

pE-10

LED Illumination
for Multiplex
Fluorescence



10-channel LED Illumination

Delivers robust data, faster than ever

Providing OEMs with the latest optical technology in multiplex imaging



www.cooled.com



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for Multiplex
Fluorescence

Precision LED Illumination for Spatial Biology

Delivering fast, repeatable multi-wavelength excitation from 365–850 nm, the pE-10 gives OEMs a competitive advantage by enabling reproducible, high-plex data generation across spatial biology applications, from discovery to drug development and digital pathology.



Optimised for use with Kromnigon SpectraSplit® 10 Filter Sets for a unique, fully-characterised optical platform.

Fast, hardware-resolved multiplex imaging of up to 10 fluorophores



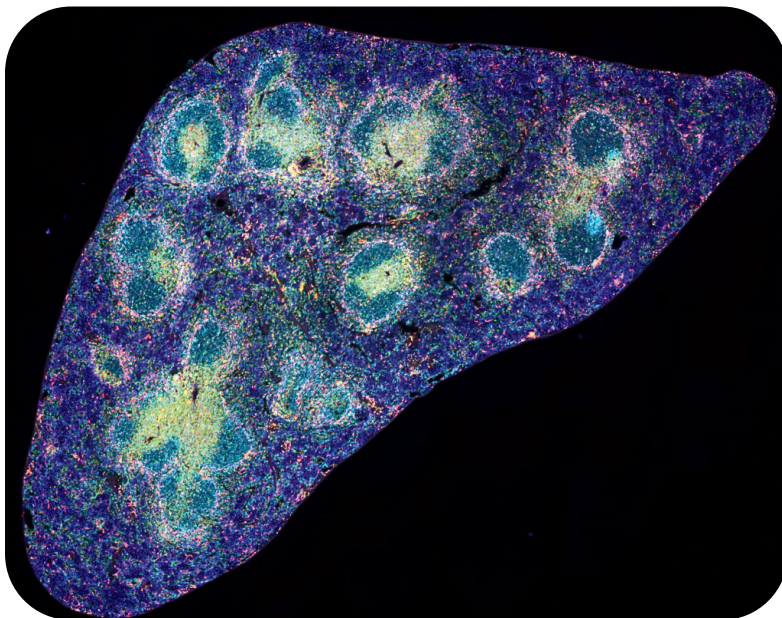
High-throughput automation with <math><7 \mu\text{s}</math> TTL triggering



Flexible fluorophore compatibility for evolving applications



OEM-ready integration for scalable manufacturing



Robust Data Generation

Resolving up to 10 fluorophores at image acquisition avoids complex “black box” spectral unmixing algorithms, reducing data ambiguity and ensuring reproducible results across time, instruments and laboratories – valuable in regulated environments such as pathology.

Multistained mouse spleen (8 antibodies + DAPI) imaged on an Evident SLIDEVIEW™ VS200 universal slide scanner equipped with Kromnigon SpectraSplit® 10 optical filter sets and CoolLED pE-10 Illumination System.

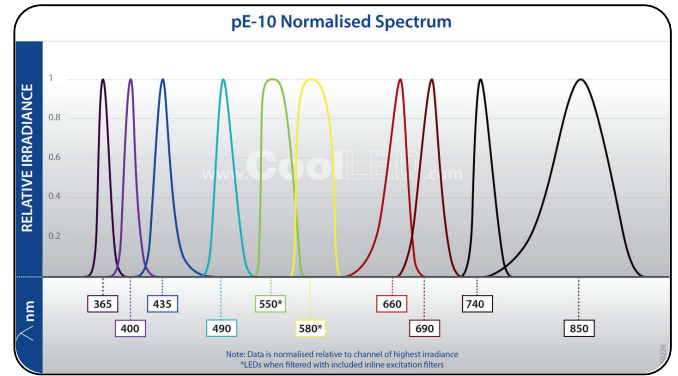
Choose Your Fluorophores

Compatibility with a wide range of fluorophores allows flexibility to select cost-effective or high-performance fluorophores depending on the application, with confidence that the system can adapt as requirements evolve in the future.

Faster Imaging, Higher Throughput

Maximise system throughput and reduce time-to-result with hardware-controlled illumination.

