

# pE-300 Series

## Microscopy Illumination



A range of LED Illumination systems for  
Fluorescence, Optogenetics, Electrophysiology  
and high speed microscopy applications

**CoolLED**  
Simply Better Control



[www.CoolLED.com](http://www.CoolLED.com)

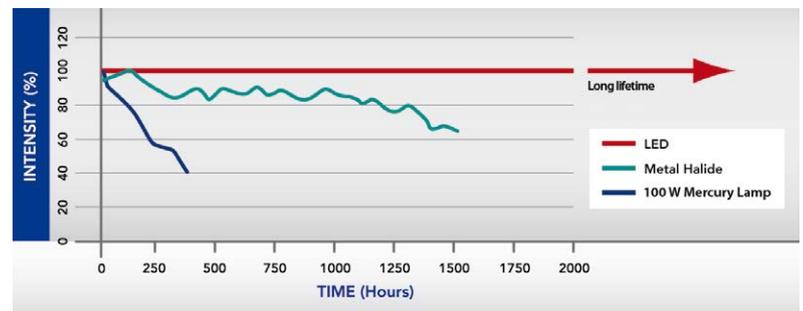
# pE-300 Series

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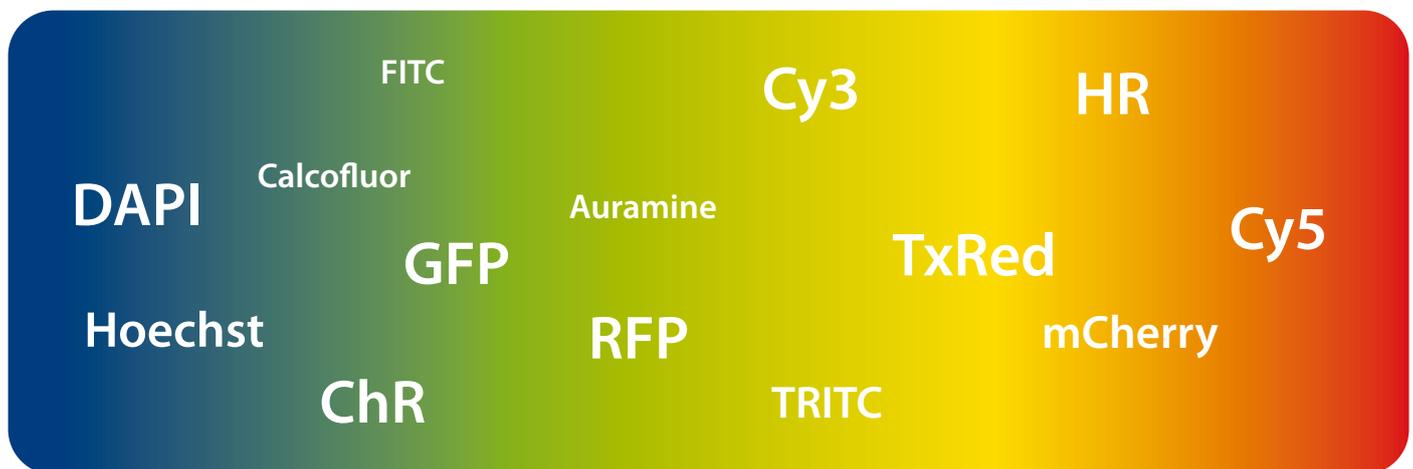
### LEDs last longer

Intensity from a conventional lamp decreases through its life, which means that illumination varies dramatically over time. The lifetime of LEDs far exceeds that of these older lamps, and intensity remains broadly constant throughout its life providing a stable, repeatable light source.



## pE-300 Series for Fluorescence

Some of the many fluorophores excited by the pE-300 Series



## pE-300<sup>lite</sup> - Simple White Light

Designed to fit most microscopes, the pE-300<sup>lite</sup> is a compact system at a cost which makes it accessible to all.

