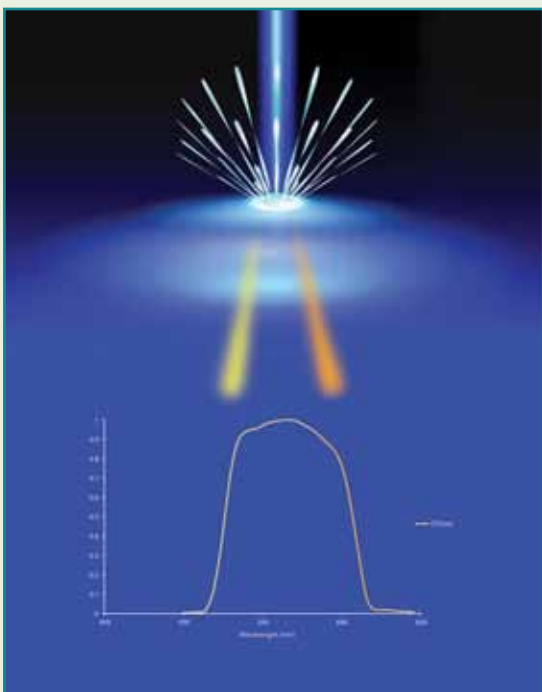
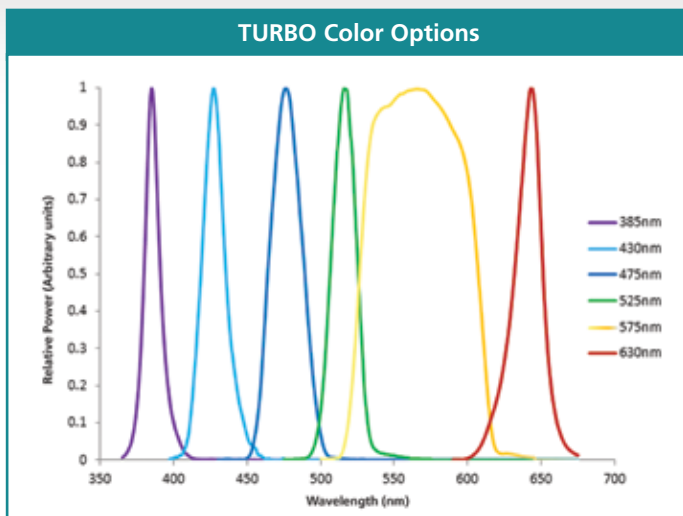
Using a liquid light guide as the form of light delivery along with our optimized microscope adaptors and efficient thermal management, X-Cite TURBO provides uniform and stable excitation to all regions of your sample. Thus, researchers can be reassured that any variation in fluorescence signal is created by specific staining of targets in the sample itself and not the light source.

# TURBO powered by LaserLED Hybrid Drive™

Provides a range of wavelengths to allow individual or simultaneous excitation of a variety of fluorophores.

## Variety of Control Options

X-Cite TURBO can be controlled in several ways based on the application. The ergonomic and popular speedDIAL allows LED instant ON/OFF, as well as fine intensity control of individual LEDs. LEDs can be used one at a time or in any combination possible. The system can also be controlled via TTL to turn each LED ON and OFF as required by the imaging experiment. Intensity of each LED can also be controlled via analog signals or through USB with a variety of popular software, or by simply sending hyperterminal commands to the unit. All cables required for the various control options come included with the system. For advanced applications or custom software, an SDK is available upon request.



## LaserLED Hybrid Drive

Using our proprietary optical design, the TURBO LaserLED Hybrid Drive combines the best of two technologies — LED and Laser Phosphor Illumination — to generate powerful solid-state light output.

- Using our patent-pending LaserLED Hybrid Drive, X-Cite TURBO provides maximum excitation power even in the challenging yellow band wavelengths where other LED-only systems fall short.
- The broad Laser Phosphor yellow band allows users to fine tune their red fluorophore excitation with the broadest range of excitation filter options.
- No laser light emits from the unit, so the user can rest assured that their samples are protected.

This new innovation represents our continued commitment to develop advanced technology that provides researchers with a powerful LED solution suitable for fluorescence microscopy.

## TECHNICAL SPECIFICATIONS

<b>TURBO package includes:</b>	X-Cite TURBO unit, speedDIAL remote, 3mm x 1500mm liquid light guide, accessory kit (hex key, USB cable, filter holder screws, trigger cable, power bar & cord), microscope adaptor
<b>Wavelengths (usable range)</b>	385nm (375-400nm) 430nm (410-450nm) 475nm (460-495nm) 525nm (500-520nm) 575nm (525-610nm) 630nm (615-660nm)
<b>Excitation Filters</b>	Accommodates standard 25mm diameter filters, with 3-5mm frames; filters not included
<b>External Power Supply</b>	Universal input 100-240VAC, 50/60Hz
<b>Power Consumption</b>	156W (with all LEDs on)
<b>LED ON/OFF Response Times</b>	<100µs TTL / 1ms USB
<b>Acoustic Noise</b>	49 dB
<b>Optical Stability</b>	Wavelength dependent, ≤5% at 22°C ambient
<b>Control Options</b>	ON/OFF I/O- TTL compatible, typical 800µA Intensity I/O – Analog, 1-5V, maximum 500µA RS-232 commands (SDK available), USB
<b>I/O Connections</b>	DB25 to 12x BNC (6 TTL, 6 Analog) USB (B-type)
<b>Dimensions</b>	110mm x 260mm x 230mm (W x H x D)
<b>Weight</b>	4.5 kg
<b>Certifications</b>	RoHS, CE
<b>Warranty</b>	LEDs – 15,000 hours or 3 years All other components - 1 year, parts and labor



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