- No spectral scanning overhead
- Reduced validation and QC burden
- <7 μ s TTL for fast automation



Next-generation, high-plex imaging technology

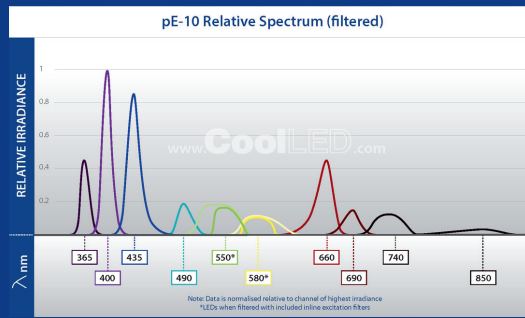
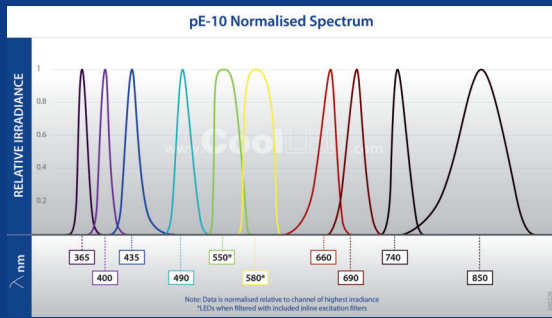
Supporting this advanced optical platform is the Kromnigon StreptaClick® labelling system, which delivers brighter signals, faster workflows and better results. This combined approach provides straightforward access to next-generation high-plex imaging technology, reducing developmental risk and accelerating time-to-market in the increasingly competitive spatial biology arena.

Features at a glance

Feature	pE-10 combined with SpectraSplit® 10 Platform	pE-10
Simple access to validated optical platform for next-generation, high-plex imaging	✓	
Hardware-based spectral separation for robust, reproducible data	✓	
System-validated list of compatible fluorophores	✓	
10 individually controllable LEDs (365 – 850 nm)	✓	✓
0-100% irradiance control per channel to balance fluorophore brightness	✓	✓
Highly repeatable <7 μ s TTL triggering	✓	✓
Homogenous illumination, ideal for quantification and slide scanning	✓	✓
Can be used as a stand-alone LED Illumination System		✓

Custom 10-channel Amora available for bespoke requirements

Specification



To Order

- pE-10-L-SYS-ZZ:** pE-10 Illumination System for use with 3 mm liquid light guide. Includes Light Source, Power Supply, Excitation Filter Holder for 25 mm filters, cleanup excitation filters for 550 nm and 580 nm, power cable (ZZ)
- pE-1906:** 1.5 m long, 3 mm diameter liquid light guide
- pE-1908:** 3 m long, 3 mm diameter liquid light guide
- pE-10400-YYY:** Universal collimator for use with a single liquid light guide, and customer specified microscope adaptor

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

Control & Interface

- USB:** USB 2.0 for PC connection; supports software and LightBridge GUI operation. USB-C interface
- TTL:** 10 TTL inputs allow independent on/off control of each channel. 15 Way D-Type Connector interface. Global TTL for on/off synchronisation to camera. BNC interface. Triggering speed <7 µs
- Analogue:** 10 analogue inputs 0-10 V, 0-50 kHz for dynamic control of irradiance from external analogue signals. 15 Way D-Type Connector interface
- RS-232:** Standard serial interface for external control and automation. 15 Way D-Type Connector interface
- Ethernet:** Ethernet interface for networked control where required
- Graphical user interface (GUI):** CoolLED LightBridge GUI operates via USB interface to allow: On/off control; LED selection; real time irradiance control; Sequence Runner; save and load pre-sets; pE-10 start-up settings; analogue settings
- Sequence Runner:** Combining software control with the speed of TTL, the Sequence Runner program allows LED sequences and irradiance to be programmed via LightBridge. The sequences are controlled via global TTL from a single TTL input such as from a camera TTL out or other external hardware, and therefore requires minimal electronic hardware
- Light Delivery:** Light delivery via the standard 3 mm liquid light guide. The pE-Universal Collimator and specified microscope adaptor are also available

Power

- Power requirements:** 100-240 V a.c. 50/60 Hz
- Power Consumption:** Maximum (10 LEDs at 100% irradiance): 125 W
Standby: 6 W

Dimensions

- pE-10 Light Source:** 160 mm(w) x 180 mm(d) x 145 mm(h) – Weight 3 kg
- pE-10 Power Supply:** 164 mm (w) x 64 mm(d) x 35 mm(h) – Weight 0.58 kg
- pE-10 Universal Collimator:** 44 mm(w) x 86 mm(d) x 44 mm(h) – Weight 0.17 kg

Environment & Safety

LED products help laboratories become more sustainable, saving energy and reducing the carbon footprint when compared with conventional illuminators.

CoolLED's products have the following benefits:

- Mercury-free and laser-free
- Energy Efficient
- Long lifetime
- No bulb replacements
- Reduced risk of eye damage
- Quiet operation
- No special disposal regulations or issues

For more information on how CoolLED products can help you, contact us now:

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 Regular, practical insights on illumination, microscopy and imaging,
 written by people who actually work with it