Simple to buy: Configured for your everyday fluorophores such as DAPI, FITC, TRITC & Cy5 and affordable through your lab consumables budget.

Simple to fit: Direct fit means the pE-300<sup>lite</sup> just attaches straight onto your microscope's epi-fluorescence port in seconds with a once-only simple adjustment that optimises the light output for your microscope.

Simple to use: Instant On/Off with the ability to optimise intensity and minimise sample damage via the simple desktop Control Pod.

The pE-300<sup>lite</sup>: Simple White Light – simple to buy, fit and use.

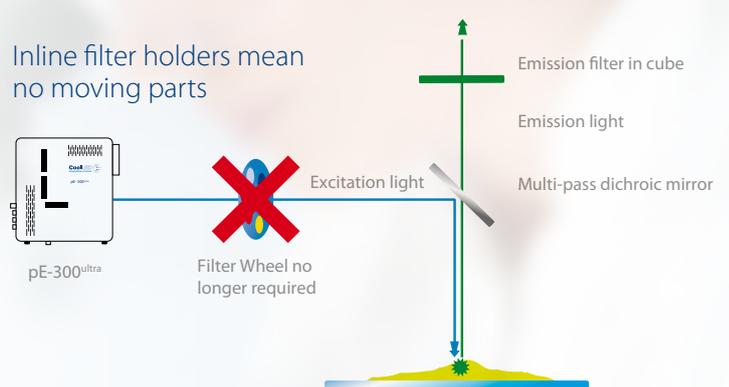
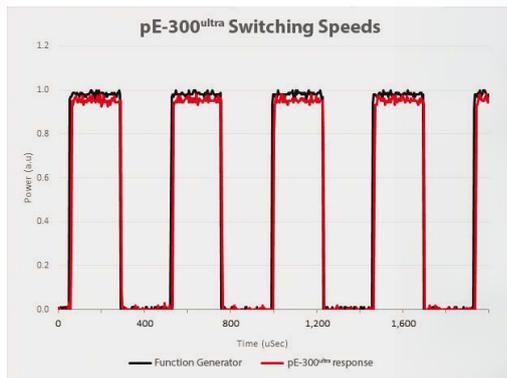
# pE-300<sup>white</sup> - Everyday Controllable Illumination

The pE-300<sup>white</sup> adds greater control options to the platform.

The 3-channel control pod allows selection and control of excitation wavelength: whether it's to balance your FITC against your TRITC or to minimise bleaching by exciting only the markers you are working with today. Support from popular imaging software provides integrated control with your imaging set up time after time.

An additional benefit of the pE-300<sup>white</sup> is that stains can be viewed either individually or in combination, without filter cube changes. This makes it ideal for use with multi-band filter sets as the screening process can be simplified when fewer filter cubes are used. Independent control of the three LED channels means that the user can control the level of excitation of each fluorescent stain independently on a multi-stained sample, potentially removing the need for single band filter sets altogether.

# pE-300<sup>ultra</sup> - Fast Controllable Illumination



The pE-300<sup>ultra</sup> is the most controllable member of the pE-300 Series. In addition to the great features of the pE-300<sup>lite</sup> and the pE-300<sup>white</sup>, it offers precise control over wavelength, intensity and shuttering. Up to now these benefits have only been accessible to users of high end, highly sophisticated illuminators such as the CoolLED pE-4000.

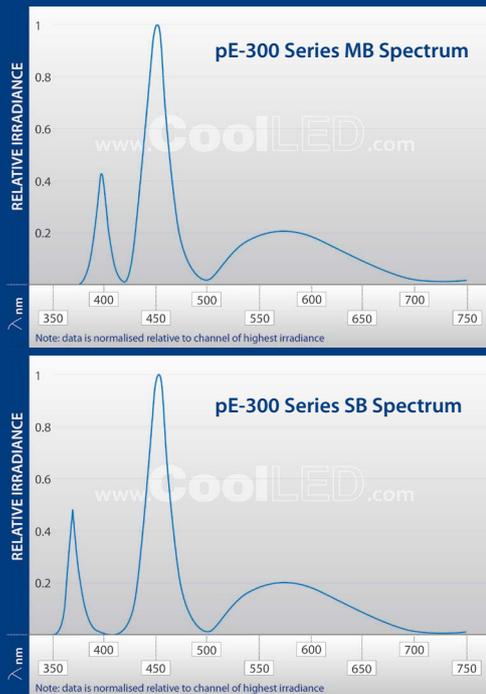
Triggering multiple TTL inputs coupled with the ability to mount inline excitation filters provides microsecond switching of pre-filtered excitation light. This, when paired with today's high performance multi band filter sets, facilitates imaging traditionally done via a white light source and a filter wheel, with all the benefits of LEDs, and most excitingly at speeds not previously so affordable.

An additional feature of the pE-300<sup>ultra</sup> is that it includes CoolLED's **"Sequence Runner"** multiple channel excitation mode. Users can define the order of their fluorophore capture using their pE-300<sup>ultra</sup> Control Pod, then the pE-300<sup>ultra</sup> light source can accept a single TTL output from the experiment set-up's camera to initiate the step-through of a sequence of excitation channels. This feature is independent of the individual channel TTL inputs on the light source. This offers users the facility to run through a sequence of excitation channels using a camera which has only a single TTL-out.

Features	pE-300 <sup>lite</sup>	pE-300 <sup>white</sup>	pE-300 <sup>ultra</sup>
Broad spectrum	☞	☞	☞
Simple to fit and use	☞	☞	☞
Instant on/off	☞	☞	☞
No bulb replacement	☞	☞	☞
Direct or Light Guide delivery options	☞	☞	☞
Long lifetime	☞	☞	☞
Stable & Repeatable - 0-100% intensity control	☞	☞	☞
Filter set compatibility	☞	☞	☞
Mercury free	☞	☞	☞
Individual channel intensity control		☞	☞
Individual channel selection		☞	☞
Integration with imaging software		☞	☞
Global remote triggering (TTL, microsecond)		☞	☞
Individual channel triggering (TTL, microsecond)			☞
Removable inline filter holders			☞
Sequence Runner			☞

# Specification

## Performance:



A microscope which is populated with a number of single band ("SB") filter sets will typically have DAPI excitation at 365 nm and a microscope with multi-band ("MB") filter(s) has excitation at 400 nm. The user can specify the configuration which is appropriate for their microscope.

## To Order

- pE-300-LT-D-SB-YYY-ZZ:** pE-300<sup>lite</sup> Illumination System. Direct fit single band filter configuration. Includes Light Source, Control Pod, Power Supply, YYY Adaptor & ZZ Plug
- pE-300-LT-D-MB-YYY-ZZ:** pE-300<sup>lite</sup> Illumination System. Direct fit multi-band filter configuration. Includes Light Source, Control Pod, Power Supply, YYY Adaptor & ZZ Plug
- pE-300-LT-L-SB-ZZ:** pE-300<sup>lite</sup> Illumination System. For use with 3mm Liquid Light Guide. Single-band filter configuration. Includes Light Source, Control Pod, Power Supply & ZZ Plug
- pE-300-LT-L-MB-ZZ:** pE-300<sup>lite</sup> Illumination System. For use with 3mm Liquid Light Guide. Multi-band filter configuration. Includes Light Source, Control Pod, Power Supply & ZZ Plug
- pE-300-W-D-SB-YYY-ZZ:** pE-300<sup>white</sup> Illumination System. Direct fit single band filter configuration. Includes Light Source, Control Pod, Power Supply, YYY Adaptor & ZZ Plug
- pE-300-W-D-MB-YYY-ZZ:** pE-300<sup>white</sup> Illumination System. Direct fit multi-band filter configuration. Includes Light Source, Control Pod, Power Supply, YYY Adaptor & ZZ Plug
- pE-300-W-L-SB-ZZ:** pE-300<sup>white</sup> Illumination System. For use with 3mm Liquid Light Guide. Single-band filter configuration. Includes Light Source, Control Pod, Power Supply & ZZ Plug
- pE-300-W-L-MB-ZZ:** pE-300<sup>white</sup> Illumination System. For use with 3mm Liquid Light Guide. Multi-band filter configuration. Includes Light Source, Control Pod, Power Supply & ZZ Plug

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**Distributor:**  
**AHF analysentechnik AG**  
 Kohlplattenweg 18  
 DE-72074 Tübingen, Germany  
 Tel.: +49 7071 53952-00  
 info@ahf.de :: www.ahf.de

- pE-300-UT-D-SB-YYY-ZZ:** pE-300<sup>ultra</sup> Illumination System. Direct Fit single band filter configuration. Includes Light Source, Control Pod, Set of three Excitation Filter holders (25 mm dia.), Power Supply, YYY Adaptor & ZZ Plug
- pE-300-UT-D-MB-YYY-ZZ:** pE-300<sup>ultra</sup> Illumination System. Direct Fit multi-band filter configuration. Includes Light Source, Control Pod, Set of three Excitation Filter holders (25 mm dia.), Power Supply, YYY Adaptor & ZZ Plug
- pE-300-UT-L-SB-ZZ:** pE-300<sup>ultra</sup> Illumination System. For use with 3 mm Liquid Light Guide. Single band filter configuration. Includes Light Source, Control Pod, Set of three Excitation Filter holders (25mm dia.), Power Supply, YYY Adaptor & ZZ Plug
- pE-300-UT-L-MB-ZZ:** pE-300<sup>ultra</sup> Illumination System. For use with 3 mm Liquid Light Guide. Multi-band filter configuration. Includes Light Source, Control Pod, Set of three Excitation Filter holders (25 mm dia.), Power Supply, YYY Adaptor & ZZ Plug
- pE-1906:** 1.5 m long, 3 mm diameter liquid light guide
- pE-10400-YYY:** Universal collimator & customer specified adaptor

To specify microscope adaptor (YYY), see Adaptors (<http://www.cooled.com/products/adaptors/>)  
 To specify local power cable (ZZ): 10 = Australia, 20 = Europe, 30 = UK, 40 = USA

**Warranty:** System Warranty: 36 months  
 LED Warranty: 36 months

## Control & Interface

- Manual:** Manual control pod
- Remote:** pE-300<sup>white</sup> via global TTL. <20 μs at full power  
 pE-300<sup>ultra</sup> via global and individual channel TTL. <20 μs at full power
- Connectivity:** pE-300<sup>white</sup> & pE-300<sup>ultra</sup> remote via USB (B type) for imaging software control
- Sequence Runner:** pE-300<sup>ultra</sup> single TTL input to step through user defined sequence. <20 μs at full power

## Power

- Power Requirements:** 100-240VAC, 50,60Hz, 1.4A  
 Standby Max 2 W
- Power Consumption at the wall (includes power supply unit consumption):** Standby - 3.3 W  
 1 band (GYR) - 24.4 W  
 2 bands (BLU & GYR) - 44.3 W  
 Full white irradiance (3 bands) - 56.4 W

## Dimensions

- Light Source:** 77 mm (w) x 186 mm (d) x 162 mm(h) Weight 1.40 kg
- Control Pod:** 88 mm(w) x 125 mm(d) x 37 mm(h) Weight 0.32 kg
- Power Supply:** 167 mm(w) x 67 mm(d) x 35 mm(h) Weight 0.62 kg

## Environment & Safety

LED products are more sustainable and energy efficient than conventional illuminators. CoolLED's products have the following benefits:

- Mercury-free and Laser-free
- Energy Efficient: 80 % less power
- Long lifetime
- No bulb replacements
- Reduced risk of eye damage
- Quiet operation
- No special disposal regulations or issues
- ACT Labelled



All data correct at time of publication

[www.CoolLED.com](http://www.CoolLED.com)